THREE NEW SPECIES OF GENUS *METALABIDOPHORUS* FAIN, 1967 (GLYCYPHAGIDAE: SARCOPTIFORMES) FROM AMERICAN RODENTS [1]

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----- **ABSTRACT** -A new definition of genus *Metalabidophorus* Fain, 1967 is given and three new species are described: *M. tylomys* from *Tylomys mirae* , *M. heteromys* from *Heteromys anomalus* , and *M. liomys* from *Liomys innotatus texensis* . *M. tylomys* is known from Colombia, *M. hetero - mys* from Venezuela, and *M. liomys* from U.S.A. -----

In the hair follicles of the dorsal part of *Spalax microphthalmus* Guldenstaedt hypopi have been found by Fain (1967) of intermediate shape between Labidophorinae Zachvatkin, 1941 and follicle inhabiting hypopi of subfamilies Ctenoglyphinae Zachvatkin, 1941 and Lophuromyopinae Fain, 1967. For these hypopi Fain erected the monotypic genus *Metalabidophorus* Fain, 1967, typical genus of new subfamily Metalabidophorinae Fain, 1967.

During a survey at Smithsonian Institution, Washington, D.C. (U.S.A.) one of us (FSL) collected hypopi of the genus from hair follicles of the necks of alcohol preserved American rodents. Three new species , fitting in essential characteristics to definition of genus, are figured and described here. The definition of genus has been based on *Metalabidophorus spalacis* Fain, 1967. To include all characteristics of these new species a broad definition of the genus is given.

Metalabidophorus Fain, 1967

NEW DEFINITION — (Based on hypopi) Pilicolous organ terminal , strongly reduced and lateral flaps sclerotized. Genital suckers displaced laterally at posterior border of coxa IV and directed backwards. Setae of tibiae III and IV strong and barbed or toothed; tibia III cylindrical, tibia IV flattened. Epimerites IV poorly developed or lacking. Tarsi IV either shorter, subequal or longer than tarsi III. Palposoma strongly reduced or absent and represented by 2 short solenidia and 1 or 2 pairs of short, inconstant setae. Claw III smaller than claws I and II. Claw IV variable, either smaller than claw III or thicker and larger than latter and modified. Setae *v i* and *v e* present.

TYPE SPECIES — *Metalabidophorus spalacis* Fain, 1967.

Key to hypopi of *Metalabidophorus*

1. Specialized and deeply inserted setae on tibiae and genua I and II (Fig.5), two pairs of palposomal setae, epimerites II not surpassing *sh* (Fig.1), pygidial sclerotization present (Fig.3) 2

- Normal setae on genua I and II (Fig.8), palposomal setae absent (Fig.2), pygidial sclerotization absent (Fig.4), epimerites II running down to epimerae IV..... 3

