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Bull. Inst. r. Sci. nat. Belg. Bull. K. Belg. Inst. Nat. Wet.	Bruxelles Brussel	31-VII-1982
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OF THE GENUS *MARMOSOPUS* FAIN & LUKOSCHUS, 1977  
(GLYCYPHAGIDAE : ASTIGMATA)  
FROM SOUTH AMERICAN MARSUPIALS

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F. S. LUKOSCHUS, P. H. GERRITS and A. FAIN

(With 15 figures in the text)

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ABSTRACT

Three new species of the genus *Marmosopus* are described and illustrated. These are *Marmosopus setzeri* spec. nov. from *Marmosa robinsoni isthmica*, *M. dryas* spec. nov. from *Marmosa dryas*, and *M. crabilli* spec. nov. from *Marmosa fuscata*.

In a previous paper, FAIN & LUKOSCHUS (1977) erected the genus *Marmosopus* within the subfamily Echimyopinae FAIN, 1967 for three new species of follicle inhabiting heteromorph deutonymphs (hypopi) from South American marsupials. During a stay at Smithsonian Institution one of us (F. S. L.) collected three additional new species from the same host group. The present paper is devoted to the study of those species, and it allows us to give a key for the six species described in the genus *Marmosopus*. All measurements are in microns ( $\mu\text{m}$ ).

Key to the species  
of genus *Marmosopus* FAIN & LUKOSCHUS, 1977  
(deutonymphs only)

1. Setae *sci* thick, barbed and longer than 20 . . . . . 2.
- *Sci* thin, (smooth or finely barbed) and shorter than 20 . . . . . 4.

(1) In part with the aid of Grant R 87-111 of the Netherlands Organization for the Advancement of Pure Research (Z. W. O.).

2. Hysterosomatal setae *l*2, *l*3, *l*5 and *d*4 barbed and longer than 15, *s* *h* on sclerotized area of epimerae III . . . . . *M. mendezi* FAIN & LUKOSCHUS, 1977.  
 — Hysterosomatal setae thin, setiform and shorter than 12, *s* *h* on soft cuticle . . . . . 3.
3. Setae *d*1, *d*2, *l*1, and *h* of about the same length, *d*3 behind level of *l*2, spur on trochanter IV absent . . . . . *M. peruvianus* FAIN & LUKOSCHUS, 1977.  
 — setae *h* no more than half the length of *d*1; *d*3 on level of *l*2; spur on trochanter IV distinct and pointed . . . . . *M. setzeri* spec. nov.
4. Claws on legs IV strong and bifid, *h* and *d*2 of about the same length, *v* *e* and *d*2 finely barbed . . . . . *M. inca* FAIN & LUKOSCHUS, 1977.  
 — Claws on legs IV small and simple, *h* shorter than 1/2 of *d*2, *v* *e* and *s* *h* setiform . . . . . 5.
5. *d*1, *d*2 and *l*1 on about the same level; *sc* *i* finely barbed . . . . . *M. dryas* spec. nov.  
 — Setae *l*1 distinctly behind level of *d*1 and *d*2, *sc* *i* smooth . . . . . *M. crabilli* spec. nov.

### *Marmosopus setzeri* spec. nov.

With the characteristics of genus and with the general appearance of *M. peruvianus* FAIN & LUKOSCHUS, 1977. As in all other species of the genus, this new species is known only from the hypopial stage. We dedicate this species to Dr. Henry W. SETZER, curator of mammals, U. S. National Museum of Natural History) Smithsonian Institution), Washington, D. C. (USNMW).

**Hypopus** (Fig. 1, 3, 8-10). — Holotype length 216, width 169. Average length in 10 paratypes 222 (197-235), width 172 (160-179). Venter (Fig 1): like *M. peruvianus*, however trochanter IV with distinct spur directed forwards and seta of femur-genu IV in the form of a conical spine. Chaetotaxy of legs: tibiotarsi 10-10-9-6; genua 2-2-1-0; femora 1-1-0-1; trochanters 1-1-1-0. Solenidiotaxy: tibiotarsi 3-2-1-1; genua 1-1-0-0. Dorsum (Fig. 3): Setae *d*2, *d*1, *l*1, and *h* situated on the anterior border of sclerotized opisthosomal shield. The *d*3 are on level of *l*2. Lateral protrusions between legs III and IV. Selected measurements of holotype in table I.

