Zeitschrift: Entomologica Basiliensia

Herausgeber: Naturhistorisches Museum Basel, Entomologische Sammlungen

Band: 25 (2003)

Artikel: Description of a larva of Phloeostichus denticollis Redtenbacher, 1842

(Coleoptera, Phloeostichidae)

Autor: Kolibá, Jií

DOI: https://doi.org/10.5169/seals-980875

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Mehr erfahren

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. En savoir plus

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. Find out more

Download PDF: 14.11.2025

ETH-Bibliothek Zürich, E-Periodica, https://www.e-periodica.ch

Entomologica Basiliensia	25	135–140	2003	ISSN 0253-24834
_				

Description of a larva of *Phloeostichus denticollis* Redtenbacher, 1842 (Coleoptera, Phloeostichidae)

by Jiří Kolibáč

Abstract. A larva of *Phloeostichus denticollis* Redtenbacher, 1842 is described and figured.

Key words. Coleoptera – Cucujoidea – Phloeostichidae – *Phloeostichus denticollis* Redtenbacher, 1842 – larva – morphology

Introduction

Phloeostichus denticollis Redtenbacher, 1842 is the single European species of the primitive cucujoid family Phloeostichidae. Its larva was observed and described for the first time by Weise (1897), unfortunately without illustrations. For approximately a hundred years, the larva has not been examined again. In their identification program, Lawrence et al. (1999) coded characters of the larva of that species using a slide with a larva collected by R. A. Crowson in Slovenia ("Bohinj Gorenicko, 30.vi.1960, under bark of dead beech"), however, again without illustrations. Curiously enough, Crowson himself did not use that specimen when preparing his communication about the Phloeostichidae in which some larvae of this new family were also described (Sen Gupta & Crowson 1969).

In this communication, the larva of *P. denticollis* is described and some body parts are illustrated for the first time.

Larva of Phloeostichus denticollis

Material examined. Two specimens, probably 2nd instar: "Czechia, N Moravia, Beskydy Mts, Travný Nature Reserve: 49.33.19N - 18.31.18E - 939 m, 05.vi.2002, Jiří Kolibáč leg.". Deposited in J. Kolibáč coll. (Moravian Museum, Entomology), container no. JKS-14.

Description based on two larvae of probably the second instar (body size 2.5 and 3 mm).

Body whitish, cuticle semitransparent. Head capsule and urogomphi sclerotized, yellowish. Thorax and abdominal segments I–VIII with relatively sparse and short pubescence. Urogomphi with several long hairs. Body outline in Fig. 11.

He ad. Capsule relatively large, rectangular; its dorsal side sparsely ciliate (Fig. 1). Median endocarina and epicranial stem absent. Frontal sutures lyriform, strongly curved; their bases connected each other. Frontoclypeal suture absent. Stemmata present in pattern 3+2 (in upper row, 2 stemmata conspicuous but the third indistinct). On each side, two longitudinal pigmented spots present under stemmata, within capsule. Base of capsule emarginate at dorsal side. Gular sutures long, convergent (Fig. 2). Hypostomal

This paper was supported by grant no. MK0CEZ00F2402.

J. Kolibáč

rods inconspicuous, probably absent. Divided tendon connecting maxilla with gular suture, shown in Fig. 2).

Mandibles symmetrical, their apex with two large teeth. The third tooth is smaller and situated under the two apical ones. Mola absent; prostheca large, comb-like (Fig. 3).

Labrum very small, with long setae along apical margin dorsally. Sclerotized plate occurs at base of labrum; it is connected by two thin tormal processes (Fig. 4).

Labium (Fig. 5) with conspicuous mentum and prementum. Labial palpi 2-segmented. Ligula minute, evenly rounded.

Maxilla with narrow elongate oblique cardo. Mala simple, without spines or denticles, with only several thick setae along inner margin (Fig. 6). Maxillary palpi 3-segmented.

Antenna 3-segmented, with small triangular sensory appendix (sensorium). Terminal segment with long setae (Fig. 7).

Thorax. Thoracic segments without distinct sclerites or sculpture and without pigmentation; dorsal and ventral side with very sparse pubescence. Prothorax as large as head capsule or a little smaller (i.e. shorter and narrower than capsule). Coxae of all three pairs of legs very widely separated (Fig. 8). Trochanters conspicuous, triangular. Claw (pretarsus) relatively large, with small, blunt denticle at inner side and two setae on this denticle.

