



<http://dx.doi.org/10.11646/zootaxa.3955.1.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:951A26EF-0AA8-4926-8B2D-BF656F7DB4E8>

Description of larva and puparium of *Oplodontha rubrithorax* (Diptera: Stratiomyidae) from the Oriental Region

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Abstract

This is the first description of larva and puparium of *Oplodontha rubrithorax* (Macquart, 1838) from the Oriental Region. Larvae were found at a hot spring in North Thailand. The morphological features and cuticular structures of the larva are documented by drawings and SEM micrographs and the main characters are compared with the European *O. viridula* (Fabricius, 1775), the only described larva of this genus. Differences between larvae of both species were only found in pubescence. The characteristic, somewhat dilated and slightly clavate hairs on the dorsal surface of the body segments of *O. viridula* larva are apparently lacking in the larva of *O. rubrithorax*.

Key words: Stratiomyidae, *Oplodontha rubrithorax*, larva, hot springs, Oriental Region, Thailand, taxonomy, morphology

Introduction

The Stratiomyidae or soldier flies have a worldwide distribution and comprise nearly 2700 described species (Woodley 2001, 2011). The adult flies are about 2–20 mm long and of very diverse colour and appearance. The brightly coloured or metallic species sometimes resemble wasps or bees. The wing venation is characteristic for the family: the anterior veins are strong; the discal cell is small and usually situated in the anterior half of the wing. The antennae show a large structural variation and are useful for the identification of genera. The scutellum is often adorned with spines, which may be the reason for the common name soldier flies. The larvae are characteristically and uniformly built. The body is flat and composed of a strongly sclerotized head capsule, three thoracic and eight abdominal body segments. The cuticula has a honeycomb or mosaic appearance originating from calcium carbonate excretions of the larvae. The mandibles are fused with the maxillae and form two characteristic mandibular-maxillary complexes, which are moved alternately in a vertical plane. Terrestrial larvae are elongate-oval and usually have a rounded anal (last abdominal) segment. Aquatic or semiaquatic larvae are often characterized by a more or less tapering posterior end which bears an apical coronet of plumose hydrofuge hairs. The recent knowledge of the family fauna worldwide has been updated among others by Hauser (2014), Mason *et al.* (2009), Rozkošný & Woodley (2010), Woodley (2009, 2012a, 2012b, 2012c, 2013), Yang *et al.* (2013, 2014) and Zhang *et al.* (2011).

The genus *Oplodontha* Rondani, 1863 belongs to subfamily Stratiomyinae and tribe Stratiomyini. This genus comprises 21 species (Brake & Thompson 2011) with most species being native to Africa. A few species are distributed outside of Africa: *Oplodontha viridula* (Fabricius, 1775) is found throughout Europe and Western Asia and recently is as the only species of the genus recorded from Iran (Kazerani & Khaghaninia 2013); *Oplodontha luzonensis* James, 1947 is native to the Philippines, and *O. rubrithorax* (Macquart, 1838) is occurring as far east as the Ryukyu Islands (Japan) (Woodley 2001). Recently, a taxonomic revision of *Oplodontha minuta* (Fabricius, 1794) was given by Tkoč & Rozkošný (2014) extending its distribution to Afrotropical and Palaearctic by recovering new synonymy.

resemblance in their size, coloration and chaetotaxy. However, we found some differences between both species in pubescence on dorsal side of body segments. The larva of *O. viridula* possesses dilated, somewhat clavate hairs in addition to usual hair cloth on dorsal surface of thoracic and abdominal segments. Similar hairs are lacking in *O. rubrithorax*, where all dorsal hairs are simple. Moreover, only one, relatively long sensilla was found in *O. viridula* besides the conical apical segment of antenna. The larva of *O. rubrithorax* possesses three further small sensillae besides the apical segment in addition to a long fingerlike sensilla. However, all these structures were visible only in scanning electron micrographs. It is thus probable that small additional sensillae will be found in *O. viridula* as well.



FIGURE 16. Habitat of *Oplodontha rubrithorax* larvae at the Pong Dueat Hot Springs, Province Chiangmai, Thailand.

Acknowledgement

We would like to thank Prof. Rudolf Rozkošný, DrSc. (Masaryk University, Faculty of Science, Department of Botany and Zoology) for his helpful comments on the manuscript as well as two reviewers who kindly reviewed this paper.

This study was accomplished through financial support provided to the Moravian Museum by the Ministry of Culture of the Czech Republic as part of its long-term conceptual development programme for research institutions (ref. MK000094862).

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