Superfamily CHIRONOMOIDEA

23. Family THAUMALEIDAE

By B.V. Peterson & Gunther Theischinger

Thaumaleidae compose a small, homogenous family of rather small flies with wing lengths of ca. 1.5 to 7.5 mm and stocky, shiny yellow to dark brown bodies. Eyes are holoptic in both sexes, and the antennae are short, with the flagellomeres slender and arista-like. Wings have a characteristic venation and can fold downward from near their bases to a slanting roelflike position much as in Psychodidae. The primarily diurnal adults are not strong fliers and frequent damp areas near the habitats of the immature stages. Larvae are amphipneustic and somewhat resemble larvae of Lutzomyia França (Psychodidae) and Forcipomyia (Ceratopogonidae). They usually occur in shaded areas in cooler, flowing waters on rocks. They are found frequently on the vertical surfaces of rocks, but where the surface is covered by a film of water, that is thin enough not to submerge them completely. A few species have been reported from warmer waters varying from 18 to 28°C (Vaillant 1955, Anderson 1967). At least some species can overwinter as larvae and actively feed at water temperatures as low as 4°C (Gillespie 1971). Larvae apparently feed on diatoms and other organic matter (Leathers 1922). Pupation occurs in wet moss or leaves, buried in mud, or on the under-sides of rocks in stream beds. The larva and pupa of an unnamed species, misidentified as Austrothaumalea neozealandica, were recently described by McLellan (1983). For a discussion of other literature on the immature stages see Arnaud (1977).

This enigmatic family contains ca. 121 described species in 8 genera. They are mainly Holarctic in distribution, with 3 genera and 30 species named from the Southern Hemisphere [Afrathiamalea Stuckenbring (1 sp. plus 1 unnamed sp.), Austrothaumalea (24 spp.), and Nipha (5 spp.)]. Only the last 2 genera have been reported within the geographical limits of this catalog. The New Zealand fauna is currently being revised and apparently contains an additional new genus and several new species (McLellan, pers. comm.).


Genus AUSTROTHAUMALEA Tonnoir

longirostre Smart, 1972: 615 (n. n. for rostrata Smart & Clifford). PNG (PNG).
mackerrasorum Colbo, 1976: 261. Australia (Qld); Australia (NT, WA).
matokoense Smart & Clifford, 1965: 585. PNG (PNG).
melatum Wharton, 1949: 406. Australia (NSW); Australia (Qld, Vic).
minji Smart & Clifford, 1965: 555. PNG (PNG).
mussauense Delphínado, 1971: 137. PNG (Bismarck Arch).
nicholsoni Mackerras & Mackerras, 1948: 251. Australia (Qld); Australia (NSW, Vic).
oculatum Enderlein, 1936b: 121 (Pselaphochir). PNG (PNG).
raunsimnae Smart & Clifford, 1965: 569. PNG (Bismarck Arch); PNG (Bougainville I, PNG).
rouae Smart & Clifford, 1965: 539. PNG (PNG).
saihoense Smart & Clifford, 1965: 549. PNG (PNG).
tafae Smart & Clifford, 1965: 578. PNG (PNG).
torresianum Mackerras & Mackerras, 1955: 106. Australia (Qld).
wamalae Smart & Clifford, 1965: 584. PNG (PNG).
wantaense Smart & Clifford, 1965: 537. PNG (PNG).
wilhelmlandae Smart, 1944: 132 (n. n. for pugnae Enderlein). PNG (PNG).

Subgenus NEVERMANNIA Enderlein

NEVERMANNIA Enderlein, 1921a: 199 (as gen.). Type species: Simulium annulipes Becker, 1908 [= Simulium ruficorne Macquart, 1838], orig. des.
CHELOCNETHA Enderlein, 1936b: 117 (as gen.). Type species: Cheilocnetha biroi Enderlein, 1936 [= Simulium ornitipes Skuse, 1890], orig. des.
norfolkense Dumbleton, 1969b: 220 (ornitipes ssp.). Norfolk I.
ornitipes Skuse, 1890d: 632. Australia (NSW); Australia (Qld, SA, Vic, WA). PNG (PNG).
biroi Enderlein, 1936b: 117 (Cheilocnetha). Australia (NSW).