

ASTIGMATIC MITES FROM NESTS OF BIRDS OF PREY IN THE U.S.A. V. FOUR NEW SPECIES OF ANOETIDAE

A. Fain¹ and J. R. Philips²

----- ABSTRACT—Two new genera and four new species of Anoetidae (Astigmata) represented by their hypopial stage are described from the nest of *Otus asio* in the U. S. A. Illustrations are also given. -----

Two new genera and four new species of hypopi of the family Anoetidae are described here. They were found by the junior author in a nest of *Otus asio* in Syracuse, N. Y. The nomenclature of some organs used in this paper (palposoma, conoids on suctorial plate and on coxae, chaetotaxy of the body, solenidiotaxy of leg I) are given by Fain (1973). The types of these new species are deposited in the U. S. National Museum, Washington, D. C..

Family ANOETIDAE Oudemans, 1904
Genus *Histiostoma* Kramer, 1876
Histiostoma pauciputeolum spec. nov.

This species is characterized by the great size of the coxal conoids, the presence of a small number of glandular orifices on the dorsum and the structure of the legs.

HYPOPUS (Figs. 1, 5-9)—Length 149μ , width 108μ (in 2 paratypes these measurements are $165\mu \times 126\mu$ and $156\mu \times 120\mu$). **DORSUM**: Sejugal furrow well developed. Length of propodosoma 39μ , of hysterosoma 110μ . Dorsal setae very short and thin, cuticle with a few small orifices of glands especially visible in well flattened specimens. **VENTER**: Sternum long, epimera II loosely connected with a poorly sclerotized sclerite joining epimera III. Coxae III forming closed fields. Setae *cx I*, *cx III* and *gp* being big conoids; setae *ga* absent; setae *gm* thin and short. Suctorial plate very large, with striated margins; posterior suckers larger (diameter 12μ) than anterior suckers (diameter $7-7.5\mu$); lateral conoids located on same transverse line as posterior suckers. Palposoma 12μ long and 8.5μ wide, bearing one pair of solenidia *alpha* 25μ long and one pair of very small setae. **LEGS**: rather long and thin. All legs bearing an apical claw. Tarsus I longer (30μ) than tarsus II (22μ), both ending in a thick foliate seta, expanded apically. Tarsi III-IV with a short apical seta. Solenidion *phi* longer than solenidion $\omega 1$, both situated on tibia I. This $\omega 1$ is slightly club-shaped apically; $\omega 3$ of tarsus I short (6μ) and cylindrical.

