

TWO NEW SPECIES OF THE GENUS
ECHIMYTRICALGES Fain, 1970
(Acari, Astigmata, Lobalgidae)
FROM AMERICAN SPINY RATS
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by A. FAIN (1), F.S. LUKOSCHUS (2) and E. MENDEZ (3)

Abstract

Two new species of genus *Echimytricalges* (Acari, Lobalgidae) are described from South American rodents of the family Echimyidae: *E. hoplomys* sp. n. from *Hopломys gymnurus* in Panama and *E. mesomys* sp. n. from *Mesomys* sp. probably *M. hispidus*, in Colombia, A key to the species of the genus is presented

Introduction

The family Lobalgidae FAIN, 1965, has been created for the monotypic genus *Lobalges* FONSECA, 1954, whose unique species (*L. trouessarti*, 1954) parasitizes two genera of Bradypodidae (Edentata), *Bradypus* and *Choloepus*, in South America.

Fain (1970) described a new genus, *Echimytricalges*, represented by two species: *E. brasiliensis* from *Echimyys brasiliensis* in Brazil, and *E. guyanensis* from *Philander philander* in French Guyana. Owing to some important differences between *Lobalges* and *Echimytricalges*, a new subfamily, Echimytricalginae, was created for the latter.

Fain and Lukoschus (1970) described a new species *Echimytricalges surinamensis* from *Proechimys g. guyannensis* in Surinam.

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In the present paper we describe two new species from Echi-
myidae : *E. hoplomys* from *Hoplomys gymnurus* in Panama and
E. mesomys from *Mesomys* sp. in Colombia. Included are the
first drawings of *E. brasiliensis* and *E. guyanensis* and a key to
the known species in the genus.

Another subfamily of Lobalgidae was recently described :
Coendalginae FAÏN and MENDEZ, 1979, represented by the mono-
typic genus *Coendalgas* FAÏN and MENDEZ, 1979 (type species
C. panamensis FAÏN and MENDEZ, 1979), from *Coendu rothschildi*
in Panama.

Abbreviations : BM = British Museum (Nat. Hist.) ; FMNH :
Field Museum of Natural History Chicago ; IRSNB : Institut
royal des Sciences naturelles de Belgique ; USNM : U.S. National
Museum of Natural History, Washington, D.C.

KEY TO THE GENUS *Echimytralges*

MALES

1. Sternum fused with epimeres II. Hysteronotal plate very long
reaching close to propodonotal plate, the latter without longi-
tudinal median furrow. On *Mesomys* sp. *mesomys* sp. n.
2. Sternum or epimeres I widely separated from epimeres II.
Hysteronotal plate shorter, remaining far from propodonotal
plate which is either with or without longitudinal median
furrow 2
2. Propodonotal plate without longitudinal median furrow, with
posterior two thirds slightly convex and not fused with
anterolateral plates. Cuticle of dorsal surface (outside of plates)
with few irregular striations. On *Echimytralges brasiliensis*
. *brasiliensis* FAÏN, 1970
- Propodonotal plate with longitudinal median furrow and with
posterior two thirds incised laterally 3
3. Hysteronotal plate partly striated, with deep lateral incisions
in its anterior third, its anterior and posterior borders exca-
vate. On *Hoplomys gymnurus* *hoplomys* sp. n.
- Lateral, anterior and posterior borders of hysteronotal plate
very slightly incised or concave, not striated 4

4. Propodonotal plate extending to lateral surfaces of body, with lateral borders of its posterior third slightly converging backwards. On *Proechimys guyanensis* . . . *surinamensis* FAIN, LUKOSCHUS, 1970
 Propodonotal plate not extending to lateral surfaces of body in the strongly sclerotized holotype (and only known specimen), lateral borders of posterior third strongly converging backwards. On *Philander philander* . *guyanensis* FAIN, 1970

