

**DESCRIPTION OF *DESMANOPUS DESMANAE* N. COMB. (*LABIDOPHORUS DESMANAE*, ZACHVATKIN, 1941) (SARCOPTIFORMES: GLYCYPHAGIDAE),  
DESIGNATION OF A NEOTYPE FOR THIS SPECIES**

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---- **ABSTRACT** - Redescription of *Desmanopus desmanae* n. comb. (*Labidophorus desmanae*, Zachvatkin, 1941) (Acari : Sarcoptiformes: Glycyphagidae) is given and a neotype for this species is designated. -----

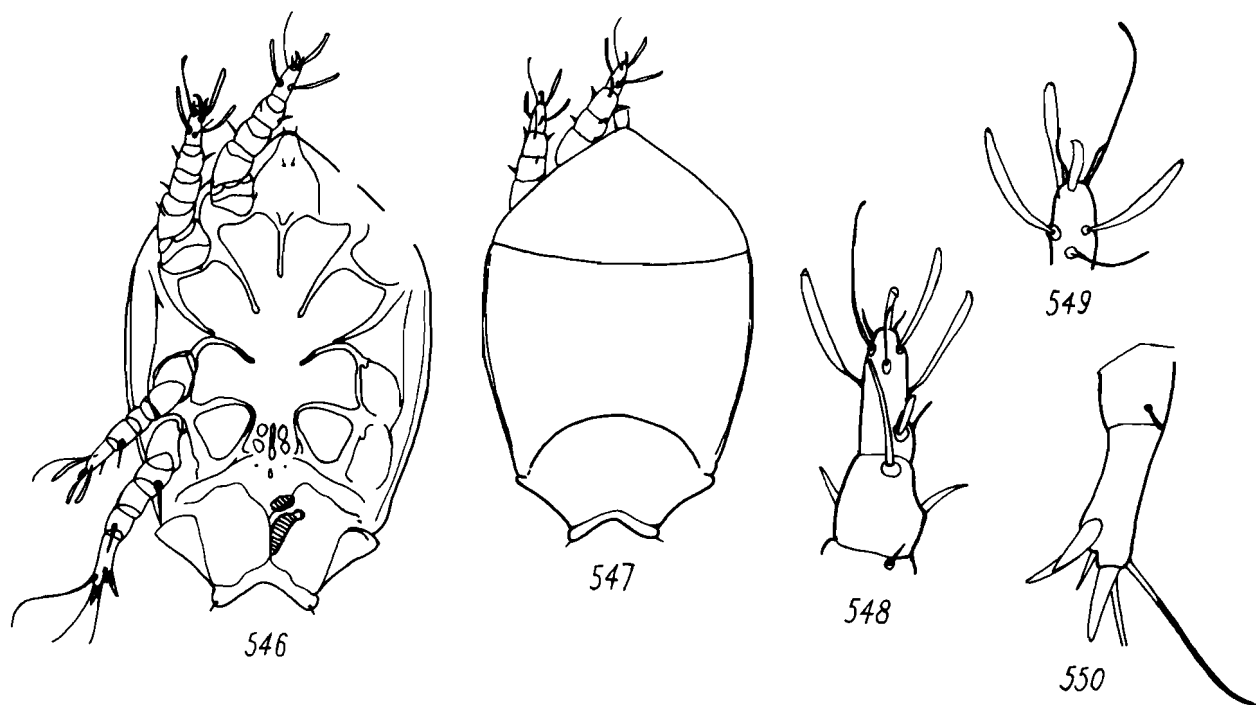
Zachvatkin (1941) has described the female and hypopus of the species from the nest of *Desmana moschata*. Unfortunately the type and paratype specimens are lost, the description and small figures, due to the technical equipment of that time, are without many details and measurements. Thus Fain (1969) in his revision of the hypopi phoretic on mammals regarded this species of uncertain systematical position, more related to *Orycteroxenus*, because of lateral protrusions and posterior furrow, than to *Labidophorus*.

