

***Listrophoroides (Afrolistrophoroides) prionomys* sp.n.
(Acari, Atopomelidae) parasitic on *Prionomys batesi*
(Rodentia, Dendromurinae) from Republique Centrafricaine**

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ABSTRACT

FAIN, A., BOCHKOV, A.V. 2004. *Listrophoroides (Afrolistrophoroides) prionomys* n. sp. (Acari, Atopomelidae) parasitic on *Prionomys batesi* (Rodentia, Dendromurinae) from Republique Centrafricaine. *J. Afrotrop. Zool.* 1: 5-8.

A new species *Listrophoroides (Afrolistrophoroides) prionomys* n. sp. (Acari, Atopomelidae) parasitizing *Prionomys batesi* Dollman (Rodentia, Dendromurinae) from Republique Centrafricaine is described and depicted. This new species belongs to the *hylomyscus* species group, and it differs markedly from the other 6 species of this group by the absence of ornamentation on the postscapular shield, in both sexes.

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INTRODUCTION

Mites of the family Atopomelidae (Acari, Listrophoroidea) are obligate parasites, living in the fur of mammals. Among the genera of this family the genus *Listrophoroides* Hirst occupies a central position because it includes 16 subgenera and more than 150 species (Fain 1981). These species are associated with rodents, soricomorph insectivores and primates and they are widely distributed through the World (North and South America, Africa, Madagascar, the Oriental region, New Guinea and Australia). The present paper is devoted to the description of a new species *Listrophoroides (Afrolistrophoroides) prionomys* sp.n. from *Prionomys batesi* Dollman. This host belongs to the Afrotropical rodent subfamily Dendromurinae. The relationships of this subfamily with other rodents are unclear and, therefore, mammalogists consider it as a subfamily *incertae sedis* among the superfamily Muroidea (Pavlinov 2002).

All the measurements are given in micrometers (μm). The holotype and most paratypes are deposited in the Musée royal de l'Afrique Centrale, Tervuren (MRAC).