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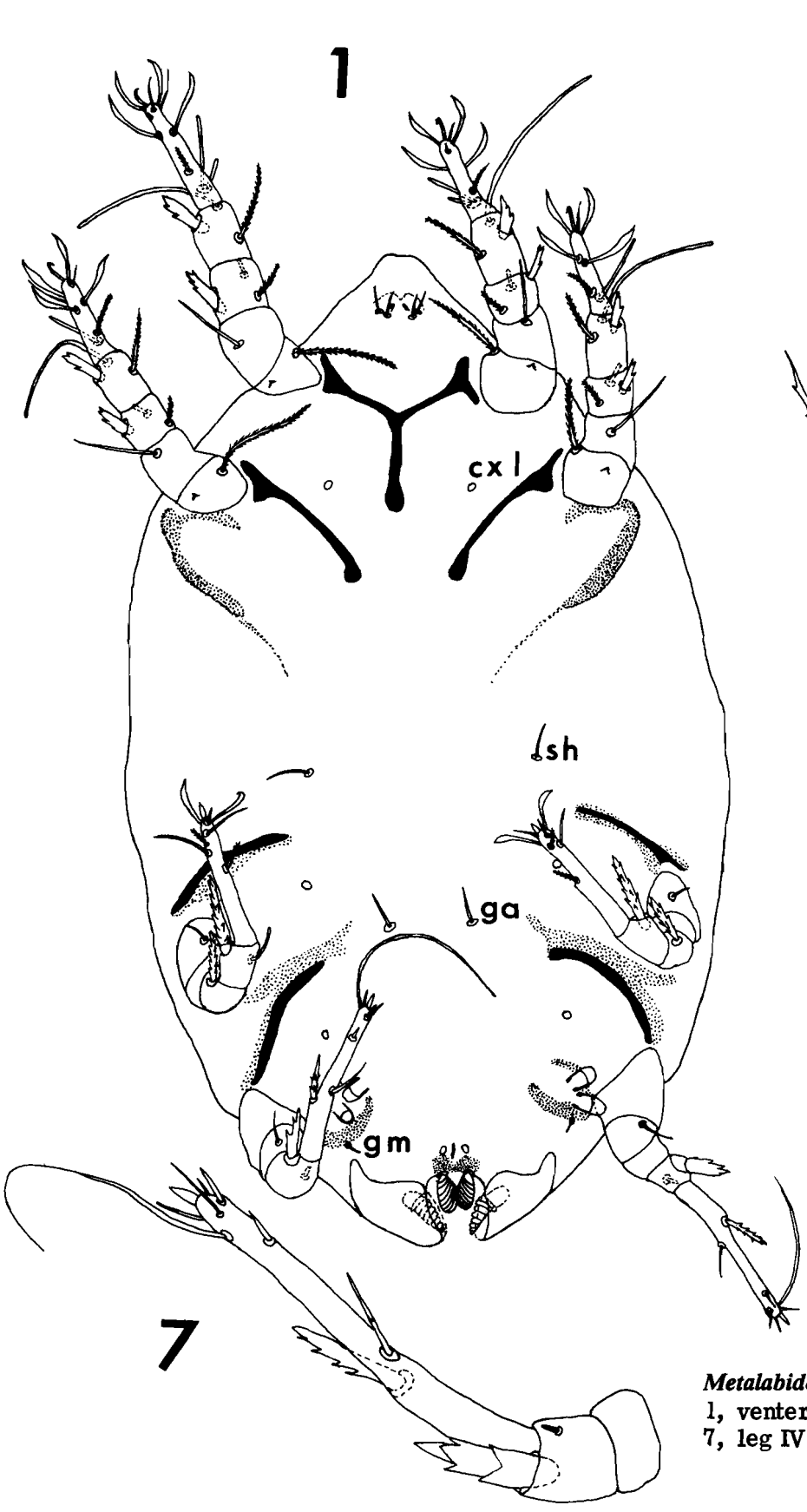
