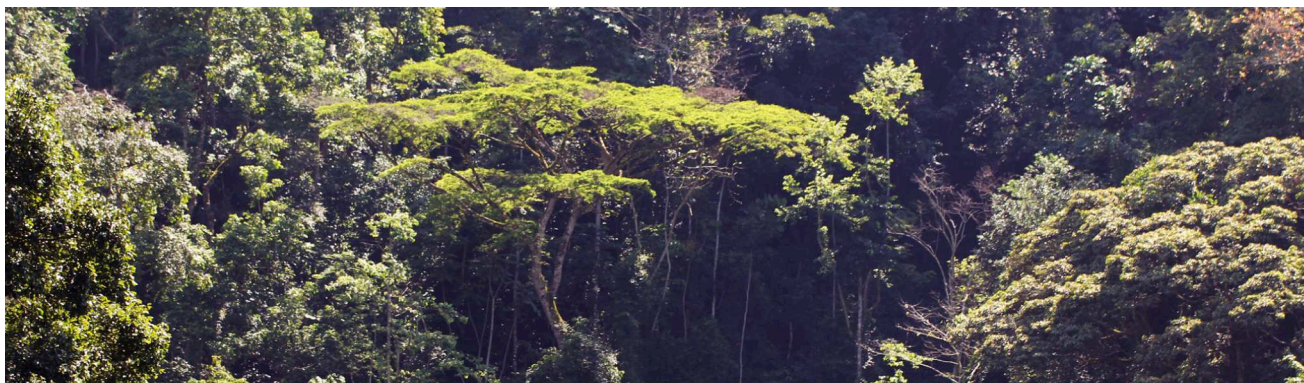




**BIOGEOGRAPHY OF KIVU AND ITURI
(Democratic Republic of Congo)**

**ACRAEINAE
(Lepidoptera, Nymphalidae)**

Dominique Bernaud & Robert Ducarme

OKAPI RESERVE

John F. Douglass

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This book is dedicated to our wives

Thanks to



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INTRODUCTION

When the two authors started thinking about writing this book, after a fruitful collaboration of over 20 years, they came up with two objectives which later became enhanced by the work of J. F. Douglass on the Okapi Reserve :

- offer entomologists geographical and botanical information on Kivu and Ituri, fruit of all the research work carried out by Robert Ducarme who spent over 40 years studying the insect fauna of these regions ;
- show through the presentation of the distribution of Acraeinae how unique this area is in Africa and how revealing about the causes of speciation in lepidoptera.

The project materialized and this book is now out. The first part deals with this beautiful region which includes part of the Ituri, this mythical region of the first Congo explorers, which goes down to Lake Kivu and which was discovered only at the end of the nineteenth century (J. F. Douglass, in his supplement on the Okapi Reserve, recounts the history of the exploration of the Ituri). That first part of the book is entitled "Biogeography of Kivu and Ituri". The information provided will be useful to all entomologists and even to the ones who are interested in the fauna of Africa in general. The authors emphasize a fact the importance of which is not always understood, namely the endemism of the northern rift. This work follows the one dedicated to Uganda by D. Bernaud , J.-P. Lequeux and M. Ziraye, and shows the geographical uniformity of these two regions.

A detailed analysis of the *Acraea* of Kivu and Ituri, their specificity and their distribution, raises many questions :

- J. F. Douglass stresses the existence of species considered "orophile" in low altitude forests, which brings the question of the Ituri forest block being a refugium forest ;
- D. Bernaud shows that the populations of these regions invalidate some of the previous classifications of species, with a logical consequence being (on the basis of the principles put forward by E. Mayr regarding polytypical species) regrouping a few taxa as intermediate specimens are so plentiful.
- R. Ducarme, through all his discoveries of new species, subspecies and forms, exposes the fabulous richness of this region, probably the richest in the whole of Africa.

An important part of the book on Acraeinae is first and foremost an inventory as D. Bernaud has not been able to conduct field studies on the early stages due to the prevailing insecurity.

This inventory is a good opportunity to review all what is known about the taxa of Kivu and Ituri, thanks to the collaboration of museums whose collections (insufficiently studied) are far more important than private ones.

The authors benefit from the genetic analysis of the Acraeinae, thanks to the BOLD Project (University of Guelph). The sequencing of numerous specimens allows a better understanding of certain issues, already discussed in previous works, particularly regarding the *epaea* group (ex *bematistes*).

This inventory is accompanied by a detailed iconography of all the known forms. This is the fruit of a collaboration with many entomologists.

We would also like to thank all the collectors and the entomologists who participated in the collecting in Kivu and Ituri.



Robert Ducarme (left) and Prosper Katsuva Mukanirwa (right)



Peter Walwanda (left) and Jacques Paluku Vikutsa (right)



Paluku Thalia



Jacques Paluku Vikutsa (left),
Paluku Musayi (center) and
Corneille (right)



Main entrance to the Virunga National Park (ex PNA)



The main administrative building of the Park



Gorilla from the Mountains



Crested cranes

Acraea perenna

Acraea (Actinote) perenna Doubleday, 1847, The Genera of Diurnal Lepidoptera : 141, pl. 19, fig. 4, "Ashanti".

The taxa associated with this species are :

= *polydectes* Ward, 1871, which is considered a synonym.