Zachvatkin's description has been as follows in the English translation (Figs. 546-550): "Hypopus. This is pale yellow in color, the legs and sucking disc hardly darker than the rest of the body. The body is 1.4 to 1.5 times longer than its width, with an obtusely-angled anterior and strongly concave posterior edge; the lateral edges are slightly convex and almost parallel with each other from the level of the scapular region to the sharply protruding angles of the opisthosomal region; there they bend sharply and converge at a right angle towards the posterior angles of the body; the latter are strongly sclerotized and project like blunt cylindrical 'horns', which are slightly bent ventrally; *sa i* arise from the end of these 'horns'. The propodosomal shield is half the length of the hysterosoma; the opisthosomal region is very clearly defined, with a semicircular anterior edge. The arists are short and arranged in a rectangular shape. The sternum is well-developed; the ends of epimerites II almost touch epimeres III, which are free and separated by a wide space from epimeres IV; the latter are fused with the thickened edges of coxal fields IV, forming a closed 'frame'. The genital opening and the 'suckers' are small; the folds of the sucking disc have obtuse angles, which do not protrude at all beyond the body, their ridged internal surfaces are feebly developed; the anterior claspers are oval and slanting, with approximately 10 transverse ridges, the posterior are shaped like wedges, and have 14 to 15 ridges.

Legs I and II are fairly short; the setae of the trochanters are short, whilst the ventral setae of the tibia and the basal seta of the genu are thickened and resemble spines; the apical dorsal seta of the tibia is rod-shaped, blunted at the end and equal in length to the tibia. The tarsi are noticeable longer than the tibia, with 3 flattened narrow lanceolate setae. Legs III are equal in length to legs II and are fairly slender; their tarsi have 3 setae, similar in appearance to those on tarsi I and II; the ventral setae of the tibia and genu resemble pointed spines; the dorsal setae of the tibia is short, slightly expanded distally. Legs IV are slightly longer than legs III, their tarsi are almost twice as long as the tibia and noticeable widened distally; their ends bear large finger-shaped spines, a reduced claw and 3 moderately long thin setae and 2 small spine-shaped setae. Length 250 to 270  $\mu$ , width 170 to 180  $\mu$ ."

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Figs. 546-550: Reproduction of Zachvatkin's figures for *Labidophorus desmanae*, sp.n.; 546, ventral surface; 547, dorsal surface; 548, tibia and tarsus I (dorsal surface); 549, end of tarsus I (ventral surface); 550, tarsus IV (dorsal surface).

