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Remarkable range extension of the previously monotypic braconid genus *Wushenia* Zettel (Hymenoptera: Braconidae: Cheloninae), with description of a second species from Australia

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Abstract

The apparently rare chelonine wasp genus *Wushenia* Zettel was previously known only from a single species *Wushenia nana* Zettel, collected by Townes at 1150 m from Wushe, Taiwan in 1983. Here we describe a second species, *Wushenia australiensis* sp. nov. from coastal New South Wales, Australia. This second species extends the known distribution of the genus from the Oriental into the Australasian region, indicating either an extreme disjunct distribution or that *Wushenia* may also occur on the landmasses inbetween, e.g. the Philippines, Malaysia, Indonesia and/or Papua New Guinea. In addition to a detailed description of the new species, a re-diagnosis of the genus and type species, and a key to species are presented.

Key words: egg-larval parasitoid, new species, *Wushenia australiensis*, *Wushenia nana*

Introduction

The Cheloninae is a moderately large subfamily of braconid wasps with more than 1,300 described species worldwide (Yu *et al.*, 2005). They are easy to recognize based on three characters, a metasomal carapace formed from the fusion of the first three tergites, the complete postpectal carina, and the presence of three submarginal cells in the fore wing (Shaw, 1983; van Achterberg, 1990; Zettel, 1990d; Shaw, 1997). Virtually all members of the subfamily are considered to be solitary koinobiont parasitoids of Lepidoptera, where oviposition occurs into a host egg but development of the parasitoid is delayed until the host has emerged as a larva (Shaw & Huddleston, 1991; Shaw, 1997; LaSalle, 2003). Although the Cheloninae are moderately well-studied for the Holarctic region (Shaw, 1983; Huddleston, 1984; van Achterberg, 1990), and the taxonomy of *Phanerotoma* Wesmael has been revised for several regions (Zettel, 1988b, 1989a, 1989b, 1990a, 1990b, 1990c, 1990e, 1990f, 1990g, 1991, 1992a, 1992b, 1992c), the faunas of the Afrotropical, Australasian, Neotropical and Oriental regions are poorly known, with most recent studies describing single species (Zettel, 1988a; Braet *et al.*, 2012). Further, a number of new genera and subgenera have been described, particularly within the Phanerotomini (Zettel, 1990d; He *et al.*, 1994; He *et al.*, 1997; Tobias, 2011), but there is no rigorous and comprehensive phylogenetic framework available to interpret relationships among higher level taxa given that the previous analyses have either included only four of the 15 currently recognised genera (Shaw, 1983) or they represent intuitive schemes generated by hand (Zettel, 1990d).

As part of a detailed study of Australian Cheloninae which involved the sorting of more than 4000 specimens from Australian and overseas collections, a number of conspecific specimens from coastal New South Wales were encountered that could not be easily accommodated within any of the genera previously recorded from the continent. Subsequent assessment of non-Australian genera showed that these specimens were congeneric with *Wushenia nana* Zettel (1990d), a rare monotypic genus described from Taiwan. Here we describe this taxon as a second species of *Wushenia* from Australia which results in a huge range extension for the genus and, in addition, provide a re-diagnosis of the genus and type species, and a key to species.