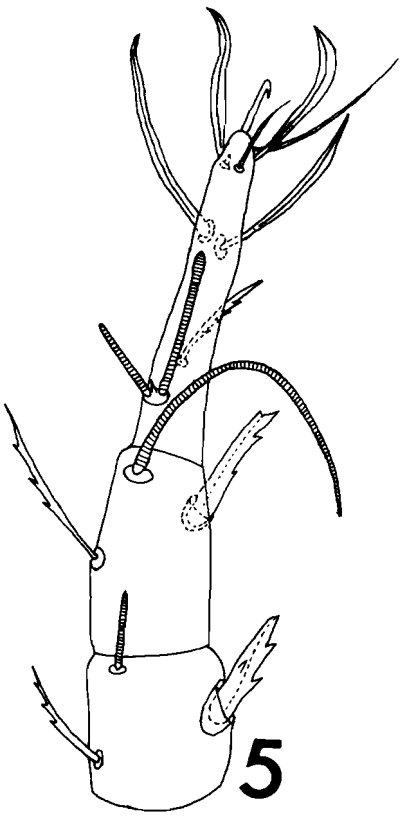
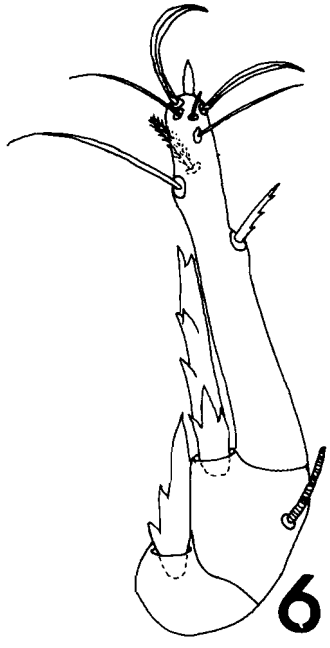
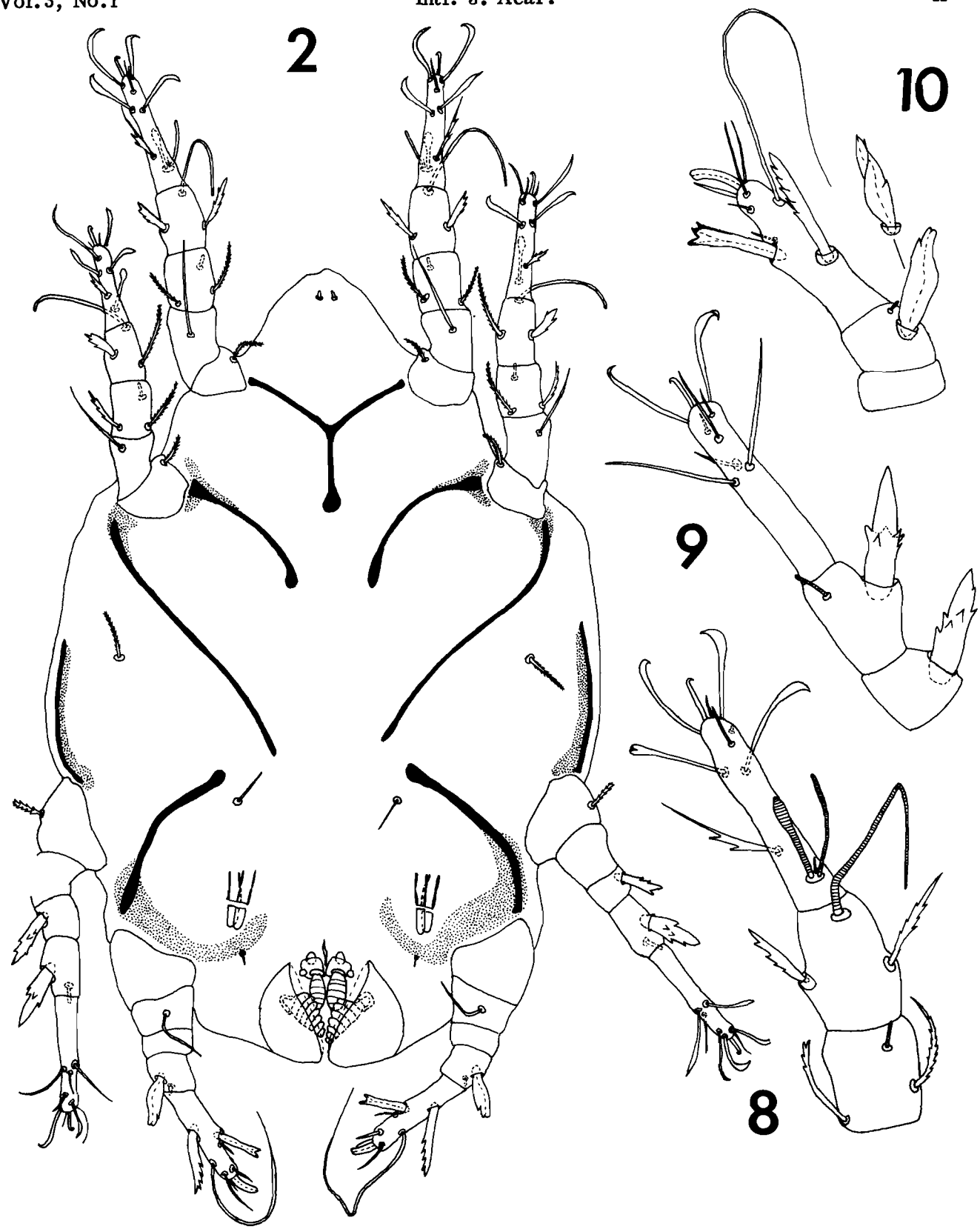