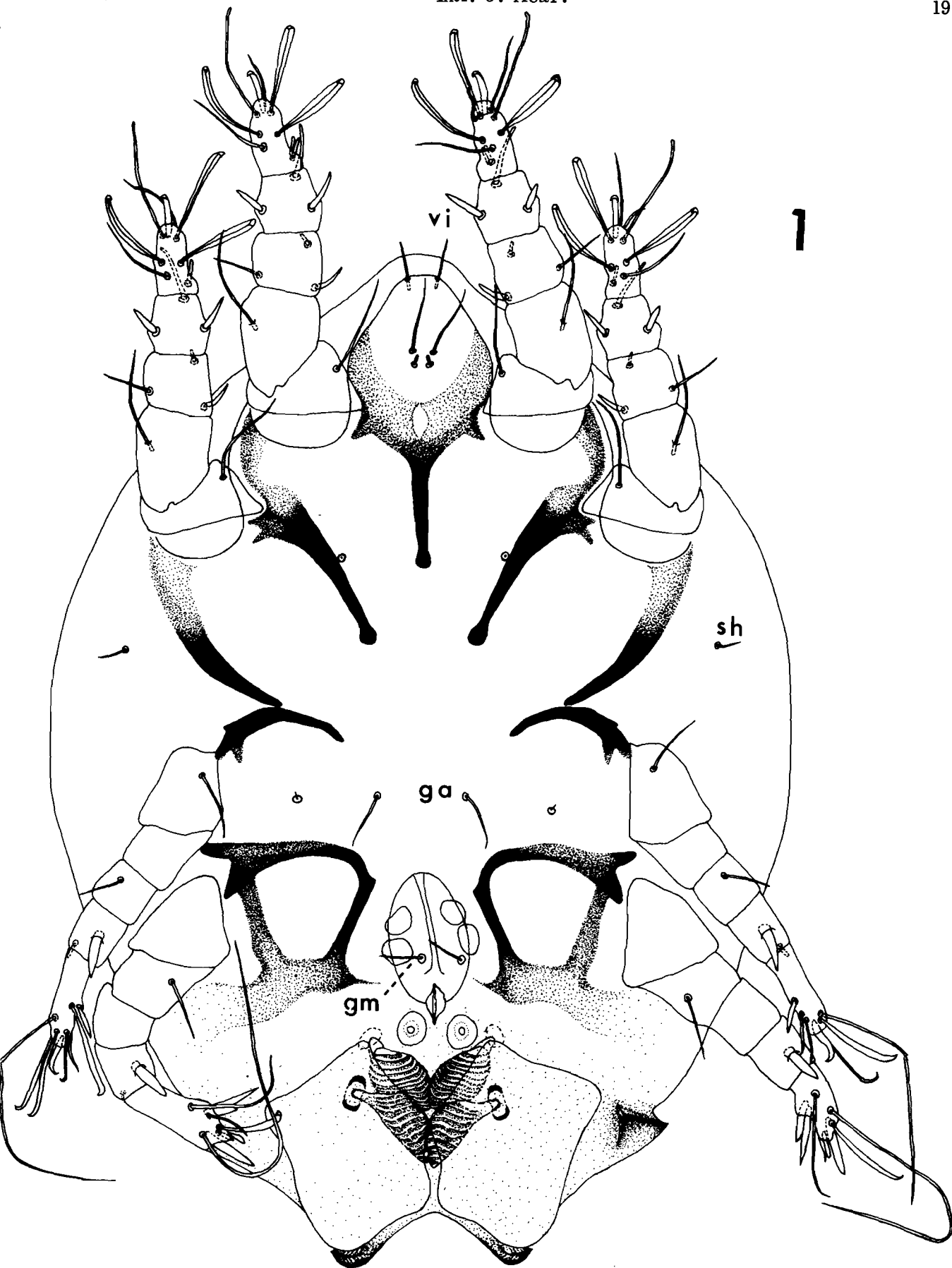
One of us (F.S.L.) has been successful in finding large numbers of hypopi, which fit in essential parts to Zachvatkin's description, on an alcohol preserved specimen of the typical host species in the collection of Rijksmuseum van Natuurlijke Historie, Leiden. We feel that re-description with more details and measurements are necessary.

The hypopi neither have the characteristics of genus *Labidophorus* Kramer, 1887 as defined by Fain (1969) nor those of *Orycteroxenus* Zachvatkin, 1941 *sensu* Fain (1969). In careful consideration between broadening the definition of one genus and the creation of a new monotypic genus, we decided for the latter, because of the unique composition of characters.

*Desmanopus* gen. nov.

**DEFINITION** — With the characteristics of subfamily Labidophorinae Zachvatkin, 1941 *sensu* Fain (1969). Hypopus of short oval form; sejugal furrow and posterior furrow well developed; lateral protrusions present on opisthosoma; epimeres I fused in Y-shape, epimeres II and III free, epimeres IV and epimerites IV fused, forming closed coxal fields. Legs normally developed, claws on legs I-III long and slightly curved, on legs IV straight and shorter. Piliocolous organ well developed. Absence of barbed and pectinated setae. Chaetotaxy of idiosoma: *vi*, *ve*, *sci*, *sce*, *d1-d5*, *11-15*, *h*, *sh*, *cx I*, *cx III*, and only one pair of palposoma setae. Chaetotaxy of legs: 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, solenidion *alpha* short.

