

Observations on a small collection of mites (Acari) parasitic on mammals from Brazil

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Summary

A small collection of parasitic mites (Acari), taken from marsupials and rodents from two ecological stations in the State of Minas Gerais, Brazil, is studied. The mites belong to three families (Myobiidae, Listrophoridae and Atopomelidae), seven genera and nine species. This collection includes a new genus and two new species: *Metachiroecius brasiliensis* n.g., n.sp. and *Didelphoecius validus* n.sp., both from *Metachirus nudicaudatus* (DESMAREST). The subgenus *Prolistrophorus* (*Aprolistrophorus*) FAIN, 1980, is raised here to the genus rank.

Key words: Taxonomy. Parasitic Acari. Rodents. Marsupials. Brazil.

Résumé

Une petite collection d'acariens parasites (Acari) provenant de marsupiaux et de rongeurs capturés dans deux stations écologiques de l'Etat de Minas Gerais, Brésil, est étudiée. Ces acariens font partie de trois familles (Myobiidae, Listrophoridae et Atopomelidae), sept genres et neuf espèces. Elle comprend un nouveau genre et deux nouvelles espèces: *Metachiroecius brasiliensis* n.g., n.sp. et *Didelphoecius validus* n.sp. en provenance de *Metachirus nudicaudatus* (DESMAREST). Le sous-genre *Prolistrophorus* (*Aprolistrophorus*) FAIN, 1980 est élevé au rang de genre.

Mots-Clé: Taxinomie. Acariens parasites. Rongeurs. Marsupiaux. Brésil.

Introduction

In this paper we are studying a small collection of parasitic mites (Acari) found by M.T.Z.C., from 19 mammals of the families Didelphidae (Marsupialia) and Muridae (Rodentia), from Brazil. These mites belong to nine species, seven genera and three families: Myobiidae (Prostigmata), Listrophoridae and Atopomelidae (Astigmata). A new genus and two new species are described among this material, *Metachiroecius brasiliensis* n.g., n.sp. and

Didelphoecius validus n.sp., both from *Metachirus nudicaudatus* (DESMAREST). The subgenus *Prolistrophorus* (*Aprolistrophorus*) FAIN, 1980 is raised to the genus rank.

Material examined

The mammals bearing these mites were collected from two places, in the State of Minas Gerais, Brazil.

The first place (U.F.M.G.) is an ecological station located in the urbanized area of Belo Horizonte. It belongs to the University Campus and consists of a savanna area with 25-year regeneration. Nine mammals were found infested by mites (hosts n° MT-03 B; MT-09 5A; MT-13 C; MT-20 A; TT-41 A and H; TT-47 D and L; TT-50 H).

The second ecological place (P.F.E.R.D.) is the State Forest Park of Rio Doce, with 40-year regeneration. It is located in the Eastern region of the State of Minas Gerais. It is a damp forest area with trees up to 30m high. Ten mammals were found parasitized (hosts n° 02 B and C; 03 A; 05 A and B; 07 C and D; 09 A; 10 A; 11 B).

Abbreviations: IRSNB= Institut Royal des Sciences naturelles de Belgique.

All the measurement are in micrometers.

In the nomenclature of the hosts we are following WILSON and REEDER, 1993.

Prostigmata

Family MYOBIIDAE

Genus *Archemyobia* JAMESON, 1955

The seven known species of this genus were described from Didelphidae. This genus has been divided into two subgenera (FAIN and LUKOCHUS, 1976):

1. *Archemyobia* JAMESON, 1955, nominal subgenus: body thick-set; intercoxal setae (*ic1* to *ic4*) and coxal setae

piliform; setae *vi*, *ve*, *sci*, *sce* and *ll* striated and moderately enlarged. (For the setal nomenclature see FAIN, 1973c).

Type species: *Archemyobia inexpectatus* JAMESON, 1955. There is a second species, *A. philander* LUKOSCHUS, DUSBABEK and JAMESON, 1972.

2. *Nearchemyobia* FAIN and LUKOSCHUS, 1976: body long and narrow, the setae *ic3*, the two internal setae of coxae II and the four setae of coxae III short, broadly foliate and striate, dorsal setae *vi*, *ve*, *sci*, *sce* and *ll* foliate-striate and very wide.

