

## Notes on the hypopial nymphs phoretic on mammals in Canada with description of a new species (Acarina: Sarcoptiformes)

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The authors have studied the hypopial nymphs (Acarina, Sarcoptiformes) living in phoretic association with mammals in Canada. So far only two species have been recorded from Canada. In the present paper six additional species are recorded and among these one is new and is described here.

The heteromorphic deutonymphs, or hypopi, which are referred to here were found by one of us (N.K.) on various mammals, mainly rodents, in Canada during a stay from 12.VI to 14.-VIII.1969. The hosts were collected in the following localities in Ontario: Sudbury, Chelmsford, Hanmer, and Blezard Valley.

A general revision of the hypopi phoretic on mammals has been published recently (Fain 1969). About 100 species are mentioned in that paper.

So far only two species of hypopi phoretic on mammals have been recorded from Canada (*Microlabidopus americanus* Fain, 1967 and *Aplodontopus latus* Fain, 1967) both from the same host (*Aplodontia rufa*).

In the present paper we are recording eight species, belonging to four genera. One of these species is new and is described.

Family GLYCYPHAGIDAE Berlese, 1887

Subfamily LABIDOPHORINAE Zachvatkin, 1941

Genus DERMACARUS Haller, 1880

### 1. *Dermacarus ondatrae* Rupes and Whitaker, 1968

This species has been described from *Ondatra zibethica* in U.S.A.

Numerous specimens have been collected on several muskrats *Ondatra zibethica*, from three localities: Chelmsford, 11.VII.1969; Hanmer,

19.VI.1969 and 9, 12, and 18.VII.1969; Blezard Valley, 19 and 26.VI.1969.

### 2. *Dermacarus hylandi* Fain, 1969

This species has been described from *Clethrionomys gapperi*, in U.S.A.

Twenty-six specimens of an hypopus that we attribute to *D. hylandi* have been found on a *Tamias striatus*, from Sudbury, Canada, on 24.VII.1969.

*D. hylandi* is known only from the holotype. In the original description it is mentioned by mistake that the lengths of solenidia *omega* 3 and *omega* 1 are respectively 11  $\mu$  and 16  $\mu$ . Actually these numbers have to be reversed, *omega* 3 being longer (16  $\mu$ ) than *omega* 1 (11  $\mu$ ).

The specimens collected on *Tamias striatus* agree fairly well with the typical specimen of *D. hylandi* except for some minor differences. The size of the body and of several organs is a little larger. The discrepancies are as follows (range of averages of five specimens from *Tamias striatus* shown, holotype measurements given in parentheses, all measurements in microns). Idiosoma: length 294 to 330 (285), width 210 to 234 (204). Tarsus I: length 36 to 42 (33). Tarsus II: length 34 to 39 (32). Tarsus III: length 25 to 27 (25). Tarsus IV: length 27 to 30 (26). Palposomal hairs: length 15 to 17 (12 to 14). Tarsal claws: length of external free part, I, 7.2 to 7.6 (7.2); III, 7.5 to 8.0 (7.5); IV, 4.0 to 4.8 (4.0). Setae *v*: length 10 to 11 (7 to 8), Solenidia *omega* 1: length 10 to 11 (11). Solenidia *omega* 3: 17 to 19 (16). Some of the specimens from Canada

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present, on the dorsal surface, a very faint cuticular pattern resembling that of *Dermacarus caucasicus* Fain, 1969. A similar pattern but quite indistinct exists also on the type.

### 3. *Dermacarus newyorkensis* Fain, 1969

This species was known so far from *Microtus pennsylvanicus* (holotype and paratypes) and *Zapus hudsonius*, both from U.S.A.

In Canada we have found it on *Zapus hudsonius*, Sudbury, 14.VII.1969 and on *Peromyscus maniculatus*, Sudbury, 27.VI.1969.

The palposoma is formed by two lobes that are longer than has been shown in the original figure.

Genus *ORYCTEROXENUS* Zachvatkin, 1941

### 1. *Orycteroxenus soricis* (Oudemans, 1915)

This species has been described in Holland from *Sorex araneus*.

It has been found also on various hosts in U.S.A. including *Blarina brevicauda talpoides*. In Canada we have collected this species from *Blarina brevicauda* at Sudbury, 16.VIII.1969.

