



## The puparium and mature larva of the flat-footed fly *Lindneromyia hungarica* Chandler, 2001 (Diptera: Platypezidae)

MICHAL TKOČ<sup>1</sup> & JAROMÍR VAŇHARA<sup>2</sup>

Masaryk University, Faculty of Science, Department of Botany and Zoology, Kotlářská 2, 611 37 Brno, Czech Republic.

E-mail: <sup>1</sup>michalkoc@gmail.com, <sup>2</sup>vanhara@sci.muni.cz

<sup>2</sup>Corresponding author

### Abstract

The puparium/mature larva of *Lindneromyia hungarica* Chandler, 2001 is described in detail for the first time and documented by original drawings and SEM micrographs. The puparium is formed from the cuticle of the mature larva and thus bears all larval cuticular structures. Cuticular structures and diagnostic characters of *L. hungarica* are clearly different from *L. dorsalis* Meigen, 1804, till this time the only European species of the genus *Lindneromyia* for which the puparium had been described. A new identification key to the puparia/mature larvae of both species is provided.

**Key words:** Diptera, Platypezidae, *Lindneromyia*, new puparium/mature larva, Czech Republic, taxonomy, morphology

### Introduction

According to Chandler (2001, 2004) there are two species of *Lindneromyia* Kessel 1965 in Europe, six were recorded from the whole Palaearctic Region (Chandler 1991, 2001, Chandler & Shatalkin 1998) and worldwide there are about 58 spp, mostly distributed in the tropics. The recent checklist of the Czech Republic includes both European species of *Lindneromyia* (see Tkoč & Vaňhara 2006, Vaňhara 2006). The findings of *L. hungarica* Chandler, 2001 were recently announced for Slovakia by Roháček & Ševčík (2007).

Adult morphology and biology of these two species (*L. hungarica* and *L. dorsalis*) is very similar. It was not hitherto known if they also differ in larval characters. They are small to medium-sized flies typically inhabiting forests (from lowland to submontane habitats about to 800 m a.s.l. in the Czech Republic (Vaňhara 1995). Females often congregate on mushrooms (Fungi, Basidiomycetes) during oviposition. Their larvae can be abundant in the fruiting bodies of *Agaricus* sp. and it is possible to find both species in the same fungus fruiting body (Chandler 2001). There are no rearing records from host species other than *Agaricus* sp. for *L. hungarica* in contrast to *L. dorsalis*, which has also been reared from several other genera of agarics. The detailed distribution of *L. dorsalis* in the Czech Republic has been summarized by Vaňhara (1995).

Chandler (2001) described the structure and biology of the puparium of *L. dorsalis*. Rotheray et al. (2004) added more accurate description of some characters and figured the head skeleton. The nomenclature follows Chandler (2001).

### Material and methods

Two adult males of *Lindneromyia hungarica* Chandler, 2001 were reared on Sept. 1, 2006 (collected Aug. 20, 2006 from *Agaricus arvensis*, see Tkoč & Vaňhara 2006). Numerous puparial exuviae were obtained from the