NEW FUR MITES OF THE FAMILY LISTROPHORIDAE (ACARI: ASTIGMATA) FROM MEXICO

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ABSTRACT - A small collection of Listrophoridae (Acari: Astigmata) taken from a rodent (*Peromyscus* sp.) and an insectivore (*Sorex* sp.) in Mexico was studied. This collection included 3 new species and a new subgenus: *Prolistrophorus (Prolistrophorus) sclerobursatus* n. sp. from *Peromyscus* sp., and *Asiochirus (Mexicochirus) unilobatus* n. subg. and n. sp. and *A. (M.) bilobatus* n. sp., both from *Sorex* sp. *Prolistrophorus (P.) frontalis* (Hirst) was also collected from *Oryzomys fulvescens.*

Key words - Taxonomy, Listrophoridae, Parasitic Acari, Rodent, Insectivore, Mexico.

INTRODUCTION

The junior author collected a small collection of fur mites of the family Listrophoridae (Acari) from mammals from Mexico. This collection included 3 new species and a new subgenuswhich are described here. All measurements are in micrometers (μm).

Abbreviation: I.R.S.N.B. = Institut royal des Sciences naturelles de Belgique.

Genus *Prolistrophorus* Fain, 1970

This genus has been divided into 3 subgenera, i.e. *Prolistrophorus* Fain, 1970, *Aprolistrophorus* Fain, 1980 and *Beprolistrophorus* Fain, 1980.

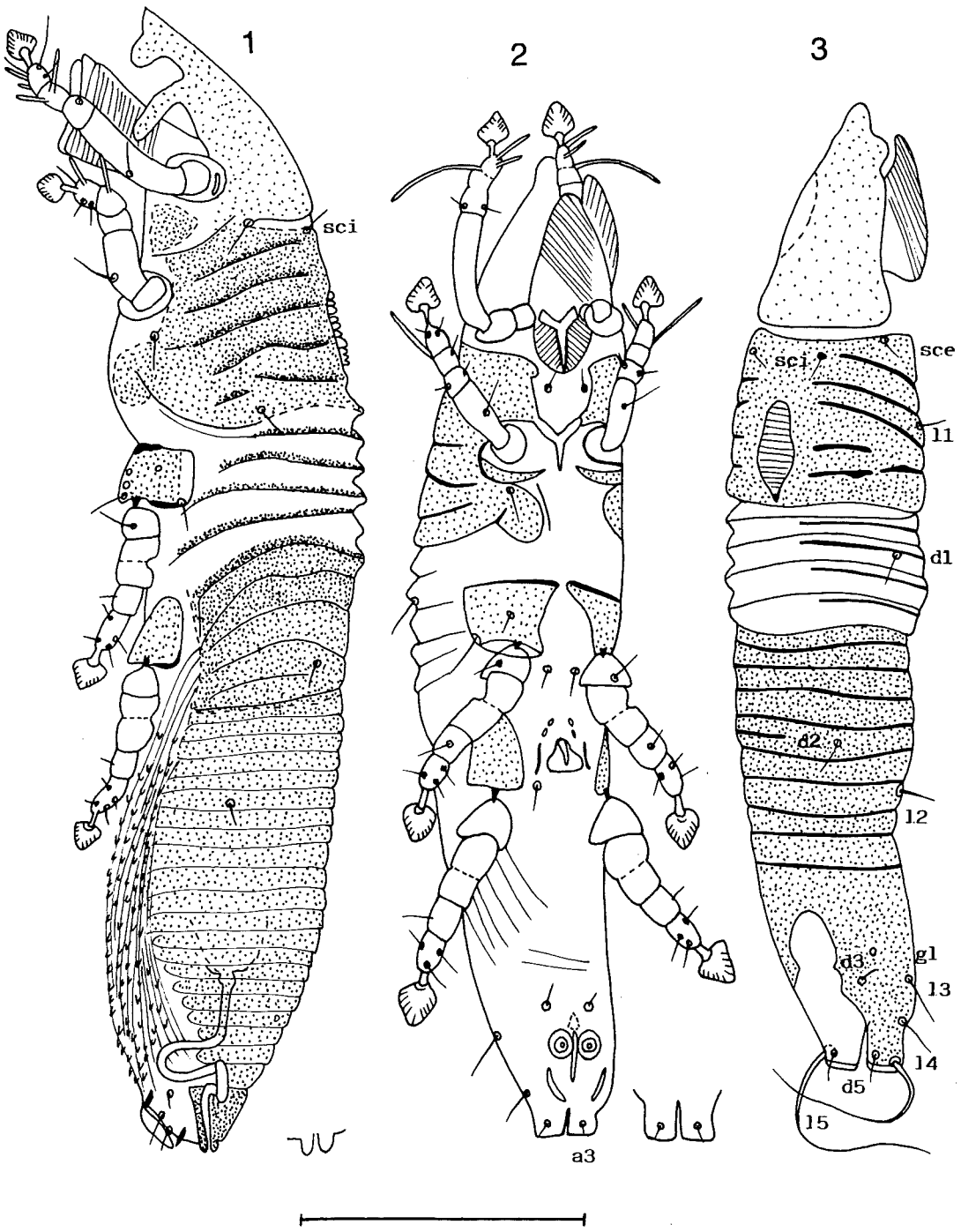
1. *Prolistrophorus (Prolistrophorus) frontalis* (Hirst, 1921)