### *Orycteroxenus soricis ohioensis* Fain, 1969

This subspecies has been described from *Sorex cinereus* in U.S.A.

A series of specimens of this subspecies has been collected on the same host in Sudbury, 25.VI.1969.

### 2. *Orycteroxenus canadensis* nov. spec.

This new species is distinguished from the four other species of the genus *Orycteroxenus* by the shape of the epimerae I, which are widely separate; the greater length of the hair of tibia IV; the very poor development of setae *v i* and the ventral situation of *v e*, the more internal situation of the solenidia *alpha*. It differs, in



FIGS. 1-4. *Orycteroxenus canadensis* n. sp. Hypopus in ventral view (1); claspers (2, 3); palposoma (4). (N.B.: Scale is given only for Fig. 1).

addition, from *O. dispar* by the greater number of transversal ridges on the claspers of the pilicolous organ; the disposition of the scapular hairs, nearly in a transverse row. It differs from *O. soricis* mainly by the greater length of the palposomal hairs.

**HYPOPIUS** (holotype) (Figs. 1-8): Length 195  $\mu$ , width 171  $\mu$ . Average for 10 paratypes: 205  $\mu$  in length and 177  $\mu$  in width. The sejugal furrow and the dorsal-opisthosomal groove well developed. Cuticle smooth except the postero-dorsal region of the opisthosoma which is very finely punctate. Two pairs of opisthosomal hooks, one pair on posterior border of the pilicolous organs and one pair ventrolaterally along the anterior border of the pilicolous organ.

Epimerae I widely separate. Other epimerae as for the other species of the genus. *Pilicolous organ*: external clasper with 11 or 12 ridges, internal clasper with 12-13 ridges. Palposoma with one pair of short solenidia and two pairs of hairs respectively of 22 and 33  $\mu$  (average for 10 paratypes). Posterior legs without retrorse processes. Length of claws I to IV: 11-12  $\mu$ ; 11  $\mu$ ; 5.5  $\mu$ ; 3  $\mu$ . The hair of tibia IV 50  $\mu$  long. *Chaetotaxy*: The *vi* very short; the *ve* more anterior and a little longer. All dorsal setae very small except *d 5*, which is rather thick and long (17  $\mu$ ). The solenidion of tibia III thicker and longer (15  $\mu$ ) than in *O. dispar* but shorter and narrower than *O. soricis*. Solenidion *alpha* 3  $\mu$  long (average for 10 specimens).

