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## Description of a presumed larva of Anthicini (Coleoptera, Anthicidae)

by Jiří Kolibáč

**Abstract.** A presumed larva of *Anthicus* Paykull, 1798 or *Omonadus* Mulsant et Rey, 1866 (Anthicidae, Anthicinae, Anthicini) is described and some morphological characters (especially the mouthparts) are figured.

**Key words.** Coleoptera – Tenebrionoidea – Anthicidae – Anthicini – larva – morphology

### Introduction

The larvae of the Anthicidae are have been characterised by KITAYAMA (1982) and LAWRENCE et al. (1999). The compendium by KLAUSNITZER (1999) is a valuable review of the literature dealing with Holoarctic anthicid larvae and the larvae of the genera *Mecynotarsus* La Ferté-Sénectère, 1848, *Notoxus* Geoffroy, 1762 and *Anthicus* Paykull, 1798 are keyed in it. With the exceptions of several species of three named Central European genera, the larva of *Formicomus pedestris* (Rossi, 1790) has been described (SCHÜTZ 1989) from that region. Another Central European species, *Omonadus floralis* (Linnaeus, 1758), was described by REY (1887), redescribed by HINTON (1945) and keyed by KITAYAMA (1982).

### Description of a presumed larva of Anthicini

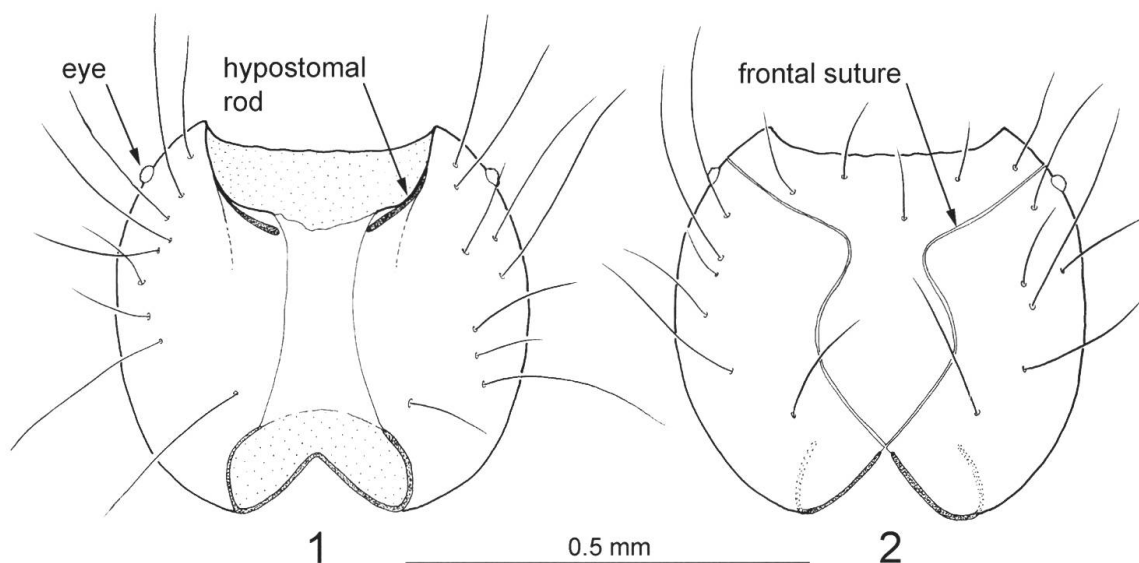
**Material examined.** Two specimens “Czechia, N Moravia, Beskydy Mts, Salajka Nature Reserve: 49.24.06 N - 18.24.55 E - 770 m. Jiří Kolibáč leg. vii, 1999”. Deposited in J. Kolibáč coll. (Moravian Museum, Entomology), container no. JKS-11.