Genus *Listrophoroides* Hirst, 1923

Subgenus *Afrolistrophoroides* Fain, 1972

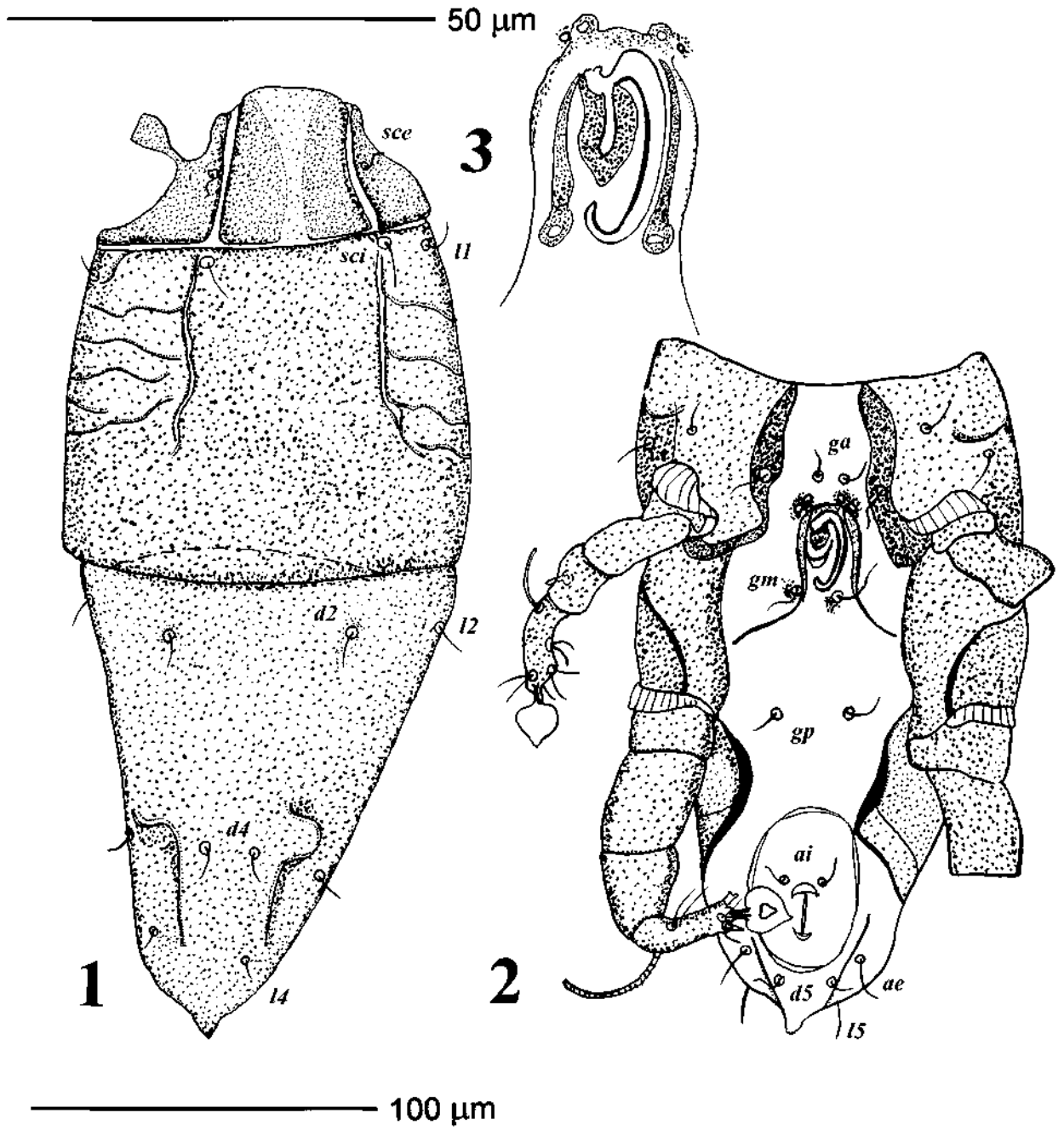
This subgenus includes until now 19 species divided into three species group, *mastomys*, *hylomyscus* and *mastomys* (Fain 1972, Fain *et al.* 1984).