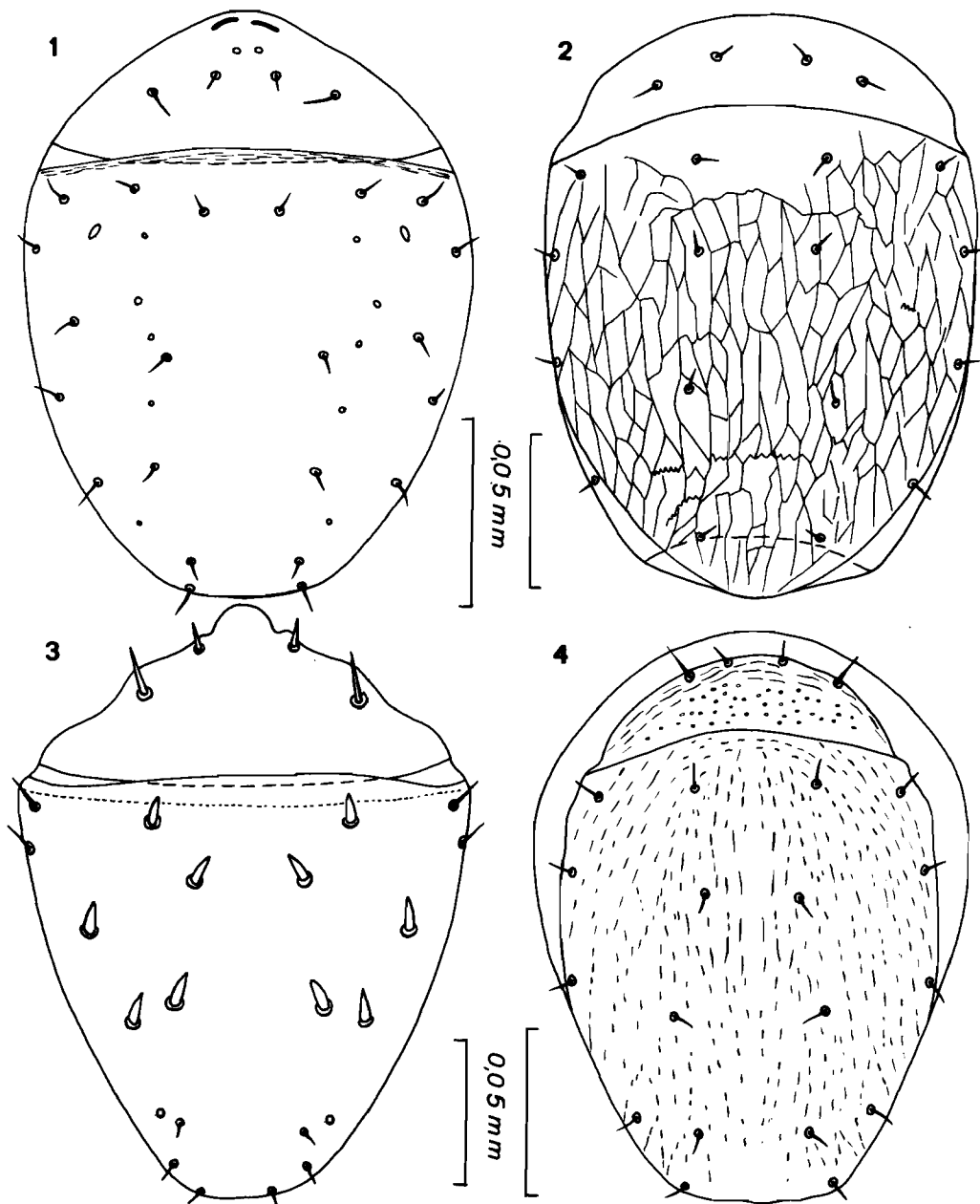
HABITAT—In the nest of *Otus asio*, in Syracuse, N. Y., U. S. A., 16. VI. 1976 (holotype and 6 paratypes, all hypopi). Additional hypopi were found on 2 species of Coleoptera in this nest as follows: 53 hypopi mainly on the legs of an adult and 29 hypopi on the head and legs of a larva of *Trox variolatus* Mels. (Trogidae); 20 hypopi on the abdomen and elytra of an adult, *Dendrophilus* sp. (Histeridae).

Genus *Comyianoetus* gen. nov.

DEFINITION—Cuticle poorly sclerotized. Hysteronotum with poorly distinct lines forming a network. Tarsi I-III ending in a claw bearing a small ventral preapical barb. Tarsus IV ending in a long seta. Sternum and epimera II fused with a sclerite joining epimera III. Suctorial plate small, with very poorly developed posterior conoids. Anterior pair of suckers absent, posterior pair poorly developed.

Type species—*Comyianoetus denticulatus* sp. n.

