

**A NEW HYPOPIAL NYMPH FROM THE HAIR FOLLICLES OF THE EASTERN CHIPMUNK, *TAMIAS STRIATUS* L. (Acarina: Glycyphagidae)<sup>1</sup>**

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**ABSTRACT**

A new species of hypopial nymph, *Aplodontopus sciuricola*, is described from the eastern chipmunk, *Tamias striatus* Linnaeus. The mites were found living in the hair follicles on the tail of the host which was collected in Charlestown, R.I.

A new type of hypopial nymph represented by two new species was reported from African rodents by Fain (1965a), one from a Congolese rat and the other from a South African squirrel. The genus *Rodentopus* was erected for these two forms which were later placed (1965b) in a new subfamily Rodentopinae of the family Glycyphagidae. At the same time another genus, *Lophuromyopus*, was established. Subsequently Fain (1967a, b) created two additional subfamilies, Echimyopinae and Lophuromyopinae, to accommodate a variety of new genera and species mostly from the hair follicles of African and South American mammals. One species, *Aplodontopus latus*, was described from the ground squirrel, *Aplodontia rufa*, collected in British Columbia, Canada.

During the course of our studies on vertebrate ectoparasites we were prompted to examine additional hosts in search of the follicular hypopi. In the eastern chipmunk, *Tamias striatus* Linnaeus, a form was found which differs significantly from *A. latus*, the only described species in the genus *Aplodontopus* (subfamily Lophuromyopinae) and is here described as new. Although the genus *Aplodontopus* appears intermediate between the subfamilies Lophuromyopinae and Rodentopinae we prefer to keep it provisionally in the subfamily Lophuromyopinae until it has been studied further.

We want to acknowledge with thanks the contribution of Mr. Gordon Day for his collecting of the hosts as well as for the initial recovery of the mites from the chipmunks.

*Aplodontopus sciuricola* Hyland & Fain, new species  
(Figures 1-5)

Description is based on the hypopal stage, the other stages being unknown at the present. Included with the measurements of the holotype are the extremes of variation among the six paratypes (in parentheses).

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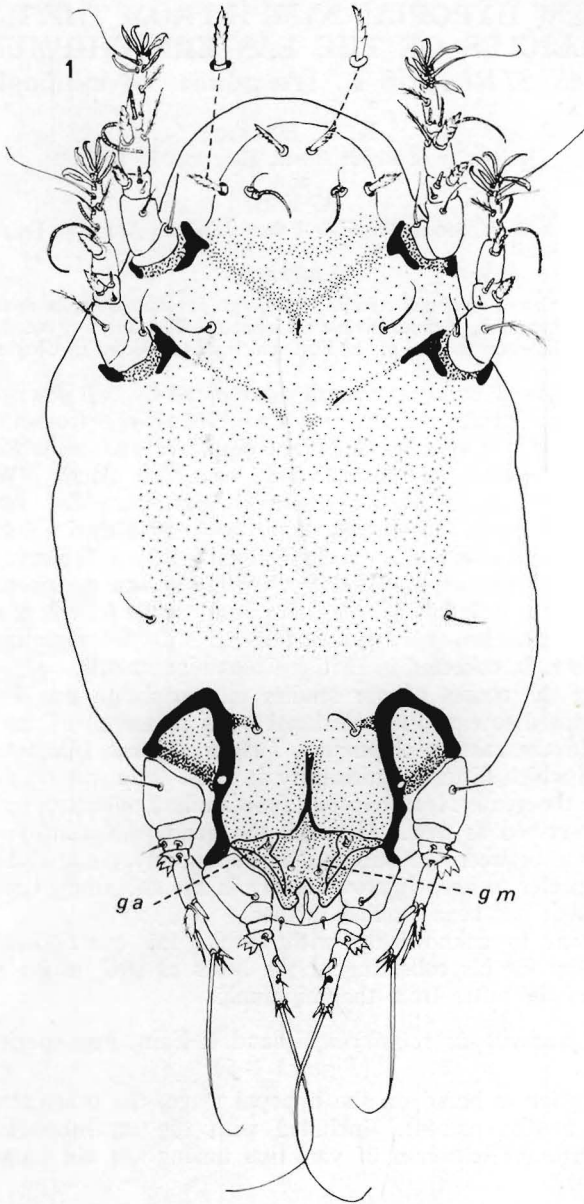


FIG. 1. *Aplodontopus sciuricola* n. sp. Holotype. Hypopus, ventral view.

## HYPOPUS

Holotype 363 microns long, 204 wide (338 to 394 long; 194 to 238 wide). Enlarged anteriorly and possesses a ventro-anterior projection, the palposoma (= gnathosoma) (see Fain, 1968, for a definition of term), which is equipped with three pairs of setae and a pair of solenidia. Integument generally weak with fine punctations over most of dorsum; venter slightly punctate medially. Sejugal groove posterior to leg II but anterior to middle of body.