A b d o m e n . Segments I to VIII with transverse rows of relatively short, fine hairs. Segments simple, with no appendages. Spiracles annular-biforous (Fig. 9). Spiracles in segment VIII functional, the same size as other abdominal spiracles, situated in dorsolateral position.

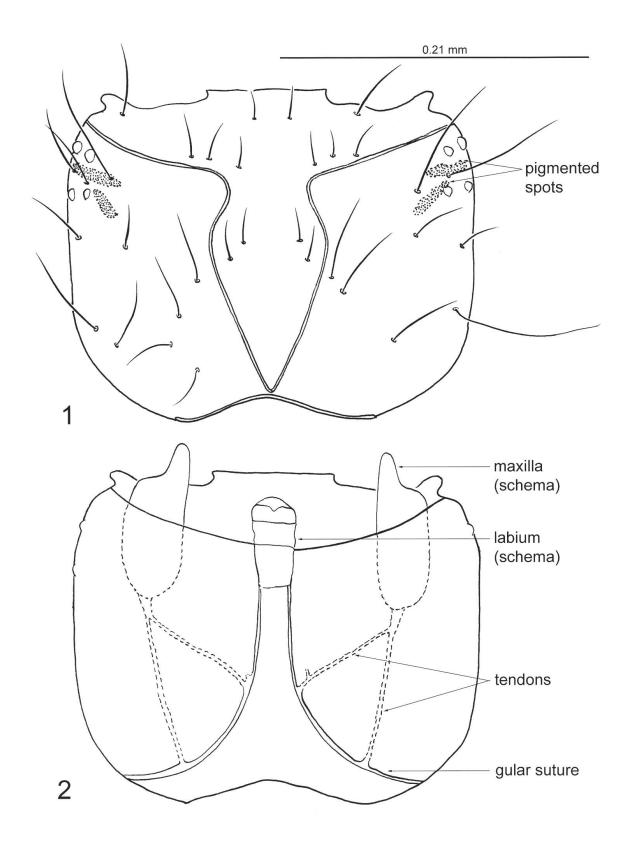
Segment IX with weakly sclerotized dorsal disc from which urogomphi grow outwards. Urogomphi well sclerotized, sharp and hooked, without apodeme or spurs with the exception of a blunt projection at the outer margin near apex. Pit or notch between urogomphi absent, urogomphi widely separated. Each urogomphus with one extremely long and several moderately sized hairs (Fig. 10).

Biology. Both the larvae were found under bark scales on a drying maple tree (*Acer pseudoplatanus*), associated with dead adults. Live adults were regularly observed in this tree in winter (December to February), often at temperatures below zero Celsius with snow cover. The adults also live under bark scales or directly under loose bark.

The larva of *P. denticollis* probably feeds on the fine humid detritus containing the mycelia of fungi. Such detritus was found in the gut of the examined specimens.