**Host and locality.** — In tail follicles of *Marmosa robinsoni isthmica*, Gamboa, Panama Canal Zone, R. B. Tesch leg. Host in collection of Smithsonian Institution, coll. no. 460 220. The hypopi were situated deep in the follicle with the head to follicle opening.

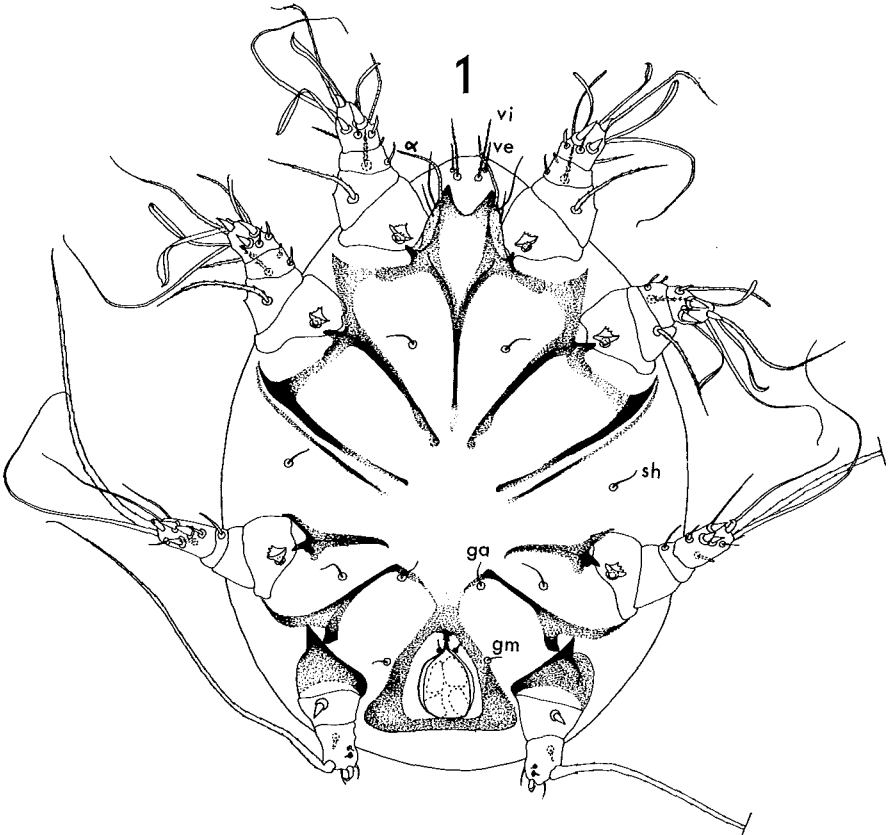


Fig. 1. — *Marmosopus setzeri* spec. nov., holotype venter.

Deposition of types. — Holotype in U. S. N. M. W. Type coll. no. 3746. Paratypes (40) within U. S. N. M. W.; British Museum (Natural History), London; Muséum National d'Histoire Naturelle, Paris; Rijksmuseum van Natuurlijke Historie, Leiden; The Acarology Laboratory, Columbus, Ohio; Zoologisches Museum Hamburg; Institute of Parasitology, Prague; Field Museum of Natural History, Chicago; Forschungsinstitut Senckenberg, Frankfurt; and in collections of authors.

### *Marmosopus dryas* spec. nov.

This up to now smallest species of the genus is related to *Marmosopus inca* FAIN & LUKOSCHUS, 1977. Both species share the characteristics presence of sejugal furrow on ventral side, presence of pygidial shield and short *sc i*.