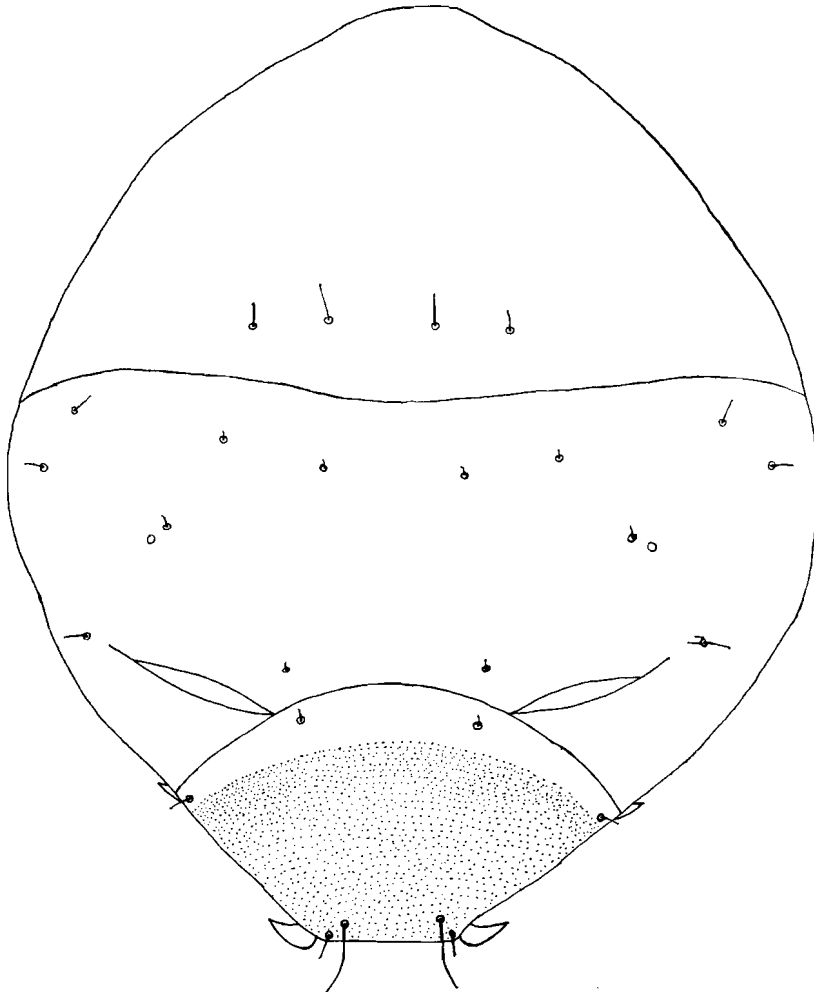
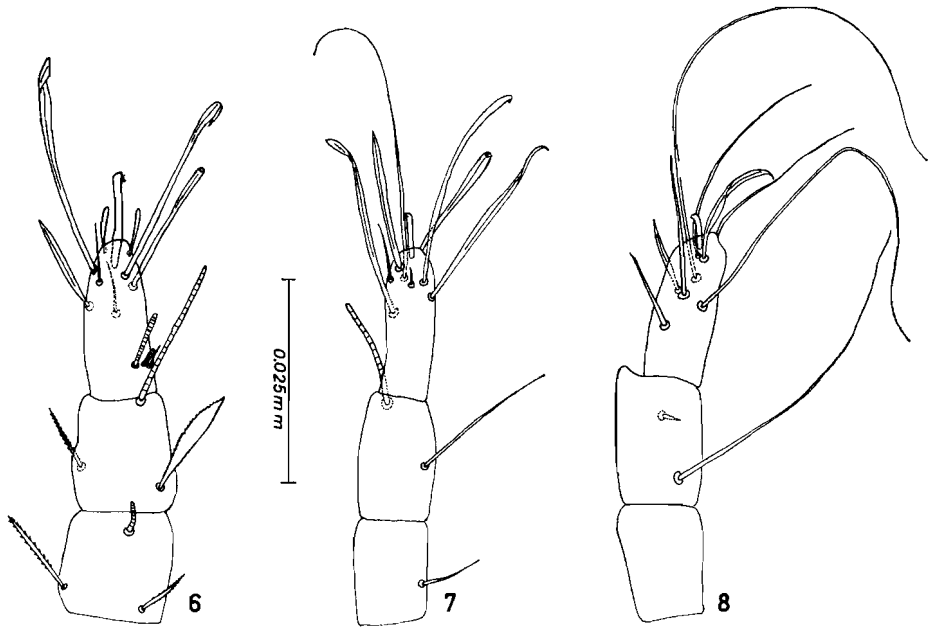


FIG. 5. *Oryctoxenus canadensis* n. sp. Hypopus, in dorsal view.



FIGS. 6-8. *Orycteroxenus canadensis* n. sp. Legs I (6), III (7), and IV (8).

**Host and locality:** The hypopi were attached to the hairs of a *Condylura cristata* from Sudbury, Canada, 17.VII.1969. The hypopi were very numerous over all the body.

**Holotype** in the Canadian National Collection, Canada Department of Agriculture, Ottawa. Paratypes in the collections of the authors.

Subfamily METALABIDOPHORINAE Fain, 1967  
Genus *Microlabidopus* Fain, 1967

1. *Microlabidopus americanus* Fain, 1967

This species has been described from an *Aplodontia rufa* in U.S.A. (type series) and in Canada. The hypopi were located in the hair follicles of the abdomen.

Subfamily APLODONTOPINAE Fain, 1969  
Genus APLONDONTOPUS Fain, 1967

1. *Aplodontopus latus* Fain, 1967

This species has been described from *Aplodontia rufa* in Canada and U.S.A. The specimens were embedded in the hair follicles of the venter and were associated with hypopi of *Microlabidopus americanus*.

2. *Aplodontopus sciuricola* Hyland and Fain, 1968

This species has been described from *Tamias striatus* in U.S.A. All these hypopi were embedded in the hair follicles of the tail.

We have recovered new specimens of that species in Canada from the same host and in the same parasitic localization. Locality: Sudbury, 24.VII.1969.

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