Our specimens corresponded perfectly with the redescription of this species, from the types, by Fain, 1973b. They were collected from *Oryzomys fulvescens*, from Veracruz, 18 km NW Teocelo, Mpio, Ixhuacán (1300m), Mexico (18 October 1993) (cat. 261 Y. Hortelano), (2 F and 4 M). The typical host of this species is *Oryzomys delticola*, from Brazil.

2. *Prolistrophorus (Prolistrophorus) sclerobursatus* nov. spec. (Figs. 1-3)

Female, holotype (Fig. 1): Maximum length and width of the body: 393 × 85 (in lateral view); in 2 paratypes in dorso-ventral view 420 × 75 and 425 × 74 and in 2 paratypes in lateral view 418 × 78 and 410 × 80. *Dorsum*: Postscapular shield striated, 63 long in midline, bearing laterally on each side 5 transverse sclerotized lines not reaching median region. The median finely striated, 30 long. Anterior part of hysteronotum soft,with 4 transverse striations; behind this area a punctate median shield 50 long in midline, bearing 4 transverse striations crossing the midline; more posteriorly the cuticle slightly punctate. A small shield, 18 long, covers the posterior part of the opisthonotum. *Venter*: Opisthogaster striated longitudinally, bearing numerous small scales. Bursa copulatrix thick, sclerotized and sinous, with 4 or 5 loops, 60 long in straight line and 95 long in total length. Copulatory opening with a distinct papilla.

Male (Figs. 2-3): Maximum length and width in 2 paratypes: 345 × 74 (in ventro-lateral view) and 351 × 78 (in lateral view). *Dorsum*: Postscapular shield 62 long in midline, bearing laterally on each side 5 transverse sclerotized lines thicker than in the female; the median oval striated area 32 long. Anterior soft area of hysteronotum as in the female; behind this area the dorsum with a



Figs. 1-3. *Prolistrophorus (Prolistrophorus) sclerobursatus* nov. spec. - 1. female in lateral view, 2. male in ventro-lateral view, 3. male in dorso-lateral view. Scale line 100 µm.

Fig. 4. *Asiochirus (Mexicochirus) unilobatus* nov. spec. (female) in lateral view. Fig. 5. *Asiochirus (Mexicochirus) bilobatus* nov. spec. (female) in lateral view. Scale line 100 μm.

sclerotized punctate shield reaching laterally the posterior extremity of the body; posterolateral margin of hysteronotal shield broadly excavated in its posterior third. Posterior extremity ending in 2 well-developed truncate lobes. *Venter*: Adanal suckers small but normally formed. Penis short.

Host and locality: Holotype female, 5 female and 2 male paratypes, all from *Peromyscus* sp., from Oaxaca, Cerro Zempoaltepetl, 5 km N, Sta. Maria, Yacochi, Mpio, Tlahuitoltepec, 13 Nov. 1992, Coll. M.-L. Estébanes. Holotype in the collection of I.R.S.N.B.

Remarks: The new species resembles *P. (P.) pernamboucensis* Fain (1973a, b), described from *Oryzomys* sp. from Brazil. The latter is known only from the holotype female and has been redescribed by Fain and Lukoschus (1984). In both species the bursa is thick, sinuous and strongly sclerotized. The new species differs from *P. pernamboucensis* by the following characters:

1. Sclerotized lines on postscapular shield longer and more regular.

2. Body shorter and narrower (length and width in *P. pernamboucensis*: 501 × 108).

3. Postscapular shield shorter (63) and bearing longer dark lines.

4. Hysteronotal shield with dark lines crossing the midline (these lines are very short and confined to the lateral regions of this shield in *P. pernamboucensis*).

