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## Redescription of late-instar larva of *Scydmoraphes sparshalli* (Denny) (Coleoptera: Staphylinidae, Scydmaeninae)

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### Abstract

The larva of *Scydmoraphes sparshalli* is redescribed. This is the first complete description of an immature *Scydmoraphes* with special focus on the chaetotaxic characters. The larva is unique among Cyrtoscydmini in having three pairs of stemmata, a very long sensory appendage of the antennomere II, mandibles with mesal row of microserrations interrupted by smooth portion of mandibular margin; maxillary mala with asetose apex and a row of very long, modified setae on mesal margin, and extremely elongate maxillary palpomere III and labium. A comparative study of previous descriptions resulted in recognizing a misidentification of a *Scydmoraphes* larva (the "Typ 2-Larve" of Schmid) as a putative *Neuraphes* (*Pararaphes*). The serial homology of chaetotaxic structures in the larva of *Scydmoraphes sparshalli* is discussed, and comparative notes on the larvae of *Scydmoraphes*, *Neuraphes* and *Stenichmus* are given, with an identification key.

**Key words:** Coleoptera, Staphylinidae, Scydmaeninae, Cyrtoscydmini, *Scydmoraphes*, larval morphology, Palaearctic

### Introduction

Larvae of *Scydmoraphes* were described and illustrated by Brown & Crowson (1980) and Schmid (1988), both based on European species. The former authors illustrated the general dorsal habitus, the head capsule in dorsal view, the mandible, labium, antenna, tarsungulus and maxilla of *S. sparshalli* (Denny, 1825), and Schmid (1988) presented the general view of thoracic and abdominal tergites, the head in dorsal and ventral view, and details of the mouthparts, legs and spiracles of *S. helvolus* (Schaum, 1844). These larvae have several (Brown & Crowson 1980) or three (Schmid) stemmata in a close group on each side of the head, a character unusual among Cyrtoscydmini, and a distinct mandibular retinaculum. Another unique larval character of these species is a very long, subtriangular mala with blunt and entirely asetose apical region, but with long and modified setae on its mesal margin. Brown & Crowson (1980) illustrated these setae as having a lentiform broadening in subapical region, and in Schmid (1988) the setae seem to have similar broadenings located apically (the small illustration is not clear enough to see fine details). Interestingly, Schmid (1988) illustrated another larva which is strikingly similar to that of *S. helvolus*, and putatively identified it as *Neuraphes* Thomson, 1859, subgenus *Pararaphes* Reitter, 1891. This larva is clearly different from another putative *Neuraphes* s. str. illustrated by Schmid in the same paper, and from the larva of *Neuraphes* (s. str.) *elongatulus* (Müller & Kunze, 1822) illustrated by Brown & Crowson (1980). A larva collected recently in Poland in association with numerous adults of *Scydmoraphes sparshalli* and showing characters congruent with those illustrated by Brown & Crowson (1980) shed new light on the morphological structures of immature Cyrtoscydmini, and allowed for clarifying the above uncertainties.

### Material and methods

**Material.** A single larva accompanied by 29 adults of *Scydmoraphes sparshalli* was collected by sifting forest leaf litter on 17.08.2014 in Świnia Góra Natural Reserve near Suchedniów, Małopolska Upland, SE Poland (leg. M. Wanat) and preserved in 75% ethanol. This is the only locality in Poland where this species was collected in such