FEMALES

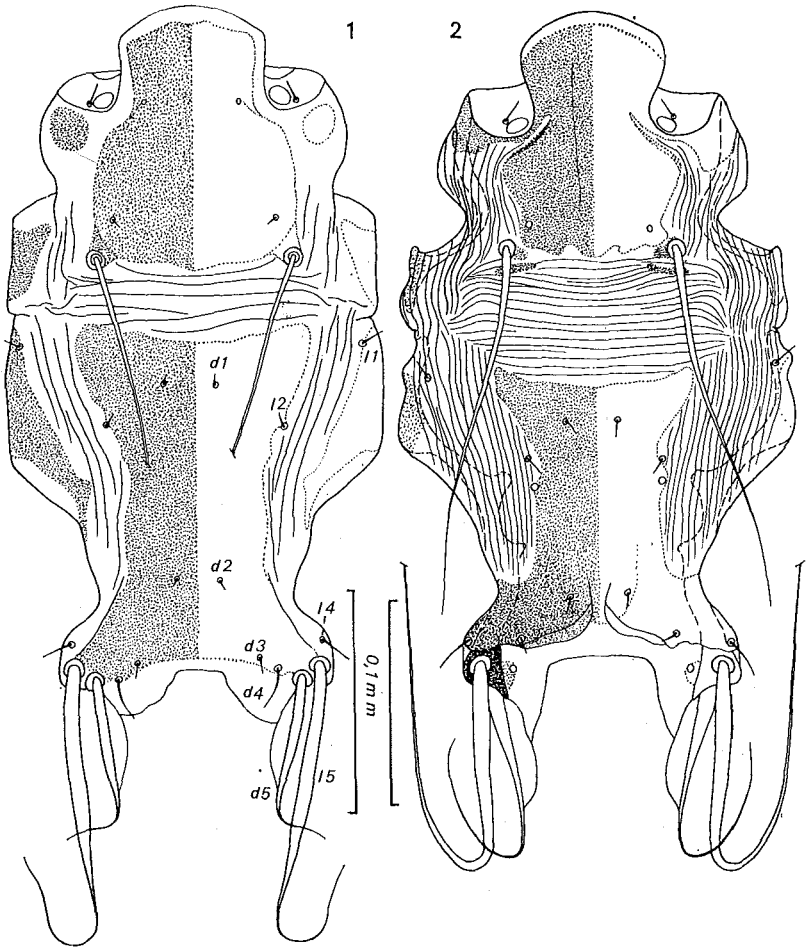
(N.B The female of *E. guyanensis* is unknown.)

1. Sternum fused with epimeres II. Antero-median hysteronotal plate as long as wide *mesomys* sp. n.
 Sternum or epimeres I widely separated from epimeres II. Anteromedian hysteronotal plate approximately three times as wide as long 2
2. Setae *sc e* situated on the propodonotal plate. Cuticular striations poorly developed dorsally and widely spaced
 *brasiliensis* FAIN, 1970
 Setae *sc e* placed on small punctate plates, off the propodonotal plate. Cuticular striations on dorsum numerous 3
3. Posterior lobes of body short (18-20 μ), as wide as long, slightly divergent. Hysteronotal plate about 3 times as wide (102 μ) as its maximum length (36 μ)
 *surinamensis* FAIN & LUKOSCHUS, 1970
 Posterior lobes of body longer (33 μ) than wide (26 μ), parallel or subparallel. Hysteronotal plate more than 3 times as wide (135 μ) as its maximum length (40 μ) *hoplomys* sp. n.

I. *Echimytricalges brasiliensis* FAIN, 1970

This species was taken on *Echimyris brasiliensis* at Rio de Janeiro, Brazil. This animal (n° 5.4.16.4-5) is housed in the British Museum. The types are also deposited in this Museum.

In the female the prodopodonotal plate is not fused with the antero-lateral plates and bears setae *sc e*. The dorsal striations are poorly developed and widely spaced. Hysteronotal plate 45 μ long (maximum length) and 148 μ wide. Opisthonotal plates 150 μ



FIGS. 1-2

FIG. 1. — *Echimytricalges brasiliensis* Fain. Dorsal view of male.

