



<http://dx.doi.org/10.11646/zootaxa.3736.3.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:C3E21F1A-B054-42C5-B338-270DA8422DAC>

Working and reference check list for fireflies of Melanesia (Coleoptera: Lampyridae: Luciolinae)

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Abstract

Twenty-three species of Lampyridae (fifteen of them new) collected during the 1969-70 Alpha Helix scientific expedition to New Guinea are now characterized by both behavioural and taxonomic data. For ease of identification, relocation of specimens, and location of all pertinent literature this check list is presented.

Key words: fireflies, Lampyridae, Luciolinae, Melanesia

Introduction

The New Guinean Lampyridae collected during the 1969–70 Alpha Helix scientific expedition have now all been characterized by both behavioural and taxonomic data. As a result of Ballantyne and Lambkin (2013) a revised and expanded taxonomic treatment of SE Asian and Australopacific Luciolinae exists accommodating the 23 species, of which 15 were identified as new, and these are assigned to seven different genera viz. *Atyphella* Olliff 1890, *Australoluciola* Ballantyne 2013, *Magnalata* Ballantyne 2009, *Medeopteryx* Ballantyne 2013, *Pacifica* Ballantyne 2013, *Pygatyphella* (Ballantyne 1968) and *Trisinuata* Ballantyne 2013 in Ballantyne and Lambkin (2009, 2013) and Ballantyne and Buck (1979). Presently information about these specimens is scattered in many taxonomic and behavioural papers, spanning the years 1972–2013.

During the course of the 1969–70 Alpha Helix expedition to New Guinea specimens of Lampyridae were identified by Ballantyne by tentative species names where possible, and Lloyd (1973b) employed those identifications. Many specimens were initially recognised by Ballantyne as new (undescribed), and Lloyd (1973b) gave these code names and numbers, e.g., *Luciola* species 12, with an indication that Ballantyne would subsequently perform the taxonomic work. Ballantyne and Lambkin (2013) represents the completion of the taxonomic study. The study has (inevitably) resulted in changes to the tentative identifications given by Ballantyne in 1970, e.g., Ballantyne (1987a) working from Lloyd's (1973b) flashing data described a complex of 5 species in Ballantyne & McLean's (1970) composite *Pteroptyx cribellata* Olivier; and a new genus *Medeopteryx* has been recognized for many New Guinea *Pteroptyx* Olivier, following suggestions made in Ballantyne (1987a,b).

Behavioural papers have not always reflected or been sensitive to the necessity and inevitability of taxonomic changes (e.g., Buck 1988: 265).

It was therefore considered advisable to collate all the information about this collection for ease of communication, access to the specimens and avoidance of confusion. All of Lloyd's specimens listed here constitute Behaviour Vouchers (Lloyd 1966; Lloyd & Walker 1967; Knutson 1984; Ballantyne 1987a, p. 122; Ballantyne 2012). Each behaviour voucher specimen in the J.E. Lloyd collection bears a voucher number (all specimens of the 1969–70 expedition are prefixed by a "G"). These numbers can then be related to the detailed field notes kept by Lloyd, which will be deposited ultimately with his collection (JELC), in the Florida State Collection of Arthropods, or an affiliate. In addition, many individual specimens had their flashes recorded onto magnetic tape before capture. These tapes also form part of the JELC collection, and were illustrated by Lloyd (1973b). Some specimens are in the Australian National Insect Collection (ANIC) in Canberra, where all holotypes and some paratypes are deposited.

Ballantyne and Lambkin 2013 Table 3.

Specimens in JELC: G453–454, 456–466, 468–472, 475, 476, 478, 479, 481, 483–489 (paratypes).

Specimens in ANIC: G467 (holotype).

Acknowledgements

We thank John Sivinski, Tom Walker and Marc Branham for helpful comments.

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