**Description** based on one mature (body size 6 mm) and one immature (body size 4 mm) larvae.

**B o d y** whitish, cuticle semitransparent. Pubescence of segments relatively long and sparse. Hairs mostly situated on sides of segments (Fig. 7).

**H e a d.** Head capsule relatively densely and deeply ciliate, weakly pigmented. One large dark ocellus present on each side of capsule (Fig. 1, 2). Gular sutures wide, curved. Hypostomal rods short, seemingly double (Fig. 1) – “rods” parallel with gular sutures are in fact part of maxillolabial complex. True hypostomal rods simple, transverse. Epicranial stem (endocarina) absent. Frontal sutures strongly curved (Fig. 2).

Maxillolabial complex, as shown in Fig. 3. Maxillae and labium separated. Maxilla with row of spines at inner margin and long hairs along outer margin. Palpae 3-segmented, elongate, palpifer triangular, small. Cardo and stipes not separated from body of maxilla (Fig. 3). Pedunculate setae not present in mala. Labium with complex mental area, mala densely covered by spines. Ligula small, rounded (Fig. 3). Epipharynx with several types of setae and complex torma (Fig. 4).



**Figs 1–2.** Anthicini, larva: 1, head capsule ventrally; 2, head capsule dorsally.

Mandibles asymmetrical: left mandible with two apical teeth which are situated laterally (Fig. 5), right mandible with single tooth. Mandibular mola present. Lacinia mandibulae (penicillus in KITAYAMA 1982) composed of several spines situated at base of mola (Fig. 5).

Antennae with small 3rd joint, extraordinarily long apical seta occurring at its apex. Sensory appendix absent. The second joint with rectangular opening ventrally (Fig. 6).

**T h o r a x .** Pro-, meso-, and metathorax without conspicuous sclerites (dorsally even ventrally) or pigmented areas. Only tarsunguli weakly pigmented. Pubescence very sparse. (Not figured.)

**A b d o m e n .** Segments rectangular, transverse. Their pubescence sparse, fine (as in abdominal segment VIII in Fig. 7). Segment IX very sparsely pubescent. Urogomphi sharp, large and distinct, turned upwards (Fig. 8), pigmented only at apices. Two pairs of small projections occur at sides and one pair on inner side of urogomphi; base of urogomphi with weak notch (Fig. 7). Abdominal spiracles annular.

**Biology.** Both larvae found under bark of a drying fir (*Abies alba*), not associated with adults. The adult beetle species *Rhizophagus cribratus* (Gyllenhal, 1827) (Rhizophagidae) and *Ostoma ferruginea* (Linnaeus, 1758) (Trogositidae) were found together with the larvae.

### Discussion

The larva described is very similar to that of *Omonadus floralis*, especially in its surface structure and the shape of the urogomphi, the structure of maxilla and mandibles, as well as absence of endocarina (HINTON 1945). On the other hand, the body of