**TYPE SPECIES** — *Labidophorus desmanae* Zachvatkin, 1941.



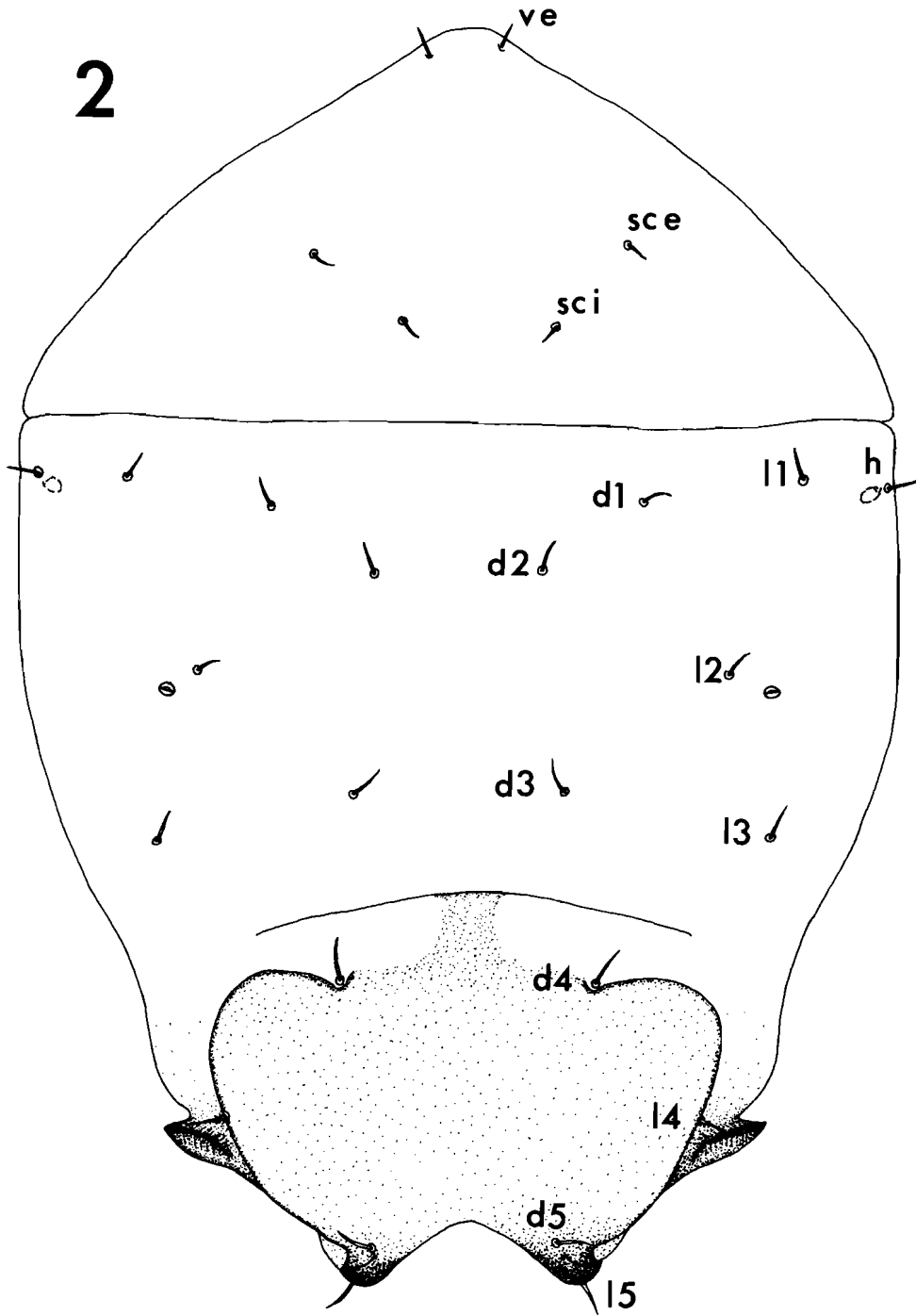
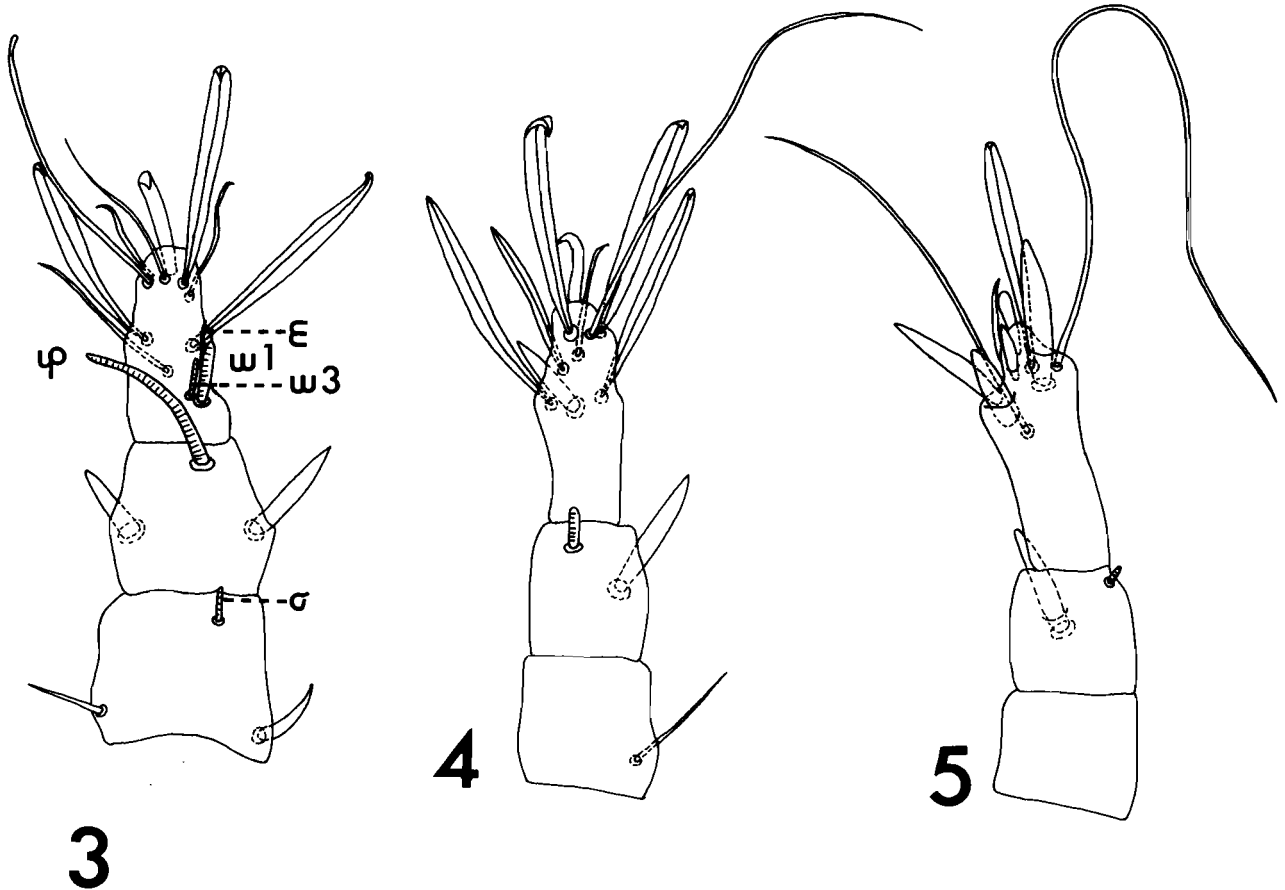