Type species: *Archemyobia brasiliensis dimidiata* FAIN, 1973b. This genus includes four other species.

***Archemyobia (Archemyobia) inexpectata*
JAMESON, 1955**

Our collection includes five specimens collected from three *Didelphis albiventris* LUND, 1840 (hosts N° MT 03 B (1♀), MT 09 5A (2♀ and 1 nymph) and MT 13 1♂). It is a new host for this species.

***Archemyobia (Archemyobia) latipilis*
FAIN, MENDEZ and LUKOSCHUS, 1981**

This species was described from *Caluromys derbianus* (WARHOUSE) from Panama. We found it now from three *Didelphis albiventris* LUND, from the hosts n° MT 09 5A (2♀), MT 03 B (1♀) and MT 20 A (1♀). It is a new host for this species.

Astigmata

Family LISTROPHORIDAE

**Genus *Prolistrophorus (Prolistrophorus)*
FAIN, 1970**

***Prolistrophorus (Prolistrophorus) argentinus*
(HIRST, 1921)**

***Listrophorus argentinus* HIRST, 1921: 366
Prolistrophorus argentinus FAIN, 1973a: 13**

We found four specimens (1♀, 1♂ and 2 nymphs) of this species from *Oryzomys subflavus* (WAGNER, 1842) (host n° TT47L and 47D). It is a new host for this species.

Genus *Aprolistrophorus* FAIN, 1980 nov.stat.

***Prolistrophorus (Aprolistrophorus)* FAIN, 1980: 18**

We raise here the subgenus *Aprolistrophorus* to the genus rank.

***Aprolistrophorus akodon*
FAIN and LUKOSCHUS, 1982 n.stat.
Prolistrophorus (Aprolistrophorus) akodon
FAIN and LUKOSCHUS, 1982: 100**

The original spelling “*akodon*” (1982) has been emended in “*akodon*” (FAIN and LUKOSCHUS, 1984: 161). We collected this species (6♀, 3♂, 2 nymphs) from *Bolomys lasiurus* (LUND) (hosts n° TT 41 A and TT 41 H). It is a new host for this species.

Genus *Sclerolistrophorus* FAIN, 1976

***Sclerolistrophorus oxymycterus* FAIN, 1976**

We found two females of this species from *Oryzomys capito* (OLFERS) (hosts n° 05 A and B). It is a new host for this species (See FAIN and LUKOSCHUS, 1980).

Family ATOPOMELIDAE

Genus *Didelphilichus* FAIN, 1970

This genus includes two species, both restricted to South American Didelphidae, *i.e.*: *D. serrifer* FAIN, 1970 (type species) and *D. philander* FAIN, 1970 (see FAIN, 1979).

***Didelphilichus serrifer* FAIN, 1970**

The typical host of this species is *Didelphis azarae*, from Rio Grande del Sul, S. Brazil. It was recorded again from the same host from Rio de Janeiro (FAIN, 1979).

We found now this species from *Didelphis albiventris* LUND, 1840 (n° TT 50 H) (3♀, 1♂), which is a new host for this species.

Genus *Didelphoecius* FAIN, 1970

The 16 known species of this genus are all restricted to South American Marsupials (FAIN, 1979).

***Didelphoecius didelphicola* FAIN, 1970**

This species has been described from *Didelphis azarae* TEMMINCK, from Colombia (holotype) and from *Marmosa murina* (L.) from North Peru and Venezuela (FAIN, 1979).

