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DESCRIPTION OF A FOURTH SPECIES IN THE GENUS *APHELINIS* ANTOINE (COLEOPTERA: CETONIIDAE)

by

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A fourth species is described in the genus *Aphelinis* Antoine: *Aphelinis krikkeni*, from Central African Republic. Phylogenetic relations within the genus *Aphelinis* are considered.

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INTRODUCTION

Aphelinis Antoine, 1987, is an African genus created to receive *Elaphinis xanthosternon* Bourgoïn, 1919, *Anelaphinis collarti* Burgeon, 1931, and *Aphelinis clypealis* Antoine, 1987. Those species share, together with a strong external likeness, a common structure of the male genitalia: the parameres are sclerified, elongate, subparallel and distinct; the left paramere overlaps the right one along the internal margin; the ventral part is entirely membranous; the internal sac is without any sclerite. I am indebted to Dr J. Krikken (Leiden Museum) for the communication of a male specimen pertaining to a fourth species that I am glad to name after him.

***Aphelinis krikkeni* spec. nov.**

Material examined. — Male holotype (Rijksmuseum van Natuurlijke Historie, Leiden). It bears the following labels: 1. [handwritten by Janson] [recto] Fort Crampel/French Congo [verso] E. le Moul/1915 2. [printed] Museum Leiden/verz. F.T. Valck/Lucassen/(O.E. Janson) 3. [red bordered] HOLOTYPE/*Aphelinis/krikkeni*/Ph. Antoine det. 1988.

Description. — Length 11,5 mm (measured from the anterior margin of the pronotum to the elytral apex), maximum breadth 7 mm.

Testaceous with brown or greenish black markings, opaque, elytra and abdomen with small greyish spots. Pronotum almost entirely black, with three conspicuous testaceous cells in the basomedian area; lateral part of mesepimera, scutellum, apical calluses, pygidium and mesometasternal process flavescent; abdomen mainly greenish brown.

Clypeus rectangular (fig. 1), finely punctate; anterior margin straight, truncated, neither marginate nor reflexed; clypeolateral ridge distinct; clypeolateral area narrow. Juxtaocular depressions with a strong but not very dense setigerous punctation.

Pronotum transverse (fig. 2), with a rather sparse but large and deep setigerous punctation; lateral margin irregularly marginate, slightly concave in its posterior half; hind margin widely rounded, with a shallow emargination in front of the scutellum.

Mesepimeron laterally produced (fig. 3). Scutellum impunctate, rather long, with sinuated sides and blunt apex.

Elytron with spinose apicosutural angle and very strongly produced apical callus (fig. 4); sutural margin raised in posterior half; each costal interval with two irregular rows of arcuate punctures coalescing to form fragmentary geminate striae.

Propygidium slightly angulate in the middle. Propygidial spiracles produced.

Pygidium with a short, blunt, longitudinal median carina and two shallow lateral impressions.

Disc of pygidium and lateral sides of abdomen and of metasternum, with a sparse setigerous arcuate or annular punctation.

Mesometasternal suture distinct; stria along the fore margin of the metasternum reaching almost the longitudinal median stria (fig. 5).

Front tibiae with two sharp teeth and a very obtuse one (fig. 6)

Parameres: figure 7.

Identification and phylogenetic discussion. — The following characters proved to be the most useful in the characterisation of species in the genus *Aphelinis* (table 1). Characters marked with an asterisk are phylogenetically interpretable (figure 8); in this case, "a" indicates the plesiomorphic state and "b" indicates the apomorphic state.

- *1. Lateral margin of parameres: a, smooth, b, angulated or with a hook.
- *2. Apical margin of parameres: a, broad, less rounded than the inner angle; b, narrow, as rounded as the inner angle.
- 3. Anterior margin of clypeus: a, marginate; b, reflexed; c, truncate.