Metalabidophorus tylomys spec. nov.: 1, venter (holotype); 5, leg I; 6, leg III; 7, leg IV.



Metalabidophorus heteromys spec.nov.: 2, venter (holotype); 8, leg I; 9, leg III; 10, leg IV.

Metalabidophorus tylomys spec. nov.: 3, dorsum (holotype); *Metalabidophorus heteromys* spec. nov.: 4, dorsum (holotype).

2. Tarsus IV shorter than tarsus III, coxal setae absent, tibial setae IV flattened and with pointed border, pygidial sclerotization with craniad medial part..... ..... *M. spalacis* Fain, 1967

- Tarsus IV longer than tarsus III (Figs.6,7), coxal setae present in form of rings (Fig.1), without medial part of pygidial sclerotization (Fig.3), tibial setae IV cylindrical .... *M. tylomys* spec.nov.

3. Setae *v i* broad, cylindrical and longer than 12 μ, epimerites II extending backwards between epimerae IV, small bifid seta on tarsus IV (Fig.11), posterior dorsal and lateral setae long (Fig.12)..... *M. liomys* spec.nov.

- Setae *v i* small, shorter than 10 μ, epimerites II extending to ends of epimerae IV, bifid seta on tarsus IV broad (Fig.2), dorsal and lateral setae 2 and 3 shorter than 15 μ(Fig.4) ..... *M. heteromys* spec.nov.

Metalabidophorus tylomys spec.nov.
(Fig.1,3,5-7)

HYPOPUS (Holotype) — With characteristics of genus. Dorsal and ventral surface well sclerotized, yellow-brown, small white spots evenly spread on surface. Length 295 μ (283-300 μ) and width 174 μ (164-179 μ).

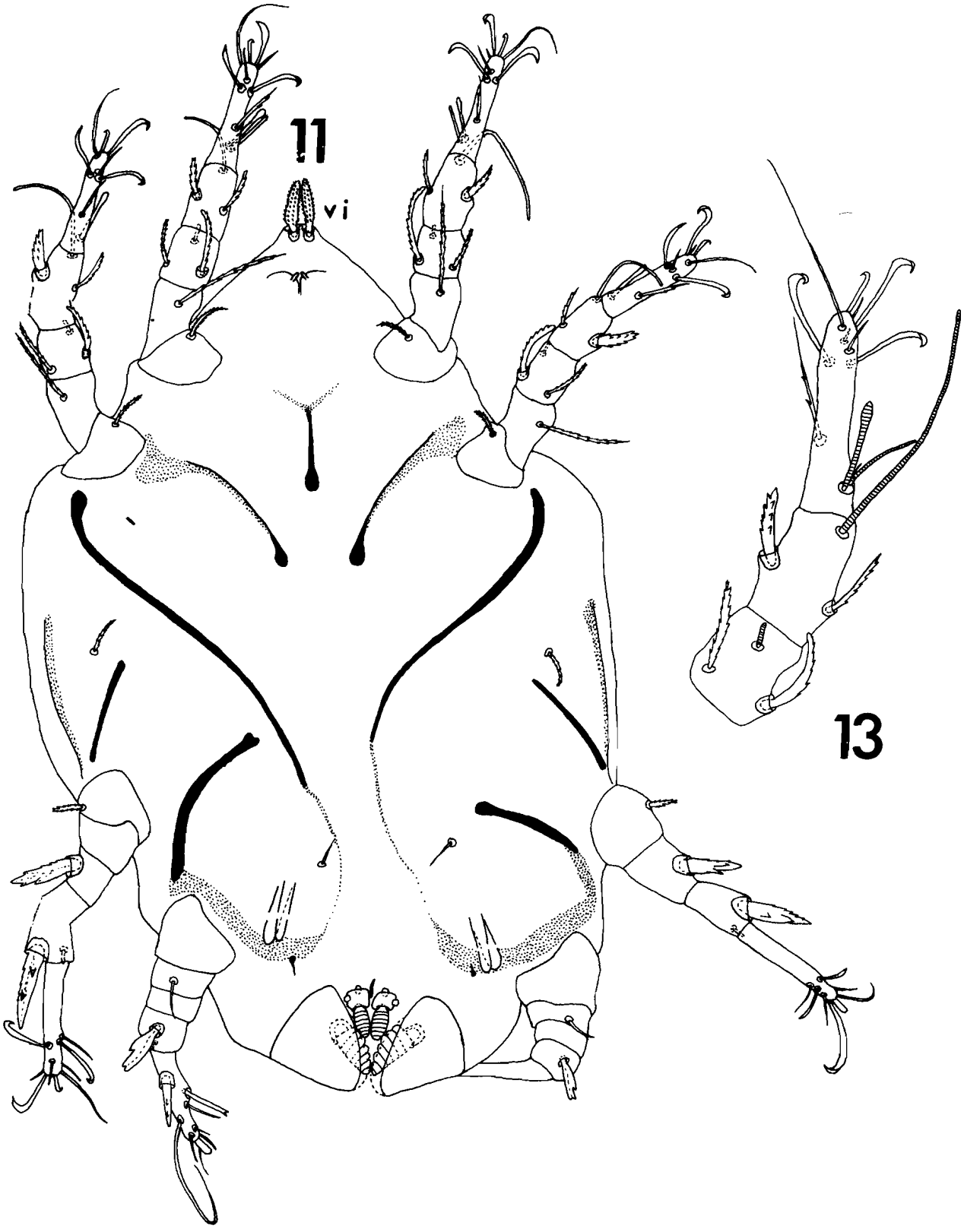
DORSUM (Fig.3) — Sejujal furrow distinct and in medial region, posterior furrow absent. All dorsal idiosomal setae present in form of short, thick, serrated hairs. Pygidial part of dorsum with stronger sclerotization in lateral parts, without median prolongation. Measure - ments as shown in Table I.