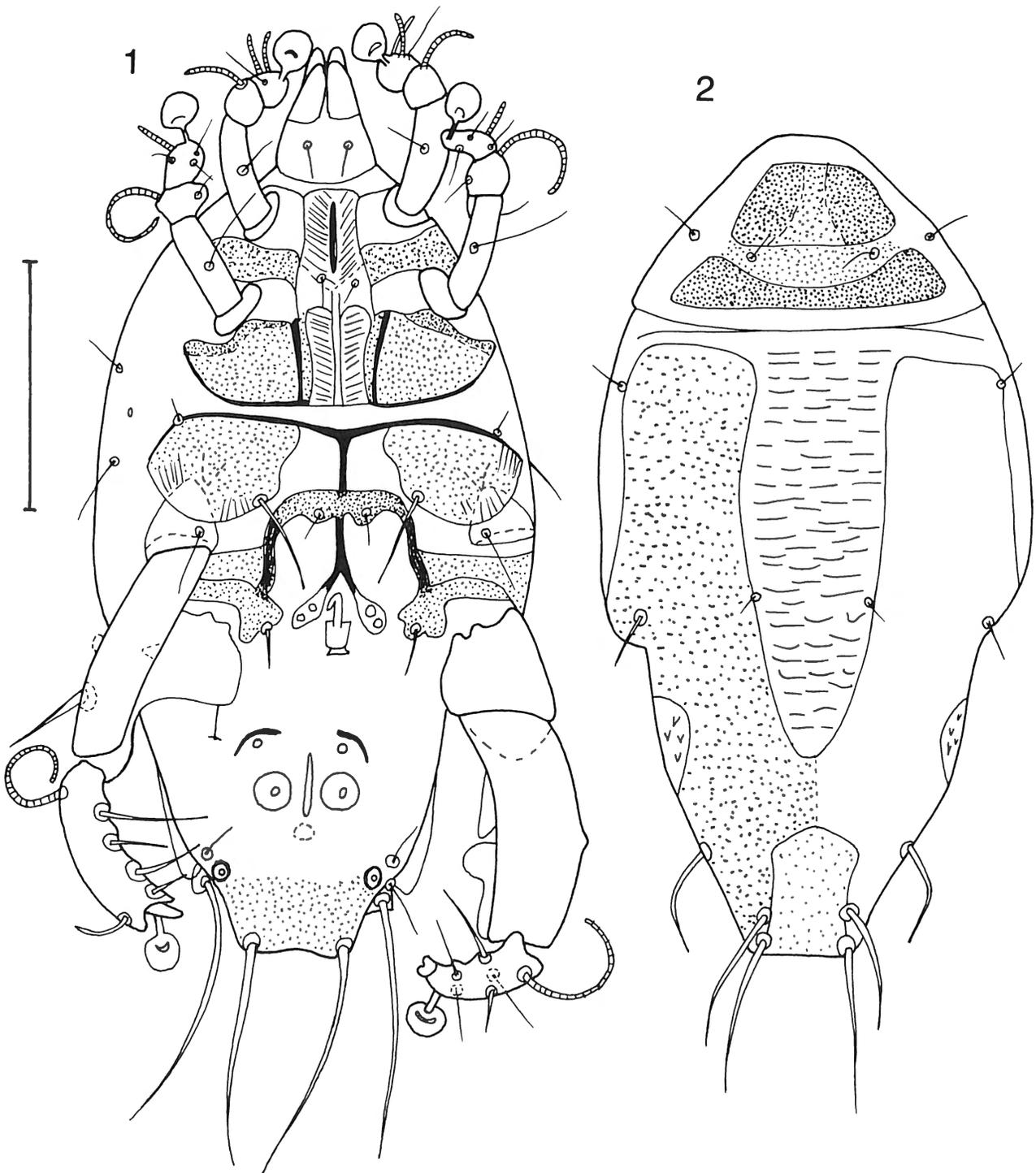
We found now this species from *Micoureus demerarae* (THOMAS, 1905) (= *Marmosa cinerea*) (n° 11 B) (2♀, 1♂); it is a new host for this species.

Didelphoecius validus nov. spec.

Only the male is known.

Male, holotype (figs 1-2): Maximum length (including the gnathosoma until the extremities of palps) and width 370x183. In 3 paratypes: 380x176; 369x177; 368x181. Dorsal and ventral shields strongly sclerotized. *Dorsum*: Propodonotum with two median shields, more sclerotized in their lateral parts than in the middle. Hysteronotum

with two lateral shields very long and wide and reaching the posterior extremity; these shields are connected to each other in their posterior third by a punctate band about 35 long. Soft cuticle between these shields with thin and short transverse lines. Posterior setae thick and relatively long. *Venter*: epimera III and IV well sclerotized, fused in the midline to a long median longitudinal sclerite. In two less-sclerotized paratypes these epimera are poorly developed. Posterior extremity truncate and straight or very slightly concave. Adanal suckers well

