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**GRAMMOLICHUS ELIOMYS** (GLYCYPHAGIDAE), 
A NEW MITE WITH ENDOFOLLICULAR HYPOPI IN THE TAIL 
OF THE DORMOUSE **ELIOMYS QUERCINUS OPHIUSAE** THOMAS 
(RODENTIA, GLIRIDAE) IN FORMENTERA ISLAND, SPAIN

BY M. PORTÚS¹ and A. FAIN²

**TAXONOMY**

**LIFE CYCLE**

**SUMMARY**: The evolutive cycle of a new mite, Grammolichus eliomys sp. n. with endofOLLICULAR hypopi in the tail of the dormouse, Eliomys quercinus ophiusae Thomas, from Formentera Island (Pitiusas, Spain) is described. The systematic position of the genus Grammolichus Fain, 1968 is discussed.

**TAXONOMÍA**

**CICLO BIOLÓGICO**

**RESUMEN**: Se describe el ciclo biológico completo de una nueva especie de ácaro, Grammolichus eliomys sp. n., con hipopus parasitos de la cola del liron careto de Formen­tera (Pitiusas, España), Eliomys quercinus ophiusae Thomas (Rodentia, Gliridae) y se discute la posición sistemática del género Grammolichus Fain, 1968.

**TAXONOMIE**

**CYCLE ÉVOLUTIF**

**RÉSUMÉ**: Le cycle évolutif de Grammolichus eliomys sp. n. est décrit. L’hypope vit dans les follicules pileux chez Eliomys quercinus ophiusae Thomas, dans l’île Formentera (Pitiusas, Espagne) et les adultes sont libres. La position systématique du genre Grammolichus Fain, 1968 est discutée.

During the study of the ectoparasites of Spanish small mammals, one of us (M. P.) isolated a great number of hypopi endofolicular belonging to the genus Coccyopus Fain, 1969, from the tail of some specimens of Eliomys quercinus ophiusae Thomas, from Formentera Island (Pitiusas, Spain). From the litter of the cage occupied by one of the dormice during some time, it was also possible to isolate all developmental stages (males, females, tritonymphs, protonymphs and larvae) of a mite belonging to the genus Lophuromyopus subgenus Grammolichus Fain, 1968. One of the tritonymphs had the exuvia of the hypopi which enabled the relationship between both forms to be established.

**SYSTEMATIC POSITION**

**OF THE GENUS GRAMMOLICHUS**

The genus Grammolichus Fain, 1969 was erected to include adults of six new species collected from Rodents’ and Birds’ nests in Africa.

The discovery of the life cycle of one of these,

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Grammolichus hirundinis Fain, 1968 enabled to observe that hypopial stage corresponded to the genus Lophuromyopus Fain, 1965. This suggested that all the adults described as Grammolichus belong to the genus Lophuromyopus (Grammolichus) Fain, 1968, which would include, also, the hypopi of Lophuromyopus with short claws I and II and with strong simple spines on femur I and II.

The genus Coccyopus Fain, 1969, was separated from the genus Lophuromyopus Fain, 1965 to include those hypopi with short pretarsi I and II.

The discovery of the life cycle of Grammolichus eliomys with adults corresponding to one genus (Lophuromyopus (Grammolichus)) and hypopi corresponding to another (Coccyopus) proves, once more, that the classification based on the hypopi does not coincide always with that based on the imagos.

We think that Grammolichus must be transferred, again, to genus level to include all those species for which adults are known (G. rwandae Fain, 1968; G. ploceanus Fain, 1968; G. hirundinis Fain, 1968; G. aureliani Fain, 1968; G. malukuensis Fain, 1968 y G. tikai Fain, 1968), and to maintain provisionally the rest (Lophuromyopus (Grammolichus) and Coccyopus) in the genus in which they were originally described, until their corresponding adult forms are known.

Family GLYCYPHAGIDAE Berlese, 1887
Subfamily LOPHUROMYOPINAE Fain, 1967
Genus GRAMMOLICHUS Fain, 1968
Grammolichus Fain, 1968 a
Lophuromyopus (Grammolichus) Fain, 1968 b

Grammolichus eliomys spec. nov.

Adults are close to G. malukuensis Fain, 1968, nevertheless they could be differentiated by their bigger size, the presence of claws on pretarsi the kind of striation of the cuticule and the length of the pseudotraechae, which are longer and cylindrical.

G. eliomys is distinguished from G. rwandae and G. ploceanus by the shorter length of the lateral setae.

Hypopi differ from all those described belonging to the subgenus Grammolichus by the length of the pretarsi and claws I and II, the claw being more than twice as long as the pretarsus, which is very short. This characteristic makes this hypop similar to those of the genus Coccyopus Fain, 1969. Like C. funisciuri (Fain, 1967) and C. sinensis Fain, 1969, this hypopus has seta l₄ transformed into a short spine.

