

Australian Entomological Magazine

Aust. ent. Mag.

Volume 7, Part 4

December, 1980

A NEW SPECIES OF *MYIANOETUS* OUDEMANS (ACARINA: ANOETIDAE) FROM A CERATOPOGONID FLY IN AUSTRALASIA

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Abstract

Myianoetus dycei sp. n. is figured and described from hypopi phoretic on *Culicoides brevatarsis* Kieffer in northern Australia and Fiji. New subjective synonymy: *Anoetostoma Womersley*, 1941 = *Myianoetus Oudemans*, 1929.

Introduction

The introduced biting midge *Culicoides brevatarsis* Kieffer is well established as a vector of arboviruses in Australia (Doherty, 1972; Doherty *et al.*, 1972), and we now describe a hypopial mite commonly found phoretic on it. It belongs in *Myianoetus* Oudemans, a genus of ca 30 species mostly known only as hypopi phoretic on higher flies, especially *Cyclorhapha*. However, the new record (the first from the lower ceratopogonids, *Nematocera*) is not surprising, since *C. brevatarsis* breeds in dung (Cannon and Reye, 1966), as do many *Cyclorhapha*. It is undoubtedly in this biotope that the flies pick up their hypopi.

Genus *Myianoetus* Oudemans

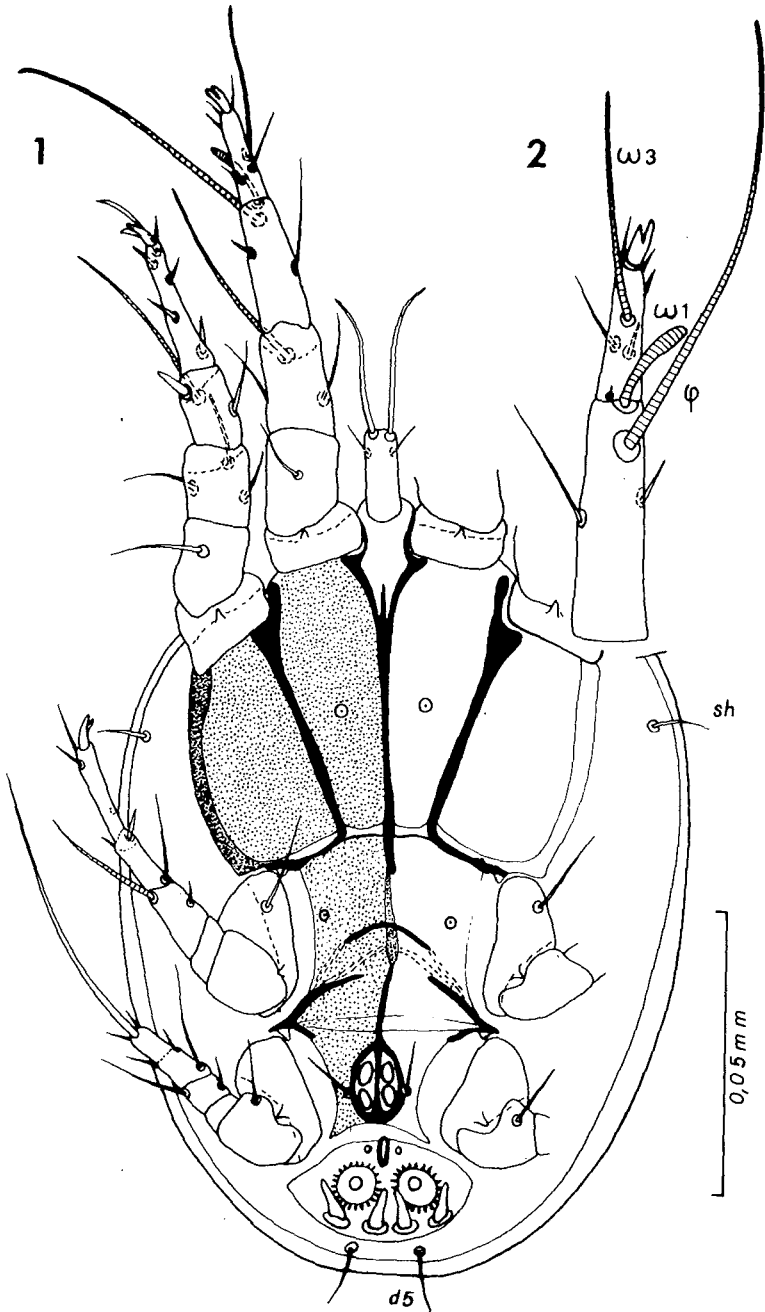
Myianoetus Oudemans, 1929, *Ent. Ber., Amst.* 7: 449. Type-species *Acarus muscarum* Linnaeus.