Hypopus (Fig. 2, 4-7). — Holotype 169 long, 122 wide. In 10 paratypes the length varies from 150 to 197, the width from 103 to 132

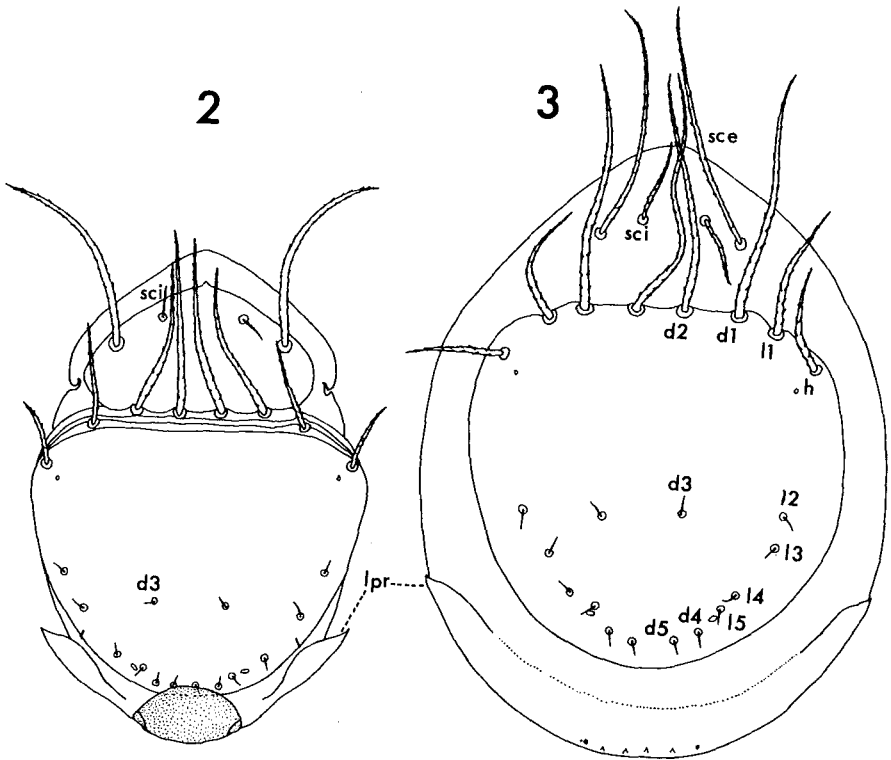


Fig. 2-3. — *Marmosopus dryas* spec. nov., holotype dorsum (2),  
*Marmosopus setzeri* spec. nov., holotype dorsum (3).

(average  $169 \times 118$ ). Venter (Fig. 4) like in *M. inca*, however *ve* smooth, *sh* distinct on soft cuticle laterad of epimera III, claws on legs IV small and simple, seta on femur-genu IV rhomboid. Chaetotaxy and solenidiotaxy as in *M. setzeri*. Details of legs I, III and IV in figures 5-7. Dorsum (Fig. 2): Three sclerotized shields and large lateral protrusions are present, acting for holdfast mechanisms in hair follicle. *Sci* thin and finely pectinated. Measurements of holotype in Table I.

**Host and locality.** — In follicles of the tail of a *Marmosa dryas*, Trujillo, Venezuela, 29 January 1966, Smithsonian Venezuela Project. Host in collection of U. S. N. M. W.

**Deposition of types.** — Holotype in U. S. N. M. W., type coll. no. 3745. Paratypes (21) in Washington, London, Paris, Leiden, Columbus, Hamburg, Chicago, Frankfurt, Antwerpen, and Nijmegen.

TABLE 1

Measurements of setae and solenidia in *Marmosopus* species.