Genus *Asiochirus* Fain, 1970

= *Asiochirus* Fain, 1970: 275; 1978: 388
= *Olistrophorus* Mc Daniel and Whitaker, 1972: 426

With the addition of the 2 new species decribed here, the genus *Asiochirus* now includes 10 species. Among these, 8 are parasitic on Insectivora (3 from Asia and 5 from America) and 2 on Rodentia (both from Asia).

Asiochirus (Mexicochirus) nov. subgenus

This new subgenus differs from the nominal subgenus in the female by the following characters:

1.Complete absence of a sejugal furrow. The postscapular shield continues directly, without any interruption, with the hysteronotal shield forming a single shield extending from the scapular setae to the level of the fourth legs.

2.Presence of either one or two thick median lobes at the posterior extremity of the body. One of these lobes closely connected with the posterior wall of the anus, the second lobe variable, located more dorsally and separated from the former by a deep depression.

Type species: *Asiochirus (Mexicochirus) bilobatus* nov. spec.

1. *Asiochirus (Mexicochirus) unilobatus* nov. spec. (Fig. 4)

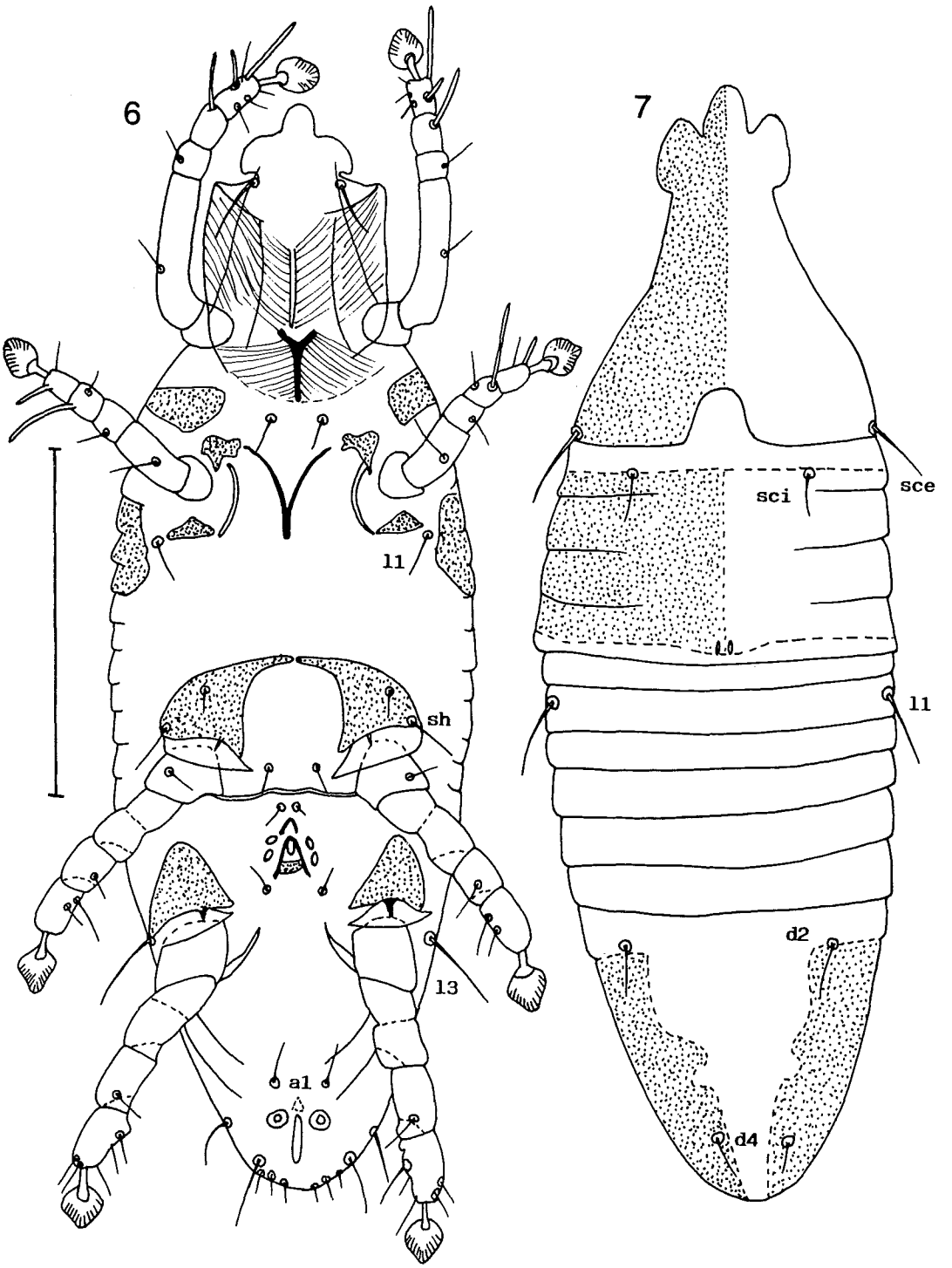
Female, holotype (Fig. 4): Maximum length and width (posterior lobe included, and width in lateral view): 387 × 120; in 2 paratypes: 330 × 93 (in oblique position) and 360 × 105 (in dorso-ventral position). Prescapular shield as in *A. bilobatus*. The shield behind the prescapular shield 150 long and bearing about 10 sclerotized lines unequal in length, some very short and a few crossing the midline. Opisthosoma with 2 small lateral shields, 37 long, 18 wide, and more posteriorly a pair of transparent rounded lobes about 15 long. Opisthogaster finely striated transversely, without scales. Posterior lobe 20 long, 15 thick, bearing a sclerotized shield. Bursa 142 long.

