

Studies on Crambidae III: New genus of Pyraustinae for the Afrotropical region. (Lepidoptera: Pyraloidea: Crambidae: Pyraustinae)

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Abstract: A new monotypic genus *Afreuclasta* with its type species: *Afreuclasta ruwenzoriensis* **sp. nov.** is described from East Africa. The genus is placed in the Pyraustinae, Euclastini, and its generic placement is discussed.

Key words: Euclastini, *Afreuclasta*, Ruwenzori mountains

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INTRODUCTION

This taxon came to the author's attention while studying the Crambidae, Pyraustinae from Africa. This new genus seemed interesting to be described since it could, at least externally, be easily linked to known genera. A new genus, *Afreuclasta* is created and a new species described. The female genitalia and external characters of the head place it close to the genus *Euclasta* Lederer, 1855. It has also characters in common with the genera *Paschiodes* Hampson, 1913 and *Duzulla* Amsel, 1952. The former is restricted to Africa and has been revised (Maes, 2000), the latter was described for one species (*Phlyctaenodes subhyalinalis* Hampson, 1900) originally described from Syria. The genus *Euclasta* has a typical Old World distribution with one species, *Euclasta gigantalis whalleyi* Popescu-Gorj, 1973 introduced into Australia for biological control. A comprehensive study of the genus *Euclasta* was made by Popescu-Gorj & Constantinescu (1977).

METHODS AND MATERIALS

Genitalia dissection:

Genitalia were dissected following Maes (1985) (modification and extension of Robinson (1976) specific towards the Pyraloidea), except that now the abdomen is opened laterally to better document the characters on sternites and tergites.

Wing venation:

The wings were cleared and stained following a method described by Zimmerman (1978).

Digital processing of images:

Images of the adults were taken with a Canon Eos 5D Mark

IV with a Macro lens EF 100mm 1:2.8 using Helicon remote (ver. 3.9.12M). Stacking of images was done with Helicon focus (ver.8.2.7). The genitalia were photographed with a Canon Eos 5D Mark IV on a Leitz Laborlux S.

Acronyms and abbreviations

ABSRC: AgroBioSys International Reference Collection, Wetteren, Belgium

NHM: The Natural History Museum, London, UK.

NMK: The National Museums of Kenya, Nairobi, Kenya.

RMCA: The Royal Museum for Central Africa, Tervuren, Belgium.

RESULTS

Crambidae Latreille, 1810

Pyraustinae Meyrick, 1890

Euclastini Popescu-Gorj & Constantinescu, 1977

Afreuclasta **gen. nov.**

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type species: *Afreuclasta ruwenzoriensis* **sp. nov.**

gender: feminine

Diagnosis: Wings elongated triangular; valva in male genitalia with simple lobe-shaped sella covered by numerous flattened and elongated setae. The genus is different from *Euclasta* Lederer, 1855 by the brown uniform wing pattern and in the male genitalia by the structure of the sella with setae which are lacking in true *Euclasta* species. It also lacks the extensions of the vinculum as seen on *Euclasta* species.

Head: frons slightly protruding, flattened; maxillary palps obvious; labial palps correct, densely scaled; spurs on legs: 0,2,4, inner spurs on mid- and hind legs 1/3 longer than outer spurs; antenna long, arriving at termen of fore wing.

Wings:

Fore wings: elongate triangular; R1 well before R2, about parallel with base of Cu₂; R2 and R3+4 from cell angle, well separated at their base, then parallel for about 1/3 of the length of R3+4; R2 and R3 before termen; R4 in

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termen; R5 close to R4+5; M1 near the middle of the cross-vein of the discal cell, at the base approximating to R5; M2 and M3 from angle of cell, well separated at their base; Cu1 near angle and Cu2 at about 4/5 on the M-stem.

Hind wings: Sc+R1 approximating Rs beyond the cell, not fused; M1 and M2 from one point out of hind corner of cell. ♂ with subcostal retinaculum and simple frenulum; ♀ with some bristles as retinaculum and a double frenulum.

Tympanal organs (Fig. 1): Praecinctorium simple, giving a bilobed aspect through scaling; tympanal organs completely invaginated; narrow fornix tympani underneath the venula prima; venula secunda well developed; bean-shaped bulla tympani parallel to body axis; saccus tympani deep; spinula absent.