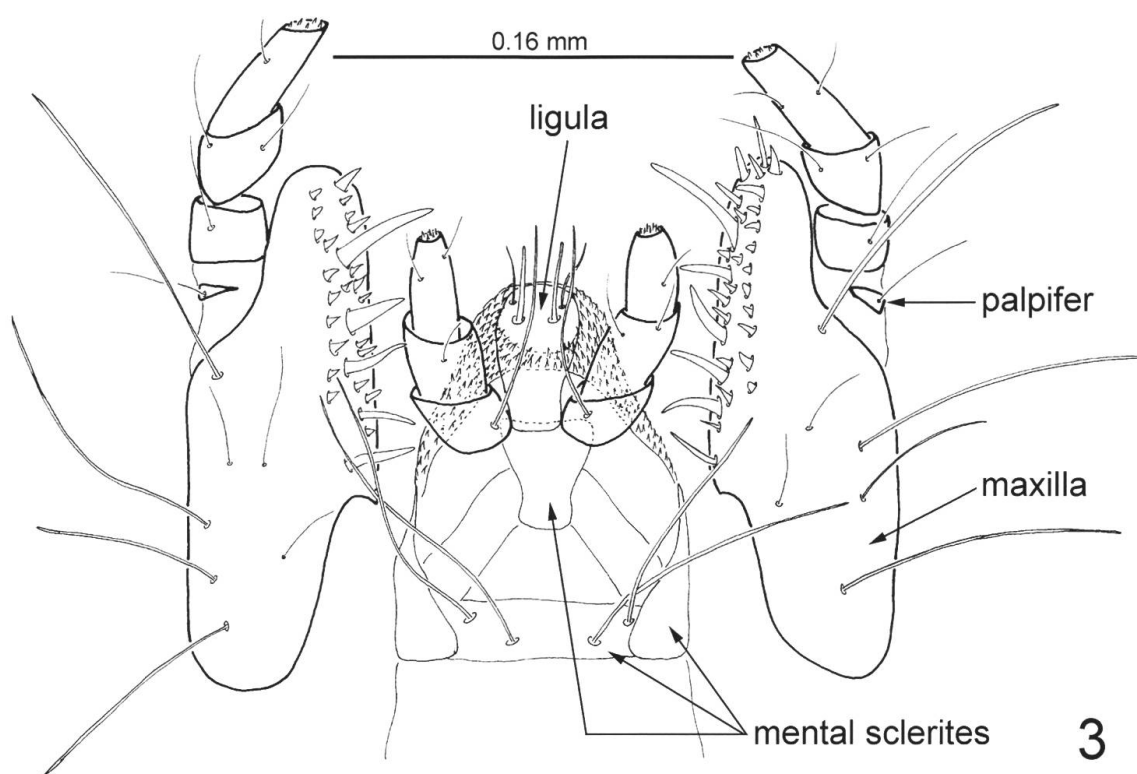


Fig. 3. Anthicini, larva: maxillolabial complex.

*O. floralis* is more densely pubescent (especially abdominal segment IX dorsally), the antennal sensory appendix is conspicuous and the labial palpi probably 2-segmented.

General characterisation of the larvae described, however, also agrees with that of the genus *Anthicus*; although some species of that genus have endocarina and more distinct molar area in mandibles (see KLAUSNITZER 1999).

The anthicid larvae mostly develop in detritus, compost heaps and similar environments where they feed upon decaying plant material and the spores and hyphae of fungi. On the other hand, some species of *Anthicus* have been observed to be predaceous on Diptera puparia and mites (KITAYAMA 1982). The larvae described were collected in a habitat which is not common for the anthicids: under the bark of a fir. Moreover, most Czech anthicids live rather in the lowlands, often by rivers and ponds whereas these larvae were collected in a mountain forest.

Considering those facts about the biology and morphology, the larva described may belong to any of three species as yet undescribed in detail: *Omonadus formicarius* (Goeze, 1777), *Anthicus bifasciatus* (Rossi, 1794), and *A. antherinus* (Linnaeus, 1761). The last-named species was briefly described by LARSSON (1945). The first two species mentioned are euryvalent; their larvae probably live in decaying plant material, compost, etc. The third species, *A. antherinus*, is also euryvalent, however, it lives in more natural habitats including higher mountains (including the Beskydy and Slovakian mountain ranges) with virgin forests (Z. KEJVAL, pers. comm.).

