

# REDISCOVERY OF THE GENUS *COLEOTYDAEUS* BERLESE, 1910 (ACARI : ACTINEDIDA : TYDEIDAE)

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TYDEIDAE  
COLEOTYDAEUS  
SOIL  
ZAÏRE

SUMMARY : The genus *Coleotydaeus* Berlese, 1910 has been found in Zaïre for the first time since its original description. A redescription of the genus based on a new species is given.

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RÉSUMÉ : Le genre *Coleotydaeus* Berlese, 1910 est redécouvert pour la première fois au Zaïre depuis sa description originale. Les auteurs le redécrivent sur la base d'une nouvelle espèce.

## INTRODUCTION

The genus *Coleotydaeus* was described by BERLESE (1910) to accommodate a single species, *C. rhombicus* Berlese 1910, that was collected in the muscinal surroundings of Palerme in Italy (Palearctic Region). The species presents unique and obvious characters, including a dorsal anus located behind a transverse suture. It has never been collected since its original discovery.

Unfortunately, the description of *C. rhombicus* by BERLESE is overly concise and there is no information presented on the chaetotaxy. Furthermore, the type material examined by BAKER (1965) is in poor condition and the setal pattern of the legs and body could not be seen (BAKER, 1965). BAKER (1965) was, however, able to illustrate the chaetotaxy of the palp, tarsus I and genital area (figures 107,

109 and 110 in BAKER, 1965). Therefore, it was necessary to recover additional specimens of *Coleotydaeus* in order to provide the missing information. Fortunately, several specimens representing a new species of *Coleotydaeus* were found by the senior author in soil samples collected in Zaïre (Afrotropical Region). They have provided the basis for a redescription of the genus, which is presented below.

## *Coleotydaeus* Berlese, 1910

Prodorsum : dehiscence line procurved ; no eyes ; one pair of bothridia. Opisthosoma : dorsal chaetotaxy : 9 setae (*l2*, *l3*, *h1* and *h2* missing) ; poroidotaxy : 4 ; genital organotaxy : Ad (0,?-6-4) ; DN (2-2) ; epimeral formulae : Ad (3-1-4-3) ; DN (3-1-4-2) ;

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coxal organ present; two pairs of diachile slots in the deuteronymph. Legs: chaetotaxy: I (12-5-4-5-1), II (8-2-4-4-1), III (7-2-3-3-1), IV (7-2-1-2-0) in the female and deuteronymph; eupathidia on tarsus I: (*tc*) and (*p*); solenidiotaxy: 3; femur IV undivided. Palp: (7-2-2) +  $\omega$ , with a double eupathidium at the tip of the tarsus. Two pairs of subcapitular setae and two pairs of adorals as in other tydeid genera.

An outstanding character related to the disappearance of setae *h1* and *h2* is the dorsal position of the anus. Furthermore, the anal aperture is protected by a special operculum well apparent in dorsal view (Fig. 1 A, 1 D, 2 B). The genital opening is terminal, with large shield-like lips which bear only the most posterior three pairs of aggenitals in adults (Fig. 2 B, 2 C). The opening is T-shaped as in other genera. Transverse sutures on the opisthonotum suggest the presence of dorsal shields, as earlier noted by BERLESE (1910) and BAKER (1965). It must be stressed, however, that the areas delineated by these sutures are thinly striated and not smooth as are the shields found in other actinedid families such as Stigmaeidae. In contrast to adults, the striation of the deuteronymph is homogeneous over all the idiosoma. *Coleotydaeus* belongs to the subfamily Tydaeolinae.

Species-type: *C. rhombicus* Berlese, 1910.

#### *Coleotydaeus lebruni* n. sp.<sup>1</sup>

(Fig. 1 A-D, 2 A-C and 3 A-E)

Total length of adults: 222,1  $\mu$ m (min. 207,9  $\mu$ m and max. 233,1  $\mu$ m);

Total length of deuteronymphs: 189,6  $\mu$ m (min. 185,6  $\mu$ m and max. 193,6  $\mu$ m);

Dorsal striation longitudinal on the prodorsum and opisthosoma. Most idiosomal setae are lanceolate and serrate except for the sensilla, which are much longer and strongly pilose. Claws and empodia typical for the family.

#### Diagnosis.

Little information is available on the type-species which, as noted earlier, is in poor condition. Analysis of the drawings published in BAKER (1965) reveals that at least two characters distinguish the new species from *Coleotydaeus rhombicus*. First, the terminal setae on the palptarsus of *C. rhombicus* are much longer (ca 1/3 of the palptarsus length) than in *C. lebruni* (less than 1/5 the palptarsus length) (compare our fig. 3 E to BAKER's (1965) fig. 107). In addition, the length of solenidion  $\omega$  I, relative to seta (*ft*), is greater in *C. lebruni* than in *C. rhombicus* (compare fig. 3 A to fig. 109 in BAKER 1965).

