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Monograph of the African Species of the Genus Acraea

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Group I

1. Acraea zonata.

Male. Expanse about 55 mm. Wings thinly scaled, orange brown. Nervures well marked, dark brown. F.w. costa and base, black.A large transverse black spot about middle of cell. An irregular band of black spots crossing the discal area at the discocellular nervules and extending to the hind angle. Apical area and hind margin rather broadly dusted with black and bearing eight rather suffused spots of the ground colour. H.w. black at base and slightly dusted with black on margin. A very minute black dot at point where nervure 5 leaves the cell. An irregular zigzag discal band of black extending from the costa to the anal angle. Thorax black, spotted with pale brown beneath. Abdomen black above, brown beneath, and bearing segmental spots of pale brown. Claws unequal.

The underside resembles the upper but has a vitreous surface and the markings are less distinct.

Female. I have seen only two females of this species. One is in the general collection of the Berlin Museum and differs from male examples only in the fact that in the f.w. the space between the central bar and the apical brown is transparent.

The other is in Mr. J. J. Joicey's collection and resembles the male but is larger, paler, and duller.

Acraea zonata appears to be a rather rare insect. The type in the Hewitson collection was taken at Zanzibar. The example figured by Grose-Smith is from Mombasa, one specimen in the Oxford collection is from Rabai, whilst the Tring collection contains examples from Dar-es-Salaam and Pemba I., and the British Museum specimens are from Zanzibar and Witu. A. zonata is certainly closely allied to rabbaiae. The claspers in the armature are without the large processes so characteristic of that species.

2. Acraea rabbaiae.

A. rabbaiae rabbaiae

Male. Expanse about 64 mm. F.w. transparent. H.w. transparent or thinly scaled. Nervures well marked, dark brown. A more or less well-marked series of black spots across centre of f.w. confluent round the discocellulars. One crescentic spot in 2, below junction of 3 and the median. One spot below this and slightly nearer base, in 1b, and another, more rounded spot in same area, near junction of 2 and the median. One spot in area 11 just before end of cell. Apices slightly dusted with brownish

ochreous. H.w. more or less scaled with whitish. Margin with large internervular ochreous spots bordered inwardly with a blackish suffusion. Underside the same. Thorax black with a few reddish spots above and spotted with pale ochreous below. Abdomen black with pale lateral spots and brown beneath. Claws unequal.
Female. Resembles the male. The extent of the scaling of the h.w. in rabbaiae varies from a condition approaching transparency to a fairly thickly scaled surface. These scales are, in all the examples I have seen, distinctly paler in colour than in the subsp. mombasae.

A. rabbaiae mombasae, subsp.

This form resembles rabbaiae but the black markings in the f.w. are less well defined and the h.w. is always thickly scaled with creamy brown scales distinctly darker than in rabbaiae. The apices of the f.w. are darker and frequently bear traces of a marginal band of pale spots. The example of this form figured and described by Grose-Smith has both wings moderately scaled and this is apparently the case in the remaining examples in his collection. Most of the specimens I have seen show a greater transparency in the f.w.
The form appears to be confined to the neighbourhood of Mombasa, Rabai, and Zanzibar.

I have seen no specimen of the typical rabbaiae taken so far north as this. The latter occurs at Delagoa Bay and inland to Chirinda.
The genital armature is the same in both forms.
The type is in the collection of M. Oberthür. The larva of rabbaiae is briefly referred to by Mrs. Monteiro in "Delagoa Bay" as "bright red with black spines".

3. Acraea satis.

Male. Expanse 55-70 mm. F.w. thinly scaled. Base and costa black, area 1b sometimes yellowish. A short black basal streak in 1b. From base to end of cell, base of area 2, two-thirds of 1b, and a slightly less extent of 1a, bright red. The red area bounded by an irregular discal band of black from subcostal to hind angle, and darkest on end of cell. A rather broad sinuous transverse black mark in cell near end. Areas 4, 5 and 6, from transverse band to middle of discal area, red, followed by a slight dusting of blackish scales. All the f.w. black markings may be very faint, the spot on discocellular being the least liable to obsolescence. Remainder of f.w. semitransparent, scales being slightly reduced, scattered, and sometimes replaced by bifid hairs. H.w. red, yellowish at inner margin. A hind marginal black border bearing a variable number of internervular spots of the ground-colour. An irregular discal band of black sometimes enclosing spots of the ground-colour. Base black, with a subbasal spot in 7, one in cell, and one in 1a. Underside, f.w. scaled only at base and costa. H.w. as on upperside, but scaled only at base, margins, and discal band. Costal and inner marginal scales dull ochreous, black spots as on upperside. Hind margin as on upperside but with seven large rounded dull ochreous spots. Thorax black spotted with yellowish beneath, and with two to four whitish spots above. Abdomen black above, paler below, and laterally and ventrally spotted with yellowish. Claws unequal.

Female. Expanse about 84 mm. Marking similar to those of male but the red colour everywhere replaced by white. In f.w. the cell spot may coalesce with discal band, or may enclose a small white spot. Abdomen white spotted.

Acraea satis is a remarkably distinct species not only in the character of the markings but also in the structure of the genitalia. A very peculiar modification of the parts has taken place. The true uncus and claspers have become much reduced, whilst the dorsal and ventral abdominal plates have become greatly modified, so as to resemble false uncus and claspers respectively.

Mabille describes this species as occuring in Madagascar, but I have been unable to find any authentic example from that island. M. Oberthür has specimens so labelled, but informs me that in this case the labelling is not reliable, and that he is of opinion that the species occurs only on the mainland.

Group II

4. Acraea pentapolis.

A. pentapolis. pentapolis. PI. VI, f. l. (larva).

Male. Expanse 60-76 mm. Wings semitransparent, due to absence of scales. F.w. costa, apex, and hind margin powdered with brownish. Several ill-defined dusky marks varying much in intensity but usually consisting of the following. A broad irregular mark in cell over origin of 2, a blackish mark on discocellulars, a series of rudimentary marks beyond cell in the form of an oblique discal band of spots in 6, 5, 4, and 3, a mark at base of area 2 and beneath it running downwards and outwards a mark in 1b. In the same area a short indistinct longitudinal streak at base. H.w. with a dusky powdering round hind margin, and more or less evident darker internervular rays showing their greatest development in 2, 1c and 1b. Lower half of cell, base of 3, basal half of 2, and the greater part of 1c, 1b and 1a covered with scales which vary in colour from pale lemon-ochreous to brick red. In some cases this patch is very fully developed and of definite outline, whilst in others it is merely indicated. Numerous black spots corresponding to those on underside but varying much in size and number. Underside. F.w. almost devoid of scales. H.w. as above but the yellow or red patch paler and less developed. Black spots very variable in number. In the case of maximum development the following may be observed. A spot in 9, and subbasal and a central (very small) in 7, one at extreme base of 5, and a double spot at base of 4, two in cell before middle, three or four discal spots progressively larger in size, in 6, 5, 4, and 3, a large spot at base of 2 followed by a spot in 1c and 1b, these three nearly in a straight line, but that in 1c slightly nearer base. A basal and a subbasal in 1c, and a basal and two other spots in 1a. Head black with a few whitish dots, and two tufts on collar, thorax black with whitish marks, abdomen black above with whitish segmental lines and lateral spots. Claws unequal.
Female like the male and presenting the same variations of pattern.
In some examples of this species there is a faint reddish or yellowish flush in the f.w. especially along the main nervures. Long series have lately been bred by Mr. Lamborn near Lagos, and presented by him to the Oxford Museum. It is clear from these examples that Oberthür’s thelestis cannot be distinguished from pentapolis even as a form. From that author's description the principal distinction between thelestis and pentapolis is the presence in the former of a tawny rather than yellowish patch in h.w. In the series before me every gradation of colour may be observed, from a mere whitish appearance to a definite brick-red patch.

A. pentapolis epidica, subsp.

This is the extreme eastern form of the species and differs in the following respects. It is generally much large, having an expanse of 80-90 mm. The blackish markings in f.w. are much darker and more definite. In the h.w. the basal spots are large and confluent, forming a conspicuous basal black mark. The patch of pale scales is lemon-ochreous and well developed, and there are usually a few tawny scales on the hind margin on underside.

The larvae of the specimens received from Lagos may be described as follows :
Upper half dark number brown with a few irregular dark markings on the upper part of each segment, and a whitish lateral mark on segments 4-12. Head reddish brown with a white, ventrally bifurcated, white line. Legs yellow at base, extremities black. Pro-legs yellow. Spines all black. The dorsal pair on segment 2 longer than the rest and somewhat curved.
Pupa whitish with black lines representing nervures, antennae, legs, etc. A ventral, two lateral and two dorsal rows of segmental black marks, each with a yellowish centre. From the inner or dorsal side of each of these centres in the two dorsal rows of spots, there arises a short blunt black process or spine. The general appearance of the pupa is as variable as that of the imago, sometimes the white and sometimes the black predominating.
A dipterous parasite emerged from one of the pupae.

5. Acraea vesperalis.

A. vesperalis vesperalis.

Male. Expanse 70-76 mm. F.w. slightly brownish at base. Costa dusky brown passing into sepia at apex. From end of cell to apex, the whole of area 3 and the marginal part of areas 2, 1b, and 1a, sepia. A discal band of elongated transparent spots in part of 2, nearly the whole of 1b, and 1a, transparent and devoid of scales. An irregular sepia patch in cell above origin of 2. Beginning at base of area 2 and ending at hind angle a sepia band about 2 mm wide. H.w. black at base and having a hind marginal border of sepia brown about 4-5 mm. wide, its inner edge interrupted by the extension of the brown along the nervules and internervular rays. The remainder of the wing brownish ochreous of somewhat variable depth. Indications of the black spots of the underside are visible in the discal area. Underside. F.w. resembles upperside but the apical and hind marginal areas dusted with chestnut brown. H.w. chestnut brown, of a rather richer tint towards base and inner margin Nervules and internervular rays well marked, brownish black. Black spots very variable. When attaining maximum development, usually as follows. One in 9, one in 8, two (small) in 7, the outermost just beyond origin of 7. Three just beyond cell in 5, 4 and 3. One at base of 5, and 4 on discocellulars, two in cell before the middle, one at base of 2 followed by one in 1c and 1b, all three in a straight line. A basal and a subbasal in 1c, a subbasal in 1b, and two spots near middle 1a. Some irregular black at base of nervures. Head and thorax black with a few pale dots. Abdomen black above, with pale segmental lines and lateral spots. Claws unequal.
Female resembles the male.

A. vesperalis catori, subsp.

Differs from typical vesperalis in having the ground colour of h.w. pale instead of brownish ochreous.

A. vesperalis is so nearly allied to pentapolis that but for the fact that the h.w. patterns are so consistently different, and also that both species occur in the same place without intermediates, I should have regarded them as two forms of the same species. The male armatures are in this case somewhat unsatisfactory guides though they do seem to show slight differences. Such differences are, however, much less than would appear from the figures on Plate XIV.

Group III.

6. Acraea igati.

Male. Expanse about 60 mm. Wings transparent, the transparency being caused by reduction in number and size of the scales. F.w. slightly smoky towards costa and apex and with an orange brown basal suffusion extending to about the middle of the wing. H.w. with about the same amount of basal orange suffusion. Some irregular black spotting at base, including a large well-rounded spot at base of area 1c, and an elongated narrow black spot at base of area 1b. In area 6 and 7 and between end of cell and margin, two large confluent black spots, and two somewhat similar but more elongated spots in areas 2 and 3. In some examples there is a small spot in area 5. Thorax black, spotted with white beneath. Abdomen black with white lateral segmental spots. Claws unequal.

Female. Expanse about 65 mm. The spots on the h.w. are similar to those in the male but that in area 5 is often larger. The orange suffusion in the f.w. is replaced by pale yellow and that in the h.w. by white. In some examples the coloured areas are entirely replaced by white.

Acraea igati is found only in Madagascar. Boisduval and Mabille describe it as frequenting wooded districts, and producing two broods, the first in April and May, the second in July and August. Boisduval states that it is found on Ste. Marie I. and on the mainland. He appears to have confused the sexes, describing the orange suffused form as the female. His figure is that of the male.

The male armature is peculiar, as will be seen from a reference to the figure in Plate VII. The velum is much larger than in A. damii and both uncus and claspers are more highly developed. The entire structure resembles that of the Australasian A. andromache.

7. Acraea damii.

A. damii damii.

Male. Expanse 50-60 mm. Wings transparent owing to reduction in number and size of scales. F.w. slightly suffused from base to about middle with brick red. Nervures reddish brown. H.w. more densely scaled with brick red from base to about midway between end of cell and margin. Five black spots at base more distinct on underside. One behind the precostal, 2 in area 1c, and one in 1a and 1b, respectively. One large rounded spot in area 7 near middle of costa, one rather larger and nearer margin in

area 6, one very small spot below this, in area 5. Two large spots somewhat produced distally and placed in areas 2 and 3 respectively. Underside similar but spots smaller and more sharply outlined. H.w. dusted with whitish scales. Thorax black, with a few pale spots above and below, abdomen black above and yellow beneath, with whitish lateral segmental spots. Claws unequal.

Female similarly marked but wanting the brick red suffusion, this being replaced by a dusting of white scales. Expanse 65-75 mm.

Acraea damii is a very variable insect. The above description is taken from an average pair in the Oxford collection. M. Oberthür figures one male and five female. The male example has an elongate spot in the h.w. cell; in the two female the number of discal spots varies from four to eight, and in some cases the spots are different in opposite wings of the same individual. The author further points out that in two examples the neuration is abnormal, and occasionally the two female have the reddish colouring of the male. In some male example in the National collection the brick red suffusion extends completely over both wings, whilst the h.w. spots are reduced in number to three. M. Oberthür states that the type of Ward's masonala is in his collection and that there is no doubt that it is an example of damii.

Kefertein's figures are of male and female examples taken in Madagascar by Herr Tolin in 1862. The male comes nearest to Oberthür's fig. 11, and the female to fig. 16.

The species is probably extremely distasteful. It is described as setting on certain trees in large numbers, when it can easily be picked off with the figures.

It occurs in Mayotta, Comoro, and Madagascar, examples from the latter region being usually smaller than those from Comoro.

The male armature is quite distinctive, especially in the possession of two small horn-like processes on the margin of the velum, or ventral abdominal plate.

Acraea damii cuva, subsp.

Male. Expanse 50-60 mm. Resembles damii but the red suffusion is usually of greater extent, sometimes extending nearly to the margin in the f.w. In the h.w. it is often rather sharply defined leaving a transparent margin of moderate width. The black spots on the h.w. are more sharply outlined than in damii damii, but exhibit as in the latter considerable variation in size and number. Grose Smith's type, which is described in the text and on the plate as a female, appears in fact to be a male. It has eight black spots on the h.w. An example before me from the Tring collection has five spots (= nidama, Suff.), whilst others have rather conspicuous basal spots, notably a large rounded one in area 1c.

Female. Resembles male, but is rather larger and has the red replaced by creamy yellow. The black spots are larger, and the base of the h.w. is much suffused with black. An example before me has a small black spot in the h.w. cell near the base, and in one wing another spot near the end of cell. Occasionally the female is red like the male.

I have followed Aurivillius in regarding cuva as a form of damii, though in view of its geographical distribution it must be considered as subspecies of the Madagascar form. It occurs only on the mainland and Zanzibar. There are fifteen examples in the National collection, five of which are female and the localities given are, Zanzibar, Dar-es-Salaam, and Rabai. The type was received from Mombasa, and there are examples in the Tring collection labelled "Katanga, Tanganyika," and though the exact meaning of the locality is rather vague, it would appear that the species has a

considerable westward range. I have dissected out the genitalia of one of these examples and find no difference from those of damii taken in Madagascar.

8. Acraea kraka.

Male. Expanse about 50 mm. Wings transparent. Transparency caused by the scales being reduced to fine hairs. F.w. black at base and dusted with black for a short distance along the costa. Slightly darker suffusion at apex caused by a reappearance of scales which however are still very narrow and elongated. A reddish basal suffusion (probably bright red in fresh examples) extending to nearly half the length of the cell and distally to nearly the whole length of area 1a. A black spot in the cell about the middle, and two spots in area 1b, one near the base and one about the middle. H.w. black at base and with a basal reddish suffusion extending a little beyond the end of cell. Numerous black spots arranged as follows. Two in area 7, two in cell, and two in 1b, and 2, three in 1c, one in 3, 4, 5, and 6 and one near the base in 1a. The underside is similar but without the reddish suffusion which only shows through from the upperside. A fourth spot is visible in 1c at the base. Thorax black, abdomen black above and brown beneath, with brown lateral segmental spots. Claws unequal.
Female. Expanse about 62 mm. According to Aurivillius' figure (l.c.) there is a small additional spot in area 2 in the f.w. The basal suffusion is described as ochreous.
The three females from which Aurivillius described the type where taken in May and July (1891) at Bibundi and Bonge in NW Cameroon and are in the Stockholm Museum. There are six male examples in the National collection taken at Fernando Po. and few specimens in the Tring collection.
The above are the only examples known to me. The female genital armature is sufficiently distinct in form though showing a fairly close resemblance to that of A. cerasa. The transparency of the wings in this latter species is however produced in a different manner. Aurivillius regards kraka as a near ally of quirina, and in support of this it may be noted that in both species the transparency is caused in the same manner, though on the other hand the structure of the respective male armatures is very different.

9. Acraea eugenia.

Male. Expanse about 49 mm. Wings translucent and well rounded. F.w. with yellow nervures and nervures and very sparsely dusted with sepia, and a few yellowish white scales. These are of the normal size and the transparency is due to a reduction in their number. H.w. with an ill-defined basal area of whitish or light yellowish scales shaded into a dusky marginal border. Black spots as on underside. Underside, f.w. almost devoid of scales. H.w. as above but with fewer scales. Black spots as follows. Four spots graduated in size in 7, 6, 5, and 4 lying beyond cell and parallel to apical margin. A larger spot at base of 3, and of 2. Beneath the latter a spot in 1c followed by a smaller spot in 1b rather further from margin. A subbasal in 7, two in cell, the second over origin of nervule 2, a large subbasal in 1c, and beneath it a small spot in 1b, and a subbasal in 1a. A little irregular black at base. Head black with two white dots

between the eyes and two yellowish tufts on collar. Thorax black with a few pale marks. Abdomen black above with white lateral spots. Claws unequal.
Female resembles male but larger (about 54-60 mm). One female in the Berlin Museum has the spot in area 5 of h.w. almost obsolete.
The only example I have seen besides those in the Berlin Museum is a single female in the Tring collection. The species appears to be rare, and I have had no opportunity of making a preparation of the male armature. The female plate is of peculiar structure and the orifice of the bursa copulatrix appears to be somewhat eccentric, as in A. horta.

10. Acraea cerasa.

Male. Expanse 37-52 mm. F.w. semitransparent, due to reduction of scales to hairs, black scaling at base and for a short distance along inner margin. Costa and hind margin dusted with brownish black scales. A brick red basal suffusion extending to end of cell and downwards and outwards nearly to hind angle. A variable number of black spots, usually one a little beyond middle of cell and one at extremity of cell on discocellulars. Sometimes a small spot near base below median, and rarely two on edge of red area, one on each side of nervure 2. H.w. brick red, thinly scaled, and more transparent towards margin. A variable number of spots arranged, when all present, as follows. A submarginal row of six or seven parallel to hind margin and becoming very minute towards apex. A discal row of seven, the first in 1b and in a straight line with the next two which are much larger, the fourth in area 3 and somewhat variable in position, the next three in areas 4, 5 and 6, the middle one more distally placed. Two spots in area 7, two in cell, and one basal spot in 1a, 1b, and 1c. Some of these spots, especially the submarginal row, may be absent. Underside devoid of scales but spots in h.w. smaller and blacker. Thorax and abdomen black above and paler below, with yellowish lateral spots. Claws unequal.
Female. Usually resembles male but is somewhat larger and has the red areas paler and duller. One example from Nairobi has all the red replaced by pale ochreous.
The larva and pupa are fully described by Trimen (l.c.). From this description the following is taken.
Larva, livid purplish above, with a dull greenish dorsal streak edged by a series of small white marks, followed by a second lateral series of similar marks at edge of purplish area. Below this, olive greenish, underside pale green. Head black, striped with white. The usual dorsal and lateral spine. Pupa, orange yellow, with bright orange black ringed spots, neuration of wings and a dorsal stripe, black.
A. cerasa is very variable in the number and size of the black spots. The submarginal spots in h.w. are often entirely absent, whilst many of the others may be absent or very small.

11. Acraea cerita.

Male. Expanse 46 mm. F.w. basal half brick red, extending not quite to end of cell, projecting into the basal part of area 2, and occupying about half of areas 1b, and 1a. This red area is sharply defined and is enclosed outwardly by a dusting of black scales forming a transverse bar right across the wing from costa to inner margin which it

meets just before inner angle. Costa and apex also dusted with blackish. Outer half of wing transparent and very iridescent, the scales reduced to line hairs. The hind margin very slightly darker. In the cell a small black spot over origin of nervule 2. In area 1b a small spot lying in the line between the cell spot and the hind angle. In the same area another spot midway between base and nervule 2. H.w. brick red with a very little blackish at base and a narrow grey- black hind marginal border. A few black spots as on underside. Underside. Both wings almost scaleless. H.w. spots as follows. Two in 7, the second just beyond origin of nervule 7. Two in cell on one wing and one on the other, the second spot just before origin of nervule 2. In areas 3, 2, 1c, and 1b a row of discal spots lying almost in a horizontal line and beyond these in 3, 2, and 1c traces of submarginal dots are visible with a lens. A subbsal spot in 1c, 1b, and 1a, that in 1b more distally placed than the others. Head and thorax black with a few pale dots, abdomen black above with yellowish white lateral dots. Claws unequal.
The foregoing description and the figure on Place IV are from the type now in Mr. J. J. Joicey's collection. This example is the only one I have seen and bears the label Entebbe 1906, though I have reason to suppose it was taken in the Toro region. I strongly suspect it to be a form or aberration of A. cerasa. I have not seen an example of the later from Entebbe, although I have handled many thousands of specimens from that locality. The specimen of A. cerita remains unique and until further material becomes available I must allow it to stand as a species.

12. Acraea unimaculata.

Male. Expanse about 50 mm. F.w. transparent owing to reduction of scales. Basal area dull red (probably brighter in life) extending nearly to end of cell, just beyond origin of first median, and nearly to hind angle. Base slightly dusted with black. H.w. of the same red as f.w. A semitransparent margin, slightly dusted with black scales, nearly **....** in wide at apex and tapering to nothing at inner angle. Base blackish. Underside devoid of scales and vitreous. Two black spots in cell, one in 1c and two or three basal spots at junction of wing and thorax. All except the inner cell spot may be absent. Thorax and abdomen black above, paler beneath, with yellowish lateral segmental spots. Claws unequal.
Female. Expanse 56 mm. Resembles male but red areas paler and duller and less well defined outwardly. Spots of h.w. underside may be entirely absent.
The types which are in the Tring collection were taken at Kabras in British E. Africa Co-types from Ran, Nandi country. In his catalogue of the African Rhopalocera Prof. Aurivillius placed this species as a synonym of A. humilis, not having then seen either insect. Its nearest allies are A. cerasa, and A. kraka. The similarity between the male armature and that of the latter species entitles unimaculata to be regarded as the eastern representative of kraka, though at the same time the differences are sufficient to give the two forms specific rank. Until recently the only example known to me besides those in the Tring Museum was a female in the Oxford collection, taken by Dr. Wiggins on the Uganda Ry. 15m. N. of Kisumu. Latterly, however, the species has been taken in some numbers by Neave in British E. Africa on the Yala R. N. Kavirondo.

13. Acraea iturina.

Male. Expanse about 50 mm. F.w. rather transparent clouded with smoky brown along costa and hind margin. This clouding varies in intensity in different examples. Transparency caused by narrowing of the scales. The basal area having a brownish red suffusion (probably bright red in fresh specimens) extending nearly to end of cell and two-thirds of length of inner margin. A large black spot in the cell somewhat beyond the middle, and varying considerably intensity. (One example before me has a minute black spot in area 2, near the cell, and a black powdering on the discocellulars) A small black linear spot at base of area 1b. H.w. red with semitransparent smoky brown margin considerably widened near apex. Base black. Two black spots in area 7 rather close together. A discal row of seven spots, the first four usually smaller than the rest and the fourth nearer the margin. Two spots in the cell, that nearer the base often very small. One basal spot in 1a, 1b, and 1c, the second of these sometimes confluent with the last discal spot. Nervures 6 and 7 arise from a common stalk. Underside vitreous and without coloured scales, the h.w. spots repeated. Thorax and abdomen black above, pale below, and with lateral pale spots. Claws unequal.
Female. The only female I have seen resembles the male and is of the same size, but the wings are more transparent and the spot in f.w. cell is almost divided longitudinally.

A. iturina kakana, subsp. PI. IV, f. 14 (male).

Male. F.w. base and costa blackish. Apical half semitransparent, basal half including cell, dull orange red; apex, hind margin, and distal edge of red area rather more thickly scaled with black than the remainder. The transparency is caused by reduction in width of the scales. The red colour extends slightly into area 3, about half the length of areas 1b, and 2, and nearly to hind angle in area 1a. H.w. dull orange red; a basal aggregation confluent black spots; a discal band of large confluent spots, the first in area 7 about the middle, the remainder lie almost in a straight line across the wing, except that in area 3, which is more distally placed; a blackish hind marginal border about 2 mm, wide at apex, becoming rather suddenly narrower at nervule 5, and tapering to anal angle. Underside resembles the upper, but is sparsely scaled, and the red areas are dull pink; the h.w. basal spots are somewhat less confluent and can be resolved into a large subbasal spot in 7, two confluent subbasal spots in cell, one in 1c, 1b, and 1a; in the latter area also a minute dot beneath end of nervule 1a; a little black at origin of main nervures. Head, thorax, and abdomen black, the latter with indistinct brownish lateral spots; tarsal claws asymmetrical. In f.w. nervures 6 and 7 arise not from cell but from a common stalk about 1 mm long as in iturina.
This form differs from iturina in the absence of the spot in f.w. cell, the deeper colour and greater extent of the red areas, and the larger size of the spots.
The type of A. iturina, now in the Joicey collection, is a male. The locality in Grose-Smith's original description is somewhat vaguely given as the "great forest of Central Africa". Two males in the Tring collection are labelled "2 days from Fort Beni", and a third "15 days" from the same locality. A female in the Oxford collection was taken in 1905 in Uganda between Lakes Albert and Victoria Nyanza. The species may readily be distinguished from other somewhat similar forms by the peculiarity of the h.w. neuration. This feature is faithfully represented in the figure in Rhop. Exot. The claspers of the male armature have a peculiar toothed structure on the inner edge.

Aurivillius (l.c.) suggests that iturina may be a variety of cerasa. It is however quite a distinct species as shown by the structure of the male armature and the complete reduction of the scales to hairs in the latter species.

14. Acraea quirina.

A. quirina quirina.

Male. 34-50 mm. F.w. transparent, the transparency caused by the scales being reduced in width in the discal area and represented by hairs in the marginal area. Base powdered with black, and beneath the median a basal black streak extending nearly to a point below the origin of nervure 2. (Drury describes the f.w. as having a round black spot below this streak but I have not seen an example with any spots on the f.w.). The f.w. is rosy red dusted with black at the base and having a broad well defined transparent margin. Upon the red area are numerous black spots usually better defined in the female (for position of these spots see description of female). The underside resembles the upper but there is a whitish basal suffusion in the h.w. Thorax and abdomen black above with lateral pale spots, and paler beneath. Claws unequal.
Female. Expanse 37-53 mm. Resembles the male, but the red of the h.w. usually replaced by dull brown, though occasionally the female is almost as brightly coloured as the male. In brown females the underside of the h.w. is whitish ochreous. The h.w. black spots as follows. On the margin of the coloured area a row of seven internervular spots nearly parallel to the hind margin, those near costa sometimes obsolete. A discal row of eight internervular spots, the first in area 7, the spot in area 2 much nearer base than the rest. Eight basal spots, one in area 8, one in area 7, two in cell, two in area 1c, and one each in 1a, and 1b.
A common and widely distributed species occuring from Sierra Leone to the Kikuyu Escarpment.

A. quirina rosa, subsp.

Distinguished from the typical form by the greater extent of the red suffusion in the f.w., reaching to end of cell and nearly to hind angle. Eight male examples in the Hope Department, from British E. Africa (Kitni and Rabai). The male armature in quirina and its subspecies is characterised by the modification of the uncus into two hooks as large as the claspers. The ventral abdominal plate is large and contains a dense mass of hairs, probably of a glandular nature.

Speaking of A. quirina (or its subspecies), (Proc. Zool. Soc., p.923, 1900) Butler quotes from the MS of the collector Mr. R. Crawshay. "All these Acraeinae were taken in the gloom of the forest, flitting about feebly, and setting on the bushes. Spherical yellow ova. The locality was Ruarka R., Kikuyu 5,500 ft. (April 1900).

15. Acraea hova.

Male. Expanse about 75 mm. F.w. semitransparent, due to scales being reduced in number but not in size. Base and basal part of hind margin black. Costa and hind

margin slightly dusted with blackish. Basal area to slightly beyond end of cell, and extending downwards to hind angle, suffused with brick red. A large ovate black spot in cell slightly beyond middle, a sublinear spot on l.d.c., sometimes extending to u.d.c. A discal row of two to three spots (sometimes absent) beyond cell in 4, 5 and 6. A spot in 2 and another in 3 near cell, and a larger spot in 1b near middle. H.w. brick red, blackish along costa and creamy at inner margin. Black spots arranged as follows. On margin, indistinct spots at end of nervules, a submarginal row of seven spots parallel to margin, the first in 1c. A discal row of eight, the first in 1b, very small, and those in 2 and 3 much larger than the rest, seven or eight spots at or near base five of which form a subbasal row, the first and second (in 1a and 1b) small or obsolete, the fourth in the cell, the firth in 7. Underside of f.w. devoid of scales. H.w. thinly scaled with milky white, spots smaller than on upperside, many absent altogether. Thorax black, spotted with reddish yellow beneath. Abdomen black above, reddish or yellowish beneath and with white lateral segmental spots. Claws unequal.

Female. Expanse 90 mm. Most examples resemble the male but the red areas paler and duller. Rarely the red is absent in f.w. and replaced by creamy white in h.w.

Mabille figures (l.c.) a curious aberration of the male in which the spots are coalescent, forming curved and zigzag lines. The figure in Chenu's Encyc. of Nat. Hist. (uncoloured) apparently shows a very dark hind-winged aberration. Ward's figure, a female is near Mabille's fig. 3. but has two black spots beyond cell in f.w. which are absent in Mabille's figure.

This very distinct species is one of the largest of the genus. It is described by Mabille as comparatively rare, inhabiting wooded regions in Eastern Madagascar, and flying with rapidity in the glades. The structure of the male armature is quite distinctive.

16. Acraea rogersi.

Male. Expanse 70-82 mm. F.w. Sepia black, darker at base, costa, and in apical area. A red patch at hind angle occupying outer third of 1a, outer half of 1b (except just at margin), and extending slightly into 2. Large black spots as follows. One in cell above origin of 2, one on discocellulars occupying whole width of cell. Just beyond cell three subquadrate spots (the uppermost sometimes missing) divided by nervules 5 and 6, and beneath them a spot in 3. Beneath this and rather further from margin a large spot in 2, and in same area a second spot nearer margin. In 1b, a submarginal , a central, and a subbasal spot. H.w. Base dark sepia, obscuring a mass of large black spots which correspond to those beneath. Beyond this a broad red band on which at inner edge are some spots lying beyond the basal black. On outer edge of the red area are eight round internervular black spots. In some examples only those in 3, 2 and 1c are present, in others each is produced outwardly into a broad black internervular mark. A dark sepia hind marginal band of variable width, its inner edge rather suffused. Underside f.w. Dull ochreous sepia, with spots as above. Reddish at hind angle. Between the discocellular spot and the discal spots, and also beyond the latter, whitish. F.w. Base as far as the inner edge of discal band dull red. Discal band greyish in 7 and 1b, remainder pale brown dusted with greyish, and with an outer row of spots as above but smaller. Margin dark sepia brown. The red basal area has the following black spots. One in 8 against precostal, two in 7, one in 6, 5, 4, 3, 2, two in cell before the middle, one on discocellulars, two in 1c, 1b and 1a; those in 1b further from base than those in 1c and 1a. Some black at base of nervures. Head black with a few white

marks, thorax black, abdomen black above at base, with ochre yellow lateral spots, remainder ochre yellow. Claws unequal.
Female. Upperside resembles male but the red is much fainter amounting usually to a mere tinge of colour. One the underside the h.w. ground-colour is dusky ochreous with very little indication of hind marginal black. Some of the spots of outer row may be absent.

f. salambo.

Male. Like the typical form but without the red, though the basal part of f.w. and the discal area of h.w. have a rather warm brown tinge. Underside pale sepia ochreous somewhat dark on f.w. apex, and h.w. base and margin.
Female. Like the male.

A. rogersi lamborni, subsp. n. PI. VI, f.2 (larva), f. 16 (pupa).

Long series of this form have lately been bred by Mr. W.A. Lamborn near Lagos and presented by him to the Oxford Museum.
The male has the f.w. sooty black, rather paler in the central area. H.w. base and marginal border sooty black with a broad discal band of dusky cream colour. The spot near base of 3 usually absent. Underside f.w. apical area to end of nervule 2 sepia grey with darker internervular rays, remainder pale greenish grey. H.w. pale creamy grey with a yellowish tinge, and a faint pinkish tint at base of 1c, 1b, and 1a.
Head and thorax black with some whitish spots. Abdomen, basal half black with whitish segmental lines and lateral spots, remainder pale creamy grey.
Female resembles the male.
The larva of A. rogersi lamborni is dark brown somewhat blacker on the dorsal area, with a few irregular rather paler dorsal transverse marking, and has the usual spines which are all black and arise from black brown tubercles. The base of the legs and prolegs is yellowish, remainder black. Head black with a white central line bifurcated ventrally, and a posterior white line where it joins segment 2. The pupa differs from other Acraea pupae which I have examined. It is light brown in colour, and the usual black lines as wanting, except those outlining the antennae, and a trace of some of the nervular lines. There are two dorsal and two lateral rows of small black markings consisting of minute dots and short fine transverse streaks, and a ventral row of dots and streaks, the latter longitudinal. On the head are two short, blunt, widely separated, outwardly curved processes giving the pupa a "horned" appearance. There are very slightly raised dorsal abdominal tubercles visible only with a lens.
The species is not uncommon and is easily distinguished from other Acraea by the large round black spots in h.w.
There is one male example in the Standinger collection labelled German E. Africa, but the occurrence of the species in that region is extremely doubtful.

17. Acraea ranavalona.

Male. Expanse 40-50 mm. F.w. nearly transparent owing to reduction in width of scales. These modified scales are rarely bifid and are attached to the wing in a partially upright position. Bright basal red suffusion bounded by a line drawn from costa about

half way along the cell to a point just short of the hind angle. A slight dusting of black scales along costa and in apical region. Base slightly black. H.w. bright rose-red with a very narrow semitransparent dusky margin ending at 1b and bearing five or six spots in areas 2, 3, 4, 5, 6, (7); the outer half of these spots is red and the inner half black, the black portion lying mainly on the red discal ground colour. In area 1c a somewhat smaller black spot in the red ground colour. A discal and basal series of black spots, placed as follows; five discal spots beyond cell in 7, 6, 5, 4 and 3 respectively, and roughly parallel to hind margin, followed by three, more basally placed, in 2, 1c, and 1b. In addition to these, two in cell, one in 8 and 9, one in 7, two in 1c, one in 1b, and two in 1a. Underside resembles upper but f.w. is devoid of scales, and h.w. discal area is pinkish, due to white scales on the background of the red of the upperside. Thorax black with faint reddish lateral, and pale yellowish ventral spots. Abdomen shading into reddish, with red lateral spots and pale yellowish beneath. Claws unequal. The spots in the male h.w. are somewhat variable, especially those of the discal and basal area, these being more or less confluent in most examples but fairly well separated in others.

Female. Expanse 40-50 mm. (very variable). F.w. like that of male but red suffusion replaced by yellowish. H.w. usually powdered with white scales, having the dusky marginal border bearing half black and half red spots as in male, though the border extends a little further towards the inner margin and has a well developed black and red spots in area 1c. The discal black spots are well separated leaving an extra dot at base of nervure 5 (this dot is occasionally recognisable in male examples). The basal spots and those of the cell are in various degrees of obsolescence, some of those nearest the base being altogether wanting.

From this normal appearance of the female a long series shows practically every degree of red suffusion to a form which has as much red as the male. Ward's manandaza is a female presenting the minimum amount of red.

A. ranavalona f. manandaza.

In this form the basal and discal spots are confluent. It would appear to be if anything commoner than the typical form.

Boisduval describes the species as generally found in the forest in Ste Marie and on the mainland of Madagascar in April and May, reappearing in July and August. Found of settling on grasses.

Mabille states that it is common all over Madagascar, flying during a large part of the year in woods and cultivated places and having several broods.

The male armature is of very peculiar form and resembles that of no other Acraea except its near ally machequena.

It is a matter of some difficulty to unravel the confusion which has arisen in the synonymy of this species, owing to Ward's description of his Acraea manandaza. Boisduval's original description of female states that the base and nervules of the f.w. are rufous and the h.w. white or very rarely flushed with a reddish tinge. Ward received two alleged pairs of the species, stated to have been taken in coitus. Of the first pair both male and female were of the red type of coloration and this red female is now known to be a somewhat rare variety, a figure of which will be found on Plate 9a, in Mabille's volume (Hist. Nat. Mad.). To this pair Ward assigned the original name ranavalona. His second "pair" (subsequently proved to be two female) he describes as having the "f.w. transparent suffused with carmine", "hind-wing powdered with white,

the outer margin bordered with carmine", "female colour and markings the same as male". These he regarded as a different species and gave them the name manandaza. Unfortunately his figures do not agree with his descriptions, but M. Oberthür (who possesses the type) states that one of them (the supposed female of the "pair") is a large example rather less accentuated in coloration than fig. 23 of his Plate V, whilst the "male" is an ordinary though small female. Now Oberthür's fig. 23 has an extremely faint pink tinge at base of f.w. and a slight pink suffusion in h.w. and therefore the true "manandaza" of Ward is a very faintly pink-tinged female of ranavalona.

18. Acraea machequena.

Male. Expanse about 50 mm. F.w. semitransparent owing to reduction in width of scales, these are set in a partially upright position, and rarely bifid. Costa, apex, and sometimes discal area more or less faintly powdered with scales. Basal suffusion of dull or bright red extending from the costa at end of cell to the hind angle. Base black. H.w. dull red or reddish ochreous, never so bright as in ranavalona, with a very narrow marginal border of blackish, much more heavily scaled than in ranavalona. Six internervular marginal spots half black and half red, the red portion lying on the black border and sometimes very indistinct, the black portion projecting into the discal ground colour. Black discal and basal spots arranged as in ranavalona but well separated, that at base of nervure 5 being usually quite distinct. The basal spot in area 7 of h.w. often absent. A marked black basal suffusion not present in ranavalona. The underside of h.w. resembles the upper, but is very thickly scaled. Thorax and abdomen blacker than in ranavalona. Abdomen with yellowish lateral spots. Claws unequal.
Female. Expanse 50-60 mm. F.w. either almost transparent, or with a brownish basal suffusion corresponding in area to the red of the male. H.w. varying from semitransparent white (the normal form) to pale reddish, a slight black basal suffusion (not present in ranavalona). Spots as in male but smaller. Discal spot in area 7 sometimes absent. Underside as upper but almost devoid of scales except at the spots. Lateral abdominal spots white.
In distinguishing between machequena and its near ally ranavalona, Trimen states that in both sexes of the former the basal spot in area 7 is absent, and that in the female the discal spot in the same area is also wanting. I find however that these characteristics are variable. One male now before me has the basal spot well defined, whilst one female has the discal spot. Some female of ranavalona have both, though the basal spot seems to be always wanting in machequena. Perhaps the most constant features by which machequena may be distinguished from ranavalona are the greater extent of red or brown suffusion in the f.w., the black basal suffusion in h.w., the duller red of the h.w. in the male and of the hind marginal spots in both sexes.
The male armature is very like that of ranavalona but the claw-like claspers are slightly stouter, and the penis-sheath shorter.

19. Acraea lia.

Male. Expanse 30-40 mm. F.w. transparent owing to reduction in width of scales which are very rarely bifid. Costa, apex, and hind margin dusted with blackish. A

basal red flush to a little beyond middle of cell, not extending into area 2, but slanting outwards from origin of 2 nearly to hind angle. H.w. red with a narrow brownish marginal border, the dark colour extending slightly along each nervule. Black spots, more or less confluent, as follows : A discal series of eight, the first large, in area 7, the second much smaller, in 6, and the next three gradually increasing in size, the fifth being as large as the first. These five are parallel to the hind margin. The sixth much nearer base, the seventh and eighth nearer margin. Two small spots on end of cell on discocellulars. Basal spots, one in area 8, one in 9, two in cell, two in 1c, one in 1b, and 1a. Underside f.w. devoid of scales except in basal area which is nearly as red as on upperside. H.w. ground colour pink, narrow marginal border of black spots and whitish spots arranged on and between nervules respectively. Within this border a series of seven red internervular spots, that in 1c more or less doubled. Black spots as on upperside, and three conspicuous red spots, one near base in area 7, and two in 1c. A few red scales at other points notably in cell near end. Thorax and abdomen black above and brownish below with lateral brownish yellow spots. Claws unequal.

Female. Expanse 40-46 mm. Resembles the male but red colour may be replaced by tawny, h.w. underside has the ground colour much whiter and the red submarginal spots duller and more elongate. The red colour would appear to vary considerably. Mabille's figure, stated to be that of a female, is nearly as red as an average male, Grose-Smith's figure is much paler, whilst an example before me from the Tring collection is intermediate between these.

The male armature is of a very simple character. A. lia would appear to be a rare species, and I have seen but few examples. Owing to its small size and the peculiar pattern of the h.w. underside it is not difficult to distinguish from its nearest allies.

20. Acraea obeira.

Male. 50-56 mm. F.w. almost transparent, the scales very slightly reduced in width and never resembling hairs. Costa, apex and hind margin dusted with blackish. A rusty yellow basal suffusion reaching a little beyond middle of cell, just beyond origin of nervure 2, and not quite to the hind angle. H.w. with a basal suffusion of the same rusty yellow, its outer limit in some cases nearly parallel to hind margin and extending a little beyond end of cell, in other cases almost reaching the margin at apex and anal angle, whitish on inner margin. Remainder of discal area transparent. A narrow dusky marginal border beset with internervular red spots. These vary in number from 3 or 4 to 7 and become less distinct towards the apex. That in area 1c may be doubled. Basal and discal black spots as follows. A discal row of eight, the first three (in 7, 6, and 5) lying parallel to margin, the fourth nearer to base, the fifth nearer to margin, and the sixth, seventh, and eighth nearer base and in a straight line which if produced, would pass through tip of cell and apex. Two small spots, sometimes indistinct, on end of cell and origin of 6 and 5. Basal spots, two in cell close together, one in 7, one in 1c, 1b, and 1a, that in 1b more distally placed. One or two black spots against the thorax. These spots are often large and more or less confluent. A slight basal black suffusion (not always present). Underside f.w. not scaled, h.w. as on upperside but basal suffusion pale pinkish, creamy white along inner margin. Thorax black with yellowish lateral spots. Abdomen black above, paler beneath, with pale yellowish rings and lateral spots. Claws unequal.

The size of the h.w. spots is very variable. In some cases they are small and well separated, in others large and confluent.
Female. Expanse 63 mm. The rusty yellow of the male replaced by yellowish white. The h.w. spots sometimes larger than in the male, the red marginal spots of the h.w. ochreous and obsolescent.
The examples figured by Mabille (l.c.) Plate 10 appear to be female and not male as there indicated. Mabille states (l.c.) that he has examined Guenee's type and that the Acraea pica of that author is synonymous with A. obeira. Further I cannot separate Grose-Smith's A. andromba. The distinguishing feature of this form is the possession of six rounded red marginal spots, instead of three or four elongate spots in obeira, but even a small series of the latter species shows these spots to be extremely variable in number, shape, and depth of colour. A curious feature of Acraea obeira is the instability of structure in the origin of nervures 6 and 7 in the h.w. These may arise independently, or from a common stalk at some distance from the cell. They may even be stalked in one wing and independent in the other in the same specimen.
In 1891, (Trans. Ent. Soc., p.172) Trimen described two female Acraea from Natal and Zululand and referred them to this species. Also in 1894 (Proc. Zool. Soc., p.23) a similar female from Manicaland. These examples have been subsequently found to be female of A. igola Trim., so that true obeira would appear to be confined to Madagascar. Mabille describes the species as rare, and occurring in the east and north of Madagascar, Grose-Smith's examples (andromba) were from the NW coast of that island. Examples in the Tring Museum are from Morondava, so that the species must be distributed practically over the whole island.

A. obeira burni, subsp.

Male. Expanse 38-50 mm. F.w. semitransparent, scales being few in number and slightly reduced but never resembling hairs. Costa, apex, and hind margin dusted with brownish black scales. A pale ochreous basal suffusion extending to end of cell, slightly into area 2, and thence diagonally to hind angle. A blackish longitudinal streak in cell, and a black powdering at end of cell on discocellulars. A black basal streak in 1b. Sometimes a suggestion of submarginal yellowish spots, especially in 1b, and submarginal blackish spots in 1a and 2. H.w. pale ochreous. A narrow blackish hind marginal border bearing seven reddish ochreous internervular spots, that in 1c doubled. Discal and basal black spots as follows : - A discal row of eight, the first three in 7, 6, and 5 nearly parallel to margin, the fourth in 4 and nearer base, the fifth in 3 nearer margin, and the sixth, seventh, and eighth in 2, 1c, and 1b nearer base and in a straight line which, if produced, would pass through tip of cell and apex. Two spots, coalescent at end of cell on discocellulars, one subbasal in 7, two in cell close together, one in 1c, 1b and 1b, that in 1b more distally placed. One or two spots against the thorax. These spots are smaller than in obeira and not confluent. A slight basal black suffusion (not always present). Thorax black with yellowish lateral spots. Abdomen black above, paler beneath, with pale yellowish rings and lateral spots. Underside, f.w. not scaled, h.w, as on upperside but paler.
Female. Expanse 55-65 mm. Much paler. H.w. spots, especially those nearer, base smaller or obsolescent, hind marginal border paler and spots larger.
After the most careful consideration I cannot give more than subspecific rank to Butler's Acraea burni. The ground-colour of the wings and the size of the black spots is the only distinction between it and obeira. Even the peculiarity of the irregular

structure in relation to nervules 6 and 7 is equally noticeable in both forms, and the male armatures are also similar.
The subspecies burni appears to be not uncommon on the Tugela River, Natal, from whence all the examples in the Oxford and National collection have been received.

21. Acraea mahela.

Male. Expanse about 56 mm. F.w. semitransparent owing to substitution of elongated bifid scales for the usual rounded form. A basal suffusion of pale or medium ochreous extending some distance beyond cell and a little beyond hind angle. A slight dusting of pale ochreous at the apex. Black spots as follows, one transverse spot in cell beyond middle, one irregular spot on discocellulars, a row of three in 4, 5, and 6, not quite half way between end of cell and apex, one small spot in 3 and 2 near the cell, and in 1b a somewhat larger spot usually rather nearer margin than base. Occasionally there is a second spot in 1b half way between the basal and origin of nervure 2. H.w. moderately thickly scaled with ochreous and spotted with black as follows. Six coalescent spots on hind margin on ends of nervules beginning with 2. An irregular discal band of eight, the first four in 7, 6, 5, and 4 respectively, and lying parallel to margin, the fifth in 3 and nearer to base, the sixth in 2 close to origin of nervule 3, the seventh in 1c and on a level with the fifth, the eighth in 1b and on a level with the sixth; one spot on end of cell at origin of nervule 5. Sometimes also a very small one at origin of 6. One spot near middle of cell and five basal spots, one in 1a, one in 1b more distally placed, one larger in 1c, one in cell, and one in area 7. These spots and also the lowest of the discal row are really on the under surface but are visible through the wing membrane. Underside resembles the upper. Thorax black, spotted above and below with ochreous. Abdomen black above for about half its length, the remainder and underside ochreous. Claws unequal.
Female. resembles the male, sometimes rather larger and paler. Abdomen with less black and of a paler ochreous.
Acraea mahela is very closely allied to A. neobule, the position of the spots is precisely similar, though mahela lacks the spotted hind wing margin and basal black ringed white spots which characterise the former species. There is little constant difference in the male armatures of the two species. Mabille describes it as somewhat rare, having a swift flight, and inhabiting the eastern slopes of Madagascar. Specimens in the Oxford collection were taken in SW Madagascar. There is an example in the general collection in the Berlin Museum labelled "Mozambique" but the occurrence of the species on the mainland seems doubtful.

22. Acraea neobule.

Male. Expanse 50-65 mm. F.w. semitransparent, scales being reduced in number and width, and near margins becoming slender and bifid. Costa and apex more or less dusted with black. A red basal suffusion, pale or bright, extending a little beyond cell, slightly into area 3, and thence in a nearly straight line to hind margin just beyond the angle. Often a slight ochreous suffusion at apex. Black spots more or less distinct, three beyond cell in 6, 5, and 4, one at end of cell on discocellulars, one in cell rather beyond middle, one small in 3 near to cell, one larger in 2 just below median, two in

1b, one discal and one subbasal and a linear basal spot in same area. H.w. pale to bright red. A narrow hind marginal black border bearing seven small spots of the ground colour (the last in 1c doubled) which are more completely enclosed than in horta, and may even be obsolete. Basal and discal black spots varying greatly in size and arranged as follows : A discal row of eight, the first four in 7, 6, 5, and 4 approximately parallel to margin and decreasing in size, the fifth slightly further from margin in 3, the sixth much further from margin in 2, the seventh in 1c and in line with the fifth, the eighth in 1b in line with the sixth. A minute spot just outside cell at origin of 6, a larger one on lower discocellular at origin of 4, a subbasal spot in 7, one median and one subbasal in cell, the rest confused on upperside in a basal suffusion. Near inner margin the spots may be absent on upperside and only showing through from beneath. Underside f.w. scaled only at costa. H.w. as upperside but powdered with whitish scales. Marginal border edged inwardly with reddish and spotted with white. Basal aggregation of spots enclosing three or four whitish marks. Thorax black with whitish lateral spots. Base of abdomen black with lateral yellow spots, remainder orange and rather paler beneath. Claws unequal.
Female. Expanse 50-70 mm. Resembles male but red replaced by dull ochreous. Spots on h.w. border usually larger.

A. neobule, f. sokotrana.

Specimens of a. neobule from Sokotra have been described by Butler and by Dixey (l.c.). These differ from the normal form principally in the increased amount of black scaling at apex, little or no ochreous scaling in the same region, the ground-colour a richer red, the black spots larger, and the dark h.w. border blacker and smoother in outline, its spots being less distinct. This Sokotra form has been named neobule, subspecies sokotrana by Prof. Rebel (l.c.) and in the absence of similar examples from other regions such a distinction would be quite justified. Examples however, taken by Neave in NE Rhodesia, are not distinguishable from these Sokotra forms. It is one of those cases in which a form or variety in one locality becomes the dominant race in another.

A. neobule seis, subsp.

Differs from the typical neobule in the following points. Average size generally smaller, f.w. much less transparent, apical black more pronounced, a submarginal row of internervular orange ochreous spots joining the much extended reddish basal suffusion. H.w. with marginal border much indented inwardly. The female much nearer the male in colour, often with a considerable black powdering along median nervure 1 in f.w.

A. neobule arabica, subsp.

Wings with the exception of transparent apical part of f.w. uniform orange ochreous. Spots as in neobule but smaller. H.w. marginal border formed of shallow black arches on a black marginal line enclosing internervular spots of ground colour.
The h.w. beneath is powdered with chalky white scales and the black spots at base are not confluent and therefore do not enclose white spots as in the typical form.

The female is slightly larger and duller in colour, and the f.w. transparent apical patch rather broader.
This form is represented by a male and female from Wadi Bagren near Makalla and by four female from Wadi Dhawruten near Ras Fartak taken in March 1899. Prof. Rebel's description is accompanied by five excellent text figures showing the structure of the genitalia. These leave no doubt as to the specific identity of the form with neobule.

Acraea neobule is somewhat variable though none of the variations show sufficient constancy to enable the forms to be separated into races other than those above indicated.
The species is recorded (Trans. Ent. Soc., p. 330, 1902) as having been untouched after death by ants which had eaten every other specimen in a box except A. admatha. Mr. Bennett's note (Dixey, Proc. Zool. Soc., p. 374, 1898) describes the species in Sokotra as "mostly seen in the hills, at an elevation of about 2,000 ft. Not hard to get, the flight being slow and bold". Mr. Crawshay describes it at Nairobi (Butler, Proc. Zool. Soc., p. 923, 1900) as "common and fond of perching on a violet-coloured 'Devil's Bit' like flower which grows on the plains".
The male armature shows a certain amount of individual variation, the length of claspers and uncus being somewhat inconstant. In the subspecies seis there is a tendency for the claspers to be shorter. Neobule is undoubtedly the mainland representative of mahela, from which it is rather doubtfully separable. Curiously enough the male armature of the latter approaches more nearly the usually shorter structure shown in neobule seis.

23. Acraea zambesina.

Male. Expanse 56 mm. Allied to A. neobule, Doubl., but having the f.w. fully clothed with scales and so devoid of transparent areas; it also differs from neobule in that the white centred basal spot of area 1c of the h.w. underside is much smaller than in neobule, and scarcely larger than the basal spot in 1a. F.w. above dull reddish yellow with narrow border (only 1m. broad), triangularly marked at the ends of nervules, the nervules near margin more or less black. F.w. with the following black spots. One in middle of cell, two coalescent at end of cell, and five discal spots (in 1b, 3, 4, 5, and 6). The basal spot in 1b and the discal in 2 wanting in the present example. Spots arranged quite as in neobule, but larger, and somewhat as in the form sokotrana, Rebel. On the underside the f.w. is coloured and marked quite as above except that it is more or less powdered with whitish yellow scales at the margin. The h.w. is almost exactly like that of neobule but the marginal border is a little broader and the pale spots more distinct. Beneath, the f.w. has a still wider border and very large pale marginal spots. Discal spots arranged as in neobule. The black, white-centred, basal spots in 1a, 1c, and cell are smaller, (especially in 1c) and almost of equal size.
One female from Zumbo on the Zambesi R. in Portuguese E. Africa. Mus. Colleg. St. Fiel.
A. neobule is a variable species, and the present example differing from it but slightly, will probably prove to be merely a local form of the same. The figure (l.c.) is a rather poor photograph which however shows the specimen to differ from both neobule and seis in having the f.w. fully scaled, and in the h.w. broader black border and fewer spots.

24. Acraea horta.

Male. Expanse about 50 mm. F.w. semitransparent, the discal scales being modified into a narrow bifid form. Some hairs present and the membrane of the wing speckled with brown at points of attachment of scales. Costa and hind margin slightly dusted with blackish, frequently a suggestion of red internervular spots at apex. Base black. A bright red (brick red in old specimens) basal suffusion extending a little beyond end of cell, very slightly into area 3, half way across 2, and almost completely filling 1a, and 1b. A transverse black spot at end of cell on discocellulars. A spot in cell beyond the middle, one immediately below median in area 2, and two in 1b, the first immediately below the median, the second much larger near the middle. These may be fused into one large longitudinal mark. All these spots except that on the end of cell may be very faint or in some examples absent altogether. The h.w. bright red (duller in old specimens) with a narrow border of blackish not quite enclosing seven internervular spots of the ground-colour, that in 1c being doubled. Black discal and basal spots as follows : - A discal band of eight, the first rather larger than the next three, lying parallel to the hind margin in 7, 6, 5, 4, the fifth larger and nearer cell in area 3, the sixth still nearer base in 2, the seventh in 1c in line with the fifth, the eighth in 1b and in line with the sixth. In addition to the discal spots, two at end of cell on discocellulars, two in cell, one subbasal spot in 7, a large subbasal spot in 1c, a small one in 1b, and another in 1a. Internervular spaces at extreme base, black, usually coalescing with subbasal spots. The spots in 1a and 1b are also frequently confluent. Underside f.w. devoid of scales f.w. dull ochreous. A narrow black margin set with ochreous spots, followed by a narrow red submarginal border. Some red also in areas 9, 8, 7, 1c, 1b. and 1a. Spots as on upperside, those at base usually confluent and enclosing spots of the ochreous ground colour. Thorax black with a few indistinct pale spots. Abdomen black above, orange ochreous beneath, and bearing small ochreous lateral spots. Claws unequal.

Female. Expanse about 60 mm. Resembles male but has the red replaced by dull ochreous and the f.w. spots are more frequently absent.

A description of the larva and pupa will be found in Trimen's S. Af. Butt., I, p. 135-6, from which the following is abstracted.

Larva. - About 32 mm long; with strong branched black spines. Dull brownish ochreous, closely striped with black transverse streaks. A pale ochreous dorsal line. A broad ochreous lateral band not crossed by the black streaks. Legs bright shining yellow; head shining black. Two spines on second segment, four on the last, and six on each of the other segments. Feeds on Kigellaria africana and on various passion-flowers.

Pupa.- About 20 mm long; Head blunt, hardly bifid; lateral angles at base of wing covers prominent and acute. Back of thorax rather blunt and rounded. Pale creamy ochreous. Wing covers streaked with black along position of nervures. Two dorsal, one ventral and two lateral lines of black ochre centred spots.

"The silk to which the tail is attached covers an area of an inch in diameter".

Trimen states that the species is extremely common in and about Cape Town. It flies slowly, and the larvae frequently do much damage to passion flowers. Fowls will not eat the larvae, which have a strong and disagreeable odour more perceptible than that of the pupa or even of the butterfly. Its distastefulness does not however preserve it

from the attacks of parasites, as Marshall records (Trans. Ent. Soc., p. 337, 1902) that five out of eight pupae were killed by a dipterous parasite. The male armature, though almost indistinguishable from that of insignis, to which species it bears, in pattern, but little resemblance, is of very different structure from that of A. neobule, although in other respects horta and neobule bear an extremely close resemblance.
A. horta appears to be an essentially S. African species. Trimen gives S. Leone as a locality on the authority of the British Museum, but the specimens so labelled must have been removed as the twenty-six examples in the present series bear the labels Cape Colony, Natal, Zululand, and Transvaal.
Trimen (l.c.) thus describes the pairing of this species:
"The female rested on the ground with expanded wings, and the male rested on the female with his wings also flatly extended. In this position (which was maintained) the heads of the two were held in the same direction, and the extremity of the male abdomen was twisted sideways as in the union of the saltatorial Orthoptera".
It is interesting to note in this connection that the orifice of the bursa copulatrix is at one side of the chitinous plate and not central as in most species.

25. Acraea admatha.

Male. Expanse 55-65 mm. F.w. semitransparent, thinly scaled with scales of normal size standing partially erect, narrow bifid scales and fine hairs appear at hind margin. A rosy red basal flush (brick red in old specimens) extending nearly to end of cell at subcostal and median, but more basal in the middle, passing slightly beyond origin of 2 and just reaching the hind angle. Base, costa and apex dusted with black, and a small linear basal spot below median. A faint black spot in middle of cell and sometimes a blackish dusting at end of cell on discocellulars. A little beyond end of cell two faint black spots in 4 and 5, and sometimes a third nearer to cell in 3. Just below median in 2 a faint spot, and one in 1b rather nearer margin. These spots are very variable in intensity. H.w. rosy red (brick red in old examples) dusted with black at base, whitish in area 1a, and having a moderately broad black marginal border bearing six round red internervular spots. Black discal and basal spots as follows : - A discal series of eight, the first (large) in area 7 near the middle, the second in 6, rather nearer base (this spot is often wanting), third and fourth in 5 and 4 and lying in a straight line with the first, the fifth in 3 close to cell, the sixth, seventh, and eighth in 2, 1c, and 1b, large, nearer to base, and almost in a straight line (some of the discal spots are sometimes small or wanting, in addition to these two small spots of cell, one spot in 9, one in 7, two in cell, two in 1c, one in 1b (close to eighth of discal row), and two in 1a. Underside f.w. almost devoid of scales but dusted with yellow near base, h.w. pink with black border as on upperside, bearing six red spots outwardly edged with pinkish white. Black spots as on upperside but much more distinct. Thorax black, spotted above and below with yellowish white. Abdomen basal half black above with lateral orange spots, remainder orange, underside yellowish white. Claws unequal.
Female. Expanse 60-75 mm. F.w. as in male but red replaced by rusty yellow varying to brownish cream colour, and spots faint or absent. H.w. colour modified in the same way. Spots often less distinct than in the male. Underside dusky white, marginal spots yellow, edged with whitish.

A. admatha f. leucographa.

This form differs, from the above in having a white patch at anal angle of h.w. This patch extends from the discal spots in 1b, 1c and 2 to the black border, with sometimes a few white scales in area 3. On the upperside of h.w. the first three or four discal spots may be faint or absent. The female is a little larger, less brightly coloured, and has the white on h.w. more suffused. I have before me a small series of examples from Entebbe showing a beautiful gradation in the extent of the white, one specimen having only a faint white scaling near the anal angle.