Host and locality: Holotype female and one paratype female from *Sorex* sp. with the same data as the holotype of *A. (M.) bilobatus*. Another paratype from the same host and locality as this species but collected on 27 February 1994. Holotype and 1 paratype in I.R.S.N.B.; 1 paratypes in the collection of the coauthor.

2. *Asiochirus (Mexicochirus) bilobatus* nov. spec. (Figs. 5-7)

Female, holotype (Fig. 5): Maximum length and width of body: 340 × 120 (in lateral view) (the length of the body includes the posterior lobes); in 4 paratypes (in lateral view): 345 × 118; 342 × 115; 333 × 115; 330 × 110. *Dorsum*: Posterior margin of prescapular shield with a rounded median excavation. Behind this shield the dorsum bears a large shield 180 long reaching posteriorly the level of legs IV. This shield bears in its anterior half 6 to 7 sclerotized lines unequal in length, some very short, others longer and reaching the median area; this shield is poorly sclerotized in its posterior half. Opisthonotum soft bearing 3 deep striations. *Venter*: Opisthogaster transversely striated, with a few poorly-developed rounded scales. Posterior extremity with two well developed median lobes, longer (22 to 26) than wide. Bursa about 90 long, it opens between the posterior wall of the anus and the ventro-apical lobe.

Male (Figs. 6-7): Length and width (in dorso-ventral view) in 2 paratypes: 305 × 102 and 295 × 99. *Dorsum*: Prescapular shield as in female. Postscapular shield 60 long in the midline, bearing 3 to 4 transverse sclerotized lines confined to the lateral regions. Anterior half of hysteronotum soft, with 6 to 7 transverse striations; posterior half bearing 2 lateral shields with sinuous medial borders. *Venter*: Coxae III with punctate shields contiguous in the midline. Absence of epimera III or IV. Male organ small, triangular; penis very small. Adanal suckers very small but normally formed, they are rounded or very slightly oval (6.2 × 5.8). Posterior extremity rounded.



Figs. 6-7. *Asiochirus (Mexicochirus) bilobatus* nov. spec. (male). - 6. ventral view, 7. dorsal view. Scale line 100 µm.

Host and locality: Holotype female, from *Sorex* sp., from Oaxaca, Cuicatlán, Carr. Sta. Ma. Papalo, Peña Verde (2200m), Mexico, 1 March 1994, (cat. 283 CAS). Paratypes: with the same data as the holotype: 20 females,10 males, 1 tritonymph, 1 protonymph and 2 larvae; from the same host but collected on 27 February 1994: 6 females, 3 males, 2 protonymphs. Holotype and paratypes in the collection of I.R.S.N.B. Paratypes in the collection of the coauthor, Natural History Museum, London (1M, 1F) and in the U.S.National Museum, Washington, D.C. (1M, 1F).

Remarks: This species is distinguished from *A. (M.) unilobatus* by the following characters (in females):

1. Presence of two lobes on posterior extremity, one dorsal and one ventral.

2. Body size smaller, bursa much shorter; dorsal shield longer.

3. Absence of punctate shields or of soft rounded lobes in the posterolateral region of the opisthosoma.

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