FIG. 2. — *Echimytricalges guyanensis* Fain. Dorsal view of male.

long and 45 μ wide (maximum). The ventral surface resembles the figure we have given for *E. surinamensis* (FAIN & LUKOSCHUS, 1970) but the epigynium has a straight anterior border and is longer in midline. Gnathosoma 81 μ wide. Male (fig. 1) : dorsum with very few striations. Propodonotal plate without longitudinal median furrow. Hysteronotal plate long (135 μ in midline), anterior border slightly concave, 105 μ long.

2. *Echimytricalges guyanensis* FAIN, 1970

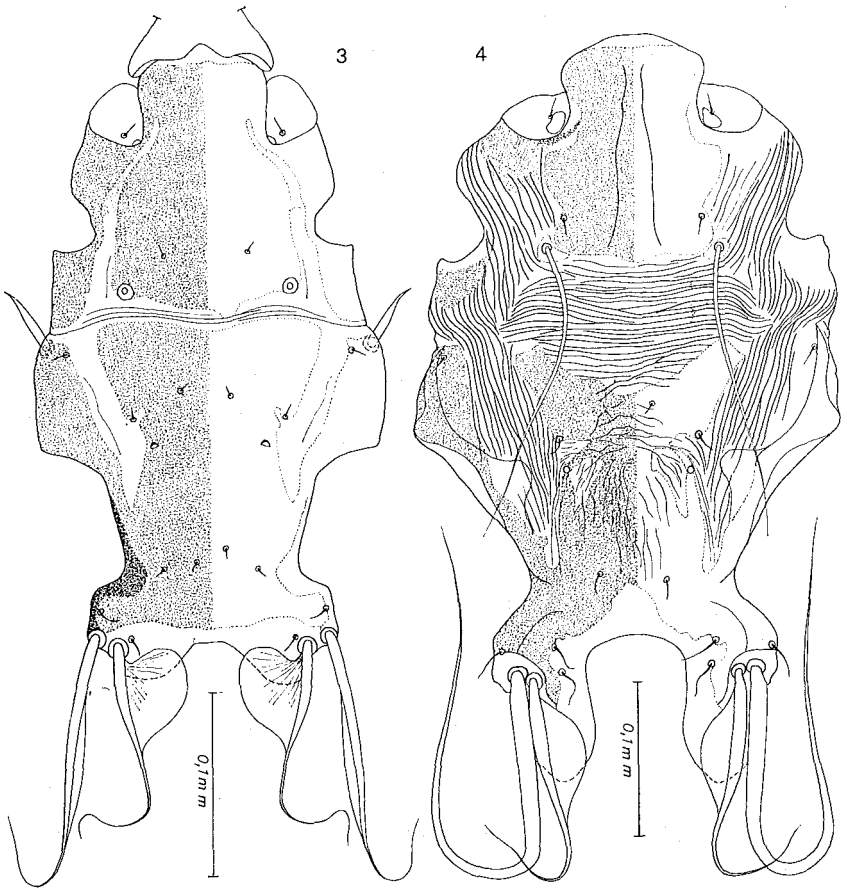
This species is known only from the holotype male. It has been collected from *Philander philander*, French Guyana. Type in IRSNB. The ventral surface resembles closely the figure we have given for the male of *E. surinamensis*. The dorsal surface differs mainly by the shape of the propodonotal plate which is more narrowed posteriorly and is not fused with anterolateral plates. We give here a figure of the dorsal surface of the holotype (fig. 2).

3. *Echimytricalges surinamensis* FAIN & LUKOSCHUS, 1970

This species was found on *Proechimys guyanensis guyanensis*, in Surinam.

4. *Echimytricalges hoplomys* sp. n.