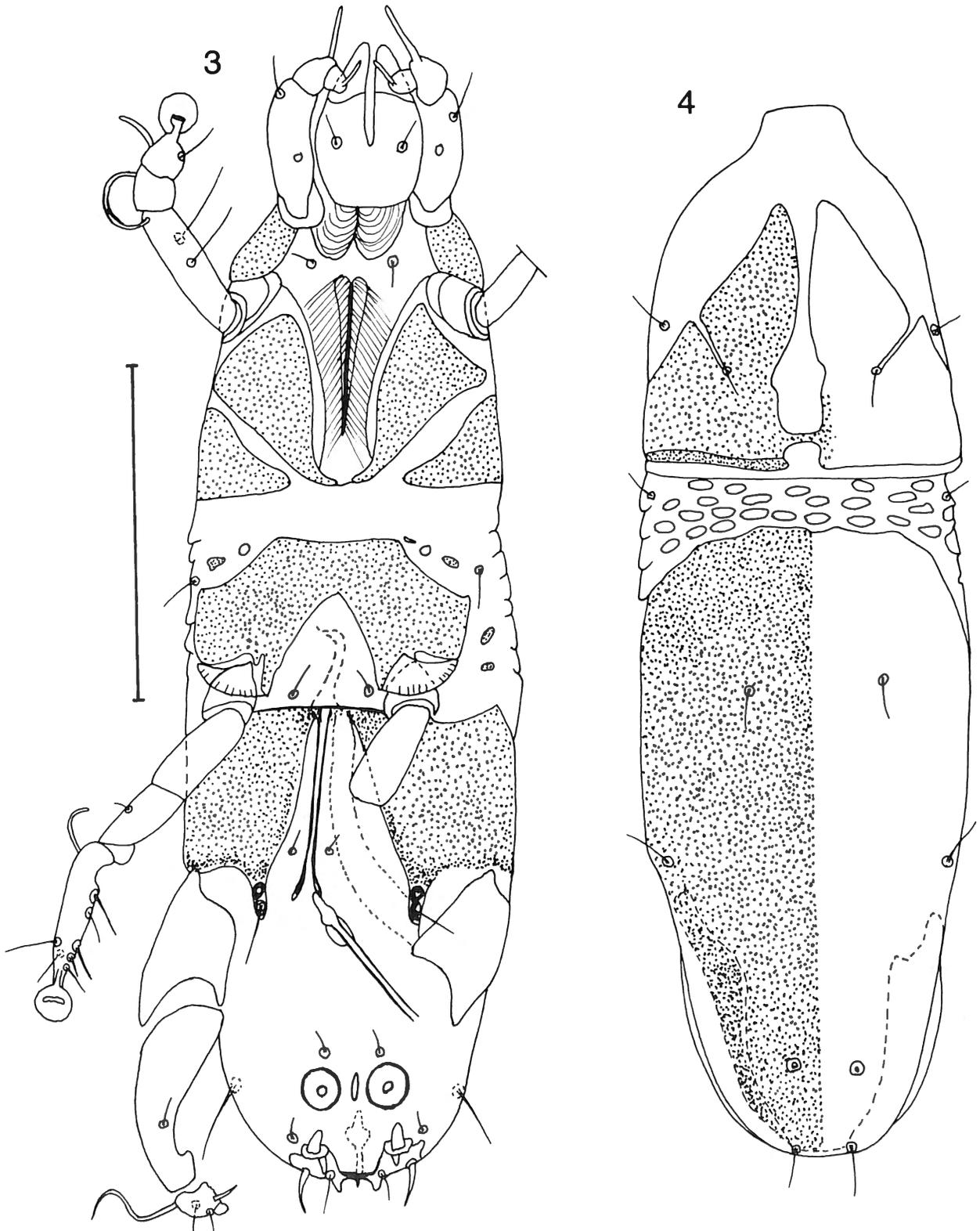


Figs. 1-2. — *Didelphoecius validus* nov. spec. Holotype male in ventral view (1) and in dorsal view (2). Scale line 100 μ m.

developed. Legs IV much thicker than legs III, with a short tibio-tarsus bearing a rather long basal solenidion, genu-femur long, trochanter well developed. On both legs III and IV the genu and the femur are incompletely fused. Tibio-tarsus III with 3 strong apical conical processes, 2 ventral and 1 dorsal.