	<i>Marmosopus</i> species					
	<i>peruvianus</i>	<i>mendezii</i>	<i>inca</i>	<i>crabilli</i>	<i>setzeri</i>	<i>dryas</i>
<i>ve</i> ... ..	10	14	13	5	9	5
<i>vi</i> ... ..	21	24	17	17	21	18
<i>sc e</i> ... ..	80	46	58	81	90	69
<i>sc i</i> ... ..	30	28	16	9	23	9
dorsal 1 ... ..	63	81	55	55	87	58
2 ... ..	60	81	55	55	81	64
4 ... ..	7	32	7	5	7	3
5 ... ..	7	15	5	4	5	3
lateral 1 ... ..	69	55	60	23	58	35
2 ... ..	10	26	9	5	6	5
3 ... ..	7	18	5	4	6	4
5 ... ..	5	22	6	5	5	4
humeral ... ..	70	28	56	16	37	23
solenidion <i>alpha</i> ... ..	23	18	20	18	27	20
intern palposoma seta ...	17	14	12	14	14	10
extern palposoma seta ...	8	13	7	5	8	5
modified seta leg I ...	40	39	46	52	53	49
II ...	40	44	50	41	59	39
III ...	104	107	111	85	130	97
IV ...	179	140	167	130	173	134
smooth seta leg I ...	71	58	58	48	69	54
II ...	74	56	65	52	75	46
III ...	115	77	78	49	93	56
seta femur I ... ..	29	19	29	22	33	23
II ... ..	32	18	30	23	39	27
<i>omega</i> 1 leg I ... ..	5	13	11	8	9	9
II ... ..	8	15	13	11	11	10
<i>omega</i> 3 ... ..	8	6	5	5	5	4
<i>phi</i> I ... ..	21	27	23	22	29	30
II ... ..	27	31	25	24	34	28
III ... ..	5	5	5	3	6	5
IV ... ..	3	2	3	2	4	2
<i>sigma</i> I ... ..	5	6	5	4	5	3
II ... ..	5	4	3	4	4	2
claw I ... ..	6	10	6	5	5	5
II ... ..	6	10	6	5	5	5
III ... ..	4	5	5	3	4	3
IV ... ..	4	6	9	3	4	4

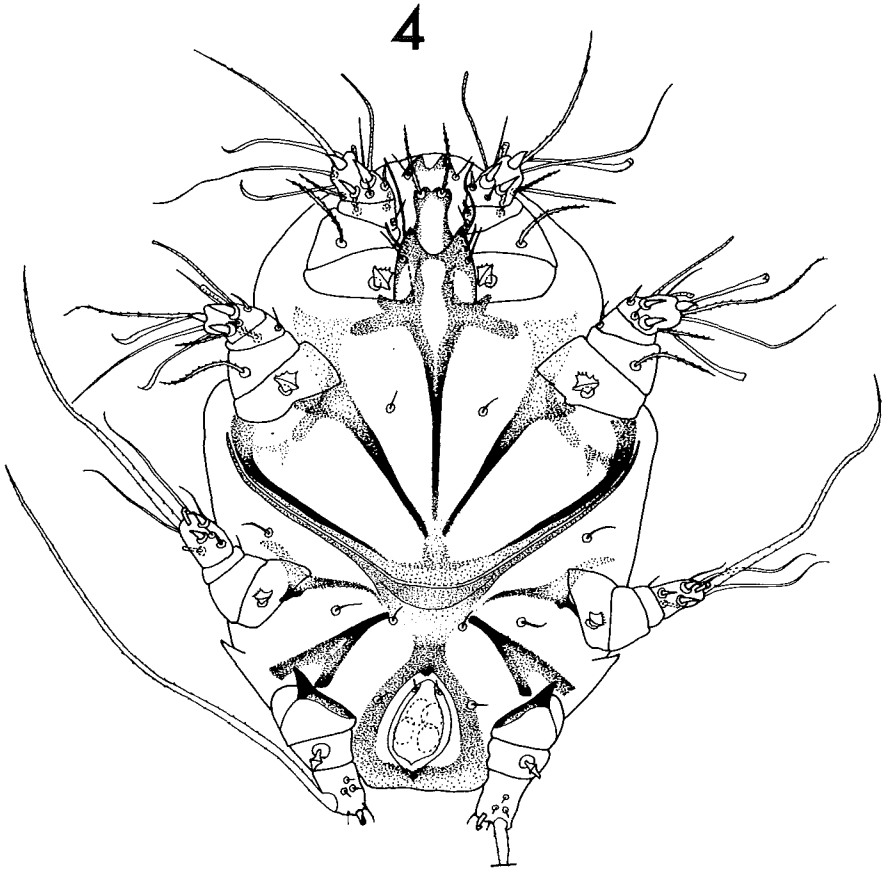


Fig. 4. — *Marmosopus dryas* spec. nov., holotype venter.