Anoetostoma Womersley, 1941, *Rec. S. Aust. Mus.* 6: 485. Type-species *Anoetostoma oudemansi* Womersley (*sic*). Syn. n.

Myianoetus dycei sp. n.

(Figs 1-3)

Material examined. All hypopi, phoretic on *C. brevatarsis*, mostly on abdomen, as follows:— QUEENSLAND: Rockhampton, 20.ii.1968, A. L. Dyce (holotype and four paratypes); Parkhurst, 24.ii.1968, A.L.D. (nine paratypes); Kowanyama (formerly Mitchell River Mission), iv.1969, A.L.D. (five paratypes); Kowanyama, 1969, H.A. Standfast and E.T. Bulfin (five paratypes). NORTHERN TERRITORY:



Figs 1,2. *Myianoetus dycei*: (1) hypopus in ventral view; (2) tibia-tarsus I in dorsal view.

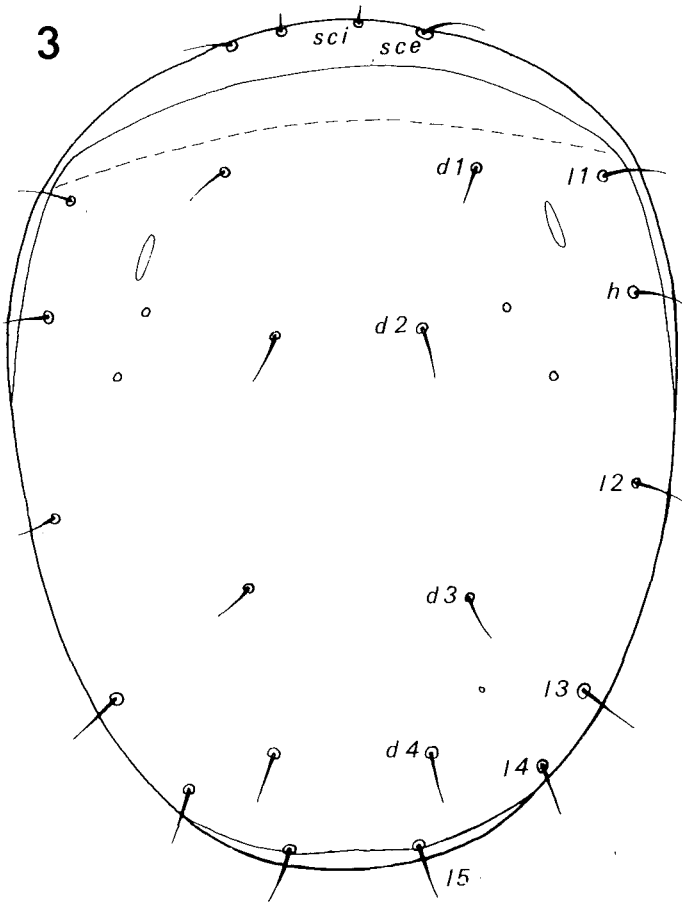


Fig. 3. *Myianoetus dycei*: idiosoma of hypopus in dorsal view.

Beatrice Hill, 25.i.1979, A.L.D. (11 paratypes); Berrimah Experiment Farm (10 miles = 16 km S of Darwin), 27-28.ii.1968, J. Haslam (five paratypes). FIJI: Viti Levu, 17.viii.1967, G. F. Bornemissza (four paratypes). Holotype in Australian National Insect Collection, CSIRO, Canberra; paratypes in authors' collections.