Hosts and localities:

Holotype male from *Metachirus nudicaudatus*, from Rio Doce n° 02 B. Paratypes male from the same host and locality, n° 02 B (1♂); 02 C (2♂), 09 A (2♂). Holotype and 2 paratypes in IRSNB; 3 paratypes in the collection of M.-T. ZANETTA-COUTINHO.

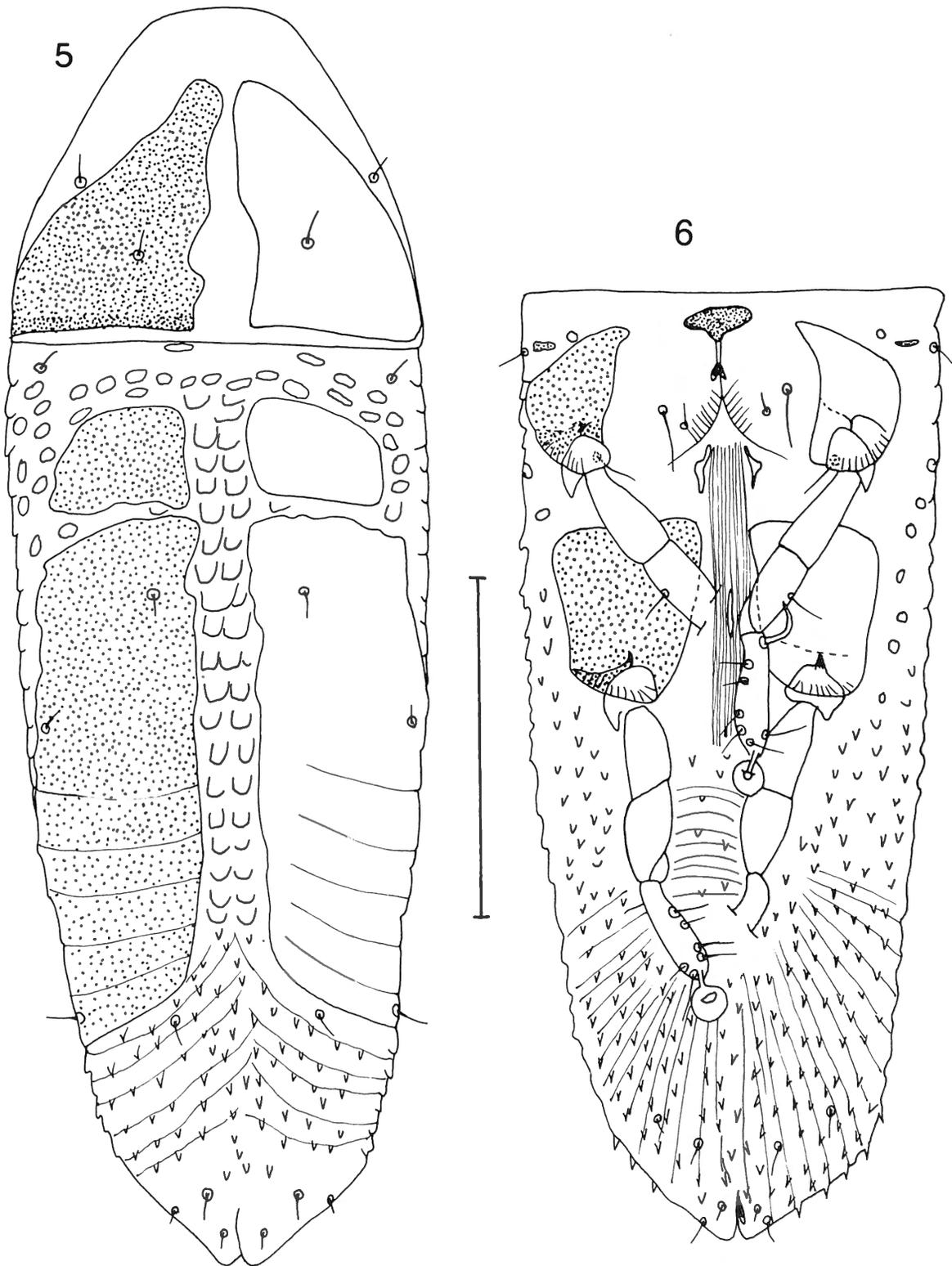


Figs. 3-4. — *Metachiroecius brasiliensis* nov. spec. Holotype male in ventral view (3) and in dorsal view (4). Scale line 100 μ m.