### *Marmosopus crabilli* spec. nov.

This species differs from the other species of genus by the position of setae *l 1* and *h* distinctly behind the level of *d 1* and *d 2*. We dedicate this species to Dr. R. E. CRABILL, Jr., curator of Myriapoda and Arachnida, Smithsonian Institution, Washington, D. C.

**Hypopus** (Fig. 11-15). — Holotype 226 long and 169 wide. In 10 measured paratypes average length 218 (188-254) and width 165 (141-188). Venter (Fig. 11) like *M. setzeri*, however *v e* thin and smooth, setae on femur-genu IV rhomboid. Chaetotaxy and solenidiotaxy like in *M. setzeri*. Details of legs I, III and IV in figures 13-15. Dorsum (Fig. 12) : Sejugal furrow distinct only in median region. First lateral seta and humeral seta distinct behind level of *d 1* and *d 2*. Lateral protrusions only small. Measurements of holotype in Table 1.

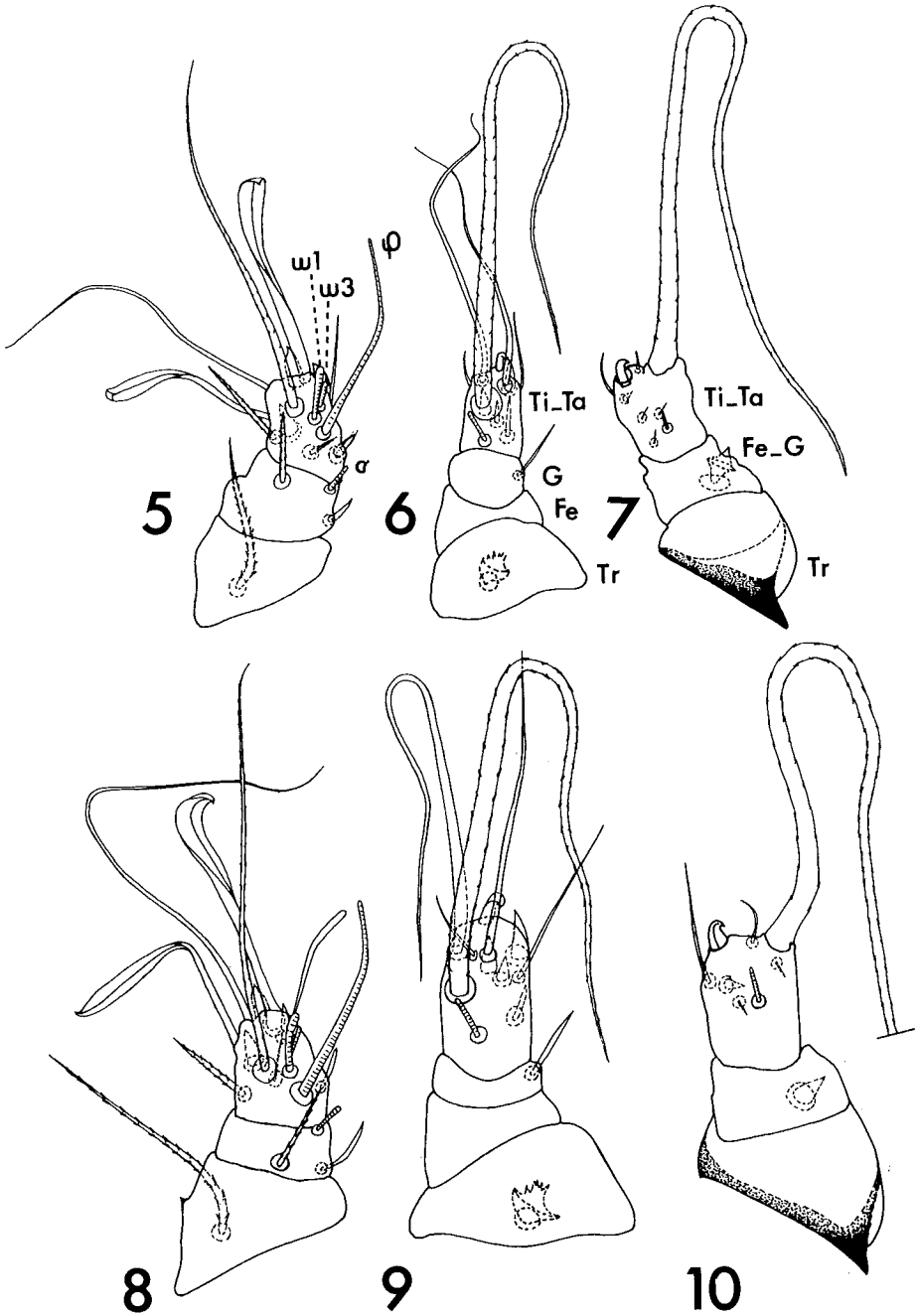


Fig. 5-10. — Legs I, III and IV of *Marmosopus dryas* spec. nov. (5-7) and *Marmosopus setzeri* spec. nov. (8-10).



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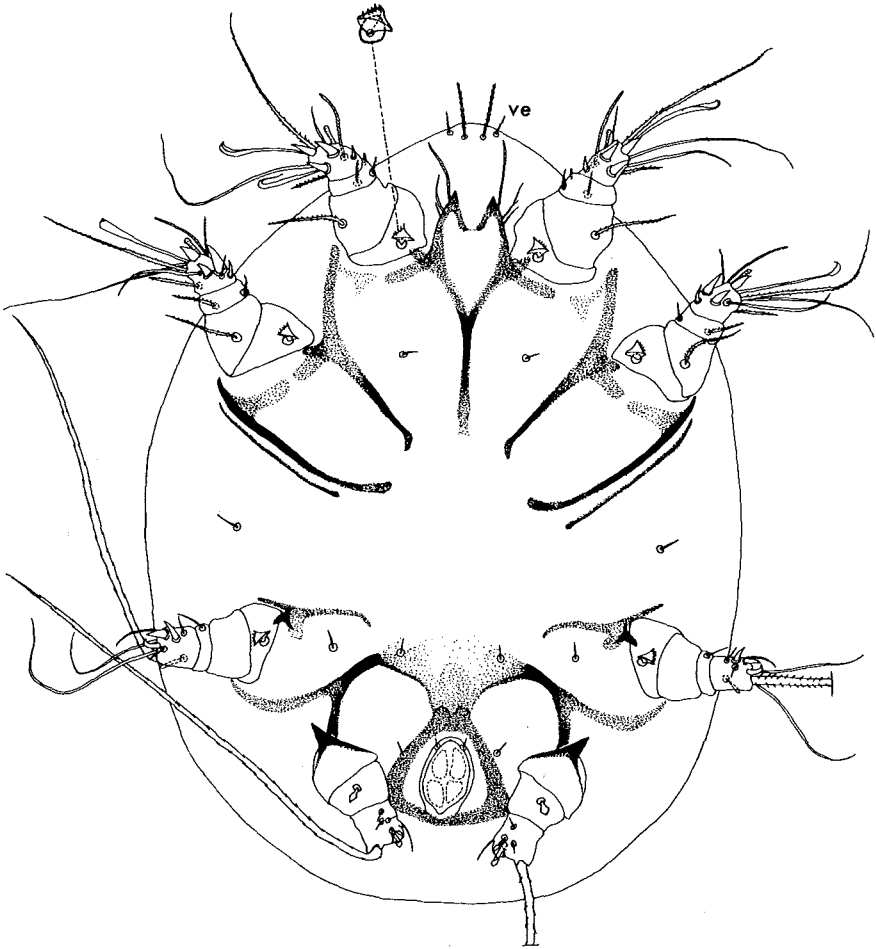


Fig. 11. — *Marmosopus crabilli* spec. nov., holotype venter.

