

TWO NEW SPECIES OF GENUS *LOPHIOGLYPHUS* VOLGIN, 1964 (SARCOPTIFORMES: GLYCYPHAGIDAE) ¹

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----- **ABSTRACT** — *Lophioglyphus algericus* from tail hair follicles of *Gerbillus nanus* and *L. indicus* from *Tatera indica* are described and figured. Measurements of known species are compared. -----

In former studies on follicle inhabiting hypopi from rodents, Fain (1965) described *Lophuromyopus apodemi* from the European woodmouse, *Apodemus sylvaticus* Linn., which he later placed in the genus *Apodemopus* Fain, 1967, and *Apodemopus anathanae* from the tail hair follicles of *Anathana ellioti* (Waterhouse). Rearing hypopi to adults (Lukoschus et al., 1972) showed that the adults are conspecific with *Lophioglyphus liciosus* Volgin, 1964, collected in Russia from the nests of rodents.

Hypopi from the Japanese woodmouse *Apodemus speciosus* Temminck, which are very closely related to *L. liciosus* gave rise to distinctly different adults. These are described under *Lophioglyphus japonensis* Lukoschus, Kroos & Uchikawa (1977).

In alcohol preserved rodents in the Muséum National d'Histoire Naturelle at Paris and in the Smithsonian Institution at Washington, D. C. one of us (F. S. L.) collected hypopi of two additional species which will be figured and described here.

Key to the hypopi of the genus *Lophioglyphus* Volgin, 1964

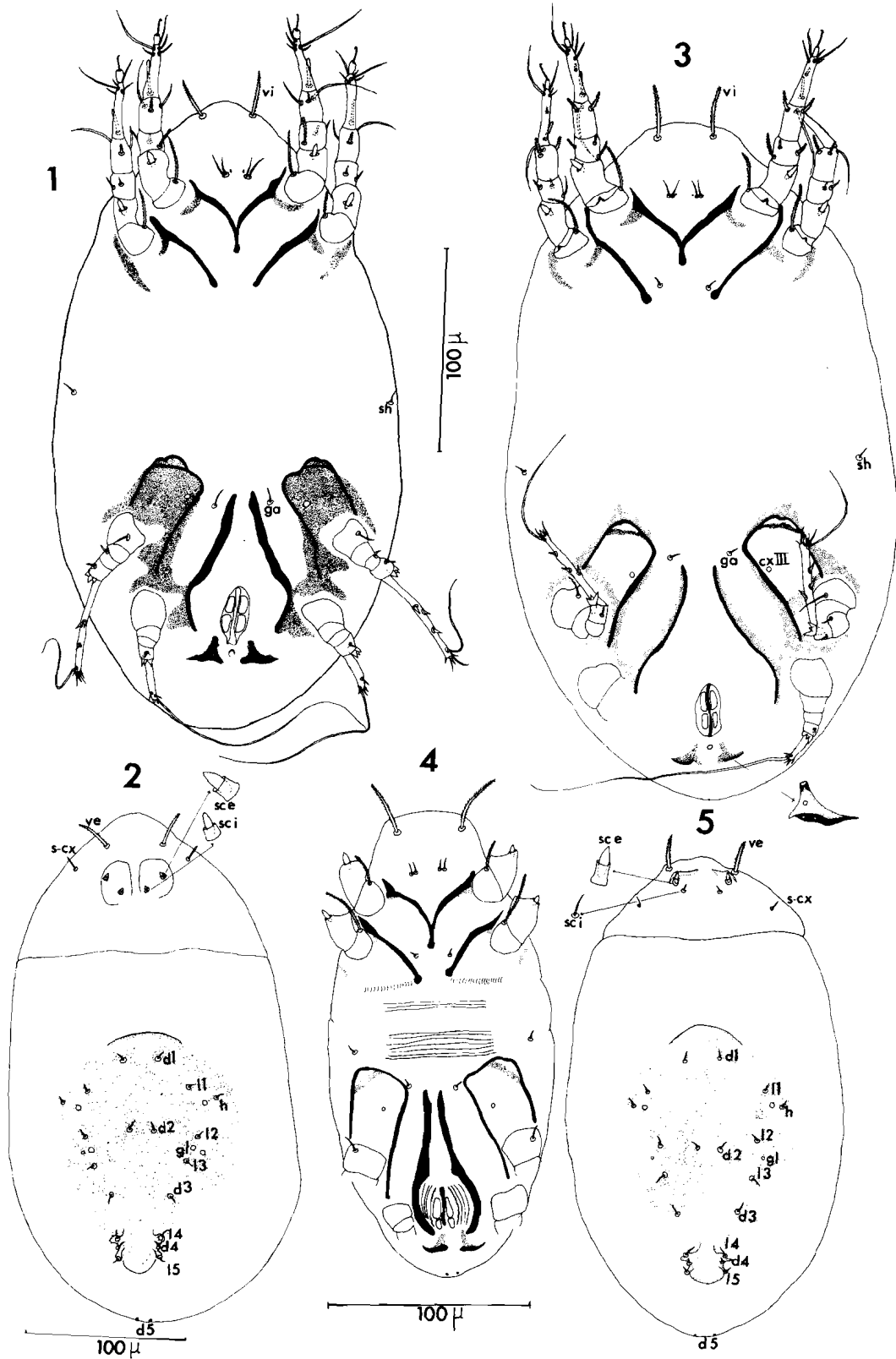
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|----|--------------------------------------|--|
| 1. | Setiform coxal setae I present | 2 |
| - | Setiform coxal setae I absent | 3 |
| 2. | <i>sci</i> spine shaped | <i>L. anathanae</i> (Fain, 1969) |
| - | <i>sci</i> setiform | <i>L. indicus</i> spec. nov. |
| 3. | <i>sce</i> setiform | <i>L. liciosus</i> Volgin, 1964 |
| - | <i>sce</i> spine shaped | 4 |
| 4. | <i>sci</i> setiform | <i>L. japonensis</i> Lukoschus et. al. |
| - | <i>sci</i> spine shaped | <i>L. algericus</i> spec. nov. |

