

ASTIGMATIC MITES FROM NESTS OF BIRDS OF PREY IN U.S.A.

VI. THE ADULT FORMS OF *ECHIMYOPUS ORPHANUS* FAIN & PHILIPS, 1977 AND OF *DERMACARUS PILITARSUS* FAIN & PHILIPS, 1977

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-----ABSTRACT—The life cycle of two species known only from the hypopial stages is elucidated. *Dermacarus pilitarsus* Fain & Philips 1977a is the hypopus of *Lepidoglyphus fustifer* (Oudemans, 1903) and *Echimyopus orphanus* Fain & Philips 1977a is the hypopus of *Blomia angustivulva* Fain & Philips, 1977b. The species *angustivulva* becomes a synonym of the species *orphanus* but the genus *Echimyopus* is maintained as a valid genus, distinct from *Blomia*. -----

Fain & Philips (1977a) described two new species of hypopi from nests of birds of prey in Syracuse, U. S. A. One *Dermacarus pilitarsus* from the nest of the American Kestrel, *Falco sparverius* and the other *Echimyopus orphanus* from the nest of the Screech Owl, *Otus asio*. In another paper (Fain & Philips 1977b) a new species, *Blomia angustivulva*, was described from the adult form from the same nest of *Otus asio*.

In additional material from the same nests and examined after the publication of these papers, we found hypopi of *D. pilitarsus* and of *E. orphanus* in the molting stage. The tritonymphs contained in these hypopi were also present free in the nests together with adults of the same species, thus enabling us to complete the life cycle of these species.

1. *Lepidoglyphus fustifer* (Oudemans, 1903) *Dermacarus pilitarsus* Fain & Philips, 1977a: 105 *Syn. nov.*

In the nest of *Falco sparverius*, in Syracuse, U. S. A. we found 2 hypopi of *Dermacarus pilitarsus* in the molting stage and containing fully developed tritonymphs. These tritonymphs are not separable from other tritonymphs found free in the same nest and that we identify as *Lepidoglyphus fustifer* (Oudemans, 1903). Moreover in the same nest we also found larvae, protonymphs and adults, male and female, of the same species. *L. fustifer* was, until now, only recorded from Germany, Czechoslovakia and U. S. S. R.