Though A. admatha is a somewhat variable species having a wide range, I have been unable to assign any of the variations to definite localities. Trimen states (l.c.) that his southern examples differ from typical W. African specimens in having less rounded spots in the h.w., and also that the subbasal spot in the cell is wanting, also that in the f.w. the red area is more extended and the discal spots wanting in the male but present in the female. A pair before me from Zululand, show a tendency to confluence in the h.w. spots especially in the male, but the spots in h.w. are quite as rounded as in other examples, the second cell spot is not absent, the f.w. red is of the usual extent and the f.w. discal spots are present in the male and wanting in the female. We must conclude therefore that these features are inconstant. The form leucographa is characteristic of the central area of the species' range. It has been taken in the Nyam Nyam country north of the Ubangi River, at Sassa in the extreme North of the Congo State, and at Kitala in Uganda. In Proc. Zool. Soc., p. 977, 1899. Butler mentions occur sporadically in other parts of the species' range. The typical form with slight variation occurs from Ashanti to the Congo State, and southwards to Natal.
A. admatha is recorded by C. J. M. Gordon in Old Calabar (l.c.) as being untouched after death by ants which had eaten all the other specimens in box except A. neobule.
The male armature is faintly distinctive having a characteristic dentate edge to the claspers.

26. Acraea insignis.

Male. Expanse 50-60 mm. F.w. semitransparent. The scales in apical area being of normal size but few in number and set partially upright. Near margin numerous narrow forked scales. Base slightly blackish; costa from end of cell to apex, and sometimes apical portion of hind margin, often dusted with black scales. A brick red basal suffusion extending a little beyond end of cell and to hind angle. A black transverse spot on end of cell, and a black linear basal spot below median. H.w. brick red with a narrow black marginal border the inner edge of which may be smooth or undulating. The base of wing has a black suffusion occupying lower half of cell, base of 2, 1c, and 1b, followed by a large oblique spot lying on the discocellulars. Underside, F.w. almost devoid of scales. H.w. as on upperside but with the discal area pink, separated from the marginal black by a narrow red submarginal band. Often one or two white spots near base. Abdomen black above, orange laterally and towards extremity and paler beneath. Claws unequal.
Female. Resembles male but the red replaced by a colour varying from slightly paler than that of the male to a dull pale brown.

A. insignis siginna.

Differs from the typical form in having all the h.w. basal black coalescent, forming a large black patch extending beyond cell with an irregular distal outline from costa to inner margin.
Aurivillius records the siginna form as occuring almost to the exclusion of the type, at great elevations (2,000 to 3,000 metres) on Mts. Meru and Kilimandjaro. Intermediates however appear to occur everywhere. When Distant described and figured this species, the pointed out that it was the same as that described by Hewitson as A. buxtoni. That name had however been previously used by Butler, and as Godman points out, Hewitson must have suppressed the species as it does not appear in Kirby's catalogue of his collection, its place being taken by four undetermined forms from Zanzibar. These are the same as the species described and figured by Distant.

Butler records A. insignis as taken by Mr. R. Crawshay at Roromo, Kikuyu Forest in February 1900, that collector remarking that the species frequents the primeval forest and that it is capable of resisting the fumes of strong cyanide for half-an-hour. The species is very nearly allied to A. horta, the male armatures being with difficulty distinguishable. That of insignis is of a rather more slender construction.

27. Acraea camaena.

Male. Expanse 55-65 mm. F.w. smoky brown, partially translucent, one black spot at end of cell on discocellulars. H.w. same colour as f.w. A blackish marginal border the inner edge of which is deeply indented. On this margin seven internervular spots of dull ochreous, that in 1c being doubled. A submarginal band of dull ochreous, narrow or obsolete at apex and widening out so as to extend over the whole of the inner margin. Black discal and basal spots as follows : - A discal row of eight, the first four parallel to hind margin, and decreasing in size from area 7 to 4, the fifth in area 3 close to cell, the sixth larger near base of area 2, the seventh in 1c and in line with the fifth, the eighth in 1b, in line with the sixth, one small and one large spot on discocellulars. A subbasal spot in 7, near the first of discal row; two spots in cell, and a basal aggregation of confluent black spots. Underside, f.w. almost devoid of scales, h.w. as on upperside but pale submarginal band more extensive, occupying nearly the whole discal area. Black hind marginal border bears white internervular spots, and the basal black encloses four subtriangular white spots. Thorax black with lateral and ventral yellowish white spots. Abdomen black above, yellowish beneath, with lateral yellowish white spots increasing in size towards extremity. Claws unequal.
Female. Expanse about 65 mm. Resembles male but paler; the h.w. submarginal band reaches costa, underside uniformly dull ochreous with spots and markings as in male.
This curious species would appear to be somewhat rare. It is closely allied to A. neobule, but is easily recognised by its sombre pattern and the dull brown unicolorous f.w. relieved only by the blackish spot at end of cell.
The male armature is distinguished from those of its nearest allies by the slightly different structure of the claspers.

Group IV

28. Acraea zetes.

Male. Expanse 70-80 mm. F.w. brownish black, darker at base, costa, apex, and hind margin. A more or less distinct submarginal row of reddish orange spots, very small or obsolete at apex and increasing in size towards hind angle. Black spots (obscured by ground-colour) as follows. In cell one small spot at base (usually almost lost in basal suffusion), a larger subbasal spot, a still larger transverse spot between the latter and end of cell, and a transverse spot on the discocellulars. A transverse discal band of large confluent spots from costa almost to nervule 3, the area between this and apical black distinctly paler and in many cases white of yellowish. In area 2 a large spot below origin of nervule 3. Below this, in area 1b but nearer margin, a large reniform spot. Near base of same area and close to median, a small spot. Areas 1a, 1b, and 2 usually with a slight central red suffusion. H.w. vermilion red. A heavy black basal suffusion reaching nearly to end of cell, and a black marginal border about 3 mm. wide, (its inner edge not very sharply defined) and bearing seven small internervular spots of the ground-colour. Black spots as on underside, those nearer base being lost in the basal suffusion. Underside, F.w. Basal and discal portion dull pink. Costa dull ochreous, black at base, and with a minute black subbasal spot. A slight black suffusion at base of area 1a, and 1b. Other spots as on upperside. Apical and hind marginal black largely displaced by orange ochreous internervular spots which are larger and more distinct that on upperside. H.w. dull creamy ochreous, the black marginal border more sharply defined, bearing seven subtriangular spots of the ground-colour (that in 1c doubled) and bordered on its inner edge by seven corresponding red spots. Nine discal black spots those in 7, 6, 5, 4, and 3 roughly parallel to margin, one at origin of 5, one in 2 between 2 and median, one in 1c, rather nearer margin, and one in 1b, on a level with that in 2. A small spot in 8 above precostal. A black basal patch of confluent spots bordered outwardly with rose pink and enclosing six pale ochreous markings, one in 7, two in cell, and one in 1c, 1b, and 1a respectively. Area 9 and basal part of 8 rose pink. Head black with a white spot between the eyes. Thorax black with whitish lateral spots more numerous beneath. Basal half of abdomen black, remainder deep orange, with a terminal fringe of black hairs. Claws unequal.

Female. Expanse 80-95 mm. F.w. varying from dull reddish to brownish grey. Spots as in male but much less distinct, and apical and hind marginal black paler and more suffused. An oblique subapical white bar from near costa to nervule 4. H.w. dull reddish brown, with blackish marginal border bearing spots of ground-colour larger than in male. Discal spots as in male, but basal black suffusion wanting. Underside

rather sparsely scaled but otherwise as in male though paler. Abdomen brown, paler beneath.

I have described the menippe form at length because it is much the commonest typically western form. True zetes agreeing with Clerck's original figure has the f.w. all brown black without submarginal spots and with just a trace of whitish subapical spots. The paler areas of underside are almost white.

A. zetes f. jalema.

This form is intermediate in pattern between zetes and acara. It has the red f.w. of the latter but much suffused with black. The apex is usually also blackish, and the white spots just beyond the discal black are still present.

A. zetes acara, subsp.

Male. Expanse 80-85 mm. Wings bright red with black spots as in zetes. F.w. has the apex only narrowly black. The subapical area is deep orange, and the hind marginal border bears large spots of the same colour, leaving the black only as heavy internervular arches gradually decreasing toward apex. H.w. marginal border 4 mm. wide, the internervular spots very faintly visible. Basal black extending barely half the length of cell. Discal area frequently suffused with white (= caffra and tescea). Underside f.w. dull pink, black spots as in zetes. Subapical area pinkish white. Area 6 with a suffused orange streak, beneath which is a marginal row of well-marked internervular orange spots bordered inwardly with black, and interstitially with bluish grey. H.w. almost white. The spots on marginal and basal area are white. Fringes of both wings tipped with white between the nervules. Thorax and abdomen as in zetes.
Female. Expanse 80-90 mm. Wings pale pinkish brown, spotted as in male. F.w. Subapical area pale dull ochreous. Underside f.w. from base to about middle of wing very sparsely scaled. Subapical area creamy white with internervular orange markings. H.w. white with marginal black bearing white spots and edged inwardly with orange spots. Basal black having white spots and edged outwardly with pink.

f. mhondana.

In this form the f.w. apical black joins the end of cell, a common variation which may be observed in almost any series.

f. caffra.

This form is merely acara with a white discal suffusion in the h.w.

f. barberi.

This form was described by Trimen as a separate species but it cannot be separated from acara. In the male the f.w. apical yellow is less distinct from the ground-colour and the black spots are smaller. The female has the f.w. semitransparent and the basal black is almost obsolete. The h.w. hind marginal black is almost absent.

In the example named ab. trimeni by Aurivillius the apical yellow is more pronounced, and the f.w. hind marginal black is almost absent. Aurivillius includes under this an example from Rehoboth (German W. Africa) which is now in the Staudinger collection. If this is really barberi then the hypoleuca of Trimen must also be a form of zetes which indeed is highly probable. Extremely different in appearance though it is. I have in fact only kept hypoleuca separate from zetes because it is so far a unique example and bears no locality. The example labelled barberi in the Staudinger collection differs very little from it. (See remarks under A. hypoleuca).

A. zetes sidamona.

The Abyssinian subspecies is described by Messrs. Rothschild and Jordan (l.c.) as standing about half way between. W. African zetes and E. African zetes acara. In f.w. on basal side of cellular and postcellular spots is a red mark. The middle portion of the discal black band nearly touches the discocellular spot. Six isolated reddish orange submarginal spots larger than in z. zetes. H.w. black basal area rather more extended than in z. acara. Underside with more red than in the other geographical forms, h.w. marked with white as in acara; yellow submarginal spots all separated from disc by a broad black border except that in area 6 which is long.

The larva and pupa of zetes are described by Aurivillius (l.c.).
The former is yellowish red, with a shining red head and a dark transverse band in the middle of each segment. The spines are black and arise from black shining processes. The two dorsal spines of the first segment are somewhat elongated, the remainder bent slightly backwards. My figure is from a Lagos example which agrees generally with Aurivillius' description.
The pupa is yellowish with black nervure lines, black markings on the head, a black band divided by two pale lines on thorax, and fine black lines ornamented with pale spots on the abdomen.

The larva and pupa of z. acara are described by Trimen (l.c.).
The former is ochreous yellow, each segment with a broad purplish red transverse band. Black spines long and branched arising from tubercles on the dark bands. The first two dorsal spines longer than the rest, erect. Head ochreous yellow, legs and prolegs purplish red. "Feeds on Passiflora".
Pupa, pinkish white, with black neuration and limb markings. Lines of rose pink spots in rows of wide continuous black spots. Underside of abdomen tinged in middle with rose pink, and two pink dorsal spots on thorax and one at base of wings. Head ochreous yellow.
Allowing for the fact that Trimen's descriptions were made from live or fresh examples, the larva and pupa of zetes and acara may be regarded as very similar.

At the Hope Department at Oxford, examples of pupae of z. zetes have recently been received, together with several specimens of a dipterous parasite (Fam. Tachinidae), which had emerged therefrom, also a batch of small parasitic cocoons which had been formed from a larva of zetes. These cocoons appear to be those of a hymenopterous parasite but the insects had emerged and escaped.
Acraea zetes is a variable species, the subspecies acara showing a wider range of variation than the typical western form. Godart's A. jalema is intermediate between z.

zetes and z. acara. Felder's caffra is the form of acara having a white discal patch in the h.w. Suffert's tescea differs but little from this form. Examples from Entebbe show a distinctly intermediate form having the ground-colour of the h.w. red, but lacking the orange subapical patch characteristic of true z. acara. Neave found zetes in the Katanga country W. of the Luapula R. and z. acara in the Chambesi and Luangwa valleys. On Chishi I., L. Bangweolo the same naturalist took examples of an interesting form, two of which are now in the Oxford collection. These specimens are peculiar in having the discal spots of the h.w. reduced to mere dots, causing them to resemble very closely A. astrigera. Both specimens have a slight tendency to white discal suffusion in the h.w. This and the f.w. marginal black, surrounding large orange spots in areas 1b, and 2, are the principal features which serve to distinguish these examples from the other species named.
A. zetes is essentially the western form whilst acara is found in the south, east, and north-east. Godart's jalema is labelled Gaboon, whilst Aurivillius notes a similar specimen from Nyassaland. The acara subspecies also extends to German and British E. Africa, and northwards to the White Nile. Godart's types (two male and one female) are in the Dufresne collection at Edinburgh.
Though some examples of A. zetes approximate very closely in appearance to typical specimens of A. astrigera, the male armature is very distinct, showing a much closer relationship with chilo and hypoleuca.

29. Acraea chilo.

Male. Expanse 50-70 mm. Wings rosy pink. F.w. narrowly black along costa. Apex and hind margin black and bearing a marginal (submarginal at apex) row of seven deep orange spots. Black spots as follows. Two in cell, and one large obliquely transverse spot at end of cell on discocellulars. Midway between end of cell and apex a confluent oblique band of four spots. A large rounded spot in area 3, one slightly larger in area 2 touching median and nervule 1b. Beneath this and pointing towards hind angle an elongated slightly curved spot in area 1b. One subbasal spot in same area and a short black longitudinal basal streak between 1a and median. H.w. with a black basal area formed of more or less confluent spots and extending not quite half the length of cell. In Mombasa examples a subbasal spot in cell is usually well separated. Hind margin bordered with black about 3 mm wide and bearing traces of paler internervular spots. Discal spots as follows. One in area 7, near middle. One in 6, 5, and 4, each respectively rather nearer margin than the one above it. One in 3 near end of cell, one in 2 nearer base, one in 1c nearer margin, and one in 1b, in a line with that in 2 (often obsolete on upperside). Usually a large spot at origin of nervule 5. Underside, F.w. as above but paler and sparsely scaled. Usually a very minute black dot near base above costa. H.w. creamy ochreous. Hind margin black as on upperside but bearing seven distinct pale greenish spots, that in 1c doubled. Base black, enclosing six pale greenish spots. Area 9, and base of 8 rosy pink, with a black spot beyond precostal, a rose pink suffusion in areas 1b, 1c, adjacent to basal black. Head and thorax black with a few pale spots above, and several beneath, basal half of abdomen black, with deep orange lateral spots, remainder deep orange. Claws unequal.
Female. Expanse 60-70 mm. Wings quite transparent, suffused with brown at base. F.w. without spots, sometimes with a few scales at apex. H.w. with spots as in male

but much smaller, the basal black being reduced to a spot in area 7, two in cell, and one in 1c, 1b, and 1a. Hind margin slightly scaled with blackish and bearing seven paler internervular spots. Underside as above but with a few rose pink scales at base in areas 9, 1c, and 1a. Head, thorax and abdomen dark brown, the white spots on head and thorax more distinct than in male.
This seems to be the usual form in British E. Africa.

A. chilo female f. hoeneli.

Resembles the foregoing but the f.w. black spots are present though much reduced. The hind marginal orange spots are also present but paler than in the male, whilst the h.w. may be more or less scaled with pink, and the black spots as large as in the male. Some examples of this form of female are distinctly intermediate in pattern between the entirely transparent female and the ordinary male. This second form is usually found in Somaliland.

The discovery of the identity of Grose Smith's A. crystallina with the female A. chilo is due to my friend Mr. S. A. Neave who came to this interesting conclusion after studying the series of Somaliland female now in the Hope Department. It should be noted that Grose- Smith (l.c.) described his crystallina as a male. Unfortunately in this otherwise admirable work the sexing is most unreliable. A. chilo is very closely allied to A. zetes acara the male armature presenting but little difference. The male chilo is however very constant in markings, and until I have seen an example which shows a pattern distinctly intermediate between it and A. zetes acara, I do not feel justified in regarding them as one species. Acraea oscari is equally closely allied and the advent of fuller material may cause all three to be regarded as specifically identical.

30. Acraea oscari.

Male. Expanse 60-70 mm. Wings dull red. F.w. dusted with black among costa, basal black extending shortly into cell and rather further below median. A minute black spot on costa near base. Hind margin broadly black bearing seven submarginal dull orange ochreous internervular spots. Large black spots as follows : One subbasal and one median spot in cell, and one oblique transverse spot at end of cell on discocellulars. About midway between end of cell and apex an oblique transverse bar of confluent spots from costa to nervule 4. Below this and nearer end of cell a spot in area 3. In area 2 spots, touching median and nervules 2 and 1b. In area 1b one submarginal and one subbasal spot, and between these, in area 1a, a median inner marginal spot. H.w. with more or less confluent basal spots and a broad black hind margin bearing seven small whitish spots, that in 1c doubled. Discal area more or less suffused with whitish, and bearing black spots as follows : in area 7 a subbasal and a median spot, followed by three in 6, 5, and 4, each progressively nearer to margin, one in area 3 rather more basally placed, a large spot in 2, touching median and nervules 2 and 1c. One spot in 1c, and one in 1b. Two spots obliquely placed on discocellulars, the upper one sometimes very small. Underside, f.w. as above but rather duller and the subapical area pinkish. H.w. as above but discal area pinkish with red on inner margin, and along inner edge of hind marginal border; the latter bearing white spots larger than on the upperside. Black basal area bearing about four white spots. Areas 9 and 8 red, with

a small black spot beyond precostal. Head, thorax and abdomen black, the latter with white lateral spots. Claws unequal.
Female. Expanse 84 mm. Upperside resembles that of male but the ground-colour is brownish white (inclined to reddish in discal part of h.w.) and the f.w. submarginal spots are much paler yellow. Underside as in male but ground-colour brownish white, base of f.w. suffused with reddish, inner edge of h.w. marginal black bordered with reddish ochreous; areas 9, 8, 1b, and 1a dull red.
This curious Acraea has the appearance of a very heavily marked and spotted example of A. chilo, both the wings are much more rounded. It is very closely allied to both chilo and zetes acara, indeed I am not quite satisfied that it is specifically distinct. The male armature is very similar to those of the two species named. A. oscari was described from Banka Malo, Abyssinia. Those in the National collection are from the Inderatcha and Charada Forests. (Kaffa).

31. Acraea hypoleuca.

Male. Expanse 60 mm. Wings orange ochreous. F.w. costa very narrowly black. Subapical area somewhat paler than ground-colour. Hind margin very narrowly black and bearing a band of eight deep yellow spots, widest at apex and becoming very narrow at hind angle. This band of spots bordered inwardly with a narrow black suffusion. Black spots as follows. A minute and indistinct subbasal spot in cell followed by a large transverse spot, and another on discocellulars. About midway between end of cell and apex an oblique transverse band of five confluent rather small spots, the last almost separated. Beneath this but further from margin a spot in area 3. In area 2 a larger spot just below origin of nervule 3. In area 1b a reniform submarginal spot and a much smaller subbasal spot. H.w. very slightly suffused with black at base. Hind margin with a black border 2 mm. wide, bearing seven whitish internervular spots, that in 1c doubled. Discal spots, one in area 7 near middle, one in 6 nearer margin, one in 5 still nearer margin, one in 4 immediately beneath that in 5, one in 3 further from margin, one in 2 just beneath origin of nervule 3, and one in 1c nearer margin. An elongate transverse spot in cell and one at origin of nervule 5. A minute dot (in left wing only) below origin of nervule 6. Underside. F.w. as above but with subapical area creamy white. H.w. creamy white with black spots as on upperside, and in addition, basal and subbasal spots, one in area 8, one in 7, one in cell, and one each in 1c, 1b, and 1a. Head and thorax black with pale spots. Basal part of abdomen blackish, remainder brownish yellow. Claws unequal.
The type, from which the above description is taken, still remains a unique example. Though closely allied to A. chilo, it has the appearance of being quite distinct from that species. Unfortunately no locality is marked on the label attached to the specimen, all the information there given being, "Coll. Watson, 1871." I think there is no doubt that the specimen was taken in Africa. There is in the Staudinger collection a specimen labelled A. barberi. This example is intermediate between Trimen's A. barberi male and hypoleuca, and differs from the latter in the following points. There is a slight black basal suffusion, the black spots are larger, on the h.w. underside the base is black enclosing white spots, and there are a few red internervular marks. I have carefully compared the specimen both with barberi and hypoleuca, and there is no doubt that it forms an almost perfect intermediate between them, with perhaps a somewhat stronger tendency towards the latter. This example was taken at Rehoboth

in German S. W. Africa. It is most unfortunate that we are ignorant of the locality of hypoleuca. With the very small material at present at our disposal I consider it advisable to allow this form to remain separate, but at the same time I regard the specific distinction between hypoleuca and zetes as very doubtful in spite of the great difference between the typical pattern.

Group V

32. Acraea anemosa.

Male. Expanse 60-70 mm. F.w. deep yellow to orange. Costa narrowly black. Hind margin black about 4 mm. wide at apex rapidly narrowing to a thin black line which reaches the hind angle. At base a black patch having a variably shaped but usually well-defined outline, extending into cell as far as origin of nervule 2, usually about the same distance into area 1b, but never into area 2. At end of cell on discocellulars a linear black spot of variable width (sometimes absent). Beyond cell an oblique transverse bar of coalescent black spots extending from costa to nervule 4, followed by a spot in area 3, which may be very minute or so large as to be confluent with those above it. In area 2, a little beyond origin of nervule 3, a spot of very variable size (sometimes absent). In 1b immediately below this there may be another spot. (In examples from Mombasa these two spots are nearly always large and well developed). H.w. brick red. A fairly well-defined basal black patch, extending to nearly half the length of cell. A hind-marginal black border of very variable width (4 to 10 mm) the inner edge of which may be well defined or much suffused. Rarely seven minute whitish submarginal dots. In one or two examples before me there are a few minute discal spots, visible only on the upperside, their position being the same as in A. astrigera. Underside. F.w. Black markings as on upperside. Ground-colour a little paler. The subapical area with a considerable powdering of white scales. H.w. Black markings as on upperside. Marginal band bears seven small white spots, that in area 1c being doubled. In area 1b close to inner margin a narrow white streak. (Sometimes also in 1a). Basal black patch bears about eight or nine white spots. Discal area pale pink bordered with darker pink basally, distally, and at inner margin. (Along the inner edge of the black hind-marginal border this dark pink nearly always forms a more continuous band than in A. (...). Thorax black with white spots above and below, abdomen black shading to deep ochreous towards extremity, brown to ochreous beneath, and bearing white lateral spots. Claws unequal.
Female. 65-70 mm. Ground-colour above and below duller than in male and h.w. sometimes dusky brown. Abdomen usually blacker. Other features as in male and with about same range of variation.

A. anemosa f. arcticincta, Butl.

The reddish yellow ground-colour extends into cell as a narrow wedge-shaped spot in the black basal area of the f.w. from the subcostal towards the median, so that an elongated quadrate spot about 2 mm. broad is thereby produced. 1 male (Uganda).

A. anemosa f. mosana, Suff.

Discal spots absent in f.w. (1 male in Berl. Mus.).

A. anemosa f. dubiosa, Suff.

Five minute discal spots in h.w. The author seems to suggest that this may be a hybrid between anemosa astrigera. Of this I do not think there is any evidence. Three examples before me (from Mombasa) agree with Suffert's description. The male armature is in no respect different from that of anemosa.

A. anemosa f. ufipana, Strand.

H.w. border narrow as in arcticincta. A central transverse band of three black spots in f.w. The first on discocellulars, the second beyond it in area 2, the third in 1b. In area 3 beyond the discal spot, a round black spot the same size as those in 1b, and 2. The black basal area of f.w. reaches the middle of cell and is 9 mm long. No white spots on h.w. border.
There is a similar example in the Oxford Museum from the Alala Plateau.

A. anemosa f. urungensis.

Resembles f. interrupta, Thur., but the f.w. basal black is much reduced, somewhat as in welwitschii, Rogenhofer, forming a blackish streak in the upper half of cell. The h.w. basal black is also reduced. The discocellulars only indistinctly dusted with black. At inner edge of marginal border of the h.w. underside there are seven or eight white spots enclosed by crescentic red spots. This example is scarcely separable from the female of A. welwitschii lobemba.

The early stages of anemosa anemosa are thus described by Miss Fountaine (l.c.).
"This very handsome, extremely active little larva, occurred very commonly at Macequece, on almost every available piece of its food-plant, a creeper, identified at the Board of Agriculture at Pretoria as (most probably) Modecca abyssinica. I first discovered it, in the usual way, by watching a female laying eggs; these are laid in batches of various sizes, some with about ten eggs together, others having as many as twenty-five or even more. The larva is very easy to rear, and feeds up very rapidly, and it remains only about eight days in pupa: but where the difficulty comes in, is that the supply of its food-plant should meet the demand, as it is a dark-coloured very inconspicuous little creeper, most difficult to find, and when a piece is discovered it is generally already sustaining two or three more larvae of the same species. In colour it is a bright shiny red-russet shaded into deep yellow at the extremities, the spines are long, furry and black. The pupa is dingy white in ground-colour, the wing case the same, but heavily outlined and veined in black, the rows of abdominal spots are deep orange, very heavily surrounded with black".
The species extends right across. Africa from Damaraland to Delagoa Bay and thence northwards to British E. Africa. It has been noted by both Dixey and Marshall as having an unpleasant smell. Though distinct from A. astrigera it is so closely allied to A. welwitschii that it is somewhat doubtful whether each should be accorded species

rank. There is a slight difference in the structure of the respective female genital plates. I have however seen specimens of anemosa female which could not with certainty be distinguished by colour and pattern from some female of welwitschii lobemba. The form urungensis has this appearance.

33. Acraea welwitschii.

Male Expanse 50-64 mm. F.w. bright red. A basal black patch of somewhat irregular outline, extending about half the length of cell and thence to inner margin, not encroaching upon area 2. Costa dusted with black. A hind-marginal band of black 4 to 6 mm. wide at apex and tapering to nothing at hind angle, its inner edge not sharply defined and tending to brownish, sometimes with red scales on the internervular folds. A little beyond cell an oblique discal bar of black, widest at costa and extending to nervure 4, followed by a small round spot in area 3. Below nervule 3 and a little beyond its origin, a rounded spot (sometimes absent). At end of cell on discocellulars an oblique transverse black spot. H.w. with a broad inwardly suffused black hind-marginal border reaching nearly to the cell. Base suffused with black extending to half the length of cell. Discal area white, areas 7 and 6, and 1b, at anal angle suffused with pink, sometimes a slight powdering of the same colour in 4 and 5, at outer edge of white. In some examples a faint discal row of greyish spots in 7, 6, 5, and 4 (gradually lost in marginal border). Fringes of both wings black touched with white between the nervules. Underside. F.w. deep pink, the subapical area powdered with greyish white, and marked on the internervular rays with orange ochreous. Apical black much reduced, remaining black markings as on upperside, a minute white subbasal spot above costal nervure. H.w. Black basal and marginal areas as on upperside but sharply defined. Discal area milk white bordered basally and distally with internervular red markings. Basal black bears eight or nine white spots, and on marginal black is a row of seven minute white spots, that in 1c doubled. A submarginal white line in 1b, and sometimes also in 1a. Thorax black with two or three white spots above and many below. Abdomen black at base shading into orange ochreous at extremity, and laterally spotted with white. Claws unequal.
Female. Expanse 55-60 mm. F.w. dull ochreous. Black markings as in male. Sometimes a powdering of white at costa in subapical region. Basal black tends to be reduced between median and inner margin. H.w. suffused with black at base extending to about one-third the length of cell. A broad hind-marginal black border more clearly defined than in male and sometimes showing extremely minute internervular whitish dots. Remainder of wing dull ochreous with a central white suffusion from nervule 7 to inner margin. Underside. F.w. paler ochreous. A minute white spot near base above costa. Subapical area milk white, with internervular ochreous markings. Apical black much reduced. H.w. as on upperside, but white discal area creamy white bordered basally and distally with red. Basal black bears white spots and hind-marginal black border bears larger white spots than in the male, and between it and the red margin of the discal area internervular crescentic spots of the ground-colour. Fringes of both wings spotted with white as in male. Thorax black, spotted with ochreous above and white below. Abdomen ochreous with lateral white spots.

A. welwitschii alboradiata, subsp.

Male. Expanse 58-60 mm. F.w. deep pink. A black basal suffusion extending about one-third the length of cell and not reaching origin of nervule 2. Costa black. A black apical and hind-marginal border narrower at apex than in welwitschii and very narrow along margin, its inner edge rather clearly defined. At end of cell on discocellulars a transverse linear spot (sometimes absent). A little beyond cell a band of black, broadest at costa and ending at nervule 4. Subapical area suffused with white and marked between nervules with orange ochreous. Occasionally a black spot in 3 just below discal band, and a second in 2 a little further from margin. Very rarely a spot in 1b almost directly under than in 2. H.w. white with a broad well-defined black border and a small black basal suffusion. Area 7 and distal portions of 6, 5, and 4 suffused with pink, the same colour sometimes extending along inner edge of black border even as far as inner margin. Underside. F.w. as on upperside but ground-colour. A minute white dot near base above costa. H.w. as on upperside, but pink only at basal and distal edges of white area. Basal and marginal black with white spots as in welwitschii, but those on border larger than in type form. Thorax and abdomen as in welwitschii.
Female. Resembles male but generally somewhat larger.

A. welwitschii lobemba, subsp.

Male. Expanse 56-70 mm. Wings deep cherry red. F.w. with a sooty black basal suffusion extending in cell to origin of nervule 2, and thence to inner margin, costa black. Hind margin broadly black at apex gradually narrowing to hind angle. A little beyond cell, an oblique discal band of black broadest at costa and ending at nervule 4, followed by, and sometimes confluent with, a rounded spot in 3. Below nervule 3 and just beyond its origin a rounded spot. In area 1b about 6 mm from margin a crescentic spot followed by a double spot nearer margin. (These last may be absent). H.w. with black basal suffusion extending to half the length of cell and bearing numerous white hairs. A broad black hind-marginal border, rarely bearing minute white internervular spots. Underside. F.w. Rose pink. A minute white dot near base above costal. Black markings as on upperside but apical and marginal border much reduced. Subapical area bluish white with elongated triangular internervular orange marks. H.w. Basal black very sharply defined and spotted with white as in previous forms. Broad black marginal border with medium sized internervular white spots, a white submarginal streak in 1b, and 1a. Discal area pinkish white bordered basally and distally with red internervular marks. Fringes in both wings spotted with white. Thorax sooty black with two or four white spots above and many below. Abdomen black above, to near extremity, remainder deep orange.
Female. Resembles male but f.w. brownish ochreous, and basal black much reduced in areas 1a and 1b, hind-marginal border much narrow. H.w. rather duller than in male. Underside with ground-colour of apical area of f.w. and discal area of h.w. creamy white. H.w. hind margin spots creamy white and larger. Abdomen, and in some cases thorax, reddish ochreous. Dorsal thoracic spots more conspicuous.

Some female examples are much paler and lack the discal spots in f.w. An example of this kind before me is almost indistinguishable from some specimens of A. anemosa.
That welwitschii and anemosa are really different species seems to me extremely doubtful. Series of preparations of the genitalia show that, allowing for a narrow limit

of individual variation, there is little or no constant difference. In the female genital plate there is a small but noticeable difference, those of welwitschii and alboradiata being alike and differing slightly from that of anemosa. With our present conception of species-formation it is inevitable that we should occasionally find forms which are so near to the line of specific distinction that we cannot say with certainty, on which side they lie. Mean-while I have kept anemosa separate from welwitschii, though it matters little whether we regard them as specifically distinct or not.
A single male from Angollo (Angola) in the Tring collection is intermediate between welwitschii and alboradiata and has a white mark in area 1b of f.w.
Neither Aurivillius' description nor figure of welwitschii quite agrees with the original reference of Rogenhofer. That author describes the female, and I have been fortunate enough to obtain a cotype from amongst the Felder specimens at Tring. With it is one female and four male from the same locality, and these specimens are as here described. All have white patches on the h.w. and in this respect, as also in the ground-colour, they differ from the examples described by Neave. The latter I must therefore regard as a subspecies of typical welwitschii. Aurivillius' figure agrees more nearly with this form than with the type. So far as I am aware the typical male is here described for the first time. Rogenhofer, in order to distinguish between his species and anemosa gives text figures of the female "seal" of each species and points out certain differences. This peculiar structure is not however reliable for the discovery of minute differences. I have placed a female of each form under the microscope, in such a position that the extremity of each abdomen could be clearly seen in the field at the same time, and in this case the two structures appeared to be identical as indeed we should expect when the male organs are so very similar.
The type form of welwitschii is known to me only from Angola, those before me bearing the labels Loanda, Ceramba, Bange Ngola, and Bumba. The subspecies alboradiata appears to occur only in the neighbourhood of the Victoria Falls on the Zambesi. The specimen described by Trimen as a variety of anemosa, is labelled Damaraland, and as a strip of the northern part of that province almost reaches the neighbourhood of the Falls, the example may have been taken in that region. The subspecies lobemba was taken in large numbers by Neave in the region of L. Bangweolo, and a few examples as far W. as the Lualaba River.

34. Acraea pseudolycia.

Male. Expanse 55-70 mm. Wings rosy red (liable to vary much in intensity). f.w. with a black suffusion. Costa narrowly black. A black hind-marginal border moderately wide at apex and very narrow from nervule 4 to hind angle. Black spots as follows : one in cell, one near base (often obscured), one a little beyond middle, and a linear spot at end on discocellulars. One in 1b near base (often absent or obscured by the basal black) and one near margin, sometimes followed by an indistinct submarginal spot. One in 2 close to median, and one in 3, above which, and a little beyond cell is a transverse patch widening towards and joining with the costal black. The subapical area between this patch and the apex is deep orange, this colour extending to the hind angle. H.w. with black basal patch extending to about middle of cell and a black marginal border about 3 mm. wide, bearing seven minute white dots (sometimes very indistinct). A discal row of small black spots, very variable in number and size, when all present one in each internervular space. (These spots are more distinct on

underside). Underside. F.w. rosy pink, spots as on upperside, with an additional minute dot near base above costal, preceded by a white dot at base, and in some specimens an extra black spot at base of cell. The separation of the basal black into spots distinguishes this species from anemosa. The deep orange subapical area powdered with white which divides the yellow ground-colour into more or less triangular spots. H.w. with a sharply defined black basal patch edged with red and bearing at least six while spots, two in cell, one in 1a, 1c, and 7. Black margin as on upperside but with larger white spots (that in 1c doubled), and inner edge bordered with red internervular marks. Discal black spots, when all present, as follows : - One in 7, 6, 5, and 4, roughly parallel to margin, one in 3 rather nearer base, one in 2, close to median, one in 1c on a level with that in 3 (usually doubled), one in 1b nearer base, and one in 1a often joined to basal black. Fringes, especially in h.w. marked with white between nervules. Thorax black with four white spots above and about eight below. Basal portion of abdomen black, remainder deep orange, and having white or whitish lateral spots.
Female. Expanse 57-70 mm. Wings usually rather more rounded than in male, and margin of h.w. tending to be somewhat serrated. Ground-colour variable but paler and much duller than in male. Basal black often very faint on upperside, discal spots of h.w. usually larger than in male, though sometimes only showing through from underside. Underside f.w. pale yellowish pink, the white subapical powdering more accentuated than in male. Discal portion of h.w. creamy white. Distal portion of abdomen dull ochreous instead of orange.

A. pseudolycia female, emini.

Differs from the astrigera form in its usually larger size, and in the great reduction or absence of dark basal suffusion especially in the f.w. The outer edge of h.w. has the appearance of being serrated though this is largely due to the depth of the white internervular fringes. The discal spots of h.w. are well developed and the ground-colour tends to invade the marginal black along the nervules.

A. astrigera, f. brunnea.

The rosy red and orange of the astrigera form is here replaced by dull brownish ochreous, and the two sexes are alike in colour. In Angola examples there is sometimes a more or less distinct white subapical bar on the upperside of the f.w. The f.w. apical and hind-marginal black may be broader, suffused, and bear marginal yellowish marks. H.w. discal spots often larger than in typical form.
It is not without much consideration that I have arrived at the conclusions embodied in the above synonymy. Isolated examples of the different forms would provide comparatively little evidence of specific identity, but I have been fortunate enough to secure from various sources a fine series numbering between thirty and forty examples, the localities ranging from German E. Africa to Angola. There are males and females of each form (except f. emini), and a series of preparations of the genitalia shows no differences of structure. Weymer assumed that his Acraea emini was a male, though owing to the imperfection of the specimen he was unable definitely to decide. It is larger, a little brighter in colour than the ordinary female of the form astrigera, and has more rounded wings, but cannot be specifically separated. Moreover I have before me a female which agrees precisely in shape, depth of colour

and in every detail of pattern with Weymer's description and figure of Acraea emini. This specimen is accompanied by two male which, except for a slight difference in depth of tint of the ground-colour, agree precisely with astrigera. Suffert, on the assumption that Weymer's specimen was a male, recorded (l.c.) an example of the female which he described as very similar to the supposed male. From these facts I conclude that Weymer's A. emini is a female, and further that it is a female form of pseudolycia astrigera.

An examination of the dates borne by examples before me shows that the different forms are not seasonal. The geographical distribution is somewhat peculiar. The red and orange form seems only to occur at the eastern end of the range of the species, but it is accompanied by the form brunnea and by intermediates. The white or typical form appears only to occur in Angola, but is there accompanied by the brunnea form and by intermediates. Thus strictly speaking astrigera is a subspecies in relation to the typical pseudolycia whilst brunnea is a form of both.
The male genital armature of all these forms is the same, but differs from that of anemosa and welwitschii.

35. Acraea turna.

Male. Expanse about 60 mm. Wings creamy white with sepia black spots and markings. F.w. base suffused with sepia extending to two-thirds the length of cell, slightly into area 2, in upper part of 1b nearly to middle, and slightly less in 1a. Costa dusted with sepia. An apical and hind-marginal border about 5 mm. wide at apex narrowing to about 2 mm. along margin to hind angle and bearing ochreous internervular spots. A small spot in cell rather before middle followed by a larger obliquely transverse spot, and usually a black mark on discocellulars. Beyond the cell a discal band of spots, wide at costa, becoming narrower posteriorly, and ending (in area 3) in a larger rounded spot. A large spot in 2 close to median. A submarginal and a subbasal spot in 1b. H.w. with a slight basal suffusion and a hind-marginal border about 4 mm. wide, the inner edge of which is rather indistinctly defined but with a marked indentation of the ground-colour in area 4. On this border and close to margin is a row of seven minute internervular white spots. Margin slightly serrated and fringes spotted with white. A discal row of eight spots, the first four (in 7, 6, 5, 4) lie almost in a straight line from middle of costa to middle of hind margin (sometimes this line of spots has a slight outward curve). The fifth spot is in 3 and further from margin, the sixth in 2 near median, the seventh and eighth (in 1c and 1b) nearer margin. The basal and subbasal spots are more easily seen on underside, but those in cell and 1c are well developed above. Underside. F.w. along costa to end of cell, for two-thirds of length of cell, and slightly in 1b and 1a, suffused with dull pink, otherwise much as on upperside but paler and markings less well defined. A whitish powdering round yellow apical submarginal spots. A minute black dot on costa about 3 mm. from base, a linear black mark in area 11 near middle, and a black dot in same area above end of cell. H.w. as on upperside but whiter and without basal suffusion ; the hind-marginal border much paler, and the white dots are followed inwardly by elongated ochreous spots. The discal spots are as on upperside. A basal spot in 8 near precostal, a crescentic spot in 7, a small round spot followed by a second of crescentic shape in cell, one in 1c, 1b, and 1a. Sometimes a dot near end of area 1a. Area 9, base

of 1a, and a small mark in 7, and 1c pink. Head black with a few pale spots, thorax black above with whitish lateral spots, and whitish below, abdomen black above, whitish below, with pale rings and lateral spots. Claws unequal.
Female. Mabille describes the female as resembling the male but more heavily marked. A female example before me is rather less heavily marked than the male and the ground-colour is pure white. The f.w. is much more rounded than that of the male.

A. turna f. marmorata.

In this form the ground-colour is bright ochreous, the dark markings are heavy and in the f.w. partly confluent. In one example before me the two cell spots in h.w. coalesce to form a black ring. The example figured by Grose-Smith is stated to be a female and has the h.w. rather paler than the primaries.
The difference in colour from that of the typical form is not seasonal and both the latter and f. marmorata occur together.

A. turna is rare in collection. It appears to be allied to A. pseudolycia.

Group VI.

36. Acraea egina.

Male. Expanse 70-80 mm. F.w. sepia black, the discal area from about middle of cell to the subapical region rather more thinly scaled, nervures and rays black. In areas 1a, and 1b a bright red patch commencing beyond middle and terminating just before hind margin. Black spots of rather suffused outline as follows. One in cell just above origin of nervule 2, and one on end of cell; just beyond cell a row of five more or less confluent spots in 10, 6, 5, 4, and 3, one spot in area 2 adjacent to median, and beneath this but nearer margin a spot in 1b; in the same area a small subbasal spot nearly touching the median. H.w. bright red, paler at costa and inner margin with black basal area extending to end of cell, and a black hind-marginal border about 2 mm. wide, rather deeply edentate at the nervules and sometimes showing traces of pale internervular spots. Black discal and basal spots as on underside, but more or less hidden by basal suffusion. Underside. F.w. pale sepia, with dark internervular rays and spots as on upperside. Above costal a basal and a subbasal black spot. Base of area 1b faintly pink and red in areas in 1a and 1b replaced by dull pink. H.w. Base red, followed by greenish grey with internervular patches of ochreous. Median discal band dull pink, edged with dark ochreous at junction with black hind-marginal border, the latter bearing seven quadrate dull green internervular spots. Inner margin pale yellowish green. Black discal and basal spots as follows : - A discal band of nine, those in 7 to 4 roughly parallel to margin (that in 5 small or wanting), the fifth (in 3) adjacent to end of cell, the sixth touching median and 2, the seventh rather nearer margin, the eighth nearer base, the ninth still nearer margin, Two coalescent spots on discocellulars, one subbasal and one median in cell; one in 8 near precostal, one basal and one subbasal in 1c, and one in 1b and 1a, the latter nearer base than the former. Head and thorax black, a white line between the eyes and two on thorax, with lateral crimson tufts on collar. Basal part of abdomen black with ochreous lateral spots. Remainder orange ochreous. Claws unequal.

Female. Expanse 80-90 mm. F.w. thinly scaled, dull sepia grey, sometimes with a median pinkish suffusion. A more or less developed whitish subapical bar. Spots as in male but dull grey. H.w. slightly darker, sometimes reddish grey, spots and marginal border as in male but paler. Underside, F.w. dull greenish grey, sometimes pinkish from subbasal to subapical area. Nervules and rays well marked, blackish. Spots as on upperside. H.w. pale greenish grey, spots and markings as in male but usually paler. In some examples the spots and hind-marginal border are as in the male but the basal red is absent and the other colours only faintly represented. Abdomen black above, ochreous beneath, and with ochreous lateral spots.

Examples of A. egina from British E. Africa frequently have the red colour of a more brilliant and rosy tinge than in W. African examples, and the colouring of the underside is very brilliant. In the f.w. the apical internervular spaces are deep orange, and areas 1a and 1b bright pink. In the h.w. the base is rose pink, the subbasal spots and nervures are surrounded with green, the discal area is deep orange with a median pink suffusion, and the hind-marginal border is green with a black inner edge and black on the ends of the nervules.
Many examples from NE Rhodesia are of this brilliant colouring with the apical red streaks of the harrisoni form. Some of the examples taken by Neave on Chirui and Chishi Is., L. Bangweolo, are of the harrisoni form.

A. egina, f. harrisoni.

In this form there are in the male (and less obviously in the female) streaks of the red colour in the internervular spaces of the apical portion of the f.w. The underside colouring is much more brilliant than in ordinary examples. In the female the f.w. is much suffused with reddish and the h.w. is red as in the male but rather paler and the black spots smaller.

A. egina areca, subsp.

Male. Expanse 70-80 mm. F.w. orange red with a trace of an oblique whitish subapical bar; costa, apex, and hind margin brownish black and a suffusion of same colour at base and on nervures. Black spots as in egina but larger and the subapical discal row sometimes confluent with that on end of cell. H.w. orange red with black suffusion at base, but of much less extent than in egina egina, and a black hind-marginal border about 2 mm. wide rarely slightly paler between the nervules. Spots as in egina egina but often smaller, less clearly defined, or obsolescent. Underside. F.w. as above but much paler. H.w. base dull red followed by orange, inner margin pale yellowish green, and a greenish dusting round spots and nervules. Discal area yellowish pink, orange at outer edge. Spots on hind marginal band pale green.
Female. Expanse 80-90 mm. F.w. pinkish ochreous, a well-marked white, semitransparent oblique subapical bar. Apex, hand margin, and spots dull sepia black. H.w. pale to darker ochreous with a dusky basal suffusion on a reddish ground, and a black hind-marginal border, inwardly edged with orange ochreous. Underside a pale replica of the upper but the ground-colour of h.w. is greenish with a few red markings at base.

A. egina medea, subsp.

Male. Expanse 70 mm. F.w. black at base ; costa, apex, and hind margin broadly black. Discal area red with large confluent black spots, of which there are one in cell above origin of 2, one on end of cell, a broad band of spots beyond cell from costa to nervule 3, one at base of area 2, beneath and touching the latter a spot in 1b, and a second in the same area between base and origin of 2. H.w. black at base with a broad black hind-marginal border. Central area red, broken up by large and confluent black spots corresponding to those on underside. Underside. F.w. Base, costa, and hind margin sage green. From nervule 6 to 1 this colour is broken into spots by heavy black marginal arches between which, and the discal spots the wing is deep ochreous. The

spots beyond cell both distally and proximally are edged with pink. Black spots as on upperside with two small ones near base of costa. H.w. orange at base, followed by sage green as far as end of cell. Beyond this pink, outwardly edged with orange and enclosed by a broad black marginal border bearing quadrate internervular sage green spots. Large confluent black spots as follows : One in 8, two in 7, the second followed by a series of three lying in a curved band in 6, 5, and 4. A long patch on discocellulars and a spot at base of 3 and of 2 the latter followed by large contiguous spots in 1c and 1b and a small spot in 1a. Two spots in cell the second followed by contiguous spots in 1c and 1b. A spot at base of 1c and a subbasal in 1a. Head and thorax black with a few pale dots, proximal half of abdomen black, remainder orange.
Female. Expanse 80 mm. Spotted and marked as in male but all the red areas replaced by dusky white and the dark areas rather brown black. Underside like that of male but generally paler and duller, and all the pink areas replaced by white. Abdomen black above with large yellowish white lateral spots.
This remarkable form occurs on Princes I., W. Africa. Some old examples bear labels indicating that they were taken on the mainland, but if the form ever did occur there it does not appear to do so now. Aurivillius (Ann. Mus. Genov., l.c.) records sixteen male and eight female taken on Princes I., Jan. to Aug. 1901. The Oxford collection possesses a female kindly presented by Prof. Aurivillius. The male I have figured is in the general collection in the Berlin Museum, and is labelled Senegal.

The larva and pupa of A. egina have been described by Aurivillius l.c. and his short description agrees with the specimen figured on Plate VI. From an example before me the larva may be thus more fully described.
Length about 34 mm. Dorsal area pale yellow the junctions of the segments marked by fine black lines, in front of each of which the yellow is deepened to an orange tint. The rows of spines arise from rather broad black transverse lines. The yellow area is bordered by a rather broad dark brown line beneath which is a lateral line of pale yellow broken up into spots followed by a brown sublateral line. Head black with a bifurcated pale line. True legs black. Prolegs dark brown segmented with yellowish. Spines rather stout, black, with fine black bristles. The base of spines slaty blue.
The typical A. egina extends from Senegal across Africa to Rhodesia, Nyassaland, and Uganda, whilst the subspecies areca occurs in Nyassaland, German E. Africa and British E. Africa. It is a well-defined species easily distinguished from the forms to which it bears a superficial resemblance. A series in the Oxford collection, taken at Chirinda includes examples somewhat intermediate between egina and areca. The male armature is quite distinct, and shows no close affinity with that of any other species.

Group VII.

37. Acraea cepheus.

Male. Expanse 52-60 mm. Wings vermilion red. Costa, apex, and hind margin black. Black spots as follows : - One in area 11, about middle of length of cell. In cell a subbasal spot adjacent to subcostal, a large transverse median spot the whole width of cell, and a spot on upper and middle discocellulars. Just beyond end of cell a confluent band of quadrate spots, the lowest (in 3) with its long axis transverse. A submarginal spot in 2 and 1b, the former often confluent with marginal black. A large spot in 2 touching median and nervule 2. Below this in 1b and rather nearer margin a large spot. In 1b midway between base and origin of 2, a comma-shaped spot. A black linear basal mark in cell and 1b. Hind margin narrowly black. H.w. with black basal suffusion in cell, 1c, 1b and 1a. Black hind-marginal border 2 mm wide, edentate on the nervules. Black spots as follows: - A zigzag discal row of nine, one in each internervular space. In area 7 a subbasal and a median spot. A small spot on the upper discocellular, two in the cell, and one in 1c, and 1b and 1a, these obscured by the basal suffusion. Underside. F.w. rose pink, yellowish on the costa and immediately beyond the discal spots. Apex and hind margin dark ochreous with narrow brown internervular rays and broadly black nervules. Usually a minute black subbasal spot on costa. H.w. pinkish ochreous, basal portion of areas 7, 6, 5, distal end of cell, and median part of 1c, 1b, and 1a rose pink. Black hind margin deeply edentate on nervules, edged inwardly with deep orange, and bearing seven ochreous internervular spots. Black spots as on upperside and three additional basal spots visible in 8, at base of cell, and in 1c. Head black with orange tufts on collar. Thorax black with two whitish dorsal lines, orange lateral spots, and ochreous spots beneath, basal half of abdomen black with lateral orange spots, remainder orange. Claws unequal.
Female. Expanse 56-60 mm. Sepia black. F.w. spots as in male (spots sometimes smaller). An oblique white subapical band in 6, 5, 4, and 3. H.w. usually without basal suffusion. Black hind-marginal border with internervular quadrate spots of the somewhat paler ground-colour. Underside f.w. greyish native : costa, apex, and hind margin sage green with black nervules and rays. Spots often smaller, those near base may be very minute. H.w. sage green-spotted as in male. Head and thorax black with dorsal and lateral greenish white spots. Abdomen black above, pale ochreous beneath with lateral white and sublateral pale ochreous spots.

A. cepheus f. abdera, Hew.

Differs from the typical form in the absence of the red colour from the space between the end of cell and discal row of spots, and there is sometimes a trace of a whitish subapical bar.

A. cepheus f. eginopsis. Auriv.

The red in f.w. forms a median hind-marginal patch, giving an appearance similar to that in A. egina.

A. cepheus female f. pheusaca, Suffert (= abdera female, Auriv.).

The ground-colour of the wings is brownish red, the spots are obsolescent, the costa, apex, and hind margin reddish brown, and the subapical bar dark ochreous. The h.w. spots small and often obsolescent. The marginal border bears slightly paler internervular spots. Underside f.w. as above but paler; costa, apex, and hind margin brownish ochreous. H.w. pinkish brown, spots as in typical examples.
Aurivillius associates this form of female more particularly with the abdera form of the male, but I do not think it is the only female form occurring with the abdera male.

A. cepheus female f. sucepha, Suffert.

In this form the ground-colour is nearly as bright a red as in the male, the subapical band of the f.w. is white slightly suffused proximally, with pale ochre yellow. The underside is typical.

A. cepheus female f. nigrescens, f. nov.

This form represented in the Tring Museum has all the wings sepia, without the white subapical bar. In the h.w. the external portion of the discal area is paler and is deeply invaded on the nervules by the black of the marginal border, and between them by the dark ground-colour. The spots are as in the typical male. On the underside the f.w. is deep mauve, the costa, apex, and hind margin sage green. H.w. pale sage green. Spots and markings as in typical examples. (Described from a Sierra Leone specimen).

A series of female examples shows various intermediates between these different forms, often from the same locality. Thus specimens from Fernan Vas R. (French Congo) show all gradations from the typical female to the pheusaca form, a male from the same locality being of the usual coloration. I do not feel justified therefore in assigning any particular female to a distinctive form of male. One is tempted to regard these different forms of female as to some extent seasonal, but the series here mentioned were all taken at the same time, viz. in the month of January, which seems to produce this possibility.

38. Acraea petraea.

Male. Expanse 50-60 mm. Wings bright rosy red, rather darker at apex of f.w. and in submarginal part of h.w. F.w. base suffused with black, slightly in cell and more widely in 1a and 1b. Costa and hind margin narrowly black. Nervures and nervules

strongly marked and broadly black where joining hind margin. Black spots as follows : In area 11 near middle of cell an oblique spot joining costal and subcostal. In cell a subbasal spot adjacent to subcostal, followed by a second larger subtriangular spot touching subcostal and median, a double spot on upper and middle discocellulars. Just beyond cell a band of confluent spots from nervule 11 to 3, narrow at first, widening suddenly in area 6 so as to join discocellular spot, narrower in 5 and 4, but occupying the entire basal half of area 3, and sometimes curving round on nervule 3 so as almost to join hind margin. In areas 2 and 1b two submarginal spots, and in 2 a large spot touching median and nervule 2; beneath this in 1b and nearer margin a large reniform spot. Inner margin narrowly black. H.w. Base suffused with black, rather broadly so in 1b, 1c, and lower half of cell. Hind margin with black border 15 mm wide. Nervules strongly marked. Black spots as follows : - In area 7 a small submarginal spot. A sinuate discal row of eight internervular spots (no spot in 3), a subbasal spot in 7, two spots in cell, one on m.d.c., a basal and a subbasal in 1c, a subbasal in 1b, and 1a. Underside. F.w. dark salmon pink, apex greyish pink with deep orange internervular rays. A small black spot on costa near base. Spots near base are wanting and the remainder are of different shape and smaller size, the outline of the upperside spots showing through. H.w. pale salmon pink with some reddish internervular marks at base, and reddish internervular rays. Hind margin bearing seven yellowish white spots. Black spots as above with an additional spot visible in 8, near precostal. Head black with a white central line, and two small lateral spots, red lateral tufts on collar. Thorax black with two faint dorsal white lines. Basal half of abdomen black with orange lateral spots, remainder orange. Claws unequal.

The foregoing description applies to an average wet season male. The black markings of this species are very variable in shape and extent, and it is almost impossible to make a description which will satisfactorily cover the range of individual variation. Trimen describes a male aberration (l. c. p.146) with f.w. entirely dull black.

Female. Expanse 60-64 mm. Wet season form. F.w. sepia rather darker at costa, apex, and hind margin, with black spots as in male but somewhat less distinctly outlined. A broad white subapical patch from costa to nervule 3. H.w. pale sepia marked and spotted as in male. Underside. F.w. Basal and discal area brownish grey : Costa, apex, and hind margin greenish grey with black nervules and dark ochreous rays. Subapical patch greenish white, spots as in male. H.w. greenish grey with black spots as in male. Near inner edge of marginal border a row of small greyish ochreous streaks. Abdomen black above with large white lateral spots. Yellowish beneath.

Dry season form. Closely resembles male but ground-colour duller red, white subapical patch as in wet season form, and apex black with reddish internervular rays. Underside of h.w. pale dull ochreous with orange ochreous spots, at inner edge of hind-marginal border. Discal spot in area 3 may be present though small.

A. petraea f. taborana, Suff.

The male described under this name by Suffert has the median cell sport joined to the basal black, and the discal black band of spots is of less extent than usual. In so variable a species the name is hardly worth preserving.

In the female ascribed to this particular variation of the male, but with which it has no special connection, the ground-colour is the same as that of the male and the subapical patch is dull orange ochreous. The varietal name taborana may perhaps be preserved

for this form. Both the above occur in a series taken by Marshall in Natal, and now in the Hope Department.

Fawcett's description (l.c.) of the larva and pupa is as follows: Larva. - "Ground-colour pale golden brown, with dorsal and lateral black lines, and a black transverse line on each segment bearing two largish white spots and six long branched black spines, those on 3rd, 4th, and 5th segments being longer than the remainder. Head large proportionately to body, black with a white bifid mark on front. Thoracic legs and claspers yellowish. The young larvae reared were all blackish in colour and fed in companies on Oncoba kranssiana (Planch).
"Pupa appears to be dichromatic, some being pale brown and others ferruginous ; in both forms the fine black lines and spots peculiar to Acraea pupae are much reduced. The pupal stage lasted fifteen days in January."
Trimen says the young larvae feed in companies and drop to the ground on a silken thread when alarmed.
The species is undoubtedly closely allied to A. cepheus of the west.

39. Acraea guillemei.

Male. Expanse 46-60 mm. F.w. somewhat elongated. Bright red with a blackish apical patch 4-6 mm. wide, more or less continued as a narrow blackish marginal border. A little black at base and black spots as follows : One in cell at or beyond origin of nervule 2, one on end of cell, a discal band of five spots, the first small in 10, the second larger in 6 and rather more distal, the third below it in 5, the fourth in 4, more distal and with its long axis pointing downwards and outwards, the fifth below it in 3 but with its long axis pointing downwards and inwards. A large spot near base of 2 and beneath it but nearer margin a spot in 1b. Sometimes a subbasal spot in same area. H.w. bright red with some black at base especially in 1c. A narrow black hind-marginal border with a somewhat undulating inner edge and bearing more or less developed internervular spots of the ground-colour. Blacks spots as on underside. Underside. F.w. as above but duller, apical patch merely dusky. Sometimes two black spots on costa near base though one or both may be absent. H.w. much as above but duller and inclined to greenish grey at base and along nervules. Internervular marginal spots paler and better developed. Black spots as follows : - A little irregular black at base, a spot in 8 near precostal. An outer band of large black spots, the first in 7 well beyond origin of nervule 7, second in 6 more distal, and beneath it but still more distal a spot in 5; one near base of area 4 and beneath it but much nearer margin a spot in 3, one near base of area 2 and immediately beneath it a spot in 1c, followed by one in 1b slightly nearer base. A subbasal in 7, two in cell, and one on discocellular at base of 5, a subbasal in 1c, beneath it a spot in 1b and a dot in 1a, also a subbasal in the latter area. Head black with a reddish tuft between eyes and two on collar. Thorax black above. Basal half of abdomen black above with yellowish lateral spots, remainder orange. Claws unequal.
Female. Like male but much more rounded f.w. and somewhat less apical black.
One male of this species from Angola in the collection of Herr J. N. Ertl has very little black at apex of f.w., but the nervule ends are heavily scaled with black. The discal spot in h.w. area 5 is represented by a mere dot, and is absent in one wing on the upperside.

I have seen only very few examples of this rare species, though in many collection a form of A. nohara is labelled guillemei. I was much struck with the rather peculiar arrangement of the h.w. spots in Oberthür's guillemei and observed that this arrangement corresponded to that in Lathy's acutipennis. When examining the Staudinger collection I found a single example agreeing with Oberthür's figure, but it was a female, and Oberthür's specimen is described as a male. I therefore wrote to that author requesting him to again examine the type, and he informs me that he thinks it is a female. If this be so I cannot doubt that acutipennis is its male, and I feel sure that the acquisition of further material will confirm this conclusion.
Whether the substitution, in the Angola example, of black nervules for the f.w. apical patch as described above be peculiar to that region I have not sufficient material to decide. Staudinger's specimen is merely labelled W. Africa, and so affords no assistance.
The male armature is quite distinctive.

40. Acraea buttneri.

Male. Expanse about 50 mm. Wings bright scarlet. (In some examples deep orange, but whether this difference is due to fading or to seasonal dimorphism I am unable to decide, the examples before me not being dated). F.w. Costa yellowish. Apex moderately suffused with black and the nervules heavily marked with the same colour. Hind margin narrowly black. Black spots as follows : - In area 11 near middle of length of cell a small spot. Below this in cell an oblique transverse spot and one on upper and middle discocellulars. Just beyond end of cell an oblique transverse band of spots from costa to nervule 4. In area 3 a broadly crescentic spot near middle of its length and sometimes a small submarginal. In area 2 submarginal subtriangular spot and a reniform spot at basal end of touching median and nervule 2. In area 1b a submarginal, close behind it a discal, and touching the median a subbasal spot : also a small black basal streak. In area 1a near middle a small black streak, also a slight black basal suffusion. H.w. with a slight black basal suffusion and a narrow (about 12 mm) hind-marginal band. Inner margin yellowish. Black spots as follows : - A discal sinuous row of eight the fourth (in 4) usually confluent with a minute spot on the discocellular (this latter not always present). The spot in 2 touching median and nervule 2. In area 7a subbasal spot. Two spots in cell the distal one large and transverse. A subbasal and a basal spot in 1c, and one or two confluent and rather obscurely defined spots in 1b and 1a. Underside. F.w. rosy red, costa, apex, and hind margin ochreous. Hind margin and nervules narrowly black, reddish internervular marks, black spots as on upperside. H.w. warm ochreous, darker in the internervular spaces and with some reddish marks near base. Hind margin with a narrow greenish grey border about 12 mm. wide, outwardly and inwardly defined by a very narrow black edge, and divided by the black nervules. Spots as above, an additional one being visible in area 8 near precostal, and a basal spot in 9, and 1c. The discal spots in 1a and 1b sometimes confluent. Head and thorax black with a few yellowish spots, and red or orange lateral tufts on collar. Basal half of abdomen black with orange lateral spots. Remainder orange. Claws unequal.
Female. About same size as male (one dwarfed example before me only 36 mm). Ground colour rather less brilliant. Spots similar. H.w. margin with pale internervular spots of ground-colour. Abdomen all black above with large whitish lateral spots.