VENTER (Fig.1) — Epimerae I fused in Y-shape, II-IV free; epimerites II short. Epimerae well sclerotized, epimerites less sclerotized. Palposoma with short solenidia alpha and two pairs of faible setae on very undistinct marked palposomal region. Vestigial hairs in form of white rings in coxal fields I, III and IV. Pilicolous organ terminal, small and, perhaps, without function. None of 51 collected specimens has been found attached to a hair. Inner claspers 9-10 μ and with 7-8 ridges, outer claspers 14-16 μ and with 8-10 ridges. Small anal split with two lateral rings in front of inner claspers. Genital suckers and *g m* displaced laterally to epimerites IV.

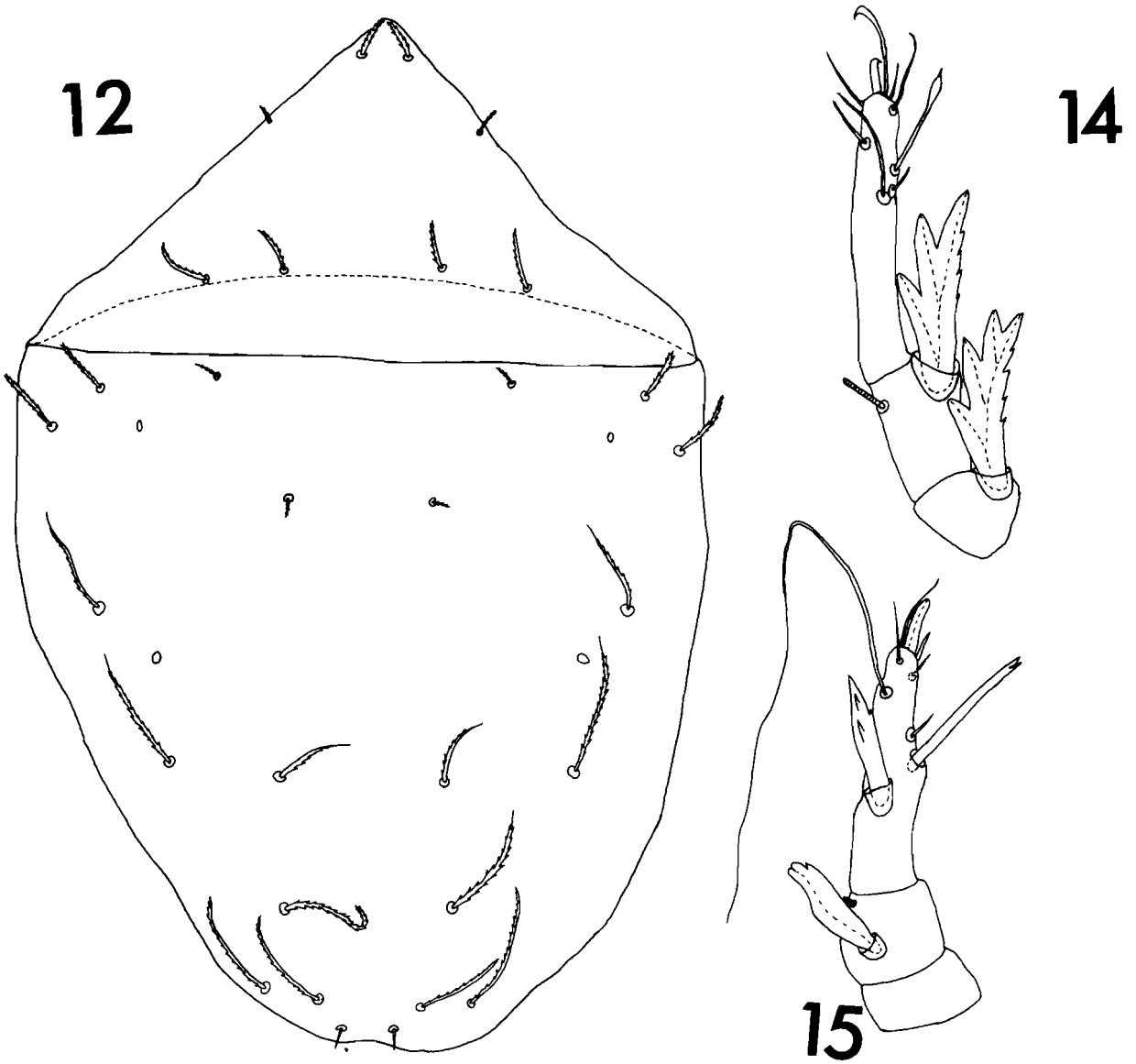
LEGS (Figs.5-7) — Chaetotaxy: tarsi 8-8-8-8 , tibiae 2-2-1-1, genua 2-2-1-0, femora 1-1-0-1, trochanters 1-1-1-0. Solenidiotaxy: tarsi 2-1-0-0, tibiae 1-1-1-1, genua 1-1-0-0. Famulus present. Legs I and II with very short pretarsus and sickle-shaped claws ; legs III and IV with spinelike claw, apparently without pretarsus. Specialized and deeply inserted setae on tibiae I-IV and genua I-III. Shape of setae as shown in Figs.5-7 and measurements given in Table I.