**DORSAL FACE:** Vertical external setae (*v e*) located on anterior border, barbed, slightly curved and 16 microns long (13 to 16). Vertical internal setae (*v i*) located ventrally on the palposoma. Scapular setae (*sc i*, *sc e*) placed in front of sejugal groove, 11 microns long, without barbs, and slightly bifurcate apically. Dorsal and lateral setae similar in size and shape to scapulars except for *d 5* and *l 5* which are located on the pygidial sclerite; *d 5* is fine, *l 5* more robust with a broad base. Humeral setae (*h*) similar to scapulars.

**VENTRAL FACE:** Palposomal projection approximately 50 microns long by 75 wide. Vertical internal setae (*v i*) positioned near the anterior border of this projection, are slightly barbed and 21 microns long (17 to 21). Palposomal setae consist of a pair of stout barbed setae 18 microns long (17 to 20) located externally (laterally), a pair of small, nude, filamentous setae 11 microns long (10 to 14) located internally (medially), and a pair of solenidia 21 microns long (19 to 21) on line between the other two pairs.

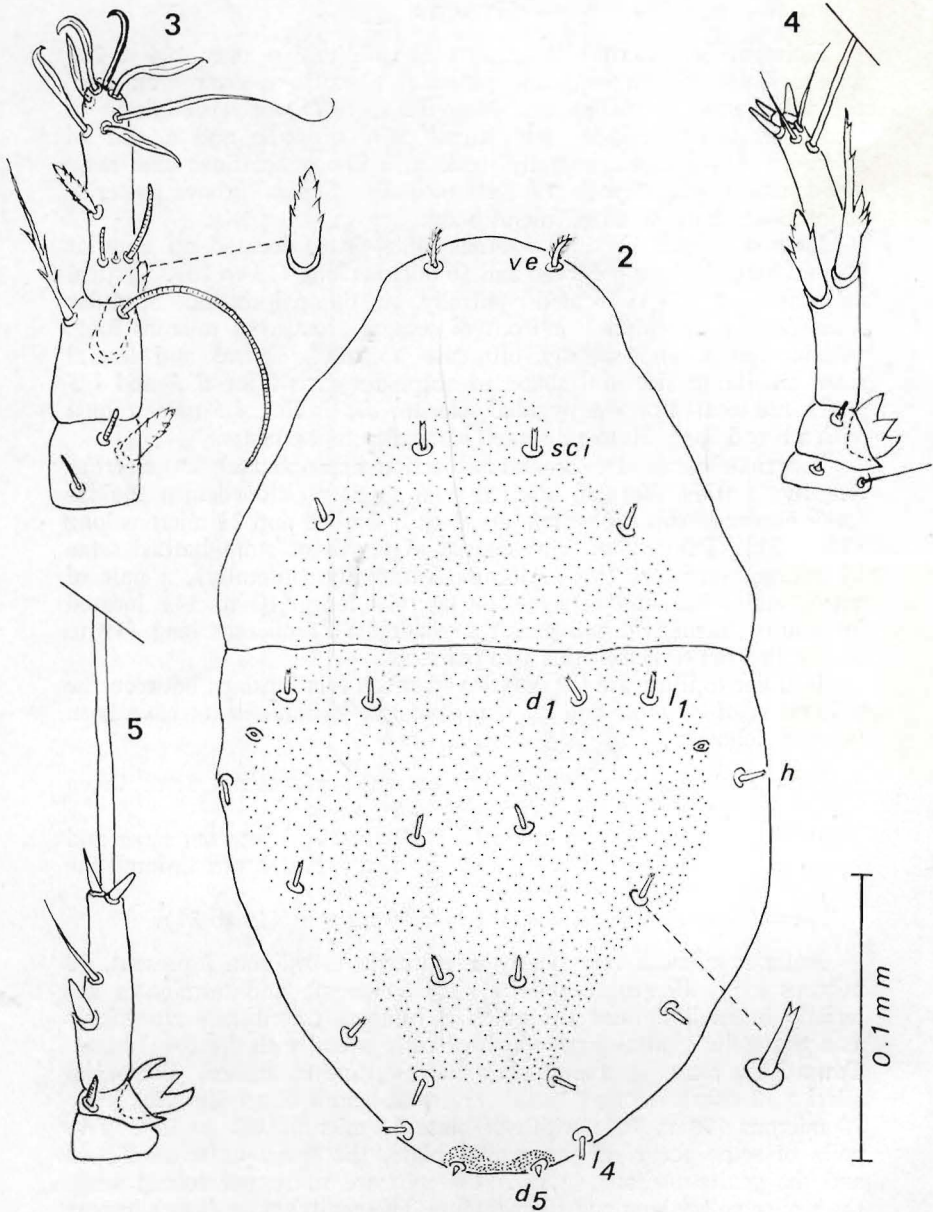
In order to illustrate the length and width relationships between the palposoma of *A. latus* and *A. sciuricola* two measurements have been taken as follows:

Dpe = Distance between the two external palposomal setae taken from the centers of their respective bases.