A. buttneri shows considerable variability in the size of the spots, their position also is not quite constant. In some specimens the margin of the h.w. bears pale internervular spots of the ground-colour. On the underside, the h.w. may be uniformly ochreous, the marginal border being only a little paler than the rest. In other examples the h.w. hind-marginal border is pale greyish white, the narrow black outer edge being very indistinct.

The species is rare in collection, and I have been unable to gain access to sufficient numbers to decide whether it exhibits seasonal dimorphism. Though probably allied to A. petraea and A. cepheus the male armature is quite distinct.

41. Acraea violarum.

Male. Expanse 50-56 mm. Wings dull brick red (probably brighter in fresh specimens) spotted with black. F.w. with a narrow apical black tip extending very narrowly for a short distance along costa and along whole length of hind margin to hind angle. Spots as follows : - On costa near middle of length of cell a linear spot. In area 11 near end of cell a small oblique quadrate spot, and immediately below this an elongate transverse spot extending right across cell. A small spot on the upper, middle and partly on lower discocellulars. Beyond cell a discal outwardly convex (in some species nearly straight) bar of confluent spots extending from costa to nervule 4. Beneath this in 3 and slightly nearer margin a crescentic outwardly convex spot. Three rounded subapical spots in 6, 5, and 4 lying almost in a straight line (occasionally a small additional spot in 8), followed by a submarginal spot in 3, 2 and 1b, the last being doubled. In area 2 a reniform spot touching median and nervule 2. Below this and nearer margin a large, often geminate spot in area 1b, and in the same area a large transverse spot nearer base and touching median and nervule 1. In area 1a slightly beyond middle a small transverse spot. Small black linear marks in cell, 1b, and 1a. H.w. with black basal suffusion, slight in 7, widening in cell towards median, extending to middle of wing in 1c, and tapering off to base of 1a. Hind-marginal black border 2 mm. wide rather strongly arched on inner edge between nervules and bearing seven pale spots varying from red to yellowish. Black spots as on underside, except in 1a and 1b where they merely show through from beneath. Underside. Wings as on upperside but rather paler and duller, f.w. with apical region slightly yellower than the remainder. Spots as on upperside. The black at apex bears three small greyish white spots. H.w. On the marginal border the internervular spots are large, rounded, and violet grey, centred with yellow, the black portion being reduced to a series of rings. Black spots as follows : A very irregular discal row of eight, first in 7 slightly beyond middle, second and third, in 6 and 5, midway between the latter and marginal border, contiguous, and lying at right angles to costa; fourth, in 4, touching nervule 5 and 1.d.c.; fifth, in 3, crescentic nearly midway between end of cell and marginal border: Sixth in 2 touching median and 2, seventh in 1c rather nearer margin than the sixth; eighth in 1b at same level. In addition to these the following basal and subbasal spots. In area 7 a subbasal spot, its long axis pointing towards inner margin ; two in cell, the second elongate and transverse; a basal and a transverse subbasal in 1c, and 1b, the latter also extending into 1a. A basal spot in 9, and a small spot in 8 a short distance beyond precostal. Fringes of both wings white. Head dark red brown, two reddish lateral tufts on collar, thorax black brown with lateral tufts of red. Abdomen black above, yellowish beneath with lateral orange spots. Claws unequal.

Female. About the same size as male, and resembling it in markings, but ground-colour duller, and f.w. more rounded. Abdomen black with white lateral spots. Underside of h.w. sometimes ochreous with reddish internervular patches. The ground-colour varies from slightly paler than the male through dull ochreous, smoky ochreous, to violaceous sepia. An example of the latter coloration in the National Collection has a median white suffusion in the h.w. The h.w. margin if spotted at all is marked with white.
Unfortunately very few of the examples which I have been able to examine are dated, but the sepia coloured female are probably wet season examples.
The species is not common in collections, and Trimen describes it as nowhere abundant.

42. Acraea asema.

Male. Expanse 36-50 mm. Wings brick red with a rosy tingle, to ochreous or greyish ochreous, with black spots. F.w. distal portion of costa very narrowly black, apex with a small black patch, continued along hind margin as a very narrow black marginal border. Black spots extremely variable. When all present arranged as follows : - In area 11 near end of cell one spot and beneath this an elongate transverse spot in cell. A small linear mark on upper portion of discocellulars. Shortly beyond end of cell an oblique transverse band of spots from close to costa to nervule 4, this band may be straight, irregular, or outwardly convex ; beneath it and slightly more distally placed a spot in 3. Beyond these, in the subapical area, a row of three spots, in 6, 5 and 4. These may be in a straight line, or outwardly convex, or absent altogether. Beneath them a submarginal row of three spots in 3, 2, and 1b. A spot near base of area 2 close to median, and two additional spots in 1b, one near submarginal spot, the other near base. Black basal linear marks in cell, 1b and 1a, absent in typical dry season examples. H.w. with a narrow black border arched on inner edge as in violarum. This border is extremely variable and may be almost entirely black, or set with internervular white spots, or the internervular portions may be nearly all of the ground-colour leaving only a series of black arches. Black spots as on underside, but usually smaller and some of them frequently only showing through from beneath; basal suffusion of black in wet season specimens, often replaced by reddish in dry season examples. Underside. F.w. Wet season specimens usually show the black apex with three small yellowish white spots. Dry season examples have the apex pale ochreous, and the ends of the nervules black. Ground-colour as above but duller, spots as above. H.w. Ground-colour as above, often with paler discal markings and the basal and inner marginal areas suffused with pink. The hind-marginal border is pale ochreous, and divided into spots by a series of narrow black arches. Black spots rather variable but usually more distinct than on upperside and arranged as follows : An irregular discal row of eight, the first in area 7 near middle, the second and third in 6 and 5, more distally placed, contiguous, and in a line perpendicular to costa, the fourth in 4 close to cell, the fifth in 3 some distance beyond cell, the sixth in 2 touching median and nervule 2, seventh and eighth rather more distal, contiguous, and lying at right angles to hind margin. A basal mark in 9, a small spot in 8 some distance beyond precostal, a transverse subbasal spot in 7, two spots in cell, a basal and subbasal in 1c, close to latter a spot in 1b, and nearer base a small spot in 1a. In dry season specimens several of these spots may be absent and generally all are smaller. Head black brown

with reddish tufts on collar. Thorax black with lateral reddish spots and sometimes two anterior dorsal spots. Basal part of abdomen black with orange lateral spots, remainder orange. Fringes white. Claws unequal.
Female. Expanse 44-52 mm. F.w. more rounded. Usually duller than male, some examples being greyish ochreous. One specimen before me, taken by Neave in Angoliland is dull ochreous and the apical and hind marginal black is usually broad and inwardly suffused. The h.w. marginal border is about 3 mm. broad and bears ochreous internervular spots of medium size.

A. asema, f. gracilis, Wichgr.

I have examined the type of this form and find that the male has the h.w. margin very narrow and all black, the same feature in the female being a little broader and spotted with white. Beneath, both sexes have the spots on this border white instead of ochreous. (Mashonaland).

With regard to the seasonal forms of this species Marshall states (Trans. Ent. Soc., p. 555, 1896) that "the bright-coloured strongly spotted summer" (= wet season) "form is replaced in winter by a duller form in which the black markings are reduced, the two upper spots in subapical two usually being obsolete".
There is undoubtedly a certain amount of seasonal dimorphism, but from an examination of a large number of examples I am of opinion that the description bright-coloured for the wet season forms is apt to be a little misleading. The dry season forms are certainly less spotted than the wet, also the actual tone of colour is usually paler, but many of them have a rather bright pink suffusion, whilst the wet season forms though more heavily coloured are generally of a less rosy tint. A fine series taken by Neave in Nyassaland, mostly at an elevation of about 4,000 ft., contains examples taken in March, and also in June and July. Nearly all the former are of a rather dusky ground-colour whilst the latter have a rosy pink suffusion.
Though closely allied to A. violarum I consider asema to be a distinct species, both male and female genital armatures showing marked differences. Moreover I have seen no obvious intermediates.

43. Acraea omrora.

Male. Expanse 40-60 mm. F.w. dark ochreous with a slight basal black suffusion and a very little black at apex continued as a fine marginal line to hind angle. Black spots as follows : - One large transverse spot in cell, and a spot on discocellulars. Beyond cell a transverse row of three spots in 6, 5, and 4, of which the second is slightly more distally placed. Beneath them and still more distal a spot in 3. A submarginal series of five small spots, the first in 5, the second in 4 rather more distal, and the third in 3 still nearer margin, the fourth and fifth in 2 and 1b are at the same distance from margin as the third, and that in 1b is doubled. A spot near base of area 2, beneath it but rather nearer margin a spot in 1b, and a doubled spot near base of same area. H.w. with ground-colour as in f.w. and having a black hind-marginal border about 3 mm. wide which tapers to a point at anal angle. A slight black basal suffusion and some of the black spots of underside reproduced though most are obsolete. Underside. F.w. resembles upperside but paler and duller. H.w. pale dull ochreous, the marginal border

formed of somewhat pointed black internervular arches enclosing grey spots. Along the inner edge of this border a greyish suffusion. Black spots very small, as follows : - One in 7 about middle, one in 6 much nearer margin, beneath it a dot in 5, a spot near base of 4, and one about middle of area 2. At about the same level a double spot in 1c and one in 1b. A little black at bases of nervules, a dot in 8, two in cell, and a subbasal in 1c, and 1a. Head and thorax black with yellowish marks, abdomen black at base, remainder whitish. Claws unequal.
Female. Expanse 50-56 mm. Resembles male but ground-colour rather more dusky. The inner edge of h.w. marginal black markedly sinuous. On underside the grey suffusion is wanting from inner edge of marginal border, and the abdomen is whiter than in the male.

A. omrora umbrata.

Male. Expanse 46-60 mm. Extreme wet season form. Wings brick red. Costa and hind margin narrowly black. An apical black patch 3 mm. wide at broadest part. A basal black suffusion which may be evenly distributed over basal area as far as middle of cell or may be radiate from base. Black spots as follows : - A small costal spot in area 11 at a point opposite origin of nervule 2. Just beyond this in cell a large transverse spot ; a small spot on upper and middle discocellulars. Beyond end of cell in 10, 6, 5, 4, an oblique transverse row of four spots which may be straight, or irregular. Three submarginal spots in 5, 4, and 3, the last preceded by a subtriangular spot. In area 2 a submarginal and a basal spot : in area 1b a submarginal spot with another immediately preceding it (both these may be doubled). A subbasal spot in 1b more or less coalescent with basal suffusion. In area 1a a small spot about 4 mm. from hind angle. H.w. A black basal suffusion extending to about middle of cell. A black hind-marginal border about 35 mm. wide the inner outline of which may be smoothly rounded, or the border may be somewhat widened at nervules 2 and 3. In some examples this border is much wider beneath and shows through to the upperside as a grey submarginal band. In most examples a submarginal row of slightly paler internervular spots. Black spots less distinct than on underside, some only showing through. Underside. F.w. paler and duller than on upperside and the spots for the most part smaller, and, owing to the upperside spots showing through. appearing to be ringed with grey. At apex a small black patch containing three greenish ochreous spots in 8, 7, and 6. H.w. the same colour as f.w. The basal black much reduced, the marginal border sometimes wider than on upperside, and bearing seven usually well-rounded greenish ochreous internervular spots, that in 1c doubled. Black spots as follows : - A discal row of eight, the first in 7 beyond middle, the second rather nearer margin, and the third either immediately beneath it or very slightly nearer base, the fourth in 4 close to end of cell, the fifth in 3 about midway between end of cell and hind-marginal border, the sixth in 2 near median, the seventh in 1c rather nearer margin and doubled, the eighth in 1b nearer base. A minute dot in 8 a short distance beyond precostal, a subbasal spot in 7, one subbasal and one median in cell, a double subbasal spot in 1c, and a small subbasal in 1b and 1a. These are but slightly separated from the narrow black basal suffusion. Fringes black. Head and thorax black, a white spot on each eye, and one between. Two pairs of dorsal thoracic spots. Basal half of abdomen black with reddish lateral spots, remainder orange.
Female. Expanse 46-64 mm. Dull ochreous, with slight subapical reddish suffusion, spots and markings as in male but less sharply defined. H.w. hind marginal band

rather broader and with a more suffused inner edge. Underside paler than above, spots and makings as above but many of those in f.w. obsolescent, or only showing through from above. F.w. apical, and h.w. hind-marginal spots whitish, and the latter larger than in male. Abdomen black above with white lateral spots and yellowish beneath. The example here described was taken in the upper Luangwa Valley in the height of the rains.

Extreme dry season form male. Ground-colour pinkish ochreous. Basal black suffusion smaller and h.w. marginal black narrower than in wet season form. The spots are all much smaller. Many of those in h.w. are distinctly visible only on underside. The pale f.w. apical and h.w. hind marginal spots are smaller and whitish, distal end of abdomen dull ochreous.
Female varies much in colour, some being smoky ochreous and others almost rosy pink especially in h.w. Spots and markings much as in wet season female. H.w. marginal black often narrower, and spots sometimes only showing through from underside. Black basal suffusion in both wings broad.
The forms above described occur in any long series of this species. I have called them wet and dry season forms since the extremes are mostly taken at those periods, but the variation in depth of colour and size of spots is very considerable and corresponds only approximately to the seasons.
In some cases the heavier black markings associated with the wet season may be well developed in the dry. A male now before me, taken by Neave near Mporokoso in N. E. Rhodesia in July, is of a bright brick red, and though the h.w. spots are smaller than in typical wet season forms, the black basal suffusion and h.w. margin are unusually broad and heavy.
Trimen's figures of omrora omrora (l.c. as asema) correspond to dry season examples. The female is shown as having a white abdomen but I do not observe this feature in any of the examples of omrora umbrata, though the lateral spots are usually white.
I have examined the specimens of Herr Wichgraf's violarum umbrata presented by him to the S. Kensington collection, and they do not differ from several or those taken by Neave in NE Rhodesia.

44. Acraea lofua.

Male. Expanse 46 mm. F.w. dull pinkish ochreous with a very slight black basal suffusion. Apex black for a depth of 3 mm. Hind marginal very narrowly black. Small black spots as follows : - One in cell over origin of nervule 2, one on discocellulars. Beyond cell a transverse row of four, that in 5 vertically beneath that in 6, the third linear, its lower end pointing outwards, the fourth beneath the outer end of the third. A spot close to base of area 2, and one in 1b nearer margin. H.w. more decidedly pink than f.w., a black basal suffusion and a heavy black hind-marginal border, 5 mm. wide between nervules 2 and 3, and tapering off at hind angle. Some black and discal spots more easily observed beneath. Underside paler than above. F.w. as on upperside but spots less distinct; no basal, and very little apical black. H.w. with faint pinkish basal internervular marks; very slight black basal suffusion. Hind margin black, narrower in middle than on upperside, its inner edge sharply dentate between the nervules, and having a submarginal row of seven triangular greyish white spots, their bases towards the margin. Black spots as follows: - One in 8, two in 7, beyond the latter a spot in 6

followed by spots in 4, 2, 1c and 1b, all of which lie in an almost straight line at right angles to inner margin. Two spots in cell, the second at origin of nervule 2. A basal and a subbasal in 1c and 1b, and a basal, a subbasal and a distal spot in 1a. Head brown, thorax black, abdomen black above with yellowish lateral spots. Claws unequal.

Female. Slightly smaller. Pale dull ochreous. F.w. with a brownish basal suffusion, apical black rather broader than in male, but all the spots absent except that on end of cell, and the second of the discal row (this very minute). H.w. with faint dusky basal suffusion: spots absent or very faint. Hind-marginal black narrow (in middle) than in male. Underside. F.w. paler than on upperside, the two spots just visible but the apical black only faintly represented. H.w. with only a faint trace of the discal spots ; basal spots small and indistinct; hind-marginal black 2,5 mm. wide, not dentate, bearing greyish white submarginal spots, smaller and less distinct than in male. Abdomen black with whitish spots.

Of this interesting little species I have seen only the male and female above described. They were taken on the Lofu River in NE Rhodesia (4,000 ft.) by Neave. The species is closely allied to A. omrora, Trim., and indeed I should have regarded it as a form of that species, but for the peculiar structure of the male armature which bears a supplementary pair of processes between the harpes.

45. Acraea nohara.

Male. Expanse 50-60 mm. Wings bright red (in fresh examples) varying to pale dusky ochreous with black spots. The ground-colour varies in intensity, and the spots somewhat in size. F.w. Costa very narrowly black continued as an apical and hind-marginal border about 1-5 mm. wide at apex and tapering to hind angle. Ends of nervules black, and a black suffusion at base, widest in 1a. Spots as follows: -A large rounded spot in cell just above origin of 2 and a still larger spot on discocellulars. Beyond cell an oblique row of four and sometimes five subquadrate spots, the first in 9 sometimes absent, the next three in 6, 5, and 4 quadrate and separated only by the nervules. The fifth in 3 somewhat elongated, with its long axis parallel to hind marginal. The appearance of this band of spots varies considerably. Most commonly the second, third, and fourth, lie in a perfectly straight line at right angles to costa, but in some specimens they lie on an irregular outwardly convex curve. A rounded spot in 2 close to median, and a submarginal and a subbasal spot in 1b. H.w. with a black basal suffusion, and a black marginal border 1,5-2 mm. wide usually with a slight indication of paler internervular markings. Black spots as on underside but those near base obscured by basal black, and those in 1a and 1b often only faintly indicated. Underside paler than above. F.w. with a conspicuous spot at base of costa, apical area sometimes with orange internervular markings, the two spots in 1b often faintly indicated, otherwise spots and markings as on upperside. H.w. paler than above, area 8, 9, end of cell, and median portion of 1c, 1b and 1a often pinkish. Space between basal spots in cell, 1c, 1b, and 1a ochreous. Hind margin ochreous divided into spots by the black ends of nervules and black internervular arches. A narrow black marginal line from apex to anal angle. Black spots as follows: A discal row of nine. The first in 7 near middle, the second and third much nearer margin and placed one above the other (occasionally the third spot is small or absent), the fourth almost touches end of cell, the fifth may lie immediately beneath it, or may be in a line pointing to apex, the

sixth touches median and 2, the seventh rather nearer margin, the eighth nearer base, and the ninth which is very small (in 1a) rather nearer base. A spot in 8 near precostal. A subbasal spot in 7, two spots in cell and one on discocellulars, a subbasal spot in 1c, 1b, and 1a, the middle one nearer to margin. Some irregular basal black where wing joins thorax. Fringes whitish and prominent. Head and thorax with reddish brown hairs. Abdomen black above for about two-thirds of length, with orange lateral spots. Remainder orange. Claws unequal.
Female. Expanse 50-60 mm. Ground-colour varies from slightly paler than the male to ochreous or ochreous grey. Markings as in male. The variation in colour of the female is probably seasonal, but I have not before me a sufficiently long series of dated specimens to be certain on this point.

A. nohara halali, subsp.

This subspecies may be distinguished from the typical form by its smaller size, by the marked reduction in the size of the spots, the invariable absence of the submarginal spot in f.w. 1b, the extremely narrow black margin in h.w. and the almost invariable absence of the third and fifth discal spots.
Marshall describes the wet season male as bright brick red and the dry season male as dull ochreous, a difference not easily observed in cabinet specimens owing to the rapidity with which the more brilliant colour fades. The female is dull pale grey in wet season forms, and dull ochreous in the dry season.
The species is peculiar in having larger black spots in the dry than in the wet season.
When Marshall wrote of this form in 1896 (l.c.) he was of opinion that it was a distinct species. I cannot however find in the genitalia any difference from those of nohara. Colour and pattern are most untrustworthy evidences of specific distinction. From such considerations it might reasonably be argued that if halali be the same species as nohara then the "nohara chambezi" of Neave must also be the same, but the latter is certainly as distinct species though some examples so closely resemble nohara halali.

A. nohara pseudatolmis, subsp.

There are three male examples of this curious form in the Oxford collection. They were taken on the Mahakata R. in 1905 by Marshall. They are smaller than the halali form (about 41 mm. expanse). The submarginal spot in 1b of f.w. is well developed. The fourth discal spot is linear and lies nearly at right angles to the hind margin and makes a right angle with the fifth spot which extends right across area 3. In the h.w. the black margin is extremely narrow as in halali but the discal row of spots are all present though small, and the second, third, fourth, and fifth are all run together in such a manner as to give the insect at first sight a marked resemblance to A. atolmis. This resemblance is even greater on the underside, the h.w. having much pink suffusion, orange submarginal internervular marks, and the hind marginal ochreous band is only very indistinctly divided into spots by the nervules.
I have not seen a female of this form.

A. nohara punctellata, subsp. n.

In the British Museum there are several examples of a form of nohara labelled guillemei, Oberthür. The male differ from typical nohara in being usually larger, and of a rosy red tint. The f.w. is more rounded than in typical nohara and the discal spots lie in an irregular line much as in A. chambezi. The nervules are less markedly black in the apical area. On the underside of the h.w. the marginal border is formed of large yellowish spots only faintly outlined in black. All the black spots are smaller than in typical nohara. Three females row before me are dusky ochreous brown, and in one the inner edge of the h.w. marginal black is much suffused.
Two male and two female from the Tring collection present much the same features, but the female are only a little less rosy than the male.
Whilst many of the above examples present a certain amount of individual variation they all agree fairly closely with Oberthür's figure of guillemei, and I should have been inclined to assign them to that form but for one feature. The figure of guillemei shows the spot in area 3 of h.w. midway between end of cell and inner edge of marginal border, whereas in the forms above described this spot is close to the end of the cell. Since we have two totally distinct species. A. chambezi and A. mansya existing side by side in the same distinct and differing outwardly only in the position of this particular spot, I do not think that the present form can be identical with guillemei.
The latter seems almost certainly the female of the species since described by Lathy as A. acutipennis, with which it agrees very closely in the peculiar arrangement of the h.w. spots, and I have assigned acutipennis to Oberthür's species. The form of nohara here described appears in several collections over the label guillemei, but no specimen I have seen agrees with Oberthür's figure. The male armature is identical with that of nohara nohara, but the female plate is of a more rudimentary structure. In the Staudinger collection there are two male and three female of this form labelled onerata, and the locality is given as Delagoa Bay. Whether they came from Delagoa Bay or not they are certainly not A. onerata, which is a somewhat obscure western species of which only about three examples are known.

The early stages of nohara nohara are thus described by Miss Fountaine (l.c.).
"This larva feeds like several others of this same genus on Wormskioldia longepeduncalata, a small, wayside flower, salmon-pink in colour, which grew abundantly in and about Mecequece, a village in Portuguese E. Africa. The larva is most difficult to describe, longitudinally streaked with pale and dark ochreous-yellow, finely outlined with thin black lines, the spines are also black; they feed by preference on the flower itself of their food-plant, the salmon-pink colour of which is almost indentical in tone with the salmon-pink colour of the freshly emerged butterflies. The pupa which is suspended, is very long and thin in shape, wing cases pale slaty grey, veined with black, and the abdomen cream colour with rows of ochreous-yellow dots, encircled in black."
According to Miss Fountaine's figure the ground-colour of the larva is deep yellow.

46. Acraea chambezi.

Male. Expanse 52-58 mm. Wings rosy red inclined to orange at apex. Costa very narrowly black from a short distance beyond base to apex. An apical and hind-marginal black border about 1 mm. wide at apex and gradually tapering to hind angle. A very slight black basal suffusion widest in 1b. Black spots as follows: A linear

transverse spot in cell above origin of nervule 2. A spot on discocellulars. Beyond cell a row of four (sometimes five) spots. The first in 11 (often absent). The next two in a straight line at right angles to costa. The fourth obliquely placed and pointing towards margin. The fifth slightly elongated, its long axis making an obtuse angle with that of the fourth. A subreniform spot in 2 near median. The ends of nervures though finely marked in black are distinctly less black than in nohara halali. A submarginal and usually a subbasal spot in 1b. H.w. with a black basal suffusion widest in 1c. A hind-marginal black border about 1-5 mm wide, with faint indications of paler internervular spots. Black spots as on underside, those near base obscured by the black suffusion, and those in 1b and 1c often faintly indicated. Underside rose pink but more sparsely scaled than above. F.w. as above but with a spot at base of costa, and an indication of pale spots on apical black in 6 and 7. H.w. with a black marginal border as above bearing distinct sublinear pale yellowish internervular spots. Discal row of seven spots. No spot in area 5. The spot in 3 is always much nearer to end of cell than to inner edge of marginal black. This spot seems to be always a little further from end of cell than in nohara. In one example it is absent. The three spots in 2, 1c, 1b, are usually in a straight line whereas the middle spot is generally nearer margin in nohara. This feature cannot be relied upon as a constant distinction since some specimens of nohara also have these spots similarly placed. There is a spot in 8 close to precostal, a subbasal in 7, two spots in cell, one in 1c, 1b, and 1a and some black about the base of the nervures. Head black with red tufts between eyes and on collar, Thorax black with some reddish hairs. Abdomen, basal half black with orange lateral spots, remainder and beneath, orange. Claws unequal.

Female. Resembles the male but the f.w. are more orange coloured and the abdomen is dorsally black over whole length, and has dorso-lateral whitish spots.

When Neave described this form he was of the opinion that it was a subspecies of A. nohara, and in the absence of preparations of the male armature, such a conclusion would seem to be justified. The differences between the genitalia of chambezi and nohara are however of so marked a kind that the two must certainly be regarded as distinct species.

From typical nohara, chambezi differs in the smaller size of the spots; from nohara halali in the greater width of the hind-marginal black, and from both these forms in the very faint development of black on the nervules of the f.w. apical area.

47. Acraea mansya.

Male. Expanse 40-50 mm. Wings rosy red with black spots and markings. To give a full description of this species would be merely to repeat that of A. chambezi with the exception that the spot in area 3 of h.w. is nearly midway between end of cell and the inner edge of marginal black and thus lies either immediately below the spot in 4, or is more distally placed. This is the only constant difference I have been able to discover. The tarsal claws are unequal. A careful comparison of the six examples before me with five of chambezi also shows that the pale spots on the marginal black on h.w. underside are, though variable in size, more rounded in mansya than in chambezi.

The specimens show a great variation in size. One male is 50 mm in expanse and differs from the rest in having broader black margins, a small discal spot in area 5 of h.w., and two small spots on h.w. discocellulars. One male has a whitish suffusion at base of 1b in f.w. and that only on one side. The type specimen has no spot in area 2 in

f.w. though this spot is present in varying degrees of intensity in the other examples. Two small male are dull orange ochreous instead of rosy red.
Female. The single female in the series is small (40 mm). The wings are dull smoky ochreous, with a tendency to orange in the apical area. All the spots in f.w. except that on discocellulars are but faintly indicated on the upperside. The abdomen is black above with lateral white spots, and yellowish white beneath, and the "seal" is somewhat similar to that described by Trimen in the female onerata. In this female and in three of the male the f.w. discal row of spots forms a nearly straight line across the wing, in the others the line is angulated though not so sharply as in A. chambezi.
In examining the eleven examples of Neave's "nohara chambezi" in the Oxford Museum, my attention was attracted to the small ochreous female above described and from that to the small males which appeared to correspond with it, and on making a preparation of the male armature I was surprised to find the very remarkable differences which may be seen on reference to my figures on Plate IX. A careful examination of the genitalia of all the other examples resulted in the shorting out of six specimens of the new form. They were all taken by Mr. Neave in the neighbourhood of the Mansya River and Lake Young at the end of October and beginning of November 1908.

48. Acraea onerata.

Male. Expanse 44 mm. F.w. Ground-colour bright brick red much like that of a not too fresh example of A. atolmis. Costa very narrowly black. Apex and hind margin narrowly black. Nervule ends black nearly as far as end of cell. A little black at base of wing. Black spots as follows : One in cell above origin of nervule 2, two on upper part of discocellulars. Beyond these, two together in 5 and 6, one beneath the other, followed by one in 4 more distally placed and pointing outwards. This followed by a fourth just beneath it but pointing inwards. A large spot at base of area 2. In 1b a minute spot near base close to median, and a submarginal beneath spot in 2 but more distal. H.w. with a little black basal suffusion and a black hind-marginal border about 2 mm. wide with only a faint trace of paler internervular markings. Black spots as on underside. Underside. F.w. as above but paler, and inclined to pinkish spots as above with an additional brownish mark between the cell spot and end of cell, and another between end of cell and spot in 3. H.w. pinkish red with black spots as follows : - One in 9, one in 8 against precostal, two in 7, the outer one forming the first of a discal band of eight, the second in 6 nearer margin, third in 5, still more distal, fourth in 4, more proximal (immediately under first), fifth in 3 (under fourth), sixth in 2, seventh in 1c more distal, eighth in 1a, more proximal. Two in cell, the second transverse, and a basal and subbasal in 1c, a spot in 1b, and a subbasal in 1a. Marginal border black enclosing small white internervular spots. Head black with an orange spot between eyes and two on collar. Thorax and basal part of abdomen black, terminal portion orange. Claws unequal.
Female. Resembles the male but the ground-colour is more dusky especially in the f.w. The terminal portion of abdomen is whitish.
I have described the male from a single example in the collection of Mr. Roland Trimen. This specimen differs slightly from the type in being of a brighter red, in not having a yellowish basal patch on h.w. beneath, and having the spots slightly different on the h.w.

The female I know only from the figure (l.c.) both it and the type male being in the S. African Museum at Capetown. My search through large collections here and on the Continent has failed to reveal another example, although I have seen many specimens labelled with the name onerata. The reputed specimens in the Staudinger collection are a form of A. nohara and in another large collection I found an alleged example which proved to be periphanes.
A. onerata is not a very distinctive form and is difficult to identify satisfactorily without further material. The country whence the type was received has not been much worked so that we may hope to see further examples in the future.

49. Acraea rohlfsi.

Male. Expanse 46 mm. F.w. bright brick red. A narrow black border round costa, apex, and hind margin, continued as a black line along inner margin. A little black suffusion at base especially in 1b and 1a. Nervures black. The nervule ends rather broadly black widening somewhat where they reach the hind margin so that the red ground-colour is divided up into broad clavate streaks. Black spots as follows : - A large spot in cell over origin of nervule 2, a spot on the discocellulars, and beyond cell a band of large spots extending from costal black into area 3, the spot in this area being nearly separated from those above it. In 2 and 1b two small submarginal spots lying parallel to hind margin. In 2 also a large spot touching median, 3, and 2 and beneath it but nearer margin a spot placed in a line with that in 3 parallel to hind margin. A small spot in 1b nearly midway between base and origin of nervule 2. H.w. bright brick red with a little black at base in 1c, 1b, and 1a. A narrow black marginal border the inner edge of which, between the nervules is straight, and narrowly edentate on the nervules. Black spots as on underside. Underside. F.w. brick red with black spots as above. Costa and hind margin only slightly darkened. Nervules grey black, and internervular rays at apex inclining to orange. H.w. yellowish pink the basal half inclined to reddish. A very narrow grey hind-marginal border, inwardly edged with orange red internervular marks about twice the width of the border. Nervule ends black. Black spots as follows : - One at base in area 9, three equidistant spots in 7 the second just beyond origin of nervule 7. Between and beneath the two more distal of these, a small spot in 6, and beneath it but slightly nearer margin a small spot in 5. One at base of areas 4, 3 and 2, all touching cell. Beneath that in 2 but nearer margin a large spot in 1c, and a second at the same level in 1b. Also two spots in cell, the second rather oblique, its lower end touching median just beyond origin of nervule 3. A basal and a subbasal in 1c and 1a, and a subbasal in 1b. Head and thorax black with two or three reddish dots. Abdomen black above with small reddish lateral dots towards the extremity. Claws unequal.
It is through the kindness of Herr Ertl of Munich that I am able to give a figure and full description of this butterfly, he having sent me the type for that purpose. The specimen has the appearance of being dwarfed or not fully expanded, but is otherwise in good condition. It is not quite like anything else. I have seen, and further examples will be awaited with interest. It was taken on the Island of Ukerewe in the southern part of Lake Victoria Nyanza.

50. Acraea atolmis.

Male. Expanse 42-58 mm. Dry season form. Wings bright brick red, with black markings. Costa, apex, and hind margin narrowly black. Nervules rather heavily marked with black for a length of some 7 mm. at apex and to a gradually decreasing extent towards hind angle. Very slight basal black suffusion, sometimes absent. A basal black streak in 1b. A transverse spot in cell over point of origin of nervule 2. A mark on upper part of end of cell. Beyond end of cell a row of five small spots, usually almost in a straight line at right angles to costa, but occasionally irregularly placed. The fifth spot (in 3) separated from the rest. A spot in area 2 close to median, and a submarginal spot in 1b. H.w. with a slight black basal suffusion and some minute black spots more easily observed on underside. An extremely narrow black marginal line from apex to anal angle. Underside. F.w. full pink as far as discal row of spots, remainder pinkish ochreous striated by the black nervules and by orange internervular streaks. A black spot at base of costa. Other spots as on upperside, and sometimes a subbasal spot in 1b. H.w. dull pinkish ochreous to ochreous and striated by the fine black nervules and by orange internervular streaks. An extremely narrow black hind-marginal line. Black spots all very small as follows : - A discal row of eight, one in each internervular space except 3. That in 7 somewhat before middle of the area, and the next three closely beneath it arranged in a nearly straight line at right angles to costa. The fifth in the angle between 2 and the median, the sixth linear and obliquely transverse, the seventh linear and transverse, the eighth minute and more proximal. A dot on end of cell at origin of 6. A spot in 8 against precostal, a subbasal in 7, two in cell (the second linear and transverse) a basal and a subbasal in 1c, a subbasal in 1b, and 1a (that in 1b more distally placed). Head and collar with brownish tufts, thorax black with some brownish hairs. Base of abdomen black, remainder pale orange ochreous. Claws unequal.
Female. Resembles male but ground-colour rather less brilliant, and a trace of a pale subapical bar just beyond f.w. discal spots. In one example before me the ground-colour is pale brownish ochreous and there is a distinct whitish subapical bar. Abdomen black above with large yellowish lateral spots. Pale yellowish beneath.
Wet season form male. Ground-colour as in dry form but all the black markings larger. A black marginal border about 1 mm. wide round both wings, narrower at angle of f.w. and from angle to base of h.w. All spots much larger than in dry form. In f.w. an extra spot near base of 1b and a hind-marginal spot in 1a immediately below the spot in 2. In h.w. a well-developed spot in 3, close to end of cell. Underside much as in dry form, but spots larger in f.w. and in h.w. 3 the extra spot is present. In f.w. there is a narrow submarginal line of ochreous along hind margin, and in h.w. a similar line rather broader and bounded on its inner edge by a fine black line.
Female. Ground-colour dull brownish ochreous to sepia black, spotted as in male. The blackest forms show a small white subapical bar in f.w. the development of which becomes less the more nearly the ground-colour approaches that of the male.

Weymer's ab. decora is a male with much of the f.w. ground-colour replaced by black. It is merely a melanic aberration.

The "seasonal" forms appear quite irregularly and seem all to occur together at least in Angola.

51. Acraea periphanes.

Male. Expanse about 56 mm. Wings bright red with a rosy tinge. Costa very narrowly black from near end of cell. Apex black (6 mm wide) the inner edge of the patch somewhat suffused. Hind margin narrowly black widened somewhat at the nervules. A basal black streak in 1b. Black spots as follows : - One in cell above origin of nervule 2. A double spot on upper part of discocellulars. Beyond the cell a discal row of five spots, the first (in 10) very minute, the second and third (in 5 and 6). These three usually lie in a straight line nearly at right angles to costa. The fourth (in 4) is nearer margin, and is obliquely placed, its long axis being nearly at right angles to the hind margin. Beneath this (in 3) the fifth spot, rounded, and lying in a straight line with the first three. In area 2 a rounded spot close to median, and in area 1b a submarginal and a subbasal spot (this often absent or minute). H.w. often a little darker in colour than the f.w. A black basal suffusion, widest in 1c, and a narrow black hind-marginal border, more or less broken up by internervular spots of the ground-colour. The black spots are as on underside but those in 1a and 1b sometimes faintly indicated. Underside. F.w. dull pinkish, the apical black of upperside represented by a greyish ochreous patch on which the nervules are strongly marked in black, and there are fairly distinct orange internervular rays. a fine black marginal line from apex to hind angle. Spots as above and a black dot at base of costa. H.w. ground-colour orange ochreous, areas 8, part of 7, end of cell, middle of 1c, 1b and 1a pink. Base of cell, 1c, 1b and 1a lemon-ochreous. Hind margin lemon-ochreous divided into spots by the black ends of the nervules, and narrow black internervular arches. A thin black marginal line from apex to anal angle. Black spots as follows : - A median row of eight, the first in 7 near middle, second in 6 nearer margin, third in 4 in a line with second nearly at right angles to costa (very rarely a faint trace of a spot in 5), fourth in 3 close to end of cell, fifth in 2 touching median and nervule 2, sixth in 1c nearer margin, seventh in 1b slightly nearer base, eighth in 1a still nearer base. A spot in 8 rather beyond the precostal, a transverse subbasal spot in 7, one round and one transverse spot in cell, and one on upper discocellulars. A subbasal spot in 1c, 1b, and 1a, the second of these nearer margin than the other two. A basal spot in 1c. Fringes yellowish white. Head and thorax covered with reddish brown hair, abdomen black above, orange beneath, and with whitish lateral spots. Claws unequal.
Female. Expanse about 62 mm. Ground-colour extremely variable, rosy pink, warm sepia, or creamy white with a brownish basal suffusion. Markings as in male. The red form closely resembles male on both surfaces, the sepia form has whitish spots on the hind margin of h.w. and on the underside the f.w. apex, and the ground-colour of the h.w. are greenish ochreous. The whitish form is almost without the brown basal suffusion on the underside and the ground-colour is like that of the upperside.

A. periphanes, f. beni.

This form was described by Bethune-Baker as a new species (l.c.). It is characterised by absence of the subapical black in the f.w. The female may be of the sepia form, or dull red.

A. periphanes, f. melaina.

Differs from typical examples in having a heavy black basal suffusion in both wings. The h.w. margin is broad with only of trace of pale spots, in the male it radiates into the discal area, and in the female has a more regular though suffused inner edge and is widest (about 4-5 mm) at 1c and 2. The females present the same variations of ground-colour as the males.

A. periphanes, f. umida.

In this form the basal suffusion and h.w. margin are as heavy as in the melaina form but the apices of f.w. are not at all or only slightly blackened, though the ends of the nervules are distinctly black. The discal spots are usually larger than in the type form. The females present the same variations of ground-colour as do those of the typical form.

A. periphanes, acritoides.

Differs from typical examples in having more elongated wings, and in the absence of the apical black patch and the discal spots of the f.w. These differences have the effect of giving the insect a very close resemblance to A. acrita as already noted by Neave (Proc. Zool. Soc. p. 20, 1910). Of this form I have only seen male examples.

Examples of A. periphanes from the Alala plateau, N. W. Rhodesia, present much the same series of forms, but the specimens are generally of smaller size.
The extraordinary formation of the male genital armature in periphanes separates it very definitely from allied species.
The different forms above described are neither seasonal nor geographical unless Angola produces only the form beni. Even then the latter could not be regarded as a subspecies since it also occurs in other localities. It is a curious fact that dead and dried examples of this species usually have the last three or four segments of the abdomen sharply bent downwards and forwards.

Group VIII.

52. Acraea aureola.

Male. Expanse 60 mm. Rich golden yellow with black spots and markings. F.w. narrow and pointed, base very slightly suffused with black; ground-colour of basal portion of a somewhat richer tint than the remainder : costa very narrowly black except at base; subcostal, nervule 6, and distal ends of remaining nervules black. Hind margin narrowly black, expanded into small triangular marks at ends of nervules. A large ovate transverse spot in cell above origin of 2. A subquadrate spot on upper part of end of cell. A little beyond cell an outwardly convex row of five rather small rounded spots ; beneath these nearer to base, and between nervules 2 and 3, a rounded spot; below this and slightly nearer margin a small, rather crescentic spot, and a very small subbasal spot in area 1b close to median. H.w. rather paler than f.w.; a moderately heavy black basal suffusion; in area 7 a subbasal spot followed by a larger transverse spot near middle of costal margin; beneath this but nearer margin a spot in area 6. In middle of cell a transverse V-shaped spot, the angle pointing outwards; remaining spots obscured by basal suffusion. Hind-marginal with a very narrow black line, and a series of well-marked black internervular arches. Underside. F.w. resembling upperside but paler and duller; apical portion pinkish ochreous; nervules not black and without triangular marginal marks. No basal suffusion. H.w. pinkish ochreous; the basal portion brown ochreous, except above the subcostal; a round black spot near base of cell, followed by a V-shaped mark as on upperside. In area 1c a basal spot followed by another V-shaped mark, and a spot in 1b and 1a; other marks as on upperside. Head and thorax brown; basal part of abdomen black, remainder orange; tarsal claws unequal.

Only a single example of this beautiful species is known to me. It appears to be very distinct. The structure of the genital armature is quite characteristic, and the dorsal abdominal plate is folded in a very peculiar manner, as I have endeavoured to show on PI. IX. f. 15. I have placed the species in a separate group as it does not appear to have any near allies.

Group IX.

53. Acraea acrita.

Acraea acrita appears to be a very unstable species of wide distribution, and on the verge of becoming divided into several different species. Its extreme variability combined with an excessive development of seasonal dimorphism has led to the description of a confusing multiplicity of forms. The highly complicated structure of the male armature, extending as it does to remarkable modifications in the structure of the dorsal abdominal plate, serves rather to enhance than to mitigate the difficulty. For a time I was of opinion that the forms could be resolved into several distinct species, but having now examined some hundreds of examples, including specimens from practically every known locality and taken at different seasons, and having also examined the structure of the male and female armatures in examples occurring throughout the range of the species, I can find no satisfactory means of dividing the forms into anything more definite than subspecies. Several geographical races or subspecies appear to be recognisable. At the northern limit of its range the subspecies pudorina occurs, characterised by its more than usually elongated wings, and the paucity or absence, according to the season, of spots in the f.w. Further south, along the East Coast and extending as far as Delagoa Bay, is the subspecies which I have called littoralis. I should have been glad to have avoided the addition of another name to the already over-extended list, were it not for the fact that most of the existing names of forms which appear to belong to this subspecies indicate definite localities, and thus are apt to be misleading. Following this are the typical acrita and acrita ambigua which may be regarded as the central races, whilst in Angola the subspecies bellona appears to be perhaps the most distinctly separated of all, and is characterised by the exceptionally large size of the black spots in the f.w. These races include all the described forms except f. pauperata, Thurau, and the subspecies manca.

Pauperata may occur in any subspecies, being merely distinguished by the absence of the basal spot in area 1b of the f.w. It is unfortunate that this feature should have been utilised as a key character by Strand in his list of the forms (l.c. sap.), since it is one of the most variable and unstable features of the species. It is not consistently absent even in pudorina, whilst several examples before me have the spot in one wing and not in the other. The subspecies manca is described later.

It is scarcely possible from the wing pattern alone to distinguish with certainty between all the races of acrita. They can, however, be to some extent distinguished (save in the case of transitional forms) by the central process of the dorsal abdominal plate which covers the male armature. In pudorina this is very short and cup-like, in littoralis it is of medium length and blunt, in acrita acrita it is long and somewhat

spatulate, but in bellona it is usually (though not invariably) pointed, whilst there is always a prominent tooth, sometimes of bifid structure, at the base on the ventral side. These features can usually be observed in the dried specimen merely by the aid of a lens, especially after the characteristic appearance has been studied from the plates accompanying the present work.

To give a minute description of all the named forms of A. acrita would scarcely, I think, owing to the great variability of the species, serve a useful purpose. I shall therefore endeavour to give such typical descriptions, together with an account of the principal directions in which variation takes place, as should enable the collector to identify as nearly as possible, examples of the species.

With the exception of extreme wet-season forms of the female, acrita may generally be recognised by the peculiar flame orange-colour of the wings, usually with a paler or even whitish discal bar in the f.w. cell (except in manca) by the presence of three, usually well marked (except in pudorina), often very prominent, black spots in f.w., one on the end of cell, one in area 2, and one in 1b, the latter close to margin, and all three in a straight line at right angles to the costa.

The following typical examples may be thus further described :

A. acrita.

Male. Expanse 60-72 mm. Dry season. Ground-colour of all the wings flame orange, tending basally to scarlet. Outer half of f.w. rich orange. A narrow black line along costa. A black apical tip about 2 mm. wide, and a narrow black line round margin. A large black spot in cell above, and usually slightly beyond origin of 2. On upper half of end of cell a double spot. In basal part of area 2 a spot, and a submarginal spot in 1b. These three lie in a straight line across the wing at right angles to costa. There may also be a subbasal spot in 1b. This spot varies considerably. It may be present in one wing and not in the other, or it may even be double in one wing and single in the other. H.w. with a slight black basal suffusion and a hind-marginal border formed of well-marked black arches on a marginal black line, the latter continued as a narrow line right round the inner margin. Black spots variable and more easily observed on the underside. Underside, f.w. resembles the upper but paler. The apical area ochreous with orange internervular rays and ends of nervules black. A black spot at base of costa, but no apical black. Spots as above. H.w. creamy ochreous with red splashes between the nervules. Black spots as follows : A discal row beginning with one in 7 beyond the middle, second in 6 about 2 mm. nearer to margin, very rarely a spot in 5, when present small and just below the second, a spot in 4 close to end of cell, a spot (sometimes absent) in 3, touching end of cell, another in 2 touching median and 2, one in 1c nearer to margin, one in 1b further from margin and on a level with that in 2, and usually a minute spot still nearer to base in 1a. A spot in area 9 on base of cell, one in 8 some distance beyond precostal, a subbasal in 7, two spots in cell, one in 5 on middle discocellular, a basal and a subbasal in 1c, ditto in 1b, and a basal in 1a. Head black with an orange tuft between the eyes, collar orange, thorax black with red hairs, base of abdomen black with orange lateral spots, remainder orange. Fringes of all wings conspicuously white. Claws unequal.

Male. Wet season. Ground-colour rather darker. F.w. with a black basal suffusion reaching the subbasal spot in 1b. Spots as in dry from but larger. Apical black 3 to 4 mm. wide. H.w. with more black basal suffusion, especially in 1c. Discal row of spots all present and nearly all confluent. Marginal black border about 3 mm. wide to

nervule 2, where it widens out to 4 mm. There is only a trace of internervular spots of the ground-colour. In extreme examples the black may join the basal suffusion, or even overrun almost the whole of the h.w. Underside much as in dry season form, but black spots larger, and h.w. marginal arches heavier.
Female. Dry season. Expanse 60 to 66 mm. F.w. much more rounded than in male. Ground-colour similar but duller. F.w. apical black, rather broader. H.w. marginal black, broader and heavier. Dorsal part of abdomen black, with yellowish lateral spots.
Female. Intermediate between wet and dry. F.w. coffee brown at base, outer half ochreous. H.w. almost entirely suffused with black. Spots as in male. Underside proportionately duller.
Female. Wet season. Smoky black, spots especially in h.w. only just distinguishable. Subapical part of f.w. smoky ochreous. Underside f.w. smoky ochreous at base, outer half dull ochreous. H.w. dull red. Base of cell and 1c pale sage green, marginal black arches enclosing pale sage green spots. Abdomen black above with white lateral spots.

A. acrita ambigua, subsp.

Male. Dry season. Distinguished from acrita acrita principally by the increased width of the apical black in the f.w. which is about 6 mm. wide. Extreme examples may have only the cell spot and the discocellular spots in f.w., and the black arches of h.w. margin are often obsolescent towards the anal angle. On the underside the h.w. is without the internervular red splashes in the discal area. The f.w. subapical area is usually paler than in acrita acrita.
Male. Wet season. Differs from the dry form in the same way as the corresponding forms of acrita acrita.
Female. Dry season. Resembles the male but is duller coloured and has more rounded wings.
Female. Wet season. Similarly marked to the male but the ground-colour dusky grey and the f.w. subapical area white.
The figure of the female of this form accompanying Trimen's original description is a somewhat abnormal example combining some of the dry-season red with the white subapical bar of the wet season.

A. acrita bellona, subsp.

Male. Dry season. Easily distinguished from all the other forms by the very large size of the spots in cell, on discocellulars, and in area 2. These spots, especially in wet season females may be so large as to become confluent. In addition to this distinction the f.w. is more pointed and the apical black is 7 to 8 mm. broad. Occasional very dry males may be rather difficult to distinguish from wet males of ambigua, though the spots referred to seem never to be reduced quite to the size of those in the latter subspecies. There is the same absence of red splashes on the underside.
Male. Wet season. Differs little in ground-colour from the dry form but the spots are larger, especially those of the f.w. The area between end of cell and apical black is very pale ochreous, and the h.w. marginal black is better developed though not to the extent found in acrita acrita.
Female. Dry season. Resembles the dry season male. Very slightly duller in colour, and with more rounded wings.

Female. Intermediate. Resembles the male but wings more rounded and red colour replaced by dusky brown. Spots large and f.w. apical black about 9 mm. wide. A white discal patch extending from end of cell to apical black. Underside correspondingly dull in colour.
Female. Wet season. Resembles the foregoing intermediate form but the ground-colour dark smoky grey. Underside with base of cell and area 2, also internervular portions of hind-marginal border pale sage green.
Females of acrita bellona are distinguished by the character of the genital plate which is very much narrower structure than in other forms (except pudorina). It is in fact in a condition intermediate between that in pudorina and the other forms.

A. acrita littoralis.

Male. Dry season. Ground-colour somewhat less brilliant than in acrita acrita. F.w. apical black 3 mm. wide. H.w. hind-marginal black arches rather faint towards and angle. Many of h.w. spots rather faintly indicated on upper side.
Male. Wet season. F.w. spots larger than in dry form, and apical black broader than in acrita acrita (4 5 mm). H.w. discal spots very variable. Rarely a trace of a spot in area 5, sometimes no spot in 3, often all the spots very close together. Hind-marginal border with well-marked black arches varying to an almost entirely black border 3 mm. wide. H.w. underside with or without red splashes in the discal area.
Female. Dry season. Resembling dry male but with more rounded wings and duller in ground-colour. H.w. hind-marginal border heavier, often leaving only a trace of internervular spots. The inner edge of this border may be either sharply defined or suffused.
Female. Wet season. Marked as in dry female but ground-colour smoky grey and f.w. apical black 6-7 mm. wide. A discal white band between apical black and end of cell. Underside correspondingly dull in colour. H.w. marginal spots white or greenish.
This form is distinguished from acrita acrita principally by the broader apical black of the f.w. and the shorter process of the terminal dorsal abdominal plate. In spite of its geographical position it is somewhat intermediate in pattern between acrita acrita and acrita ambigua.

A. acrita pudorina.

Male. Dry season. F.w. rather more pointed than acrita acrita. Ground-colour rather duller flame colour varying to rosy. F.w. almost devoid of spots, though curiously enough there is often a faint trace of a discal row of spots beyond the cell. No basal black suffusion and very little apical black, often a mere marginal line. Though the ground-colour is rather richer near base, there is no distinct paler outer area of the ground-colour. The spot in 2 when present is nearly always nearer the median than in the other forms of acrita, thus destroying the straight line effect already referred to. The spots on h.w. are faintly indicated on the upperside, as also are the hind-marginal black arches. There is a slight black basal suffusion. Discal area of the h.w. underside is not splashed with red.
Male. Wet season. Differs only in the somewhat more distinct black markings. A black suffusion at base of h.w. Apical black about 1 mm. wide and h.w. marginal black 3 mm. wide, sometimes leaving only a trace of internervular markings.
Female. Dry season. Resembles male but the wings are more rounded.

Female. Intermediate. Duller than male with a brown basal suffusion in f.w. and rather rosy-pink h.w. the marginal border of which is rather heavily marked with black.
Female. Wet season. Resembles the intermediate form in markings but ground-colour dusky ochreous grey. No subapical white. Black basal suffusion in both wings. H.w. marginal border black 3 mm. wide with a faint indication of pale internervular spots. Abdomen black with white lateral spots. Underside correspondingly dull in colour and h.w. hind-marginal spots white.

A. acrita. f. manca. PI. III, f.8 (male).

This peculiar form is comparatively rare in collections. The male has an expanse of 52 mm, and the female 56. The male resembles in shape a small but uniformly coloured example of acrita pudorina. The f.w. has a narrow black apical border. A spot in cell just beyond origin of 2 and one on upper part of end of cell. The spot in 2 touches the median so that it does not make a straight line with those on end of cell and in 1a. There is a well-marked subbasal spot in 1a, and a fully developed discal band of four spots beyond the cell, the first of which is very minute. The h.w. has a slight basal black suffusion and a clearly defined marginal border of black arches. The discal and basal spots are as in other forms of acrita but there is no spot in 3 and 5. The underside is paler and duller. The discal area of h.w. is devoid of red splashes and the internervular spots of the margin are ochreous.
The female resembles the male but the ground-colour of the f.w. has a brownish tinge and the spots are larger, especially the first of the f.w. discal row. But for this discal row of spots, and the marginal spots of f.w. underside which are ochreous instead of whitish, this female closely resembles certain intermediate females of acrita pudorina.

A. acrita manca. f. lindica.

Male. Expanse 58-64 mm. The apical black about 5 mm. wide. From middle of wing to the inner edge of the apical black the ground-colour is rich ochreous the basal area being of the usual flame orange colour. The usual spots are present but small, but there are no subapical spots as in the typical manca form. In the h.w. the spots are as usual but I have seen no example of either sex having a spot in area 3. The marginal border is formed of a series of confluent black rings enclosing spots of the ground-colour.
Female. Dry season. Resembles male but rather duller, the ground-colour having a tendency to rose colour.
Female. Wet season. Sepia grey with a white subapical patch, f.w. apical black, all spots, and h.w. marginal border rather more heavily marked than in dry season form.

The occurrence of this apparent subspecies of acrita with its two very different forms adds greatly to the complication and difficulty of the subject. My reason for separating them from the other forms is basal on the structure of the dorsal abdominal plate in the male and that of the genital plate of the female. In the former the central process is very long and lingulate, and the latter is a thick cylindrical chitinous structure very different from the corresponding organ in other forms. These structures are constant and similar both in the manca form with its subapical spots, and in the lindica form in which these spots are absent. I have used the name lindica because the male described agrees with that so named by Strand (l.c.). That author's example was taken near

Lindi, but all the other examples I have seen have been found in the more central parts of German E. Africa.
There are before me female examples of an intermediate form of the pudorina subspecies which show traces of the f.w. subapical spots as developed in the manca form, but the structure of the female genital plate is quite different and conforms to that of other females of acrita.
But for the above facts I should be inclined to regard the manca form as a distinct species, such a view being strongly supported by the difference in the structure of the abdominal plate. I do not however feel justified in assigning specific rank to the present form so long as we possess so few examples.

It will be understood that the various subspecies of acrita above described overlap in their geographical distribution and that intermediate forms are liable to occur, which fact combined with the general tendency to melanic development in the wet season, furnishes material for a very wide range of individual variation.
As a result many form names have been published in connection with this species, these being enumerated in the synonymy already given. Though many of these are of little systematic importance it is necessary for the completion of the present work that these form names should as far as possible be identified. A key has recently been published by Dr. Strand of Berlin (l.c. sup.), who also made several additions to the list. I give below those to which allusion has not already been made in the foregoing descriptions, together with notes as to the apparent systematic position of each form.

f. aquilia, Thurau, is a wet season female of acrita littoralis.

f. utengulensis, Thurau, appears to be a wet season male of acrita pudorina.

f. bella, Weymer, is a dry season male of acrita bellona.

f. chaeribulula, Strand, is apparently an intermediate female of acrita littoralis.

f. aquilina, Strand, appears to be a wet season female somewhat intermediate between acrita acrita and acrita littoralis.

f. msamwiae, Strand, is a wet season male of acrita acrita.

f. usaramensis, Strand, is a wet season male of acrita littoralis.

f. nyassicola, Strand, is an intermediate male of acrita acrita.

There is in the general collection of the Berlin Museum a remarkable form of A. acrita bearing the label "Uganda". The ground-colour is very brilliant. Beyond the cell in f.w. there is a very small spot in area 6, below this a large spot in 5, and beneath that, but nearer margin a dot, more distinctly visible on the underside, The h.w. has a very broad black border, narrow at the apex but immediately expanding to about 4 mm, and at nervule 3 to some 6 mm. wide. The border on underside is of the usual pattern. The specimen is labelled guillemei, but has nothing to do with that species. The process of the terminal abdominal plate is short, a little longer than in the pudorina form. No conclusion can be drawn from a single, apparently aberrant specimen of this kind,

bearing a vague locality label. I have seen no other example of any form of acrita purporting to have been taken in Uganda.
Reference to the drawings of the male armatures of forms of acrita shown on Plate X will suggest that marked differences of structure are to be found in these organs. Differences do certainly exist, but from a series of preparations carefully examined I cannot find satisfactory constant differences. The peculiar short blunt hooks vary in thickness and in the shape of their extremities, and the size and contour of the massive penis sheath is also inconstant. Moreover with a structure of such complication it is a matter of the greatest difficulty to make accurate comparison of the dimensions of the various parts. Such difficulty would not be insuperable given an unlimited number of specimens from very locality. Each part, uncus, claspers, sheath, etc., could then be carefully measured and tabulated. The magnificent material generously placed at my disposal by the Hon.W. Rothschild almost warranted such an investigation, but numerous though the specimens are, there appear to be some localities still insufficiently represented, so that for the present the problem of the true relationships of the forms of acrita must await a future solution. The species does not appear to be rare, so that we may look forward to having the assistance of much needed breeding experiments in the near future.

54. Acraea chaeribula.

Male. Expanse 50-58 mm. Wings deep orange-red shading to yellow in f.w. subapical area, without the tinge of scarlet common in forms of A. acrita. F.w. with some black at base which may be absent in very dry season specimens. Costa very faintly lined with black. Apex with a black tip 8-10 mm wide usually with a fairly sharply defined proximal edge at right angles to costa. The remainder of hind margin bounded by a faint black line. A spot in cell slightly beyond origin of 2, one on upper part of discocellulars, one at base of area 2 close to median, a submarginal and a subbasal in 1a. H.w. with a black basal suffusion usually extending into area 7 and widest in 1c. A hind-marginal border formed by a marginal line and black internervular arches. Sports as on underside, those near base obscured by the black suffusion. Underside. F.w. ground-colour as above but paler, apical black replaced by greyish ochreous divided by the black nervules and orange ochreous rays. A black spot at base of costa. Other spots as on upperside. H.w. dull orange ochreous, base of 7, end of cell, and median portion of 1c, 1b, and 1a splashed with red. Base of cell, 2, 1c, 1b and 1a pale greenish or greenish-yellow spots. Black spots as follows : - Discal row, one in 7 about middle, one in 6 nearer margin, very rarely a minute spot in 5 beneath the second. Beneath this a spot in 4; in 3 a small spot touching end of cell (often absent), a spot in 2 touching median and 2, a spot in 1c, 1b and 1a, each nearer to base than the spot preceding it. A spot in 8 near precostal, a subbasal in 7, two in cell and one at base of 5 on m.d.c., a basal and a subbasal in 1c and a subbasal in 1b and 1a. Head black, usually with a pale mark between the eyes, thorax black with red hairs, abdomen black tipped with orange, and with orange lateral spots. Claws unequal.
The above description is that applying to average examples. Very dry forms may have no spots at all in f.w. and a very pale median area. Very wet forms may have an excess of black suffusion in the h.w. The most constant feature is the very broad black apex in the primaries. The ground-colour is also constantly yellower than in A. acrita.

Female. Expanse 50-58 mm. Dry season. Ground-colour but little duller than that of male. Abdomen black above with white lateral spots. Wing spots often very small, and faint on upperside, otherwise spots and markings as in male.

Wet season. Ground-colour tending to dusky ochreous.

There would seem to be much less seasonal dimorphism in A. chaeribula, than in acrita.

Professor Aurivillius when compiling his catalogue of African Rhopalocera regarded the species as a form of acrita. Neave, however, pointed out (l.c.) that it was quite a distinct species a fact which he established on his experience of the insect in life, and also from an examination of the male armature. In spite of this, however, Strand includes it in his list of forms of acrita, merely remarking in a footnote that according to Neave chaeribula is a good species.