Lophioglyphus algericus spec. nov.
(Figs. 1, 2, 7-9)

Known only from the hypopial stage. With the characteristics of genus *Lophioglyphus* Volgin, 1964 (= *Apodemopus* Fain, 1967).

HYPOPUS (Holotype) — Length 317 μ and width 172 μ , average in 10 paratypes measured 305 μ (254-344) long and 168 μ (134-190) wide.

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Figs. 1-2: *Lophioglyphus algericus* spec. nov. (Holotype)- 1. venter, 2. dorsum;
 Figs. 3-5: *Lophioglyphus indicus* spec. nov.- 3. venter of holotype, 4. venter of
 young paratype; 5. dorsum of holotype.

VENTER (Fig. 1) — Cuticle soft and white, legs and epimera yellow brown. Epimera I fused in Y-shape, II free, III and IV fused to closed coxal fields III. Genital opening with two pairs of genital suckers between separated praegenital shields. Pygidial shields with pointed ends arising from ventral surface on lateral sides of small anal pore. Gnathosoma with two pairs of setae and very short solenidia *alpha*. Coxal setae absent in coxal fields I, present in form of small white rings in coxal fields III. Legs (Fig. 7-9) with long praetarsi, long sickle shaped claws and deeply inserted femoral setae in legs I and II; without praetarsus, with spine like claw and three-pointed tibial setae in legs III and IV. Chaetotaxy of legs: tarsi 6-6-9-4, tibiae 2-2-1-1, genua 2-2-1-0, femora 1-1-0-0, trochanters 1-1-1-0. Solenidiotaxy: tarsi 2-1-0-0, tibiae 1-1-1-1, genua 1-1-0-0.

DORSUM (Fig. 2) — Strongly sclerotized dorsal shield. Sejugal furrow not always distinct in all paratypes. Region of scapular setae with somewhat stronger cuticula. Scapular setae in shape of strong, deeply inserted spines. Vertical setae finely pectinate. Hysterosomal setae short, setiform to small spines. Measurements as given in Table I.

HOST AND LOCALITY — In hair follicles of the tail of *Gerbillus nanus* Olivier, trapped by Rhodin in May 1975 near Djanef, Algeria. Host in alcohol collection of the Muséum National d'Histoire Naturelle at Paris.

TYPES — Holotype in MNHN, Paris. Paratypes (70) in Rijksmuseum van Natuurlijke Historie, Leiden; U.S. National Museum, Washington, D. C.; Institute of Acarology, Ohio State University, Columbus; British Museum (Natural History), London; B. P. Bishop Museum, Honolulu, Hawaii; Institute of Parasitology, Academy of Sciences, Prague; Institute of Parasitology, Shinshu University, Matsumoto City; Institut de Médecine Tropicale Prince Léopold, Antwerpen; Department of Zoology, Nijmegen.

