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John O. Whitaker Jr
Indiana State University

Thomas W. French
Division of Fisheries and Wildlife

ECTOPARASITES AND OTHER ARTHROPOD ASSOCIATES OF THE HAIRY-TAILED MOLE, *PARASCALOPS BREWERI*

John O. Whitaker, Jr.[1] and Thomas W. French[2]

ABSTRACT

A total of 33 taxa of ectoparasites and other associates was taken on seven individuals of the Hairy-tailed Mole, *Parascalops breweri*, from New York and New England. The most abundant form was the glycyphagid mite, *Labidophorus nearcticus*.

There are relatively few records of parasites, especially smaller mites, of the hairy-tailed mole, *Parascalops breweri* (Bachman). The summary of information on mites from this species by Whitaker and Wilson (1974) included only three species: a glycyphagid, *Labidophorus nearcticus* Fain and Whitaker (*Labidophorus talpae* as reported by Fain and Whitaker [1973]), and two laelapids, *Haemogamasus liponyssoides* Ewing reported by Keegan (1951) and *Echinonyssus blarinae* (Herrin) reported by Herrin (1970). Yates et al. (1979) examined ectoparasites from 23 hairy-tailed moles. These harbored a louse, *Haematopinoides squamosus* (Osborn), a flea, *Ctenophthalmus pseudagyrtes* Baker, a beetle, *Leptinus testaceus* Mueller, and two laelapid mites, *Androlaelaps fahrenholzi* (Berlese) and *Haemogamasus reidi* Ewing. *Pygmephorus whitakeri* Mahunka (Pygmephoridae) was reported from this host by Smiley and Whitaker (1979) and *Pygmephorus proctorae* Smiley and Whitaker was described from this host by Smiley and Whitaker (1984). Thus only 10 species of ectoparasites and other associates were previously known from this host.

We have examined seven hairy-tailed moles, four from the vicinity of Ithaca, Tompkins County, New York (taken 21 Sept.–8 Nov. 1980); one from DeBruce, Mongaup Creek, Ulster County, New York (11 Oct. 1981); one from Grafton County, New Hampshire 1.5 mi upstream from the Barnet Bridge of the Connecticut River (30 Aug. 1983); and one from Whitingham, Windham County, Vermont (4 Oct. 1983). The purpose of this paper is to present the results of this examination. Even though the host sample is small, the results are of interest, as we have identified from these moles 33 taxa of ectoparasites and other associates including at least 16 taxa of pygmephorids. Little is known of the biology and host relationships of pygmephorids. Only phoretomorphic females of *Pygmephorus* are found on mammalian hosts; these show little host specificity and are found most commonly on burrowers. Voucher specimens of many of the species are being deposited in the U.S. National Museum.

MATERIALS AND METHODS

Moles were collected in snap traps and immediately placed in plastic bags upon recovery. They were examined by manipulating their fur with dissecting needles while

[1]Department of Life Sciences, Indiana State University, Terre Haute, IN 47809.
[2]Nongame and Endangered Species Program, Division of Fisheries and Wildlife, 100 Cambridge Street, Boston, MA 02202.

Table 1. Ectoparasites and other associates of seven hairy-tailed moles from New York and New England.

	Number		Frequency		
	n	x	n	%	Localities
Anoplura					
Hoplopleuridae					
Haematopinoides squamosus	3	0.43	1	14.3	NY
Siphonaptera					
Hystrichopsyllidae					
Ctenophthalmus pseudagyrtes	10	1.43	5	71.4	NY, NH
****Doratopsylla blarinae* C. Fox	1	0.14	1	14.3	NY
****Hystrichopsylla tahavuana*	3	0.43	2	28.6	NY
****Nearctopsylla genalis* (Baker)	2	0.29	2	28.6	NH
Ceratophyllidae					
****Megabothris asio* (Baker)	1	0.14	1	14.3	NH
Acari					
Histiostomatidae	3	0.43	1	14.3	NY
Ascidae					
Proctolaelaps sp.	6	0.86	4	57.1	NY, NH
Ologamasidae					
Cyrtolaelaps sp.	4	0.57	3	42.9	NY
Euryparasitus sp.	2	0.29	2	28.6	NY
Glycyphagidae					
Labidophorus nearcticus	276	39.43	5	71.4	NY, *NH, *VT
Laelapidae					
Echinonyssus blarinae	3	0.43	2	28.6	NY
Haemogamasus liponyssoides	4	0.57	1	14.3	*NH
****Hypoaspis miles*	1	0.14	1	14.3	*NH
****Laelaps alaskensis*	1	0.14	1	14.3	*NH
Pygmephoridae					
****Bakerdania plurisetosa*	104	14.9	3	42.9	*NY, *VT
Bakerdania sp.	34	4.86	3	42.9	NY, VT
****Pygmephorus brevicaudae* Smiley and Whitaker	1	0.14	1	14.3	*NY
****P. designatus* Mahunka	1	0.14	1	14.3	*NY
****P. hamiltoni* Smiley and Whitaker	4	0.57	3	42.9	*NY
****P. hastatus* Mahunka	6	0.86	3	42.9	*NY
****P. horridus* Mahunka	1	0.14	1	14.3	*NY
P. proctorae	28	4.00	4	57.1	NY, *NH
****P. johnstoni* Smiley and Whitaker	2	0.29	1	14.3	*NY, *VT
****P. lutterloughae* Smiley and Whitaker	2	0.29	1	14.3	*NY
****P. rackae* Smiley and Whitaker	1	0.14	1	14.3	*NY
****P. spinosus* Kramer	1	0.14	1	14.3	*NY
****P. tamiasi* Mahunka	2	0.29	1	14.3	*NY, *NH, *VT
****P. whartoni* Smiley and Whitaker	1	0.14	1	14.3	*NY
P. whitakeri	62	8.86	7	100.0	*NY, *NH, *VT
****P. wrenschae* Smiley and Whitaker	1	0.14	1	14.3	*NY
Pygmephorus sp.	1	0.14	1	14.3*	NY
Trombiculidae					
Neotrombicula microti (Ewing)	5	0.71	1	14.3	VT

*New state records
**New host records

using a binocular microscope. Parasites were preserved in 70% alcohol, cleared and stained in Nesbitt's solution, mounted in Hoyer's solution, and the cover slips ringed with Euparal.

RESULTS AND DISCUSSION

The results are given in Table 1. A total of 33 taxa of ectoparasites and associates was taken from the seven moles, with the mites, *Labidophorus nearcticus, Bakerdania* spp. including *B. plurisetosa* Mahunka, *Pygmephorus whitakeri,* and *P. proctorae* being the most abundant. Pygmephorids, although not parasitic, were abundant, with a total of 252 individuals. Several species of pygmephorids were often taken on a single mole. This is many more species, 16, than has previously been taken on any one species of host. Four species of laelapid mites were reported earlier, and four were reported during this study, with *Laelaps alaskensis* Grant and *Hypoaspis miles* (Berlese) being new parasites from this host. However, only one individual of each was taken and both must be considered as accidentals.

Three individuals of the louse *Haematopinoides squamosus* were found. This species is rather uncommon occurring only on moles. Only one species of flea had been previously reported on this host, but we took five, including three individuals of the relatively rare species, *Hystrichopsylla tahavuana* Jordan.

New state and new host records are indicated by one or two asterisks, respectively, in Table 1.

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