55. Acraea lualabae.

Male. Expanse about 50 mm. Wings rather dull orange somewhat paler on f.w. median area: f.w. with a very slight black suffusion at base and a conspicuous black tip about 7 mm. wide. A black spot in cell very slightly beyond origin of 2, and one on upper part of end of cell. Two discal spots beyond cell, one in 5 and a larger one in 3. In 2 a large spot touching the median, and in 1b a submarginal and a subbasal spot. H.w. dull orange with a black basal suffusion, and a marginal border formed of black arches on a narrow marginal line. Spots as on underside but smaller. In the cotype at Oxford there is a spot in area 5 on upperside, which is reduced to a minute dot on underside. The type has no spot in this area. Underside. F.w. as on upperside but paler, the apical black replaced by dark ochreous. A black spot at base of costa. H.w. pale orange ochreous, lemon ochreous at base of cell to inner margin, reddish at base of area 7, and in median portion of 1c, 1b and 1a. Marginal border with black arches enclosing rounded spots of pale dull ochreous. Black spots as follows : - A median spot in 7, a spot in 6 much nearer margin, under this a minute dot in 5 representing the spot on upperside which is present in the cotype and not in the type; in 4 a spot near margin immediately beneath that in 6, a spot in 3 not quite touching end of cell, one in 2 touching median and nervule 2, a large transverse spot in 1c, nearer to margin, and one in 1b and 1a nearer to base. In addition to these, a spot in 8 slightly removed from precostal, a subbasal in 7, two in cell, one at base of 5 touching m.d.c., a transverse subbasal spot in 1c and 1a, and between these, but more distally placed, a small spot in 1b. Head and thorax black, latter with a few brown hairs, abdomen black with the last two or three segments orange. Claws unequal.

Female. Unknown.

There are at present only two examples of this Acraea, the type in the National Collection and the cotype at Oxford. Both were taken by Neave on the Lualaba River, Belgian Congo. It is distinguishable from small examples of A. acrita by the f.w. discal spots, and from acrita manca by the broad black apical patch.

The genital armatures is very distinct. The claspers are entirely different from those of acrita, or indeed of any other species I have examined. The true uncus is reduced to a mere bristle, whilst the chitinous sheath of the penis is developed into what appears to be a false uncus.

Group X

56. Acraea diogenes.

Male. Expanse 48-56 mm. F.w. translucent and having a milky appearance, being sparsely covered with greyish white scales, and for a depth of about 6 mm. the apex is somewhat dusky, the nervules and rays being a little darker. There is a trace of a dark spot in the middle of cell, and another in 2 just under median. In 1b a third much nearer margin. H.w. rather more thickly scaled dusky white, with a blackish marginal line and internervular arches, the latter inwardly suffused. The spots of the underside show through. Underside, f.w. almost scaleless, h.w. dusky greyish with rather thick well-marked black marginal arches enclosing spots of ground-colour. End of cell, end of area 2, and all of 1a, 1b and 1c, except extreme base, scaled with rusty red. Black spots as follows : - One in 9, one in 8, two in 7, the second followed by a spot in 6, and 5 all parallel to the apical margin, one in 4 close to cell, beneath it and nearer margin one in 3, one in 2 touching median and nervule 2, beneath it one in 1c, and one in 1b level with that in 2. Also two in cell, a dot on the middle discocellular, a basal and a subbasal in 1c, and 1a. Head, thorax, and abdomen black with a few whitish marks. In spite of the difference in locality Neave's lactea appears to be the same species as Suffert's diogenes, the type of which I have carefully examined. The cotype of lactea in the Oxford collection differs only in its larger size, its fresher condition, and in the greater extent of red on the underside of h.w. So far as I am aware there are only three examples known, all females, and until more material is available it is difficult to decide the true affinity of this form. The genital plate is, as will be seen from a reference to the figure on Plate XVI, of a most curious formation, unlike that of any other species which I have had the opportunity of examining. The portion surrounding the opening of the bursa copulatrix consists of a heavily ridged mass of chitin, thickly set with minute spines or teeth, and resembles in this respect the membrane surrounding the male organs in periphanes. It bears no resemblance, however, to the female plate in periphanes, which is of comparatively simple structure.

Group XI

57. Acraea leucopyga.

Male. Expanse 54-62 mm. Dry season. Wings deep rose pink, tending to deep orange at base, costa, subapical area, hand hind-margin in f.w. and at base and along inner edge of marginal border in h.w. F.w. with a narrow black line along costa and hind margin, and a black apical tip about 5 mm. broad. Black spots as follows: - A spot in cell just beyond origin of 2, and in some examples another smaller spot about 2 mm. nearer base and touching the subcostal. A spot on upper part of discocellulars. Beyond end of cell a discal row of five, the first minute or absent (in 10), the second, third and fourth (in 6, 5 and 4) in a straight line nearly at right angles to hind margin. The fifth in 3 about the middle. A spot in 2 close to median. Beneath this but nearer margin a spot in 1b, and in the same area a subbasal spot just behind origin of 2. H.w. with a very little black at base of nervules, and a black hind-marginal border about 2 mm. wide. Spots as on underside, but those near base and inner margin often faintly indicated. Underside, F.w. rose pink, the apex pale ochreous divided by black ends of nervules and orange internervular marks. A narrow black apical and hind-marginal line. H.w. pinkish ochreous, base and middle part of 1c, and 1a rose pink, a good deal of orange powdering between the nervules, and a row of orange internervular spots just before the hind-marginal border. The latter formed of narrow clearly defined black arches on a black marginal line, enclosing pale lemon ochreous spots. Black spots as follows: - Discal spots. One in 7 about the middle, one in 6 nearer margin, one in 5 still nearer margin, one in 4 touching end of cell, one in 3 half-way between end of cell and marginal border, one in 2 close to median, one in 1c immediately beneath the last, and one in 1b and 1a further from margin. A spot in 8 close to precostal, a subbasal in 7, two in cell and one in 5 on m.d.c., a basal and a subbasal in 1c; a subbasal in 1b, and a basal in 1a. Fringes whitish, dotted with black at ends of nervules. Head black with an orange tuft between eyes, and two on the collar. Thorax black with red hairs, and two white dorsal lines and two posterior spots. Abdomen, base black with white lateral spots and transverse lines, remainder white with orange scales at the extremely. Claws unequal. Male. Wet season. Ground-colour much duller, a black basal suffusion in both wings. H.w. hind-marginal black broader and often inwardly suffused.

Female. Dry season. Resembles the male but dorsal part of abdomen blacker.

Female. Wet season. Wings dull ochreous, the spots accentuated, the basal black suffusion extended and the h.w. hind-marginal black broad and inwardly suffused. Underside correspondingly duller. In extreme forms both wings may be sepia black with a pale ochreous discal bar in f.w. Abdomen black with small white lateral spots.

The brilliant rose-colour of fresh examples of leucopyga is very striking. Neave describes the species as rather rare in the Luangwa Valley, and having the same low flight as A. oncaea, which it somewhat resembles on the wing.

58. Acraea intermedia.

Male. Expanse 64 mm. Ground-colour uniform dull yellowish brown. F.w. apical black 7 mm. broad. A very narrow hind-marginal line. The discal spots are three in number (in 3, 4, 5), the middle one being the largest and near to end of cell. These spots lie in a straight line not quite parallel to the edge of the apical black. The spots in 4 and 5 on middle and upper discocellulars rounded and confluent. An ovate spot in cell, and at about one-third of the distance from it to the base a smaller linear spot. The spot in 2 lies nearer to the cell than in rhodesiana and caldarena, and almost equidistant from nervules 2 and 3, and the spot beneath it in 1a, lies nearer to margin. Midway between this and the base a smaller spot. Nervules blackish towards the margin. Base only slightly suffused H.w. with a stronger suffusion not reaching beyond the middle of cell. The spots well rounded and fairly large, arranged as in caldarena, but larger and extended commensurately with the form of the wings. Underside. Spots as above. The very large bluish white spots of the h.w. margin enclosed by quite similar arched lines, but these arches are not thicker in the middle as in caldarena, aglaonice, etc. Basal part of h.w. marked with brick red. A whitish mark extending from costa through the middle of the cell to 1b, and surrounding the four large subbasal spots. The spot in 1c is also surrounded with white. Abdomen not so black as in rhodesiana and the pale marks yellowish. Claws unequal.

Female. Ground-colour dark smoky grey. The space between the apical black and the discal spots white, trapezoidal, the posterior rather suffused portion reaching nervule 3. The yellowish grey-green ground-colour of the underside passes into light chocolate brown at a point two-thirds of the length of the wing from the base. In areas 6 and 10 there are two small extra spots of the discal row.

The locality given for Wichgraf's types is Rhodesia. A male example in the Oxford collection was taken by Neave in the Lualaba Valley (Congo State). What appears to be a dry-season female of the same species was taken by the same collector in NE Rhodesia in the Kalungwisi Valley. This specimen is the same colour as the male. The spots are nearly all very indistinct, most of them only showing through from beneath. One the underside the f.w. spots are very small, but those on the h.w. are of normal size.

One feature which appears to distinguish this form from caldarena is not insisted upon by Witchgraf. The first three h.w. discal spots in 7, 6 and 5 are large, and lie in a nearly straight line which if produced would meet the hind margin at end of nervule 5. In caldarena the third of these spots is either directly underneath the second, or only very slightly more distally placed. Moreover the discal spots in f.w. appear to be nearer the end of cell than in caldarena. In spite of these differences the similarity of structure of the male armature in this form and in caldarena makes me incline to the belief that it is only a form of the latter species, but a final conclusion can scarcely be attained with the present paucity of material.

59. Acraea caldarena.

Male. Expanse 38-62 mm. Ground-colour varies from pinkish ochreous to a beautiful pale rose colour (= recaldana, Suff.). F.w. Costa very narrowly black. Apex with a black patch about 7 mm. wide continued as a very narrow black line along margin. A slight dusky basal suffusion. Black spots as follows : - One in cell near origin of 2. One at end of cell on upper discocellulars. Beyond cell close to edge of apical black a transverse oblique row of four spots usually almost in a straight line, the first (in 6) sometimes absent. H.w. with a slight dusky basal suffusion. A very narrow black line round margin, with internervular black arches. Occasionally these are developed to the extent of making an almost continuously black border about 2 mm. wide. Black spots rather variable on upperside, those in 1c, 1b and 1a often only showing through from beneath. Fringe whitish and rather conspicuous. Underside. f.w. rather paler than upper side. No dusky suffusion. Apical area ochreous with orange internervular rays. One basal and one subbasal spot on costa. Spots as above. H.w. pale ochreous. A narrow black line round hind margin and narrow internervular black arches. Discal area with an orange ochreous band parallel to hind margin, its inner edge much suffused. Internervular patches of reddish internervular median and basal areas. Black spots as follows : - An irregular discal row of nine. The first in 7 rather beyond middle, second in 6 nearer margin, third in 5 immediately beneath, or slightly more discal than the second, fourth in 4 nearer base, fifth in 3 nearly mid-way between end of cell and the marginal black arch. The sixth and seventh in 2 and 1c and lying in a straight line with the fourth. The eighth in 1b rather nearer base, the ninth in 1a still nearer base. A spot in 8 a little distance from precostal and close to costa, a subbasal in 7, two in cell (the second just before origin of 2). A large spot at base of area 5 touching 6 and middle discocellular. A basal and a large subbasal in 1c, a small spot in 1b, and a subbasal in 1a. Head reddish brown with tufts of same colour on collar. Thorax black with reddish hair. Base of abdomen black with pale lateral spots and narrow transverse segmental bands. The remainder pale pinkish ochreous. Claws unequal.
Female. Expanse 48-60 mm. Dry season examples may be very similar to male, but with a larger extent of dusky basal suffusion, and the hind-marginal border almost entirely black. A somewhat intermediate example before me has the ground-colour of a delicate pale salmon pink (= recaldana). From this condition every gradation may be found to an extreme wet season form in which all the wings are sepia, with a milk white patch in the f.w. extending from costa to hind angle, and from origin of nervule 2 to inner edge of dark apical patch. Spots as in male. Abdomen black above with white or yellowish lateral spots.

A. caldarena female f. nero, Butl.

In this form the ground-colour is greyish ochreous. F.w. with heavy dusky suffusion extending over nearly the whole wing. H.w. with a black marginal border and dusky suffusion over the whole wing. The discal ends of areas 4, 3, 2, and 1c are white, bounded distally by the marginal border, and proximally sharply cut off from the ground-colour. Only two examples are known to me, one in the British Museum, and one in the collection of Mr. H, Druce.

A. caldarena f. neluska.

The male of this form differs from typical examples in having the f.w. black apical patch much reduced in width. In three males examples in the Tring Museum the patch does not exceed 4 mm. and in one it is reduced to 3 mm. The ground-colour is somewhat redder than in caldarena. In one example all the f.w. spots except the discocellular, and most of the h.w. spots, are obsolescent or wanting. In colouring and general appearance the form resembles. A pudorella. The female is like an ordinary wet season specimen of caldarena.

The early stages of caldarena are thus described by Miss Fountaine, l.c.
"The larva of this butterfly also feeds on the flowers and leaves of Wormskioldia longepeduncalata; it is of a soft pink rose colour, shading into yellow at the extremities, underneath it has a longitudinal white stripe between the legs, extending from head to tail; the spines are black. The pupa is not quite so elongated in shape as that of A. Nohara, the wing cases are pale, dull drab veined and outlined with black, the abdomen is deep cream-colour with the rows of orange spots so heavily outlined with black as to be almost coalescent. I found this larva, but not at all commonly, at Macequece".
A. caldarena is described by Marshall as one of the commonest butterflies in Mashonaland. Dixey notes (Proc. Ent. Soc., p. Iii, 1906) a strong smell of musty straw in the female. The relation of the pink ground-colour to the seasons seems to vary in different localities. Thus Marshall states (T. E. S., p. 553, 1906) that the ground-colour of the wet-season males is of a richer pink, whilst Neave state (Proc. Zool. Soc. P.25, 1910) that examples taken in the "hot dry Luangwa Valley" are of a brighter colour, being of a peculiar shade of salmon pink.

60. Acraea pudorella.

A. pudorella. PI. III. f. 7.

Male. Expanse 52-62 mm. F.w. thinly scaled, salmon pink with a yellowish tinge. Costa from about middle to apex narrowly black. Apical and hind-marginal border narrowly black. At apex and to some extent along hind margin the internervular spaces are suffused with orange. Base slightly darkened. Black spots as follows : - One in cell at, or slightly beyond origin of nervule 2. A spot (sometimes double) on discocellulars. A discal row of 2 to 4 spots beyond cell in 6, 5, 4, and 3, lying nearly in a straight line at right angles to costa. Sometimes a lot near base of area 2. In area 1b, a central and a subbasal spot, the latter sometimes wanting. H.w. ground-colour as in f.w. but more densely scaled. Somewhat blackened at base and having a narrow black hind-marginal border bearing indications of paler internervular marks. Black spots as on underside but often only faintly indicated. Underside f.w. as on upperside but almost devoid of scales. Two black spots on costa near base. H.w. pinkish ochreous, internervular spaces reddened at base. Hind-marginal border formed of moderately thick black arches on a fine black marginal line and enclosing internervular spots of pale greenish ochreous. Patches of slightly darker ground-colour between the nervules at inner edge of marginal border. Black spots as follows : - An outer row of nine, the first in 7 a little beyond origin of nervule 7, the second in 6 more distally placed, third in 5 still nearer margin, fourth near base of area 4, fifth in 3 nearer margin, sixth near

base of 2, seventh in 1c nearer margin, eighth in 1b nearer base, ninth in 1a still nearer base. Some basal black in 9, cell, 1c, 1b, and 1a. A subbasal spot in 7, two spots in cell, the second over origin of nervule 2, one on discocellular at base of 5, a subbasal in 1c and beneath it a spot in 1b, and a subbasal in 1a. Head black with a deep pink tuft between eyes, and two on collar. Thorax black with pink hairs. Basal half of abdomen black with pink lateral spots and transverse lines, remainder yellowish pink. Claws unequal.
Female. Expanse about 56 mm. Resembles male but f.w. suffused with brown at base, and h.w. orange brown becoming paler towards margin. F.w. apical black and h.w. hind-marginal border a little broader than in male. Thorax and abdomen black above with white markings.

A. pudorella detecta, subsp.

Male. Expanse 48-54 mm. Closely resembles. A. Caldarena. Wings rather thinly scaled. F.w. reddish ochreous to rusty red at base becoming distinctly paler beyond end of cell. A slight dusky suffusion at base and along costa, and a black apical tip 5 to 7 mm. Broad, the inner edge of which is usually less well defined than in caldarena. The spots are rather variable and usually much reduced. One in cell above origin of 2, a black mark on upper part of discocellulars. Beyond cell a discal row of five (some often absent) in a straight line at right angles to costa. One in 2 near median, one beneath this in 1b, but nearer margin, and occasionally a subbasal spot in the same area, near median. In some examples traces of submarginal spots in 1b and 2. H.w. with a slight black basal suffusion and a narrow black hind-marginal border formed of a series of arches on a marginal line enclosing more or less distinct spots of the ground-colour. The inner edge of this border is often rather suffused. The spots of the h.w. upperside correspond to those beneath, but those near base and inner margin are frequently only faintly indicated. Underside f.w. ground-colour as on upperside but thinly scaled and shiny. Apical black replaced by greyish ochreous. A black spot at base of costa, other spots as on upperside. H.w. pinkish ochreous with a few reddish marks near base. Marginal border formed of black arches on a thin marginal line, enclosing whitish internervular spots. Black spots as follows : - Discal series, one in 7 about middle, one in 6 nearer margin, one in 5 still nearer margin and more distally placed than in caldarena. One in 4 slightly removed from end of cell. One in 3 about midway between end of cell and marginal border, one in 2 touching median and 2, and distinctly more proximally placed than in caldarena. A spot in 1c nearer margin than that in 2. One in 1b on a level with that in 2. A spot in 8 near precostal, a subbasal in 7, two in cell, one at base of 5 on m.d.c., a basal and a subbasal in 1c, the latter contiguous with a spot, in 1b, close to which is a spot in 1a. Also a subbasal spot in 1a, and some irregular black about the bases of the nervules. Head black with a pale line between the eyes, and two tufts one collar. Thorax black with red hairs, base of abdomen black with yellowish, lateral spots, remainder pinkish ochreous.
Female. Dry season. Very like the male but rather duller in colour. Spots and markings as in male. Abdomen black above with white lateral spots. Wet season. Dusky ochreous to sepia, often with a translucent whitish discal area in the h.w. Spots and markings as in dry season form.
As the form to which Aurivillius gave the name pudorella proves to be specifically identical with Neave's detecta, the latter must become a subspecies of the former. Probably pudorella is the ancestral form and detecta has become modified in its

pattern in association with A. Caldarena, which it so closely resembles. The male and female armatures of detecta and caldarena are very distinct.

61. Acraea rhodesiana.

Male. Expanse 54 mm. Wings apricot yellow. F.w. with a slight dusky suffusion, discal half of costa black, apex black (4 mm. Wide) hind margin narrowly black. Subapical area paler than ground-colour. Black spots as follows : - One in cell just beyond origin of 2, on end of cell a spot the greater part of which is beyond the discocellulars. A very short distance beyond cell a row of spots of which the first in 10 is markedly elongate, the second, third and fourth shorter but gradually increasing in length, the fifth in 3 separate and rather nearer margin. A spot in 2 near median, beneath it and slightly nearer margin a spot in 1b, and in the same area a very small spot close to median and just before origin of 2. H.w. with a slight black suffusion and a black hind-marginal band 2 mm. wide with faint indications of paler internervular markings. Black spots corresponding with those beneath but those near inner margin faintly indicated. Fringes rather conspicuously whitish. Underside f.w. pale pinkish ochreous with a still paler subapical patch. Apex paler sage green divided by black ends of nervules and internervular orange marks. Two black spots at base of costa, other spots as above. H.w. pale pinkish ochreous. Base rose pink with some pale grey markings in cell and 1c. Hind margin bordered by a black line on which are black internervular arches enclosing pale sage green spots. Black spots as follows : - Discal spots. One in 7 about middle, one in 6 nearer margin, and immediately beneath it or very slightly nearer margin, a spot in 5; a spot in 4 close to end of cell, one in 3 about 2 mm. from end of cell, one in 2 near median, one in 1c nearer margin, one in 1b on a level with that in 2. A spot in 8 near precostal, two in cell, one in 5 on m.d.c. and a dot on l.d.c. a subbasal in 1c, and one in 1b rather more distally placed, and a small spot slightly beyond the middle of 1a. Some irregular black at base of wing and a basal black line on inner margin. Head and thorax black with some reddish hairs, base of abdomen black with white lateral spots, and segmental lines, remainder white with some yellow hairs at tip. Claws unequal.

The above description is from the cotype in the National Collection. It appears to resemble the figure accompanying Wichgraf's description, but all the figures on this plate are so poor that they are of little value.

The female is described (l.c.) as having a smoky chocolate brown ground-colour, the pale subapical area being represented by a sharply defined white patch, somewhat suffused in area 3. The spot in f.w. cell distinctly larger.

A specimen in the Oxford collection taken by Neave on the Lofu River, N. E. Rhodesia, agrees with the fig. and description of rhodesiana female with the exception that the f.w. subapical area is ochreous instead of white.

The locality given in the original description is merely "Rhodesia." The types are in Herr Wichgraf's collection and there is a male co-type in the London and Stockholm Collection.

62. Acraea mima.

Male. Expanse 56-60 mm. F.w. greyish black with black costa and black apex. Base of costa and median powdered with orange brown. Area 1a, 1b and sometimes 2 and lower half of cell, suffused with salmon orange. A conspicuous white discal bar about 3 mm. wide at costa in 10, 9, 6, 5, 4, and upper part of 3. In one example this white area is dusted with reddish scales. Black spots as follows : - One in cell slightly beyond origin of nervule 2. At end of cell an irregular spot the greater part of which is beyond the discocellulars. A very short distance beyond the cell, a discal row of spots, of which the first in 10 is markedly elongated and extends further towards base than the rest; the second, third, and fourth in 6, 5 and 4 are contiguous and of gradually increasing length, the fifth in 3 separated and rather distinctly nearer margin. In 2 a large spot near median, two in 1b, of which one is beneath that in 2 and very slightly nearer margin, the other close to median just before origin of 2. H.w. salmon-orange with a slight black basal suffusion, and a black marginal border 2 mm. wide bearing faint indications of paler internervular markings. Black spots corresponding to those on underside, those near inner margin faintly indicated. Fringes conspicuously whitish. Underside f.w. pale orange ochreous, rather dusky along costa and in median area. Costa, apex, and hind margin narrowly lined with black. Apical area greyish ochreous divided by the black ends of nervules and by broad orange internervular marks. Two spots base of costa. Other spots and markings as above. H.w. pale orange ochreous, rose pink at base and central area rather paler. Hind margin bounded by a black line on which are rather flat, moderately heavy black arches enclosing pale yellowish white spots. Black spots as follows. Discal spots. One in 7 about middle, one in 6 nearer margin, one in 5 still nearer margin, in 4 a spot touching l.d.c. and 5, a spot in 3 about 2 mm from end of cell, one in 2 close to median, one in 1c rather more distally placed, one in 1b on a level with that in 2. A spot in 8 a short distance from precostal, two in cell, one at base of 5 on m.d.c., a large spot in 1c near origin of 2, close to this but more distally placed a spot in 1b, and 1a, a basal spot in 1a, and some irregular black at base of wing. Head black with pale orange marks between and behind the eyes, collar with two red tufts, thorax black with red hairs and lateral tufts. Base of abdomen black with lateral white spots, remainder yellowish white. Claws unequal.

Female. Expanse 44-58 mm. Resembles the male but ground-colour duller. Abdomen black above with white lateral spots.

In the arrangement of the spots A. mima is almost the same as A. Rhodesiana of Wichgraf, but the latter lacks the heavy black suffusion in the f.w. and the subapical area is only slightly paler than the ground-colour instead of white as in mima. Also the reddish yellow colour of rhodesiana is of a paler tint.

In Mr. H. Druce's collection there is a beautiful male example of this species which differs somewhat from Neave's specimens. The greyish black colour in f.w. begins only at about 6 mm from base and from thence as far as the discal spots it is quite narrow, extending only into upper part of end of cell. The subapical white bar is rather narrow and very sharply defined. The apical black extends barely as far as nervule 3, with a central marginal streak in area 2. The dark marginal border of h.w. is very narrow and somewhat obsolescent towards anal angle. The terminal half of abdomen is white. The specimen was taken in August 1903, and is labelled Lowombwa River. As Neave's specimens were taken in December the difference in colouring may be seasonal.

As Neave has indicated, A. mima is nearly allied to Wichgraf's rhodesiana, and I consider it possible that they may ultimately prove to be forms of the same species.

Unfortunately I have not had an opportunity of examining the genitalia of the latter species. The armature of A. mima is, as the figure shows, quite distinctive.

63. Acraea braesia.

Male. Expanse 56-64 mm. F.w. narrow and elongated. Translucent, the base flushed with rose brown shading to pink, the outer half transparent grey. Costa, apex, and hind margin narrowly black. At inner edge of apical and marginal black a series of orange spots large at apex and becoming smaller towards hind angle. Neuration black. Black spots as follows : - One in cell over origin of nervule 2. A double spot on discocellulars. Beyond end of cell an oblique band of spots the first (sometimes wanting in 10), the second, third, and fourth in 6, 5, and 4, in a straight line at right angles to costa, the fifth in 3 slightly nearer margin. A spot near base of area 2 and beneath it a spot in 1b. In the latter area a dot midway between base and origin of nervule 2. H.w. rosy pink slightly blackened at base, and having a black hind-marginal border bearing indications of slightly paler internervular marks, its inner edge slightly only faintly indicated. Underside. f.w. almost devoid of scales except at base, on spots, and on apex and hind margin. Otherwise as above. H.w. dull pinkish ochreous with a few reddish marks at base. Marginal border formed of rather heavy black arches on a fine black marginal line enclosing pale dull ochreous spots. Black spots as follows : - An outer series of nine. The first in 7 just beyond origin of nervule 7, second in 6 nearer margin, third in 5 still more distal, fourth in 4 touching cell, fifth in 3 a short distance from its base, sixth in 2 nearer its base, seventh in 1c nearer margin, eighth in 1b nearer base, ninth small, in 1a, still nearer base. One in 9, one in 8, a subbasal in 7, two in cell (the second just before origin of nervule 2), a basal and a subbasal in 1c and 1b, and a subbasal in 1a. A spot at base of area 5 on discocellular. Head black with a whitish tuft between eyes and two on collar. Thorax black with a few whitish marks, basal half of abdomen black above with yellowish lateral spots, remainder whitish with a yellow terminal tuft. Claws unequal.
Female. Expanse 60-64 mm. F.w. slightly more rounded at apex than in male. Colouring varies from a condition resembling the male but slightly duller, to one in which the pink areas are replaced by grey, the outer half of h.w. being white. Spots as in male. Abdomen entirely black above with large white lateral spots.
I have seen but few examples from Somaliland, but these differ in the following points :
Male. F.w. almost entirely transparent except for the spots and marginal and apical black and orange. The spot in area 3 is absent. The h.w. is rose pink, sometimes with a slight tendency to white suffusion.
Female. F.w. entirely transparent as in male. Submarginal orange spots only indicated. Spots in 3 and 2 absent or very faint. H.w. white with black basal suffusion. Marginal border rather broader than in other forms. Spots as in typical examples.
Whether Somaliland specimens constantly differ as above described I am unable at present to say.

A. braesia. regalis.

Male. Differs from typical examples in having the f.w. fully scaled on the upperside. Deep brick red as far as the discal spots. Just beyond these a pink subapical band

followed by a band of grey broad at nervule 6 and tapering to nervule 3. Orange submarginal spots large and confluent. H.w. brick red with the spots only faintly indicated.
Female. The few females I have seen resemble the male though rather duller and paler.

A. Braesia is a distinct and easily recognisable species. There is a little variation in the shape of the male claspers, and at one time I thought the differences were sufficiently constant to warrant the separation of the regalis form as a species, but a series of preparations shows that whilst there is a general tendency for the armature of regalis to differ slightly from that of braesia such differences are not constant. The female plates are the same. The regalis form may be regarded as being on the verge of separating off as a species though at present it occurs in company with the type form and is probably syngamic therewith.

64. Acraea doubledayi.

Male. Expanse about 64 mm. F.w. thinly scaled and rather translucent, brick red with black spots. Costa and base somewhat suffused with blackish. A black marginal band 6 mm. wide at apex becoming narrower towards hind angle, having its inner edge thinly scaled, and bearing a submarginal row of deep orange spots, the last of these (in 1b) often merged into the ground-colour. From each of these spots is given off inwardly a short black internervular ray (doubled in 1b). In areas 3, 4, 5, 6, 9 and 10 between the marginal border and the discal row of spots a white translucent band very sparsely scaled. Black spots as follows : - A large spot in cell above origin of 2 and rarely a trace of a second spot nearer base. A spot on the upper part of the discocellulars. A discal row of five confluent spots (the fifth sometimes separate), the first in 10 rather nearer base than the others and the next three almost in a straight line. A large spot in 2 its upper edge close to origin of nervule 3. Immediately beneath this a large spot in 1b, and in the same area smaller round spot below median just before origin of 2. H.w. brick red with some black basal suffusion. A black hind-marginal border about 2 mm wide having a very distinct but markedly undulating inner edge, and very slightly paler internervular marks. Black spots as on underside but those near inner margin often only faintly indicated. Underside. F.w. The greater part of median area very sparsely scaled and shining. Spots as on upperside with a basal and a subbasal spot on costa. Costa pale ochreous. Apex and hind margin pale ochreous with orange internervular spots each of the latter with a short black internervular ray. A narrow black line round apex and hind margin. H.w. pinkish ochreous with a greenish ochreous marginal band bounded by a narrow black marginal line, and broken by narrow black internervular arches. Just inside the latter a row of orange ochreous internervular marks. Basal and median area with some rose-pink internervular marks. Black spots of medium size as follows : - A discal row of nine, the first three in 7, 6 and 5, each nearer the margin than the last, the fourth in 4 nearer base, fifth in 3 midway between end of cell and marginal border, the sixth in 2 just below origin of 3, the seventh and eighth in 1c and 1b, nearly in a straight line with the sixth, the ninth in 1a nearer base. A spot in 8 near precostal, a subbasal in 7, two in cell and one on middle discocellular, a subbasal in 1c, 1b, and 1a, that in 1b nearer margin than the other two. Some irregular black at base of nervures. Head black with

brown hairs, and tufts on collar, thorax and base of abdomen black, the latter with small pinkish lateral spots, remainder pinkish ochreous. Claws unequal.
Female resembles the male in size and markings but the ground-colour varies from dull pink to dull smoky ochreous. The underside of f.w. almost devoid of scales. The abdomen black above with white lateral spots, and sometimes the last three or four segments entirely white above.

A. doubledayi female f. candida, f. nov.

Represented by an example in the Standinger collection from Nyam Nyam. The ground-colour is white, the form bearing the same kind of relation to the type as does A. encedon f. lycia to A. encedon.

A. doubledayi sykesi, subsp.

Differs from typical doubledayi in having the f.w. of a yellower colour. The apical and marginal black is confined to the ends of the nervules and a thin marginal line, and the translucent patch is almost or entirely absent. The ground-colour of the h.w. margin on the underside is white.
The female is a more tawny brown and the f.w. spots somewhat larger.

The type of mystica, Neave, has rather redder h.w. than the other examples I have seen. It is a somewhat worn example, and its identity with the sykesi form is only evident on careful comparison with a series of the latter.

A. doubledayi arabica, subsp.

Differs from the typical form in having the wings much more heavily scaled, but with hardly any basal suffusion. The translucent patch is often thickly scaled with dusky white (white in female). The ground-colour is usually a deeper brick red. In some examples there is a small black streak in f.w. cell just before the large spot, and sometimes one in 1b just before the subbasal spot. The spots tend to be larger and the terminal half of the abdomen is white with some yellow scales at the tip. The underside is more richly coloured than in the typical form and in some examples the basal costal spots are wanting. The female resembles the male but the ground-colour is dull chocolate brown, and the abdomen is black with large white lateral spots and white segmental rings.
Much confusion has arisen over this species, doubtless owing to its rarity and the comparative inaccessibility of the original figure. I have therefore prepared a figure of the male from an example in the Tring Museum which agrees with the figure given by Reiche (l.c.) and have also illustrated the Arabian subspecies which I found in the same collection. Four females and one male of this form were taken in the Azvaki Ravine in Southern Arabia. The A. doubledayi described in Trimen's S. African Butterflies is A. oncaea, and hence many examples of the latter species are labelled doubledayi in collections.

65. Acraea oncaea.

Male. Expanse 50-60 mm. Wings dull orange red to dull ochreous. F.w. costa from middle to apex narrowly black. At apex there is a narrow black tip, sometimes as much as 3 mm wide but always quite recognisable. At about nervule 4 or 5 the black tapers to a narrow marginal line extending to the hind angle. The median area is often rather thinly scaled but does not become translucent. A slight dusky suffusion at base. The apical and hind-marginal area shows a tendency to orange between the nervules, and in the internervular spaces are black rays sometimes as far as area 2. Ends of nervules black. There is a submarginal row of black spots parallel to the hind margin. These vary in number. In very "dry" examples there may only be a minute spot in 1b and 2, while wet season specimens may have a well-developed row of four spots in 1b, 2, 3, and 4. Other spots as follows : - One in cell above origin of 2, sometimes preceded by a faint longitudinal streak. A double spot on upper part of discocellulars. A discal row, when all present five in number, in 10, 6, 5, 4, and 3, but that in 6 often minute or absent. These spots lie roughly in a straight line nearly at right angles to the costa; the spot in 3 well separated from the others. In area 2 a spot near the meridian. In area 1b a subbasal and a median spot. H.w. A slight black suffusion at base and a hind-marginal border varying in appearance from continuous black about 2 mm wide to a row of faintly indicated dark internervular arches standing on a thin marginal line. The inner edge of this border is always regularly arched between the nervules. Black spots as on underside, those near inner margin often very faint, and the discal spots often smaller than those below. Underside. F.w. a pale replica of the upperside but without the apical black. Two small black spots near base of costa. H.w. Pinkish ochreous with internervular marks of a rather deeper pink in median and basal area. Hind-marginal border bright ochreous with a thin marginal line and narrow black internervular arches. Black spots as follows : - A discal row of eight. The first three in 7, 6 and 5, approximately parallel to margin, the fourth in 4 close to end of cell, the fifth in 3 some distance from end of cell, but not in the middle of the area, the sixth in 2 close to median, the seventh in 1c nearer margin, and the eighth in 1b nearer base. A spot in 8 near precostal, a subbasal in 7, two in cell close together near middle, one at base of area 5 touching m.d.c. and 6. A large subbasal spot in 1c, and close to it a spot in 1b, and 1a, all three in a straight line, a subbasal spot in 1a and some irregular black about bases of nervules. Head black with brown hairs, and tufts on collar. Thorax black with brown hairs. Base of abdomen black with orange lateral spots, remainder orange. Claws unequal.

Some fine examples of the male oncaea taken by Neave on Chirui I., L. Bangweolo, have the f.w. dull rosy red, and the space between the discal spots and the apical black is grey. The inner edge of the apical black is much suffused and broken up by submarginal orange spots each of which is divided by a black ray. The h.w. is bright red with a rosy tinge, and bears the usual black spots. The h.w. underside at base and inner margin is deep rose pink.

Suffert describes under the name caoncius (l.c) a form in which the f.w. apical black is no wider than the marginal black.

Male. Expanse 48-64 mm. Extremely variable. Whilst in a long series all kinds of intermediates may be found, the following may be specially noted :

(1) Dry season. F.w. base to discal row of spots reddish chocolate.

Beyond the spots a white band in 10, 9, 6, 5, 4 and 3 about 4 mm wide. Between the outer edge of this and the apical black, dusky orange. H.w. reddish chocolate with a pink patch beyond cell in 4, 3, 2 and 1c. Spots, etc. as in male.

Underside. F.w. paler and duller. White area replaced by creamy yellow, apex pale ochreous with orange internervular marks.
H.w. whitish with rose pink marks beyond discal spots and at base and inner margin
(2) Dry season. Similar to (1) but without the white patch in f.w.
(3) Wet season. Resembles male but the wings are greyish black, and f.w. has a white patch as in (1). H.w. marginal black, broader than in male and inner edge suffused. Little or no basal black suffusion. Underside similar but paler. This form agrees with figure of Hoppfer's type.
(4) Wet season. Resembles (3) but the nervules of h.w. dusted with white.
(5) Wet season. Resembles (3) but h.w. with a large white median patch.
(6) Resembles male but wings are dull ochreous grey. No white markings. Underside similar but h.w. dark ochreous.
In all the female forms the abdomen is black above with whitish or yellowish lateral spots.

A. oncaea f. liacea.

This form was described by Suffert as a subspecies of caecilia, but having examined the types I find it belongs to the present species. In the male the h.w. black margin is rather ill-defined inwardly and beneath has heavy black arches enclosing whitish spots. The female is like the male but has the h.w. margin broader, and more suffused, and is without a white subapical bar in f.w. Examples taken by Neave in the Iringe District, German E. Africa, in December (wet season) show that the female of this subspecies does not become black in the wet season, the ground-colour being much the same as in the male.

A curious aberration of the female was taken by Neave in the Luangwa Valley in Aug. 1910. The ground-colouring resembles that of the first form above described, except that the apical black and the subapical white are contiguous. The spots are reduced to one (large) in middle of f.w. cell, and a black mark on discocellulars. In h.w. there is a spot in cell and one at base of 6 and 5. On underside the h.w. marginal border consists merely of a thin double black line broken by a black mark on end of each nervule.
A. oncaea is an abundant species and Neave records it as common at all seasons in the Luangwa Valley. The male armature is quite distinct in form. The species has been much confused with A. doubledayi, Guer., from which, however, it is quite distinct.

66. Acraea equatorialis.

Male. Expanse 46-48 mm. Wings rather lightly scaled, delicate pinkish ochreous. Costa, apex, and hind margin very narrowly black, slightly broader at apex. Just inside this black border, a narrow band of orange divided by the black ends of nervules, and followed inwardly by a grey area bearing black internervular rays. Black spots as follows : - One in cell at or just before origin of 2, one on upper part of discocellulars, a row of five beyond cell, the first in 10, often very small or obsolescent, the second, third, and fourth in 6, 5, and 4 further from end of cell and in a straight line at right angles to costa, fifth in 3, separate and rather nearer margin. A spot in 2 just under origin of 3, beneath this and slightly nearer base, a spot in 1b, and in same area a subbasal spot just beyond middle of first section of median. Sometimes a slight black

basal suffusion in 1b. H.w. with a slight black basal suffusion, and a narrow black hind-marginal line, on which are rather ill-defined at internervular arches enclosing small marks of the ground-colour. Black spots corresponding to those beneath often rather faintly indicated near inner margin. Underside. F.w. very thinly scaled and shiny. Usually two black spots at base of costa. Otherwise as above. H.w. pale pinkish ochreous with a few pink marks at base. Hind-marginal border as above but very clearly traced, and enclosed spots rather yellower than ground-colour. Black spots as follows : - Two in 7 near middle and rather close together, one in 6 nearer margin and one in 5 still nearer margin, in 4 a spot about 1 mm from end of cell, and beneath it but nearer margin, a spot in 3. One in 2 close to median, beneath it and nearer margin a spot in 1c, and a spot in 1b on a level with that in 2. A minute spot in 8 near precostal, two in cell, a basal and a subbasal in 1c, close to the latter a spot in 1b followed by a spot in 1a, another larger spot in same area nearer base. A small black mark in area 9. Very rarely a minute black dot at base of 5 on m.d.c. Fringes pale ochreous. Head and thorax black with ochreous tufts. Base of abdomen black with pale lateral spots, remainder creamy white. Claws unequal.
Female. Expanse 42-48 mm.
f.1. Like the male but wings more rounded, and ground-colour duller. H.w. marginal black with little indication of pale internervular marks, and on the underside enclosing whitish spots. Abdomen black above with white segmental lines and lateral spots.
f.2. Like f.1, but h.w. ground-colour pale grey with indications of a white subapical bar beyond the discal spots. H.w. white with a dusky suffusion at base, and along inner edge of marginal border. Inner margin yellowish.
Intermediates between these two female forms occur, and the difference does not appear to be seasonal, as all the 38 examples in the Oxford collection were taken in November to January by Mr. Wiggins.
The species is quite distinct and is not a form of doubledayi, though some of the grey females are not unlike the female of that species.

A. equatorialis anaemia.

Male. Expanse 50-60 mm. Differs from typical equatorialis in having the wings more sparsely scaled and the ground-colour paler and more delicate. Both wings have a brownish basal flush and submarginal spots are frequently present in f.w. 1b, and 2.
Female resembles male but wings are more rounded and abdomen is black with white lateral spots.

67. Acraea ella.

Male. Expanse 50-60 mm. Wings dull to golden or pinkish ochreous. F.w. with a slight dusky basal suffusion, costa, apex, and hind margin very narrowly black, rather broader at apex. Apical area usually rather richer yellow than remainder of wing. A submarginal row of internervular black rays which rarely reach the margin. Nervule ends black. Black spots as follows : - In cell a spot very slightly beyond origin of 2. A double spot on upper part of discocellulars. Beyond cell a discal row of spots of which the first in 10 is rather nearer base than the others, and usually elongate, the second, third and fourth in 6, 5, and 4 nearly in a straight line at right angles to costa, the fifth separate and nearly in the middle of area 3. A spot in 2 just below origin of 3, and

beneath this but slightly nearer margin a spot in 1b, and in same area a spot (sometimes doubled) about 2 mm before origin of 2. H.w. with some black basal suffusion and a hind-marginal border formed by a narrow black marginal line on which are rather flat, not always clearly defined, internervular arches enclosing spots of the ground-colour. Black spots corresponding to those on underside but usually only faintly indicated near inner margin. Underside f.w. like the upperside but without basal suffusion, paler, and with two spots at base of the costa. H.w. paler than on upperside, base, inner margin, and area 1c splashed with pink. Marginal border as above but much more clearly defined. Black spots as follows : - Discal spots, one in 7 about middle, one in 6 about 3 mm nearer to margin. Beneath this and slightly nearer margin a spot in 5 (absent in three examples). In 4 a spot about 1 mm from end of cell, a spot in 3, 2 mm from end of cell, and one in 2 not very close to median. A spot in 1c, 3 mm from margin, and one in 1b rather nearer base. A spot in 8 near precostal, a subbasal in 7, two in cell, one at base of 5 on m.d.c., a basal and a subbasal in 1c, and immediately below the latter a spot in 1b and 1a, also a subbasal in 1a. Some irregular black at base of wing. Head and thorax black, with reddish tufts and hairs, base of abdomen black with whitish lateral spots, remainder white to yellowish. Claws unequal.

Female. resembles male but ground-colour rather more dusky ochreous.

This species is apparently very closely allied to equatorialis. It may be distinguished from the latter by its larger average size, and by the fact that the discal spot in f.w. 1b is usually slightly more distally placed than that in 2, whereas in equatorialis this spot is slightly more proximally placed. Also the spot in h.w. at base of area 5 is well developed, and is rarely indicated in equatorialis. Further the structure of the claspers in the male armature is slightly different and the penis is longer and much more slender. The chitinous plate in the female of A. ella is of quite different structure, having a bifid process on its anterior edge, and the aperture is much smaller.

68. Acraea axina.

Male. Expanse 36-48 mm. Dry season form. Wings rosy ochreous with a brownish basal and costa suffusion. Costa from middle to apex narrowly black. Hind margin black, 1 mm broad, slightly narrowing towards hind angle. Apical area orange ochreous, the ends of nervules black, and with black or brownish internervular rays. Black spots as follows : - A large spot in cell above origin of 2, a spot on upper part of discocellulars. A discal row of five, the first four (10, 6, 5, and 4) nearly in a straight line and confluent, the fifth smaller and separate. A spot in 2 near median, beneath it and rather nearer margin a spot in 1b, and a second in the same area near the base. H.w. with a slight blackish brown suffusion, and a black sharply defined marginal border with faint indications of paler internervular markings. Spots small and as on underside. Fringes rather conspicuously whitish. Underside, f.w. with one or two subbasal costal spots. Ground-colour paler than above. Apical area ochreous with orange internervular marks. Other markings as on upperside but marginal black narrower. H.w. pale ochreous with rose pink internervular marks. Hind margin border formed by moderately heavy black arches and a very narrow black marginal line enclosing greenish ochreous internervular spots. Black spots as follows : - A discal row of eight, the first three in 7, 6, and 5 each nearer margin than the last (the third often absent in dry season specimens), the fourth in a line with the second at right

angles to the costa, the fifth in 3, about midway between end of cell and marginal border, the sixth in 2 near median, the seventh and eighth in 1c and 1b. Of the last three that in 1c is rather nearer margin than the others. A spot in 8 near precostal, a subbasal in 7, one spot (very rarely two) in cell, one on middle discocellulars, one in 1c, 1b, and 1a all in a straight line, and a basal spot in 1a. Head black with brown tufts between eyes and on collar, thorax black with a few brown hairs, basal half of abdomen black with orange lateral spots, remainder orange.
Wet season form. Ground-colour more yellowish, spots larger, basal suffusion broader, apical and marginal black broader in both wings. F.w. internervular rays blacker.
Female. Expanse 48-52 mm. Dry season form very like male but ground-colour of f.w. more dusky. Abdomen black above with yellowish lateral spots. Wet season form, also like male but ground-colour dull ochreous to pale sepia. Just beyond f.w. discal spots is an indication of a whitish subapical patch.
Thought quite a distinct species, A. axina closely resembles a small specimen of A. oncaea. It may be distinguished from the latter by the absence of submarginal spots in 1b and 2 in f.w., by its consistently much smaller size, and by the usually sharply defined black border in the h.w.
there is in the Joicey collection a curious aberration of this species. It is a male from Ft. Chicquaqua, Mashonaland. There is a spot in the f.w. cell followed by one in the discocellulars, and three subapical spots. The h.w. has one spot only, that on the discocellulars. The h.w. hind-marginal border is black and rather deeply edentate between the nervules, and bears indications of paler internervular marginal spots.

69. Acraea caecilia.

Male. Expanse 56-70 mm. Ground-colour pale ochreous pink to pale salmon pink. F.w. with a black or brown basal suffusion and a brown dusting of scales along the costa. Apex black about 4 mm wide, the inner edge much suffusion in outline, the black continued as a narrow tapering line along the margin to the hind angle, Subapical and submarginal area inclining to orange ochreous between the nervules, and in areas 6, 5, 4, 3, and 2 sometimes a grey ground-colour with submarginal orange spots and black internervular rays. Black spots as follows : - One in cell above origin of 2, and a double spot on upper part of end of cell. A discal row of five in 10, 6, 5, 4, and 3, the first often much elongated, and rather nearer base, the next three in an almost straight line and contiguous, the fifth subcrescentic and in the middle of area 3. A spot in 2 near median, and immediately beneath it a spot in 1b, also a subbasal spot in 1b near median. A submarginal row of spots parallel to hind margin, the first in 4 (sometimes absent), the second in 3 very close to the fifth discal spot (also sometimes absent in female). H.w. with a black or brownish black basal suffusion and a well-defined hind-marginal black border usually with traces of paler internervular marks. The discal and basal black spots are rather variable, often faintly indicated, and most easily observed on the underside. Underside a paler replica of the upper, but without basal suffusion. F.w., two basal black spots on the costa, and apical black of much less extent. H.w. black marginal border bearing seven rounded whitish spots. Black spots as follows : - An irregular discal row of nine, the first about middle of area 7, the second about middle of 6, the third (often minute or absent) slightly nearer margin, the fourth touching end of cell, the fifth just before middle of area 3, the sixth in 2 close to

median, the seventh in 1c nearer margin, the eighth in 1b crescentic and nearer base, the ninth in 1a and still nearer base. A spot in 8 near precostal, usually two in cell close together, one at base of 5 touching m.d.c. A large subbasal in 1c, a small ditto in 1b, nearer margin, and a medium-sized subbasal in 1a close to that in 1c. Some black at base of nervures enclosing two white dots. Head black with a yellow tuft between the eyes and two on the collar. Thorax black with reddish hairs, and two anterior, two dorsal, and two posterior pale marks. Abdomen black at base with pale lateral spots, remainder whitish. Claws unequal.
Female. Expanse 56-64 mm. Varies from pale salmon pink to white. F.w. with black basal suffusion, dusted with brownish along costa, apex black inwardly suffused with yellow and nearly reaching the discal spots. Black spots as in male. H.w. with a black basal suffusion and a broad (about 4 mm wide) black hind-marginal border, its inner edge suffused with brownish. Underside paler, marked as in male, much less apical black than above, and area between this and discal spots grey with orange internervular marks. H.w. pinkish at base and with seven large rounded pinkish or yellowish white spots on the marginal black. Thorax and abdomen black with white spots, the abdomen also segmented with narrow white lines.

A. caecilia female f artemisa.

This form appears to be a rare aberration in which the black markings especially those of f.w. apex and both hind margins, are exceptionally heavy. I know it only from Stoll's figure; though occasional Western examples show an unusual breadth of the h.w. border.

A. caecilia female f. hypatia.

For some time I was of opinion that Drury's figure of hypatia was too highly coloured, but I have now seen examples of caecilia female which are quite as deeply tinted. The f.w. is tawny ochreous and the h.w. deep pink. The f.w. apical and marginal black is narrow and well defined, resembling that in Eastern examples. We may therefore preserve Drury's name for this form. A specimen is in the Tring collection and bears the label Mohoroni.

A. caecilia pudora.

To the Eastern subspecies of caecilia must be assigned the name given by Aurivillius (l.c.) to what he regarded as the dry season form of Suffert's "caecilia liacea". The latter is however not caecilia at all, but a form of oncaea. A. caecilia pudora differs from more Western examples in having the f.w. apical black much narrower and more sharply defined. The spot in h.w. area 5 is usually well developed.

A. caecilia f. umbrina, Auriv.

Other the f.w. a dull grey semitransparent submarginal band between nervules 2 and 5-6.

A. caecilia exhibits little seasonal dimorphism. The wet season males are pinker and more heavily spotted, and the females have a whiter ground-colour and heavier black

markings. One Abyssinian example I have seen is of the typical form and another is intermediate to pudora. The species is nearly allied to A. caldarena and there is little difference in the respective male armatures.

70. Acraea marnois.

Male. Expanse 50-56 mm. Wings rich ochre yellow and somewhat more rounded than in other males of the caldarena group. F.w. slightly darkened at base. Apex narrowly black continued as a narrow hind-marginal line. Black spots as follows : - One in cell over origin of nervule 2. A double spot on discocellulars. Beyond cell an oblique band of four black spots in a straight line at right angles to costa followed by a spot in 3 rather more distal and beneath this a submarginal spot in 2 and in 1b. A spot in 2 beneath origin of nervule 3 and beneath it a spot in 1b. A subbasal spot in the same area. H.w. slightly blackened at base and having a black hind-marginal border about 2 mm. wide bearing indications of paler internervular marks ; its inner edge slightly arched between the nervules. Black spots corresponding to those on underside but rather faintly indicated towards inner margin. Fringes white. Underside. F.w. as on upperside but rather paler and having two spots on costa near base. H.w. as on upperside but without basal black and the hind-marginal border bearing white internervular spots. Black spots as follows : - One in 7 just beyond origin of nervule 7. One in 6 much nearer margin. One near base of area 4. Beneath it but nearer margin a spot in 3. One near base of 2. Beneath it a spot in 1c, followed by one in 1b rather nearer base, and a dot in 1a. A spot in 9, one in 8, a subbasal in 7, two in cell, one in discocellulars, a basal and a subbasal in 1c, 1b and 1a. Head black with a pale mark between the eyes, and two yellowish tufts on collar. Thorax black with reddish hairs. Abdomen black above with yellowish lateral spots, except last three or four segments, which are yellowish. Claws unequal.

Female unknown.

An example in the National Collection agrees very closely with the type, differing only in the following points : - F.w. The submarginal spots are absent in 2 and 1b, the first or costal spot of the discal row is very minute, and there is hardly any basal black. H.w. There is a small discal spot in area 5. Underside. H.w. the marginal border is formed of much narrower black arches on a fine marginal line, thus enclosing larger whitish spots.

For the present I must keep A. marnois separate. Aurivillius regards it as a form of A. oncaea. If, however, Rogenhofer's type is specifically identical with the specimen in the National Collection above described, this must be an error, as the latter example bears a much closer relationship to caldarena and caecilia. The genital armature is only very slightly different from that of the two species mentioned, that of A. oncaea being of an entirely different form. On the whole I regard it as nearest to A. caecilia, and the acquisition of further material may decide whether it is really separate from that species.

The type was taken at Bahr-el-Seraf in the Sudan. The British Museum specimen is merely labelled Victoria Nyanza.

71. Acraea aglaonice.

Male. Expanse 50-62 mm. Wings orange red to rosy red. F.w. A narrow black line along costa (rather wider at apex) and continued along hind margin to angle. Costa, apical and hind-marginal portion of wing including to orange. A slightly dusky suffusion at base. Ends of nervules rather distinctly black. In the subapical region in areas 4 and 5 (and sometimes slightly in 6), a transparent mark caused by a paucity of scales. This transparent marking may be almost absent in dry season examples. Black spots as follows: - A large, transverse, irregularly shaped spot in cell above origin of 2, and a black mark on discocellulars, usually on upper part but sometimes over whole width of end of cell. Beyond cell and just before the transparent marks a discal row of fine spots in 10, 6, 5, 4, and 3, the first sometimes absent, and the last sometimes very small. The three middle spots almost in a straight line, the first rather more distally placed, the fifth with its long axis pointing towards apex. In 2 a spot close to median (absent in one example). In 1b a discal spot below that in 2 and slightly nearer margin, and a second spot near median at about two-thirds of the distance from base to origin of 2. H.w. with a slight dusky basal suffusion and a black hind-marginal border varying from 1 to 2 mm in breadth and very rarely showing traces of paler internervular markings. Black spots very small and more easily observed on underside. Those near inner margin sometimes only faintly indicated. Underside. F.w. paler and duller than above and rather glossy. A small basal and subbasal spot on costa. Apical and hind-marginal areas ochreous with orange internervular rays. Spots as on upperside. H.w. pinkish ochreous. A very narrow black line round hind margin, followed by a band of greenish ochreous corresponding in width to the black border of the upperside and divided by narrow internervular black arches. This marginal border is followed by internervular splashes of orange, and the basal and median portions of wing bear internervular rose pink marks. Black spots very small and slightly variable. A discal row beginning with one in 7, 6, 5, and 4, the fourth much further from margin than the third. Very rarely a minute dot in 3. I have never seen a male with a spot in 2, though there is sometimes a very small one in the female. In 1c a spot at base, a second just before origin of 2, and a third half way between the second and the margin. In 1b two spots near middle, in 1a one near base and one near middle. In 8 a spot near precostal, beyond this in 7 a transverse spot. A spot at base of 7, two in cell and one on middle discocellular. Wet season examples have a general tendency to a richer colour and more dusky suffusion especially of the f.w. Head black with a brown tuft between the eyes and two on the collar. Thorax black with lateral brown hairs and two dorsal whitish streaks. Base of abdomen black with orange lateral spots. Remainder orange. Claws unequal.

Female. Expanse 60-66 mm. Dry season form : - F.w. Costa, base, and inner margin more or less heavily suffused with umber brown, median area rosy red, apex and hind margin brownish ochreous. A black tip at apex narrowing suddenly below nervule 7 but continued along hind margin as a line broader than in male. Ends of nervules heavily marked with black. The whitish transparent patch conspicuous. Black spots as in male and usually an additional spot in cell at about the middle. H.w. rosy red suffused with brownish black at base. Hind margin black about 3 mm broad and bordered inwardly by a band of brownish ochreous on which the nervules are heavily dusted with black. Underside much as in male. Abdomen black above with white lateral spots.

Wet season form. F.w. basal, costal, and apical suffusion black, median area dull pinkish ochreous, apical and hind-marginal areas ochreous. H.w. ochreous along costa, remainder black with a white median patch. Spots in both wings as in male.

Underside much as in male but f.w. very dull coloured and h.w. with much less orange and pink, median area whitish and the black arches of marginal border very heavy. Abdomen black above with white lateral and yellowish dorsal spots. Intermediates between the extreme seasonal forms are found in any good series.
A. aglaonice is readily distinguished by the transparent mark in the f.w. and the very small spots in the h.w. It is a very distinct species, the peculiar projection on the middle of the inner side of the claspers distinguishes the male armature at a glance from that of any other species.
In 1906 (l.c.) Trimen described a melanic female aberration of this species from Melville, Johannesburg and at the same time gave an interesting note from Mr. Feltham, who states that this butterfly made its appearance in the depth of the winter season in 1904 at Johannesburg and that other members of the genus also seem to choose the coldest season for their appearance there.
The range of the species is described by Trimen as from S. Matabeleland to E. Mashonaland and Delagoa Bay, through the Transvaal as far as Johannesburg and extending to Zululand, Delagoa Bay, and very rarely to Natal.

72. Acraea atergatis.

Male. Expanse 50-60 mm. Dry season. Wings dull orange- ochreous. F.w. rather pointed. H.w. rather distinctly angulated at nervule 4. F.w. costa very slightly blackened and a faint black line round hind margin. Ends of nervules along hind margin black, and some indication of black internervular rays. Black spots as follows : - One in cell above origin of 2. A double spot on upper part of discocellulars. A discal row of seven, the first sometimes very faint and usually further from base than the remainder. The next four (in 6, 5, 4, and 3) in a straight line at right angles to costa. The sixth and seventh in 2 and 1b lie almost in a straight line with the fifth and at right angles to the inner margin. A small subbasal spot in 1b. H.w. with a slightly black suffusion about base of median, and a narrow black line round margin. Black spots as on underside, but some may be only faintly indicated, whilst others may be larger above than below. Underside a pale dull replica of the upper. F.w. with two spots at base of costa. H.w. spots as follows : - A discal row of nine. The first in 7, the second in 6 nearer margin, the third in 5 almost immediately below the second, the fourth close to end of cell, the fifth in 3 a short distance from end of cell, the sixth, seventh and eighth in 2, 1c, and 1b almost in a straight line at level of end of cell, the ninth in 1a rather nearer base. A spot in 8 nearer precostal, a subbasal in 7, two in cell, and one at base of area 5 against m.d.c. A subbasal in 1c, 1b, and 1a, the middle one further from base. Some black marks about base of nervures. Head black with a red tuft between eyes and two on collar, thorax black with red hairs, base of abdomen black with yellow lateral spots, remainder whitish. Claws unequal. Wet season form. Differs from the dry season form in having the ground-colour redder, the costa blacker, all the spots larger, a trace of submarginal spots in 1b and 2, well defined black internervular rays on apical area, h.w. spots large and sometimes partly confluent, the hind margin with a black border about 1-5 mm wide. Underside like the upper but duller, and in h.w. a well-marked whitish marginal border divided by the black ends of nervules, and bounded outwardly by a narrow black line, and inwardly by black internervular curved marks. End of abdomen orange.

Female. Expanse about 6 mm. Resembles wet season male, but in some cases the underside is distinctly darker than the upper, especially on the h.w. the spots ringed with grey, the fringes conspicuously white, and the black marks at inner edge of marginal border may be produced into points between the nervules. I have not seen melanic forms of the male such as exist in allied species.
A. atergatis appears to be generally somewhat rare. Neave describes it as not common in the north of NE Rhodesia, but plentiful in Katanga. It is described as on the wing all the year except in June and July. Dr. Dixey has recorded (Proc. Ent. Soc. P. iii, 1906) that he noticed in this insect a musty odour with a strong ammoniacal scent like that of stable litter.

73. Acraea stenobea.

Male. Expanse 50-60 mm. F.w. milky ochreous inclining to orange at apex between nervules, often with a pale pink median suffusion. Base widely suffused with sepia which extends about two-thirds the length of cell, nearly half the length of 1a and 1b, but rarely into 2. Costa very narrowly black. Apex and hind margin narrowly black. Nervules and nervules more or less distinctly black. Black spots rather variable, but the following usually present : - One in cell above origin of 2, one on upper part of discocellulars. A discal row of four, in 6, 5, 4, and 3. The first three in a straight line, the fourth rather more distally placed. In 2 a spot near median, and generally a submarginal spot; in 1b, a spot near median, a second rather beyond middle, and often a third (submarginal) spot. H.w. more pinkish than f.w. and sometimes of a delicate pale rose tint. A black basal suffusion extending about half the length of cell and a black hind-marginal border about 2 mm wide, usually showing a faint indication of paler internervular markings. Black spots variable. In the examples before median the largest number is eleven, two in 7, two in cell, one in 4 near end of cell, and two in 1c, 1b, and 1a, all these faint and only showing through from beneath. Underside. F.w. as above but duller and without the dark suffusion. Two black spots on costa, one at base, and one just beyond. Sometimes a spot beyond end of cell in 10. Remaining spots as above. H.w. pale pinkish, the distal portion yellow, and the basal portion faintly reddish between the nervules. Black spots rather variable. One in 8 near precostal, a very minute spot in 2, a short distance below median, and some irregular black at base of nervures enclosing two white spots which lie close against thorax. Remaining spots as above. Marginal border as above but with seven large white internervular spots, that in 1c doubled. Head black with two white marks between the eyes, one behind each eye, and two spots on the collar. Thorax black with two white dorsal anterior streaks. Base of abdomen black with whitish lateral spots and transverse lines, remainder creamy white. Claws unequal.
Female. Expanse 50-60 mm. F.w. orange ochreous with a rich sepia basal suffusion, extending in some cases nearly all over the wing, but in the latter case leaving a trace of a paler subapical band just beyond discal black spots. Apical and marginal black broader than in male. Black spots equally unstable, the discal row varying from a confluent band to two small separate spots in 4 and 5. H.w. milky ochreous to salmon-pink with a black basal suffusion and a broad black hind-marginal border, in some examples 4 mm wide at area 2. A white discal suffusion of very variable extent. Underside f.w. orange ochreous sometimes with a trace of the black basal suffusion especially along nervure 1, and the base of median. The apical region with orange

internervular rays on a paler ground. Spots as on upperside with the two basal costal spots as in male. H.w. rose pink at base, distal portion orange, some pale ochreous suffusion about nervules in median area. Black marginal border with large rounded white spots ; in one example the margin spots are pale ochreous and there is a line of same colour along inner edge of marginal black. The fringes of both wings are pale lemon ochreous and very conspicuous. Abdomen black above with white lateral spots.
A. stenobea is rare in collections. The variation in the ground-colour and extent of black suffusion may be more or less seasonal, but I have not seen a sufficiently long series to be able to form an opinion on this point.
Butler has suggested that stenobea is a seasonal form of caldarena, and later (P. Z. S., 1898, p. 401) refers to its as a variety of caecilia. The structure of the male armature shows, however, that it is quite a distinct species. Trimen states (l.c. sup.) that the white suffusion on the female h.w. though variable in extent, seems always to be present.