Dvs = Distance between the level of the vertical internal setae and the solenidia taken from an imaginary line drawn through the centers of their bases.

Dpe = 66 microns (62 to 66); Dvs = 19 microns (19 to 21).

Anterior epimera very poorly sclerotized. Coxal seta I present, 30 microns long. Pregenital sclerite single, elongate and terminates anteriorly in an ill-defined tip which is bifurcate; continues posteriorly as a triangular genital plate which extends laterally to the coxal bases. Toward the rear the genital plate narrows and is incised. Pregenital sclerite 32 microns long (29 to 34); total length of sclerite plus plate 70 microns (70 to 78); width of plate 67 microns (67 to 73). Two pairs of setae occur on the genital plate, the genito-anteriors (*g a*) and the genito-medians (*g m*). The *g a* are short and robust while the *g m* setae are long and filamentous. The genital plate covers in part the genital orifice and the genital suckers emerge from the terminal incision. The pygidial sclerite located terminally and dorsally, is



FIGS. 2-5. *Aplodontopus sciuricola* n. sp. Holotype. Hypopus. Dorsal view (FIG. 2); Leg I (FIG. 3); Leg III (FIG. 4); and Leg IV (FIG. 5).

poorly developed and lacks the lateral projections found in the genus *Lophuromyopus*. It possesses the setae *l* 5 and *d* 5 as described above.

**CHAETOTAXY OF LEGS:** Tarsus I with seven setae, five of which are foliate, one is barbed, and the other long and nude. Two solenidia, omega I and III, are positioned side by side on the basal quarter with a microseta (epsilon) located between them. Claw simple, recurved, 11 microns long (10 to 12) and without ambulacrum. Tarsus II similar to I except that there is an additional simple seta, and solenidion omega III is lacking. Tarsus III elongate, 45 microns in length (39 to 45) with a total of eight setae and spines. Near the middle of the segment are two very stout barbed setae one of which has a prolongation also minutely barbed; subapically a long filamentous one; apically a very stout spine, two smaller ones, and two simple setae. Tarsus IV shorter, 30 microns long (25 to 30) with five setae consisting of a short robust seta and a nude attenuate one near the middle; apically two strong spines and one long nude filamentous seta.

Tibia I and II bear one long solenidion, one short, stout, slightly barbed seta plus a long and slender minutely barbed one. Tibia III and IV possess a large subtriangular tridentate seta plus one small solenidion. Genu I and II each with a large stout slightly barbed seta, a nude microseta and a solenidion; III with one nude seta and a short stout solenidion; IV without setae. Femur I and II with one long minutely barbed seta each; III and IV without setae. Trochanters each with a nude filamentous seta.

**DIAGNOSIS:** *Aplodontopus sciuricola* differs from *A. latus*, the only other known species, primarily in the area of the palposoma where the setae differ in size and shape, and the dimensions of the palposoma itself differ. The vertical internal setae are longer in *A. sciuricola* (17 to 21 microns) than in *A. latus* (13 to 15). The external palposomal setae are likewise longer (17 to 20 microns), broader and more densely barbed than in *A. latus* (11 to 15); the solenidia are also longer (19 to 21 microns) than in *A. latus* (16 to 18). Perhaps the most significant difference is the ratio of palposomal length to width. If the *Dvs* (see above) is taken as a measure of the length, and *Dpe* as a measure of the width, the palposoma of *A. latus* is found to be never more than twice as wide as long, whereas in *A. sciuricola* the palposoma is always at least three times as wide as long. In addition the pregenital sclerite is slightly bifurcate at its anterior tip but this has not been observed in any of the type material of *A. latus* studied. The genital plate is more strongly punctate than in *A. latus*.

**Type material:** Holotype and six paratypes were obtained from the hair follicles on the tail of the eastern chipmunk, *Tamias striatus*, collected in Charlestown, Rhode Island, 11 July 1966 (No. 66-VII-11-1) by Mr. Gordon Day. Holotype and one paratype will be deposited in the United States National Museum. Paratypes are located at the Institut de Médecine Tropicale Prince Léopold, Antwerp, Belgium,

and the Department of Zoology, University of Rhode Island, Kingston, R.I.

*Comments:* *Aplodontopus sciuricola* is the first hypopial nymph reported from the hair follicles of North American Sciuridae, *A. latus* having been described from the family Aplodontiidae. Hypopi were reported by Mr. Day (personal communication) as occurring on other but not all specimens of *T. striatus* collected in the environs of Kingston, R.I., during the summer of 1966.

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