***Listrophoroides (Afrolistrophoroides)*
prionomys sp.n.**

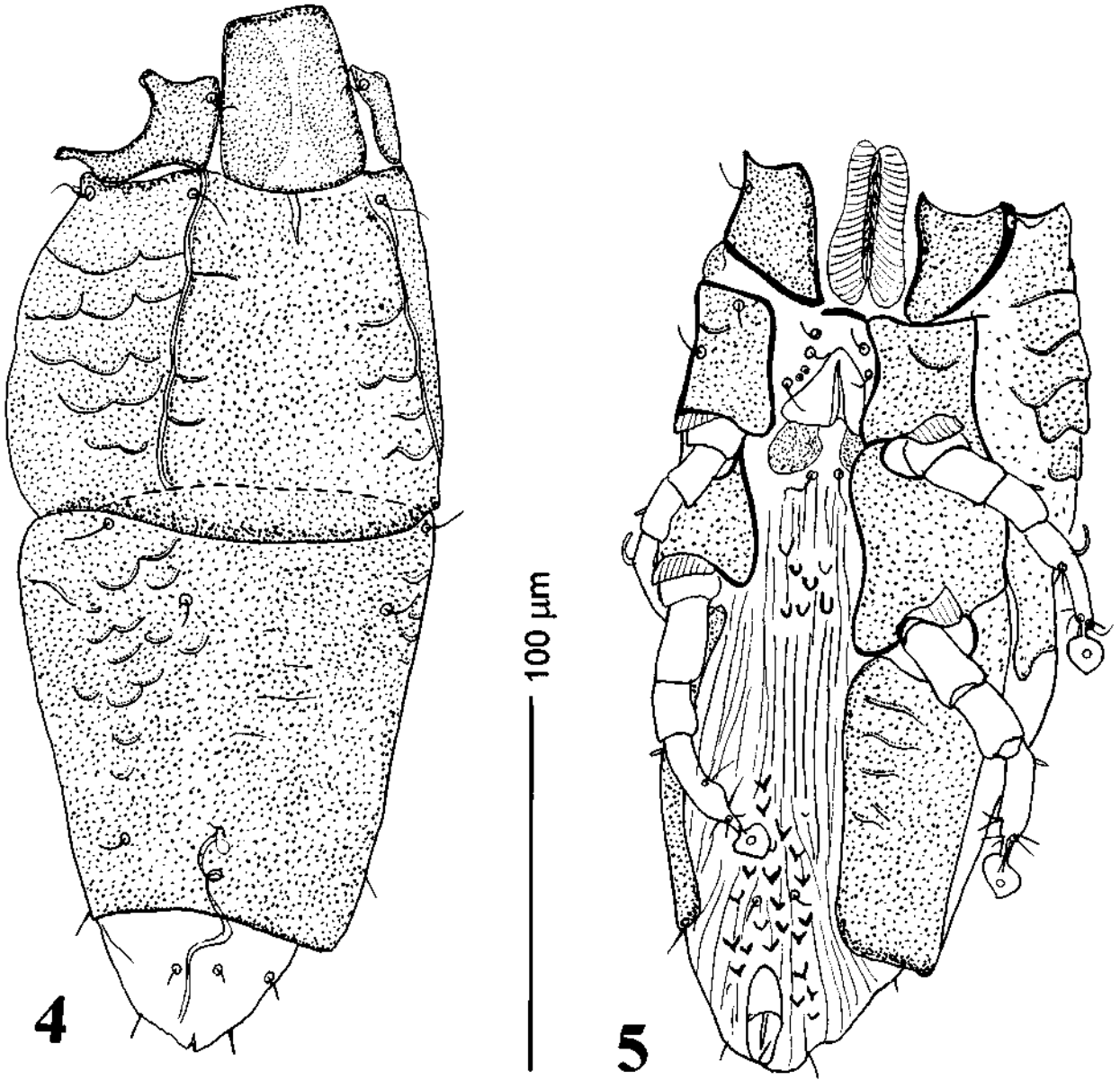
Figures 1-5

Type Material *Holotype*: ♂ from *Prionomys batesi* Dollman (Muroidea, Dendromurinae), REPUBLIQUE CENTRAFRICAINE, Mbaiki, 3°53' N, 18°00'. VII.1968, Lukoschus F.S. (MRAC). *Paratypes*: 10 ♂, 10 ♀: with the same data as holotype (MRAC, Institut royal des Sciences naturelles de Belgique, Brussels; Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia).

Description **MALE** (holotype). Total length of the body from posterior border to the anterior extremity of the tegmen 315 long (300-315 in 10 paratypes); maximum width of the body 120 (115-130). *Dorsum* (Fig. 1). Postscapular shield maximum 105 long (100-105), lateral parts of this shield in their anterior half covered with a scale-like pattern arranged into 4-5 rows, the median area without this pattern. Hysteronotal shield completely covering the hysterosoma, maximum 140 long (135-150), without ornamentation and incisions. Opisthosomal membrane entire, without lobes. Posterior extremity of opisthosomal membrane with a median projection. Setae *l5* 15 long (12-17). *Venter* (Fig. 2). Penis about 25 long (25-28), without a complex structure. Genital membrane lacking. Postgenital shield lost (Fig. 3). Post-anal membrane poorly developed. Epimeres III fused with coxal fields II, their projection as well as the projections of the epimeres IV not developed. Legs IV 100 long (95-100) from the most basal point of the



Figs 1-3. *Listrophoroides (Afolistrophoroides) prionomyx* sp.n., male. 1, dorsal view; 2, hysterosoma in ventral view; 3, aedeagus. Scale lines 100 μ m (1, 2) and 50 μ m (3).