74. Acraea natalica.

Male. Expanse 50-80 mm. F.w. rosy red to pinkish ochreous, subapical area deep ochreous. A basal black suffusion extending nearly to middle of cell. Costa very narrowly black. Apex black (3-4 mm wide), becoming very narrow at 4 and continued as a fine marginal line to hind angle. Black spots variable. When all present arranged as follows : - One in cell at or just before origin of 2, a double spot on upper part of discocellulars. Just beyond cell a discal row of confluent spots widest near costa and extending to nervule 4, and forming together a characteristic wedge-shaped mark. A submarginal row of three spots in 3, 2 and 1a. A spot near base of 3 in line with, but separated from, the wedge-shaped row. A similar spot near base of 2 well separated from the neighbouring nervules. Immediately beneath this a spot in 1a, and in the same area another spot at the edge of the black basal suffusion. H.w. with a black basal suffusion extending nearly to middle of cell, and a black hind-marginal band with a very faint indication of paler internervular marks. This band varies in width from about 2-4 mm. The discal and basal spots are always small, and while corresponding to those on the underside, are in many cases only faintly indicated. Underside. F.w. ground-colour as on upperside but paler and duller. The black basal suffusion only shows through from the upperside and the apex is greenish ochreous with orange internervular marks, the margin being narrowly black. Two black spots at base of costa, remaining spots as above but those just beyond cell more distinctly separated. H.w. ground-colour pinkish ochreous. No basal suffusion. A hind-marginal band formed of large pale sage-green spots surrounded by heavy black arches and a black marginal line. In area 1b there is a marginal line of the same colour as the spots. About the base, inner margin, and along inner edge of hind-marginal border are reddish internervular markings. Black spots as follows : - A discal row, the first in 7 about middle, second in 6 nearer margin, third in 5 beneath second but slightly more distal, fourth in 4 just above outer point of cell, fifth in 3 directly below fourth and some distance from end of cell, sixth in 2 further from margin, seventh in 1c at about same level, eighth in 1b slightly nearer base. A spot in 8 near precostal, a subbasal in 7, two spots in cell, one at base of on m.d.c. a large subbasal in 1c, beneath in a spot in 1b, and two equidistant spots in 1a. Head and thorax black with white spots, base of

abdomen black above with yellowish lateral spots, remainder orange or whitish. Claws unequal.
The male exhibits a certain amount of seasonal dimorphism, wet season forms being often more heavily spotted and especially having a broader h.w. marginal band. Very dry males often have the ground-colour ochreous.
Female. Expanse 46-80 mm. Dry season. Very like male but with more rounded f.w. Spots of h.w. margin on underside whitish. Abdomen black above with white spots.
Female intermediate. F.w. smoky ochreous much paler in subapical area. H.w. dusky pink. Marginal border broad and inwardly much suffused, the black sometimes extending over the whole wing.
Female. Wet season. Sepia black. F.w. with a whitish subapical bar and a central whitish band. H.w. sometimes with a white median patch.
In all these female forms the spots and markings are as in the male.
A. natalica f. umbrata resembles the ordinary form but has a greyish median band across the f.w. Hoppfer's figures in "Peters' Reise nach Mossambique" agree closely with this form.

A. natalica pseudegina, subsp.

This is the western subspecies. Typical examples of the male have the f.w. smoky black, the spots being thereby much obscured. Near the apex are two or three internervular markings, orange ochreous to white. The h.w. is, in fresh specimens, rich rose colour without, or with only a faint black marginal band, though the black arches of the underside are just visible. The spots are represented only by dull brownish marks.
Some examples have reddish suffusion in the median area of f.w. and the apical ochreous marks may be continued as a marginal border. The usual black spots are well marked on the underside, and the h.w. marginal spots are ochreous like the ground-colour, instead of green. The female is like the male but the f.w. red suffusion is more frequently developed.
In a beautiful series of very perfect examples bred by Mr. W.A. Lamborn near Lagos, the colours of both surfaces area extremely brilliant, and there is nearly every case an additional submarginal spot in f.w. in area 4, and one or two submarginal spots on the h.w. underside in 7, and 6.

Acraea natalica abadima, subsp.

This may be regarded as the central race of the species. It has a wide range extending from Angola, across the Upper Congo region to British E. Africa and into Abyssinia. In the f.w. the spots and markings are as in typical natalica, though there are often four submarginal spots. The whole f.w. is rather thinly scaled and has a delicate translucent appearance. The subapical area is grey, and at the inner edge of the apical black there are orange- ochreous internervular markings continued along the margin as more or less rounded marginal spots. There is very little black basal suffusion in either wing. The spots are indistinct. There is no black marginal border, but a narrow black line on which are faintly indicated the black arches of the underside. On the underside the f.w. is very thinly scaled and glossy, and the marginal spots of the h.w. are rich ochreous.

The female has the same semitransparent f.w. but the ground-colour is dusky grey sometimes with a slight reddish tinge and the orange subapical marks are replaced by white. H.w. reddish grey or dull grey often with a slight median white suffusion.

Between the above forms nearly every grade of intermediate pattern may be observed in a long series, though the pseudegina form is perhaps more clearly separated from the type pattern than is abadima. Perhaps the most characteristic features are the wedge-shaped f.w. discal mark, and the black basal suffusion in both wings. A. anemosa has the same features but the black suffusion extends to both surfaces, and is spotted with white on the h.w. underside.
The larva of A. natalica is described by Trimen (l.c.) as light buff-yellow with a white, black-edged dorsal stripe, and a white lateral stripe. A black tripe on each side just above the lateral row of spines, and a broad, black vertical stripe interrupted by the bases of the prolegs. The pupa is also noted by the same author as "creamy white, with the limbs and position of wing nervures outlined in black; a tripe black streak from top of head along middle of back of thorax, and a broad lateral streak varied with white spots ; the abdomen bearing two dorsal, two lateral, and one median ventral, chains of black rings enclosing orange yellow spots".

The larva of natalica pseudegina I have figured on Plate VI, from examples sent home by Mr. W.A. Lamborn. The black stripes would appear to be less marked than in the southern form, but the white marks on the head are characteristic.

A female of natalica natalica taken by Rogers near Rabai bears a note to the effect that it "emitted a strong odour like that of rotten cabbages".

75. Acraea asboloplintha.

Male. Expanse 54-60 mm. F.w. warm sepia, a brick red median patch on inner margin rarely extending slightly into area 1b. Small black spots rather faintly discernible on the dark ground corresponding to those on the underside. H.w. brick red with a slightly black basal suffusion and a narrow black line round hind margin. Black discal and basal spots, very small, and corresponding with those on underside. Underside. F.w. pale umber brown, apex with orange brown internervular marks. One black spot (rarely two) at base of costa and a black line round apex and hind margin. A black spot in cell just before origin of 2, one on upper part of l.d.c. Beyond cell four spots in 6, 5, 4, and 3 and all in a straight line nearly at right angles to costa. A spot in 2 near median, beneath it but slightly nearer to base a spot in 1b, and in same area a subbasal spot near median. H.w. deep ochreous with red patches at base and in 1b and 1a. A faint black line round hind margin bordered inwardly by a paler ochreous band about 1-5 mm wide. The internervular spaces of the discal area orange ochreous. Black spots as follows : - A discal row of eight, first in 7 near middle, second in 6 nearer margin, third in 5 immediately beneath second (or very slightly more distally placed), four in 4 close to end of cell, fifth in 3 a short distance from end of cell ; sixth, seventh, and eighth in 2, 1c, and 1b, all in a straight line at right angles to inner margin. A spot in 8 close to precostal, two in basal half of cell, a basal and a subbasal in 1c, and 1a, and a subbasal in 1b. Head and thorax black with a few small white

marks. Abdomen black at base with lateral orange spots, remainder orange ochreous. Claws unequal.
Female resembles male but the brick red is entirely replaced by ochreous brown. On the f.w. underside the basal and marginal portions are whitish. Some red marks at base of cell, 1c, and in 1b and 1a. Spots all as in male. Abdomen black with small white lateral spots.

A. asboloplintha rubescens, subsp.

Male. Expanse 58-62 mm. Differs from the type form in having the ground-colour of the h.w. rosy red. In the f.w. the greater part of area 1a, the middle of 1b, base of 2, and a part of cell are also flushed with rosy red. Dark areas sepia black. The black border of h.w. is about 1 mm broad. All the black spots are decidedly larger. The underside is as in the typical form but the colours are more brilliant.
Female. Like the male but with the rosy red areas replaced by white. Dark areas paler than in male and h.w. broader and inwardly suffused.
Suffert's description of the female asboloplintha applies to this form, but he states that it is "coloured as in the male". The figure accompanying the description is an uncoloured photograph and appears to represent the black and white female described above. The figure thus appears to be correct and the description wrong, but upperside to the present I have been unable to find an explanation of the discrepancy. When Trimen described the rubescens form he had only one example of each sex, and suggested that possibly the black and white female might be exceptional and that there might also be a female coloured like the male. Since that time the Oxford Museum has acquired further examples, but they furnish no evidence that the females are ever other than black and white.

Group XII.

76. Acraea anacreon.

Male. Expanse 50-52 mm. Deep golden orange with black, spots and markings. F.w. somewhat narrow and angulated, narrowly black along costa. A black hind-marginal band 5 mm wide at apex and tapering off towards hind angle. On this border a marginal row of spots of the ground-colour narrow and elongated at apex but becoming shorter and rounder towards hind angle. Above subcostal in the subapical region the ground-colour is distinctly paler (sometimes whitish) and beneath this is sometimes an indication of a paler subapical patch. A slight powdering of black at base. Spots rather variable. One large spot in cell just beyond origin of nervule 2 and a mark on the discocellulars. Beyond end of cell a row of two to three discal spots in 6, 5, and 4, and lying in a straight line nearly at right angles to the costa. Beneath these a spot in 3 and one in 2 near the base of these areas, and lying in a line almost at right angles to that of the first three spots. In 1b a spot, usually immediately beneath that in 2, and in the same area a subbasal spot (sometimes absent). H.w. with a black suffusion having its maximum extent in area 1c. A large spot in cell beyond middle, and a subbasal spot (sometimes faintly indicated) in area 7. The remaining subbasal spots obscured by the black suffusion. A row of eight discal spots arranged in a peculiarly characteristic manner. The first four (7-4) lie in a regular curve approximately parallel to the margin, the next two are so placed that the line takes a sharp bend inwards. The seventh spot is slightly nearer the margin than the sixth and eighth, these three lying in a kind of secondary curve. The hind-marginal border is black about 2 mm wide and bears seven yellow internervular spots (that in 1c doubled). The fringes of both wings are whitish and rather well developed. Underside. F.w. a black spot at base of costa. Costal margin ochreous, subapical area pale ochreous, apex and hind margin greyish ochreous with a dusting of orange between the strongly marked black nervules. Remainder dull orange ochreous with spots as on upperside. H.w. rather pale ochreous, area 9, base and median portion of 1c, base of 2, and extremity of cell, pink. A spot in 8 against the precostal. All the spots large and more distinct, a subbasal spot in 1c, one in 1 beneath, and two spots in 1a, the outermost making a continuation of the discal curved row. Beyond the median area the nervules are black and in 1c there is a marked black internervular ray. The hind margin is sulphur yellow divided into spots by the nervules, bounded externally by a fine black marginal line, and internally by very narrow black arches tinged with pink on their inner edge. Head and thorax dark brown, reddish tufts on the collar, abdomen black above, yellowish beneath with pale lateral spots. Claws unequal.

Female. Expanse 54-58 mm. Upperside f.w. violaceous to pinkish grey. Spots and markings as in male but there is a more or less developed subapical creamy ochreous patch, and the submarginal spots are paler at the apex and fading to cream colour hind angle. H.w. ochreous grey to orange ochreous, much paler at inner margin. Spots as in male. Hind-marginal border with pale lemon ochreous spots. Underside f.w. Costa and hind margin greyish ochreous, a pale lemon ochreous subapical patch, internervular spaces light ochreous along margin. Remainder of wing as on upperside but paler. H.w. lemon ochreous with spots and markings as in male.
A. anacreon exhibits a certain amount of seasonal dimorphism, dry-season specimens having a tendency to more elongate wings and less pronounced spotting.

A. anacreon bomba, subsp.

In this form the wings are usually more rounded, the f.w. black apical patch is in wet season examples well developed, its inner edge lying more transversely across the wing (width about 5 mm), the marginal internervular spots are either faintly discernible or obsolete. The discal spot in f.w. 1 beneath is generally nearer margin than in anacreon. The most noticeable difference in the h.w. is the decreased width of the hind-marginal border. The colouring of the underside is much richer than in anacreon. The f.w. has the apex greenish ochreous with orange internervular rays. In the h.w. the space between the discal and subbasal spots is almost entirely rose pink, and between the discal spots and the marginal border the internervular spaces are flushed with orange. There is much more marked seasonal dimorphism in this form, and though the wet season forms (= induna) are extremely variable there is a general tendency in both sexes to a paler ground-colour and heavily marked black apices in the f.w. In some wet season forms from near Ft. Jameson all the spots are large and there is a heavy black basal suffusion in h.w.
there is on the whole less difference of colour between the sexes, but the females are generally paler and greyer.
In Proc. Zool. Soc. p. 16, 1910. Neave expresses the opinion that Ground-colour. Smith's bomba should be kept separate from induna. Two dry-season examples, however, taken in NW Rhodesia, agree so nearly with bomba that I am convinced that the synonymy here adopted is the correct one.

A. Anacreon anacreontica, subsp.

This form presents the following features : F.w. pale ochreous with a basal suffusion of orange ochreous of rather variable extent. Pale apical and hind-marginal spots well developed and sharply defined. H.w. orange ochreous with a narrow black border bearing very distinct pale ochreous spots. Inner margin inclining to pale ochreous. Discal spots for the most part faint and obsolescent. On h.w. underside the spots are much smaller and closer together and enclose an irregular but well-defined band of rose-pink. In many examples the two central spots in 1c are joined together and form a peculiar semicircular line enclosing a rose-pink mark. The female may resemble the male or may be more heavily spotted and of a generally richer ground-colour.

A. anacreon speciosa, subsp.

This is the Angola subspecies of anacreon. I am indebted to Herr Wichgraf for the opportunity of examining the type. The following are the principal differences from typical anacreon : wings brighter red, with little indication of the black apical area in f.w. The spot in area 2 lies further from the margin. The underside is very brightly coloured, with orange patches between the h.w. nervules. In the type the spot in cell lies before origin of nervules 2, but this may be an aberration as I have before me examples in which this feature is normal. The f.w. spots are larger and except for the absence of the apical black the specimen has the appearance of a heavily spotted example of the induna form.

I cannot regard the distinction between the above forms as more than subspecific. The genitalia appear to be all of the same structure and though simple, possess certain features which are remarkable and common to all. The claspers bear on their outer side peculiarly dense tufts of hairs or scales, which, however, are easily removed if due care be not exercised in dissection. Also the dorsal abdominal plate is large, deeply bifid, and its inner membrane is densely clothed with a mass of special scales, sometimes numerous and sometimes easily detached as to obscure the preliminary operations of dissection.
I have before median a series of some eighty examples from various localities, and it is possible to arrange them so as to show a perfect gradation of wing pattern.
Marshall found the larva at Ulundi, and records that out of seventy-five individuals, twenty were killed by a dipterous parasite. I cannot find any description of the early stages.
Butler records both bomba and induna forms taken together by Crawshay on the Chuona River, Unyika.
A remarkable feature of the species is the variability in the relative positions of the spots in f.w. 1b and 2. In anacreon that in 1b is usually beneath that in 2, whereas in anacreontica sometimes, and generally in bomba and speciosa it is nearer margin.

77. Acraea rahira.

Male. Expanse 38-45 mm. Wings rich to paler orange ochreous. F.w. costa broadly black. Ends of nervules broadly black at margin and narrowing inwardly. A black basal spur in 1b. Black spots as follows : - One in cell above origin of 2. A mark on upper part of discocellulars. Beyond cell a discal band of four spots, the first three (in 6, 5, and 4) contiguous, their outer edges forming a somewhat convex curve, the fourth (in 3) slightly separated, its long axis pointing towards the apex. A spot in 2 below origin of 3, and immediately beneath in a spot in 1b. H.w. slightly black at base and having a narrow black margin deeply indented between nervules by the ground-colour; ends of nervules powdered with black. Spots corresponding to those on underside. Central area rather paler and bounded by a faint dusky line indicating the pattern of the underside. Underside f.w. much paler than above. Costa pale greyish ochreous. Ends of nervules in apical area very distinctly black. Spots as on underside, with an extra dot at base of costa. Beyond discal spots the apical area is pale ochreous, and between the nervules are orange lines, that in 6 reaching inwardly to the spots. H.w. pale creamy ochreous. Some irregular reddish ochreous marks at base and across the central area of wing, just before the discal spots. Beyond the discal spots a central band of the ground-colour traversing the wing as far as area 4 nearly at right angles to

the inner margin and then sharply upwards towards costa. As far as area 4 this band is distally outlined with sepia scales, beyond which the nervules are black, and the internervular spaces bear reddish ochreous rays. From apex to anal angle a fine black marginal line. Black spots as follows : - A discal series of nine, the first three (in 7, 6, and 5) nearly parallel to the apical curve, the line then bends sharply inwards and remaining spots lie approximately at right angles to the inner margin. In addition to these there is a spot in 8 against the precostal, near it one in 7, two in cell, two on the discocellulars, one in 1c, 1b, and 1a and some irregular black at bases of nervures. Head black with a pale mark between the eyes and orange hairs on collar. Thorax black with a few reddish hairs, abdomen black above, with lateral yellowish and dorsal whitish spots. Claws unequal.

Female. Expanse 44-52 mm. Resembles male but the ground-colour is usually creamy ochreous, the spots are larger, and the black powdering of the nervules along the f.w. apex and hind margin is sometimes wide as to form a band broken only by narrow orange ochreous rays. In rare cases the ground-colour is nearly as dark as that of the male.

The larva is thus described by Fawcett.

"Larva, black and sides blackish; thoracic legs, claspers, and a line above them chrome yellow. A dorsal white stripe, and on each segment four yellow spots from which spring four branched yellow spines, the lower pair springing from the yellow spiracular line. These spines are shorter than in the majority of Acraea larvae. Head yellow.

"Feeds on a species of groundsel, Erigeron canadense".

Two figures of the pupa are given; one pupa is waxy white and similar to the pupa of other Acraea, the other ferruginous. The ferruginous pupae had nearly always been attacked by ichneumons, with which the larvae were much infested.

Trimen figure (l.c.) two aberrations of the male from Johannesburg, the first having the black markings on both sides much enlarged, the second having no black spots except that in f.w. cell (much reduced), those on f. and h.w. discocellulars, and a streak at base of h.w. cell. On a previous occasion (l.c. 1891) the same author described a female from Matabeleland corresponding to the first aberration mentioned above. The occurrence of the species in Madagascar is extremely doubtful. Boisduval states (l.c) that M. Goudot says he found it at Tamatave, but as he (M. Boisduval) has examples from the "pays des Hottentots" he fears that Goudot collected it at the Cape on his way out and afterwards it got mixed with those he took in Madagascar. Mabille includes it in his work on the Madagascar Lepidoptera, but apparently only on the same doubtful authority.

Neave describes the species as being fond of swamps and marshy ground and having a very feeble flight.

78. Acraea zitja.

Male. Expanse 36-50 mm. Ground-colour rather dull brick red. F.w. costa narrowly black; apex and hind margin black (about 2-3 mm wide, tapering to a point at angle) and deeply indented between the nervules by the ground-colour. Black spot as follows : - One in cell above origin of 2, one on upper part of discocellulars ; a discal row of four, the first three in 6, 5 and 4 either separated or contiguous and on a line outwardly more or less convex. The fourth in 3 separated and rather nearer base than the third. A

spot in 2 about 2 mm from the base of that area, and either immediately beneath it or slightly nearer margin a spot in 1 beneath. H.w. with a little black at base and a hind margin black border about 1-5 mm wide the inner edge of which may be fairly regular or may be indented between the nervules by the ground-colour. Black spots corresponding to those on the underside. Underside. F.w. ground-colour paler than above. Costa greyish white, the apical and hind-marginal area striated by the black ends of nervules which are laterally dusted with white, a fine black line round margin. H.w. brick red, all the spots more or less surrounded with white, the black ends of nervules laterally dusted with white. A fine black marginal line on which at the end of each nervule stands a black V-shaped mark with its apex on the margin, the spaces between these markings being white. The costa is also narrowly white. The proportion between red and white varies, and some examples might be described as having the ground-colour whitish with broad internervular red marks. Small black spots as follows : - A discal row of nine, the first four, in 7, 6, 5, and 4 forming a line parallel to the apical margin of the wing, the line then curving round sometimes that the next four lie on a line at right angles to the inner margin; the last in 1a is rather nearer base. Some irregular black marks at base of wing. A spot in 8 against the precostal, near it one in 7, two in cell and one at base of 5 and 4 on discocellulars, one in 1c and 1 beneath close together, and a basal spot in 1a. Head and thorax black, brown tufts on collar. Abdomen black above with reddish yellow lateral spots. Claws unequal.
Female. Like the male but somewhat larger.
Up to the present I have not seen a female of this species resembling the male in colour, but Aurivillius states (l.c.) that such females exist, and these must therefore be associated with the male type.

A. zitja. f. radiata.

Females of this form have a brownish ground-colour and the spots are more prominent. In the f.w. the space between the discal spots and the hind margin is somewhat paler than the rest, whilst there is a pale curved discal band just beyond the discal spots in the h.w. Mabille (l.c.) figures the underside of a male which he assigns to this form, and in this there is a pale area in f.w. beyond the discal spots 6, 5, and 4, and in the h.w. there is much less internervular red than usual beyond the discal spots, also rather less marginal white. He states that intermediates are numerous.

A. zitja female f. calida.

This would appear to be merely an aberration. Some of the black spots are absent. The marginal black is reduced to a series of triangular spots prolonged on the nervules. The cell spot in absent, while that at the end of cell is large and rounded. The underside resembles that of f. radiata but is paler.

A. zitja f. rakeli.

Females of this form are rather pale dusky ochreous. In the f.w. the apical black is 3-4 broad, and the subapical area pale ochreous. The spots are more than usually prominent. In the h.w. the area just beyond the discal spots is pale ochreous and the inner margin whitish.

A. zitja female f. fumida.

This is merely a grey and white form, corresponding to the lycia form of A. encedon. The greater part of the ground-colour is grey and the spots are much enlarged. In the f.w. there is a whitish suffusion round the cell spot, and a good deal of white between the nervules in the discal area. The same applies to the h.w. in which the inner margin is also white.

It may be that these various forms of female are to some extent seasonal, though I have not been able to examine a sufficiently long series of dated examples to form an opinion on this point. If names were given to all the forms presenting slight differences the list would be a long one. In spite of its variability the species is not difficult to recognise owing to the peculiar arrangement of the discal spots and the small triangular white marginal spots in the h.w.
Mabille describes it as common in Madagascar, frequenting woods, gardens, and cultivated places. It is on the wing during the greater part of the year and appears to have several broods. There are in the Staudinger Collection two examples labelled Verulam, Natal, but this is the only record I have found of the occurrence of the species on the mainland, and failing further evidence should be received with caution.

79. Acraea wigginsi.

Male. Expanse 46 mm. F.w. upper half of costa (from a little beyond base) to just beyond cell, apex, and hind margin black. Beyond cell a broad white subapical bar in 10, 9, 6, 5, 4 and part of 3. Below the black area deep golden yellow inclining to red towards base and invading the black outer margin in 1b and 2, sometimes as to leave only a marginal line and black nervule ends and rays. Black spot as follows : - One large spot in cell over origin of 2, one at end of cell on discocellulars, two beyond cell at inner edge of white band in 5 and 4, one near base of area 3, and below it but nearer cell a spot in 2. Below this but more distally placed a spot in 1b, and in the same area a dot (sometimes absent) nearly midway between base and origin of nervule 2. A black linear mark at base of 1b, and a black basal streak in 1a. In some examples a series of internervular yellow spots along hind margin. H.w. golden yellow inclined to darker towards base, with a little black powdering in cell and 1c. Black spots as on underside but only faintly indicated towards inner margin. A narrow black marginal border somewhat edentate on the nervules and bearing pale internervular spots. Underside f.w. as above but paler, and the apical portion beyond white patch is pearl grey, striated by the black nervule ends which join in a black marginal line, and bearing golden yellow internervular streaks, that in area 6 being much longer than the rest. Costa ochreous with a black dot at base. H.w. pale creamy ochreous with a narrow black border broken up by white internervular spots, and bordered on its inner edge by a series of golden yellow quadrate internervular spots. An outer series of black spots the first long and transverse in 7 just beyond origin of nervule 7; this followed by a curved series of four small spots in 6-3, and three larger spots more basally placed in 2, 1c, and 1b, and lying in a straight line at right angles in inner margin. Above the last of these a small dot in 1a. In addition there is an inner spot in 7, also transverse, a spot near end of cell, just before origin of 3, and a spot in 1c, 1b, and 1a. Between these two rows of spots and sharply enclosed by them is an

irregular curved band of deep pink, and there is a basal patch of the same colour in 9 and 1c. A black dot in 8 near precostal. Head black with reddish brown collar, thorax black, abdomen ochreous with a blackish dorsal line and indications of dark segmental lines. Claws unequal.
Female. Expanse 48-56 mm. Resembles the male but area 2 in f.w. is powdered with black.
This interesting little species was first taken near Kisumu by Mr. C.A. Wiggins, the examples received from him being all females. I found both males and females in the Tring collection taken at Kibwezi and Kaligire in Unyoro. Another male bears the label Kirembwe, Bulamwezi. All these specimens are smaller than the Kisumu specimens. I have not found it in the very large collections received from Entebbe.

80. Acraea mirifica.

Male. Expanse 41 mm. F.w. velvety brown black. A band of pale dull ochreous with a slightly metallic lustre crosses the wing beginning at costa just beyond cell about 3 mm wide and rapidly widening to 5 or 6 mm as far as nervule 4. Beneath this the colour inclines to pearl grey and the inner edge recedes towards margin, the band being continued about 3 mm wide, tapering slightly to the hind angle. A row of orange dots along the hind margin. H.w. velvety brown black with pale ochreous fringe conspicuous on inner margin. Underside f.w. cell, base of 3, and whole of wing beneath nervule 3 black. Costa and apical portion pale dull metallic gold. Just before margin the nervules bear diamond shaped black spots which enclose an apical series of crimson spots on the margin. H.w. pale dull metallic gold, the nervule ends bearing spindle-shaped black marks which meet in a fine marginal black line and enclose a marginal series of semiovate spots of the ground-colour and a submarginal row of crimson spots. Area 9 is also crimson, and a crimson spot at base of 1c. Black spots as follows : - Two in 7, the second beyond origin of nervule 7. Following these three spots in 6, 5, and 4, nearly in a straight line pointing to middle of hind margin. A spot near base of 3, and of 2. Beneath the latter and nearer margin a spot in 1c, followed by one in 1b, rather nervules base. A transverse spot in 1c, 1b, and 1a, the last nearer to base. Head and collar red. Thorax and abdomen, above, black. Claws unequal.
Female. Expanse 48 mm. F.w. ochreous grey. Costa orange red. Apex black, this colour being continued as a tapering hind-marginal border. Red marginal spots as in male. Sometimes the inner edge of this marginal border is dusted with pale ochreous. Black spots as follows : - One in cell before origin of nervule 2 and one on discocellulars, one in 3 about 3 mm. from end of cell, one in 2 near its base, and beneath it but nearer margin a spot in 1 beneath. In the same area spot nearer base beneath that in cell. H.w. ground-colour same as in f.w. but slightly darker in shade, spotted with black as on the male underside. A black hind-marginal border narrower in the middle than at apex and anal angle, its inner edge sometimes dusted with pale ochreous scales. Underside f.w. dull ochre-yellow, costa orange, subapical area pale yellow. Black spots as on upperside but smaller, and sometimes a trace of a discal spot in area 5. Black nervule ends and crimson marginal spots as in male. H.w. as in male.
The type male of this species is slightly aberrant, having three white dots in the h.w. and no red marginal spots in f.w. It differs in these respects from other Angola specimens, and from those obtained near L. Bangweolo by Neave. The species, as Neave has pointed out, bears a greater resemblance to members of the S. American

genus Actinote than to any African Acraea, especially as it has a rudimentary nervule between 1a, and 1b in the h.w. It is described as frequenting marshy places and having a very weak flight. The integuments are tough, and if squeezed it exudes a green juice. I have observed that the males are peculiarly liable to become "greasy". The underside of the h.w. is exceedingly beautiful, having the appearance of being cut from a thin sheet of metal, whilst under the microscope every scale exhibits a beautiful iridescence recalling the appearance of the well-known diamond beetle.

Group XIII.

81. Acraea encedon.

Male. Expanse 48-70 mm. F.w. orange tawny to golden brown. A little black at base. Apical half black with a rather suffused inner edge and a broad conspicuous white oblique subapical band in 10, 9, 6, 5 and 4 followed by a separate smaller spot in 3. An ovate transverse black spot in cell just beyond origin of 2. A large spot near base of 2 touching nervule 3. Beneath this, but nearer margin, a double spot in 1b, and a small spot in same area shortly before origin of 2 and close to median. Sometimes a spot or streak in 1a, ground-colour usually a little paler than f.w. beyond the middle. H.w. slightly black at base and having a black hind-marginal border about 2 mm wide narrowing to a point at apex and anal angle. Ends of nervules black. Internervular rays narrow and brown. Black spots as on underside but those near base and inner margin often only faintly indicated. Underside f.w. as above but basal half dull brownish and apex and hind margin dark ochreous with black nervule ends and orange ochreous internervular rays. A fine black hind-marginal line. A black spot at base of costa. H.w. dull ochreous, marginal border reduced to a narrow black line with just a faint indication of the broader black of upperside. Black spot as follows : A discal row of eight regular round spots, the first four (in 7, 6, 5, and 4) in a slightly outwardly curved line, the fifth in 3 at the same distance from the margin as the fourth, the sixth in 2 nearer base than the fifth, and the seventh and eighth in 1c and 1b, lying in a straight line with the fifth at right angles to inner margin. Some black at base of nervures and usually a spot in 8 near precostal. A subbasal in 7, two before middle of cell, two on discocellulars, and a spot in 1c, 1b and 1a, that in 1b further from base than the other two. Head black with white spots between and behind the eyes, two yellowish tufts on collar. Thorax black with pale dorsal and lateral marks. Abdomen black above with orange ochreous segmental lines and lateral spots, the latter becoming confluent towards the distal extremity. Claws unequal.
Female. resembles the male.

F. infuscata.

The tawny areas of the typical forms are replaced by smoky brown.

F. alcippina.

The h.w. has a white central suffusion of varying extent.

F. sganzini.

The tawny areas of the typical form are replaced by a dusky yellowish colour.

F. lycia.

The ground-colour of both wings is white, the black markings being as nearer the typical form.

F. necoda.

The black markings especially in f.w. are much reduced, the f.w. apex is only a little darker than the rest of wing and the whole ground-colour is violet grey.

F. daira.

The black of apical half of f.w. and the white subapical band are absent. In some cases the subapical band may be traced as a slightly paler area on the ground-colour. All the black markings much reduced.

F. radiata.

Described as allied to the daira form but having the nervules on the upperside terminating in broad black triangles, and the basal half of the h.w. white as in alcippina. The apex of f.w. is not darkened and has no pale subapical band.

The larva and pupa are thus described by Fawcett (l.c.) - "Larva.- Slaty black, with a yellow lateral line above prolegs and claspers. On each segment three deep fine transverse lines enclosing two white patches dorsally and two yellow patches laterally. On the centre black line of each segment are placed six black spines (branched). Head, thoracic legs and claspers black. "Pupa waxy white with the usual fine black lines on the wing covers and black spots with orange centres on the abdominal segments. "Feeds on Commelina".
Every kind of intermediate form may be observed in a long series. None of the forms seems to be specially characteristic of any particular locality, though the alcippina form seems to attain its maximum development in West Africa. Long series of examples have been bred by Mr. Lamborn near Lagos, and the majority of these broods consist of two forms, viz. infuscata and lycia. The latter are somewhat unusual in having broad suffused orange internervular markings on the hind margin of the secondaries on the underside, also some basal markings of the same colour. Examples of the lycia form may have the ground-colour pale creamy yellow. Another now before me has the f.w. sepia black except for the subapical white band.
An exceptionally fine female example of the typical form from Chishi I., L. Bangweolo, measures rather over 70 mm in expanse and has the ground-colour rich red brown.
In Proc. Zool. Soc. 1990, Butler quotes from Crawshay who writes that encedon "is a graceful insect... alternately flapping its wings and skimming along in its flight very differently to the other Acraeinae".

Dr. Longstaff has noted a disagreeable odour in the female when crushed, and Marshall has noted that the insect has a bitter taste.
The species appears to have no very near allies.

Group XIV.

82. Acraea goetzi.

Male. Expanse 42-44 mm. F.w. with a little black at base of 1a, 1b, and cell. Costa and upper part of cell, apical portion beyond cell, and hind margin, black. A tawny orange subapical patch. Remainder of wing tawny red. The black band dividing the subapical patch from the red central area is broad at costa (about 3 mm) and becomes rather suddenly narrow at nervule 4. H.w. with a blackish basal suffusion extending to nearly half the length of cell, and in this blackish area are long yellow hairs. Some of the spots of underside faintly indicated. Central area of wing tawny red with indications of spots in 7 and on upper discocellulars. A broad black hind-marginal border about 3 mm wide at apex, its inner edge rather suddenly angulated at 5, thence traversing the wing nearly at right angles to inner margin making lower half of border about 4 mm wide. Underside. F.w. costa greenish ochreous with a black spot at base. Basal half of wing reddish orange, the distal outline of this area corresponding to that on upper side. Subapical patch pale ochreous inclining to orange at its proximal side. Between this patch and end of cell a black mark extended downwards as a rather suffused line, which forms the inner edge of hind-marginal border. Apical and hind-marginal border greenish grey, the nervules black, and between them broad, tapering, dull orange internervular marks. A fine marginal black line. H.w. pale ochreous, areas 8 and 9 red. Base of area 7 pale sage green, followed by two transverse linear black spots enclosing a patch of red. Beneath the outer of these spots a black dot in 6, and a spot on upper discocellulars. Base of cell pale sage green with a round black spot. A spot at extreme base of area 2. Base of 1c red, with a basal, two subbasal, and a discal spot, the latter linear and extending right across the space. Base of 1b and 1a greenish yellow with two black spots in each area. Hind-marginal border, from 5 to the inner margin, broader than on upperside, otherwise of similar shape. Its inner edge marked by a fine brown line ; a marginal row of subtriangular greenish white spots resting on a fine black marginal line. On the border the nervules are black edged with whitish, and between them from the marginal spots to the inner edge are broad red marks edged with black. Head black with white marks between and behind the eyes. Reddish tufts on collar. Thorax black with whitish lateral marks. Abdomen black above with yellowish segmental lines and lateral spots. Claws unequal.

Female. Expanse 52 mm. F.w. marked much as in male, but the reddish central area is replaced by tawny orange, darker at base, and the subapical patch pale yellow tinged with orange. A black spot in 1b at base of nervule 2, and a hind-marginal row of dull orange spots larger and more distinct near hind angle. H.w. with some blackish at base followed in 2, 1c, 1b, and 1a by pale yellow. Traces of the underside black spots

especially on upper discocellulars. Central area pale tawny orange. Hind-marginal border much broader than in male, and having pale orange marginal internervular spots. Underside a rather less brilliantly coloured replica of that of the male.
A. goetzi is nearly allied to A. excelsior, but there is a slight difference in the structure of the male armature.

83. Acraea excelsior.

Male. Expanse 40-42 mm. F.w. black, with a large central brick red patch, edged with lemon- ochreous, and covering the greater part of cell, a small portion of base of 3, more than half of 2, nearly the whole of 1b, and the central part of 1a. A submarginal band of lemon ochreous spots divided only by the nervules in 9, 6, 5, and part of 4. H.w. with a rather clearly defined black basal suffusion, its outer edge bounded by a straight line at right angles to inner margin and traversing cell just beyond the middle. A conspicuous black linear spot on upper part of discocellulars, above which in 7 is a deep crimson mark marginally powdered with black. Central portion of wing lemon-ochreous, darker from costa to nervule 3, followed by a black hind-marginal border, the inner edge of which runs parallel to apical margin as far as 3, where it becomes suddenly wider and runs straight to the inner margin. Underside. F.w. The red area corresponding to that above, costa ochreous dusted with black, remainder black as on upperside with a similar but slightly larger lemon-yellow subapical patch. Reddish orange marginal internervular marks. H.w. lemon-yellow with a black hind-marginal border as on upperside. On this border is a series of broad deep crimson internervular rays each edged with sooty black and tipped with white at the outer extremity. Midway between base and inner edge of marginal border is a crimson black bordered triangular mark, its base on the costa, and its apex nearly reaching end of cell. Area 9 crimson. Base of 7, cell, and 2 narrowly black, base of 1c broadly black with two crimson spots, base of 1b and 1a black, the latter with two lemon-yellow spots. Head black, collar with two red tufts, thorax black, abdomen black above with pale yellowish lateral dots. Claws unequal.
Female resembles the male but is slightly larger, the colours generally are duller and the basal red is in some cases replaced by yellowish. Both wings have a submarginal border of reddish internervular spots.
By the peculiar and very beautiful pattern of the h.w. underside A. excelsior is easily distinguished from any other species.

84. Acraea mirabilis.

Male. Expanse 40-46 mm. Wings orange- ochreous. F.w. narrowly black along costa, apex, and hind margin. Subcostal nervure narrowly black. A small black, more or less wedge-shaped mark on upper part of discocellulars. Ends of nervures at apex and hind margin black. Midway between end of cell and apex an ochreous spot extending from costa to middle of area 4, and outlined with black. H.w. with a very little black at base of 1c. A narrowly black hind margin, and ends of 3, 4, 5, 6 and 7 rather broadly black. A black spot in cell showing through from underside and the peculiar pattern of the underside faintly indicated. Underside. F.w. orange ochreous, costa, apical area and hind margin greyish ochreous, the nervules thereon narrowly black. In the

internervular spaces at margin are patches of the ground-colour, that in 6 long and reaching inwardly to the pale discal spot which is as above but paler. A narrow black hind-marginal line, and in 4 and 5 a black internervular ray between pale discal spot and orange marginal marks. H.w. Base pale ochre-yellow with some irregular black about bases of nervures. A black spot in 8 some distance from precostal, one in cell near base, and one in 1a. A pink flush in 9, 7, 1c, and 1a. Across middle of wing a curved band of pale grey having on both sides a narrow broken black outline, and irregularly flushed with pink, notably in 7, 5, 4, cell, 1c, and 1b. A minute black spot at base of 5 and 4. Following this grey band a parallel immaculate band of pale ochre-yellow. From the distal edge of this band to the margin the ground-colour is pale greenish grey, forming a marginal band some 3-5 mm wide, its inner edge indistinctly dotted with black between the nervules. The marginal edge narrowly outlined with black and a submarginal row of narrow linear black marks. Between these and the inner edge of the grey border, a series of internervular deep orange marks. Head black with an orange collar. Thorax black with orange hairs and two anterior dorsal pale streaks. Base of abdomen black, remainder whitish. Orange lateral spots edged with black. Claws unequal.

Female. Expanse 38-44 mm. Resembles male, but ground-colour and markings paler and duller.

The foregoing descriptions are taken from a small series of specimens in the Oxford collection. They differ from examples in the National Collection in having a somewhat richer ground-colour, the paler marks beneath are yellower, and the yellow band in h.w. beneath is very definitely outlined, whereas in the British Museum specimens the submarginal grey gradually becomes paler proximally towards the dark median band. The Oxford specimens were taken in August, and the British Museum examples in April, so that as suggested by Dr. Dixey (l.c.) the differences may be seasonal.

The species is easily recognised by its characteristic underside, and the genitalia are quite distinct.

85. Acraea uvui.

Male. Expanse 30-34 mm. F.w. black. A subapical patch of tawny red narrow in 10, 9, and 6, and widened to about double the width in 5 and 4. A central inner marginal patch of the same colour occupying the central part of 1a and 1b, rather more than the basal half of 2, extending slightly into 3 at its base, and into lower part of distal end of cell. H.w. with a black triangular basal patch, central area tawny red often inclining to yellow at inner margin, somewhat intending the basal patch at underside of cell. Hind margin with a black border about 2 mm wide, its inner edge deeply intended by the red colour in 4 and 5, above this point somewhat convex, and below running horizontally across to inner margin. Underside very like that of bonasia alicia. F.w. Basal half pale reddish yellow with dusky indications of the basal black of upperside. The subapical patch ochre yellow, its proximal edge straight or oven concave. Remainder of wing brownish black. H.w. ochre yellow with a greenish tinge at base. Some irregular black at base of wing and a small basal spot in cell. At about the level of middle of cell a transverse band of irregular confluent black spots usually divisible into five rather large subquadrate marks in 7, cell, 1c, 1b, and 1a. Hind-marginal border as on upperside though occasionally slightly narrower. A marginal series of

small white subtriangular spots. Head and thorax black with two brownish tufts on collar. Abdomen black with very minute pale lateral spots and segmental lines. Claws unequal.
Female. Expanse 38 mm. The upperside resembles that of the male, but there is usually a marginal row of tawny red spots on the h.w. Underside extremely variable. In some examples it resembles that of the male though the hind-marginal border of h.w. is always much broader. In a series of sixteen females before me the following variations in the h.w. may be observed.
(1). Base of 7 and middle of cell pale greenish yellow. In cell and 1c, a basal and a median spot of dull brown. A few indications of black dots. The hind-marginal border is composed of a series of broad internervular reddish marks, each laterally dusted with black, and these are divided by the black nervule ends, each laterally dusted with yellowish. A marginal series of yellowish subtriangular spots. In areas 7, 6, and 5 the reddish marks are followed inwardly by a narrow sharply defined area of dull brown which at nervule 5 suddenly widens out so as to reach as far as end of cell, its outline then being directed straight downwards to anal angle. Remainder of wing pale ochreous.
(2). The border is not followed by a definite brown area but the whole of the rest of wing is dusted with brown scales.
(3). The border is nearly all black except for the marginal spots which are greyish white ; area 7 is nearly all black, and the base is black with some ochreous scale in 9, 8, 7, 1b, and 1a. Remainder of wing dark brown.
The series contains various intermediates between the above three forms. All were taken by Neave on Mt. Kokanjero, but a similar variability seems to occur in other localities.

A. uvui balina, subsp.

The type of Karsch's balina is either an aberration or its colour has been damaged by an excess of cyanide in the killing bottle. The pale marks are reddish yellow and the dark areas are pale brown. Had I seen only the type I should have been inclined to regard is as merely an aberration, but there are examples having a perfectly normal appearance in the Tring collection, so that, in view of the fact that the structure of the male armature is identical with that in uvui, I regard balina as the western subspecies of the latter. In appearance it differs from uvui principally in the rather smaller extent of the tawny red area, and in the pattern of the hind-marginal border on the underside which is broader and has red internervular marks above the marginal white spots.

A. uvui may be distinguished from bonasia and alicia by the arrangement of the black at base of f.w., the outer edge of which runs straight up, continuously with the triangular black of the h.w., nearly to the upper distal part of cell. It is also much smaller than the other species referred to.

86. Acraea lumiri.

Male. Expanse 34 mm. Wings orange red. F.w. with a black costal margin extending into upper half of cell with a slight projection over origin of nervules 2 and 3 and becoming very narrow beyond cell (where it is invaded by the subapical patch) and

continued at apex into an apical and hind-marginal border about 2 mm. wide rather broader at apex and narrower at hind angle. From costal at end of cell, to middle of marginal border an oblique bar of black, cutting off a large rounded subapical patch of the ground-colour. A little black at base and in basal half of 1a. H.w. with a very slight blackish basal suffusion, and a perfectly regular hind-marginal black band 2 mm. wide. Traces of underside spots on discocellulars and near base of 1c, 1b, and 1a. Underside. F.w. basal half pale orange red, costal and transverse bar blackish and shaped as above. Subapical patch dark ochreous. Hind marginal black, the ends of nervules laterally lined with dark ochreous, and marginal internervular triangular spots of the same colour. H.w. greenish yellow at base, followed by some small very irregular black marks, which may be made out approximately as follows : - One in 9, one in 8, one in 7 before end of cell, one on discocellulars more or less confluent with a larger spot in cell. Another spot in cell nearer base, two in 1a. Rest of wing dark ochreous as far as marginal border which is black, inwardly edged with a few brown scales, and bears triangular marginal internervular spots of greyish white. Head black with grey tufts on collar. Thorax black, abdomen black above with small yellowish lateral spots. Claws unequal.
I have not seen a female of this species. The male differs from allied species in the reduction or absence of basal black in Museum and also at Tring.

87. Acraea bonasia.

Male. Expanse 40-44 mm. F.w. warm black. A tawny red oblique subapical patch about 2 mm wide in 10, 9, 6, 5, and 4. Lower half of cell, base of 3, proximal half of 2 (except a small portion at base) and distal part of 1b, and 1a tawny red. Usually also a red streak just beneath median which may extend from wing base to origin of 2, or may be reduced to a small mark. H.w. with a triangular basal patch of greyish black, the outer edge of which is roughly continuous in a straight line with the adjacent black of the f.w. Central portion of wing tawny red. Hind margin black about 3 mm wide slightly invaded by the discal red in areas 3 and 4. Underside, f.w. paler and duller than above, the costal black not reaching to base, and the basal inner marginal black only represented by a blackish mark at base of 2, and some irregular black beneath it in 1b. The subapical patch is ochre yellow, a slight ochreous powdering along the nervule ends, and a series of acutely triangular ochreous marginal internervular spots. H.w. base pale sage green with a black basal spot internervular 9, 8, cell, and 1c. The green area is closely followed by a series of black spots roughly arranged in a double line and usually enclosing small red marks in 7, cell, and 1c. There spots are very variable and irregular, sometimes being coalescent and sometimes fairly well separated. Discal area ochre yellow. Marginal border rather variable. Usually about 2 mm wide as far as nervule 3, then about 3 mm wide tapering to inner margin. This border may be quite black with pale ochreous triangular internervular marginal spots, or the nervures may be laterally powdered with ochreous producing a striated appearance. One example from Ruaha Valley, German E. Africa, has red streaks between the nervules. Head black with white lines behind the eyes and two brown tufts on collar. Thorax black with some whitish scales. Abdomen black above with yellowish segmental lines and lateral spots. Claws unequal.
Male. ab. The black replaced by brown, and all the reddish tawny areas replaced by dull ochreous. (1 example. Mus. Oxon. Lagos).

Female f.1. Like the male but rather lager (about 48 mm). The h.w. margin broader, especially beneath.
Female f. 2. F.w. dull smoky grey, subapical patch very pale ochreous. A whitish inner marginal patch suffused with grey, the greater part of which in 1a and 1b lies rather beyond the middle, extending upwards into base of 3. Indications of pale triangular spots on margin. H.w. base dull grey, with black spots of underside showing through, central area pale ochreous, remainder dark grey with faint triangular marginal spots and indications of darker internervular rays. Underside. F.w. with a basal dull reddish grey area corresponding to the pale tawny red in f.1. Subapical patch dusky white. Margin striated by blackish nervule ends laterally powdered with whitish, and elongated whitish triangular internervular marks laterally powdered with blackish. H.w. base pale grey with the usual black spots, remainder dusky white, the marginal border striated similarly to that in f.w.
Every gradation of intermediate between these two forms of female may be found. An intermediate was figured by Drury (l.c.) and named A. cynthius. The larva is figured by Aurivillius (l.c.) and thus described : Bluish white above with two narrow dark dorsal lines and a broad black longitudinal line on each side between the dorsal and upper lateral spines. The spines of segments 1-3 and 11-13 are quite black, the remainder only more or less blackish towards the point.
Large numbers of this species have lately been bred by Mr. W.A. Lamborn near Lagos, and the specimens together with examples of the larvae and pupae are now in the Oxford Museum.
The larvae are dimorphic. That corresponding to Aurivillius' description, it, at Lagos, comparatively rate, the commoner form being darker in colour and having darker markings. From notes supplied by Mr. Lamborn I am able to furnish the following description of the paler form of larva in its various stages.
A company of larvae found on August 10, 1911, consisted of individuals of an average length of 1-4 cm. The ground-colour, legs, and underside were bluish white. The spines of the first segment black, those of the second sometimes only partly black. Spines of last two segments black, the remainder white. These larvae moulted about two days later, after which the average length was 2 cm. The ground-colour remained the same but longitudinal whitish stripes appeared, the legs and underside being of the same colour. The first and last two rows of spines were black, the third row whitish with black apices, the remainder whitish with black hairs. About the 17th, moulting again took place, after which the average length was 2-6 cm. The principal change from this stage to pupation was an increase in depth of the ground-colour, which became bluish green. When fully grown the larvae had an average length of 3-2 cm., and by the 21 straight many were suspended for pupation.
The darker form of larva, PI, VI, f.12, has a bluish white ground-colour, two dorsal blackish bands, bordered on the lower side with yellowish, and a yellowish subspiracular band. The sublateral spines, and those of the six central segments are whitish with black hairs. The lower part of head is black and the upper part brownish. Legs yellowish.
I am of opinion that the imagines do not present any marked differences corresponding to the two forms of larvae.
A dipterous parasite of the family Tachinidae emerged from some of the larvae reared by Mr. Lamborn.

A. bonasia female. f. praeponina, Stand.

After a careful examination of Staudinger's type I cannot regard this as other than a form of bonasia. It has the blackish brown of f.w. inner margin turned upperside to meet that from the costa just beyond origin of 2, whilst the h.w. margin on underside is narrower than in ordinary bonasia females, and the brown colouring is sometimes dark and complete that it appears hardly at all striated. There are triangular whitish marks on the border and the suppression of the striation gives it somewhat the appearance of uvui. Staudinger's description refers to the black spots marking an entirely different pattern to those in bonasia (eponina). They are however much the same, but a little more accentuated. There are three females examples in the Standinger collection, two from Kuilu and one only vaguely described as from the Congo Region.

A. bonasia female f. siabona.

This form is described as having the f.w. apical and marginal black broader than in typical examples. The subapical patch yellow, and the remaining reddish areas duller than usual. On the h.w. underside the marginal band is twice as broad as in typical forms and the nervures heavily dusted with black. On the inner edge of the marginal band are triangular blackish spots in 1b, 2, 3, and 4, divided by the nervures, having their apices directed towards the base. These spots are produced into narrow rays reaching the cell in 3 and 4. In 5, 6, and 7 are long acute angled spots. Basal and discal spots very small (1 female from Misahohe, Togo).

A. bonasia alicia, subsp.

Male. Expanse 30-40 mm. F.w. costa, outer half of wing, and hind margin black. An oblique subapical patch of tawny red in 10, 9, 6, 5, and 4. Inner margin black on both sides of submedian as far as the middle, but this black does not, as in bonasia, extend upwards as far as nervure 2. H.w. with a triangular black mark at base extending rather beyond middle of cell much as in bonasia. Central area of wing tawny red varying to yellowish, especially towards inner margin. Hind margin with a black band about 3 mm wide somewhat invaded by the red colour in areas 4 and 5. Underside. F.w. as above but reddish colour paler, and the subapical patch ochre-yellow. H.w. greenish yellow at base, with one or two basal black spots, followed by a transverse row of irregular somewhat confluent spots, sometimes, though rarely, forming a double line enclosing small red marks. Central area dark ochreous (darker than in bonasia). Marginal border black corresponding in shape to that on upperside and having yellowish marginal internervular spots. This border is sometimes, though rarely, striated. Head and thorax black, with reddish tufts on collar. Abdomen black above with small yellowish lateral stripes. Some examples of the male have the paler areas of both wings orange yellow. Specimens of this coloration have been received from Kilimandjaro and the Tiriki Hills. Occasional examples have the subapical patch continued to the costa where it is nearly as broad as elsewhere.
Female. Expanse 36-44 mm. Extremely variable. The following forms may be observed in a long series :
f. 1. Closely resembles the male. Only slightly paler and duller. On the h.w. there is a marginal row of triangular spots of the ground-colour. Underside paler and duller. The h.w. margin very little broader than that of the male, its inner edge curved, nearly

parallel to apical margin as far as nervule 4 where the border becomes suddenly wider, and its edge runs nearly straight, and at right angles to the inner margin. Large triangular whitish spots.

f. 2 tenelloides.

Pale central area of f.w. light orange ochreous, subapical patch yellow. H.w. pale yellow, rather darker towards costa. A mere trace of basal black. Marginal border very narrow, its inner edge slightly suffused with orange and its outer edge bearing pale yellow triangular spots. Underside very pale. F.w. basal half pinkish ochreous. A trace of a discocellular spot. Costal, apical, and hind-marginal area pale dusky ochreous very faintly striated by the nervule ends. Subapical patch pale yellow. H.w. pale creamy ochreous. Traces of a few small black spots near base. Marginal border pale dusky ochreous with traces of the usual triangular spots and their internervular rays.

Female. f. 3. cabiroides.

Upperside almost exactly like that of the male but with traces of reddish marginal spots on h.w. Underside. F.w. paler than above. Subapical patch pale ochreous. Hind margin from costa to angle striated in the following manner : - The nervule ends blackish and with a line of greyish ochreous on each side. Between the nervules are elongated triangular orange ochreous markings, their bases occupying the whole internervular space at margin and their sides outlined with black. H.w. like that of male except for the marginal border. This is rather broader as far as nervule 5, where it becomes still wider nearly reaching end of cell. From 5 to the inner margin its inner edge is not straight but convex. The nervules on the border are blackish. The triangular marginal spots are large, whitish, and edged with black. This black edging is produced inwardly in a double internervular ray, and all the internervular spaces beyond the marginal spots are dusted with brown.

Female. f. 4. ground-colour much duller than in male and apical patch yellowish. The h.w. marginal border on the upperside is almost double the width of that in the male, and there is rather more basal black. A broad yellowish suffusion about the inner margin, and yellowish marginal spots. Underside of h.w. like that in cabiroides but marginal border still wider, reaching the cell and only very little narrower towards apex.
In addition to the above forms many intermediates occur. An interesting example now before me is perfectly intermediate between tenelloides and cabiroides, having the pale areas of the upperside nearly as yellow as in the former, whilst the h.w. underside exhibits a similar pattern, but somewhat less developed than in the latter.

A. bonasia banka, subsp.

This, the Abyssinian subspecies, is distinguished by having rather more black on the upperside, and the inner marginal basal black of the f.w. is slightly produced upwards so as to touch nervule 2. The dark areas of the underside are quite black, and in the h.w. the subbasal spots are large and coalescent, forming an almost continuous black band.

Forms intermediate between bonasia and alicia are rare, but a male example from Toro now before me has the f.w. inner marginal basal black slightly produced upwards though not quite reaching nervule 2.
Males from the Kikuyu Escarpment generally have the h.w. yellow on the upperside, with the usual black markings. In a note on the species (P. Z. S., p. 922, 1900), Butler states, quoting from a letter from Mr. Crawshay, that the insect "does not succumb to 90 per cent. cyanide in an hour-cyanide which suffocates every other Lepidoptera in twenty-five to thirty seconds. It is to be assumed that the "every" does not include all other Acraea, as many have great tenacity of life. The above collector also reports that the species was found "simply in swarms, on the mud on the rocks in the bed of the stream".

88. Acraea sotikensis.

Male. Expanse 42-50 mm. F.w. rich sepia black. Lower half of cell (sometimes only basal part), basal half of 2, and central half of 1b and 1a, orange red. A subapical patch of pale ochre yellow of somewhat variable shape and size in 11, 10, 9, 6, 5, and 4. H.w. with a triangular black patch at base with slight indications of the black spots of underside. Central area of wing orange-red invading more or less deeply the marginal border in 4 and 5. Marginal border dark sepia with faint indications of underside pattern. This border is about 3-4 mm wide from costa to nervule 3, where it becomes suddenly wider, its inner edge being straight and at right angles to inner margin. This straight edge is often clouded with brownish red. In some examples there is a hind-marginal row of small reddish yellow spots. Underside. F.w. much as above but the red colour duller and occupying the whole basal half of the wing, except costa. A more or less curvilinear spot in 1b, just beyond origin of 2. In margin there are reddish brown internervular rays. The pale yellow subapical patch extends narrowly along both sides of nervule 5 to margin, and along the upperside of 4. H.w. pale sage green at base with numerous black spots on an area corresponding to the triangular black of the upperside. The more discal of these spots are in some cases more or less confluent, but the following can usually be distinguished : One in 9, 8, and 1c at base. Two in 7 close together, one at base of 6, one on discocellulars, three in cell (sometimes only two), two in 1c, 1b, and 1a. The more distal spots are arranged roughly in two parallel rows enclosing crimson marks in 7, cell, and 1c. Central portion of wing pale pink. A broad hind-marginal blackish border, its inner edge corresponding in shape to that on upperside. On this border the nervules are black, sometimes with a whitish lateral powdering. Between the nervules a series of marginal triangular whitish spots, produced into reddish rays, each spot and its rays outlined with black. Head and thorax black. Red tufts on collar. Abdomen black above with pale ochreous segmental lines and lateral spots. Claws unequal.
Female. Expanse 50-58 mm. May be coloured very like the male or may be distinctly paler and duller. Occasionally the f.w. subapical spot is whitish. There is usually a well-marked row of reddish triangular internervular spots in h.w. underside as above but paler and duller.

A. sotikensis f. katana.

This form is distinguished by having the orange red areas deeper in tint, whilst the f.w. subapical spot is usually of the same red colour instead of pale ochreous. There seems nearly always to be a marginal row of reddish spots in h.w.
Female like male but larger and duller. F.w. subapical spot sometimes yellow or even whitish. Though scarcely quite constant, the form is specially characteristic of the Katange region.

A. sotikensis f. supponina. PT. IV. f. 15

Amongst numerous examples of the katana form there are some which present a remarkable difference in the arrangement of the black spots in the h.w. upperside. Those in areas 4, 5, 6 and 7 projecting downwards in a straight line nearly at right angles to the costa, instead of lying almost parallel to the subbasal spots. On examining the type of Staudinger's A. supponina I found this arrangement of spots to be its most distinguishing feature, and in other respects it agrees with examples taken by Neave in the Katanga region. There are also intermediate examples before me from the same locality. I have no hesitation therefore in regarding supponina as merely another form of sotikensis.

A. sotikensis rowena, subsp.

Distinguished from typical form by having rather more black on f.w. and the central area of f.w. is pale ochreous tinted with orange on the upper half. H.w. marginal spots rarely present. When visible they are pale ochreous and minute. The central pale area of h.w. underside is very pale yellow without any trace of pink. I have not seen the female.
Four males Mus. Tring Similar forms in Mus. Brit. Mt. Ruwenzori.

Intermediate examples between the three forms described above may occasionally be found. Some examples form Toro, Unyoro, and Kondeland, in the Tring collection, have the red colouring very pale, and the red of f.w. cell is a mere streak. The h.w. hind margin has well-developed spots.

89. Acraea cabira.

Male. Expanse 36-42 mm. F.w. brownish black. The subcostal nervure reddish at its base. A subapical oblique patch of pale ochreous about 2 mm wide in 11, 10, 6, 5, and 4. A central patch of pale ochreous occupying the lower half of cell, a small part of base of 3, the basal half of 2, the upper basal and entire central part of 1b, and the middle of 1a. In typical examples this patch is of such a shape that it project along the median in a finely drawn out point to the base. H.w. with a small triangular greyish basal patch with indications of the black spots of the underside. Central area pale ochreous. A broad black hind-marginal band 2-5 mm wide at apex, its inner edge running parallel to the apical margin as far as 4, where it turns inwards, traversing the wing nearly at right angles to the inner margin. On this border faint lighter and darker lines indicate the pattern of the underside. Underside. Basal half reddish, darker at base of cell. Costa dusky ochreous. Subapical patch pale ochreous, and between it and cell some irregular black partly projecting into cell, wide at costa, narrow at base of 3

and turning downwards to inner margin to form a suffused inner edge to the hind-marginal border. The latter greyish ochreous with black nervule ends and dark ochreous elongate triangular internervular marks edged with black. A fine black line round margin. Some irregular blackish along basal half of nervure 1. H.w. greenish grey at base with a black spot in 8, and some black at base of nervures. Next to the basal grey two spots in 7 enclosing a red mark and a dot at base of 6. A spot on upper discocellular joined to two in cell, the three enclosing a red mark. A large spot in 1c, and a smaller one in 1b and 1a. (There spots are sometimes divided, and there may be an additional spot in cell so that the spots form roughly a double row ; and there is sometimes a basal spot in cell). Central area pale ochreous. Hind-marginal band shaped as above, its inner edge marked by a brown line, the nervule ends black, edged with pale ochreous, a fine black line round margin, on which are subtriangular pale ochreous spots, each produced into a brown ray and edged with black. Head black, with pale marks behind and between the eyes. Brownish tufts on collar. Thorax black with a few pale marks. Abdomen black above with pale yellowish lateral spots and segmental lines. Claws unequal.
Female. Expanse 56-60 mm. Except for its much greater expanse of wing resembles the male. Often an elongate spot in middle of cell. The h.w. marginal border is much broader, and bears pale ochreous marginal spots, together with more distinct indications of the underside pattern. The basal and subbasal spots of h.w. underside are larger and separated so that the following may be distinctly observed : One at base in 9, one in 8. two in 7 enclosing a red mark, one on upper part of discocellulars, two in cell enclosing a red mark, and a basal spot. A basal and two subbasals in 1c, the latter enclosing a red mark, one in 1b, and two in 1a.