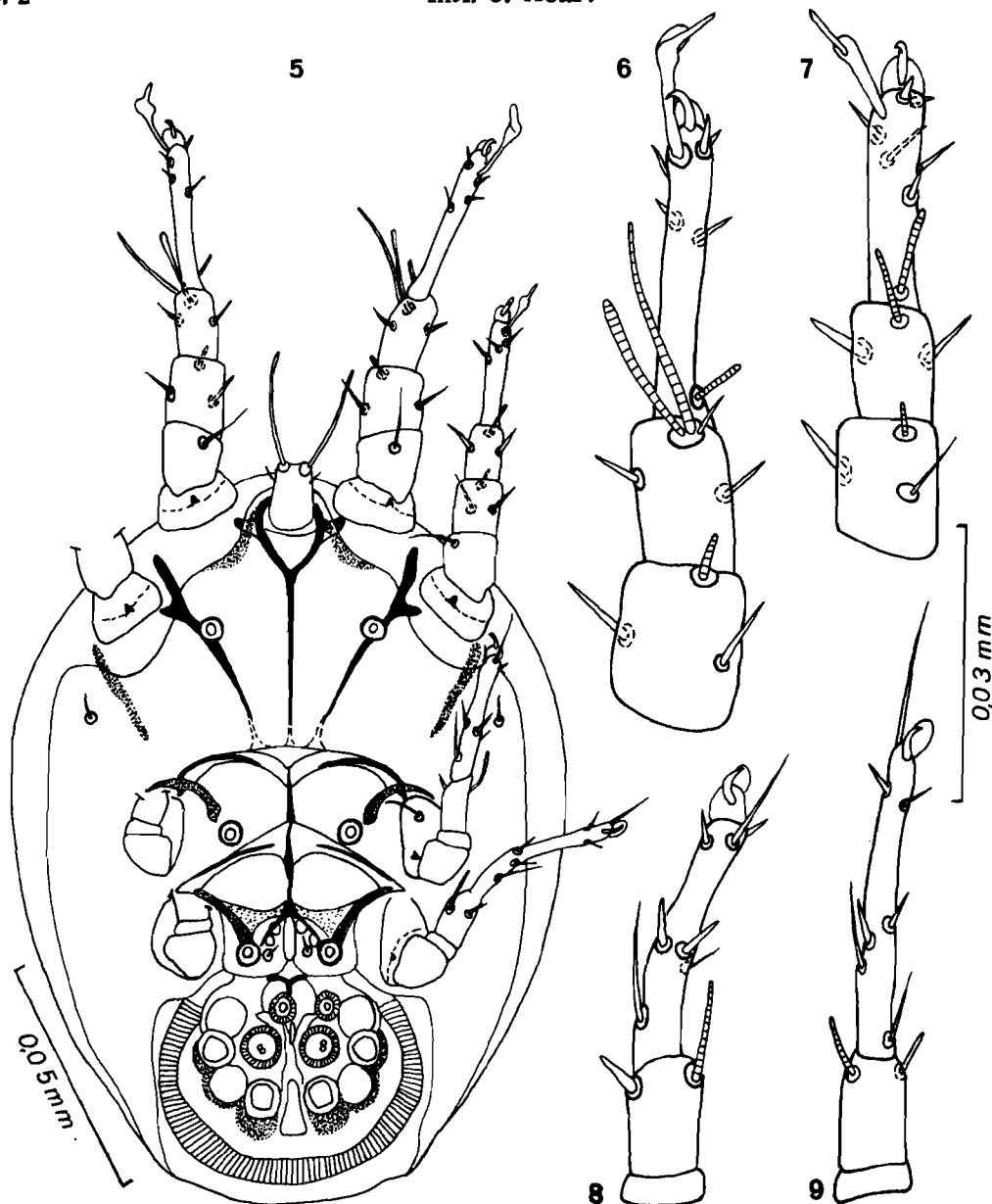
1. Institut de Médecine Tropicale, Nationalestraat 155, B-2000 Antwerpen, Belgium.
2. 29 Mattakeset st., Mattapan, Mass. 02126, U. S. A.



Figs. 1-4: Idiosoma (hypopi): 1, *Histiostoma pauciputeolum* sp. n.; 2, *Comyianoetus denticulatus* sp. n.; 3, *Hexanoetus conoidalis* sp. n.; 4, *Myianoetus micromaculatus* sp. n.

Comyianoetus denticulatus spec. nov.

HYPOPUS (Figs. 2, 10-14)—Length of holotype 210μ , width 144μ (measurements in 2 paratypes: $180\mu \times 135\mu$ and $216\mu \times 149\mu$). **DORSUM**: Sejugal furrow well developed. Setae short and thin. **VENTER**: A narrow longitudinal sclerite joins sternum to transverse sclerite uniting epimera IV. Suctorial plate small; anterior pair of suckers replaced by 2 very small sclerotized circles; posterior pair of suckers small; 4 conoids very small, nearly vestigial, located posteriorly. **LEGS**: Tarsi I-III with sclerotized apices and a barb near apex. Tarsi I-IV 27μ , 21μ , 20μ and 17μ long respectively. Palposoma $14-15\mu$ long and $6-7\mu$ wide. Tarsi I-IV with 4-5-4 and 5 setae respectively. Tarsi I-II with a rather long preapical-dorsal seta. Solenidion $\omega 1$ of tibia I is thin with an inflated apex; $\omega 3$ of tarsus I is short.



