

A new genus and species of mite (Acari Epidermoptidae) from the ear of a South American Dove (Aves Columbiformes)

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Summary

A new genus and species of mite, *Otocoptoides mironovi* n. gen. and n. sp. (Acari Epidermoptidae) is described from the ear of a South American dove *Columbigallina cruziana*. A new subfamily Otocoptoidinae n. subfam. is created in the family Epidermoptidae for this new genus.

Keywords : Taxonomy. Mites. Epidermoptidae. Otocoptoidinae n. subfam. Birds. Columbiformes.

Résumé

Un nouvel acarien représentant un nouveau genre et une nouvelle espèce, *Otocoptoides mironovi* (Acari Epidermoptidae) est décrit. Il avait été récolté dans l'oreille d'un pigeon originaire d'Amérique du Sud, *Columbigallina cruziana*. Une nouvelle sous-famille Otocoptoidinae (Epidermoptidae) est décrite pour recevoir ce genre.

Introduction

FAIN (1965) divided the family Epidermoptidae TROUSSERT 1892, into two subfamilies, Epidermoptinae and Dermationinae FAIN. These mites are essentially skin mites. They invade the superficial corneous layer of the skin and cause mange.

GAUD & ATYEO (1996) elevated the subfamily Dermationinae to the family rank. Both families were included in the superfamily Analgoidea.

The new mite that we describe here was found by the senior author in the ear of a South American dove, *Columbigallina cruziana*. Several of these mites were attached to the tympanic membrane. This bird was freshly imported in the Zoo of Antwerp and it died during the period of quarantine.

This mite displays many characters of the genus *Epidermoptes* RIVOLTA, 1776, i.e. small size of the body, short legs, anterior tarsi short and conical, absence of setae *vi*, *ve*, *scx* and *dl*. In addition to its "epidermoptid" aspect this mite also presents several unusual and important characteristics that lead us to create for it a new genus, *Otocoptoides* n. gen. and a new subfamil-

ly, Otocoptoidinae n. subfam., in the family Epidermoptidae.

All the measurements are in micrometers (μm). The setal nomenclature of the idiosomal setae follows FAIN, 1963.

Family EPIDERMOPTIDAE TROUSSERT, 1892

Subfamily OTOCOPTOIDINAE n. subfam.

Definition :

In both sexes : Tarsi I and II short, as long as wide, conical, without apical claw-like processes; all legs bearing dorsally thick lines, some forming crests, specially well developed on tibiae, genua and femora; propodonal shield in an inverted-T, covered with thick sclerotized and regular transverse lines; the four dorsal supra-coxal areas are verrucous; gnathosoma much wider than long with well developed membranes on ventral surface of palps; the oil glands are not visible; the remnants of genital suckers are present but particularly small. Chaetotaxy of idiosoma: Setae *vi*, *ve*, *scx* and *dl* are lacking; *d2* and *d3* are microsetae; *sci* short and thin; *sce*, *ll*, *l2*, *l3* and *h* are thick and short spines; *sh* is thin