Fig. 2: *Desmanopus desmanae* (Zachvatkin, 1941)- neotype dorsum.

Fig. 1: *Desmanopus desmanae* (Zachvatkin, 1941)- neotype venter.



Figs. 3-5: *Desmanopus desmanae* (Zachvatkin, 1941); 3, leg I; 4, leg III; 5, leg IV (all in dorsal view).

#### Systematic position of genus *Desmanopus* g. n.

This new genus is distinguished from *Orycteroxenus* Zachvatkin, 1941, *Labidophorus* Haller, 1877 and *Marsupialichus* Fain, 1967 by the existence of only one pair of palposomal setae. It is distinct from *Dermacarus* Haller, 1880 by the presence of the *ve* setae, the presence of pointed projections on the lateral surface of the opisthosoma and the fusion of epimeres and epimerites IV. It is distinguished from *Dermacaroides* Fain and Caceres, 1973 by the presence of *ve* setae, the absence of triangular projection and of spines on the dorsal surface of the body and the fusion of epimeres and epimerites IV.

The new genus *Desmanopus* is more evolved (loss of one pair of palposomal setae) than the two other genera parasitizing Insectivora (*Orycteroxenus* and *Labidophorus*) or the single genus living on American Marsupials (*Marsupialichus*). It is still more primitive (persistence of the *ve* setae) than the two genera (*Dermacarus* and *Dermacaroides*) living on rodents. Therefore it constitutes a link between these two groups of genera.

*Desmanopus desmanae* (Zachvatkin, 1941), n. comb.  
(Figs. 1-5)

**HYPOPUS (NEOTYPE)** — Length 283  $\mu$ , width 212  $\mu$ . In 10 specimens measured length 281 (271-295)  $\mu$ , width 205 (201-212)  $\mu$ . With the characters of genus.

**VENTER** (Fig. 1) — Palposoma broad with only one pair of setae (21) and short solenidion alpha (2). *Vi* setiform (12). Coxal setae I and III tiny, not distinct in all specimens. Genital split (23) with two pairs of normal formed genital suckers; *ga* (21), *gm* (14); pilicoleous organ almost rectangular without posterior lateral protrusions; inner claspers with 11-13 ridges (23), outer claspers (33) with 11-14 ridges. Stronger sclerotized lateral protrusions of opisthosoma with dorsal and ventral ridge at level of outer claspers. Legs strong without protrusions on trochanters or femora of subequal length (tarsi 21, 19, 25, 30); claws on legs I-III strong, curved and of same form and length (13), on legs IV straight and smaller (9). In setation of legs, barbed and pectinated setae are absent; setiform on trochanters (24, 23, 8, -), femora (30, 27, -, 18) and ventrally on genua; spines on dorsal side of genua I and II, tibiae and tarsi III and IV; some dorsal setae are broadened. Details in figures 3-5. Solenidia *omega* 1 and 3 on basal part (9, 5), *phi* I-IV 19, 16, 5, 3; *sigma* I and II (4, 5).

**DORSUM** (Fig. 2) — Sejugal furrow well marked, posterior furrow distinct in dorsal part, posterior part of opisthosoma shield-like with ventrally curved strong sclerotized edges and typical concave border. All dorsal setae faible, setiform and short (5-8). Pores near humerals and laterals 2.

**HOST** — *Desmana moschata*, coll. nr. 6564 of Rijksmuseum van Natuurlijke Historie, Leiden, leg. by E. Dubois. Hypopi were found attached to the host on the ventral part of the abdomen, burrowed into the skin near the hair follicles, mostly in groups of 3-6 in one dimple.

**DEPOSITION OF SPECIMEN** — Neotype Rijksmuseum van Natuurlijke Historie, Leiden. Specimens from the host carrying the neotype (75): U.S. National Museum (Natural History), Washington, D.C.; Museum National d'Histoire Naturelle, Paris; British Museum (Natural History), London; Zoologisches Institut und Zoologisches Museum, Hamburg; Senckenberg, Frankfurt; Institute of Parasitology, Prague; Bernice P. Bishop Museum, Honolulu, Hawaii; Field Museum of Natural History, Chicago; Acarology Laboratory, Columbus, Ohio; Institut de Medecine Tropicale Prince Leopold, Antwerpen; Zoologisch Laboratorium, Catholic University of Nijmegen, The Netherlands.

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