Lophioglyphus indicus spec. nov.
(Figs. 3-6, 10-12)

Known only from the hypopal stage. With the characteristics of genus.

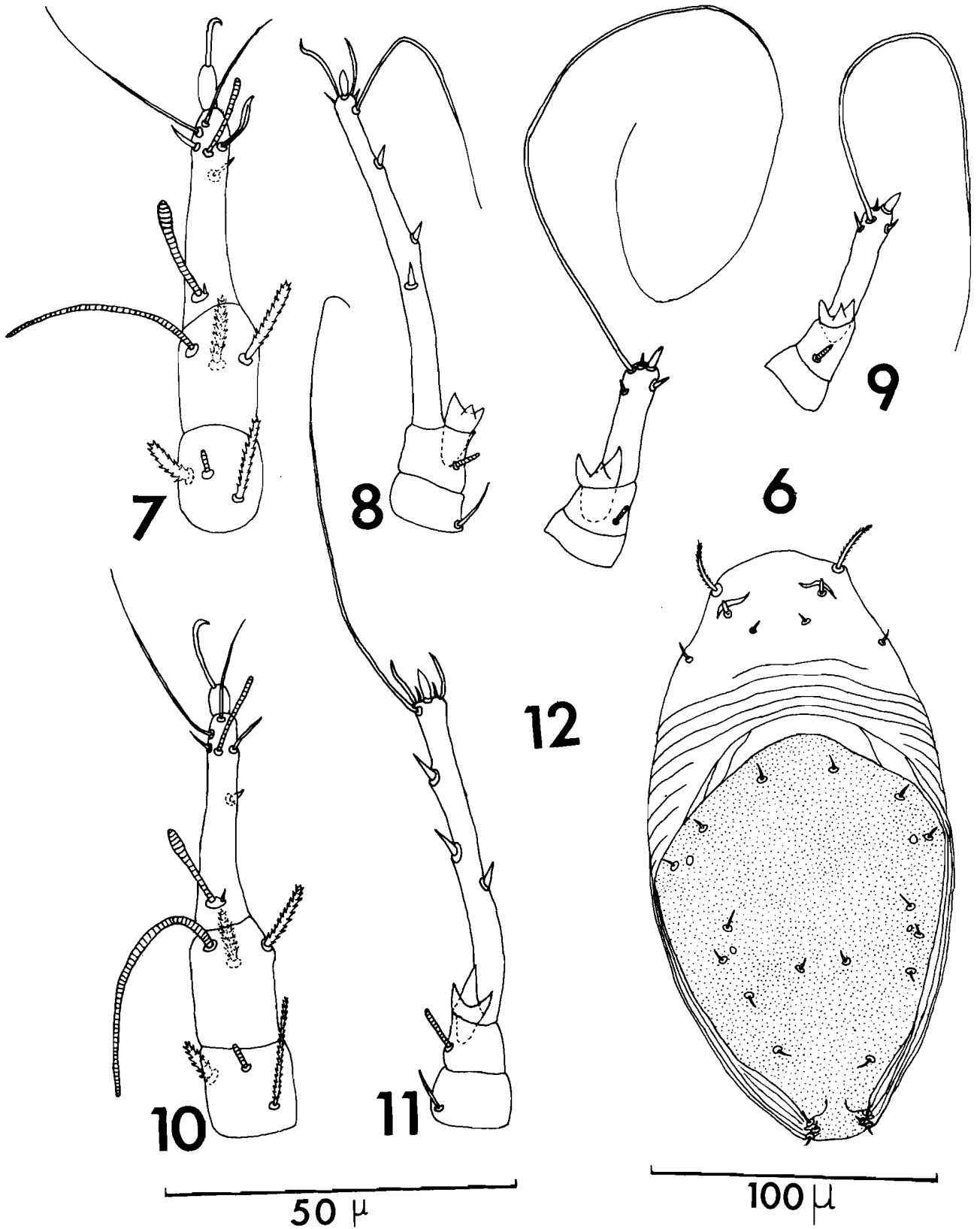
HYPOPUS (Holotype) — Length 300 μ and width 173 μ , average in 10 engorged paratypes 291 μ (252-333) long and 161 μ (140-193) wide.

VENTER (Fig. 3) — Similar to *L. algericus*, however coxal setae I present in setiform shape. Legs (Fig. 10-12) with the same chaetotaxy and solenidiotaxy.