Remarks:

This species differs from the other species of the genus *Didelphoecius*, in the male by the presence of strong epimera III which are fused in the midline to the longitudinal sclerite. It is the most close to *Didelphoecius monodelphis* FAIN, 1970, but differs from the latter main-

ly by the shape of the transverse striations between the hysteronotal shields which are interrupted (they are not interrupted in *D. monodelphis*) and by the presence of strong epimera III (completely lacking in *D. monodelphis*).



Figs. 5-6. – *Metachiroecius brasiliensis* nov. spec. Allotype female in dorsal view (5) and in ventral view (6). Scale line 100 μm .

Didelphoecius spec. A.

This species is represented in our collection by two females and one nymph, all in rather poor condition. Hysteronotum without shield, as in *D. monodelphis*, but it differs from this species by the shape of the cuticular scales covering the hysterosoma (venter and dorsum). These scales are small, numerous and triangular, whilst in *D. monodelphis* these scales are longer and rounded. *Hosts*: *Marmosops incanus* (LUND, 1840) (= *Marmosa incana*), n° 07 C and D. In the absence of the corresponding male it is not possible to identify this species.

Didelphoecius spec. B.

One female resembling spec. A but the triangular scales are restricted to the posterior sixth of the hysterosoma. Bursa very long (about 100) and divided into two parts subequal in length, a thick distal part and a more thinner proximal part. *Host*: *Marmosops incanus*, n° 07 D.

Didelphoecius spec. C.

Represented in our collection by a nymph found on *Didelphis marsupialis* L. (n° 03 A).

Genus *Metachiroecius* nov.gen.

Definition: *Male*: With two, relatively very large, paramedian shields; these shields are united posteriorly by a very narrow punctate strip; their lateral margins are very narrowly and incompletely incised in their median part. Hysteronotum almost completely covered by a strongly-sclerotized median shield with anterior margin slightly convex; this shield is separated from the sejugal furrow by a short band of soft verrucose cuticle. *Venter*: coxae III with large shields fused in the midline. Legs IV much thicker than legs III, with three free segments, i.e. a very short tibio-tarsus about as wide as long, and two long and strong segments representing the genu-femur and the trochanter respectively. Posterior border of body rounded. Adanal suckers well developed. Male aperture at the level of the base of legs IV, with a narrow straight and relatively long penis. *Female*: Propodonotum as in the male but the shields have no lateral incisions and are separated in the midline. Hysteronotum with two pairs of shields, the anterior pair slightly wider than long, the posterior about three times as long as wide. Cuticle between these shields with rounded scales, behind these shields it bears smaller triangular scales. *Venter*: Epigynium very thick. Opisthogaster with numerous scales, most of them small and triangular.

Type species: *Metachiroecius brasiliensis* nov. spec.

***Metachiroecius brasiliensis* nov. spec.**

Male, holotype (figs 3-4): Body 327 long (until extremities of palps), maximum width 93. Hysteronotum 192 long. Penis 32 long. There is a long and narrow longitudinal median sclerite in front of penis.

Female, allotype (figs 5-6): Length of body 412, maximum width 121. Length and width of anterior hysteronotal shields 27x39, of posterior shields 140x48. Bursa not observed.

Host and locality: Holotype male and allotype female from *Metachirus nudicaudatus* from Rio Doce n° 10 A (holotype) and 02 C (allotype) (VII 1993). Types in IRSNB.

Remarks: This new genus differs from all the other known atopomelid genera by the combination of the following characters: in both sexes by the complete fusion of prescapular and postscapular shields. In the male by the strong reduction of tibio-tarsus IV and the complete fusion in the midline of the shields of coxae III.

Acknowledgements

We wish to thank Prof. P.M. LINARDI and Dr. J.R. BOTELHO of the Universidade Federal de Minas Gerais, for their advices during this study.

We are grateful to the ECMVS and the Parque Florestal Estadual do Rio Doce, for funding.

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