

New Species in the *Drosophila ananassae* Subgroup from Northern Australia, New Guinea and the South Pacific (Diptera: Drosophilidae), with Historical Overview

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ABSTRACT. Three new *Drosophila* species are described in the *ananassae* subgroup from Australia, New Guinea and Samoa. *Drosophila pandora* sp.nov. and *D. anomalata* sp.nov. are morphologically very similar to the circumtropical species *D. ananassae* and are classified together in the *ananassae* complex. For 40 years *D. pandora* has been incorrectly identified as *D. ananassae* in the Australian tropics. The results of a detailed examination of the morphology of 1649 wild-caught *ananassae*-like male specimens, sampled from 60 islands from Southeast Asia to French Polynesia and 94 localities of northern Australia and western, central and eastern New Guinea, are reported. Comparisons are made with Afrotropical and Oriental samples to confirm the identity of *D. ananassae* s.str. Photomicrographs of the male terminalia and sex combs of *D. ananassae* and *D. pandora* from geographically distant localities demonstrate the stability of the important diagnostic characters. Males of *D. anomalata*, known only from three localities in Queensland, Australia, have a unique bobbing behaviour when courting, and they have the lowest total number of teeth in the sex combs. The distinctive male terminalia of related species *D. atripex*, *D. monieri*, *D. ochrogaster*, *D. parapallidosa* and *D. pallidosa* are figured for comparison. Among them, a species from Samoa, closely resembling the Fijian endemic species *D. phaeopleura*, is described here as *Drosophila schugi* sp.nov.

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Bock & Wheeler (1972) revised the *Drosophila melanogaster* species group (Sturtevant, 1942) worldwide and classified 64 species into 11 subgroups, one of which—the *D. ananassae* subgroup (Hsu, 1949)—was subdivided into the *biplectinata* complex (in males of which the aedeagus is bifid and bare), and the *ananassae* complex (in males of which the aedeagus is fused and strongly hirsute) (Bock, 1971). Two additional

complexes have been added for species from Madagascar and the Seychelles. There are now 336 species in the *melanogaster* species group, they are in 27 subgroups, 25 species are in the *ananassae* subgroup; 15 of the 25 species have not formally been placed in any species complex.

Fieldwork since 1972 in New Guinea, northern Australia and the South Pacific has yielded an enormous cache

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