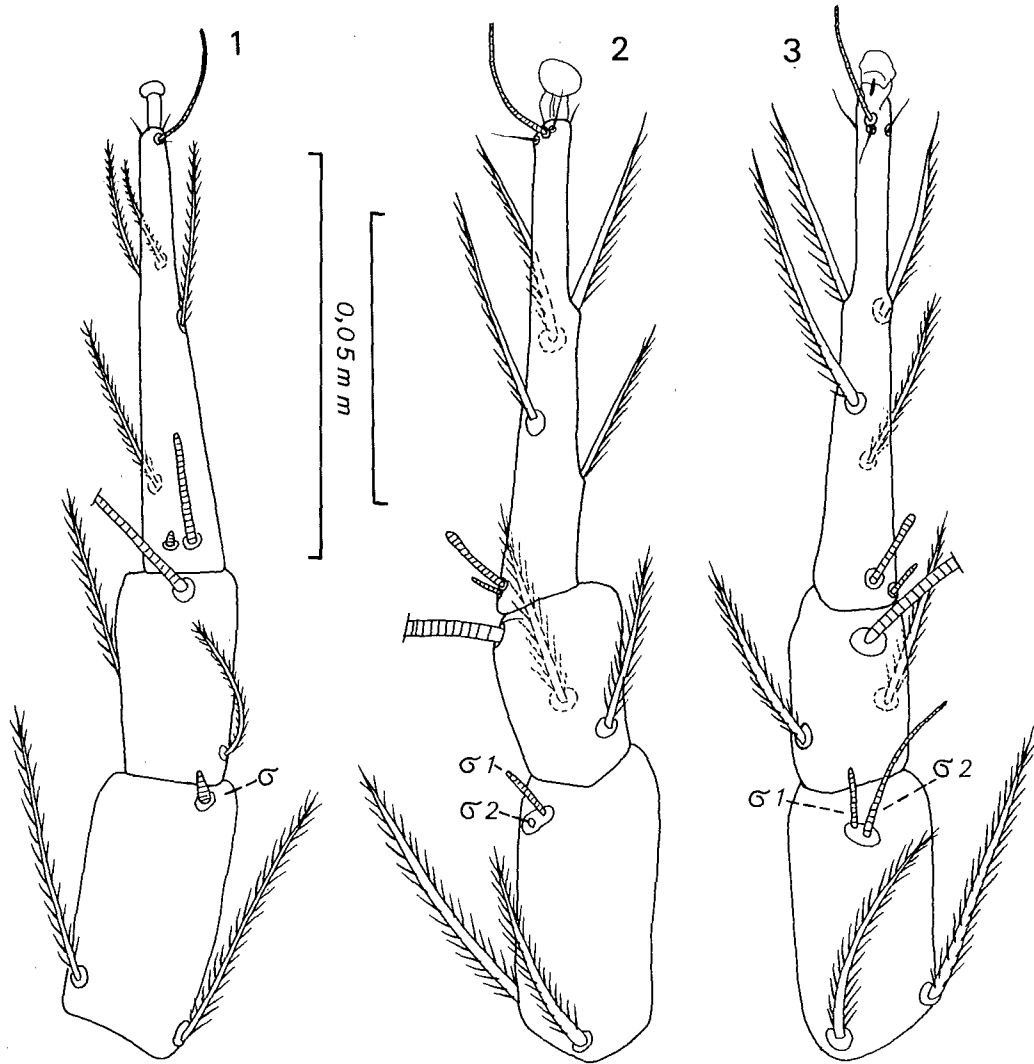
One male specimen has been found by A. F. among other mites collected in a tree hole in Austria in 1966 by W. Sixl. It is the first time that this species is recorded from U. S. A.

The presence of a pilicolous hypopus in the life cycle of that species suggests that its true habitat is the nest of mammals, probably a sciurid or a murid. The specimens that we found in the nest of a bird of prey were probably introduced in this nest with their mammalian host as the latter is normally a prey for the bird.

2. *Echimyopus orphanus* Fain & Philips, 1977 *Blomia angustivulva* Fain & Philips, 1977b: 161 *Syn. nov.*

The new material that we found in the nest of *Otus asio* in Syracuse, consists of: (1) An hypopus of *E. orphanus* in the molting stage and containing a fully developed tritonymph; (2) An hypopus of the same species still enclosed in its protonymphal skin. These tritonymph and protonymph belong to *Blomia angustivulva* Fain & Philips which was known, so far, only from a female specimen; (3) A new female specimen of *Blomia angustivulva*.

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Figs. 1: *Blomia gracilipes* (Banks) Lectotype female:—tarsus, tibia and genu I, dorsally. Figs. 2-3: *Echimyopus orphanus* Fain & Philips—2 (female holotype) tarsus, tibia and genu I, dorsally; 3, Female (not holotype) tarsus, tibia and genu I, dorsally.

We may conclude from this new material that *Blomia angustivulva* is a synonym of *Echimyopus orphanus*.

All these specimens bear on the genu I 2 well-developed solenidions. In this new female specimen the solenidion *sigma* 1 is $12\mu\text{m}$ long and *sigma* 2 is $30\mu\text{m}$ long (fig. 3).

A reexamination of the holotype female of *B. angustivulva* shows that only the *sigma* 1 is present while *sigma* 2 is broken off at both sides and is represented only by its insertion base (fig. 2). It is for that reason that only one solenidion was mentioned on the original description and drawing.

The presence of 2 rather long solenidions *sigma* on genu I (for only one very short solenidion in all the species of *Blomia* (fig. 1)), combined with a different situation of the *ve* setae, much more lateral and more distant from *vi* than in *Blomia* (distance *vi-ve* = $30\mu\text{m}$, for $15\mu\text{m}$ in the *Blomia* spp.) are sufficient to separate the genus *Echimyopus* from *Blomia*.

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