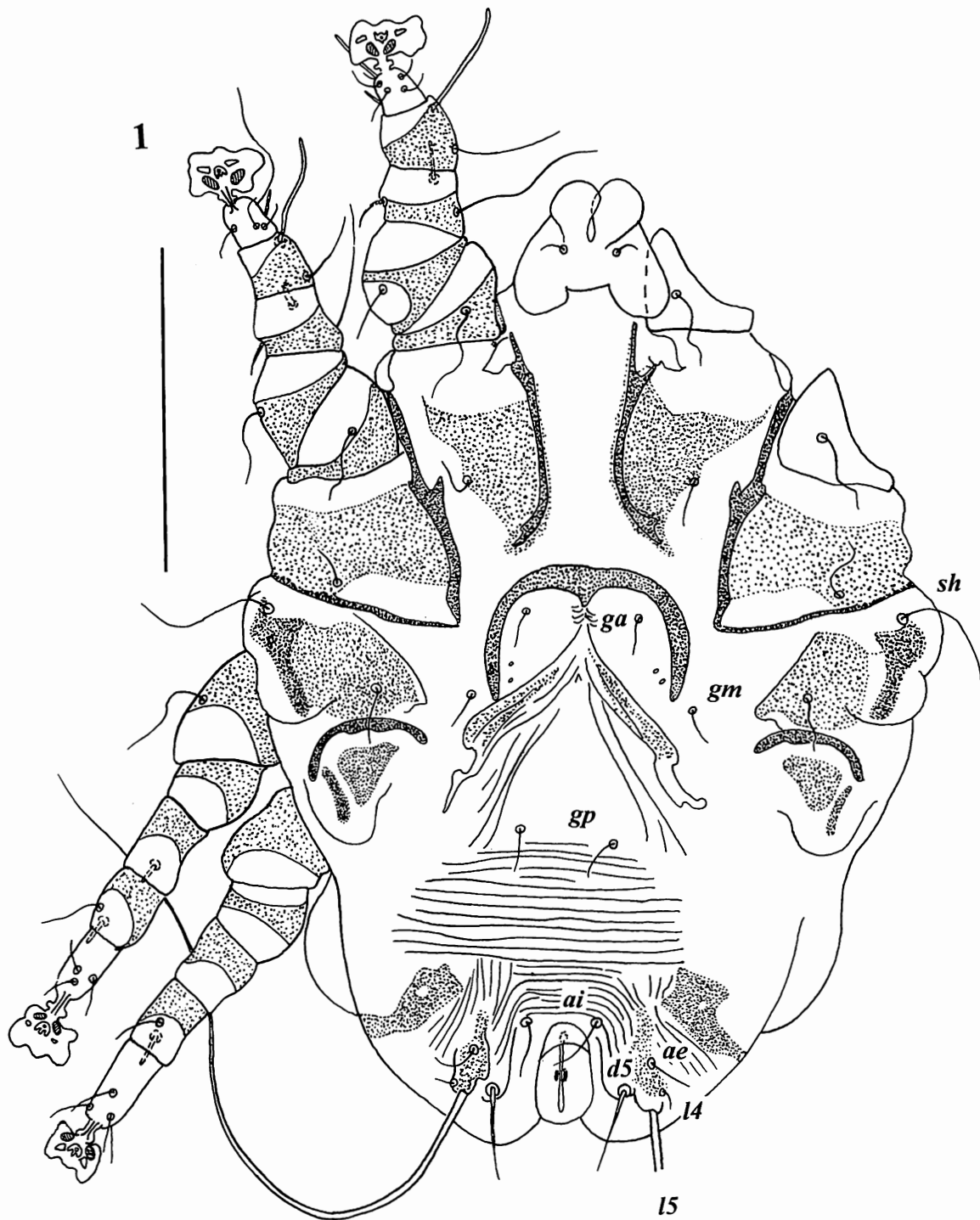


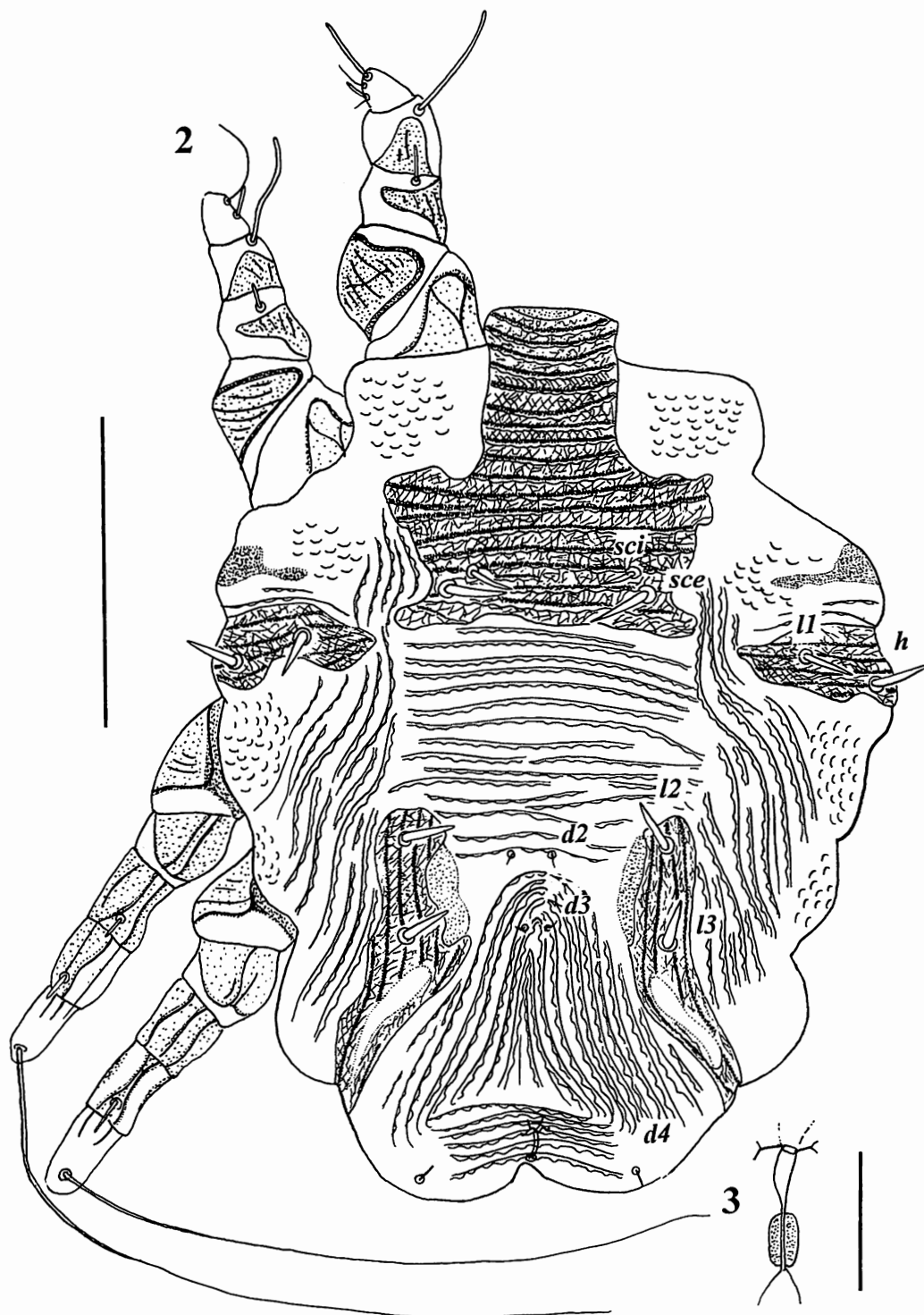
Fig 1. *Otopcoptoides mironovi* n. g., n. sp. Female in ventral view. Scale line 100 μ m.