A. cabira f. apecida.

This form differs in having the central areas of both wings, and to some extent the f.w. subapical patch, reddish yellow. Nearly every intermediate shade of colour may be observed in a long series.

A. cabira f. abrupta.

This form is described by Grunberg from Sesse I. in the V. Nyanza. It differs principally in the absence of striations on the h.w. marginal border on underside, the border being black with white or whitish marginal spots.

A. cabira f. natalensis.

This form differs from typical examples in that the f.w. central pale area does not extend in an elongate spur to the base, but is merely sharply angulated near origin of nervule 2. The form is not confined to the Natal region, and the pale areas may be either pale ochreous, reddish yellow, or of an intermediate tint.

A. cabira f. karschi.

Differs from the typical form in having the f.w. pale inner marginal patch with nearly parallel sides and not extending towards base.

A. cabira f. biraca.

Differs from typical examples in that the central pale areas of the f.w. occupies the lower half of the cell and the whole of area 1b to the base. The specimen described by Suffert is a male taken at Langenburg, L. Nyassa. Some examples from Chirinda now in the Oxford collection show the same feature.

The following descriptions of the larva and pupa are taken from Trimen's work (l.c.).
"Larva.-Bluish green with yellow ochreous longitudinal lines and transverse bands. Head, and segments 2, 3, and 4 yellowish brown. A dorsal and two subdorsal longitudinal lines. From the transverse band on each segment arise the spines, which are rigid and of moderate length, black on the second, twelfth, and thirteenth segment, yellow ochreous on the rest. The band is marked on each side with a bluish green subdorsal spot and a black spiracular ring. "Feeds on a woolly fleshy leaved weed like a Lamium, common in clearings. "Pupa - Whitish green, with the usual pattern of the markings slightly marked, the dorsal markings more pronounced than the others".
A. cabira is extremely variable in ground-colour and in the extent to which the f.w. central pale area is produced towards the base. So far as I am able to judge no particular form is definitely associated with a particular locality. In a long series from Chirinda, now in the Oxford collection, the f.w. pale central patch is very variably extended towards the base, and in some cases little is left of the basal black but a streak in the cell and some black powdering about the submedian nervule. Others have a mere trace of the triangular basal black in the h.w. Generally speaking these Chirinda specimens have a tendency to a reduction of basal black, and in most cases the pale areas are of a pale reddish yellow intermediate between typical examples and the apecida form.
Several large female examples from the Luangwa Valley have the pale areas of both wings orange-colour except the f.w. subapical patch, which is very pale lemon-ochreous. One male from Machakos has all the pale areas nearly white. All grades of intermediates are found, and the sole constant feature which distinguishes the species from viviana is the fact that the basal black of the f.w. is more or less indented by the yellow or red central ground-colour at or near the origin of 2, and extends more or less along the inner margin, whereas in viviana the black is narrowest at the inner margin, its distal edge proceeding upwards and outwards to nervule 2, and forming a line continuous with the outer edge of the h.w. basal black.
Aurivillius places the form karschi under viviana, but if the latter is really a separate species then karschi belongs rather to cabira, if one may judge from a series of preparations of the male armatures. It may be distinguished from viviana by the smaller extent of the pale areas.

90. Acraea viviana.

Male. Expanse 48-50 mm. F.w. black. Subcostal and median nervures reddish. An oblique subapical patch of pale or dark ochreous in 11, 10, 9, 6, 5, and 4. An inner marginal patch of the same colour occupying nearly the whole of area 1a except a small part at base and margin, the middle part of 1b, the basal half of 2 and usually just extending into cell and base of 3. The basal black which remains in 1b has its outer edge straight and pointing slightly outwards, meeting the median at the origin of

2, and is not indented or divided along the median as in cabira. H.w. with a more or less triangular basal black area extending barely to middle of cell with indications of the spots of underside. Central area dark or pale ochreous. A hind-marginal border of black some 4 mm wide at apex, its inner edge running straight downwards to nervule 4 where it makes a sharp curve thence becoming suddenly rather broader at 3, traversing the wing nearly at right angles to inner margin. Underside. F.w. slightly reddish at base (much less red than in cabira). The remainder of wing a pale replica of the upperside, the apex and hind margin striated by black nervules laterally powdered with pale grey, and internervular brownish marks laterally lined with black. H.w. grey at base. Area 9 dark red, a black spot in 8, two in 7 enclosing a red mark one on middle discocellular closely followed by two in cell, the three together enclosing a red mark, a third spot in cell nearer base. A basal and a subbasal spot in 1c sometimes enclosing a very little red, a spot in 1b (sometimes absent) and two in 1a. Some irregular black at base of nervures. Central area of wing pale ochreous to creamy white. Hind-marginal border similar in shape to that on upperside and marked exactly as in cabira, i.e. the nervules black, laterally lined with pale ochreous, and between the nervules pale triangular marginal spots produced inwardly into brownish marks each lined with black. Some brownish scales along inner edge in 3, 2, 1c, 1b and 1a. Head black with a few whitish markings, two brown tufts on collar, thorax black with some pale lateral marks, abdomen black above with yellowish segmental lines and lateral spots. Claws unequal.

Female. Expanse about 56 mm. Resembles the male, but the h.w. marginal border is somewhat broader, and has a mere trace of paler marginal spots, and of the striations of the underside pattern.

A. viviana is easily distinguished from cabira by the shape of the basal black in the f.w., the outer edge of which in 1b passes nearly straight up, inclining slightly outwards from the submedian to the origin of 2. It is rarer in collections than is cabira, and I have not had an opportunity of examining very long series, but so far I have seen no intermediates between the two species. Also the genitalia though of a very simple structure appear to differ. The species occurs as far west as Cameroon. It has not been found in the large consignments lately received at Oxford from Mr. Lamborn from Lagos, and I think it may safely be assumed not to occur there. It is found in Angola and in the Congo State, and extends north and east to Ruwenzori, Toro, and Entebbe.

91. Acraea acerata.

Male. Expanse 36-42 mm. Wings orange tawny to pale ochreous. F.w. base of 1a, 1b, costa, and the greater part of cell brown black. An apical and hind-marginal black border about 3 mm wide. At and beyond end of cell there extends from costa a more or less wedge-shaped black mark, its narrower and lower portion being connected with the hind-marginal black, thus enclosing a subapical patch which may be of the ground-colour or paler. There is sometimes a rather large black spot in 2 close to median and a smaller one below it, and rather further from margin in 1b. H.w. may show traces of the spots of underside. Base slightly blackened, hind margin with a black border 2 to 3 mm wide, the inner edge of which may be nearly parallel to hind margin or it may be somewhat angulated at 3, thus giving the central pale patch a slightly quadrate appearance. Underside f.w. like the upper but paler and with the black of base and cell reduced to a spot in cell. The subapical patch paler than the

ground-colour. The apex and hind margin have a series of triangular reddish yellow spots. H.w. pale ochreous with a black or very dark brown hind-marginal border bearing triangular reddish marginal spots, the apex of each being produced into a deep black ray, which does not however extend beyond the black border. Numerous small black spots usually as follows : - One in 8 against precostal, two in 7, sometimes one in 6, a streak on discocellulars, and a dot at base of 4 (there is apparently never a spot in 3, one at base of 2, two in cell, and two in 1c, 1b, and 1a. Some irregular black at base of nervures and sometimes a few basal red marks. Head black with a pale mark behind each eye, and two reddish tufts on the collar. Thorax black. Abdomen black above with orange lateral and whitish dorsal spots. Claws unequal.
Female resembles male, but ground-colour slightly duller, or in some cases much paler.

A. acerata acerata.

Differs from acerata vinidia in having a slightly paler ground-colour, and in the fact that the black wedge-shaped mark in f.w. not connected at its lower end with the hind-marginal black, so that the subapical patch is continuous with the ground-colour.

F. tenella.

This is an extreme eastern form of the species. It is characterised by having a much paler ground-colour. The black margins are slightly narrower than in the western forms, and marginal spots are usually visible on the upperside. Scarcely any spots are visible on the h.w. upperside. Beneath all the colours are much paler. There is a spot in cell, and the wedge-shaped black mark of the upperside may be resolved into a discocellular and a row of discal spots. The dark marginal borders of the upperside are represented only by light brown scales, though the h.w. border may be somewhat darker than that of the primary. A female example before me has the borders pale brownish grey, divided up by the dark brown ends of nervules, and by the triangular orange-coloured internervular marks, each of which is prolonged at the apex to a dark brown ray. The h.w. spots are much reduced in both sexes, those in area 7 being most prominent. There are frequently some red internervular marks on the basal portion of the wing.

F. brahmsi.

This form like the others is rather variable in markings. It differs from them in having the orange tawny colour replaced by dull brick red, and in having the dark markings on the upperside of a more decidedly brown tone. The subapical patch, which is small, a very small distal part of cell, the basal half of area 2, and the central part of 1b and 1a are dull brick red. Remainder of wing dark brown. A brown spot near base of 2, and beneath it but rather further from margin a spot in 1b usually connected by a spur with the basal brown. H.w. dull brick red, slightly blackened at base, and having a dark brown hind-marginal border 2-5 mm wide as far as 3, where it widens to about 4 mm. On the underside the basal half of f.w. is dull red, paler than above. Costa greyish brown. A large black spot in cell, and one in 2 and 1b. The subapical patch is ochreous, and between it and end of cell is an irregular black mark joined on its lower side to a crescentic spot in 3. The apical and hind-marginal border presents a different

appearance to that in acerata and vinidia. There is a series of subtriangular orange ochreous marginal spots, followed inwardly by a band of pale brown. The spots are separated only by the black ends of nervules, each spot is outlined with black and its apex produced into a black ray which bifurcates where it meets the pale subapical spot, or the ground-colour in 2 and 1b. H.w. pale ochreous with black spots as in acerata. Red internervular marks in basal half in 9, 7, 5, cell, 1c, 1b, and 1a. A broad pale brown hind-marginal border shaped as in vinidia, and inclining to tawny at its inner edge. Subtriangular orange ochreous marginal spots, each outlined with black and produced inwardly in a black internervular ray. Nervule ends also black.
I have not seen a female of this form, but judging from those of the other forms it probably does not greatly differ from the male.

Suffert's diavina has in f.w. a smaller subapical spot, and larger spots in 2 and 1b. It was taken at Victoria, Cameroon, but similar examples are before me from N. Rhodesia.

Aurivillius (l.c.) describes the larva and pupa as follows : Larva very like that of bonasia, but more marked with red brown above, and with paler and more interrupted longitudinal streaks. Only the spines of segments 1, 2 and 11-13 are black, the remainder being whitish. The head is blackish with a pale anterior bifurcate middle line. Pupa pale with black markings, the five rows of spots of the abdomen formed of separated subquadrate spots with pale centres, the latter not raised. Examples of the larva (PI. VI, f. 13), taken by Mr. W.A. Lamborn near Lagos are pale green with a few brownish dorsal and dorsolateral marks on each segment. Lateral line pale yellowish. On the first and last four segments the spines are black. The remainder are yellowish. An anterior view of the head shows it to be brownish with a black triangular mark in the centre, on each side of which is a thick black line. The food plant at Lagos is Lepistemon africanum, Oliv. (Convolvulaceae). Examples of acerata taken by Neave in the neighbourhood of L. Bangweolo vary very considerably and may be of the acerata or vinidia form, the latter predominating whilst there are intermediates to tenella and brahmsi.
The species has a wide distribution. The vinidia form is predominant, true acerata appearing rather occasionally. Both occur from Ashanti, through Togoland, Nigeria, Cameroon, French Congo, Angola, Congo State to North Rhodesia. In this region many intermediate forms are found. In Nyassaland, German East Africa and British East Africa, and extending into Abyssinia (Marmasa and Alaballa) the tenella f. is predominant and might perhaps be regarded as an eastern subspecies, though it is scarcely sufficiently constant to be thus separated. The local form brahmsi is found in Cameroon (Bipindi) and Nigeria (Kabba Town).

92. Acraea terpsichore.

Male. Expanse 40-50 mm. Ground-colour reddish orange to deep golden yellow. F.w. black along costa, narrow at base and just before apex, and rather wider between. Apex with a fairly broad black tip (3-5 mm) becoming narrower along hind margin. This marginal black is wider in areas 2 and 3 than elsewhere. In typical examples it is sometimes extended inwardly that it joins a large wedge-shaped black mark emanating from the costal black at about the end of cell, and thus cuts off a subapical patch of the

ground-colour. When this patch is not completely cut off, but is joined to the general ground-colour across area 3, the example may be said to belong to the form rougeti. Upon the marginal black is a series of internervular submarginal spots of the ground-colour varying much in size and sometimes disappearing towards the apex. There is usually a spot in the cell, close against the subcostal nervure and above origin of nervule 2. This spot may be a minute dot, an elongated streak, or a rounded mark some 2 mm in diameter. There is sometimes a very slight black basal suffusion. H.w. slightly blackened at base and having a black hind-marginal border from 2 to 3 mm wide and bearing internervular spots of the ground-colour, these being very variable in size and sometimes reaching the margin. The inner outline of this border may be perfectly regular and parallel to the outer margin, or it may be somewhat angulated, the border being rather wider at apex and anal angle. Black spots corresponding to those on underside but usually only faintly indicated, with the exception of the spot on discocellulars, which is almost always visible as a short black line in the middle of the wing, and forms a very characteristic feature. Underside f.w. from base to central portion like upperside but paler, darkest at base and along subcostal. Costa greyish ochreous. The subapical and apical areas may be black as on upperside, though duller, and enclosing the subapical patch, which on the underside is pale ochreous, or the upper distal portion of the wing may be ochre yellow from the discocellular mark to the margin, broken only by the black ends of the nervules. Along the hind margin in 3, 2, 1b, and 1a, either the black or the yellow may predominate. In the former case internervular yellow marks remain, in the latter the black powdering on the nervules may be either straight or may widen a short distance from the margin into arrow-head markings. There is a black dot at base of costa and a narrow black line round hind margin. H.w. pale ochreous with black spots and markings. Frequently there are splashes of red on the central area of the wing, and when this is well developed the example may be said to belong to f. venturina, Thur. The markings of the hind-marginal border are rather difficult to describe. The end of each nervule is black for a distance of 2 to 3 mm and there is a narrow black line round the margin. Upon this line stand rather sharply pointed black internervular arches, their central points being produced inwardly as short internervular rays. Each of these rays touches inwardly the middle of a second internervular arch, the secondary arches having their apices pointing towards the margin. The rather complicated pattern sometimes formed is distinctly wider in areas 2 and 3 than elsewhere. In the venturina form the internervular rays are red instead of black and may project outwardly into the primary arches. In some cases the secondary arches are flushed with red along their inner edge. The spots are sometimes large and confluent, but more usually small and separate. There is a discal row of nine, but those in 3 and 6 are sometimes absent. The first five (in 7 to 3) form a fairly regular curve nearly parallel to apical margin, the line then curves sharply round towards the inner margin. In addition to these spots there is some irregular black at base, a spot in 8 against precostal, one in 7, two in cell, one on discocellulars, and one in 1c, 1b, and 1a, that in 1b being further from base than the other two. Head black, with a pale line between the eyes and two reddish tufts on the collar. Thorax and abdomen black above, with reddish yellow lateral spots. Claws unequal.

Female. Expanse 44-60 mm. The female of this species is sometimes excessively variable that it is scarcely possible to describe every form which it may assume. There are before me sixteen examples selected from a very long series. These sixteen examples are all different, and every grade of intermediate may be found. The only

constant feature seems to be the spotting of the h.w. underside and the black linear spot on the h.w. upperside discocellulars. The forms selected may be thus shortly described :
(a) Like the male, but with a brownish suffusion at base of wings, and two blackish marks near base of f.w. 1b.
(b) Like male, but much paler. F.w. apical black completely enclosing a pale ochreous patch. H.w. marginal spots all touching the margin, and the black border about 5 mm wide in 2 and 3.
(c) Like (b), but very pale dusky ochreous. F.w. subapical patch white.
(d) F.w ground-colour violet grey. Subapical patch white. H.w. ochreous grey. Submarginal spots of both wings pale ochreous.
(e) F.w. grey, flushed with red at base, subapical patch creamy white. H.w. ochreous, suffused with red at base. Submarginal spots of both wing orange.
(f) Line (c), but ground-colour of f.w. white with a rust red basal flush.
(g) F.w. violet grey with a white subapical patch. H.w. bright ochreous.
(h) F.w. violet grey. A faint trace of whitish subapical patch. H.w. golden yellow with a broad black margin bearing golden yellow spots.
(i) F.w. white. Apical patch not enclosed. H.w. creamy white. Broad black marginal border. Submarginal spots pale ochreous.
In the following there is no wedge-shaped black central mark in f.w. merely a black spot on the discocellulars, and the marginal black is not widened at 2 and 3 but tapers from apex to hind margin and is much suffused inwardly. There is only a trace of submarginal spots in f.w.
(j) F.w. pale dusky cream colour, h.w. rather more ochreous.
(k) F.w. ground-colour semitransparent sepia with a faint indication of whitish subapical patch. H.w. dark sepia with a discal powdering of reddish scales.
(l) F.w. white with orange basal flush. H.w. upper half dull orange, lower half dark grey. Marginal border 4 mm broad. Only a trace of submarginal spots.
(m) F.w. white with ochreous flush at base. H.w. dark cream colour.
(n) F.w. dull ochreous red, h.w. rather brighter.
(o) F.w. Basal half red, discal part white. Submarginal spots orange. H.w. reddish yellow.
(p) F.w. reddish grey suffused with dull red at base. A curved transverse creamy white band from costa to hind angle. H.w. dull orange. A faint trace of marginal spots.

To Godart's f. janisca may be assigned those forms of the female which are dusky grey. Boisduval's f. manjaca occurs in Madagascar. The male may have the f.w. apical patch completely enclosed or not, and the female is like that described above under (i), but with the f.w. apical patch practically enclosed. Madagascar forms seem no more constant than those from other localities. Of two females before me one is like Mabille's figure (pl. 11, l.c.) and the other is similarly marked, but the f.w. is flushed with yellow, and the h.w. is ochreous.

Thurau's ab. connexa has the cell spots of the h.w. beneath contiguous with those on the discocellulars. The same author's ab. excentrica has the spots in 3 and 6 of h.w. drawn out to meet the black arches of the marginal border, whilst those in 4 and 5 are partially extended in the same manner.

Oberthür's ab. melas is a melanic aberration of the male. Grose-Smith's subserena is not separable from the present species. It is a male in which the h.w. spots are scarcely visible above, and represented beneath by one spot in 7, 1c, 1b, and 1a, and a basal spot in cell. On the upperside the hind margins of both wings are densely black with a few pale spots on h.w. margin, and the f.w. discal black bar is represented only by a spot at end of cell separated from the costa by the ground-colour.

Strand's intermediana is a curious form, the type of which has large marginal spots on the black borders of both wings. The subapical black bar is interrupted. The spots of h.w. underside are as in typical terpsichore, but between them is a considerable amount of red scaling. There is also a curious dusting of brown scales on the nervures in the middle of the wing. With the type in the Berlin Museum are three co-types. These show very little of the brown scaling and much less of the red.

The form ventura has hitherto been regarded as a distinct species, and the remarkable difference in the pattern of extreme examples would, in the absence of intermediate forms, amply justify such a conclusion. The form may be thus described :

A. terpsichore f. ventura.

Male. Expanse 42-58 mm. Wings deep orange tawny. F.w. brownish black along costa. Apex black 4-5 mm wide and a black hind-marginal band 2-3 mm wide bearing elongated internervular spots of the ground-colour. This marginal border is widened at nervules 3 and 4 where it joins a transverse black bar proceeding from costa just beyond end of cell, thus enclosing a more or less ovate subapical patch of the ground-colour. This patch is not always completely enclosed. A very slight blackish suffusion at base of wing. Sometimes a spot in 1b near middle. H.w. slightly blackened at base, and having a black hind-marginal border about 2 mm wide upon which are ovate spots of the ground-colour which sometimes reach the margin. Just before middle of wing there is an indication of a double curved band of linear spots corresponding to those beneath. A linear spot on discocellulars more distinct than the others. Upperside, f.w. basal half orange tawny but paler than above, darkest along subcostal. The subapical patch indicated in ochreous yellow. Costa, apex, and hind margin greyish ochreous. Apical and hind-marginal areas striated by the black ends of nervules and internervular orange streaks. An irregular transverse black mark extending from costa just beyond end of cell partly into area 3. A narrow black marginal line. H.w. pale ochreous, area 9 pinkish. Just before middle of wing a curved double row of linear transverse spots between the nervules enclosing in 7, cell and 1c a red patch. There is also a spot in 8 against precostal, a basal spot in cell, and in 1c. The marginal border formed as follows : - The ends of nervules are black and there is a narrow black marginal line upon which stands a series of finely black triangles enclosing ochreous triangular spots. The apices of these triangles are produced inwardly into broad red internervular marks. This pattern is much narrower in 4 and 5 than elsewhere, sometimes that the border is at that point deeply invaded by the ground-colour. The inner edge of the border may be clearly defined by a fine black line. Head black with a pale mark between the eyes, two reddish tufts on collar, thorax black with a few pale markings. Abdomen black above with pale ochreous lateral spots and segmental lines.
Female. Expanse 50-60 mm. Resembles the male fairly closely but the ground-colour varies from rather duller to dusky ochreous. The black spot in f.w. 1b more generally

present and often in the form of an irregular streak. H.w. has the marginal spots larger and the discal spots more distinct. The black nervule ends and the more clearly defined inner edge of the underside marginal pattern are distinctly visible on the upperside. The underside is very like that of the male, but the h.w. discal black spots are thicker and the inner edge of the marginal pattern is distinctly defined by a black line.

I can find nothing in Weymer's fig. of "terpsichore var. bukoba" to distinguish it from this form, the only difference being the absence of the spot on discocellulars in h.w.
Such an example of the ventura form as is described above is really not quite typical, as Hewitson's type is in fact more like an intermediate between terpsichore and ventura, the red on the h.w. underside being less developed than in the more extreme forms.

A. terpsichore ochrascens, subsp.

Male. Expanse about 42 mm. Wings pale creamy white. F.w. with a slight dusky suffusion at base, a dusky powdering along costa, about 1 mm wide to just beyond end of cell, where it becomes very narrow, finally joining an apical patch becomes suddenly narrower and continues along the hind margin as a border about 2 mm wide bearing marginal or submarginal spots of the ground-colour. At end of cell a blackish, more or less wedge-shaped mark like that in terpsichore. H.w. blackish at base with a slight indication of the small discal and basal spots of the underside, those in 7, and on the discocellulars being most distinct. A blackish hind-marginal border about 2 mm wide bearing large spots of the ground-colour. Underside, f.w. like the upper but no apical and marginal black. The ends of nervules are however distinctly black. Margin with a fine black line. H.w. as on upperside but without black basal suffusion. A little irregular black at base and a spot in 8 close to precostal. Across the wing at the level of end of cell a double row of small linear black spots formed by two in 7, one in cell and one on discocellulars, two in 1c, 1b, and 1a. In 7, cell, and 1c these spots enclose reddish marks. Hind-marginal border of a complicated pattern somewhat resembling that in terpsichore. The ends of nervules are black, and from the extremity of each arises a pair of internervular streaks. Each of these streaks meets one from the next nervule at a point some distance from margin, and the triangle sometimes formed encloses near its apex a reddish mark. This border is only about half as wide in 4 and 5 as elsewhere, so that in those areas the ground-colour extends outwards in a characteristic manner. Sometimes there is a spot at base of cell. Head and thorax black, abdomen black above with whitish lateral spots and segmental lines.
Female resembles the male.
This peculiar form is, so far as is at present known, extremely local. The type was described as from Entebbe, but it has not been received by the Oxford Museum, amongst the many thousand specimens from that locality. The habitat given, viz. Buka Bay, V. Nyanza, is the only quite authentic record I possess.

A. terpsichore f. rangatana.

Male. Expanse 44 mm. F.w. Cell, a small elongated spot at base of 3, basal half of 2, greater part of 1b, and central portion of 1a tawny yellow. Costa and apical half of wing sepia. The usual subapical patch of ground-colour is reduced to three elongated

pale ochreous streaks in 6, 5, and 4, that in 6 being only about one-third the length of those in 5 and 4. Submarginal internervular spots of tawny yellow. A little black at base extending outwards along nervure 1 and there expanding into a small dusky spot about 5 mm from base. A small crimson streak on subcostal near its base. H.w. with a little black at base, central area tawny yellow, hind margin broadly sepia, deeply indented by ground-colour in areas 4 and 5. A series of submarginal yellow spots inclined to tawny towards apex. Inner margin paler with two dusky spots in 1a and one in 1 at base, all more or less coalescent. The subbasal band of red edged with black, sometimes conspicuous beneath, is here faintly indicated. Underside, f.w. as above, but paler and duller, and the dark apical portion blackened only at end of cell, and along outer edge of the tawny yellow in 3 to 1a. Orange internervular streaks along the margin. H.w. pale dull ochreous with black nervule ends and bifurcated rays enclosing red marks, the latter inwardly limiting the subtriangular marginal spots of ground-colour. At about the level of end of cell a double row of elongated transverse black spots enclosing red, much as in ventura. A round subbasal black spot in cell. A black spot in 8 and some red in 9. Some irregular black at base.
Female. I have not seen a female of this form.
The pattern of the upperside of this form is very distinctive and with the exception of the type and co-type in the South Kensington Museum, I have seen no examples at all like it. The genitalia are the same as in terpsichore.

The larva and pupa of A. terpsichore are thus described by Trimen :
"Larva - Dull green. A whitish stripe along each side of the black, interrupted on each segmental incision by a transverse line darker than the ground-colour. Spines of the dorsal and upper lateral rows black; of the lower lateral row on each side yellow. The two dorsal black spines on segment next head longer and more distinctly branched than the rest, and projecting forward beyond the head, which is ochreous". The food plant is stated to be a species of Hermannia. "Pupa - Pale yellowish. Outline of wings and nervures very finely black; some thin and ill-defined dorsothoracic black marks; on each side of abdomen a subdorsal and a lateral row of yellow spots in black rings, the latter being thinner in the lateral than in the subdorsal row. Attached to a slender stalk".
Fawcett's description is as follows : Larva - Pale buff dorsally, deepening to pale green on the sides with a buff lateral spinacular line above thoracic legs and claspers, which are also buff. Two dorsal pale green stripes, interrupted on every segment by a pale yellow transverse stripe bearing four black branched spines; below these are two buff coloured spines springing from the buff spiracular line. Head yellowish. Feeds on a sp. of nettle locally called 'pink hibiscus' (although it is not a hibiscus at all). It is a common plant on the Berea, Durban, where I found the larva, and has been identified for me by Mr. Medley Wood as Triumfetta rhomboidea, Jacq. "Pupa waxy white with the usual fine black lines and spots with orange centres, beautifully gilded; pupae formed in the dark, however, inside a box, are slaty black".

It is only after careful examination of many hundreds of examples that I have arrived at the conclusion that ventura is only a form of terpsichore. As stated, there is a great difference between extreme examples of the two forms, but laterally I have had the opportunity of inspecting so many intermediates, that I find it impossible to define the point at which terpsichore ends and ventura begins. A series of preparations of the genitalia shows a range of individual variation which entirely confirms the view that

there exists at present no dividing line. The condition of the species is such as to make it conceivable that ventura may be syngamic with terpsichore in some localities and not in others, though breeding experiments are necessary before we can be certain of the actual relations obtaining between the forms[1].

As regards the rougeti form in which the subapical patch of ground-colour is not isolated from that of the remainder of the wing, this form is certainly characteristic of the South and East, though the feature is scarcely, in my opinion, sufficiently constant to warrant the separation of rougeti as a subspecies.

[1] Since the above was written I have had the advantage of discussing the point with my friend Mr. S.A. Neave, whose extensive experience in the field is of the utmost value in cases of this kind. He considers the form which has a very complete central red band of the underside of h.w. to be a distinct species. Should this ultimately prove to be the case it seems probable that and new name will have to be given to it, as Hewitson's type of ventura is apparently only an unusually red terpsichore and is scarcely of the pronounced red type of specimens which were captured by Mr. Neave, and on which his opinion is base. We may hope to succeed in breeding these forms at no distant date. Meanwhile we can do no more than recognise their very close affinity.

Group XV.

93. Acraea Oberthüri.

Male. Expanse 42-58 mm. F.w. dark umber brown. Base of subcostal nervure usually reddish. An oblique subapical patch of ochreous varying to orange ochreous in 10, 9, 6, 5, and 4. An inner marginal patch of the same colour 3 to 4 mm wide, its inner edge running from just before middle of area 1a to a point on median midway between origin of 2 and 3. In areas 1 at base and 2 this edge is concave, being slightly invaded by the ground-colour. The outer edge of the patch runs from near the hind angle in 1a to the middle of nervule 3, and is slightly convex between the nervules. The apical and hind-marginal border shows distinct traces of the striated pattern of the underside. H.w. Base occupied by a brownish grey triangular patch, its outer edge reaching nearly to end of cell. On this patch are black spots corresponding to those on underside. Central area of wing with a curved pale band varying in colour from ochreous to orange. This band is continuous at the costa with the f.w. inner marginal patch and of about the same width, and terminates on the inner margin where it is rather narrower. Beyond this central band is a broad hind-marginal border the inner edge of which is a perfectly regular curve and not angulated as in some of the rather similar species. This marginal border is sepia grey with elongated inwardly tapering brown internervular streaks each of which is bifurcated at the margin by a sepia grey triangular mark. Underside. f.w. from base to apical patch, along costa, middle of cell, and middle of area 1 at base, the dark colour corresponding to that of the upperside is inwarded by an irregular radiating suffusion of dull ochreous, usually leaving a dark spot just beyond middle of cell, and sometimes a second smaller spot in 1 at base close to median. The light patches are as on upperside but paler, often with a tendency to coalesce in area 3. The apical and hind-marginal border is ochreous, striated by the black nervule ends and black internervular bifurcated rays, the latter meeting inwardly except in 3, 2, 1b, and 1a, where they coalesce with a blackish submarginal suffusion. A fine black line round hind margin. H.w. Base, over an area corresponding to the dark area of the upperside, pale greenish ochreous, spotted with black as follows : One in 9, and one in 8, two in 7 about 3-4 mm apart, one at base of 6, one at base of 5 coalescing with a double discocellular spot and a terminal spot in cell. Two in cell, one at base of 2, a basal spot in 1c, followed by two spots which are sometimes confluent and sometimes separated, in the latter case enclosing a faintly reddish mark. Beneath these, two in 1b and in 1a. Central band as above but paler. Marginal border of the colour of the central band, heavily striated by black nervule ends between which are internervular inwardly tapering rays, each of which is bifurcated at margin by a whitish triangular mark. A fine black line round hind margin. Head black with pale marks between and

behind eyes, thorax black with a few paler scales, abdomen black above with pale ochreous segmental lines and lateral spots. Claws unequal.
Female. Expanse 50-68 mm. Resembles male but paler and duller, the ground-colour being sometimes brownish grey. The paler areas though varying in depth of tint do not appear ever to attain the orange colour seen in some males. The h.w. marginal border often broader than in male, and always showing much more distinct traces of the underside pattern. Underside correspondingly paler, and the h.w. central band with a faint pinkish tinge.

A. Oberthüri f. confluens, Suff.

In this form the apical and inner marginal patches are confluent in area 3 on both surfaces. Suffert's examples were from Cameroon. Similar forms of both sexes are before me, from Kiva Iho R., Nigeria, and from Lagos. One of these (male) was taken near Lagos by Mr. Lamborn. Besides having the paler areas (which are orange colour) confluent in the f.w. the colour of the central band of h.w. radiates along the nervules into the marginal border. Another example (female) occurs in a series bred by the same collector from a company of larvae, the other specimens being normal though the paler areas show a varying depth of tint.

The larvae near Lagos as follows : Slaty blue with a reddish yellow head, and traces of a paler lateral line on segments 10-13. The spines on segments 2-5 and the dorsal and lateral spines on 10-13 are black. The dorsal and lateral spines on 6-9 are yellowish and the sublaterals are yellowish, those on 6 and 10-13 tipped with black. Each black spine arises from a dark tubercle, and there appear to be a few irregular darker dorsal and lateral segmental markings not accurately discernible in a preserved specimen. The food plant is Ancistrocarpus densispinosus (Tiliaceae). The pupa is of the usual Acraeinae appearance, white, with two dorsal and two lateral rows of black-ringed orange spots, and black lines on the wing-covers. Each of the dorsal black rings has a small blunt process on the side nearest the median dorsal line, and the whole pupa is covered with microscopic spines.

94. Acraea althoffi.

Male. Expanse 60-64 mm. F.w. sepia black. From base along lower half of cell a scarlet streak which becomes gradually wider till it reaches a point about 2 mm before end of cell when it becomes suddenly wider extending across cell to subcostal. Beyond end of cell a subapical scarlet patch consisting of three rectangular spots separated by nervules 5 and 6, the lowest spot being somewhat produced along the upperside of nervule 4. Beneath this in 3 and somewhat more distally placed a fourth subquadrate spot, yellow, powdered with scarlet. An inner marginal patch of scarlet in 2, 1b and 1a, the outer edge slightly convex between the nervules, the inner edge deeply on 2, and slightly between 2 and 1, indented by the ground-colour. On the hind margin a faint trace of the pattern of the underside. H.w. with a sepia black triangular basal patch with indications of the black spots of the underside. A central ..... of pale lemon ochreous about 2 to 3 mm wide (white in some examples) beginning just beyond middle of costa, bending inwards at 6 and thence traversing the wing nearly straight to the middle of the inner margin. Remainder of wing sepia..... indications of

the underside pattern. Underside. F.w. Costa pale brown with a whitish speck and a small black streak at base. Cell pale dull scarlet, a rounded black spot near middle close to subcostal followed by a more or less V-shaped spot, its apex towards base. The subapical spots are cream colour dusted proximally with reddish yellow and the space between them and the cell is blackish. The apex and hind margin is brownish ochreous, striated by black nervule ends and black internervular rays, each of the latter being swollen out just before margin and enclosing a whitish streak. The base of 2, 1b and 1a is brownish ochreous, the central portion pale dull scarlet and there is a black spot between the brown and the red in 2 and 1b, and a second, subbasal spot in the latter area close against the median. The outer edge of the reddish portion is separated from the marginal border by a blackish suffusion. H.w. base greenish grey with black spots, of which there are one in 9 and 8, two in 7 about 3 mm apart enclosing a brownish mark, one near base of area 6, one at base of 5 more or less confluent with a discocellular spot, and sometimes with a terminal spot in cell, though this may be absent. Two spots in cell, the outer most followed by a brownish mark, a dot at extreme base of 2. A basal and two other spots in 1c, the latter enclosing a brownish mark, two spots in 1b and 1a and some black at bases of nervures. Central band as above but paler. Marginal half of wing brownish ochreous striated by the black nervules and by internervular black rays, each of which is bifurcated a short distance from margin, and encloses a whitish somewhat shuttle-shaped streak. Head black with a few whitish dots, thorax black, abdomen black above with yellowish segmental lines and lateral spots. Claws unequal.
Female. Expanse about 67 mm. F.w. greyish black. The paler markings in f.w. shaped as in male but white instead of scarlet and yellow, the streak in cell not reaching to base. Indications of black spots more readily seen on underside, in cell, 2, and 1a, as in male. H.w. base with a slight blackish suffusion the edge of which is not well defined as in male. Some black basal spots corresponding to those on underside. A central white band, double the width of that in male, remainder of wing greyish black with some indication of the striation of the underside. Underside f.w. like the upperside but slightly brownish at base, the black V-shaped spot at end of cell very broad and the spot at base of 2 and those in 1b much larger than in male. Apex and marginal border pale grey striated at in male. H.w. base greyish inclining to brown in 9, 8 and 1c. The black spots rather variable with a tendency to reduction in size and number. Central area greyish white, border pale grey striated as in male. Abdomen black above with white lateral spots.

A. althoffi f. rubrofasciata.

This form occurs in both sexes and is distinguished by having the central band of the upperside of the h.w. much broader. This band and also all the paler marks on f.w. are red. On the underside of h.w. the basal and central areas are ochre yellow and not differentiated. The white submarginal streaks are visible on the apex of f.w.

A. althoffi female f. telloides.

Just as the typical form of althoffi female appears to be modified in the direction of the black and white females of jodutta, so this form seems to be a development in the direction of the pattern of Planema tellus. In the f.w. whole basal half of the wing is dull orange ochreous, though the black spots in cell, 2 and 1b remain, that near end of

cell usually confluent with the subapical patch. The spots of the latter are all confluent, forming an approach to the continuous patch in Pl. tellus. The h.w. has very little black at base, but the basal black spots are fairly distinct. The whole of the rest of the h.w. is dull orange ochreous, the margin slightly powdered with black, the nervule ends black, and the usual characteristic internervular striations, though these differ in that the bifurcations of the internervular rays are open and nearly at their widest on the margin. On the underside the pattern is the same as on the upper, and in fresh-examples the ground-colour is quite as dark on the upperside.

A. althoffi female f. ochreata, f. nov.

Differs from other forms in having all the light areas pale dull ochreous, the same colour as in the male A. jodutta.

A. althoffi female f. drucei.

There is in Mr. Druce's collection a large female which has much the same colouring as the male. The f.w. is of a rather dull brown. There is an orange red streak in the cell, and the subapical spots are pale yellow, the upper ones being tinged with red. The spots in 2, 1b, and 1a are orange red. The h.w. has a central white band and whitish submarginal spots.

A. althoffi pseudepaea, subsp.

Male. Expanse about 65 mm. F.w. rich black brown. An inner marginal patch of tawny orange occupying the central third of areas 1a and 1b, and not quite covering base of 2. Subapical patch small and of the same colour, consisting of three spots in areas 6, 5, and 4, the last having its outer half suddenly narrowed and extending distally, so that the entire spot is twice as long as those above it. Beneath the narrow portion of this spot is a fourth spot of the same colour in area 3 not quite reaching nervule 3. H.w. with a triangular black brown patch at base. Remainder of wing tawny orange rather darker on the distal third of wing, which is striated with rich black brown on and between the nervules, the striations and typically bifurcated rays becoming coalescent at margin into a border about 2 mm wide. Underside. F.w. basal two-thirds of cell dull orange brown with a large rounded spot. End of cell black. The subapical spots much paler than above. A black spot at base of 2, and a basal and a subbasal in 1b. Apical and hind-marginal areas dusky ochreous with the usual fusiform spots on margin. H.w. dusky orange ochreous with paler central band and the typical striations and bifurcated rays. Black spots at base, one in 9, one in 8, two in 7, two in cell, one small spot at base of 5, basal and two subbasal spots in 1c, two subbasal spots in 1b, and one in 1a.
A second example is rather smaller and has the dark areas more velvety and of rather greater extent.
Female. Expanse 75 mm. Like the male, but the tawny areas are paler, especially the f.w. subapical spots. H.w. with only narrowly blackened rays and nervules and a little dusting of black on margin.
There is no doubt whatever that this interesting form is specifically identical with althoffi. In the type specimen the claspers happen to be protruded, and they are quite as in typical examples. I have to thank Mr. N. M. Dudgeon for having taken a great

deal of trouble to make arrangements for me to see the type, in the absence abroad of his brother, Mr. G. C. Dudgeon.

Compared with the other species received from Entebbe, althoffi may be said to be comparatively rare. For some reason not at present evident it is most difficult to obtain an example in good condition, the females especially being almost invariably damaged or worn.

The species can be recognised quite easily in spite of its variability by the peculiar bifurcated formation of the internervular rays especially on the h.w. each with its enclosed streak. The general pattern also is not like that of any other species of the genus.

The type was received from Mukenge in the southern central part of the Congo State and has the yellow h.w. band rather narrower than in the Uganda specimens. The f. rubrofasciata has been received from Bangala in the Upper Congo and Nyam Nyam, and also from Bitje in the Cameroons. Of the subspecies pseudepaea I have seen only the two males and one female in Mr. Dudgeon's collection.

Our knowledge of this peculiar species has increased greatly in recent years. It is chiefly remarkable for the number of its polymorphic forms which for the most part exhibit mimetic patterns. We have the typical male and also the rubrofasciata and pseudepaea forms. Of the females one is black and white resembling female examples of jodutta, one more or less like its own male, one of the rubrofasciata form, one resembling the male jodutta, and one resembling Pl. tellus. Both sexes of the pseudepaea form resemble Pl. epaea.

Group XVI.

95. Acraea pharsalus.

Male. Expanse 60-72 mm. F.w. base, costa, apical area, hind margin and the greater part of area 1a dark sepia. Discal half of cell, base of 6, 5, 4, 3, 2, and central half of 1b bright red. A few red scales towards distal end of area 1a. Black spots as follows : - in cell a small spot not far from base, followed by a larger spot beyond origin of 2. A large spot the whole width of cell on discocellulars. Beyond cell an oblique band of three contiguous quadrate spots in 6, 5, and 4 followed by a rounded spot in 3 just under the spot in 4. A large spot at base of 2, usually touching median and nervule 2, beneath it but nearer margin a spot in 1b, and another in the same area close to median just before origin of 2. At the outer edge of the oblique discal band of spots three pale spots varying from white to reddish orange. H.w. base suffused with dark sepia extending slightly beyond middle of cell, hind margin brownish black, about 2 mm wide, its inner edge not very sharply defined, and interrupted by the black nervule ends, and short reddish brown, rather indistinct internervular rays. Central area of wing bright red. Numerous black spots corresponding with those on underside. Underside f.w. Those areas which are dark sepia above are here ochreous grey. The black spots are as on upperside, the red areas are dusky pink, and the apical and hind-marginal portions are striated by the black nervule ends and internervular rays. There is a whitish dot and a small black spot at base of costa, and there are white marks beyond the black discal spots as on the upperside. A fine black marginal line. H.w. Base and hind margin greenish grey, central area pale pink. On the hind margin the nervule ends are black, and there is a fine black marginal line. Between the nervules are large dark brown triangular marks (double in 1c) the bases of which do not rest quite on the margin, but leave a very narrow submarginal line of greenish-grey (this line is obliterated in some specimens). Black spot as follows : - One in 8 against precostal, two in 7, the outermost just beyond origin of 6 and 7. Beneath this, but much nearer margin a well-rounded spot in 6 and beneath it one in 5. A spot in 4, nearer base than that in 5, and immediately beneath it a spot in 3. In 2 a spot at the level of end of cell, followed by a spot in 1c and 1b, all three in a straight line at right angles to inner margin. Two spots in cell, the second just beyond middle, two on the discocellulars, a basal and a subbasal in 1c, below the latter a spot in 1b, and a basal, a subbasal, and a distal spot in 1a. Some irregular black at base of nervules. Head black with a white spot between the eyes, thorax black with a few whitish spots. Base of abdomen black above with orange ochreous lateral spots, remainder orange ochreous. Claws unequal.

Female. Expanse 70-80 mm. Like the male but the red areas much duller, and in f.w. of less extent. In h.w. the internervular rays are longer and darker.
The above descriptions apply to typical examples of this species. The Oxford Museum has lately received large companies of A. pharsalus bred by Mr. W.A. Lamborn, near Lagos, and these show a fairly wide orange of variation. Amongst them the following forms may be observed :
(a) male. Expanse 56 mm. F.w. rose pink, inclining to whitish beyond cell. Costa and basal suffusion brownish, apex and hind margin sooty black. Pale spots beyond the discal black, white to pinkish. H.w. rose pink with a sooty black basal suffusion and marginal border. H.w. underside bluish grey at base. Marginal internervular triangular marks sooty black and contiguous at margin.
Female. F.w. sepia grey, whitish between the black spots in central area. Subbasal spot in 1b, usually wanting. H.w. varying from dark sepia to dusky pink. These specimens are all in one brood, but two of the males are normal.
(b) one male specimen with the f.w. pale distal spots, outer portions of 4, 2, and 1b, and the lower half of the h.w. pale ochreous. Markings otherwise normal.
(c) Several males with f.w. red reduced to a few indistinct marks, dark areas almost black, central part of h.w. crimson.
(d) Several females with the basal half of f.w. and the whole of h.w. suffused with pink. No basal black in f.w. and that in h.w. much reduced in depth of colour.
(e) Several females with the entire ground-colour of both wings sepia grey. No basal suffusion in either wing.

A. pharsalus f. pharsaloides.

Though characteristic of the more Eastern localities, and apparently quite replacing the type in German F. Africa, this form is scarcely constant enough to be regarded as a subspecies. It is distinguished by the much reduced dark basal suffusion in both wings, and by the fact that the red colour extends in the f.w. considerably beyond the discal black spots, especially in area 4, leaving only a comparatively narrow dark brown apical patch. The female in much paler, the lighter markings inclining to whitish in the f.w.

Prof. Aurivillius points out (Sjostedt's Exp. P. 5, 1910) that the form which Suffert described as saluspha is really the typical form of pharsaloides. What Suffert regarded as typical pharsaloides was a variety of that form.

A. pharsalus f. pallidepicta. Strand.

Of the three females examples in the Berlin Museum (all labelled type) two have the f.w. subapical spots whitish. There are no other white markings and the internervular rays on underside are broad and triangular. Another example is whitish in f.w. cell at base of 2, the costa of h.w. being greyish.

A. pharsalus f. nia, Strand.

This form is more intermediate to vuilloti. The whole ground-colour is tawny orange. The spots are not more developed than in ordinary pharsaloides. There is a suggestion of a yellowish suffusion beyond spot in f.w. 2, and at base of 1b. Also a little

yellowish in h.w. in 1c and 2. The triangular rays on h.w. underside are somewhat reduced. (1 male, Amani, Berlin Mus.)

A. pharsalus vuilloti, subsp.

Male. Expanse about 56 mm. F.w black. An irregular red mark across cell at origin of 2, narrow at subcostal and wide at median. Beneath this in 1b a subtriangular red mark, the apex of which just touches the lower outer corner of the red in cell. In the middle of this red mark at black dot. A second transverse red mark in cell about 2 mm wide, its outer edge reaching median at origin of 3 and there becoming continuous with an elongated quadrate red patch in area 2, which, occupying the whole width of that area, begins just before origin of 3 and ends 3 mm. From margin. Beneath this patch and of about half its length, a quadrate red mark in 1b, its outer edge about 2 mm from margin, and beneath this a slightly longer red mark in 1a reaching to the margin. Remainder of area 1a grey. On or just beyond end of cell, three very small internervular red spots which form a small transverse streak, and beyond this a subapical bar of red, 2-5 mm wide, outwardly deeply concave, beginning just above nervule 6 and ending at nervule 3. H.w. rather pale sepia grey with a red patch occupying outer half of cell, basal half of 6, 5, 4, and upper basal half of 3. A white patch occupying middle third of 1b, 1c, basal half of 2, and lower basal half of 3. Black spot as follows : - Two in 7, two contiguous spots about middle of 6 and 5, and two ditto at base of 4 and of 3. Two in cell before the middle, and two on discocellulars. One at base of 2, a basal, a subbasal, and a central spot in 1c, two near middle of 1b, and a basal and a subbasal in 1a. Head black with a whitish dot between the eyes, thorax black with pale marks, abdomen black above with deep yellow lateral spots. Underside, as above but much duller and pattern less defined. Apical and marginal border powdered with pale sage green and having a fine black marginal line. H.w. base greenish grey, central area whitish with a pale pinkish flush at end of cell, 6, 5, and 4. Margin greenish grey with a fine black marginal line, the nervule ends black and the internervular rays heavily powdered with black but scarcely exhibiting the characteristic triangular appearance of those in pharsalus.
The female resembles the male.
Of this form there are 2 males and 2 females in the Standinger collection. One female is from Usagara, the three remaining examples being from Ukami Mt. From the latter locality there are also examples of pharsalus, and these tend somewhat to the pharsaloides form, but all have the internervular rays of the h.w. linear and not triangular, and they are narrower in pharsalus than in vuilloti. One female is an intermediate, and there can I think be no doubt that Aurivillius is correct in his suggestion that vuilloti is a form of pharsalus.
The type of vuilloti was taken at Kikoka Station, Bagamoyo, German E. Africa.

The larva of pharsalus from Kitta, Cameroon, is described by Aurivillius as follows : Reddish yellow above, paler below ; a narrow dorsal line, small streaks at fore and hind parts of each segment, and at the spiracles, black. The spines are not longer than the diameter of the body and are finely branched. The upper branches are black and the lower whitish. The pupa is also figured, and is shown as white with only very faint black lines on the wing cases, etc. It is smooth, and has two dorsal, two lateral, and a vertical row of black marks, most of which appear to be in the form of double streaks with a dot between. The above description agrees with the larvae sent home my Mr.

Lamborn (Pl. VI. f. 7) except that the ground-colour does not appear to be reddish above. I may add that the head is black with a rather conspicuous central, vertically bifurcated white line.
Mabille records the species from Madagascar, but it seems almost certain that this is error.

Group XVII.

96. Acraea perenna.

Male. Expanse 30-74 mm. F.w. sepia black rather more thinly scaled in median and subapical area. Hind margin markedly concave. An obsolescent dark spot in cell above origin of 2. A double spot on end of cell, and just beyond this an oblique discal band of four spots in 6, 5, 4, and 3. A large spot in 2 touching median and nervule 2. Below this in 1b a subcrescentic spot. A black longitudinal streak in area 1b from base extending about half the length of this area. A red patch in 1a, 1b, and 2 extending from near hind angle nearly to nervule 3, widest in 1b. A faint reddish mark at discal end of cell. Two small submarginal red spots in area 1b. H.w. bright red with sepia black basal suffusion extending nearly to end of cell. A black hind-marginal border about 2 mm wide, having a sinuous inner outline and bearing seven internervular spots, that in 1c double. Black discal and basal spots as on underside. Underside f.w. Cell and basal of 1b almost devoid of scales. Black spots as on upperside. Space between end of cell and discal spots, and for some distance latter, whitish. Costa powdered with brownish scales. Apex and hind margin rusty brown with black internervular and rays. Red patches as on upperside but paler and duller. A small black basal spot on costa. H.w. pink, reddish at base, the cell and basal half of area 7 greenish grey. Marginal band dark brown with orange ochreous spots. Black basal and discal spots as follows : A discal row of seven in 7, 6, 5, 4, 2, 1c and 1b (no spot in 3) a spot on the middle discocellulars, a small spot in 8 near precostal, a subbasal spot in 7, one subbasal and one median in cell, and one in 1c, 1b, and 1a. These spots vary in size and may be small and well separated, or large and confluent. Head black, thorax black with a few pale spots. Basal half of abdomen black with orange ochreous spots, remainder orange ochreous. Claws equal.
Female. Expanse 70 to 80 mm. Differs but little from the male. Wings slightly rounder. The sepia black areas somewhat paler and the h.w. margin rather broader.

A .perenna thesprio, subsp.

In this form the red colour extends over nearly the whole of the f.w. leaving only the costa, apex, and hind margin sepia black. Oberthür states that he has three males of this form from Zanzibar, and there is one in the Hope Department from Mombasa. Aurivillius gives Nyassaland as another locality. It appears to be the Eastern subspecies of perenna. Examples from Nairobi in the Harrison collection are however of the typical form.

A. perenna kaffana, subsp.

This Abyssinian subspecies resembles the thesprio form but differs in the larger size of the f.w. discal spots, and in having a more extended black basal area, and broader marginal band in the h.w.

The larva of A. perenna perenna (PI. VI, f. 6) is black with long dorsal spines. There is an ochreous dot on each segment just behind the origin of the lateral spine. Beneath this a few irregular vertical yellowish marks and below the sublateral spines are longitudinal yellowish marks. The segments bearing the true legs have some additional transverse dorsal yellowish marks. The branched spines and the head are black. (Described from an example received from Mr. W.A. Lamborn, taken near Lagos).
A. perenna bears outwardly a close resemblance to A. egina, but can always be distinguished by the marked concavity of the f.w. hind margin.

97. Acraea orina.

Male. expanse about 54 mm. F.w. dark umber brown. In 1b a rather broad streak of red from base nearly to hind margin. In 2 a patch of red from close to median to near hind margin. A streak of red in cell somewhat indented on upperside near subcostal almost at the level of origin of nervule 2. In 6, 5, 4, and 3 short broad discal red marks. H.w. brick red with a dark brown basal suffusion obscuring a number of black spots better observed on underside. Beyond this suffusion two black spots on the disc in 6 and 5. A dark brown hind-marginal border about 2 mm wide, its inner edge somewhat edentate at each nervule and internervular ray. Underside, f.w. A dull replica of the upperside. H.w. pinkish ochreous with a greenish tinge over base and hind margin. Nervule ends and internervular rays rather broadly powdered with dark brown. Black spots variable and often confluent. The following may be approximately discerned : One in 8 near precostal, two in 7 (sometimes confluent). One in 6 and 5 just before the middle of these areas. Some irregular spots on discocellulars. Two in cell, the second rather beyond the middle. A spot at base of area 3 and 2. Two spots in 1c, 1b, and 1a, each of these pairs may be confluent. Some irregular black at base of nervures. Head and thorax black with a few pale spots. Abdomen black above with yellowish lateral spots. Claws equal.
Female (= oreta, Hew.). expanse about 70 mm. f.w. black with reddish brown streaks in 1b, and 2. Costa at base and greater part of cell reddish brown. In cell a black spot near subcostal above origin of 2. Beyond cell in 6, 5, and 4 three rather obscure white marks. (All these markings are very irregular). H.w. reddish brown with some black at base, and a black hind-marginal band about 2 mm wide, edentate on inner edge at and between the nervules. Black spots corresponding to those on underside. Underside, f.w. rather thinly scaled, blackish only from end of cell to position of white subapical marks. The reddish areas visible as above but paler. Costa dusky ochreous with a black spot at base. Apical and hind-marginal area dusky ochreous striated by the black nervule ends and rays. Only a trace of the white subapical marks. H.w. almost uniformly ochreous, a trace of a greenish tinge about base and on hind margin. Black spots as follows : - One in 9, one in 8, two in 7 ; the second well beyond end of cell, but not over spot in 6. One in 6 and 5 (one below the other and about 4 mm from base

of those areas). One at base of area 5 on discocellulars, one (very small) at base of area 4, two in cell, the second (large) at the level of origin of nervule 2. One in area 4 just beyond its base, and a row of four large spots in a straight line from end of cell to inner margin in 3, 2, 1c and 1b. A basal and a subbasal in 1c, a subbasal in 1b, and two spots in 1a. the ends of nervules are laterally somewhat powdered with brown, but not the internervular rays.

A. orina f. nigroapicalis.

This form, described by Aurivillius, differs only by the absence of the discal red marks in the f.w. An example from Fernando Po is in the Oxford Museum. Aurivillius' specimen is from Kitta Cameroon. Many Entebbe specimens exhibit the same variation.

A. orina f. orinata.

The difference between this and the type form is thus described by Oberthür : One the upperside the reddish brown spots beyond cell are nearer to the cell. Beneath the h.w. has two spots outside the cell which are not present in orina. Oberthür further remarks that the h.w. hind margin is yellowish instead of reddish as in orina, but he was probably judging of the latter by the colour of the original figure, which is, in fact, redder than the actual type specimen, which I have examined. The difference are so slight as to make the name scarcely worth preserving.

A. orina orineta, subsp.

Male. expanse 50-64 mm. F.w. dark sepia. Nearly the whole of the cell (in which there is a black indentation on subcostal near the middle), and 1b, and the basal half of 2 and 3 red, separated only by the rather widely black nervules. In 6, 5, and 4, just beyond cell, broad red streaks separated only by the nervules. On apex and hind margin black internervular rays rather conspicuous. H.w. red with a well-defined sepia black basal area on which basal and subbasal spots are just visible. This black area extends almost to end of cell, and has a well-rounded distal edge more or less parallel to the hind margin. Beyond it is a correspondingly curved red discal band some 5 mm wide, and a sepia black hind-marginal border about 2 mm wide, its inner edge regularly but not deeply edentate on and between the nervules. Underside. F.w. like the upper but duller, and the costal, apical, and hind-marginal areas dusky ochreous striated by the black nervule ends and internervular rays. Traces of a blackish mark just beyond middle of area 1b. H.w. base, costa, and hind margin greenish ochreous, central area dull pinkish. Nervules and internervular rays rather broadly dusted with brown. Black spots on the basal area as follows : - One in 9, one in 8, two in 7 about 2 mm apart, one at base of 6 and 5, three in cell, the second beyond the middle and the third near end. One at base of 2, a basal, a subbasal, and a central in 1c, two confluent spots about middle of 1b, and the same in 1a. Head and thorax black with a few pale dots, basal half of abdomen black above, with lateral yellowish spots, terminal segments orange ochreous.
Female. expanse 64-72 mm. F.w. sepia brown with red marks much as in male but duller and rather more widely separated by black, and those in 6, 5, and 4 nearly always replaced by white forming a conspicuous discal bar. One example before me

from Kampala has all red markings. H.w. as in male paler and duller. Underside. F.w. rather thinly scaled, a pale dull replica of upperside, but costa, and apical and hind-marginal areas dusted with dusky white between the nervules and rays. H.w. Pattern as in male but dusted all over with whitish scales, or, in some cases, the whole underside is almost devoid of scales and vitreous.
The orineta form is distinguished principally by the more continuous and well-defined basal black of the h.w. especially in the female. This peculiarity does occasionally occur in western examples, but it does not appear to be a characteristic feature until we reach the neighbourhood of Uganda.

A. orina is very closely allied to parrhasia. I am not quite satisfied that orina has not in the West a female form which is practically indistinguishable from that of parrhasia. If it has not, then the female orina is strangely rare in collection. Apart from the examples of Hewitson' slightly oreta, which is certainly one form of the female, I have seen no female specimens from the West which could be certainly assigned to orina, and yet the male is by no means rare. All the females from the West, which might otherwise be associated with the species, resemble more or less closely the bred and therefore authenticated females of parrhasia now at Oxford. A much more extensive material is necessary before we can come to any sound conclusions with regard to this species.

98. Acraea baxteri.

Male. expanse about 60 mm. F.w. not very densely scaled, black, with a rosy red flush at base extending nearly to end of cell, slightly beyond middle of area 2, and nearly to margin in 1b and 1a. Beyond cell a subapical series of three more or less transparent spots, separated only by nervules 5 and 6. H.w. with a large black patch at base obscuring more or less completely a number of black spots. Beyond this patch a dull rosy red area enclosed by a narrow black marginal border, the nervules well marked black. Underside f.w. almost scaleless, merely having a slight dusting of blackish brown at apex and greyish ochreous along costa. H.w. with a large chocolate brown basal patch followed by a broad pinkish band, the latter enclosed by a reddish brown border, broader than the black border of the upperside. Upon the chocolate basal patch are the following black markings : - A spot in 8, a broad black streak in 7, the ends of which curve downwards and touch the subcostal and nervule 7. At bases of areas 6, 5, and 4 two spots just separated by very small areas of the ground-colour. Along the edge of the chocolate basal patch are large spots in 3, 2, 1c and 1b. Area 1a is nearly all black, and a long black basal mark in 1b, 1c, and in cell, the latter also having a large spot in its distal half. Head, thorax, and abdomen intensely black, the abdomen with minute white lateral dots. Claws unequal.
Female. expanse 60 mm. Resembles male but duller and f.w. more rounded. Subapical transparent spots larger. H.w. with dark basal patch much reduced, especially from upper half of cell to costa. Underside as in male but duller and rather paler.

A. baxteri, f. fulleborni.

This form differs in having the f.w. rather more translucent, the transparent spot in area 4 is longer, and the black border of the h.w. is broader than in the type form, also

the red colour is of a less rosy tint. One the underside the h.w. black spots are rather smaller and less confluent, and the pale band is narrower.

A. baxteri, subsquamia.

This form differs from the type in the following characters : - The f.w. upperside has the red less extended in area 2, the subapical spots are more transparent, and the blackish border is broader at the hind angle. On the h.w. the black border is produced inwardly on the nervules, and at the costa the red colour invades the black basal patch. On the underside the h.w. nervule ends are broadly black, and the black spots are smaller and more separated. One example has greyish spots in the basal area.

At present I have not sufficient material to decide whether the differences between the above forms are of importance. Unfortunately I was unable to secure the type of A. baxteri before my visit to the Berlin Museum and was obliged therefore to send a drawing of it, which Dr. Strand very kindly compared with Thurau's types. My figure on Plate V is taken from Miss Sharpe's type now in the Joicey collection.