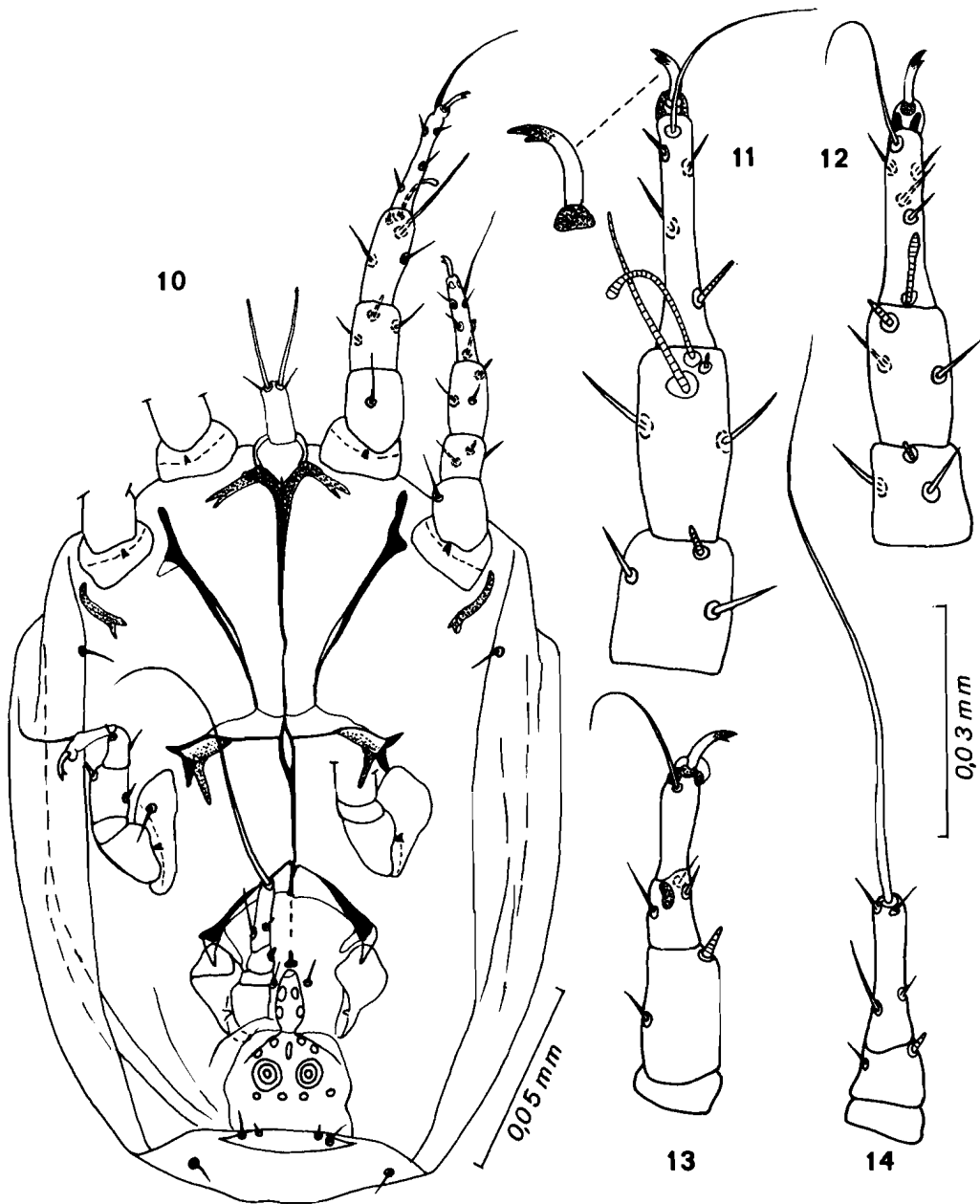
Figs. 5-9: *Histiostoma pauciputeolum* sp. n. (hypopus): 5, ventral view; 6-9, tarsus, tibia and genu of legs I (6); II (7); III (8); and IV (9).