DORSUM (Fig. 5) — Sejugal furrow distinct in all specimens. Propodosomal part strongly sclerotized and yellow. Strongly sclerotized extensions before *sc e* and between *ve*. *Sc e* spine like and deeply inserted, *sci* setiform. Young, only slightly engorged hypopi (Fig. 4, 6) with soft parts of cuticle wrinkled between praegenital shields and between epimera II and III. On dorsum wrinkled parts are present between dorsal shield and sejugal furrow and on sides of dorsal shield. This character is similar to engorging of *L. liciosus* (= *Apodemopus apodemi*) observed by Lukoschus, Fain & Driessen (1972).

HOST AND LOCALITY — *Tatera indica* Hardwicke, trapped by R. G. Juck, 23 July 1965, Jars. Prov., Iran. Host in Smithsonian collection, no. 375 034.

TYPES — Holotype in Smithsonian Institution, Washington, U.S.A. Paratypes (50) in Leiden, Washington, Paris, Columbus, London, Honolulu, Prague, Matsumoto City, Antwerpen, Nijmegen and Forschungsinstitut Senckenberg, Frankfurt.



Figs. 6, 10-12: *Lophioglyphus indicus* spec. nov. - 6. dorsum of a young paratype, 10. Leg I, 11. Leg III, 12. Leg IV; Figs. 7-9: *Lophioglyphus algericus* spec. nov. - 7. Leg I, 8. Leg III, 9. Leg IV.

TABLE 1. Comparison of measurements in the genus *Lophioglyphus*
(Measurements of engorged hypopi in μ).

Measurements of	<i>algericus</i>	<i>indicus</i>	<i>japonensis</i>	<i>liciosus</i>	<i>anathanae</i>
Body length					
average	305	291	355	322	300
minimum	254	252	313	282	
maximum	344	333	380	370	
Body width					
average	168	161	212	183	165
minimum	134	140	152	163	
maximum	190	193	230	214	
<i>cx I</i>	-	4	-	-	
<i>cx III</i>	0	0	0	0	
<i>ga</i>	6	5	10	6	
<i>vi</i>	21	28	33	24	28
<i>ve</i>	21	26	29	19	27
<i>sci</i>	3	6	6	9	6
<i>sc e</i>	4	9	6	9	6
<i>s cx</i>	7	9	4	5	
<i>h</i>	4	5	5	5	
<i>sh</i>	3	6	4	6	
Lateral					
1	3	5	5	7	
2	3	5	6	6	
3	4	6	6	6	
4	5	7	7	5	
5	3	4	5	6	
Dorsal					
1	4	6	6	8	
2	3	5	4	6	
3	5	6	5	6	
4	3	4	4	6	
5	0	0	0	0	
<i>phi</i>					
I	23	35	23	33	50
II	19	32	21	21	30
III	3	6	4	5	
IV	2	5	3	3	
<i>omega</i>					
1 I	10	13	10	6	
3 I	8	12	11	12	
tarsus					
I	22	27	30	24	31
II	23	26	31	24	
III	40	46	48	48	50
IV	15	15	16	13	19
praetarsus I	6	6	6	11	7
claw I	6	10	9	6	6
tarsal seta III	40	70	66	70	
IV	97	139	106	102	
palposoma setae	9	8	11	11	

REFERENCES

- Fain, A. (1965). Nouveaux genres et espèces d'Acariens Sarcoptiformes parasites. Rev. Zool. Bot. Afr., 72: 252-256.

- Fain, A. (1967). Nouveaux hypopes vivant en association phorétique sur les rongeurs et les marsupiaux (Acarina: Glycyphagidae). *Acarologia*, 9: 415-434.
- Fain, A. (1969). Les deutonymphes hypopiales vivant en association phorétique sur les mammifères (Acarina: Sarcoptiformes). *Bull. Inst. r. Sci. nat. Belg.*, 45: 1-262.
- Lukoschus, F.S., A. Fain and F.M. Driessen. (1972). Life cycle of *Apodemopus apodemi* (Fain, 1965) (Glycyphagidae: Sarcoptiformes). *Tijdschr. v. Entomol.*, 115: 325-339.
- Lukoschus, F.S., A. Kroos and K. Uchikawa. (1977). *Lophioglyphus japonensis* spec. nov. (Acarina: Glycyphagidae) from *Apodemus speciosus* (Rodentia: Muridae). *Bull. Nat. Sci. Mus. Tokyo, Ser. A. (Zool.)*, 3: 9-17.
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