99. Acraea peneleos.

Male. expanse 52-58 mm. F.w. narrow and somewhat pointed, but less angulated than in A. parrhasia. Costa, apex, hind margin, and inner margin sepia black, nervures and nervules black, remainder semitransparent owing to reduction in number rather than in size of scales. The most distal part of the transparent area more sparsely scaled than the remainder. In 2 a patch, variable in size, of pink or reddish scales, beneath this, in area 1b a similar but larger and more persistent patch often extending as a linear mark to base of wing. A small elongated pink or reddish submarginal spot in 1a. Sometimes a trace of red in cell near base. A black spot at base of costa. H.w. rosy red in fresh examples but fading to yellowish red. A grey basal suffusion extending nearly or quite to end of cell, and a sepia black hind-marginal border about 2 mm wide, its inner edge slightly edentate on nervules. Black spots as on underside but those near inner margin often faintly indicated. Underside. F.w. sparsely scaled and vitreous, the costa, apex, and hind margin scaled with grey to ochreous, the nervule ends and internervular rays dusted with umber brown. H.w. basal suffusion and marginal border greenish grey, the ends of nervules sometimes rather broadly dusted with brown. Between them short narrow internervular rays reaching the margin. Discal area ochreous. Black spots rather variable, as follows : - An outer row of three spots graduated in size lying nearly parallel to apical margin in 7, 6, and 5, rarely a spot near base of 4 and of 3. A spot at base of area 2, followed by a spot in 1c slightly more proximally placed, and a third in 1b slightly more distal than that in 2. A spot in 9, one in 8 against precostal, a subbasal in 7, two (occasionally three) spots in cell, the second above origin of nervule 2. A median sized spot followed by a linear mark (sometimes confluent) on upper part of discocellulars. A basal and a subbasal in 1c. A basal streak and a subbasal spot in 1b and two spots in 1a. Head black with a whitish dot between the eyes, and two on the collar. Thorax black above with indications of paler markings. Abdomen black above with lateral yellowish spots. Claws unequal.
Female. expanse 56-64 mm. F.w. more rounded than in male. Costa sepia dusted with red, apex dusted with sepia (about 4 mm deep) hind margin dusted with sepia, inner

margin with red. Nearly the whole of remainder of wing more or less thinly scaled with red but showing a wide range of individual variation in extent and depth of colour. In some examples the red colour predominates, whilst in others it is much broken upperside by a broad dusky scaling of the nervules. There is usually a patch of blackish scaling in cell near middle, and another on end of cell. In areas 4, 5, and 6 there is often a tendency to the formation of whitish subapical streaks, whilst in one example before me the red scaling is divided in the discal area by an oblique transverse band of blackish thus leaving an outer submarginal row of rather indefinite red spots which become gradually paler in colour as they approach the apex. H.w. red, in fresh examples only a little duller than in male. Very little grey basal suffusion. The blackish hind-marginal border usually narrower than in male but produced inwardly much further, on and between the nervules. On the underside, in the f.w. the dusky areas are replaced by ochreous, on which the nervules and rays are brown. The h.w. is slightly brownish ochreous, the basal area and marginal border only a little darker. The internervular rays often do not quite reach the margin. The black spots are as in male but usually have an elongated appearance as though they had "run" in the direction of the nervules. They are also further apart than in the male, the three outer spots in 7, 6, and 5, being often very distally placed. The spots in areas 4 and 3 are almost invariably present. It is almost impossible to give a satisfactory description of so variable an insect, but perhaps the most characteristic general feature is the scattered and elongated appearance of the h.w. spots and the position of the three outer spots in areas 7, 6, and 5.
Perhaps the species most easily confused with it is the female of A. orina (= oreta), but in this species the outer spot in 7 is nearer the base than those in 6 and 5, instead of being nearly above them as in peneleos, also the wings of orina female are much more heavily scaled.

A. peneleos female f. helvimaculata.

Expanse 50 mm. F.w. transparent with a few dusky scales along costa, apex grey black to a depth of 6 mm., hind margin with an inwardly rather suffused grey black border 2 mm wide. Cell and areas 2, 1b, and 1a faintly tinged with reddish. A faint blackish linear mark in cell. H.w. salmon red with a very slight dusky basal suffusion and a grey black hind-marginal border edentate on the nervules and emitting short, fine, dark internervular rays. Black spots as in typical examples, and beyond the outer row a curved discal band of yellowish white some 3 mm broad crossed by the nervules which are powdered with red. Underside. F.w. dusky areas replaced by ochreous grey and crossed by grey nervules and rays. H.w. base and hind-marginal border pale brownish pink, outer edge of border having a greenish tint. Nervule ends powdered with umber brown, and between them are fine short brown internervular rays. Central band creamy ochreous. Black spots as in typical form but only one spot in area 1a and spots in 4 and 3 only just visible. This form, of which two examples occur in the large number of bred specimens received at Oxford from Mr. Lamborn occurs near Lagos and appears to be an occasional aberration. Its appearance has proved of the greatest value as an indication of the identity of the form lactimaculata from Fernando Po.

A. peneleos female f. lactimaculata.

Expanse 58 mm. f.w. as in helvimaculata but entirely devoid of red, the basal area being finely powdered with brownish black scales. H.w. base as far as outer row of spots sepia grey, the nervures reddish. A hind-marginal border of sepia brown some 3 mm wide, dusted with orange ochreous on its inner edge towards anal angle, the same colour extending as a fine line along the inner margin. Spots as in typical form, but none in areas 4 and 3. A central curved band of ivory white narrowest at costa. Underside. F.w. as on upperside, dark areas replaced by dusky ochreous, the nervule ends and rays darker. H.w. basal areas as far as central band, and hind-marginal border, dusky ochreous ; nervule ends and rays blackish. Central band as on upperside but rather narrower. Up to the present I have only seen examples of this form from Fernando Po. There is a small series in the S. Kensington Museum and it also occurs in the Tring collection.

A. peneleos female f. sepia.

Expanse 60 mm. F.w. costa, apex, hind margin, and inner margin dark sepia brown. Remainder of wing semitransparent, powdered with dark scales. Traces of whitish scales in areas 2 and 1b. H.w. sepia brown with a slight powdering of reddish scales especially just beyond end of cell, and at inner edge of hind-marginal border. The latter a still darker brown. Inner margin ochreous. Underside. F.w. as above but brown replaced by dusky ochreous, striated by dark nervule ends rays. H.w. basal portion dull greenish ochreous, followed by a curved central band of dusky white. Hind-marginal border about 5 mm wide, dusky ochreous, inwardly edged with sepia brown, and striated by brown nervule ends and rays. Spots as in typical forms but more in 4 and 3. This form also seems to be peculiar to Fernando Po. A fines series of specimens in the British Museum collection, received by the late Mr. Hewitson from the locality named, show a gradation from ordinary forms of female, through f. lactimaculata to f. sepia, with numerous intermediates.

A. peneleos pelasgius, subsp.

Male. expanse 45-56 mm. F.w. sepia black. Cell and base of area 2 and 1b rather thinly scaled and partially transparent. Beyond cell the basal portions of areas 6, 5, and 4 are still more transparent especially outwardly, and there is a small semitransparent patch in 2 often with a few pinkish scales in the centre. In the middle of area 2 a large rounded spot rather thinly scaled with pale orange red, beneath this a similar but rather larger spot in 1b, and a linear mark of the same colour in 1a. H.w. with a sepia black basal portion, its outer edge rather straightly defined across the wing and extending as far as the origin of nervule 2. Hind-marginal border sepia black, 2 to 3 mm wide, its inner edge somewhat edentate on the nervules. Central area orange red. Black spots as on underside but largely obscured by the basal suffusion. Underside. F.w. as above, but costa, apical area, and hind margin ochreous brown, nervule ends and rays dark brown. Remainder nearly devoid of scales, and vitreous. The reddish spots of upperside reproduced in pink. A black spot at base of costa. H.w. basal portion umber brown outwardly inclined to chestnut, followed by a dark ochre yellow central band, and an umber brown hind-marginal border inwardly inclined to chestnut. Nervules and rays dark brown. Black spots as in typical peneleos. Usually only two in cell and none in 4 and 3. Head, thorax and abdomen as in typical peneleos.

Female. expanse about 62 mm. F.w. more rounded than in male. Sepia brown. A subapical series of three transparent spots in 6, 5, and 4 progressively increasing in size, and beneath these a small pink spot in area 3. A somewhat irregular pink spot in area 2 near middle, and beneath it a similar but broader spot in 1b. H.w. basal brown suffusion outwardly less well defined than in male. Remainder of wing dull orange red with an ill-defined dark brown hind-marginal border consisting of an elongated triangular powdering of the nervules and rays all more or less coalescent at margin. Black spots as in peneleos. Underside. F.w. devoid of scales and vitreous, except costa, apical area and hind margin, which are rich umber brown with darker nervules and rays, the pink spots of upperside faintly showing through. H.w. basal area deep reddish brown, followed by a dark ochreous central band narrower than on upperside, and a hind-marginal band of somewhat lighter brown, 7 mm wide at nervules 3 and 4, and striated by dark brown nervules and rays.

A. peneleos gelonica, subsp.

Male. expanse 54 mm. Differs from subsp pelasgius in the following points : - The f.w. is transparent except costa, apical area, and hind and inner margins which are sooty black. Main nervures, middle and end of cell, and base of areas 2 and 1b powdered with black. No pink spots but often a few whitish scales in area 1b. H.w. basal black of rather less extent, hind-marginal border black and rather broader. Underside. H.w. basal area more chestnut brown, marginal border darker and inclined to reddish at its inner edge.

The larva of A. peneleos (PI. VI, f. 4) from Oni, near Lagos, may be described as follows : Ground-colour dark brown with transverse striate of a darker tint, bordered with yellow. Lateral line and legs yellow. Head bright chestnut. In the actual larva all the spines are black, but according to Mr. Lamborn's notes the sublateral spines are yellowish. There may possibly be some variation in this respect.
True peneleos seems to occur from S. Leone through Lagos and as far as Fernando Po, producing the aberrant forms of female above described. From Fernan Vaz and right across the Congo State we find the development, at first somewhat irregular, of the dark-coloured underside of the h.w. with its central ochreous band. On the Kassai R. forms are found which vary between peneleos and pelasgius, and thence the latter form is predominant. It is very common at Entebbe, whence its distribution extends north-east wards into Abyssinia, where it is represented by the form gelonica.

100. Acraea pelopeia.

Male. expanse 68 mm. F.w. sepia black. Cell basal portions of 6, 5, 4, 3, 2, and nearly all 1b, rather thinly scaled and partially transparent. A slight submarginal powdering if whitish scales in 1b. H.w. with a dark sepia grey basal suffusion extending slightly beyond origin of nervule 2, and outwardly approximately determined by a line drawn from middle of costa to middle of inner margin. Discal area deep orange red (probably rosy red when alive). A well-defined brown- black hind-marginal border about 2 mm wide, its inner edge slightly edentate on the nervules. Black spots as beneath, but obscured by basal suffusion. Underside. Costa, apical area and hind margin dusky ochreous, striated by the nervules and rays which are broadly powdered with dark

brown. The ochreous marginal border gradually obscured towards the hind angle by a sepia-brown suffusion. A black spot at base of costa, and some black at base of area 1b. H.w. basal area and hind margin greenish ochreous, central area ochreous. The brown nervules towards the margin heavily dusted with dark brown, the dusting being widest before it reaches the margin, thus giving the nervules a swollen appearance. Between them the internervular rays, though more slender, are similarly indicated. Unlike peneleos these rays extend to the bases of the internervular areas. A series of black spots, most of which are rather large. In areas 7, two, much closer together than in peneleos. Beneath the outer spot a smaller one more distally placed in area 6, and beneath this a dot in 5. On the upper part of discocellulars a spot of variable size, sometimes confluent with another just beneath it. In cell two or three spots, the second over origin of nervule 2, and the third, when present, very small. Sometimes a spot at base of area 3. A spot in 2 near its base, followed by one in 1c and in 1b, nearly in a straight line. A basal and a subbasal in 1c. Beneath the latter a spot in 1b, and more proximally placed a spot in 1a. A spot in 9 and in 8. Head black with a pale dot between eyes, two pale tufts on collar. Thorax black above with two pale spots. Abdomen black above with yellowish lateral spots. Claws unequal.

The female is unknown to me.

The late Dr. Staudinger in his paper in Iris 1896, gave a description of this species. This description is somewhat involved, and consists largely of a comparison of penelope, peneleos, parrhasia, and the present form. He concludes by saying that, should it be found through the acquisition of further material to be a distinct species, he proposes for it the name pelopeia. After having seen the insect described, I found it agreed in all respects with two males in the Tring collection. I cannot claim to have certainly established its specific distinction, but at present at least I propose to keep it separate from peneleos which it closely resembles. The peculiar appearance of the nervules on the h.w. underside scarcely suffices to distinguish it from some examples of peneleos which exhibit a similar tendency. On the other hand, the internervular rays in all forms of peneleos are comparatively short, whilst in this species they extend to the bases of their respective areas. The whole insect is of a larger and stouter build. The two spots in area 7 of the h.w. are closer together than in peneleos, whilst finally, though the male armature is, like that of several allied forms, simple in structure and but little distinctive, it appears to present certain constant differences. The acquisition of a female specimen may help to decide its true affinity. In the meantime I prefer to keep the form separate from peneleos, under the name which the late Dr. Staudinger proposed. That author's example is described as from the Upper Congo, without precise locality. One of the Tring examples is labelled Aruwimi, and the other Luebo, Kassai River. These localities are rather far apart, the latter being apparently some 750 miles SW of the former.

The two examples do not, however, appear to differ in any noticeable particular. In addition to these two specimens there are also in the Tring collection several examples taken near Ft. Beni in the northern part of the Congo region. These I must refer to the same species. They differ only in having a browner ground-colour, and in the h.w. a duller shade of red.

101. Acraea grosvenori.

Male. Expanse 64 mm. F.w. sepia black with a tendency to thinner scaling and partial transparency in cell, in discal portions of areas 6, 5, and 4, basal half of 3 and 2, and the greater part of 1b. At the extremity of partially transparent area a light dusting of pink scales in area 4, beneath this, in 3, a slightly more distinct mark, beneath this, in 2, an elongated ill-defined pink spot, and in 1b a larger ovate pink spot, the whole area traversed by a fine dark internervular ray which is laterally dusted with pink nearly to the base. H.w. brick red. A sepia basal patch outwardly ill defined, obscuring a few minute black spots. A very narrow marginal dusting of sepia black, most distinct on and between the nervules. On the red area the nervules and long internervular rays are distinctly perceptible in a slightly darker colour. Underside. F.w. costa, apical area, and hind margin deep orange ochreous striated by the darker nervules and rays. A black spot at base of costa, and base of area 1b. Remainder of wing vitreous and almost devoid of scales. A fine dark line round hind margin. H.w. deep orange ochreous without any basal suffusion or marginal border, though the dark basal portion of upperside gives the base a slightly shaded appearance. The nervures, nervules and rays are very narrowly but distinctly outlined in dark brown. The rays are long and reach almost to the bases of their respective areas. A fine dark marginal line. Black spots, very small, as follows : - One in 9, one in 8 against precostal, one in 7 near base, two, the second very minute, on upper part of discocellulars. Two in cell, the second before the origin of nervule 2. One in 2 near base, followed by a double spot in 1c, and a dot in 1b. Some black at base of nervures 1b and 1a. In 1c a subbasal spot, another in 1b more distally placed, and a third in 1a, level with that in 1c. Head black, with a minute dot between, and two behind, the eyes. Thorax black. Abdomen black above with yellow lateral spots on the more distal segments. Claws unequal.
The female is unknown to me.
The foregoing description is taken from the type in the Tring collection.
A second male differs only in having a rather more extensive dark basal patch in the h.w., and a slightly broader and more continuous hind-marginal border.
Both examples were taken in February 1908, in the Gallery Forest, Rutschuru River, at a height of 1000 metres.
This species has the appearance of being very distinct, the h.w. underside not resembling that of allied forms. The basal spots also are very small and scarcely observable on the upperside. In this latter respect it is distinguishable from pelopeia, and though it presents the long internervular rays of the latter nervules are delicately outlined and not heavily dusted with brown. There appears to be a recognisable difference in the male armature, but paucity of material has prevented my studying this feature to an adequate extent.
I have pleasure in dedicating the species to my friend Mr. G. H. Grosvenor M. A., of New College, Oxford.

102. Acraea parrhasia,

Male. Expanse 54-64 mm. F.w. narrow, and pointed at apex. Costa, apex, hind, and inner margins black. Cell, areas 2 and 1b, semitransparent, rather thinly powdered with black. The cell at base and extremity tinged with red. Area 2 occupied by a large semitransparent spot dusted with red, sometimes fading outwardly to creamy white. Base of area 1b dusted with red and near margin a large fairly well-defined spot also dusted with red. Beyond cell a subapical bar of three elongated semitransparent

patches between the nervules, dusted with black basally, and sometimes with creamy white distally. Beneath these a similar but shorter and rounder patch in area 3. Nervules 2, 3, and 4 heavily dusted with black especially towards margin. H.w. with a sepia black basal suffusion rather well defined outwardly, and obscuring numerous black spots which are more easily distinguished on the underside. A sepia black marginal border 2-3 mm. wide and inwardly somewhat edentate on and between the nervules. Central area of wing bright red (rosy red in fresh examples) yellowish at inner margin. Underside. F.w. sparsely scaled and rather vitreous, the red areas showing through from the upperside. Costa, apex, and hind margin ochreous traversed by brown black nervule ends and rays. Some brown black dusting at hing angle, and costa and area 1b black at base. A fine dark brown line round hind margin. Median nervure and basal portions of nervules 2 and 3 laterally dusted with large ochre-yellow scales. H.w. ochre yellow with a greenish basal suffusion and hind-marginal border. A fine brown hind-marginal line. Beyond cell the nervules are narrowly powdered with dark brown, and between them are short, fine, brown internervular rays which reach the margin. Black spots as follows : - One at base in area 9, one in 8 against precostal, two in 7 not far apart, the outer one just over, or slightly beyond origin of nervule 7. (sometimes a minute spot between these). In areas 6, and 5, two small spots (sometimes absent), and that in 5 may be either more proximally or more distally placed than that in 6. On the upper part of discocellulars two spots which may be minute, or large and confluent. In cell, two, and sometimes three spots, the second of which is large, and the third varies from being totally absent, to being large, and confluent with the second. A spot at base of area 2. A basal, a subbasal, and a distal spot in 1c ,two median spots in 1b, and two in 1a. Head black with a white dot behind each eye, and a transverse white streak. Thorax black with whitish lateral marks. Abdomen brownish black above, with yellowish lateral spots and segmental streaks. Claws equal.

Female. Expanse about 70 mm. wings much more rounded than in male. F.w. Dull sepia brown. A central reddish streak in area 1b, and 2, and base and distal portions of cell dusted with dull red. The subapical streaks are much as in the male and may be transparent or have a whitish appearance due to a sparse clothing of brownish white scales; the patch beneath them in area 3 is reddish. H.w. with a basal suffusion and hind-marginal border as in male but browner, the central area dull brownish red. Underside. F.w. much as in male without the ochreous scaling on median nervure, etc. H.w. as in male but rather duller ochreous. Head, thorax, and abdomen more distinctly spotted than in male.

Parrhasia female f. oppidia.

Whilst the few examples of female parrhasia which I have seen from S. Leone are as already described, all those from near Lagos present a closer approach to the form named A. oppidia by Hewitson. This form which occurs at Fernando Po, is characterised by its somewhat richer colouring and by the greater development of white scales in the subapical area of the f.w. which here form a definite white bar, and in the h.w. there is much less dark basal suffusion.

Parrhasia female f. parrhoppidia.

In this form the red extends all over the cell, and over nearly the whole of areas 1b and 2. There is a blackish mark in cell. The whitish subapical streaks are replaced by clear areas.

Parrhasia female f. leona.

Smaller than overage females of parrhasia. The f.w. almost transparent but having a brownish tinge in reflected light. A faint trace of a blackish mark in middle of cell, costa apex, and hind margin finely dusted with brown scales. H.w. thinly scaled with reddish brown, no basal suffusion but a narrow brownish hind-marginal border, the ends of nervules, and the internervular rays being slightly marked in darker brown. The underside resembles the upper but the f.w. is still more devoid of scales, and the h.w. is ochreous brown. There are black spots as in parrhasia, but those beyond the cell are usually wanting.
The determination of the identity of Staudinger's A. leona has been a matter of considerable difficulty. After having seen the type however I find that the form is by no means rare in collection. It is always female and always from S. Leone, and though ordinary females of parrhasia also come from S. Leone, still I think there can be little doubt that it is a form of that species. Moreover in the Staudinger collection in Berlin there is a female example of parrhasia from the same locality which is quite intermediate between the typical female and leona.

The true affinities of many of these black and red semitransparent forms are extremely difficult to establish, and some of them have entailed laborious, if interesting, research. I am by no means satisfied that I have even now quite unravelled the difficulties. My work has however been greatly assisted by the magnificent collections which the Oxford Museum owes to the generosity of Mr. W.A. Lamborn, who has bred large companies of A. parrhasia and of other species with which it has formerly been confused. A. parrhasia can at least be easily distinguished from A. peneleos and its forms, since the male tarsal claws of the former are symmetrical.
The larva and pupa of A. parrhasia have been figured by Aurivillius (l.c) under the name of peneleos. He describes the larva as brown, with very long dorsal spines. Head, thorax, and dorsolateral spots blackish, and arising from dark transverse bands. The lower lateral spines short and brown at base. Pupa. Pale with the usual black markings. Dorsal abdominal spots widely separated, quadrate, and with pale central spots. Well-developed short tubercles on segments 2-7.
I have figured (PI. VI. F.3) one of the larvae sent by Mr. Lamborn from Lagos. They agree with Aurivillius' description though his examples were taken in Cameroon. It may be added that there is a fairly conspicuous pale lateral line, and a whitish bifurcated mark on the head. The pupae also agree with Aurivillius' figure.
The male A. parrhasia presents comparatively little variation though the female is less stable. Generally speaking the latter tends to greater transparency in the extreme western part of its range, this feature reaching its maximum development at Sierra Leone in the female f. leona. The latter however occurs in company with examples which differ but little from those bred further east, near Lagos, these forming a perfect transition to the oppidia form at Fernando Po. From thence eastward the transparency appears to increase again slightly since Cameroon examples are described as resembling the oppidia f., but having more transparent f.w., more faded, yellowish-red h.w., and an inwardly less sharply defined outline of the f.w. white subapical spots.

103. Acraea penelope.

Male. Expanse 46-50 mm. f.w. deep brown black. Beyond cell, a subapical row of three elongate transparent spots separated only by nervules 5 and 6 which are black. Beneath these in area 3 a smaller partially transparent spot. Near base of area 2 a large ovate orange red spot, and beneath it in 1b a rather larger similar spot. Often a small red mark beneath these in 1a. In many examples all these spots are enlarged, forming a nearly continuous band across the wing in which case the spots in 2 and 1b are thinly scaled with red and there may be a few red scales on that in 3. H.w. brown black at base, the outer edge of this colour varying somewhat in regularity of definition but usually extending as far as origin of nervule 2. A central band of orange red, its outer edge slightly convex, but indented on the nervules by the brown black marginal border which varies in width from 3 to 5 mm. Black spots of underside show faintly on the dark basal colour. Underside. F.w. costa, apical area, and hind margin pale to rich ochre yellow. Remainder of wing may be almost scaleless or may be thinly scaled with dusky orange ochreous, except on the subapical transparent spots. A thin black line round apex and hind margin, the nervule ends rather broadly black and joining a fine black marginal line, and the short internervular rays narrowly black reduced to a fine point at margin. The black powdering of nervules and rays becomes coalescent at the inner edge of the apical and marginal ochreous, which latter colour it tends to obliterate in areas 2 and 1b. A blackish streak at base of cell and 1b. H.w. clear ochre yellow, often with a greenish tint in the basal half. In some examples a slight reddish tint in cell and 1c. The hind margin over an area corresponding to the border above, has a slightly darker shade varying in tint from greenish to orange ochreous. On this area the nervule ends are rather broadly black, their outer extremities joining a fine black marginal line. Between them are short black internervular rays broadest at their inner end and tapering outwardly to a fine point which does not reach the margin. In many examples the inner ends of these rays are confluent with the black nervules and so form a continuous dark inner edge to the hind-marginal border. On the basal half of the wing are black spots so variable in size and number as to be little value for purposes of identification. An examination of a series of examples shows that there is rarely a spot in 8 near precostal and when present it is very small. The two usual spots in area 7 are apparently always present, though sometimes extremely small. The maximum number in cell is three, only the second of which is invariably present, and placed at or before the origin of nervule 2. There seem never to be spots in areas 3 and 4, and very rarely in 5. Sometimes that at base of area 2 is missing. The most constant are those in 1c, 1b, and 1a in which areas there appear always to be two spots. Head black with a white dot between the eyes and two on collar, thorax black above with pale lateral spots, abdomen black above with yellowish lateral dots. Claws unequal.
Female. Expanse 46-50 mm. f.w. more rounded than in male. Transparent and red spots usually rather larger and all the colours of both wings a trifle duller. H.w. as in male, but the inner edge of hind-marginal border rather more regularly curved. Underside much as in male with similarly variable black spots.

A. penelope female f. argentea.

General colouring paler, and the h.w. hind-marginal border broader than in typical form and on it the short darker nervule ends and rays can be distinctly seen. Underside. F.w. ochreous areas replaced by silvery grey. H.w. basal portion and hind-marginal border silvery grey, central area faintly pink.

A. penelope female f. exalbescens.

Resembles typical female in pattern, but all reddish areas replaced by yellowish white, and the h.w. hind-marginal border as broad as in f. argentea. Underside. Ochreous areas replaced by yellowish white rather dusky on f.w. costa, apex, and hind margin and on h.w. basal area and hind-marginal border.

A. penelope female f. penella, f. nov.

F.w. Basal half reddish brown slightly blackened at base, and about end of cell. Apex and hind margin brownish black tending to reddish towards hind angle. From subcostal to inner margin a broad transparent discal band divided into large spots by the nervules which are slightly dusted with brownish. H.w. tawny red, somewhat blackened at base, the spots of underside irregularly indicated. Hind margin border of medium width thickly dusted with sepia, its inner edge ill defined and edentate on and between the nervules. Underside. F.w. much as above but costa, apex, and hind margin tawny ochreous with blackish nervules and internervular rays. H.w. base nearly to end of cell reddish tawny, followed by a discal band of pale pinkish ochreous and having a broad, well-defined marginal border of tawny ochreous striated by the black nervule ends and short internervular rays. The reddish basal portion more heavily spotted than is usual in penelope. Two spots in 7, the second just beyond origin of nervule 7, and beneath it but slightly nearer margin a spot in 6, and in 5. A dot at base of area 5 on discocellular ; a basal, a central, and a distal spot in cell (the latter may be an aggregation of dots) a spot at base of area 2. Three spots in 1c, the third just beneath origin of nervule 2, and beneath it two spots in 1b. A subbasal and a distal in 1a. This interesting form is at once distinguished by the tawny red basal area of h.w. underside which brings into prominence the central pale band, thus producing a close resemblance to peneleos pelasgius. The pattern is doubtless modified in mimetic association with that species.

A. penelope vitrea, subsp. nov.

Male. F.w. Costa, apical area, and hind margin sepia black. Cell and basal portions of 6, 5, 4, 3, 2, 1b, and 1a dusted with the same colour. Remainder perfectly transparent with a dusting of orange red in areas 2 and 1b, and an orange red linear mark in 1a. H.w. orange red, usually with a less extensive basal suffusion, and having a narrower hind-marginal border. Underside resembles that of typical penelope.
The female is unknown to me.

A. penelope derubescens, subsp. n.

Male. Resembles subsp. vitrea, but in the h.w. the central area is crimson, much reduced in width, and does not reach the costa. A few brown scales can be seen with a lens in areas 1b and 2. On the underside of f.w. the ochreous areas are replaced by pale

greenish, and in the h.w. the basal area and hind margin are pale green, and the central creamy white.
Of this form there are three males in the Berlin Museum. One has the black nervule ends and rays in h.w. underside not joined together as they are in the type figured, and has an additional spot in areas 6 and 5. All three examples were taken at Misahole Station near Tongbe in Togoland.

A. penelope translucida, subsp. n.

Male. Rather smaller than typical penelope. F.w. transparent. Costa, apical area, and hind margin black, this colour being somewhat edentate on the nervules. Some black powdering in and beyond cell, and a slight blackish longitudinal streak in cell. A little dusting of red scales in basal half of area 1b, and distal portion of 1a. H.w. much as in typical penelope but dark basal suffusion only slight and hind-marginal border rather narrower. Underside as in typical penelope, but the greater part of f.w. devoid of scales and vitreous. H.w. clear ochre yellow with a greenish tinge at base and on hind-marginal border.
Female. F.w. more rounded than in male but otherwise similar, though more thinly scaled, the dark portions having a grey appearance. H.w. salmon pink, the spots of underside irregularly reproduced. Hind margin powdered with sepia scales, the nervule ends and rays slightly accentuated. Underside much as in male but the nervule ends and rays brownish rather than black. The usual variability occurs in the black spots.
This form has lately been bred near Lagos by Mr. W.A. Lamborn. Unfortunately none of the larvae were preserved on that occasion, and a further supply has not yet been obtained. They feed on the same plant as the larvae of A. peneleos. Miss Sharpe's A. newtoni from the Island of St. Thomas is probably also a form of A. penelope. I have not however been able to see the type of this form which is in the Lisbon Museum, my appeal to the courtesy of a reply.

104. Acraea newtoni.

Male. Expanse 50 mm. F.w. elongated, black brown. A subapical band of three dusky translucent spots separated by nervules 6 and 5, and a somewhat larger similar spot near base of area 2. H.w. black brown showing a few black spots near base and having a narrow (3 mm) orange red curved central band which scarcely reaches the inner margin. Underside. F.w. vitreous the pattern of upperside showing through. H.w. base greenish grey, the band of upperside represented in pink. Hind-marginal border grey brown. An outer row of black spots of which there are three in 7, 6, and 5, the first well beyond origin of nervule 7. A spot near base of area 2 followed by one in 1c and 1b, all in a straight line at right angles to inner margin. Also two spots in cell the second above origin of nervule 2, a subbasal in 7, a subbasal in 1c, a basal and a subbasal in 1b, and a spot in 1a. Head and thorax black with a few whitish dots. Abdomen black above with lateral yellowish spots. Palpi white.
I have not had an opportunity of examining the type of this species which is in the Lisbon Museum. I am inclined to regard it as a local form of A. penelope, Staud. It occurs only in the Island of St. Thomas. The female is not yet known. Should this

form ultimately prove to be conspecific with penelope the name newtoni will take precedence.

105. Acraea mairessei.

Male. Expanse 50-54. F.w. black. At end of cell an irregularly shaped transparent spot often indented on the basal side by the ground-colour. Beyond cell a series of three subquadrate transparent spots separated by the black nervules. A large transparent spot at base of area 2, not always extending right into angle between median and nervule 2. The discal edge of this spot powdered with black scales. Beneath it a small ill-defined transparent spot. Examined by reflected light the inner and sometimes also the subapical spots are seen to be slightly scaled with yellowish white. H.w. black, slightly less dense in basal area, on which the black spots corresponding to those beneath, can be discerned. An irregular discal patch of lemon ochreous beginning in area 6 and ending in 1b, its inner edge edentate in cell, and its outer edge edentate between the nervules especially in 6, 5, and 4. Underside. F.w. costa, apical area, and hind margin dusky brown ochreous, striated by the black nervules, which join in a fine marginal line. In areas 6-2 short black internervular rays beginning at inner edge of the yellow colour and rapidly diminishing to a point some distance short of the margin. Remainder of wing rather thinly scaled with black except in ways of transparent spots, these having a slight dusting of yellowish white scales as on upperside. H.w. lemon ochreous with a greenish tint at base and over outer marginal border. On the latter the nervule ends are rather broadly black and join a fine marginal black line. Between them are short black internervular marks separated from margin by a distance about equal to their own length. Black spots as follows : - One in 9 at base, two in 7 occasionally coalescent, one at base of area 6 (rarely absent), two on discocellulars (these, and that in 6, often confluent). One in cell near base. A large crescentic spot in 1c (rarely divided into two). Two in 1b (sometimes coalescent), a basal linear mark in the same area, and two spots in 1a.
In one (female) example before me the internervular marks are inwardly confluent with the black powdering of the nervules.
Head black with a white dot between eyes and two on collar. Thorax black with some yellowish dorsal and lateral spots. Abdomen black with yellowish lateral spots. Claws unequal.
Female. Expanse 52-54 mm. Resembles male but the transparent spots, especially the subapical series tend to be larger, except that in 1b, which is sometimes wanting. The h.w. patch is, in one example, white.

A. mairessei f. dewitzi.

F.w. thinly scaled with black. The transparent spot in cell is reduced to a mere streak, as also is that in 1b. The h.w. patch is tawny red, and reaches the costa and inner margin. The underside is like that of the typical form but the yellow areas are of a more golden tint, and the internervular marks are rather more slender. They are not proximally confluent with the black of the nervules.
The example above referred to was described by Dewitz as a variety of A. peneleos. Aurivillius has pointed out (l.c.) that it appears to be a red form of his mairessei, and having seen the specimen I agree entirely with this view. It is remarkable that these

small black and yellow Acraea occasionally produce forms in which the yellow is replaced by red, whilst the red and black species produce yellow and black varieties. Thus there is a female form of A. penelope with yellow h.w. and a female form of servona with the typical yellow replaced by red. The case of orestia is still more peculiar since we have the red, an orange intermediate, a yellow, and a colourless form.

The present species has a wide distribution, extending from the neighbourhood of the Kassai R. to Entebbe.

106. Acraea melanoxantha.

Male. Expanse about 4 mm. F.w. brownish black. At end of cell a large lemon ochreous spot occupying the outer third of cell, its proximal edge indented by the ground-colour, and beneath it at base of area 2 a somewhat similar lemon ochreous spot. Beyond cell, midway between cell end and apex a slightly curved row of three subquadrate spots. These spots are translucent and appear to be white, but if examined by reflected light only they are seen to be lightly scaled with lemon ochreous. H.w. brownish black with a lemon ochreous central patch, occupying basal part of 6, 5, 4, 3 (very slightly) and 2, extending thence in a narrow continuation nearly to inner margin, and also occupying the lower outer half of cell. On the dark basal portion the spots of underside are just visible, and in addition there is a black mark at extreme base of areas 5 and 4 on the discocellulars and plainly visible on the pale yellow ground. On the outer dark coloured half of the wing the dark internervular rays are visible. Underside. F.w. costa pale greyish ochreous, remainder of wing blackish with pale spots as above but the large yellow spots are only very slightly scaled and inclined to be larger than above. At apex between the branches of subcostal, and along apical and hind-marginal border, between the black nervules and rays, pale lemon ochreous. H.w. lemon ochreous, slightly dusky over those areas which are black on upperside. The marginal border is striated by rather heavily sepia powdered nervule ends rays. The latter though coming to a point at margin do not stop short of the margin as in mairessei. The inner edge of this striated border is often tinged with reddish brown. Black spots as follows : - Two in seven, the second just beyond origin of nervules 7 and 6, one at base of 5 and 4 on discocellulars. One spot (sometimes absent) in cell, a subbasal and central spot in 1c, two spots in 1b, and one in 1a. Some irregular black at base of nervules. Head black with a lemon ochreous transverse line and two ochreous tufts on collar. Thorax black with a few pale lines and spots. Abdomen black above with pale lateral spots. Claws equal.

I have not seen a female of this species. The colouring of the underside is rather variable. The foregoing description is taken from the type, but another example has the basal and marginal areas of the h.w. underside reddish brown, whilst another has the whole of the pale ochreous portions of the underside of both wings (except the spots of f.w. and the central patch of h.w.) rich chestnut brown, the marginal border of h.w. being rather blacker towards its inner edge. In this example there is no black spot in the cell.

All the examples which I have up to the present examined were taken on the southern slopes of Mt. Elgon. But for the absence of the pale spot in f.w. 1b, and the fact that the spots in 2 and cell are, on the upperside, fully scaled with yellow, the species has a

very similar appearance to A. mairessei, Auriv., and indeed may ultimately prove to be a local race of that species.

107. Acraea conradti.

Male. Expanse 46-50 mm. F.w. Costa, hind margin, basal half of 1a, and apical half from end of cell, black. Cell, and areas 1b, and 2 except at margin, and central portion of area 1a, dark brick red. A subapical band of three transparent spot in 6, 5, and 4. Lower side of subcostal somewhat powdered with black, a little black at base of cell, and a short linear black mark at base of area 1b. H.w. dark brick red with a black hind margin some 2 mm. broad from apex to nervule 4, and 3 mm broad thence to anal angle, from which it extends as a narrow black line along inner margin. The black scaling projects inwardly somewhat along the nervules. Base with a considerable black suffusion extending for about half the length of areas 7, 1c, 1b, and 1a, and occupying lower half of cell as far as origin of nervule 2. A number of black spots somewhat obscured basally by the black suffusion, and more easily distinguished on the underside. Ground-colour tending to yellowish along inner margin. Underside. F.w. Costa, hind margin, and apical portion beyond transparent spots dull sage green traversed by broadly black nervules and narrow black internervular rays. Lower side of subcostal, area from end of cell to subapical spots, and basal half of area 3 powdered with black. Extreme base of costa black, and a black linear basal mark in cell and 1b. H.w. base and hind-marginal border dull sage green. Central area pink or pale yellow. Nervule ends on margin broadly powdered with black, and between them a series of narrow black internervular rays broadest at their proximal ends and barely reaching the margin. Black spots as follows : - A large spot in 7 near the middle, followed by two graduated smaller spots in 6 and 5, each slightly more distally placed. An irregular black mark on upper part of discocellulars formed of confluent spots. A spot at base of area 2 followed by a larger spot in 1c, another in 1b rather more distally placed, and a third more proximal in 1a. Base of cell and area 9, black. A dot in 8 near precostal. A subbasal, a median, and a distal spot in cell, a basal and a subbasal in 1c. base of 1b black, followed by a median spot. Base of 1a black followed by a subbasal spot. Head and thorax black with a few pale dots and marks. Abdomen black with minute lateral yellowish white dots. Claws equal.

Female. Expanse about 60 mm. Wings more rounded than in male. Generally paler, duller, and more thinly scaled. F.w. Subapical transparent spots as in male but larger. H.w. with somewhat less basal black in area 7, but the black spots less defined and more confluent. Marginal border not continuously black, but having a reddish brown ground-colour and elongated triangular black markings on nervule ends, between which are short, narrow black internervular rays which barely reach margin. Underside. F.w. as above but thinly scaled and somewhat glossy. H.w. with reddish brown base on which the black spots are ill defined and confluent. Central area occupied by a conspicuous broad curved pink band. Marginal border reddish brown marked as in male. Head, thorax, and abdomen with the pale spots rather more conspicuous.

108. Acraea buschbecki.

Male. Expanse about 54 mm. F.w. narrow and elongated. Brownish black. Cell as far as origin of 3, basal two-thirds of area 2, basal three-quarters of 1b, and subbasal portion of 1a, brick red. An oblique subapical series of three elongated contiguous quadrate brick-red spots in 6, 5, and 4, followed by a smaller, more rounded, and isolated spot in 3. Projecting into cell from subcostal, above origin of nervule 2, an outwardly curved blackish brown spot. In area 1a a large subtriangular blackish brown spot, its base on the submedian, and its apex meeting nervule 2 just beyond the origin of the latter. A linear basal black mark in area 2. H.w. brick red, yellowish at inner margin and with a slight blackish basal suffusion. A blackish brown hind-marginal border, some 2 mm wide, its inner edge somewhat edentate on the nervules and rather less so between them. A series of black spots somewhat ill defined and partly confluent. Underside. F.w. as above but basal red areas orange ochreous, subapical spots dull ochreous, and the apex and hind margin striated by ochreous internervular marks, each divided by a narrow central dark ray. Costa dull ochreous. H.w. dull ochreous with a blackish brown hind-marginal border as on upperside but bearing a series of marginal internervular ochreous spots each of which is divided by a short internervular ray which scarcely reaches the margin. Black spots as follows : - One in 7, near middle, followed by two rather smaller spots in 6, and 5, each rather more distally placed. Two spots on upper part of discocellulars (usually confluent) a spot at extreme base of area 4, a dot at base of 3, a large spot at base of 2, followed in area 1c by a large figure of eight mark formed by two coalescing spots. Beneath this, two spots in 8 rather beyond precostal, three in cell, the second large and lying beyond origin of nervule 2. Some black at base of 9, cell, 1c, 1b, and 1a. Head, thorax, and abdomen black, with ochreous marks and segmental dots. Claws unequal.
Female. Resembles male but subapical red spots are rather larger.
I have seen but few examples of this apparently rare species. It is quite peculiar in appearance and easily recognised.

109. Acraea servona.

Male. Expanse 42-60 mm. F.w. elongate and resembling in shape that of parrhasia. Sepia black to black. Basal two-thirds of cell, area 1b, and base of area 2, rather thinly and irregularly scaled. Beyond cell three elongate transparent spots separated by nervules 5 and 6, and proximally somewhat powdered with black. Beneath these, in basal part of area 3, a smaller, elongate, partially transparent spot. In area 2 a large, and beneath it in 1b a smaller transparent patch, the latter traversed by a blackish internervular ray. These transparent areas, when viewed by reflected light, are seen to be very sparsely dusted with white scales. H.w. At base, and from costa to nervule 7 sepia black, a hind-marginal border of the same colour some 4-5 mm wide. Central area occupied by a lemon ochreous patch somewhat edentate basally in cell, its outer edge angulated at nervule 3. Underside. F.w. costa, apical area and hind margin dusky lemon ochreous, striated by black nervules and rays. The hind-marginal ochreous almost obliterated towards the hind-angle by a suffusion of brownish black. A black spot at base of costa, remainder of wing almost devoid of scales, except the median nervure and the basal portions of its branches which have a narrow but very dense lateral clothing of large ochreous scales. H.w. Those areas which on the upperside are black, are here dusky lemon ochreous. The hind-marginal border regularly striated by black nervule ends and rays, the latter reaching the margin. Black spots somewhat

variable, but usually as follows : - One at base in 9, one in 8 against precostal, two rather close together in 7, two in cell, the second over the origin of nervule 2. A basal, a subbasal, and a median in 1c. A basal streak and two median spots in 1b, and two in 1a. Head black with a yellowish white dot between the eyes, and two on collar. Thorax black with pale dorsal and lateral marks. Abdomen black above with pale lemon ochreous lateral dots. Claws equal (but see f. reversa, p. 296).
Female. Expanse 62-66 mm. F.w. much more rounded, and dark areas usually tending to a browner shade. The transparent patches are more clearly defined, those parts which in the male are thinly scaled, are here of the same depth as the general ground-colour. The yellow patch in h.w. is often of a dull ochreous. In other respects the female resembles the male.

A. servona orientis, subsp.

Ground-colour a much richer black. The f.w. transparent spots rather smaller, more clearly defined, and more obviously scaled with white. Those in 1b and 3 almost or quite absent. In the h.w. the yellow area is broader owing to the greatly decreased extent of the basal black. On the underside the f.w. is correspondingly blacker, though the cell, transparent patches, and bases of areas 6-1b are still almost devoid of scales. The female also has the ground-colour blacker, though scarcely so black as in the male. The black spots of the h.w. underside seem to be more variable in this race than in most of the more western examples, and Dr. Strand has proposed form names for the principal variations of this feature. These forms are as follows :

f. depunctella.

No black spots in cell, one to two in area 7.

f. unipunctella.

One spot in cell and two in area 7.

f. semipunctella.

One spot in cell, one in area 7.

f. transienda.

One spot in cell, one in 7, the transparent spots in areas 1b and 3 of f.w. present.

A. servona rhodina, subsp.

This form was originally described as circeis rhodina by Messrs. Rothschild and Jordan and differs from typical examples in having the yellow areas of the underside replaced by chestnut brown. The type was described from Abyssinia but the subspecies is not confined to that area, since all the examples I have seen from Entebbe and extending as far as Mumias (Tiriki Hills) have this brown colour well developed.

A. servona female f. rubra.

Three examples of the insect I have figured occur in the Tring collection, and I feel bound to refer them to A. servona. Two were taken at Fernan Vaz (Gaboon) in company with several red and black forms, which latter were undoubtedly A. peneleos. It is certainly not a female form of the latter. In the specimen figured the h.w. black spots are large and confluent. They are also rather more numerous than in average examples of servona, but fortunately the second specimen already referred to supplies an intermediate in which these spots are quite as in typical servona. The third example was taken at Pundo Andongo in Angola. It differs from the others in having a narrower and inwardly less well-defined marginal band in the h.w. The underside is more orange ochreous, and the h.w. nervule ends are less broadly black. The central area of the h.w. underside is pale ochreous.

A. servona limonata, subsp.

This form occurs at Fernando Po, a small series in the British Museum from the Hewitson collection being at present labelled A. lycoides. Five examples of the same form are in the Joicey collection (lately the properly of Mr. H. Grose-Smith) and these are somewhat vaguely labelled Angola. All differ from typical servona in having the spots in f.w. 1b and 2 lemon ochreous instead of transparent white, and all are males. For some time I was unable to decide whether this form were the true lycoides, but M. Charles Oberthür has kindly sent me a most careful description of Boisduval's type. This example is a female and evidently agrees with Godart's servona. In the explanation of Boisduval's plates the locality is vaguely given as "Guinea", and there appears to be no reference to it in the text. Godart gives Angola as the locality of his A. servona. The type of this is also a female. Now I am unable to say whether the females of the Fernando Po form have transparent or yellow spots on the h.w., as I have seen no female examples from that locality. I cannot therefore definitely connect the Fernando Po specimens with the types of either lycoides or servona. The fact that yellow spotted males occur in the Grose-Smith collection labelled "Angola" would support the conclusion that they were the males of Godart's servona. If this were established our synonymy would have to be slightly altered. Servona would still remain the name of the species, but it would refer to the yellow spotted form, and the male (dejana) and female (lycoides) would form a subspecies. I have however reason to suppose that the labels referred to are not sufficiently reliable, and until further material is available for the study of these forms, I must regard servona and lycoides as synonyms, giving a distinctive name to the distinctly yellow spotted form, of which I have at present seen only male examples.

A. servona tenebrosa, subsp. n.

This form, of which I have only seen the male, differs from other forms in the following particulars : - the ground-colour is intensely mark. There are no clear spots in f.w. 1b, and 3. The remaining clear spots are reduced in size and quite appreciably scaled with white. The h.w. pale yellow patch is much reduced, only just extending into area 7, and partially into 1b. On the underside those areas which in the typical form are pale yellow are here of a very dark red brown. It occurs on Kwidgwi Island, L. Kivu.

A. servona f. reversa.

This form differs constantly from servona solely in the fact that the tarsal claws of the male are unequal. It should however be noted that in all the eight examples known to me the transparent spot in f.w. area 3 is larger and better defined than in the majority of examples of servona. Also there is a general tendency for the nervule ends on the underside to be more heavily scaled with black brown. In one example this scaling is developed to such an extent that the outer half of the wing is almost completely black, an extreme condition which I have not observed in the type form.

A. servona occurs from Fernando Po to Angola and across the Congo State to Entebbe, thence northwards into Abyssinia, and southwards into German E. Africa. I have not yet found the dividing line between the typical form and the subspecies rhodina, nor between does not occur in Neave's collection from N. Rhodesia and Katanga, nor have I seen examples from E. of the Kikuyu Escarpment. It would appear, therefore, to extend into German E. Africa by way of the Urundi Country. It is remarkable that at L. Kivu the subspecies tenebrosa represents a form which, in the absence of clear spots in f.w. 1b and 3, agrees with the German E. African form orientis, whilst in the dark red brown areas of the underside it shows affinity with the subspecies rhodina. The much-reduced yellow patch of the h.w. separates it from either form.

The occurrence of the form which I have named reversa, adds one more to the many difficulties of classification which the genus Acraea presents. An examination of hundreds of typical servona together with the few available specimens of reversa, reveals no constant difference which would serve as a basis for specific distinction, with the sole exception of the structure of the male tarsal claws. In the other species of the genus these claws are constantly either equal or unequal, but in this one case their structure appears to be inconstant. The genitalia are as closely alike as possible, within the limits of individual variation. I have retained this form reversa under the heading of servona since there seems no sufficient evidence of specific difference. Moreover, to separate it would at once raise still difficulties. The type of servona is a female. Amongst the examples before me are many female which are certainly servona. Assuming servona and servona reversa to be different species, to which species do all these female belong ? Breeding experiments and the acquisition of further material may one day throw some light on the matter. Meanwhile I prefer merely to record the fact that there occur amongst large series of male servona, certain examples differing from the rest only in the structure of the tarsal claws. I have not yet discovered any means of deciding whether such forms are or are not specifically distinct.

110. Acraea circeis.

Male. Expanse 52 mm. F.w. for the most part transparent, the transparency being caused by reduction in number and width of the scales. Costa, apex, nervures and hind margin more heavily dusted with brownish black. Near base of 2, and in 1b near margin, a few yellowish white scales representing two obsolescent spots. H.w. base with a triangular dusky grey are bearing black spots more easily observed on the

underside. A central band of very pale lemon ochreous beginning in area 6, its outer edge slightly curved as far as nervule 5, thence traversing the wing parallel to inner edge and reaching the inner margin where the band is about 4 mm wide. Remainder of wing dusky grey forming a marginal band which joins the basal grey along costa in 7. Underside f.w. as above but without the yellow scaling in 2 and 1b. Costa dusky ochreous with a black spot at base. Main nervures laterally covered with brownish scales. H.w. As on upperside but paler, the marginal border having the nervule ends and internervular rays heavily dusted with dull brown, and the intervening spaces powdered with dull ochreous. On the grey basal portion black spots as follows : - One in 9, one in 8, two in 7, sometimes a small dot near base of area 6 one (sometimes two) on discocellulars, two in cell (the second in the middle and large), a basal spot in 1c, followed by two large spots often coalescent, two in 1b, and two in 1a. Head and thorax black with a few pale marks, abdomen black above with whitish lateral spots. Claws unequal.
Female resembles male but the f.w. are more rounded, and there is a little yellow scaling in 1b, at base of 2, and at end of cell in f.w.
Acraea circeis is somewhat rare in collections. At one time I was of opinion that it was a form of A. servona, but careful examination of a number of preparations of male genitalia convince me that it must be regarded as distinct. It appears to be an exclusively western species.

111. Acraea oreas.

Male. Expanse 48 to 58 mm. F.w. much angulated and hind margin markedly convex. Black with large lemon yellow spots. Of these there is one in cell extending from subcostal to median and lying between origin of 2 and 3. A subapical band of three in 6, 5, and 4, the last somewhat more distally placed, one in 2 not quite touching the median, and beneath it and nearer margin a spot in 1b. usually small yellow streak near base of 1b close to median. H.w. black with central lemon yellow patch of peculiar shape. This patch occupies the basal portion of 7, nearly the whole of cell except a small streak on lower side at base, and extends beyond cell slightly into 6, 5, 4, 3, and 2. Underside. F.w. Costa dark to pale reddish brown. Yellow spots as on upperside but paler. From base to subapical spots brown- black, base of cell and the edges of median nervure and its branches laterally dusted with large yellowish scales. Apical and hind-marginal borders in some cases also brown- black but more usually reddish brown to brownish ochreous striated by the black nervules and internervular rays. H.w. varying from black brown to reddish ochreous. A central yellow patch as above but paler and usually extending in a narrow suffused streak across areas 1c and 1b, near their middle. Area 8, a streak on lower side of base of cell, and basal part of 1c, 1b, and 1a more distinctly reddish than remainder of ground-colour. A small black spot in 8, rarely one near base of cell, two in 1. Claws unequal. (the second on the inner edge of extension of yellow patch) two in 1b and usually one in 1a. Outer half of wing striated by black nervule ends and internervular rays. Head black with a few whitish marks, thorax black with two anterior dorsal whitish streaks. Abdomen black above with pale yellowish segmental lines and lateral spots. Claws equal.
Female. Expanse 50-60 mm. resembles the male but f.w. less angulated.

f. albimaculata.

Differs from typical examples in having the spots of f.w. white. At present I have only seen males of this form though females probably also occur.

f. angolanus.

Differs from the typical or eastern form in being larger (male 60 mm, female 80 mm). The f.w. spots are white, in both sexes the ground-colour of the marginal borders in both wings on underside is generally, though not invariably, pale greyish ochreous. On h.w. underside areas 8. 9, a streak on lower side of base of cell, areas 1c, 1b, and 1a remain reddish as in typical specimens.

Lathy describes an aberration of the female in which the f.w. spots are tinged with pale yellow and the h.w. patch is radiated into the marginal black. This would appear to be a not uncommon form, examples agreeing with Lathy's figure occur both in the Tring Museum and in my own collection.
I do not think the differences between the Angola and other forms warrant the separation of the former as a subspecies. The f.w. white spots do not distinguish it from the albimaculata form, and they are not constant as shown by the female aberration above described. The pale colour of the wing borders on the underside though predominant, is also not quite constant. The variation of this marginal colour is peculiar. In Angola it is, as stated, usually dusky ochreous. Passing eastwards it gradually becomes darker, and at Toro and on to the Tiriki Hills it is deep red brown or black. In German East African examples it again becomes paler turning to a rusty red or orange ochreous. The species is easily recognised by the angulated wings and by the peculiar shape of the yellow central patch of the h.w.

112. Acraea semivitrea.

Male. Expanse 54-62 mm. F.w. transparent, elongated. Costa and nervures narrowly black, apex narrowly black, continuing as a narrow hind-marginal border expanded into triangular marks at nervule ends. A little black at base most extensive in area 1a. The transparency of the wing is caused by a total absence of scales, there being no sign even of scales sockets in the glass-like membrane. H.w. brown black at base nearly to end of cell, obscuring some rather large black spots. A black hind-marginal border narrow at apex, about 2 mm wide as far as nervule 3, afterwards widening out to about 5 mm at 2. An inner- marginal pale ochreous patch extending partially into area 2. Underside f.w. black portions replaced by pale ochreous striated by black nervule ends and rays, the black powdering of which gradually obliterates the yellow towards the hind angle. Some black at base of area 1b. In h.w. the area which is occupied above by the basal black and the inner marginal patch, is here entirely lemon ochreous, the hind-marginal border being of a darker shade of the same colour traversed by black nervule ends and rays. Black spots somewhat variable as follows : - One at base in area 9, one (sometimes two) in area 7, one on discocellular at origin of 6 and 7, three in cell, the first on subbasal sometimes absent, and the others often confluent. A spot at base of 2, a basal and two more distally placed spots in 1c (the latter often confluent), two spots in 1b (sometimes confluent) and two in 1a. Head black with a pale yellow spot between eyes and two on collar. Thorax black with a

few paler marks. Abdomen black above with lemon ochreous lateral spots and faint segmental lines. Claws equal.

Female. Expanse 60-72 mm. resembles male but dark areas rather browner, and the h.w. inner marginal patch creamy white. In one example before this patch is reduced to a mere dusting of whitish scales. On the underside the yellow is correspondingly paler and duller.

This species is quite unlike any other Acraea, and is easily recognised. The type in the Brussels Museum was taken at Lualuaburg in the Southern Congo. A long series of examples in the Oxford collection are from Entebbe and Kisumu. It doubtless occurs in the intermediate region, and I find no marked difference between the Congo examples and those from Uganda. I have inspected the type of Miss Sharpe's A. pervia, and find it does not differ from other Uganda specimens now before me.

Group XVIII.

113. Acraea igola.

Male. Expanse 44-50 mm. F.w. costa, apex, and hind margin black, broadest at apex. Basal portion almost to end of cell, proximal half of area 2, and the whole of areas 1a and 1b, except at hind margin, rather thinly scaled with brick red, remainder of wing almost transparent crossed by black scaled, nervules, and slightly dusted with black scales which are much reduced in width. A black basal linear mark between median and submedian, and another in area 1a. the hind-marginal black is somewhat indented between the nervules by the transparent area. H.w. brick red with a black hind-marginal border projecting inwardly on the nervules, and to a less extent between them. A greyish black basal suffusion widest in 1c. The inner margin yellowish. Black spots as on underside but somewhat less pronounced especially those in areas 3, 4, 5, and 6. Underside, f.w. very thinly scaled and having glazed appearance, in some examples iridescent. The black areas replaced by reddish brown, and the red portions showing through from upperside. H.w. dull reddish, the marginal border brown crossed by black nervule ends and brown internervular streaks, the latter short and scarcely reaching the margin. Basal suffusion as above but dark greenish grey. Black spots as follows : - An outer or discal series of eight, the first, in 7, large, the second, third, and fourth, decreasing in size, and lying almost parallel to the hind margin, though the fourth, a minute spot not always present, is rather less distally placed. The fifth, in 3, small and close to end of cell, the sixth, seventh, and eighth large and nearly in a straight line almost at right angles to inner margin. Two spots on the discocellulars, a large subbasal in 7, two in cell, the second just before origin of 2, in 1c a basal and a subbasal, and beneath the latter a spot in 1b. A subbasal in 1a, and sometimes a very small additional spot in the same area. Some basal black in area 9, and a dot in 8 close to precostal. Head, thorax, and abdomen black with a few very small yellowish spots. Claws equal.
Female. Expanse 50-54 mm. Markings as in male but wings more rounded and red areas replaced by very pale ochreous or creamy white, and the black margins are suffused and thinly scaled. In some examples there is an indication of reddish internervular marks on the h.w. marginal border. The subbasal spot in h.w. cell is sometimes absent.

A. igola female f. maculiventris.

The female igola is dimorphic and judging from a long series before me the present form named A. maculiventris by Grose-Smith, would appear to be commoner than the whitish form described by Trimen as the type. The present form resembles the male but the red areas are duller and paler, whilst the h.w. hind-marginal border is invaded by the red ground-colour to a varying extent. In most cases the h.w. underside presents a remarkable difference from that of the male. The marginal border is reddish brown and well developed, whilst the basal portion is chocolate brown extending to the discal row of spots. Between these and the marginal border is a broad, curved discal band of a dull pinkish colour. The general effect of this pattern is to give the underside a marked resemblance to that of A. conradti.

In the Vosseler collection at Berlin I found a very fine series of A. igola from Amani and Usambara in German A. Africa. The males have the black spots of the upperside very distinct. On the underside the f.w. is very iridescent, whilst the h.w. has a tendency to be yellowish rather than red. Some examples have all the scaling much reduced, the h.w. marginal border being almost absent. The females are of the maculiventris form, and one example before me has no black border in the h.w. On the underside the discal curved band is pink, due to a sprinkling of whitish scales on a brownish ground. The hind-marginal border is orange brown.

114. Acraea aubyni.

Male. Expanse 50-56 mm. F.w. elongated and with hind margin slightly concave. Cell, basal two-thirds of area 3, greater part of areas 2, and 1b, and a streak beyond middle of 1a, pale brick red. Costa, apex, a short space beyond cell, and greater part of 1a sepia. A short blackish basal streak in area 1b. A subapical patch of three more or less transparent elongated spots in 6, 5, and 4. H.w. basal half of 7, and 1c, base of cell, most of 1b, and all of 1a sepia. A sepia black marginal border 1-5 to 2-5 mm broad, slightly edentate inwardly on and between the nervules. Remainder of wing pale brick red with black spots more easily observed beneath. Underside. F.w. very sparsely scaled except at apex and hind margin. Nervures and nervules finely black. Resembles upperside but all the sepia areas dull ochreous and there is an indication of a small blackish streak in cell. H.w. dull ochreous, those areas which are sepia above being represented by a slightly darker ochreous shade. Hind margin bears short internervular rays which barely reach the margin or only do so in a fine point. Nervule ends on margin slightly thickened with black brown. Black spots as follows : - Two in 7, the second just beyond origin of nervule 7. Beneath the second and rather more distal a short in 6, followed by one still more distal in 5. A spot at base of 5 on discocellular and a similar but smaller one at base of 4. One at base of 2, a basal, a subbasal and a distal in 1c and 1b, the two outer spots in latter area being rather further from base than the corresponding ones in 1c. A subbasal in 1a. Head black with a yellowish spot between the eyes and two on collar. Thorax black. Abdomen black above with yellowish lateral spots. Claws equal.
Female. Expanse 60 mm. F.w. for the most part transparent. Costa dusted with blackish. Apex rather broadly blackish as far as area 4 where the dark scales become confined to a narrow hind-marginal border fading into reddish in areas 1b and 1a. A slight dusting

of dark scales on the discocellulars and beyond the cell, and a very small dark spot in cell, close to subcostal above the origin of nervule 2. Base slightly blackened and the whole of cell, and the greater part of 2, 1b and 1a faintly powdered with red. H.w. blackish at base, and having a dark hind-marginal border as in male. Remainder of wing brick red but very thinly scaled. Black spots as in male but those in 7, 6, and 5 beyond cell more distinct. Underside f.w. as above but almost devoid of scales except at apex and hind margin where it is brownish ochreous. H.w. base and marginal border brownish ochreous. Ends of nervules black with short dark internervular rays which do not reach margin. Central area sparsely scaled with whitish to which a pink tinge is transmitted from the red scales of the upperside.
This species is represented by a few examples kindly presented to the Oxford collection by the Rev. K. St. A. Rogers. It adds one more form to a very difficult group, the true affinities of which are very obscure. A single female example has just been received. The species is apparently very closely allied to igola, but the h.w. spots in 7, 6 and 5 are much nearer the cell than in that species. I have much pleasure in dedicating in to the Rev. K. St. Aubyn Rogers, to whose skill and generosity the Oxford collection owes so many valuable accessions.