HABITAT—As for *Histiostoma pauciputeolum* (holotype and 3 paratypes, all hypopi). Additional records of hypopi: nest of *Bubo virginianus*, Jamesville, N. Y., 19. IV. 1976; nest of *Buteo albionotatus*, Davis Mts., Tx., 1976 (S. Matteson coll.) and 4 nests of *Aegolius funereus*, Nannestad, Norway, 1. VIII. 1978 (S. Hagvar coll.).

Genus *Hexanoetus* gen. nov.

DEFINITION—Body strongly widened anteriorly. Hysteronotum with thick and short spines. Epimera III-IV very poorly developed. Setae *cx I*, *cx III* and *g p* modified into big conoids situated widely apart. Suctorial plate small bearing 4 large conoids situated on a line behind posterior suckers. Palposoma broad, trapezoidal, enlarged anteriorly. Legs long, bearing rather long setae; a claw present on tarsi I-III; tarsus IV with a long apical seta; solenidion $\omega 1$ of leg I situated on tibia.

Type species—*Hexanoetus conoidalis* sp. n.

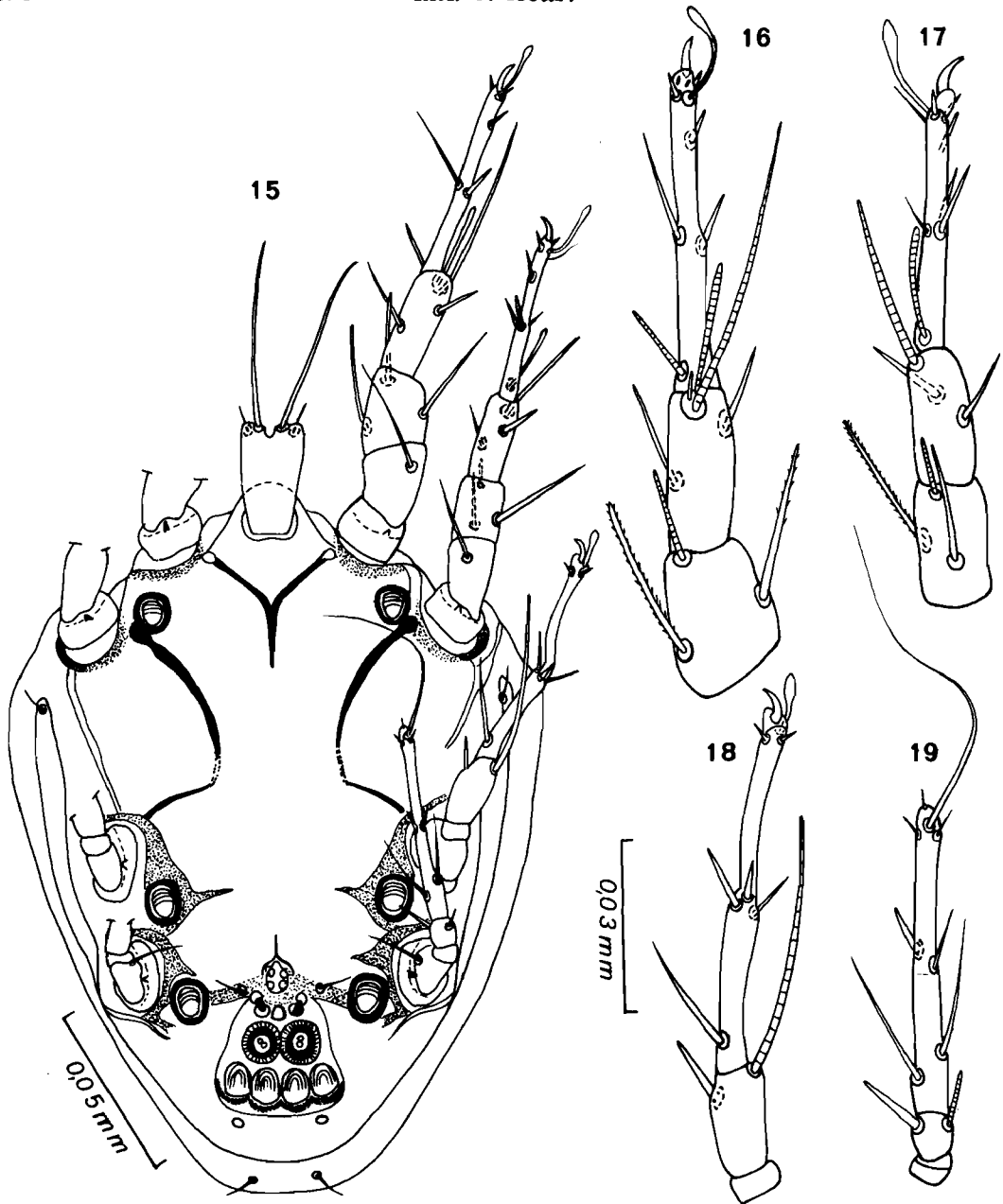


Figs. 10-14: *Comyianoetus denticulatus* sp. n. (hypopus): 10, ventral view; 11-14, tarsus, tibia and genu of legs I (11); II (12); III (13); and IV (14).

Hexanoetus conoidalis spec. nov.

HYPOPUS (Figs. 3, 15-19)—Length of holotype 198μ , width 149μ (measurements of two paratypes $202\mu \times 150\mu$ and $195\mu \times 152\mu$). **DORSUM**: Sejugal furrow well developed. Setae *sc i* and *sc e* short and narrow spines. Setae *d 1*, *d 2*, *d 3*, *l 2* and *l 3* short and thick spines; other dorsal setae thin and short. **VENTER**: Suctorial plate with a pair of very small anterior suckers and a pair of much larger posterior suckers. Palposoma 30μ long and 21μ wide (maximum width). **LEGS**: Long. Tarsi I-IV 52μ , 43μ , 57μ and 51μ long respectively. Chaetotaxy of tarsi I-IV: 6-8-7-8 setae. Solenidion $\omega 1$ of leg I situated on tibia and much shorter than *phi*.

HABITAT—Similar to *Histiostoma pauciputeolum* sp. n. (holotype and 7 paratypes, all hypopi).

