



## Morphology and biology of the antlion *Myrmeleon yemenicus* Hölzel, 2002 (Neuroptera, Myrmeleontidae)\*

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### Abstract

The antlion *Myrmeleon yemenicus* is known from SW of the Arabian Peninsula where it inhabits shrubland and rock communities at the altitudes higher than 1800 metres above sea level. Morphology and behaviour of larvae and adults are described. Larvae construct conical pits in loose soil and wait for prey at the bottom of the trap. Catching behaviour comprises sand tossing, prey beating, grasping and prey submersion. On sand surface, larvae move only backwards. Dark brown spots on dorsal and ventral sides of the head are characteristic for the larvae. Eye tubercles are not prominent and mandibles are equipped with numerous long bristles oriented laterally. Body surface is covered with longitudinally grooved bristles and plumose hairs. On the tip of the antennae and labial palps sensilla basiconica occur. Small submedian teeth are located on abdominal sternite 8. Typical pattern of arrangement of digging bristles comprises eight bristles in the posterior row, and four bristles in the row immediately in front.

**Key words:** Antlion, *Myrmeleon yemenicus*, larva, adult, Yemen, Arabian Peninsula

\*Dedicated to the memory of Herbert Hölzel (1925–2008)

### Introduction

The order Neuroptera (lacewings) comprises 19 families, and Myrmeleontidae (antlions) are the largest family of the order, with about 2000 species distributed throughout the world. Whilst adult antlions are generally nocturnal, resting on plants during the day, the larvae have adopted a variety of predation strategies (Mansell 1996, 1999). Only a few antlion species build pitfall traps, and this is considered to be the most specialized strategy for capturing prey (Gepp & Hölzel 1989; Mansell 1996, 1999).

The Arabian Peninsula touches three of the world's main zoogeographical regions: the Palearctic, the Afrotropical and the Oriental. Some authors include parts of the peninsula in the Afrotropical region, but there seems to be no agreement as to how much. The Arabian Peninsula has a rich fauna of Neuroptera, comprising over 230 known species in nine families (Hölzel 1998, 2002). Antlions with about 120 species represent the major part of the peninsular lacewings fauna (Hölzel 2002; Saji & Whittington 2008). Particularly rich in antlions is Yemen, where 36 species were registered (Hölzel 2002).

During an excursion to Yemen in November / December 2008, the first author collected antlion larvae in desert and mountainous regions of the western part of the country. Biology of the Arabian antlions has not been comprehensively studied and larval stages of most of the species are unknown. In this paper we describe biology and morphology of the larvae and adults of an endemic species, *Myrmeleon yemenicus* Hölzel, 2002. The original description of the species by Hölzel (2002) is based on two adults and no information is available on ecology and larval stages.