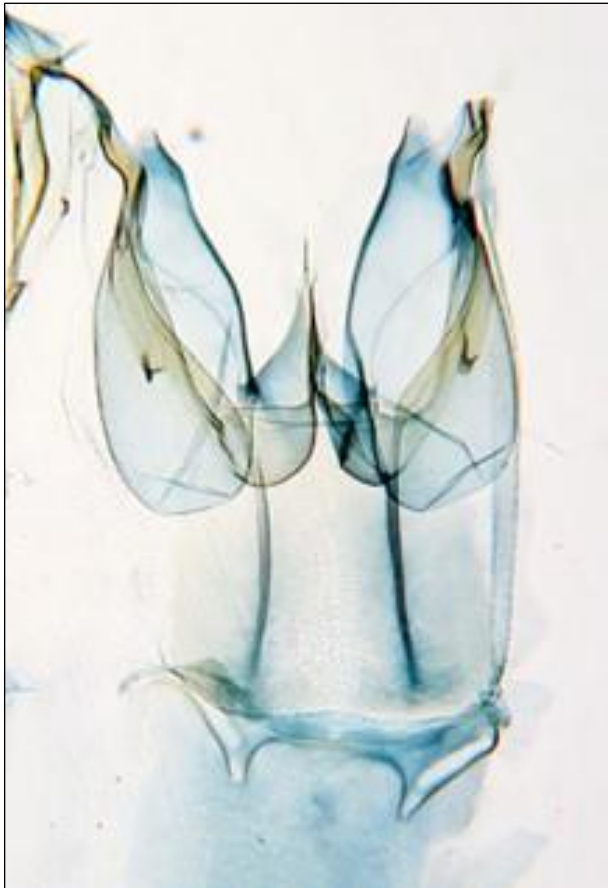


Figure 1 - Tympanal organs *A. ruwenzoriensis* sp. nov. Holotype.

Male genitalia (Figs 2–4): Uncus simple, rounded, dorsally with short simple and tune-fork shaped setae; tegumen rather long; subsclaphium present; vinculum broad, U-shaped, saccus small but present; juxta shaped as a shield; valva slightly curved upwards, flattened at the end; sella consisting of a dense bush flattened and elongated setae, editum absent; aedeagus with a simple cornutus composed of fused spines.

Female genitalia (Fig. 5): Papillae anales membranous with long and short setae; apophyses anteriores and posteriores of about equal length; sinus vaginalis membranous; ostium bursae tube-like, sclerotized; ductus bursae continuing straight from the ostium, starting at ductus seminalis, first part slightly sclerotized; appendix bursae, membranous, its base in a loop of the ductus bursae near the corpus bursae; the latter with a rhomboid signum.

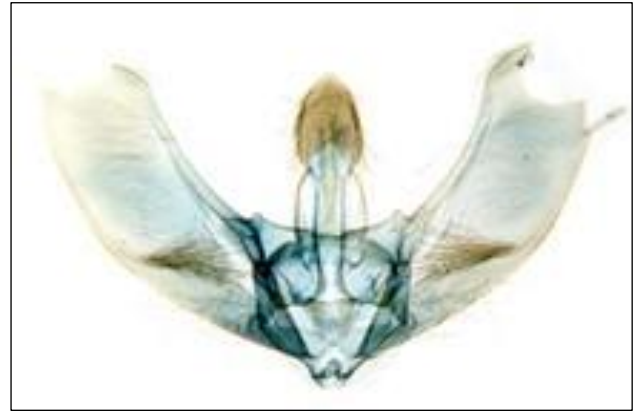


Figure 2 - *A. ruwenzoriensis* sp. nov. Holotype: male genitalia.



Figure 3 - *A. ruwenzoriensis* sp. nov. Holotype: aedeagus.