#### Type-series.

1 female holotype, Luiswishi, sample n° IA3, coll. M.-I. NOTI, deposited in the Musée royal de l'Afrique centrale (slide n° MRAC 170-726).

5 female paratypes (ibidem, same sample, in MRAC).

1 deuteronymph paratype (ibidem, same sample, in MRAC).

#### Other material.

18 females and 4 deuteronymphs from the same area in MRAC. Some of these should go to other collections: USNM, Biosystematics Research Centre (Ottawa), British Museum (Nat. Hist.) (London), Muséum national d'Histoire naturelle (Paris).

#### ECOLOGY

All soil samples were collected in the area of Luiswishi, 28 km from Lubumbashi (11°29'05" S, 27°36'10" E). *C. lebruni* was found at several stations previously described by NOTI and LEBRUN (1987) in dry evergreen forest.

*C. lebruni* was collected during both the dry and rainy seasons. 18 females collected were ovigerous. As already observed by BERLESE (1910), there is only one big egg per female, which suggests a low fecundity.

1. This species is named for Prof. Ph. LEBRUN under whom this work was achieved.

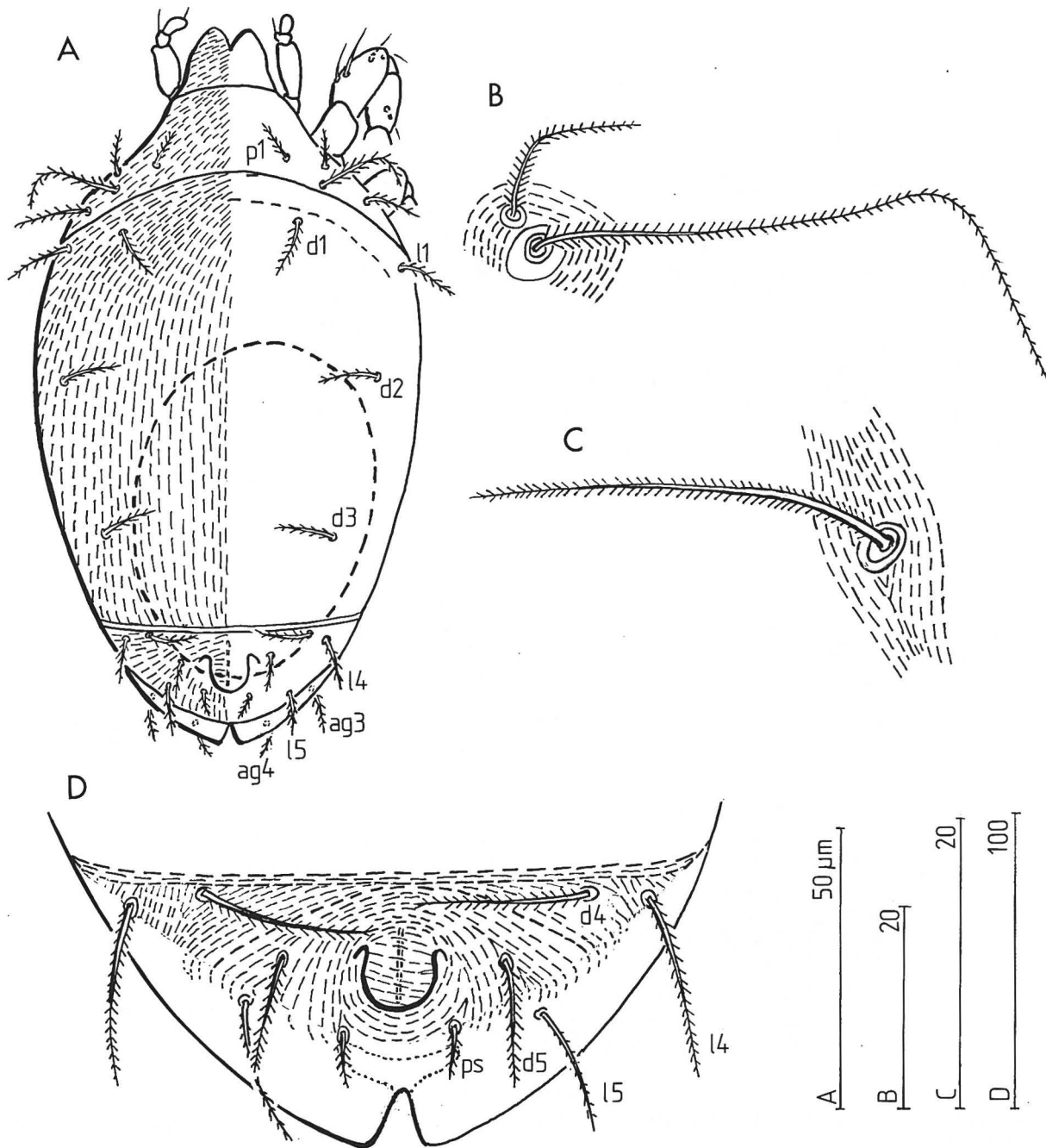


FIG. 1 : *Coleotydaeus lebruni* n. sp.

A. — Dorsal view; B. — Trichobothria and setae *p*2; C. — Dorsal setae *d*3; D. — Dorsal view of the anal area.

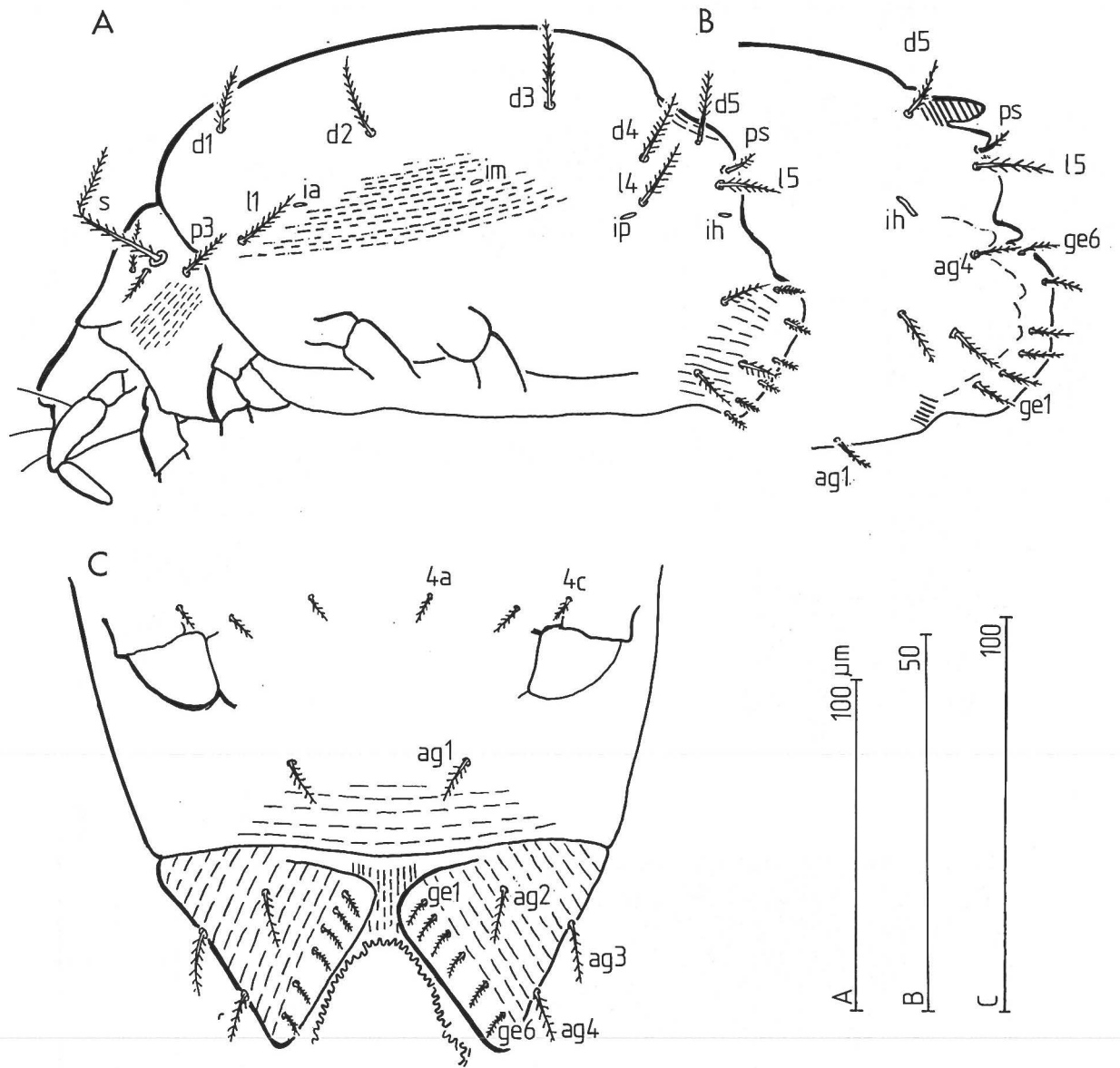


FIG. 2 : *Coleotydaeus lebruni* n. sp.