HOST & LOCALITY — *Tylomys mirae* , trapped on 23 February 1970 by N.E.Peterson near Antioquia in Colombia. Host in collection of Smithsonian Institution, no.499 976. Mites were found dorsally in shoulder region hidden in hair follicles of the host.

The holotype is deposited in U.S.National Museum, Washington, D.C., U.S.A. The paratypes (50) are in Acarology Laboratory, Ohio State University, Columbus, Ohio, U.S.A.; Field Museum of Natural History, Chicago, Illinois, U.S.A.; Muséum National d'Histoire Naturelle, Paris, France; British Museum (N.H.), London, England; Institute of Parasitology, Prague, Czechoslovakia; Zoologisches Museum, Hamburg; Forschungsinstitut Senckenberg, Frankfurt, West Germany; Institut de Médecine Tropicale Prince Léopold, Antwerpen, Belgium; Department of Zoology, Catholic University, Nijmegen, The Netherlands.



Metalabidophorus liomys spec.nov.: 11, venter (holotype); 13, leg I.



Metalabidophorus liomys spec.nov. : 12, dorsum (holotype); 14, leg III; 15, leg IV.

Metalabidophorus heteromys spec.nov.
(Figs.2,4,8-10)

HYPOPUS (Holotype) — With characteristics of genus. Cuticle of dorsum and venter well sclerotized, yellow-brown and with evenly spread small, white spots. Length 191 μ (186-206 μ) and width 142 μ (133-151 μ).

DORSUM (Fig.4) — Propodosomal and hysterosomal separation distinct, connected by soft membrane. All idiosomal setae in normal position, serrate (except *s* *cx* and *d5* which are setiform). Pores present near lateral setae 1 and between lateral setae 2-3. Sclerotization of dorsal gland not observed. Measurements as shown in Table I.

VENTER (Fig.2) — Epimerae I fused in Y-shape, sternal part well sclerotized in most specimens, epimerae II-IV free. Epimerae III facing unusually towards sides. Epimerites II long,reaching to epimerae IV. Palposomal region without any markings, only small solenidia alpha present. Coxal setae absent. Genital suckers appearing two segmented and located in coxal region IV. Median genital setae located behind epimerites IV. Genital suckers in some

specimens extricate. Pilicolous organ small, caudad. Outer claspers 15 μ and with 7-8 ridges, inner claspers 10 μ and with 6-7 ridges. Pilicolous organ, perhaps, funtionless. Anal split with rings in front of inner claspers.