Female : Holotype 645 μ long (gnathosoma and posterior lobes included) and 270 μ wide (maximum). *Dorsum* : Cuticular striations less numerous than on ventral surface. Propodonotal plate not fused with anterolateral plates and not bearing the *sc e* setae. Hysteronotal plate 135 μ wide, 40 μ long (maximum). Opisthonotal plates 180 μ long and 58 μ wide (maximum). Setae *b* very thick (13 μ) and 85 μ long (including the very thin flagellar apical prolongation). *Venter* : Cuticle finely striated. Posterior lobes parallel or subparallel, 33 μ long, 26 μ wide. Epimeres I very thick, fused at midline forming a very thick sternum ; posteriorly the epimeres become free and divergent. Epimeres II-IV free. Epigynium very thick, slightly curved, its anterior border straight at midpart.



FIGS. 3-4

FIG. 3. — *Echimytricalges mesomys* sp. n., Dorsal view of male.

FIG. 4. — *Echimytricalges hoplomys* sp. n., Dorsal view of male.

Male (fig. 4): Allotype 400 μ long at midline (gnathosoma included) and 240 μ wide (maximum). Striations rather numerous and thick. Propodonotal plate fused with anterolateral plates and not bearing setae *sc. e.* Hysteronotal plate widely separated from propodonotal plate, strongly excavated along anterior, posterior and lateral borders, bearing a number of thick striations; its width along anterior border 120 μ , its length at midline, 110 μ .

Tritonymph: A specimen is 450 μ long (lobes included) and 225 μ wide. Length in 5 paratypes: 360 to 420 μ . There are 2 thick (75 μ wide) and long (60 μ) posterior lobes. Cuticle striated. *Dorsum*: propodonotum as in female but the plate is smaller. Hysterosoma with median triangular plate 88 μ long and with posterior base 81 μ wide. Venter: Epimeres I very thick, fused in a thick sternum. Epimeres II short; epimeres III-IV very short.

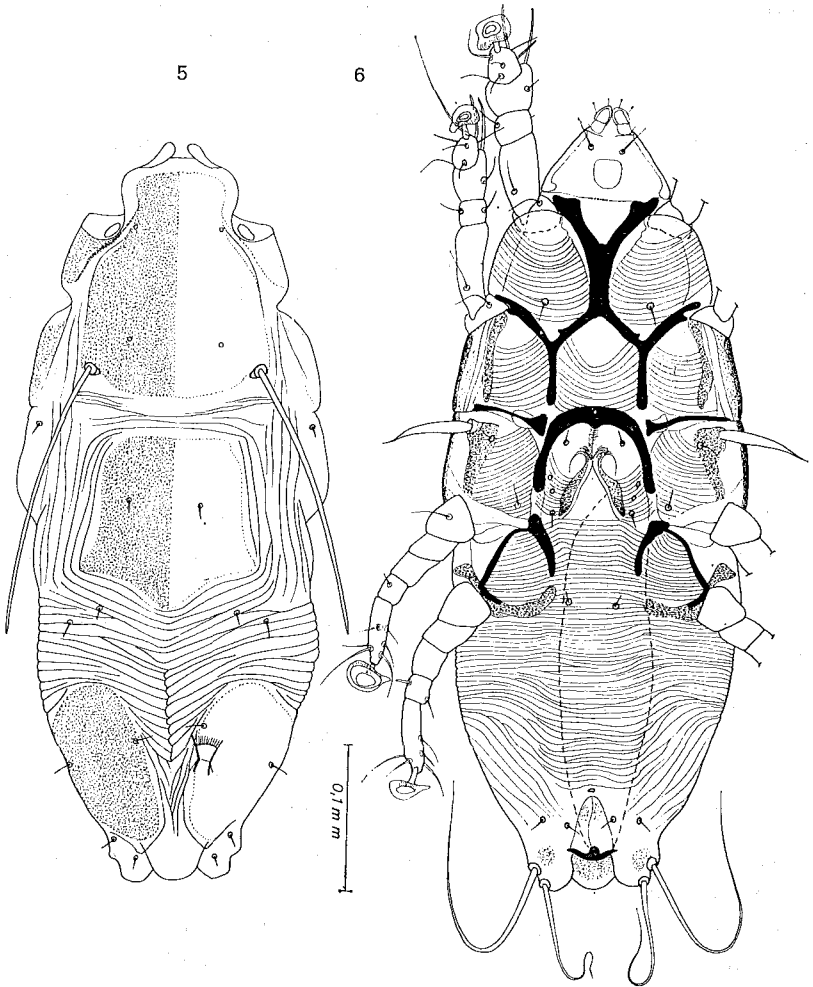
Protonymph: A specimen is 315 μ long at midline and 168 μ wide. Length in 8 paratypes: from 290 to 340 μ . Dorsum and venter as in tritonymph but with smaller plates and with only one pair of vestigial genital suckers and genital setae (instead of 2 pairs of vestigial genital suckers and 3 pairs of genital setae as in tritonymph). Lobes as in tritonymphs, but smaller.