### Acknowledgements

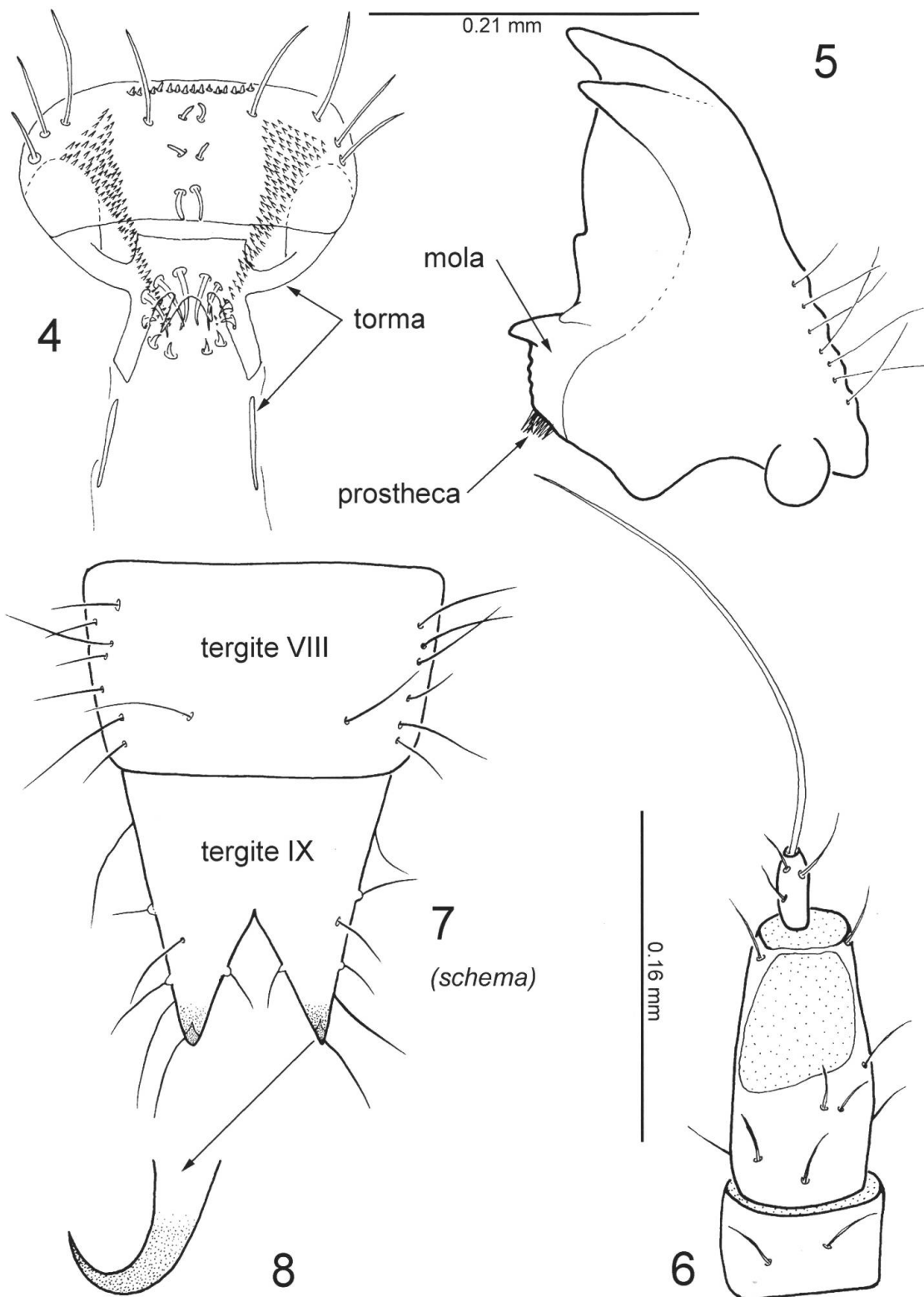
My sincere thanks are due to Drs John F. Lawrence (Gympie) and S. Adam Slipinski (Canberra) for their valuable information on larval morphology. My thanks also go out to Drs Zbyněk Kejval (Domažlice) and Ladislav Bocák (Olomouc) for their help with the literature and information about anthicid biology and distribution.

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**Figs 4–8.** Anthicini, larva: 4, epipharynx; 5, left mandible ventrally; 6, antenna ventrally; 7, abdominal segments VIII and IX dorsally; 8, apex of urogomphus laterally.