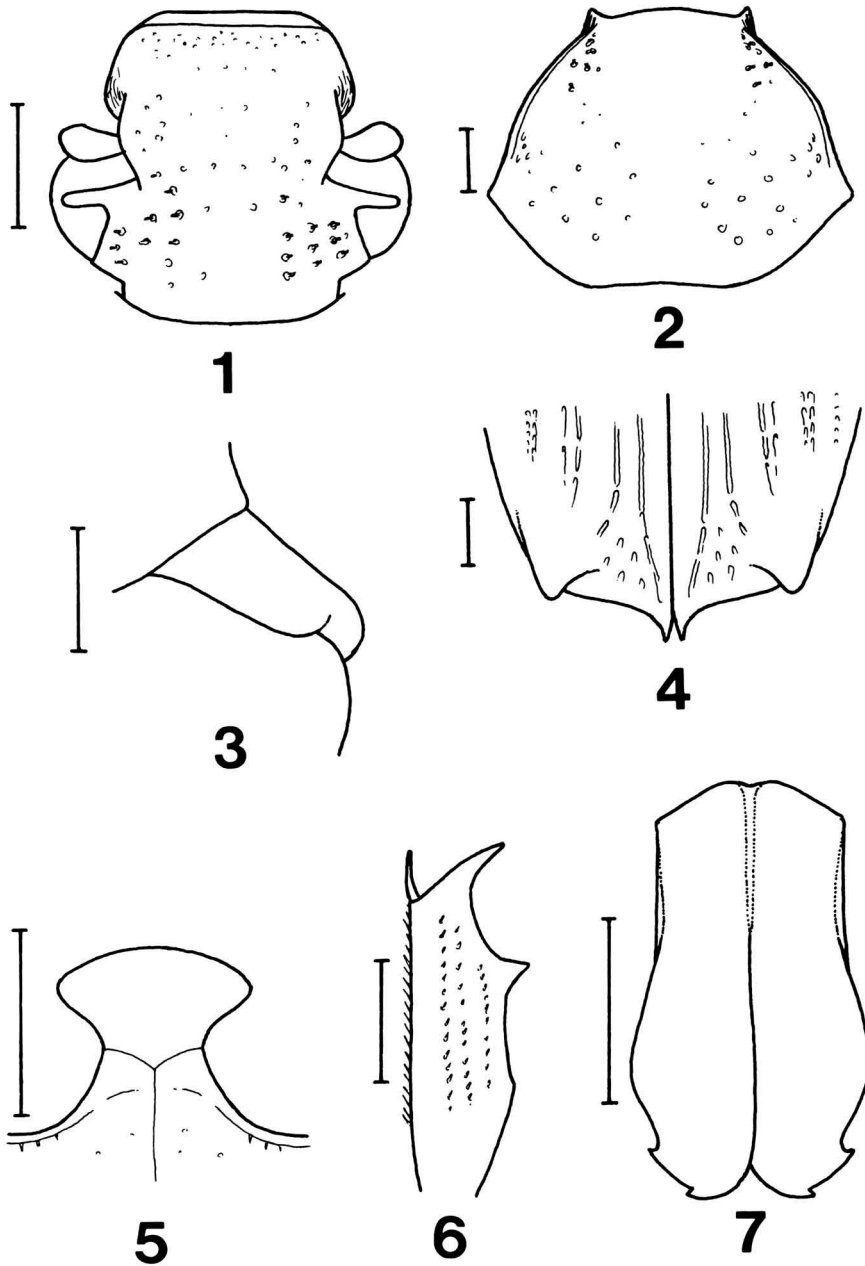
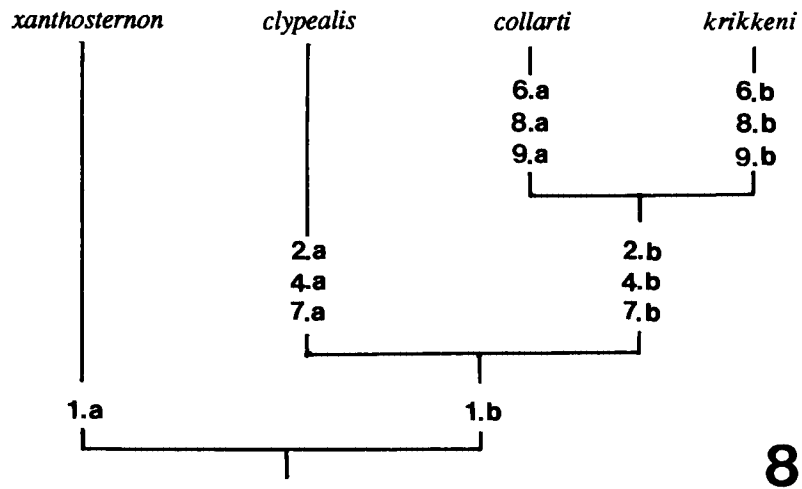


Fig. 1-7. *Aphelinis krikkeni*, holotype. Contours of: 1, head; 2, pronotum; 3, right mesepimeron (dorsal view); 4, apex of elytra; 5, mesometasternal process; 6, right front tibia; 7, parameres. Scale lines are 1 mm.