and relatively long; *d4* is short and thin; *ai* and *ae* are ventral and thin; *d5* are 30 long; *l5* is ultralong (300-500).

In the female : Epimera I widely separated in midline; epigynium very large, shaped in an inverted-U and not fused with the epimera I; hysterotum with a lateral pair of long and narrow shields bearing the spinous setae *l2* and *l3*. Chaetotaxy of legs (number of setae) : tarsi 7-7-6-5;

tibiae 1-1-1-1; genua 2-2-0-0, femora 1-1-0-0, trochanters 1-1-1-0. Solenidiotaxy : tarsi 2-1-0-0, tibiae 1-1-1-1, genua 1-1-1-0.

In the male : Epimera I connected to each other in their posterior part by a sclerotized punctate shield; penis thin and short; genital sclerite shaped in an inverted-Y, tarsi III ending apically in a ventral claw-like process. Posterior extremity with two small membraneous lobes.



Figs 2-3. *Otocoptoides mironovi* n. g., n. sp. Female in dorsal view (2); bursa copulatrix (3). Scale lines 100 μ m (fig. 2) and 20 μ m (fig. 3).

Chaetotaxy of legs : as in female but tarsus IV with 3 simple and thin setae and 2 small discs bearing in its center a very short cylindrical hair.

Type genus : *Otocoptoides* n. gen.

Remarks :

1) This new subfamily is easily distinguished

from the Epidermoptinae by the following characters: in both sexes the absence on tarsi I and II of ventro-apical claw-like processes, the absence of oil-glands, the presence of dorsal crests on the legs, the presence of a solenidion on genua III; in the female by the presence of a pair of lateral hysteronotal shields, the epigynum very large, in an inverted-U and separated from the epimera I,



Figs 4-5. *Otocoptoides mironovi* n. g., n. sp. Male in ventral view (4); genital organ (5). Scale lines 100 μ m (fig. 4) and 20 μ m (fig. 5).

and by the presence of adanal shields; in the male by the presence of a sternal shield.