LEGS (Figs. 8-10) — Chaetotaxy and solenidiotaxy as in *M. tylomys*. Legs I-III with small pretarsus and sickle-shaped, 7 μ long, claws; legs IV without apparent pretarsus and strong, only slightly curved and broad claw. Specialized and deeply inserted setae on tibiae I-IV, genu III and tarsus IV. The 2-3 pointed tarsal seta somewhat broader than 2 μ. Tibial seta IV appears to be a rolled up leaf like structure. Shape of setae as in Figs. 8-10 and measurements as given in Table I.

HOST & LOCALITY — *Heteromys anomalus*, trapped by J.M.de la Barera near Aragua, Venezuela. Host is in Smithsonian collection, no. 314 815. Mites have been collected from hair follicles of neck of the host.

The holotype is deposited in U.S.National Museum, Washington, D.C., U.S.A. The paratypes (18) are in Columbus, London, Paris, Hamburg, Prague, Antwerpen and Nijmegen.[5]

Metalabidophorus liomys spec.nov.
(Figs. 11-15)

HYPOPUS (Holotype) — With characteristics of genus. Dorsal and ventral surface well sclerotized, yellow-brown and with evenly spread small, white, spots. Length 204 μ and width 140 μ (Measurements in 10 paratypes: 198 (190-204) μ long and 135 (125-149) μ wide).

DORSUM (Fig. 12) — Propodosomal and hysterosomal sclerotized parts overlapping, connected by soft membrane. All idiosomal setae present in normal position, markedly longer than in *M. heteromys*, serrated. Measurements as in Table I.

VENTER (Fig. 11) — Epimerae I fused in Y-shape, only sternal part well sclerotized in most specimens. Epimerae III forward directed but not enclosing *sh* in coxal region III. Epimerites II unusually long connecting epimerites IV in most specimens. Faible marked palposoma with only small alpha solenidia. Genital suckers, pilicolous organ and anal split as in *M. heteromys*.

LEGS (Figs. 13-15) — Chaetotaxy and solenidiotaxy as in *M. heteromys*. Legs I-III with small pretarsus and sickle-shaped claws. Measurement of claws: 6 μ on legs I and II, stronger and only 4 μ long on legs III. Leg IV without pretarsus and with straight, broad and 6 μ long claw. Shape of tibial seta IV as in Fig. 15.

HOST & LOCALITY — *Liomys innotatus texensis*, trapped in July 1891 near Brownsville, Texas, U.S.A., by W. Lloyd. Host in collection of Smithsonian Institution, collection no. 29 861. Mites have been collected out of hair follicles of neck of the host.

The holotype is deposited in U.S.National Museum, Washington, D.C. The paratypes[5] (36) are in Columbus, Chicago, Paris, London, Prague, Hamburg, Frankfurt, Antwerpen and Nijmegen.

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5. The details of deposition of paratypes are given on p. 13.

TABLE I. Measurements of hypopi of genus *Metalabidophorus*

Particulars	*spalacis*	*tylomys*	*heteromys*	M. *liomys*
v i	18	11	7	15
v e	12	10	6	9
sc i	-	10	7	9
sc e	-	10	8	13
h	14	14	8	14
sh	11	12	14	9
lateral 1	10	13	9	12
2	-	16	9	18
3	-	15	13	25
4	-	9	18	23
5	-	8	15	21
dorsal 1	11	12	6	4
2	-	6	6	4
3	-	6	8	16
4	5	6	17	23
5	-	5	5	6
phi I	27	50	44	37
II	17	37	27	24
III	8	9	8	3
IV	2	3	2	1
omega 1	11	17	11	13
3	4	7	13	11
palposomal setae	8	9	-	-
tarsus length I	30	33	29	27
II	29	26	26	25
III	38	37	28	29
IV	25	49	25	25
claw I	12	7	7	6
specialized setae:				
tibia I	15	16	11	11
II	12	15	11	12
III	12	24	20	24
IV	15	15	15	14
genu I	14	13	-	-
II	12	11	-	-
III	10	16	19	19
tarsus IV	-	15	16	15
trochanter setae I	22	28	9	9
II	22	29	9	9
long seta tarsus IV	107	67	54	75

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