

The pseudo-Gondwanan genus *Atlatlia* (Diptera: Dolichopodidae) from Australia, New Caledonia, and Baltic amber, with the description of two new genera

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ABSTRACT. The fly genus *Atlatlia* Bickel, 1986 (Diptera: Dolichopodidae: Medeterinae) is revised with additional new recent and fossil species, and now comprises two major species groups. The *Atlatlia grisea* group includes three recent species from Australia, *A. grisea* Bickel, 1986; *A. flaviseta* Bickel, 1986; and *A. isolata* sp. nov., three recent species from New Caledonia, *A. acra* sp. nov., *A. argenticoxa* sp. nov., and *A. cowanae* sp. nov., and three species from Baltic amber, *A. corynoura*, sp. nov., *A. electrica* sp. nov., and *A. licina*, sp. nov. The *Atlatlia ulrichi* group includes six species from Baltic amber, *A. angulicauda* sp. nov., *A. cryptica* sp. nov., *A. penicillata* sp. nov., *A. ramosa* sp. nov., *A. tonsa*, sp. nov., and *A. ulrichi* sp. nov. The genus *Kashubia* gen. nov., is described from Baltic amber with three species: *K. falcata*, sp. nov., *K. ornatipes* sp. nov., and *K. starki* sp. nov. The genus *Eridanomyia* gen. nov. is also described from Baltic amber with two species, *E. amica* sp. nov. and *E. conjugalis* sp. nov. Four of the newly described Baltic amber species also occur in Bitterfeld amber, suggesting their overall faunal similarity. The striking disjunction of the genus *Atlatlia* in both time and space, recent Australia and New Caledonia and Paleogene Baltic amber, suggests a once much wider distribution, possibly during Eocene “greenhouse earth” climatic conditions, with subsequent extinction leaving only a relict fauna in Australasia. With geological evidence suggesting New Caledonia was largely submerged in the early Paleogene and only emergent in the late Eocene, the New Caledonian *Atlatlia* fauna possibly originated by dispersal from Australia in the early to mid-Cenozoic.

Introduction

The genus *Atlatlia* (Diptera: Dolichopodidae: Medeterinae) was established for two newly discovered Australian species, *A. grisea*, collected on tree trunks in Ku-ring-gai Chase National Park, near Sydney, New South Wales, and *A. flaviseta* from Pemberton, Western Australia (Bickel, 1986). At the time, the genus was characterised by two striking synapomorphies, the total loss of posterior crossvein (crossvein dm-m) and the prolongation of the male abdominal peduncle (tergite and sternite 7) into a rod-like

extension for an apically positioned genitalic capsule or hypopygium (e.g., Figs 1a, 3a). A third Australian species and three additional species from New Caledonian were subsequently discovered along with additional records of the two described species.

Since *Atlatlia* was known only from Australasia and therefore of possible Gondwanan provenance, it was a surprise to find the genus present in Baltic amber, as identified by Hans Ulrich in Hoffeins and Hoffeins (2003). Amber is fossilised resin, primarily exuded from various tree species. When fresh resin is deposited in sediments, it loses

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