Larva: A specimen is 270 μ long and 150 μ wide. Dorsum as in protonymph except that hysteronotal plate is split into 3 plates (2 anterior very small paramedian and 1 posterior large and median). Posterior border straight, without lobes.

Host and locality: From *Hoplomys gymnurus*, Mojinga Swamp; Colon Province, Panama, 9.VII.1981. Holotype and 3 female paratypes, allotype and 2 male paratypes, 10 tritonymphs, 21 protonymphs, 7 larvae, all paratypes. (Coll. E. Mendez). Types in USNM.

5. *Echimytricalges mesomys* sp. n.

Female (fig. 5-6): Holotype 570 μ long (at midline) and 228 μ wide. *Dorsum*: Cuticle striated between the punctate plates. Propodonotal plate very large, not fused with antero-lateral plates and with lateral borders not incised posteriorly. Hysteronotal plate as long as wide (120 μ). Opisthonotal plates 105 μ long and 60 μ wide (maximum). Posterior lobes 25 μ long and 30 μ wide.



FIGS. 5-6

Echimytricalges mesomys sp. n.

FIG. 5. — Dorsal view of female.

FIG. 6. — Ventral view of female.

Between these lobes there is a large rounded lobe, wider (27 μ) than long (21 μ). *Venter* : Cuticle finely striated. Epimeres I forming a thick compact sternum ; in their posterior part they become free and are fused with epimeres II. Epigynium forming a very strongly sclerotized arc. Gnathosoma very wide : maximum width 96 μ .

Male (fig. 3) : Allotype 370 μ long, 180 μ wide. *Dorsum* : Propodonal plate as in female. Hysteronotal plate very large and reaching close to propodonal plate. Posteriorly this plate is fused with lateral plates. *Venter* : Epimeres I-II as in female.

Tritonymph : There are two types of tritonymphs, one (male tritonymph) smaller, (318 μ long at midline) with long lobes (33 μ long), the other (female tritonymph) larger (415 μ long at midline) with short lobes (15 μ long). We also have tritonymphs containing either a male or a female. The first one has well marked lobes, while the second one has indistinct lobes, the latter have probably disappeared by the distension of the abdomen. In these nymphs the propodonal plate is smaller than in the adults and the hysteronotum bears a large triangular plate. The epimeres are fused in a thick sternum not fused with epimeres II.

Protonymph : There are also two types of protonymphs : one with posterior lobes (male line), the other without lobes (female line). The first is 336 μ long (lobes included) and 132 μ wide, the second is 370 μ long (at midline) and 165 μ wide. Morphologically they resemble closely the tritonymphs, except for usual characters (only one pair of genital suckers and setae).

Larva : 280 μ long and 108 μ wide. External morphology as in protonymph female (absence of posterior lobes) except that they lack the leg IV and that the epimeres I are separate.

Host and locality : From *Mesomys* sp., probably *Mesomys hispidus*, Rio Apaporis, Ino Goje, Colombia, Amazonas, 16.VI.1952. Rat collected by Cabrera and deposited in the Chicago Field Museum of Natural History (FMNH), Chicago, U.S.A. (n° 57242). Holotype and 8 female paratypes allotype and 7 male paratypes 5 tritonymphs, 3 protonymphs, 1 larva, all paratypes. Types in FMNH.

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