Host and locality. — In tail follicles of *Marmosa fuscata*, Venezuela, collected by Smithsonian Venezuela Project. Host in U. S. N. M. W., coll. no. SVP 33 043.

Deposition of types. — Holotype in U. S. N. M. W., type coll. no. 3744. Paratypes (33) in Washington, London, Paris, Leiden, Columbus, Hamburg, Frankfurt, Prague, Antwerpen and Nijmegen.

#### ACKNOWLEDGEMENTS

We are obliged to Division of Mammals, Smithsonian Institution for the study facilities, and to Dr. B. O'CONNOR for critical review.

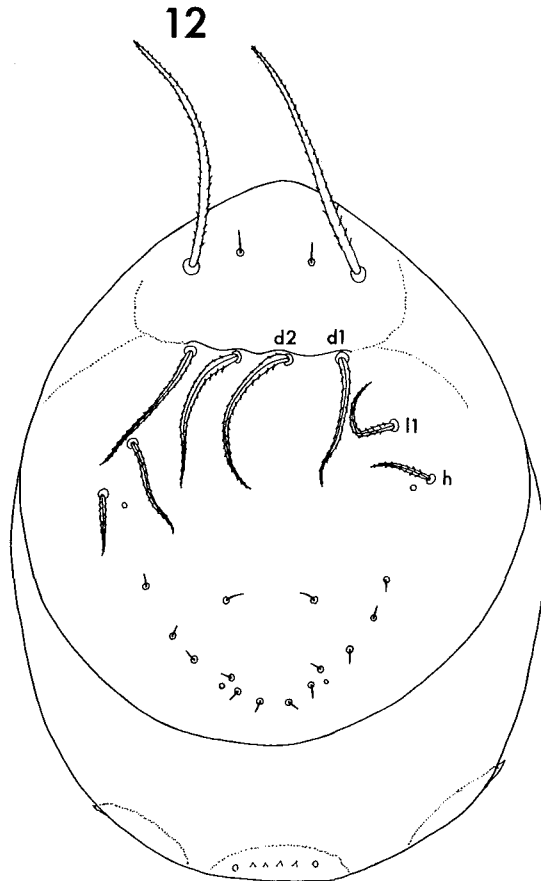


Fig. 12. — *Marmosopus crabilli* spec. nov., holotype dorsum.

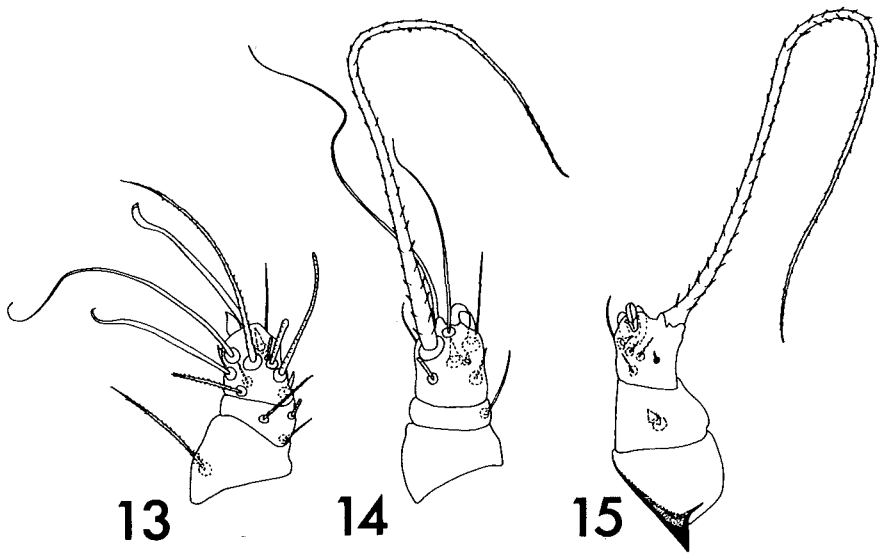


Fig. 13-15. — Legs I, III and IV of *Marmosopus crabilli* spec. nov.

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