A. — Lateral view ; B. — Lateral view of the ano-genital area : the anal operculum (hatched area) is slightly lift up ; C. — Genital area and epimeron IV.

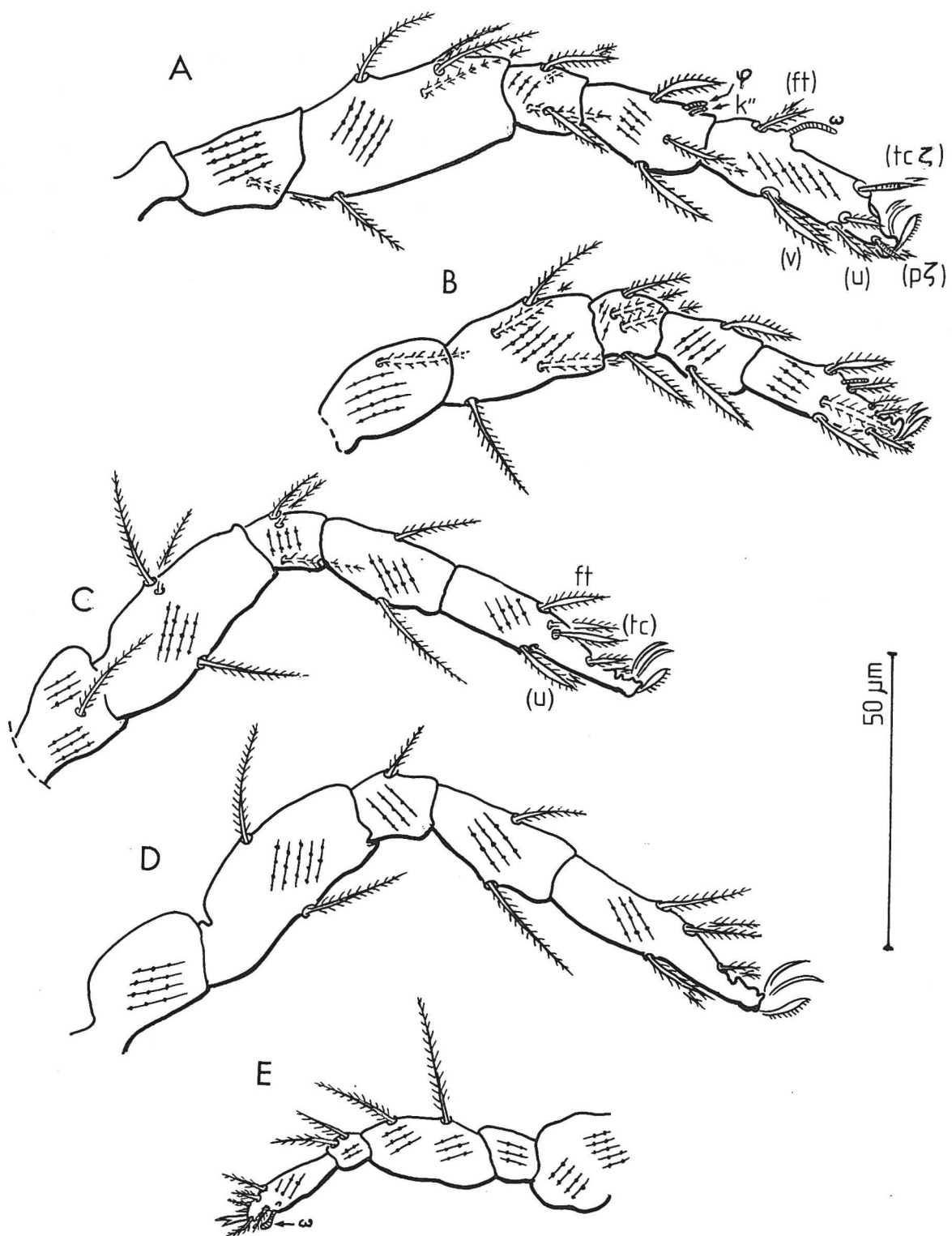


FIG. 3 : *Coleotydaeus lebruni* n. sp.

A. — Leg I (antiaxial view); B. — Leg II (id.); C. — Leg III (id.); D. — Leg IV (id.); E. — Palp (id.).

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