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## Larvae of Australian Buprestidae (Coleoptera). Part 4. Genus *Julodimorpha*

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### Abstract

The mature larva of the Australian buprestid genus *Julodimorpha* Gemminger and Harold, 1869 (*J. saundersii* Thomson, 1878) is fully described, illustrated and compared with the larvae of Julodinae, Polycestinae, Chrysochroinae, and Buprestinae. In situ observations confirm the soil inhabiting life-strategy of *Julodimorpha* larva. The comparative morphological study of the *Julodimorpha* larva proves its buprestine-chrysochroine affinities, while the superficial similarity of *Julodimorpha* and Julodinae adults, with their identical life-strategies, due to convergence.

**Key words:** Coleoptera, Buprestidae, Julodimorphini, *Julodimorpha saundersii*, larval morphology, bionomy, relations, Australia

### Introduction

This paper follows previous studies on Australian buprestid larvae (Bílý & Volkovitsh, 2003; Volkovitsh *et al.*, 2004; Bílý & Volkovitsh, 2005), and is part of a long-term project dealing with the larval taxonomy and morphology of the family Buprestidae.

The genus *Julodimorpha* Gemminger and Harold, 1869 (type species *Stigmodera bakewellii* White, 1859, by monotypy) is one of the most enigmatic Australian buprestid taxa—its taxonomic position is still an open question (Cobos, 1986; Bellamy & Weir, 2008). Currently, the genus comprises two valid species: *J. bakewellii* (White, 1859) and *J. saundersii* Thomson, 1878 (Bellamy & Weir, 2008; Bellamy, 2008).

Gemminger & Harold (1869) created the genus *Julodimorpha* in their catalogue for the single valid species and type-species *Stigmodera bakewellii* White, 1859 (type-locality: “Maillee scrub”, Australia), though they also listed the nomen nudum/manuscript name “*Julodimorpha saundersii* H. Deyrolle in litt.”. Nine years later Thomson (1878) described/validated *Julodimorpha saundersii* (type-locality: Swan-River). This name has usually been considered as a junior synonym or variety of *J. bakewellii* but recently Bellamy & Weir (2008) reinstated *J. saundersii* Thomson, 1878 as a valid species.

We tentatively refer the taxon represented by the larva described in this paper to *J. saundersii* following the opinion of Bellamy & Weir (2008).

Saunders (1871) placed *Julodimorpha* among the stigmoderine genera. Théry (1929) classified Julodimorphini as a subtribe, Julodimorphae, of the Stigmoderini (Buprestinae). Kerremans (1902, 1904) established a monotypic group Julodimorphites within the tribe Polycestini. The same position was reflected in Obenberger’s Catalogue (Obenberger, 1926). Holm (1979) suggested that *Julodimorpha* had chalcophorine affinities, based on a set of adult characters (wing venation, lateral pronotal ridges, shape of mesosternum, antennal pore distribution and shape of metacoxa), and suggested that “this genus split off from the main body of the Chalcophorini at an early stage and occupied a macroniche similar to that of the Julodini, and then evolved convergent to the latter”. This opinion was supported by Bellamy (1986) who re-analyzed a number of adult characters of *Julodimorpha* and placed Julodimorphini within Chalcophorinae (currently Chrysochroinae). Hołyński (1993) criticized the close