Female (Holotype) (Figs. 1-2). — Idiosoma ellipsoidal; Length 520 μ; width 351 μ. The tegmen covers the gnathosoma and the palpi completely. Cuticule strongly striated. On the dorsal side, striation is directed to the middle of the body. Vulva with the posterior lip large, of 99 μ on its base. Epignym well distinguished.

Idiosomal setae short: sci 23 μ; sce 26 μ; l₁ 33 μ; l₂ 46 μ; l₃ 48 μ; hi 38 μ. Tarsi I and IV 73 and 83 μ respectively.

Male (Allotype) (Figs. 3-4). — Length of the idiosoma 416 μ (435 in a male paratype), width 260 μ (273 in a paratype). Dorsal striation stronger than in the female and with a dendritic aspect in the middle. Pseudotraechae shorter than in the female, in relation to the size of the bursa. In the ventral region the cuticular striation is interrupted at both sides of the penis in two spotted areas.

Sternum 33 μ long.

Penis 63 μ long, with the genital suckers slightly forward from the middle point.

Idiosomal chaetotaxy: sci 18 μ (20 μ in a paratype); sce 18 (20) μ; d₁ 13 (15) μ; d₂ 10 (10) μ; d₃ 36 (46) μ; hi 30 (40) μ; l₁ 26 (18) μ; l₂ 36 (46) μ; l₃ 33 (43) μ; l₄ 26 (36) μ; l₅ 23 (26) μ; d₅ 18 (20) μ.

Legs are shorter and stronger than in female. All the tarsi have an apical claw well developed and with incisions. Tarsi I and IV 63 (66) μ and 69 μ respectively.
Fig. 1: Grammolichus eliomya sp. n., female (ventral view).
**Tritonymph** (Fig. 6). — (Measurements from 4 specimens). Length 343 (332-354) μ, width 225 μ. Cuticula with an irregular striation. Propodosomal shield present and with ve, which are the only pair of dorsal setae without pectination. Posterior edge of the body slightly indented. vi threepronged and barbed; ve short and smooth. Length of the idiosomal setae variable, from 10 μ (d1) to 42 μ (l4).

Anus ventral, with five pairs of anal setae. Genital suckers placed slightly behind coxae IV.

**Hypopi** (Figs. 5-7). — (Measurements from 5 specimens). Length 269 (257-279) μ; width 166 (150-182) μ. Cuticula with a thin punctation which is stronger in the opisthonotum. Premembranous shield 73 (61-79) μ long and parallel. Pygidial shields with lateral spurs. Sternum 15 (13-17) μ long.

Tarsi I and II 30 (28-31) μ long. Pretarsi 4 μ and claw 10 μ long. Tarsi III and IV 38 (36-40) μ and 12 (11-13) μ long respectively. Setae vi 20 (18-23) μ long and slightly barbed. l4 are transformed into a spine directed backwards.
Fig. 4: Grammolichus eliomys sp. n., male (ventral view).
Fig. 5: Grammolichus eliomys sp. n., hypopus (ventral view).
FIG. 6-7: Grammolichus eliomys sp. n.
6. — Tritonymph ; 7. — Hypopus. (Both in dorsal view).

■ Protonymph. — (Measurements from two specimens). Length 231-243 μ; width 135-145 μ. Propodosomal shield as in the tritonymph. vi with only one digit, stout and pectinated. One pair of genital suckers slightly behind coxae IV. Anus with 3 pairs of anal setae.

■ Larvae. — (Measurements from two specimens). Length 227-240 μ; width 132-135 μ. The propodosomal shield covers the tegmen and it is granular in all its surface with the median fringe depressed. vi as in protonymph. Anus with only one pair of anal setae.

Hosts and localities. — Hypopi from the tail of some specimens of Eliomys quercinus ophiusae Thomas, from Formentera Island (Pitiusas, Spain) (October 1975). Males, females, tritonymphs, protonymphs and larvae from the litter of a cage occupied by one dormouse captured in the same locality, at the same date.
Types. — Holotype, allotype, and paratypes (1 †, 4 tritonymphs, 2 protonymphs, 3 larvae and numerous hypopi) in the collection of the Department of Parasitology, University of Barcelona; 1 ♀, 1 †, 1 tritonymph and 2 hypopi paratypes, in the collection of the Institute of Tropical Medicine "Prince Leopold", Anvers.

BIBLIOGRAPHY


Paru en septembre 1982.