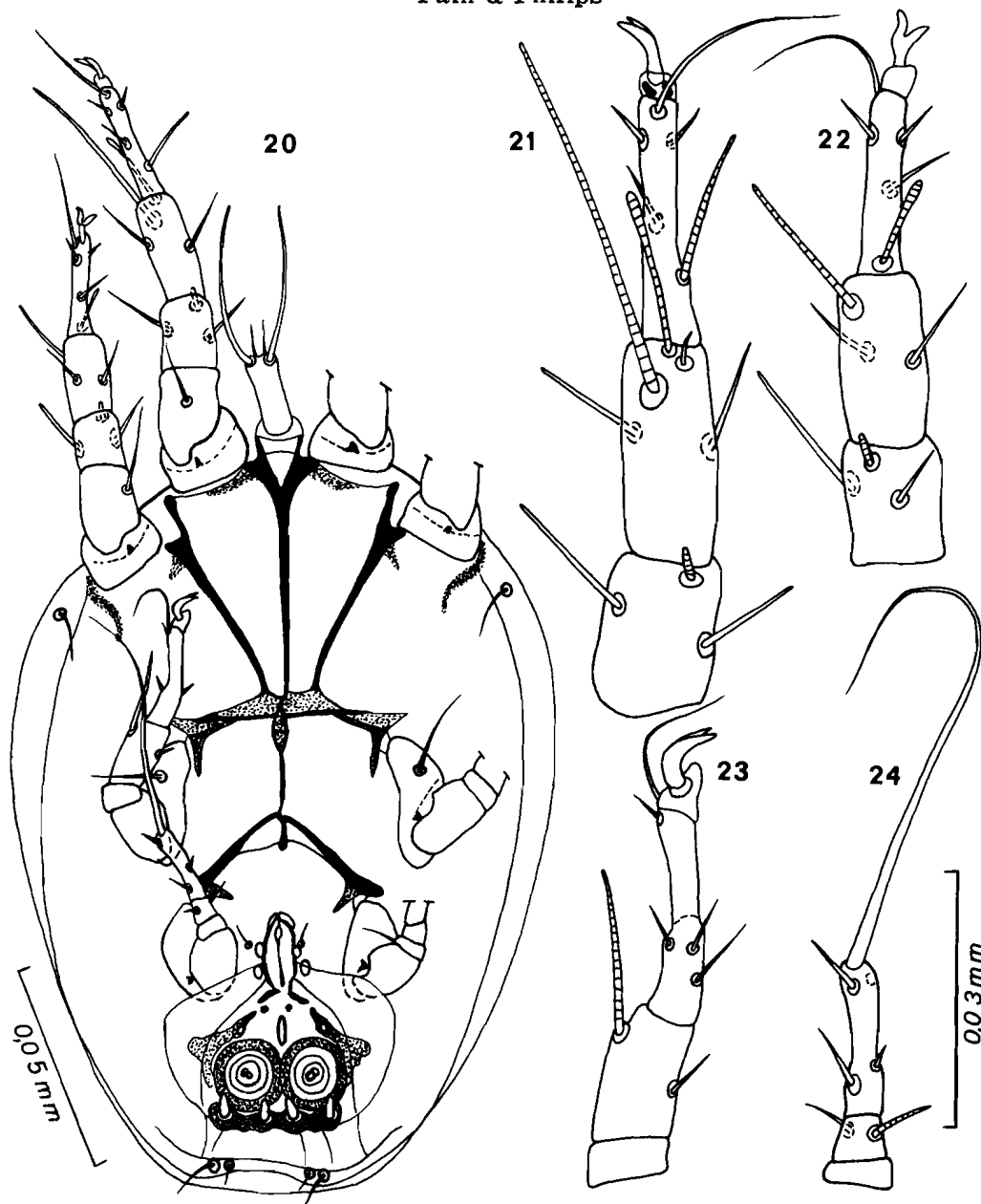


Figs. 15-19: *Hexanoetus conoidalis* sp. n. (hypopus): 15, ventral view; 16-19: tarsus, tibia and genu of legs I (16); II (17); III (18) and IV (19).

Genus *Myianoetus* Oudemans, 1929
Myianoetus micromaculatus spec. nov.

Mahunka (1972) has given a key to the European hypopi of the genus *Myianoetus*. Our new species appears close to *M. tuerkorum* Scheucher, 1957. However it is distinguished from that species by the structure of the dorsum which bears a pale pattern of small dots or short lines mostly longitudinally directed, and by the chaetotaxy of the legs.

HYPOPUS (Figs. 4, 20-24)—Represented only by holotype. Length of idiosoma 180μ , width 126μ . **DORSUM**: Sejugal furrow distinct. All setae short and thin. **VENTER**: Sternum and epimera II fused posteriorly to a transverse sclerite formed by epimera III. Epimera IV



Figs. 20-24: *Myianoetus micromaculatus* sp. n. (hypopus): 20, ventral view; 21-24, tarsus, tibia and genu of legs I (21), II (22), III (23) and IV (24).

fused in midline. A longitudinal thin sclerite joining these two transverse sclerites. Suctorial plate large, with a very large pair of posterior suckers. Anterior suckers vestigial. Behind posterior suckers 4 narrow conoids disposed on a transverse line. Palposoma 20μ long, $6-7\mu$ wide. LEGS: I-II long, legs IV relatively very short and thin. Tarsi I-IV 30μ , 24μ , 27μ and 18μ long bearing 4-4-5 and 4 setae. A bifid claw present on tarsi I-III; tarsus IV ending in a long and strong seta.

HABITAT—As for *Histiostoma pauciputeolum* sp. n.

NOTES ON ADULT ANOETIDAE FOUND IN THE NEST OF *OTUS ASIO* IN THE U. S. A. — Mixed with the 4 new species of hypopi described above, we found also adults and homeomorphic nymphs of Anoetidae belonging to several species. Unfortunately these specimens are not in very

good condition and they are difficult to study. It is therefore not possible to attribute them to the respective hypopi that we described here. We hope to be able to complete the life-cycles of these hypopi in the near future by collecting new material from the nests of *Otus asio*.

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