

Order Archaeognatha (= Microcoryphia)

Common name: bristletails

Simple diagnosis. Bristletails are wingless insects of small to moderately large size (6 to 25 mm) with scales covering the body, large compound eyes which meet in the middle of the head, three tail filaments at the apex of the abdomen with the middle filament much longer than the lateral ones, and long threadlike antennae. They are running and jumping insects.

Technical diagnosis. Bristletails are diagnosed by the absence of wings or wing pads; presence of scales (= unicellular outgrowth of the body); more or less cylindrical, elongate body; presence of three long segmented tail filaments at the end of the abdomen, comprising two lateral cerci and a medial filament (or appendix dorsalis) which is much longer than the cerci; mandibulate chewing mouthparts with a monocondylar (= single point of articulation to the head) mandible; mouthparts with seven-segmented maxillary palps; large and contiguous (= touching) eyes; pair of ocelli; long filiform (= threadlike) antennae; and abdominal segments with styli (= leg like remnants on ventral surface of abdomen) and eversible vesicles (= sacs on the abdomen) ventrally. Bristletails are capable of jumping by sudden flexion of the abdomen. The immature stages are similar to adults, but smaller.

What can they be confused with? Bristletails can be confused with their near relatives, the Zygentoma (= silverfish); both are wingless, have long threadlike antennae, body covered with scales (= flattened tile-like structures), have three tail-like filaments at the end of the abdomen.

Silverfish differ because their eyes are reduced or absent, the maxillary palps (= finger-like appendages on the middle mouthpart region) are 5-segmented, and the lateral abdominal cerci are almost as long as the medial tail-like filament.

Biology. Bristletails are mainly nocturnal and live commonly under bark and stones in diverse conditions. Their diet consists mainly of lichen, algae detritus, and leaf litter. They have indeterminate growth and have ametabolous development (= do not undergo distinct metamorphosis, larvae and adults similar in body form).



Bristletail (Archaeognatha)

Diversity in Papua New Guinea. They are comprised of two families and about 350 species worldwide, but only the family Meinertellidae is native to the Australian region. The PNG fauna is mostly undescribed (Miller 2007).



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Key references for Papua New Guinea.

Watson & Smith 1990. Archaeognatha. *Insects of Australia Volume 1*. CSIRO Publishing, Melbourne.



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