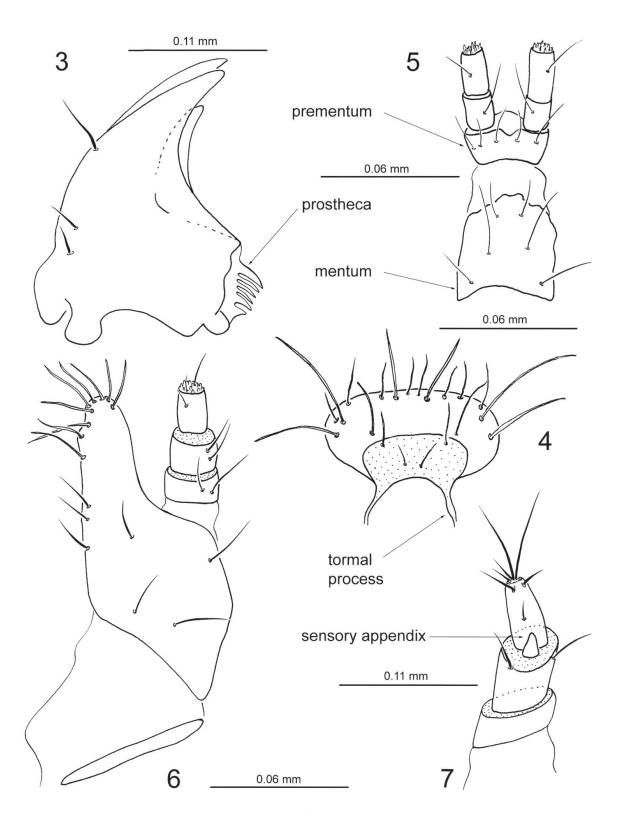
Discussion

The presented description more or less agrees with the character states listed on CD-ROM by LAWRENCE et al. (1999). In comparison with my description, there are several differences: head capsule narrower than thorax, hypostomal rods short but present, 1 or 2 stemmata in lower row. However, all these differences refer to vague characters (ratio of head to thorax on a slide or a conserved specimen) or to microscopic body parts in which observation of structures is complicated and perhaps also affected by the age of the larva (hypostomal rods).

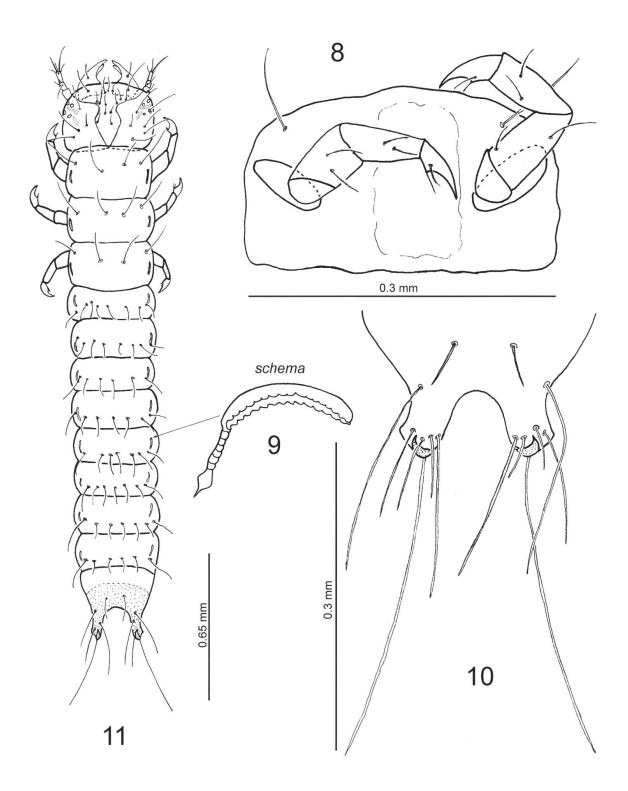


Figs 1–2. Phloeostichus denticollis, larva: 1, head capsule dorsally; 2, head capsule ventrally.

138 J. Kolibáč



Figs 3–7. *Phloeostichus denticollis*, larva: 3, left mandible dorsally; 4, labrum; 5, labium; 6, right maxilla; 7, left antenna dorsally.



Figs 8–11. *Phloeostichus denticollis*, larva: 8, prothorax ventrally; 9, abdominal spiracle; 10, detail of urogomphi dorsally; 11, body outline dorsally.

J. Kolibáč

The larvae studied show features that are probably primitive cucujiform, for example: bidentate (or tridentate) mandibles, prostheca present, stemmata in 3+2 pattern, widely separated coxae, pretarsus with two setae, well developed hooked urogomphi, spiracles annular-biforous. One surprising feature is the absence of the mandibular mola which is present in other described Phloeostichidae larvae (SEN GUPTA & CROWSON 1969).

References

- LAWRENCE J. F., HASTINGS A. M., DALLWITZ M. J., PAINE T. A. & ZURCHER E. J. (1999): Beetle larvae of the World: Descriptions, illustrations, identification, and information retrieval for families and sub-families. CD-ROM, Version 1.1 for MS-Windows. CSIRO Publishing, Melbourne.
- SEN GUPTA T. & CROWSON R. A. (1969): Further observation on the family Boganiidae, with definition of two new families Cavognathidae and Phloeostichidae. J. nat. Hist. 3: 571–590.
- Weise J. (1897): *Biologische Mitteilungen (3. Larve von Phloeostichus)*. Deutsche entomologische Zeitschrift **1897:** 389–395.

Address of author:

Dr. Jiří Kolibáč Moravian Museum Department of Entomology Hviezdoslavova 29a 627 00 Brno CZECH REPUBLIC e-mail: ento.kol@volny.cz