Figs 4-5. *Listrophoroides* (*Afrolistrophoroides*) *prionomys* n. sp., female. 4, dorsal view; 5, hysterosoma in ventral view. Scale line 100 μm.

trochanter to the apex of the tarsus (not including the ambulacrum); they thicker than legs III 90 long (85-90). Tibio-tarsi III and IV about 30 long (28-30) from most basal points of this segment to the apex of the tarsus (excluding the ambulacrum). Solenidia of tibio-tarsi III and IV 15 (15-20) and 30 (30-35) long, respectively.

FEMALE (paratype). Body, including gnathosoma, 315-330 long (in 10 paratypes) and 115-130 wide. *Dorsum* (Fig. 4). Postscapular shield 100-105 long, the lateral parts of postscapular shield covered with a scale-like pattern arranged into 5-6 rows; the median area without this pattern. Hysteronotal shield 115-125 long, the lateral parts of hysterosomal shield covered with a scale-like pattern like postscapular shield in their anterior half. *Venter* (Fig. 5). Lateral parts of the opisthosoma with 2 pairs of longitudinal sclerotized bands, only scarcely covered with the same ornamentation as the hysteronotal shield. Median part of the opisthosoma with longitudinal striations and with 2 groups of tubercles, a few tubercles situated at its anterior half and its posterior half covered with numerous tubercles. Posterior extremity rounded.

Differential diagnosis This new species belongs to the *hylomyscus* species group which includes six species (Fain 1972). In both sexes of this group the median part of postscapular shield is devoid of a scale-like pattern; in the males the posterior extremity is without lobes, the penis is short in most of the species.

Within this group the new species is closest to *Listrophoroides dubininae* Fain, 1972 from *Dendromys melanotis* Brants (Muroidea, Dendromurinae) from Zaire (Fain 1972). *L. priomys* sp.n. is easily distinguished from this species by the following characters: In both sexes of *L. priomys* sp.n. the median area of postscapular shield is devoid of pattern. In the female, the median part of hysteronotal shield is devoid of pattern; the opisthogaster is covered with tubercles only in its posterior half. In the male, the hysteronotal shield is completely devoid of pattern; the post-anal membrane is poorly developed. In both sexes of *L. dubinini*, the median part of postscapular shield has ornamentation. In the female, the median part of hysteronotal shield is covered with scale-like pattern; the opisthogaster is also covered with scale-like pattern. In the male, the anterior third of hysteronotal shield is covered with striations; the post-anal membrane is well developed.

This new species is also close to *Listrophoroides vittatus* Fain, 1970 from *Hybomys univittatus* (Petters) (Rodentia, Murinae) from Ivory Coast (Fain 1972). *L. priomys* n. sp. differs from this species in the female by the absence of pattern on the median part

of postscapular shield and in the male by the absence of a postgenital shield and the presence of a conical projection on the posterior extremity of the body.

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REFERENCES

- FAIN, A. 1972. Les Listrophorides en Afrique au Sud du Sahara (Acarina: Sarcoptiformes). *Annales Musée royal de l'Afrique Centrale. (Zoologie)* 197: 1-200.
- FAIN, A. 1981. Le genre *Listrophoroides* Hirst, 1923 (Acari, Astigmata, Atopomelidae) dans la région Orientale. *Bulletin de l'Institut royal des Sciences naturelles de Belgique (Entomologie)* 53: 1-123.
- FAIN, A., HART, B.J. & RAHM, U. 1984. Acariens parasites ou nidicoles de rongeurs et insectivores de la région du Kivu, au Zaire. I. Listrophoroidea (Acari, Astigmata). *Revue de Zoologie africaine* 99: 369-390.
- PAVLINOV, I.J. 2002. A classification of the recent Mammals. In series: *Diversity of animals* (ROSSOLIMO, O.L. Ed.). Moscow: Moscow University, 133 pp.