



# Taxonomy and behaviour of lucioline fireflies (Coleoptera: Lampyridae: Luciolinae) with redefinition and new species of *Pygoluciola* Wittmer from mainland China and review of *Luciola* LaPorte

XIN HUA FU<sup>1\*</sup> & LESLEY BALLANTYNE<sup>2</sup>

<sup>1\*</sup> College of Plant Science and Technology, HuaZhong Agricultural University, Wuhan, 430070, China.  
e-mail: fuxinhua2001@yahoo.com

<sup>2</sup> School of Agricultural and Wine Sciences, Charles Sturt University, PO Box 588, Wagga Wagga 2678, Australia.  
e-mail: lballantyne@csu.edu.au

\*Author for correspondence

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## Abstract

Subfamily classification within the Lampyridae, and generic categories in the Luciolinae are reviewed, as are the difficulties that often exist with accurate species determinations because of inadequate definition of the genus *Luciola* LaPorte. A key to genera of the Luciolinae reflects current phylogenetic trends and includes the first morphological details of *Luciola* (*PhoturoLuciola*) (Pic). An expanded generic definition of *Pygoluciola* Wittmer includes an extension of its geographic range. *Pygoluciola qingyu* sp. nov. is described including morphology of males, females (bursa structure) and larvae, and the first record of synchronous flashing from mainland China. Behaviour including predacious activity by larvae on large mandibulate ants, in an apparently hazardous frontal attack, the semiaquatic mode of life and luminous activity including synchronous flashing is described and discussed. A lectotype male of *Luciola cerata* Olivier is designated and described.

**Key words:** Luciolinae, generic revision, *Pygoluciola qingyu* sp. nov.