8

Fig. 8. Phylogenetic tree of the *Aphelinis* species. Numbers correspond to character numbers in the synoptic table of character states.

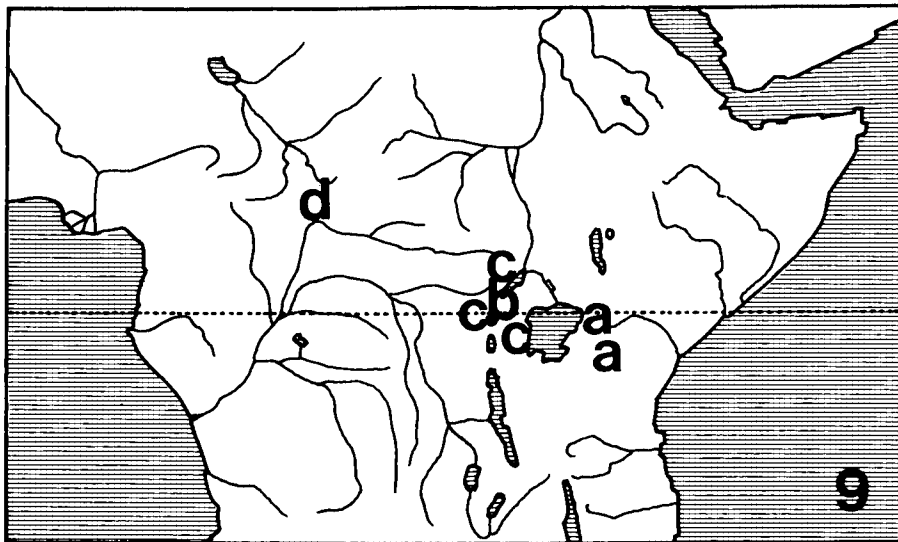


Fig. 9. Geographical distribution of the *Aphelinis* species: a, *A. xanthosternon*; b, *A. clypealis*; c, *A. collarti*; d, *A. krikkeni*.

- *4. Lateral margins of pronotum: a, subparallel in the posterior half; b, converging from posterior angles to anterior angles.
- 5. Posterior margin of pronotum: a, regularly rounded, without an antescutellar emargination; b, drawn backward, with a shallow antescutellar emargination.
- *6. Apical callus of elytron: a, not produced; b, produced.
- *7. Apicostural angle of elytron (male): a, rectangular or acute; b, spinose.
- *8. Propygidial spiracles: a, normal; b, produced.
- *9. Pilosity: a, long and thin; b, short and thick.

TAXON	CHARACTERS								
	1	2	3	4	5	6	7	8	9
<i>xanthosternon</i>	a	a	a	a	b	a	a	a	a
<i>clypealis</i>	b	a	b	a	a	a	a	a	a
<i>collarti</i>	b	b	a	b	a	a	b	a	a
<i>krikkeni</i>	b	b	c	b	b	b	b	b	b

Table 1. Synoptic table of character states of *Aphelinis* species.

The phylogeny of the *Aphelinis* species, as depicted in the cladogram (fig. 8), and the distributional data (fig. 9) lead to locate the origin of *Aphelinis* in eastern Africa and to assume a westward expansion together with a correlative speciation.

REFERENCES

- Antoine, Ph., 1987. Description d'un genre nouveau *Aphelinis* (Coleoptera, Cetoniidae), et d'une espèce nouvelle appartenant à ce genre. — Rev. Zool. afr. 101: 463-468.
- Bourgoin, A., 1919. Scarabaeidae: Trichiini et Cetoniini. In: Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale (1911-1912), Résultats scientifiques, Coleoptera 14: 121-192. L. Lhomme, Paris.
- Burgeon, L., 1931. Description de Cétoines congolaises nouvelles. — Bull. Anns. Soc. ent. Belg. 71: 219-223.