Hypopus

Holotype 141 μm long, 108 μm wide (four paratypes 135 x 110, 150 x 126, 156 x 130, 160 x 134). *Dorsum*: Propodonotum 15 μm deep, with two pairs of setae (sc_1 very short, sc_2 longer). Hysteronotal setae short and thin. *Venter*: Sternum long, extended posteriorly into weakly sclerotised pregenital sclerite. Coxae II completely closed, connected to sternum by narrow transverse strip. Setae cx_1

and cx_{III} represented only by their alveoli. Epimera IV not reaching midline. Suctorial plate rather small, with larger (posterior) pair of suckers 7.5-8 μm in diameter, with denticulate rims; with two pairs of elongate conoids posteriorly, set in curved line. *Palposoma* 15 μm long, with pair of elongate solenidia (25 μm) apically. *Legs*: Tarsi I-IV 15, 24, 24, 14 μm long, respectively. Tibia I 26-27 μm long. Ratio of lengths of tarsus I: tibia I 1: 1.8. Tarsi I-III with bifid claw apically, IV with strong seta (45 μm). Solenidia on genua I-IV long. Solenidion ω_1 set dorsoapically on tibia I, just beyond solenidion ϕ ; solenidion ω_2 probably represented by small seta set dorsobasally on tarsus I; solenidion ω_3 set middorsally on tarsus I.

Notes

It may now be said that *Anoetostoma* Womersley, based on hypopi of *A. oudemansi* Womersley from the house fly, *Musca domestica* L. (Muscidae), in New South Wales, is a synonym of *Myianoetus* Oudemans* since both show bifid claws on the legs (not mentioned in Womersley's text, but clear in his drawings), and a suctorial plate with one (posterior) pair of suckers enlarged and two pairs of conoids. The lattermost are not suckers as thought by Womersley, but soft conic projections probably serving as buffers to facilitate detachment from the host (Fain, 1973; 1974).

M. dycei is distinct from *M. oudemansi* in showing tarsus I shorter, rather than much longer, than tibia I (ratio of lengths 1: 1.8 vs 1: 0.5). In other species whose hypopi are known, tarsus I may range from longer to a little shorter than tibia I, but the ratio never exceeds 1: 1.3 in the latter case. Other points seen only in *M. dycei* are the denticulate (posterior) suckers and the relatively elongate conoids on the suctorial plate.

The new species is named for Mr A. L. Dyce, McMaster Laboratory, CSIRO, Glebe, who collected many of the specimens and kindly read our draft manuscript.

References

- Cannon, L. R. G. and Reye, E. J., 1966. A larval habitat of the biting midge *Culicoides brevitarsis* Kieffer (Diptera: Ceratopogonidae). *J. ent. Soc. Qd* 5: 7-9.
- Doherty, R. L., 1972. Arboviruses of Australia. *Aust. vet. J.* 48: 172-180.
- Doherty, R. L., Carley, J. G., Standfast, H. A., Dyce, A. L. and Snowdon, W. A., 1972. Virus strains isolated from arthropods during an epizootic of bovine ephemeral fever in Queensland. *Aust. vet. J.* 48: 81-86.
- Fain, A., 1968. Notes on two new heteromorphic deutonymphs (hypopi) (Acarina: Sarcopitiformes). *Proc. Linn. Soc. N.S.W.* 92: 246-250.
- Fain, A., 1973. Notes sur les hypopes des Saprogllyphidae (Acarina: Sarcopitiformes) III. Le genre *Crabrovidia* Zachvatkin, 1941. Description de 8 espèces nouvelles symphorétiques sur les Sphecidae (Hyménoptères). *Bull. Anns Soc. r. ent. Belg.* 109: 153-189.
- Fain, A., 1974. Notes sur quelques hypopes d'Anoetidae (Acarina: Sarcopitiformes). *Bull. Anns Soc. r. ent. Belg.* 110: 58-68.

* *Anoetostoma domrowi* Fain, 1968, based on hypopi from *Scolioptthalmus* sp. (Chloropidae) in New Guinea, is not a *Myianoetus* as here understood, and should be removed to another genus, possibly *Anoetus* Dujardin itself, to which it seems close.