2) There is another group of mites, the Dermaptionidae, which also presence some similarities with this new genus, e.g. small size of body, absence of setae *vi*, *ve* and *scx*, absence of oil-

glands etc ... These mites, however, are clearly distinguished from the genus *Otocoptoides* by numerous and important characters, i.e. body more elongate, anterior tarsi cylindrical and longer, idiosomal chaetotaxy more reduced (*d2*, *d3* and *l4* lacking), posterior legs usually with retrorse hooks (on tarsi and femora), legs without

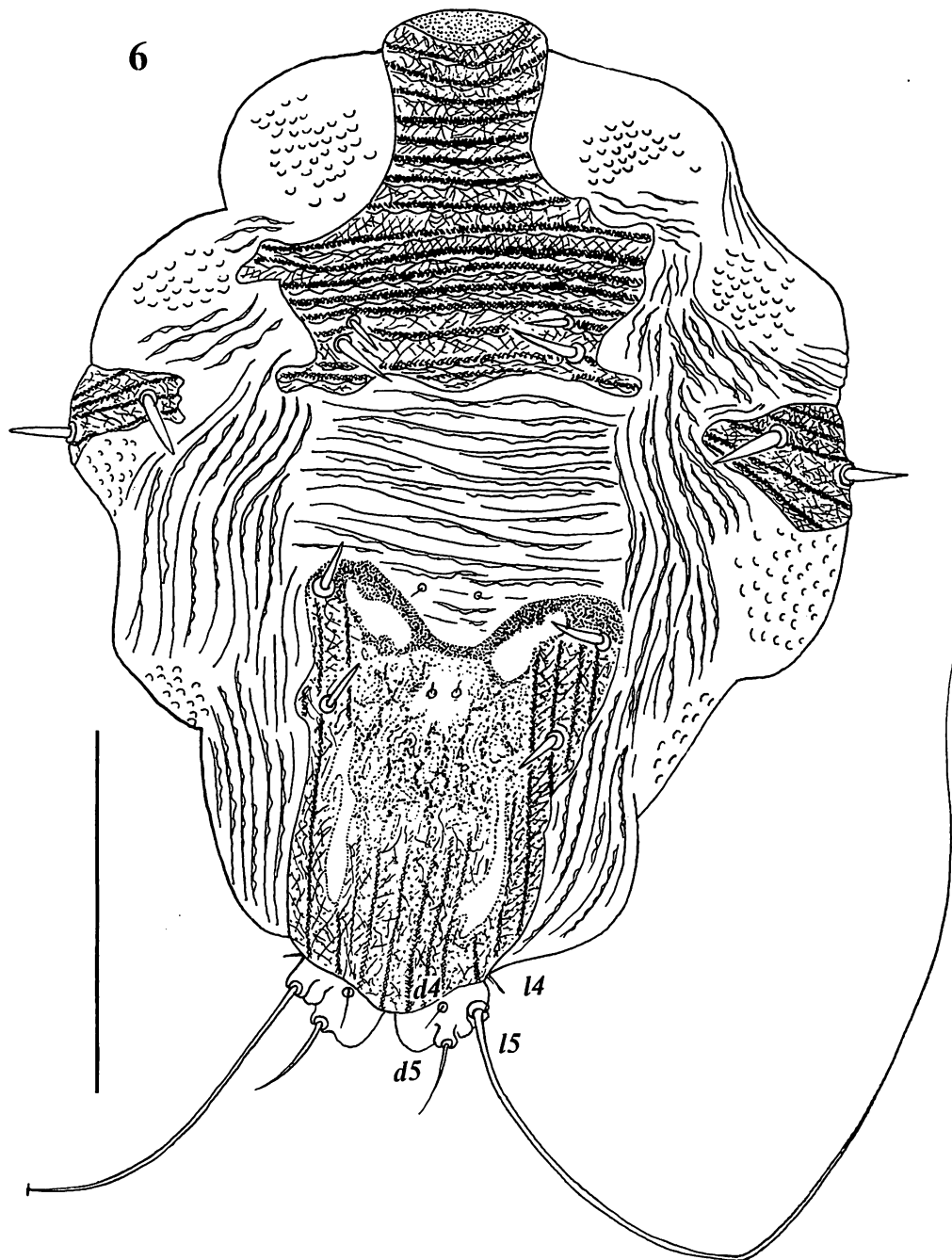


Fig. 6. *Otopoptoides mironovi* n. g., n. sp. Male in dorsal view. Scale line 100 μ m.

dorsal crests, gnathosomal membranes poorly developed. In the female the median shield is large, the epigynium is very small and fused with the epimera I. In the male the posterior lobes are strongly developed (except in one genus, *Apodicoptes* FAIN where these lobes are very small).

Genus *Otopoptoides* n. gen.