115. Acraea orestia.

Male. Expanse 38-40 mm. F.w. transparent and highly iridescent, the scales much reduced in width. Base, costa, apex, and hind margin suffused with blackish. In some examples, as in those mentioned by Aurivillius (l.c.) from Bonge, Cameroon, as also in some from Agberi on the Niger, now before me, the black is of much less extent than in Hewitson's figure and the base of 1a, 2, and part of cell are flushed with red. The h.w. is red with a little dusky suffusion at base and a blackish hind-marginal border 2-2.5 mm wide rather noticeably darker near the anal angle. Numerous black spots often, as in the type, with a tendency to elongation. These are somewhat more distinct especially at base, on underside. Underside. F.w. like the upperside but very sparsely scaled and vitreous. Costa brownish yellow with a black spot at base. H.w. very thinly scaled and paler than above except for the black spots which are prominent, and often somewhat confluent. Of these there are, one in 8, two in 7 the outer one forming the first of a curved discal band of 5, in 7, 6, 5, 4, and 3 lying parallel to apical margin. One or two very small spots on discocellulars. A spot at base of area 2 followed by one in 1c and 1b, that in 1c being slightly nearer base. A subbasal and a central spot in cell, a subbasal in 1c and 1a, and a central spot in 1b. Ends of nervules blackish, and short blackish internervular rays. Head and thorax black with a few pale spots. Abdomen black above with white segmental lines and lateral spots. Claws unequal.
Female. Expanse 44 mm. Like the male but with more rounded wings and altogether paler. H.w. underside has the reddish areas pinkish ochreous with some greyish ochreous near inner margin.

A. orestia f. humilis.

Male. Expanse about 38 mm. Wings transparent owing to reduction in width of scales and in some places to hairs. No red or yellow scales. F.w. dusted with blackish brown at base, costa, apex, and slightly no hind margin. H.w. irregularly blackish at base,

extending into cell and below median, with slight blackish scaling at anal angle. Thorax black, with pale spots, abdomen black above, yellowish beneath, and bearing small white lateral segmental spots.
Female resembles male.

f. transita.

This form has the typical basal red of the f.w. replaced by a black suffusion and the h.w. red is replaced by white, yellow or orange. It is liable to occur in both sexes.

Almost every grade of intermediate may occur between the forms above described. Some time after I had decided that Miss Sharpe's A. humilis was a form of Hewitson's orestia a series of specimens was received at Oxford from Dr. G. D. H. Carpenter, who had bred them on Damba I. These contain both the typical red and the f. transita, and taken in conjunction with another series captured in the Tiriki Hills by Dr. C. A. Wiggins, containing all three forms, fully confirm my conclusion. The larva is described by Dr. Carpenter as having been mistaken by him for that of A. alciope, from which I gather that the resemblance is extremely close.

116. Acraea cinerea.

Male. Expanse 40 mm. F.w. transparent owing to reduction in width of scales (hairs not present). Costa and apical region finely dusted with blackish scales. H.w. evenly and fairly thickly clothed with blackish scales. Underside f.w. almost devoid of scales, deep red at base of costa. H.w. thinly scaled and having deep red basal patch extending along lower half of cell nearly to end and inwardly to inner margin. A few minute and obsolescent black spots on margin of red area in 1b, 1c, and 2, and on upper discocellulars, one spot in middle of cell, one near base in 1b, and two or three against the body at base. Marginal internervular folds distinct. Thorax and abdomen black above, brownish beneath. Abdomen with pale lateral segmental spots. Claws equal.
Female. Expanse 45 mm. resembles male but margin of h.w. rather less thickly scaled. Spots on underside rather more distinct and visible on upperside. A second spot in cell nearer base.

A. cinerea alberta.

Male. Expanse 45-50 mm. F.w. as in cinerea but costal and apical scaling sooty black. H.w. sooty black with a large central patch of crimson occupying base of 7, 6, 5, 4, 3, 2, middle of 1c, and end of cell. Underside as in cinerea but the crimson area appears as a deep pink. Basal dark red as in cinerea. One example has no black on underside of h.w.
female unknown.

A. cinerea occurs in the Tiriki Hills, N. of Kisumu at an elevation of over 5,000 ft.
The examples of cinerea alberta were taken some sixty miles W. of L. Albert Nyanza at an elevation of about 3,250 ft.

There is no difficulty in recognising this species as it is quite unlike any other African Acraea. The male armature is of a very simple though fairly distinctive character.

117. Acraea quirinalis.

Male. Expanse 40-50 mm. F.w. rather elongated, greyish, almost transparent (scales almost reduced to hairs). Base nearly to end of cell, basal of area 2, and greater part of areas 1b and 1a flushed with red. Costa, apex and hind margin faintly darker than the remainder. At base of area 1b a well-marked longitudinal streak, and in cell along the subcostal a well-developed black streak extending to a point above the origin of nervule 2. H.w. also thinly scaled, a little black at base, followed by a well-defined red patch which extends a little beyond the end of cell leaving a broad greyish semitransparent marginal border. This border is almost twice the width of that in the red form of orestia humilis and is not, or only very faintly, darker at anal angle. Black spots less distinct than on underside. Underside f.w. almost scaleless. H.w. also nearly scaleless except the black spots which are arranged as follows : - One at base in 9, one in 8, two in 7, the second over origin of nervule 7, and forming the first of an outer row of eight. Of these the first five are roughly parallel to the outer margin, the sixth near base of area 2, the seventh in 1c at the same level, and the eighth in 1b rather more distal. In addition to these there are two spots in cell, the second just before origin of nervule 2; a basal and a subbasal in 1c, an additional spot in 1b, and two in 1a. Head and thorax black with a few pale dots, abdomen black above with minute whitish lateral spots. Claws equal.

Female. Resembles male but has rather more rounded wings, and the red of f.w. is of rather less extent. In the h.w. the red patch is outwardly much less sharply defined being invaded by the greyish dusting of the border both on and between the nervules. The spots in the upper part of the outer row may be absent.

It was sometimes before I was able to decide to correct nomenclature of A. quirinalis and A. iturina owing to the fact that the red form A. orestia was nearly always found with them, and all three were mixed together in collections. Indeed of two alleged co-types of quirinalis sent to me for examination, one was quirinalis and the other the red form of orestia, Mr. Grose-Smith having failed to distinguish between them. I have since seen the type of quirinalis and find that it is not, as I thought it might be, only the red form of orestia. Familiarity with these forms enables them to be easily distinguished without regard to the colour or pattern, since iturina has the nervules 6 and 7 of the h.w. stalked, whilst they arise independently in quirinalis and orestia, and the tarsal claws of the male quirinalis are symmetrical, whilst those of orestia are asymmetrical.

Quirinalis occurs from Usukuma to Kisumu and Entebbe, and into the Ituri forest.

118. Acraea fornax.

Male. Expanse 50-52 mm. f.w. basal half bright red extending to end of cell, very slightly into area 3, about half the length of area 2, and to within about 3 mm of the margin in 1b and 1a. Costa black with a little red at base. Outer portion of wing black, rather thinly scaled in discal area, and a more or less distinct partially transparent subapical patch formed of three spots in 6, 5, and 4. Nervules black and internervular

black spurs along margin. A linear black mark at base of 1b. Sometimes a black spot in the proximal half of 2, and another in 1b nearer margin. H.w. bright red with a black hind-marginal border about 3 mm wide having a somewhat irregular inner outline, being indented by the red ground-colour between the nervules especially in 3, 2, and 1c. Traces of red submarginal spots in 2 and 1c. Black spots corresponding with those on underside. Underside f.w. a pale replica of the upper with the addition of a black spot at base of costa and a marginal row of triangular brownish red internervular marks edged with black. H.w. Base pale pink followed by a dusting of madder brown scales, outside this a pale pink curved median band from costa to inner margin. Marginal band madder brown 2-3 mm wide. A series of deep orange triangular marginal spots, their bases on the margin, and each enclosed in a black triangle the apex of which is produced in 4, 3, 2, and 1c into a short internervular ray. Black spots large. Three discal spots in 7, 6, and 5 parallel to apical margin. A large composite spot formed of one on discocellulars and one at base of areas 6, 5, and 4. A spot at base of 3 and of 2, the latter followed by a spot in 1c and 1b, all in a straight line at right angles to inner margin. A spot in 8 against precostal, one at base and one in middle of cell, a subbasal in 1c, one in 1b, and two in 1a. Some irregular black at base of wing. Head black with a pale mark between the eyes, and two reddish tufts on collar. Thorax black with one or two minute pale spots. Abdomen black above with reddish lateral spots. Claws unequal.

Female. Expanse about 58 mm. upperside like that of the male but rather more thinly scaled, and the red colour paler and duller. The black spots of h.w. show a tendency to elongation and the h.w. black hind-marginal border is nearly twice as broad as in the male. Underside much paler and duller than that in male especially on the h.w. hind-marginal border, the characteristic pattern of which is merely indicated. One female in the Staudinger collection has the red areas replaced by white and the transparent part of h.w. apical area much larger then in male. The underside is also whitish without any trace of the reddish marginal spots on either wing.

The species would appear to be rare. It occurs only in Madagascar.

119. Acraea strattipocles.

Male. Expanse 50 to 54 mm. F.w. costa, apex, and hind margin black, widest at apex. About two-thirds of length of cell, proximal half of area 2, the whole of area 1b, except at margin, and the distal part of 1a except at margin, deep brick red. Remainder of wing transparent crossed by the black nervules, the transparency somewhat invading the marginal black between the nervules, and caused by a reduction in number but not in size, of the scales. Sometimes a trace of a black spot near base of area 2. H.w. deep brick red, yellowish at inner margin, and having a black hind-marginal border, the inner edge of which is fairly regular and not deeply indented by the ground-colour. Numerous large, more or less, confluent, black spots more easily distinguished on underside. Underside f.w. nearly devoid of scales and very shining, the pattern of upperside showing through. Costa, apex, and hind margin dusted with umber brown, and a black spot at base of costa. H.w. pinkish varying from nearly white to dusky pink, more or less suffused with brown in lower half of cell, and basal portion of 3, 2, and 1c. Marginal border russet brown, divided by darker, broadly scaled nervule ends and narrow short internervular rays. Black spots as follows : - An outer or discal row of eight. The first large, in area 7, the second and third (in 6 and 5)

rather smaller and respectively rather more distally placed. The fourth slightly more proximal, the fifth and sixth large and occupying the base of areas 3 and 2 respectively. The seventh and eighth large and nearly in a straight line with the sixth, at right angles to inner margin. This row of spots is practically confluent. In addition to these, a basal spot in 9, a dot in 8 near precostal, a large subbasal spot in 7, a smaller spot near base of cell, and a second and larger spot in cell beyond origin of nervule 2. A basal and a subbasal in 1c, beneath the latter a spot in 1b, and two spots in 1a. Head black, thorax black with white dots, and reddish tufts on collar. Abdomen black above with white segmental dots and lines. Claws unequal.
Female. Expanse 64-66 mm. Pattern and markings much as in male but the red colour duller and browner, and the black margins browner than in the male. The hind-marginal border of h.w. has its inner edge more softly outlined though it remains fairly regular as in the male.
A. strattipocles may be distinguished from A. masamba and A. sambavae by the more distal position of the second spot in the h.w. cell.

120. Acraea masamba.

Male. Expanse 48-56 mm. F.w. transparent, owing to a reduction in size and number of the scales. Costa and apex black, and the nervule ends along hind margin expanded into black triangles their bases joined on the margin. About two-thirds of cell, basal of area 2, and the greater part of area 1b suffused with bright brick red. Area 1a black with a slight powdering of red in the outer half. In some examples a small black mark in cell, near middle, close to subcostal, occasionally extended into a blackish suffused line running obliquely across cell to near origin of nervule 3. Usually a black linear mark at base of area 1b. H.w. bright brick red, usually with a slight black basal suffusion, most extensive in 1c. A black hind-marginal border 2-3 mm wide, edentate inwardly on the nervules, thus producing a much more broken inner outline than in A. strattipocles. Black spots as on underside. Inner margin yellowish white. Underside. F.w. the greater part almost devoid of scales. The red areas showing through from the upperside. The black of upperside reproduced in sepia scales. Both sides of the median nervure, and the basis of nervules 2 and 3 densely clothed with large, ovate, golden ochreous scales. (This feature is not present in strattipocles.) Costa with a small black mark at base. H.w. pinkish white, the black border of the upperside reproduced in sepia, nervule ends and short fine internervular rays rather darker. Black spots as follows : - An outer row of nine, the first very large in area 7 above origin of nervule 7, the second smaller in 6 and nearer margin, third still smaller in 5 and nearer margin, fourth minute in 4 and further from margin than third (third and fourth sometimes very minute or absent) fifth of medium size at base of area 3, sixth, about as large as first, at base of area 2, and often somewhat produced outwardly, seventh large, more or less heart shaped, its inner edge at level of origin of 2, eighth in 1b, rather smaller, and nearer margin, ninth small in 1a nearer base. A spot in 9, one in 8 against precostal, two in cell, the second lying before origin of nervule 2, a basal and a subbasal in 1c, a little basal black and a subbasal spot in 1b, and a subbasal in 1a on a level with that in 1c. Head black with a yellow spot between eyes and two on collar, thorax black above with whitish dorsal and lateral marks, abdomen black above with whitish lateral spots and segmental lines. Claws unequal.

Female. Expanse about 66 mm. resembles male but f.w. more rounded, and general colouring paler and duller. On the f.w. underside there are a few large yellow and orange scales on the median nervure but not so closely packed as in male.

A. masamba f. silia.

Ward's figures show a red form which is the typical masamba and a yellow form (not described in the text) which is really somewhat intermediate between the f. silia and f. boseae of Saalmuller. The form silia resembles the type form except that the red colour is replaced by a rich golden yellow, much paler in the female. There seems to be a constant tendency towards absence of the spots in areas 5 and 4 of h.w.
M. Charles Oberthür, to whom I am indebted for the opportunity of making a careful examination of a series of masamba, silia and strattipocles, asserts, in a letter, his firm opinion that masamba and silia are distinct species. I regret that I should feel compelled to differ from the view of an eminent collector to whom I owe so much valuable assistance. The sole difference between the two forms is one of colour. Certainly the ground-colour in h.w. seems, in silia, always to be slightly extended outwards in area 4, thus causing an indentation in the black of the marginal border, but the same feature is observable in varying degrees of development in a series of masamba. On the other hand, there is in both forms the same heavy yellow scaling of the f.w. medium nervure on the underside, the transparency of the f.w. is caused in the same manner, and the male armatures are not distinguishable. The alternation of red, yellow, and white is a common phenomenon in other species, and I fell bound therefore to consider silia as merely a form of masamba.

A. masamba female f. boseae.

This is a form in which the red areas are replaced by pale yellowish white, with a perhaps still greater tendency than in f. silia to absence of spots in h.w. areas. So far I have only seen females of this form, and judging by the analogy of other Madagascar species the white colour is probably confined to that sex. A female of the silia form now before me has, in the h.w. the inner margin, and the space between the marginal border and the spots in areas 1b to 3, almost white.

121. Acraea sambavae.

Male. Expanse 54-56 mm. F.w. Costa and apex powdered with black, nervule ends broadly powdered with black on hind margin forming a narrow border with a sinuous inner outline. Cell almost to end, base of area 3, basal half of 2, and the whole of area 1b, except just on margin, powdered with deep brick red. Area 1a black powdered with red. Remainder of wing transparent, due to a reduction in number and not in size of the scales, these being also set somewhat on edge. H.w. brick red, yellowish in areas 1a, 1b, and 1c, and having a slight black basal suffusion. At extremities of nervules there are black triangles, their bases contiguous on the margin. Black spots as on underside, but those of outer row rather larger. Underside. F.w. for the most part devoid of scales. Dusted with sepia on costa, apex, and along hind margin. H.w. base to outer row of spots, and on hind margin, brownish pink, intervening space dull pale pink. Nervule ends on margin blackish brown. Short internervular folds rather distinct

but not blackened. Black spots as follows : - An outer row of eight (sometimes nine). The first two in 7 and 6 large, and placed beyond origin of nervule 7, the third and fourth in 5 and 4 smaller, and placed much nearer margin, the fifth at base of area 3, sixth adjacent to it in 2, and the seventh and eighth in 1c, and 1b, in line with the sixth and nearly at right angles to inner margin. Sometimes a ninth spot in area 1a. Some black at base of wing, a spot in 8 against precostal, a large transverse subbasal spot in 7, two in cell, the second lying at or before origin of nervule 2, one or two spots on upper part of discocellulars, a subbasal in 1c and 1a, and more distally placed than these a spot in 1b. Head black with a reddish dot between the eyes and two on collar, thorax black above with indications of a few pale markings, abdomen black above with dull yellowish lateral spots and intersegmental lines. Claws unequal.

Female. Expanse 60-70 mm. resembles the male but the red areas are either duller and paler, or may vary to yellowish white.

I have seen but few examples of this species. It may be distinguished from masamba by the more distal position of the h.w. spots in areas 4 and 5, by the much less developed h.w. marginal border, and by the greater extent of red in the f.w.

I have no special localities for this purely Madagascar species. Mabille describes the species as rare in that island and as inhibiting the eastern wooden areas. One example in the Oxford collection is labelled SW Madagascar.

Group XIX.

122. Acraea safie.

Male. Expanse 44-45 mm. F.w. brown black. Beyond cell a series of four translucent spots, dusted with ochreous. The first very small in area 9, the remainder large, subquadrate, and separated only by nervules 5 and 6. At base of area 2 a large ochre yellow spot, and beneath it in 1b a somewhat larger patch of the same colour. H.w. brown black with a central band of ochre yellow, extending from costa almost to inner margin, the portion above nervule 4 being some 2 mm broader than the remainder. Underside. F.w. Central portion greyish brown. Costa, apex, and hind margin pale ochreous, striated by narrowly black nervules and rays. The subapical spots white, those in 2 and 1b as above but paler. H.w. pale dusky ochreous, with the central band as above but paler. Hind-marginal border striated by very narrowly darkened nervules and rays. A few very small black spots so variable in number as to be of little use as a character. When two are present in cell, the second is situated before the origin of nervule 2. Head and thorax black with a few pale markings. Abdomen black above with pale ochreous lateral dots. Claws equal.
Female. I have not seen a female corresponding to this form.

A. safie f. antinorii.

This form differs from typical examples principally in having the spots and h.w. band much reduced. In one example before me there are three small whitish subapical spots, a small ochreous mark at base of area 2, and beneath it a very slight trace of ochreous in 1b. The h.w. is all brown black with just a few ochreous scales in area 6. A trace of such scales may also be discerned with a lens in areas 7 and 5. Underside extremely variable. In one example before me it is much as in the type form. In a second the h.w. is all dull greyish ochreous, slightly darker on the hind-marginal border, whilst in a third the basal portion of h.w. is dull ochreous, and the inner portion of the hind-marginal border is dusted with reddish brown, this suffusion reaching the cell in area 3. This example has only three black spots on the underside, viz. two on the discocellulars, and one in 1b.
female resembles the male.

This species, which is quite distinctive in appearance, appears to occur only in Abyssinia.

123. Acraea amicitiae.

Male. Expanse 50-56 mm. F.w. hind margin rather markedly concave. Base, costa, distal half of wing, hind margin and inner margin brown black. Cell, middle of 2, and greater part of 1b, tawny red. Beyond cell a band of three pale spots separated by nervules 6 and 5, sometimes transparent, sometimes dusted with reddish yellow, and followed by a small separate spot in 3 similarly variable. In cell an irregular black spot wide at subcostal, narrowing suddenly in the middle and reaching median at origin of nervule 2. A black spot at base of 2 distally indented by the red colour, and beneath it a sinuous black spot in 1b. In some examples indications of reddish submarginal dots. H.w. tawny-red, base of area 7, upperside of median to end of cell, base of 2, and basal half of 1c, 1b and 1a black. A black submarginal line beginning at costa and proceeding parallel to margin as far as nervule 3 where it suddenly widens out to a broad black submarginal band which reaches inner margin. Between this and the margin the nervule ends are rather broadly black and join a fine black marginal line, thus enclosing large quadrate spots of the ground-colour. A few small black spots corresponding to those beneath. Underside. F.w. costa, apex, and margin dark ochreous crossed by black nervules, and having on margin orange brown internervular rays. Those parts which above are red or black are here almost scaleless, the black marks only showing through from upperside. A black dot at extreme base of costa. A fine black line round margin. H.w. Basal and distal part of 7, base of cell, and basal half of 1c, 1b, and 1a pale grey. Middle of 7, end of cell, and bases of 6 and 5, reddish. Beyond cell pale brownish pink, the margin tawny orange, and the black submarginal line and band of upperside showing slightly through. Nervule ends black joining in a fine black marginal line. Small black spots as follows : - One, minute, in 8 (often absent), two in 7 close together, the second just beyond origin of nervule 7. Beneath this and nearer margin two small spots in 6 and 5. A spot at base of 2, a V-shaped spot in 1c (often divided) and a spot in 1b, these three all in a straight line at right angles to inner margin. One spot in middle of cell and one at extreme end, one on discocellulars at base of nervule 6, and a similar one at base of 5, a basal and a subbasal in 1c, beneath it a spot in 1b, and another in 1a, also a subbasal in the latter area. Head and thorax black with yellowish dots; abdomen black above with yellowish lateral dots and fine pale segmental lines. Claws unequal.

I have not seen a female of this species.

A. amicitiae is a very distinct and apparently local species. It occurs on Mt. Ruwenzori from 6,000 to 13,000 ft.

124. Acraea ansorgei.

Male. Expanse 40-50 mm. F.w. Base suffused with dark brown as far as origin of nervule 2. Beyond this the costa, cell, extreme base of area 3, base half of 2, and the whole of 1b and 1a, orange tawny. Remainder of wing dark brown. A series of three subapical tawny spots separated only by the subcostal and nervule 6, followed by a submarginal spot in area 4. H.w. entirely orange tawny except for a very slight brownish suffusion at base, and faint indications of two or three minute black subbasal dots. Underside. The tawny colour of a duller shade. F.w. slightly darkened at base. Between end of cell and the outer tawny spots, as dark as on upperside, the spots paler, and the apical and marginal area dull red brown. H.w. with a faintly indicated

dusky curved band beyond cell extending from costa to inner margin. A few small black dots variable in number, the specimen with the greatest number of these shows one at base in 9 and 1c, one in 8, two in 7 the second well beyond origin of nervule 7, two in cell, the second before origin of nervule 2, faint indications of discal spots in 6, 5, 4, and 3, and two in 1c, 1b, and 1a respectively. Head and thorax black with two reddish tufts on collar, abdomen black above with yellowish lateral white dots.
The three other examples of this species now before me differ from that above described in the following manner :
(1). The central band of f.w. is pale tawny, the spots rather darker in shade. The h.w. is pale creamy white, slightly blackened at base.
(2). All the light areas in both wings pale ochreous.
(3). F.w. central band and the whole of h.w. except at base, pale creamy white. F.w. subapical spots pure white.
This peculiar species seems to occur only on the east side of L. V. Nyanza, two of the above examples being labelled Nandi country, one "60m along the Anglo-German Boundary," the fourth Limoru, at mile-post 407 on the Uganda Railway. It is remarkable that they should be all females, and one is tempted to suppose that they are merely one more form of the polymorphic A. conjuncta. Though such may well be the fact, it seems better, with the present paucity of material, to keep the form separate.

125. Acraea conjuncta.

Male. Expanse 40-46 mm. f.w. deep brown-black. A central curved band of deep ochreous formed by a quadrate spot occupying the whole of distal end of cell, a similar patch in 2 not quite reaching the base of that area, and a central patch in 1b, and 1a. A small spot of the same colour at base of area 3. Beyond cell a subapical series of 3-4 small deep ochreous spots in 10, 9, 6, and 5, followed by a submarginal spot of the same colour in area 4. H.w. deep ochreous, the base suffused with dark brown, the inner margin powdered with the same colour as far as 1b. A hind-marginal border of dark brown 3-4 mm wide its inner edge somewhat irregular and edentate between the nervules. A few minute black discal spots faintly indicated. Underside paler and duller, the pattern much less distinct. In h.w. some minute black spots very variable in number. The example before me having the largest number of these spots shows the following : - A basal spot in 9 and in 1c. Two in 7, the outermost well beyond origin of 7, one in cell before origin of 2, a series of three small discal spots in areas 5, 4, and 3 in a nearly vertical line, one in 1c and 1b, and one in 1a. Head black with two reddish tufts in collar. Thorax black, abdomen black above, with minute lateral yellowish dots. Claws unequal.
Female expanse about 35 mm. resembles the male.

f. interrupta.

In this form which occurs in both sexes the central band of the f.w. is not continuous but is broken into spots, that in area 1b being sometimes reduced to a mere streak.

female. f. silacea.

The f.w. spots, and the central patch of h.w. are pale ochreous.

Female. f. mutata.

Resembles the foregoing but the f.w. subapical spots are white.

Female f. pica.

All the pale markings are white.

Female. f. lutealba.

The pale markings of f.w. are orange ochreous, whilst the central patch of h.w. is white.

Female. f. suffusa.

In the f.w. the brown black ground-colour is much reduced in area and remains only as a basal and a subapical suffusion, a little dark scaling remaining on the nervules in the subapical region. The remainder of the wing is orange ochreous. In the h.w. the dark border, though nearly as wide as in other forms has a much browner appearance owing to an admixture of orange ochreous scales. Base and inner margin suffused with greyish. Remainder of wing orange ochreous.

A. conjuncta is still rare in collection, indeed until quite recently only very few examples were known. It has however lately been taken in some numbers by Neave on Mt. Kokanjero, and his series contains all the forms mentioned above. The polymorphism of the species appears to be associated with that of A. johnstoni, a great number of forms of the latter having been taken at the same time and place.

126. Acraea disjuncta.

Male. Expanse 44-48 mm. F.w. Costa, cell, base of 1b and 1a, apical area, and hind margin sepia black. A large subapical and inner marginal patch of pale ochre yellow. The dark colour extends a little beyond cell and is continued in area 3 so as to join, or nearly join, that of the hind margin, thus isolating a subapical patch of the paler colour. This patch is almost 4 mm wide in areas 6, 5, and 4, is somewhat narrower at costa, and in area 3 is reduced to about 2 mm. The inner marginal patch occupies the whole of area 2 except at hind margin, and becomes gradually wider to the inner margin. H.w. pale ochre yellow with a slight dusting of brownish scales at base, and a hind-marginal border of sepia brown the inner edge of which is slightly suffused. Underside. A pale replica of the upper, the f.w. cell somewhat suffused with pale ochreous, and the darker colour of apex, margin, and base of area 1b, dusky ochreous. Nervule ends and rays finely marked in black brown. H.w. margin dusky ochreous. Nervules and rays finely marked in black brown, the latter long and extending inwards almost to cell. A few minute black spots of which there are, one at base in 9, one in 8, 2 in 7, two in cell (close together, the second just before origin of nervule 2) and two in 1c, 1b, and 1a. Head and thorax black with a few yellowish spots. Abdomen black above with dark ochreous lateral spots and segmental line. Claws unequal.

Female. Expanse 50 mm. resembles male but in some examples there is a dusting of ochreous scales near end of f.w. cell and the brown basal colour is sometimes not quite extended to the marginal border, the subapical and hind-marginal patches thus being continuous. In the h.w. the inner edge of the marginal border is rather more suffused than in the male and is sometimes slightly powdered with orange ochreous scales whilst the dark colour is narrowly edentate on the nervules. On the underside the h.w. base a curved suffused band of brownish colour beyond the cell, followed by a paler area, and the marginal border is inclined to reddish brown.
This species appears to be fairly common some 20m N. of Kisumu, whence a good series has been received by the Oxford Museum from Mr. C. A. Wiggins. Examples from other localities than Nandi have usually much heavier black markings. It is a much smaller insect than A. jodutta, and is easily distinguished from A. alciope by the extension of the f.w. dark costal colour to the margin, and by its duller ochreous colour. At the same time it is very closely allied to alciope, though the latter has equal claws in the male.

127. Acraea alciope.

Male. Expanse 54-64 mm. F.w. Cell, base of 1a, 1b, 3, 4, 5, and 6, costa, apex, and hind margin brown- black. Remainder golden ochreous, this colour forming an angulated band across the wing, narrow at costa, and proceeding downwards and outwards to nervule 3, where it becomes wider, occupying the whole of area 2 except the hind margin, and reaches its maximum width on inner margin. H.w. golden ochreous. A very little brown black at base, and a hind-marginal border of the same colour some 3-4 mm wide, its inner edge rather deeply edentate on and between the nervules. Near base the spots of the underside are faintly indicated. Underside. F.w. the dark areas of upperside are here replaced by dusky yellow, somewhat blacker just beyond cell. The nervule ends and rays black. A dark spot enclosing a pale dot at base of costa, yellow band as on upperside, but pale and duller. H.w. warm ochre yellow with a dusky powdering on hind-marginal border. Nervules and rays black. Black spots as follows : - One at base in 9, one in 8, two in 7, the second over origin of nervule 7, two in cell, the second over origin of nervule 2. Sometimes a small dot near base of area 5. A basal, a subbasal, and a median spot in 1c, and the same in 1b. A subbasal in 1a, and sometimes a second very small spot in the same area. Head black with a yellowish dot between, and two white lines behind the eyes. Thorax black with yellowish dorsal and lateral spots. Abdomen black above with deep yellow lateral spots increasing in size towards the extremity. Between the spots pale transverse segmental lines. Claws equal.
Female. Expanse 57-70 mm. F.w. costa, and base of areas 1b, 4, 5, and 6, powdered with black. Outer half of wing grey black. Subcostal, median, base of area 2, middle of area 1b, and the greater part of 1a, orange tawny, this colour radiating somewhat along the nervules in the central area of wing. At base of area 3a black spot, beneath it in 2 a larger transverse spot, and beneath the latter, but rather nearer base, a subcrescentic spot in 1b. H.w. slightly darkened at base. Basal half orange tawny. Hind margin broadly grey black, its inner edge deeply radiate. The basal spots of underside are visible as brownish markings. Underside much as above, but f.w. ochreous grey with some black just beyond, and a black streak at end of cell. A dull orange suffusion about median, base of area 2, and middle of area 1b. On outer half of

wing the nervule ends are reddish brown, and between them are rather broad black rays. H.w. brownish at base, a pinkish white flush beyond cell, remainder ochreous grey striated by black nervures and nervules. Spots as in male but larger, and often an extra spot in cell and one near base of areas 6 and 2.

A. alciope female f. macarina.

This form more nearly resembles the male in that it has a continuous band of dark ochreous in the f.w. but this band is narrow, and in areas 3, 2 and 1b is deeply indented by the grey-brown of the hind margin. The black spots in the same areas are outwardly well defined but basally, especially in 2 and 1b, they becomes diffused into the basal brown. The h.w. is deep ochreous with a powdering of brown black about apex and along hind margin. Nervules and rays well marked, and scaled with black-brown. The underside corresponds to the upper, but in the f.w. the dark areas are replaced by dusky ochreous, and the black spots in 3, 2, and 1b are well defined.

A. alciope female f. cretacea.

Base half of wing sepia black, somewhat darker just beyond cell and in areas 3, 2, and 1b, where the spots occur in the typical form. An inner marginal suffusion of reddish brown extending into middle of area 1b. Beyond the dark basal portion a band of white which is inwardly sharply defined but outwardly becomes rapidly diffused into the sepia grey which occupies the distal half of wing. H.w. tawny brown, the hind margin sepia very radiating deeply into the ground-colour. Underside corresponding to the upper, but distal portion of f.w. ochreous grey, and the curved black mark in 1b very distinct. H.w. pale ochreous brown, otherwise as in typical examples.

A. alciope female f. fumida.

The pattern of the wings is almost obliterated. Both wings are sepia brown somewhat darker at base, a slight reddish powdering in the middle, and with traces of the normal black spots.

A. alciope female f. aurivillii.

Bears a striking resemblance to Planema poggei nelsoni, and allied forms. F.w. brown black with a broad central band of orange ochreous inwardly irregular though sharply defined; outwardly, especially in areas 3, 2, and 1b, often deeply indented by the brown- black ground-colour. H.w. a triangular umber brown patch at base, followed by a central transverse band of white, the remainder of wing brown black, reddish brown, or even tawny; this area being heavily striated by the dark nervules and rays. Underside. F.w. as above but paler and duller. Traces of the black spots in 3, 2, and 1b are visible. H.w. basal triangular patch chocolate brown with the usual black spots more developed than in western forms. Remainder of wing as on upperside. The outline of the orange band of f.w. is somewhat variable, being sometimes deeply indented, sometimes nearly straight. Examples presenting the latter condition have been named var. latifasciata by Grunberg.

A. alciope female f. tella.

This is the form figured by Grose-Smith as the male of his "Planema alicia". It is however a female and differs from the usual aurivillii form in having the ground-colour of h.w. tawny without any white bar, and bearing a narrow dark hind-marginal border, widest at apex and tapering to anal angle.

A. alciope schecana, subsp.

This is the Abyssinian form of the species, and is described by Rothschild and Jordan from the male in the Tring collection. The ochreous band of the f.w. upperside is somewhat paler than in West African examples, and the black distal border of the h.w. is wider. On the underside the black spots of h.w. are reduced in size and number.

The descriptions of the larva and pupa, given by Aurivillius (l.c.) are as follows : Larva pale (yellowish) with narrow dark transverse lines. Head, true legs, and spines, black. The sublateral spines, however, only black at the ends. The spines distinctly longer than the diameter of the body, and arising from brownish tubercles. Pupa, having the usual black markings of the Acraea pupae. The spots of the abdomen have pale centres, and the two dorsal rows converge in a black spot on the first segment. In the pale centres of the dorsal spots of segments 2-5 (6) are small pointed tubercles, largest at segment 2 and decreasing posteriorly.
These descriptions agree fairly well with specimens received from Mr. Lamborn, from Lagos. One of these larvae I have figured on VI. VI, fig. 10. It will be noted that the ground-colour is green. This colour is rapidly lost in spirit, a fact which would account for the doubt expressed by Aurivillius as to the colour of the larva. At Lagos it feeds on Fleurya podocarpa, Wedd. (Urticaceae). I cannot regard the aurivillii f. of. A. alciope as a subspecies, since it occurs with the typical form in Cameroon as well as in Uganda, and probably occasionally in the intervening country. It is an interesting fact that at Entebbe, where this is the usual form of female, it habitually flies with the Planema which it so closely resembles, whilst the typical female, which is much the commonest form in its western range, also accompanies an entirely different Planema which it appears to imitate. Uganda examples of A. alciope male seem often to have the black distal border in the h.w. broader than in more western specimens.

128. Acraea jodutta.

Male. Expanse 60-70 mm. f.w. sepia brown. Beyond the cell a curved subapical band of elongate pale ochreous spots separated only by the nervules beginning close to costa and becoming gradually wider as far as nervule 4. Beneath this nervule the band ends with a much shorter spot, the lower edge of which reaches the middle of area 3. An inner marginal patch of pale ochreous reaching almost to base and to hind angle in 1a, becoming narrower as it extends upwards and ending in area 2 with a width of about 8 mm. H.w. a slight sepia brown basal suffusion on which can be discerned a few minute dark spots. Central area pale ochre yellow. Hind margin broadly dusted with sepia brown forming a wide marginal border, the inner edge of which is usually quite indistinctly defined, the whole wing beyond cell being striated by well-marked dark internervular rays and nervules. Underside. F.w. cell and area beyond it, as far as the subapical band, sepia, the cell somewhat dusted with pale ochreous. Costa, apical

area and hind margin dusky ochreous, traversed by fine black nervules and rays. Subapical band and inner marginal patch as above but paler. A dusky suffusion at base of area 1b. H.w. pale dusky ochreous, the base and hind-marginal area just perceptibly darker. Nervures and nervules narrowly but strongly marked and the internervular rays extend in well-marked lines right up to the cell in each space. A dusky line in the cell. A few small black dots near base arranged as follows : - One in 9, one in 8 against precostal, two in 7 rather close together, two in cell the second before the origin of nervule 2, a basal and a subbasal in 1c, and the same area a third spot at the level of origin of nervule 2 (often doubled), two in 1b, and 1a. Head and thorax black with a few pale dots. Abdomen black above and orange beneath with orange lateral spots, and whitish segmental lines. Claws unequal.
Female. Expanse about 70 mm. resembles male in pattern but the dark areas are somewhat blacker, and the pale ochreous areas are replaced by white. In f.w. the subapical band is somewhat reduced in width, and the inner marginal patch is very small and ill defined. On the underside the pattern is the same as above, and the blackish areas are the same, and are not replaced by ochreous as in male.

A. jodutta female f. carmentis.

In this form the white of f.w. subapical band and of inner margin is much extended and almost joined in the neighbourhood of nervule 2.

A. jodutta female f. dorotheae.

The f.w. subapical band is rather broader than usual, and is golden yellow shading to rather paler or even white, towards costa. The inner marginal patch is nearly as large as in the male and is golden yellow. The h.w. is slightly deeper shade of the same colour, and though very distinctly striated by black nervules and long black rays has very little dark marginal suffusion, there being just a little powdering towards the apex. On the underside the f.w. has the cell and central portion blackish and the apical and hind-marginal area dull orange ochreous. H.w. dull orange ochreous with fine black nervules and rays. Some examples of this form have the subapical patch white.

A. jodutta female f. interjecta.

The f.w. subapical band is white as in typical female, but the inner marginal patch is a mere sprinkling of pale ochreous scales, except in 1a where it is well-defined. In the centre of area 2 is a longitudinal submarginal white streaks. H.w. basal area pale ochreous with a slight brownish basal suffusion. Outer half of wing dusted with reddish brown suffused with sepia at apex. Underside. F.w. apex and hind margin dull reddish brown. H.w. dull orange at base, outer half suffused with dull reddish brown.

A. jodutta female f. subfulva.

Resembles the typical female, but the outer half of h.w. is reddish brown, the inner edge of this colour being rather sharply defined. A dusting of sepia brown about apex and along hind margin.

Female f. castanea.

F.w. rich sepia- black. The subapical patch almost obliterated and appearing only as a mark slightly paler than the ground-colour. Inner marginal patch rather narrow, tawny brown. H.w. rich chestnut slightly darkened at base and having a very narrow sepia black hind-marginal border, inwardly suffused and broadest at apex. Nervules and rays well marked black. Underside. F.w. basal half black with the inner marginal patch somewhat duller than above. Subapical patch whitish brown. Apex umber brown. H.w. umber brown, reddish at base, and rather pale over end of cell and bases of areas 4, 5, and 6. Spots as in typical forms.

Female f. inaureata. PI. V, f. 8

F.w. basal half rich golden yellow. Apical half black with a large oblique white patch extending from near costa into area 3. A small white streak in area 2 near margin and a slight powdering of white in area 1b. H.w. rich golden yellow without basal suffusion or hind-marginal border. A fine black marginal line. Ends of nervules and rays black, especially toward apex. Underside. F.w. as above but duller, the apex dark ochreous with finely marked nervules and rays. H.w. as above but duller. Slightly reddish at base. Black spots as in other forms.
This beautiful form was taken by Neave on the road to Florence Bay, Nyassaland, at an elevation of 4,500 ft.

A. jodutta aethiops, subsp.

Male. On the upperside the f.w. has the inner marginal patch extending closer to base, and there is a diffused buff patch in cell. The h.w. basal patch is reduced and the black distal border is narrower and more sharply defined between costa and nervule 3.
Female has the subapical band either orange or white. The inner marginal patch is golden orange and is much larger than in the typical form. H.w. golden orange with very little brown at base and only a dusting of that colour at apex. The internervular rays are scarcely visible in areas 3 to 1a, whilst on the underside they are much reduced in 7 to 4.

It is not always easy to distinguish examples of A. jodutta from those of A. esebria. The former may, however, usually be known by the very suffused appearance of the dark hind-marginal colour in the h.w. Also the internervular rays of the h.w. especially on the underside, are much longer than in esebria and almost touch the cell. There is some temptation to regard jodutta as the western form of esebria, but I am quite satisfied that they are distinct species. There is a marked peculiarity in the male armature of esebria, viz. the internal tooth-like process on the inner side of the claspers towards their base, which is quite constant in that species from Angola to the Comoro Is., and which does not occur in that of jodutta. It is, however, a very remarkable fact that the male armatures of jodutta and alciope are very similar, suggesting a close alliance, whilst at the same time alciope belongs to the small minority of species in which the male tarsal claws are symmetrical.
A. jodutta extends from Senegal through S. Leone, Ashanti, Nigeria, and Cameroon across the Congo State to Uganda and Abyssinia.
The form dorotheae is most common near Entebbe, where it closely resembles a form of Planema tellus, common in that locality.

129. Acraea esebria.

Male. Expanse 56-68 mm. F.w. black brown. A subapical band of five pale ochreous spots in 10, 6, 5, 4, and 3, the spot in 4 being the longest, the others 2-3 mm in length. That in 3 short and only extending to half the width of the internervular space. An inner marginal patch of tawny orange occupying nearly the whole of area 1a, the middle two-thirds of 1b, and extending slightly into 2 at its base. H.w. slightly darkened at base, remainder tawny orange, with a hind-marginal band of brown black about 4 mm wide, but very variable, and radiating inwardly on and between the nervules. A few small black spots about the base. Underside. F.w. basal portion as far as subapical band sepia black, somewhat inclined to tawny on costa. Apical and hind-marginal areas tawny brown striated by black nervules and rays. Subapical band and inner- marginal patch as above but paler. H.w. tawny brown, inclined to dusky on hind margin. Black spots variable, generally as follows : - One at base in 9, one in 8 against precostal, two in 7, the second before origin of nervule 7, two in cell close together in basal half, a minute dot near base of areas 2, 4, and 5. A basal and a subbasal in 1c, followed by a twin spot below origin of nervule 2. A basal, a subbasal, and a distal in 1b, and two minute dots in 1a. Nervules and rays narrowly black, the latter not usually extending inwardly so nearly to the cell as in jodutta. Head black with a tawny spot between the eyes, and two on the collar. Thorax black with a few paler spots. Abdomen black above with orange tawny lateral spots and fine inter-segmental lines. Claws unequal.
Female. Expanse 64-74 mm. resembles the male but the ground-colour is rather browner, and the f.w. subapical band is broader, and white instead of ochreous. Inner edge of h.w. marginal border usually less well defined.

A. esebria f. protea.

Male. f.w. pattern as in typical form but the subapical band and inner marginal patch are pale dull ochreous. H.w. rather more darkened at base. Hind-marginal border inwardly more sharply defined, and the central area is pale dull ochreous.
Female like the male but the f.w. subapical band is broader, and white, and the inner-marginal patch and central area of h.w. are pale creamy ochreous.

A. esebria f. pseudoprotea.

Male rather smaller than typical form. Ground-colour pale ochreous brown. F.w. subapical band rather broader, pale ochreous, inner-marginal patch pale ochreous. H.w. also pale ochreous, the hind-marginal border narrow and inwardly much suffused.
Female (type) rather larger, having the ground-colour as in male, the subapical band and inner-marginal patch pale tawny, h.w. much as in male but marginal border broader and rather better defined.

A. esebria f. amphiprotea (female).

The type is a large female from Angola. Ground-colour medium dark brown, the subapical band pale tawny and about twice the width of that in the typical female. There is a tawny submarginal streak in area 2, and the inner-marginal patch, and the central area of the h.w. are pale tawny. The h.w. marginal border is of medium width and inwardly suffused. There seems to be no particular form of male associated with it.

A. esebria f. metaprotea (female).

This form is very like A. jodutta. The type is a large female. The f.w. is nearly all pale tawny with the cell black brown and a band of the same colour extending from costa to middle of area 2 where it becomes broken up. The apical and hind-marginal areas brown. The h.w. is very pale tawny and has only a dark marginal line and hardly any basal suffusion. The nervules and rays are narrowly darkened.

A. esebria f. jacksoni.

The male resembles the type but has the f.w. subapical band rather broader and tawny orange instead of ochreous.
The female has the subapical band very broad, tawny, and joining the inner-marginal patch near the end of area 2 leaving only the cell and apex dark, and a somewhat broken dark central band. The h.w. marginal band varies in width from about 4 mm to a mere darkening of the edge.

A. esebria f. monteironis.

Male resembles the male pseudoprotea but the pale areas are white.
Male. the f.w. subapical band is very broad formed by six large white spots in 6, 5, 4, 3, and 2, and a little above subcostal. The inner-marginal patch is white and does not extend beyond area 2. The h.w. is white with a small basal brown suffusion and a broad well-defined hind-marginal border.

A. esebria female f. nubilata.

The darker areas are sepia black. The base of f.w. cell, the inner-marginal patch, and the basal half of the h.w. are dark sepia grey. The f.w. subapical band is greyish white. There is a single example of this form in the Oxford collection, taken at Llabisa, in E. Central Zululand.

A. esebria female f. ertli.

This form the type of which has been kindly tent to me by Herr Ertl, was described by Aurivillius as a new species. I am satisfied however that it is in fact a form of esebria, and in this conclusion Professor Aurivillius now concurs. Its most striking feature is the f.w. subapical band which is very wide and strongly curved. It consists of six elongated spots the inner edge of which transverses the wing at right angles to the costa as far as nervule 4 where it curves round, first in wards and then outwards, reaching nervule 2. The outer ends of these spots are rounded and somewhat separated by nervular edentations of the ground-colour which, over the apical and hind-marginal

areas, is black brown. The cell and the costa above it are brownish grey, followed by a band of black brown from the end of cell to the subapical white. This band occupies the base of area 3 and beneath that tapers to an outwardly curved point in area 2. The inner-marginal patch is tawny and extends inwardly to the base in areas 1a and 1b. The white spot in area 2 is powdered with tawny at its basal side. H.w. tawny brown with a narrow black brown hind-marginal border deeply edentate on and between the nervules. The underside corresponds to the upper in the same ways as in typical examples.
I have seen only one example of this form, viz. the type, though in the collection of Mr. C. J. Grist there is an example which comes very near it in pattern, but the f.w. subapical bar is pale tawny instead of white.

A. esebria masaris, subsp.

This island form of esebria is characterised by its smaller average size, the male being about 50 mm and the female about 56 mm in expanse, and by the larger size of the pale spot in f.w. area 2. The wings are somewhat more rounded than in the type form. The male has the f.w. black brown with a rather narrow subapical band varying in colour from ochreous to orange, and a narrow inner marginal patch of the same colour. The h.w. has a dark grey basal area extending to about the middle of cell, followed by an orange or ochreous central band and a broad black brown hind-marginal border usually well defined inwardly.
The female presents the same pattern but the f.w. subapical band is somewhat broader, and the paler markings may be either orange ochreous or white.
This form may usually be recognised by the much larger pale spot in f.w. area 2, but though specimens have a generally different appearance from those taken on the mainland it is difficult to point out a really constant difference.

The larva of A. esebria is described by Trimen as follows : About $1^{1/4}$ in. long Pale ochreous brown; each segment (except head, and segment next to it) banded transversely and centrally with a black streak edged on both sides with a pale yellow streak. A lateral stripe of the same pale yellow. Head black. Second, twelfth, and thirteenth segments each with two black spines; third and fourth segments each with two pairs of black spines, each of the remaining segments with four black spines springing from central black streak, and two lateral pale yellow spines. On a species of Fleurya, in February and March". The same author thus describes the pupa : "About ¾ in. long. Chalky white with a faint yellowish tinge. A series of very fine linear black markings along dorsothoracic ridge. Antennae and wing-nervures faintly indicated by delicate linear black markings. Five rows of abdominal black spots, viz. two dorsal, two lateral, and one ventral; these markings are sometimes slightly tinged with orange, and the dorsal ones on the first three segments of the abdomen are conspicuously orange, black edged, tubercular, and pointed. At anal extremity three looped black marks. Head very slightly bifid. Thorax prominently angulated at bases of wing covers, and with a pair of smaller projections posteriorly. Duration of pupal state eight days".
Acraea esebria is very closely allied to A. jodutta and both seem to vary in similar directions. The latter species can usually be recognised by the much less distinct definition of the hind-wing marginal border (when present) and by the longer internervular rays on the underside of the hind-wing, these rays reaching almost to the

cell. In the case of so variable a species much more material is required before we can decide whether any of the foregoing forms should be regarded as subspecies.

130. Acraea lycoa.

Male. Expanse 58-60 mm. F.w. thinly scaled, translucent. Brownish sepia. Beyond cell a faint indication of a subapical band of three large paler spots the third of which is nearer margin than those above it. Similar indications of a pale patch in basal half of area 2, and beneath it of a smaller one in 1b. Costa, apex and hind margin slightly darker. H.w. not quite so thinly scaled but still translucent, slightly darkened at base and along hind margin, remainder of wing dull reddish ochreous. Nervures and rays well marked in dark brown. Underside almost scaleless. H.w. with a few black spots near base; one at base in 9, 1c, and 1b, one in 8, one in 7, two in cell the second small and just before origin of nervule 2, one in 1c, 1b, and 1a. Head and thorax black with small white spots, abdomen black above with reddish ochreous lateral spots and segmental lines. Claws unequal.
Female. Expanse about 64 mm. F.w. rather thinly scaled with grey black. A subapical band of white beginning just beneath costa and continuous as far as nervule 5, beneath which in area 4 is a white spot of about the same width as the band but placed nearer margin so that its inner edge is just under the outer edge of the band. A large white patch in basal half of area 2 and beneath its distal extremity a smaller white patch in 1b. H.w. with a slight dusky suffusion at base, followed by a large white patch extending beyond cell and enclosed by a broad dusky marginal band inclined to tawny about anal angle. Underside a replica of the upper but base of wing reddish tawny on which are black spots as in male but usually rather more distinct.

A. lycoa media, subsp.

The male is distinguished by slightly heavier scaling and greater distinctness of the pale spots in f.w. The female has a darker ground-colour and a slightly smaller and more distinctly outlined white h.w. patch.

A. lycoa bukoba, subsp.

Male. F.w. dark olive brown. The spots reduced in size and pale ochreous. The band reduced to two quadrate spots in 5 and 6 well separated from the spot in 4. The patch in 2 well separated from the submarginal spot in 1b. H.w. basal patch ill defined, warm ochreous, following by a dark hind-marginal border which is inwardly inclined to tawny.
Female. f.w. with brown black ground-colour, spots white and well defined. H.w. pale patch well defined and faintly yellow enclosed by a broad marginal border of tawny brown on which the nervules and rays are well marked.

A. lycoa entebbia, subsp.

Male. F.w. dusky ochreous grey. Spots much reduced in size. H.w. ground-colour much as in f.w. and the pale patch but little developed.

Female. F.w. ground-colour very dark, white spots smaller and more sharply defined than in bukoba. H.w. patch small and very faintly yellow.

A. lycoa tirika, subsp.

Male. resembles entebbia but f.w. ground-colour is olive brown, the pale spots smaller and sharply defined. H.w. patch large, pale ochreous, enclosed by a broad dark marginal border of tawny brown.
Female. With very dark f.w. ground-colour, white spots small and very distinct h.w. patch very small and distinctly yellow.

A. lycoa fallax, subsp.

Male. F.w. nearly black in both sexes. Spots small, white in female and ochreous in male. H.w. patch rather larger than in previous forms and sharply defined.

A. lycoa kenia, subsp.

Both sexes smaller than in other forms. Ground-colour nearly black. H.w. patch slightly edentate between nervules 3 and 4. Dark areas on underside smoky black. Male with spots and h.w. patch lemon ochreous. Female h.w. patch lemon ochreous, f.w. spots white.

A. lycoa aequalis, subsp.

The sexes are similar. The f.w. spots and h.w. patch dull ochreous. H.w. marginal border inclined to tawny.

The larva and pupa are described by Aurivillius (l.c.) the former being yellowish without markings and having a black head and black spines, the latter scarcely as long as the diameter of the body. The pupa has the usual black marking, those of the abdomen enclosing pale centres and being irregularly angulated. Segments 2-4 each have a pair of short black dorsal spines, yellowish at their bases. On PI. VI. F. 8, I have figured an example of the larva taken by Mr. Lamborn near Lagos.
I have already (Trans. Ent. Soc. 1911) discussed at some length the variation which occurs in this species coincident with its geographical distribution. The depth of colour increases as we pass eastwards, whilst it is a remarkable fact that it exhibits constant sexual dimorphism until it reaches Abyssinia, where the female becomes yellow spotted in the f.w. as in the male. Forms intermediate between those here described are of course found on the overlapping areas of the districts to which each form is peculiar, but within those districts the forms are very constant. The species has lately been bred in very large numbers by Mr. W. A. Lamborn near Lagos. These series are now in the Oxford collection and show little or no variation.

131. Acraea johnstoni.

Expanse 58-60 mm. Pattern very unstable. F.w. base suffused with black to a varying extent. Following this suffusion is an irregular tawny orange area extending a little

beyond the pale spots in areas 11, 10, 6, and 5, as far as the spot in 4, over the basal parts of 3 and 2, as far as the submarginal spot in 1b, and nearly as far as 1a. The spots referred to are pale pinkish ochreous and arranged as follows. A subapical series of three or four separated only by the nervules 10, subcostal, and 6. A submarginal spot in area 4, a large rounded spot in 2 touching 2, 3, and median, and a smaller spot near margin in 1b. Beyond these spots the apex and margin is brown black. H.w. white, slightly blackened at base, and having a broad black marginal border somewhat indented at area 4. This indentation gives the inner edge of the border an angulated appearance characteristic of A. johnstoni throughout its numerous forms. Underside. F.w. resembles the upper, but the dark areas are replaced by ochreous grey, striated by the dark nervules and rays, and the whole pattern is paler and duller, the pale spots often almost devoid of scales. H.w. much as above but there are a few black spots close to base arranged for the most part as a basal and subbasal series, one in 9, 8, 7, and cell, two in 1c, 1b, and 1a. The central area less clear white than above, the marginal border ochreous grey, inwardly inclined to reddish brown. Head and thorax black with a few white dots. Abdomen black above with orange lateral spots and whitish segmental lines. Claws unequal.
Female. Except that it is larger, one example before me having an expanse of 74 mm, the female resembles the male, or at least females can be found which resemble the male. The species is so extremely variable that it is not always easy to find two examples exactly alike.

A. johnstoni f. confusa.

F.w. brown black. The pale spots as in typical form but white. H.w. as in typical form but basal patch pale ochreous.
The female resembles the male.
This is the commonest form of A. johnstoni and it is rather unfortunate that the previous form should have become the type since it is in reality a rather rare variety. A variety of the confusa form has the h.w. basal patch white as well as the f.w. spots. I have figured this form in Trans. Ent. Soc., pl., 1, f. 13 (1911).

A. johnstoni f. flavescens.

In this form the f.w. spots are pale ochreous the same as the h.w. patch.

A. johnstoni f. semialbescens.

The f.w. spots are white and the h.w. patch is tawny yellow.

A. johnstoni f. fulvescens.

The f.w. is tawny yellow, the spots only a shade paler, and there is a blackish apical and hind-marginal border. The h.w. is tawny yellow a little paler over area which in confusa is pale ochreous. A more or less well-defined but narrow blackish hind-marginal border.

A. johnstoni f. octobalia.

The spots of f.w. and basal patch of h.w. are tawny yellow instead of white and pale ochreous.

A. johnstoni butleri, subsp.

Basal half of f.w. purplish red with a slight blackish suffusion at base, beyond the red colour is a very irregular band of rather tawny yellow its inner edge comparatively straight as far as area 4, projecting sharply inwards in area 2, and continued as a submarginal patch in 1b and sometimes also in 1a. Below area 3 the outer edge of this band is often much suffused. Beyond the band the apex and hind margin are brown black. H.w. basal patch white to dull pink followed by a broad blackish hind-marginal band. The tawny yellow band in the f.w. of this form is so variable in shape that it is not easy to find two examples alike.
The female resembles the male, but may be rather larger and less richly coloured.

The larva of A. johnstoni has the body yellowish beneath and brownish black above, each segment with a ring of yellowish white, edged with brown and divided in the middle by a dark brown line widened somewhat at the base of each of the papillae which carry the spines. Head black, and the first and last three segments somewhat darker than the remainder. Twenty-four dorsal black spines arranged in a double row. Eleven lateral spine on each side, the last two projecting backwards. Eight sublateral spines yellow on each side the first pair arising from the fourth segment.
I have already (Trans. Ent. Soc., 1906) entered rather fully into a discussion of the forms of this extremely variable species. I have slightly altered the list of references and synonymy from that given on the previous occasion and have separated out the form named flavescens by Oberthür, and also his semialbescens as the seem sufficiently different to stand as separate forms. Karsch's form octobalia I then knew only from a sketch I discovered at Oxford, but having now seen the actual specimen I find that the sketch is quite inaccurate, the form being as above described. In addition to the forms noted, intermediates of all kinds may be found in a long series. In Nyassaland Neave has lately found a form which resembles f. semifulvescens, but has the f.w. spots brilliantly white instead of obsolescent. In Mr. Trimen's collection there is a female from Naivasha (British E. Africa) which is of the black and white variety of the confusa form but has a trace of deep tawny yellow in the central area of the f.w. In Mr. Joicey's collection there is a female which has the f.w. sepia, the outer part of areas 2, 3, 4, 5, and 6 tawny yellow, the spots a vivid white, the h.w. basal patch tawny with the marginal border of a deeper shade and the margin dusted with brown.
In the general collection of the Berlin Museum there is a female from Mpwapwa which has all the pale markings orange ochreous.
The larva which I figured (l.c.) was one of a company bred at Nguelo, Usambara, resulting in nine specimens which were of the following forms, 2 females and 1 female of the type form, 2 females and 2 females of f. fulvescens, one female of the black and white variety of confusa, and one male confusa with white f.w. spots and pale ochreous h.w. patch.
The species ranges from N. Rhodesia through German E. Africa to British E. Africa and Uganda, but no form seems peculiar to any particular district except butleri, which, so far as I know, is only found in Urundi and Toro. At Chirinda only the form confusa seem to occur. A long series taken by Neave on Mt. Kokanjero (British E.

Africa) contains a large number of intermediates between) fulvescens and semifulvescens.

The two following species cannot be assigned to any of the foregoing groups, and present no special affinities.

132. Acraea niobe.

Male. Expanse 60 mm. F.w. Thinly scaled, elongated, more or less translucent, Brown- black. Base, costa, apical and hind-marginal borders darker. Large rounded black spots as follows. One in cell over origin of nervule 2, one at end of cell. A subapical row of three contiguous spots in 6, 5, and 4, followed by a spot in 3 more proximally placed. One at base of area 2, and beneath it but nearer margin a spot in 1b, and in the same area a subbasal spot against median, midway between base and origin of 2. H.w. thinly scaled, brown black, rather darker at base and having a narrow black border, widest in areas 2 and 1c. black spots as on underside. Underside. F.w. almost scaleless except on spots which are as on upperside. H.w. as above. Black spots as follows. An outer row of nine, the first three in 7, 6, and 5, small and parallel to apical margin. The fourth in 4 rather more proximal, the fifth larger, a short-distance from base of area 3, sixth large, at base of area 2, followed by a large spot in 1c and 1b all in a straight line at right angles to inner margin, ninth very small in 1a. In addition to these a small subbasal in 7, two spots in cell, the second very large, a large spot on discocellulars, a basal and a subbasal in 1c and 1b and an additional spot in 1a. Head black with a crimson collar. Thorax black above. Basal half of abdomen black above with red lateral spots. Distal half crimson. Claws unequal.
Female at present unknown.
This interesting species is only found on the Island of Sao Thome. It is quite unlike any other known form. The figure in Rhop. Exot. seems scarcely black enough, the spots having in reality a somewhat velvety appearance. I have examined two males in the Staudinger collection. These and the type in the Lisbon Museum are the only examples known to me.

133. Acraea insularis.

Male. Expanse 48 mm. F.w. black brown. In cell, just before origin of nervule 2, a yellow transverse spot traversing the whole width of cell. Just before end of cell a broad orange quadrate patch contiguous with a large orange spot at base of area 2, and beneath the latter a crescentic orange spot in 1b nearer margin. Two small orange subapical spots separated by nervule 6, and beneath these but rather nearer margin a smaller spot in area 4. In the transverse area between the spots the ground-colour is somewhat darker. H.w. with a dark basal suffusion followed by a yellow patch outwardly shading into orange. A dark brown marginal border, its inner edge traversing the wing almost perpendicularly as far as nervule 4, where it bends sharply inwards to inner margin. Black spots as on underside. Underside. F.w. much as above but spots pale ochreous dusted with reddish, and ground-colour somewhat pale with dark streaks in cell and areas 6, 4, and 1b. H.w. pale greenish grey with a brown border as on upperside but outwardly bounded by a paler marginal line. Black spots as

follows : One in 9 at base, two in 7 rather close together the second just beyond origin of nervule 7, three discal spots in 5, 4, and 3 the middle one larger and more proximal. Two in cell and two one discocellulars, a basal, a subbasal and a distal in 1c, two distal spots in 1b, and a subbasal in 1a. Head, thorax and abdomen black.

I have not had an opportunity of examining the type of this species which is in the Lisbon Museum. As Prof. Aurivillius has noted (l.c.) its true affinity is obscure. It does not resemble any other species with which I am acquainted.