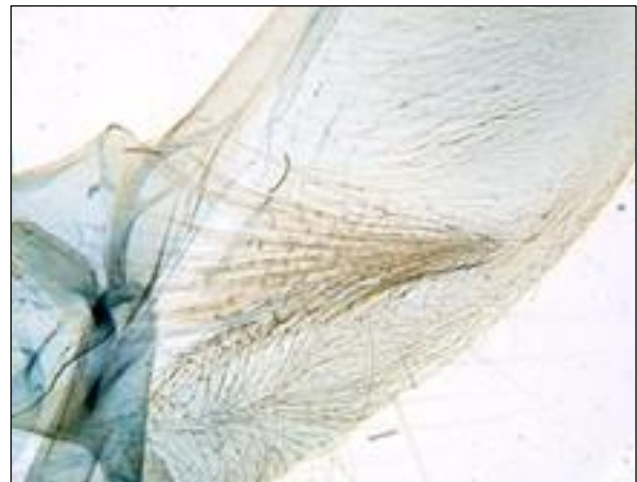


Figure 4 - *A. ruwenzoriensis* sp. nov. Holotype: detail male genitalia.

Life cycle: unknown.

Distribution: Uganda, D.R.C., Kenya, and Tanzania.

Systematic placement: The genus is placed in the Pyraustinae, Pyraustini (Crambidae, Euclastini) for the combination of following characters: sella in male genitalia and rhomboid signum on bursae in female genitalia. It is close to the genus *Euclasta* for the shape of the labial palps, the presence of the sella and form of uncus in the male genitalia. In the female genitalia it has the ductus bursae curled around the base of the appendix bursae at the base of the corpus bursae. It differs with the genus *Euclasta* because of the differences in the wing pattern: *Euclasta* species have a white streak medially over the length of the forewing; the male genitalia lack a sella and editum (some specialised area can be present f. i.: *E. warreni* and they have a rather clear extension of the ventral part of the vinculum (check the paper of Popescu-Gorj to compare



Figure 5 – *A. ruwenzoriensis* sp. nov. Female genitalia.

the male genitalia). *Afreuclasta* has a clear brush like sella with elongated, simple setae and no extension of the vinculum.

***Afreuclasta ruwenzoriensis* sp. nov.**

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Type material examined:

Holotype ♂ (Fig. 6): KENYA Rift valley Prov., Turi 2000ft.n14.xii.1998 D.J.L.Agassiz; K. Maes gen.prep.nr.♂1559: ABSRC1003507 (ABSRC); **Paratypes:** 1♀ (Fig. 7): KENYA Central, Castle Forest Lodge 2050m 0°22'51"S; 37°18'35"E 24.x.2013 Agassiz, Beavan Heckford & Larsen; K. Maes Gen.prep.nr.♀1558; ABSRC1003508 (ABSRC); 1♀: [D.R.C.] Congo belge: Parc National Albert, 19.x.1952 Massif Ruwenzori



Figure 6 – *A. ruwenzoriensis* sp. nov. Holotype ♂.



Figure 7 – *A. ruwenzoriensis* sp. nov. Paratype ♀.

Kyondolire 1700m. GPKM ♀14061 (RMCA); 1♀: [D.R.C.] N. Lac Kivu: Rwankwi, ii.1941 Mme.J.V.Leroy (RMCA); 1♂: [D.R.C.] Congo belge: P.N.A. 19.x.1952 P.Vanschuytbroeck & J.Kekenbosch 1327, Massif Ruwenzori Kyandolire 1700m Camp des Gardes à la lumière (RMCA)(abdomen lost); 1♀: TANZANIA, Arusha, Ngorongoro Crater Rim. 03°12'32" S; 35°28'47"E. 2267m. Black/MV lights. 28.iv.2000. K. Maes (ABSRC).

Additional material examined: UGANDA: 1♂: Impenetrable For. Kigezi Uganda Mar.1967 R.C. Otieno (NHM); KENYA: 1♂: Kaptagat 22.x.1948 Walker (NMK); KENYA: 1 ♀: Kaptagat March 1948 (abdomen lost) (NMK).

Description:

External characters: as for the genus. Fore wing: ground colour light brown, suffused with black scales; antemedian and postmedian line, when visible, strongly irrogated; traces of these lines on the hindwing in dark specimens.

Internal characters: as for the genus.

Life cycle: unknown.

Distribution: Uganda, D.R.C, Kenya, and Tanzania. The genus and the species seem to be restricted to the higher altitude forest found on different mountains in East- and the eastern part of Central Africa.

Etymology: The name refers to the main highlands in Eastern Africa going from Kenya to the Ruwenzori range in D.R.C.

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