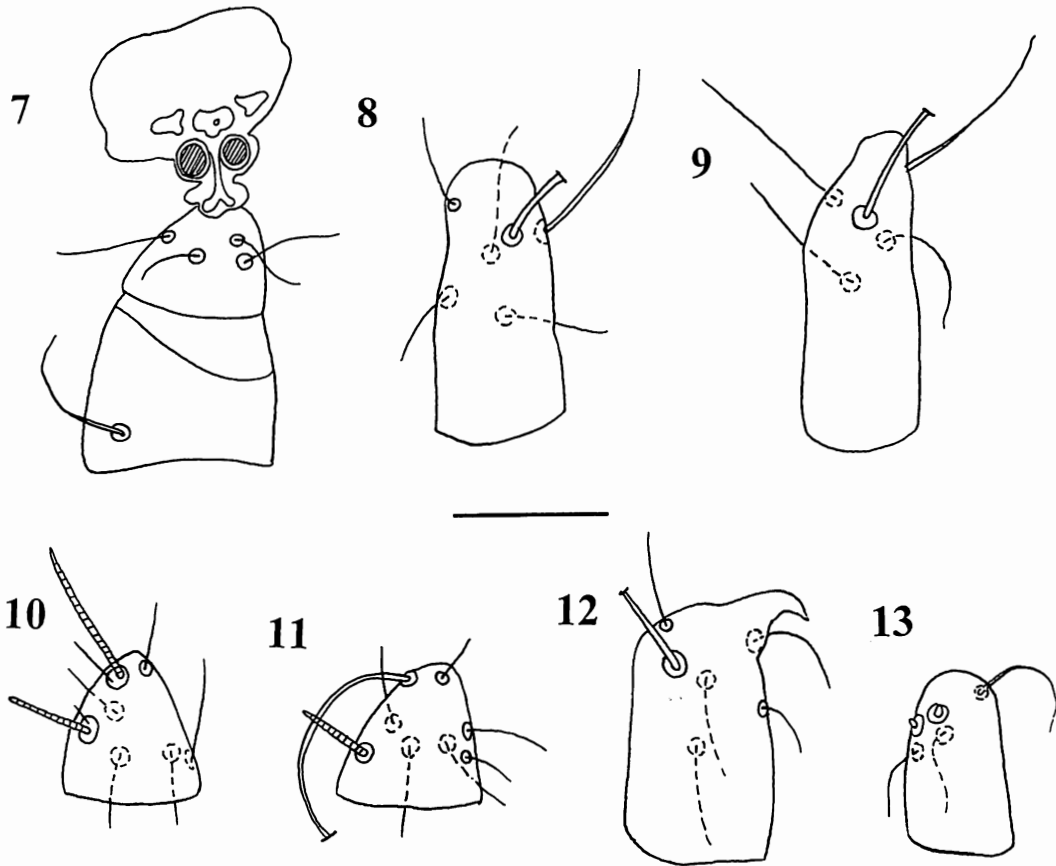
Definition : With the characters of the subfamily Otopoptoidinae as defined above.

Type species : *Otopoptoides mironovi* n. sp.

Otopoptoides mironovi n. sp.

This new species is named for Dr Serge V. MIRONOV, of the Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

Female (holotype) (Figs 1-3, 7-9) : Length and width of idiosoma 302 \times 246. Length including gnathosoma 336. Length and width of idiosoma in 3 paratypes : 275 \times 219, 310 \times 240 and 322 \times 243. Posterior border of body with a short median incision corresponding to the opening of the bursa copulatrix. *Dorsum* : Propodeotal



Figs 7-13. *Otocoptoides mironovi* n. g., n. sp. Female : Tarsus and tibia I in ventral view (7); tarsus III (8) and IV (9) in dorsal view. Male : Tarsus I (10), tarsus II (11), tarsus III (12) and tarsus IV (13) in dorsal or dorso-lateral view. Scale line 20 μ m.

shield in the shape of an inverted-T, 101 long and 105 maximum width. Hysteronotum with a pair of elongate lateral shields 105 long and 30-35 wide and bearing longitudinal thick lines. *Venter* : Vulva in an inverted-Y with very long lateral lips. Other characters : see above in the definition of the subfamily.

Male (Figs 4-6, 10-13) : Length and width of idiosoma including posterior lobes, in two paratypes : 278 \times 215 and 280 \times 210. Gnathosoma about 30 long. Other characters : see above.

Immatures : unknown.

Material examined : Holotype female from the ear of *Columbigallina cruziana*, from South America (this bird died in the Zoo of Antwerp), 19. I. 1965 (Coll. A. FAIN). Paratypes : 4 females and 3 males with the same data as holotype. Holotype and paratypes in the Institut royal des Sciences naturelles de Belgique. One paratype female in the Zoological Institute RAS, St. Petersburg, Russia.

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