= *thesprio* Oberthür, 1893, also a synonym but the name is frequently used to identify the particular form of the East Africa coast.

usagara Strand, 1914, which is, according to the description, an aberration close to *thesprio*.

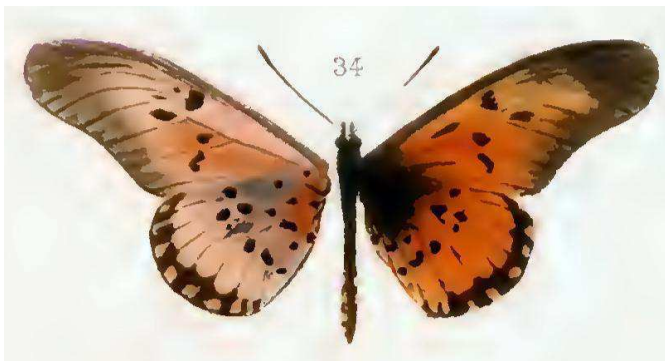
kaffana Rothschild, 1902, which is the Ethiopian subspecies.



perenna illustration by Doubleday



perenna type coll. BMNH



thesprio illustration by Oberthür

The description by Doubleday is accompanied by the illustration figured opposite. The type specimen is in the BMNH.

Ward described *polydectes* from Cameroon "*Allied to Acraea Pereuna [sic], Doubleday*". No illustration accompanied the very brief text. This taxon was synonymized by Plötz in 1880 (he wrote "*Polydectos*"!). Oberthür (1893) emphasized that *polydectes* (he owned the type) could only be a robust and oversize form.

He described *thesprio* from Zanguebar (Zanzibar) from 4 specimens collected by R. P. Le Roy, Gommenginger and Machon. He specified in his original description that *thesprio* could well be only the oriental form of *perenna*. Aurivillius agreed with this position (1898, 1906) and made it a variety (subspecies) of *perenna*. Eltringham also considered it a subspecies (1912, 1916).

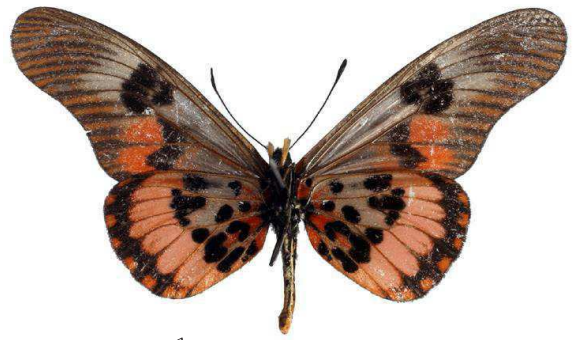
J. Pierre in 1981 (p. 149) also wrote that *thesprio* was the oriental form of *perenna*. Pierre & Bernaud confirmed this position in their text on Malawi in 2008 (p. 6) and in their 2009 catalogue. In 2014 the book "*Acraeinae of Malawi*" showed that both forms were flying together in central Malawi (Chisasira, Mkuwadzi).

Strand described aberration *usagara* from the Usagara Mts (Muagatal), specifying : "*Steht ab. thesprio Obthr. nahe*". We do not know the type.

Subspecies *kaffana* from Ethiopia is validated as such by Pierre & Bernaud due to its geographical isolation.



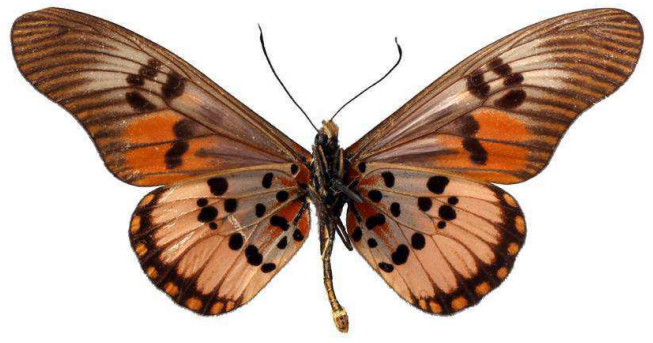
perenna ♂ Kasugho recto coll. Bernaud



perenna ♂ Kasugho verso coll. Bernaud



perenna ♂ Nyamunyune recto coll. Bernaud



perenna ♂ Nyamunyune verso coll. Bernaud



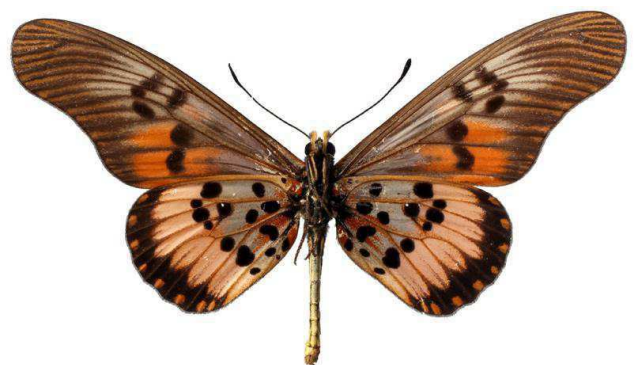
perenna ♂ Rutshuru recto coll. Bernaud



perenna ♂ Rutshuru verso coll. Bernaud



perenna ♂ Hoyo recto coll. Bernaud



perenna ♂ Hoyo verso coll. Bernaud