

Signal Flies of the Genus *Duomyia* (Diptera: Platystomatidae) in the Northern Territory, Australia

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ABSTRACT. A key is given to the species of *Duomyia* Walker, 1849, (approximately 26) recognized in the Northern Territory of Australia. The following new species are described: *D. nodosa*, *D. rapida*, *D. grahami*, *D. tricurva*, *D. bucina*, *D. recta*, *D. prensans*, *D. praeflava*, *D. korneyevi*, *D. lana*, *D. collessi*, *D. maceveyi*, *D. whittingtoni*. *Duomyia sericea* Hendel and *D. serra* McAlpine are newly recorded for the Northern Territory; *D. foliata* McAlpine is newly recorded for New South Wales; *D. tomentosa* Hendel is newly recorded for Western Australia; and *D. eremia* McAlpine is newly recorded for South Australia. The question of possible recent extinction of *D. irregularis* Malloch is raised, and the urgent need to establish the population status of other rarely seen species is mentioned.

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Nine of the 26 recorded Australian genera of Platystomatidae, or signal flies, are known in the Northern Territory, viz. *Achias*, *Aetha*, *Duomyia*, *Elassogaster*, *Euprosopia*, *Lamprogaster*, *Plagiostenoptera*, *Rhytidortalis*, and *Rivellia* (see McAlpine, 2001, for key to genera). This compares with 25 genera living in Queensland, and illustrates the decline in wet forest taxonomic diversity, as one proceeds from east to west in the Australian tropics, and a degree of isolation of the NT seasonally wet zone from that of the eastern Australian tropics.

The endemic Australian platystomatid genus *Duomyia* includes 70 previously described species (see McAlpine, 1973, 2001, 2011), but study of collections indicates that over 110 species exist. About 26 species are here recognized for the NT, of which 13 appear to be endemic to the Territory. Several apparent species, represented by material that is inadequate for precise characterization, are assigned provisional numbers.

The larger number of *Duomyia* species in the NT compared with that in other NT platystomatid genera correlates with the ability of numerous *Duomyia* species to survive in relatively dry climates. By contrast, the genus *Euprosopia* has only two species in the NT, compared with at least 29 species in the Queensland tropics (some undescribed).

Duomyia irregularis Malloch, from vicinity of Darwin, has apparently not been collected for more than 100 years (see p. 147). As it is a small, inconspicuous insect and recent collecting in the area has not been thorough, I do not regard this as firm evidence of extinction. The following species have each been collected on only one occasion: *Duomyia rapida* n.sp., *D. bucina* n.sp., *D. prensans* n.sp., *D. lana* n.sp.; also, some other species are known from very few specimens. Investigation of the population status of these insects by locally resident entomologists is needed.

A summary of general information on the genus *Duomyia*, including generic synonymy and a little information on habits and ecology, was previously given (McAlpine, 2001). A key to species was given by McAlpine (1973, supplemented by McAlpine, 2011).

The division of such a large genus as *Duomyia* into subgenera or species groups seems desirable, but this desideratum has not yet proved attainable. Although there are some small groups of evidently related species, many other species do not readily fit into groups or are intermediate between such groups. Malloch (1929) proposed the subgenus *Duomyza* for *D. tomentosa* Hendel. Some species are closely