A new leech species (Hirudinida: Erpobdellidae: Erpobdella) from a cave in the West Azerbaijan province of Iran

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Abstract

Erpobdella borisi n. sp. is a predatory leech inhabiting cave waters in Iran. Probably, it is either a troglobiont or troglophile. The leech has no eyes, and the complete mid-body somite is divided unequally into five annuli. Results of phylogenetic analysis based on morphological characters and COI gene sequence indicate the species to be closely related to Erpobdella japonica, E. octoculata and E. testacea.

Key words: Hirudinea, Erpobdella, new species, troglobiont, morphology, body form, COI, Bayesian inference

Introduction

Classification of leeches of the family Erpobdellidae recently underwent significant changes based on phylogenetic studies using morphological and molecular data (Trontelj & Sket 2000; Siddall 2002). Since the morphological features, for example pattern of annulation, have been proven to be inappropriate for distinguishing some species within traditional genera Erpobdella de Blainville in Lamarck, 1818, Dina Blanchard, 1892 and Trocheta Dutrochet, 1817, significant revision of the family was required. A solution to synonymize all the erpobdellid genera with the genus Erpobdella was proposed by Siddall (2002) and the idea is continued by some other authors (e.g. Oceguera-Figueroa et al. 2005, 2010). However, there are still many leech systematists who prefer to use the traditional division of genera (e. g. Pfeiffer et al. 2005; Trajanovsky et al. 2010; Ben Ahmed et al. 2013), which makes the erpobdellid taxonomy sometimes difficult to follow. Until the new classification of leeches within the family Erpobdellidae has become fully established, it is recommended to indicate previous generic names together with recent changes.

Predatory leeches of the family Erpobdellidae are widely distributed throughout the northern hemisphere. Mostly, they inhabit freshwaters, but some species are also amphibiotic (semiaquatic). Among erpobdellid leeches the representatives of the traditional genus Dina are known to inhabit various, even extreme, environmental conditions. For instance, Erpobdella [= Dina] lineata (O. F. Müller, 1774), E. [= D.] punctata punctata Johansson, 1927 and E. [= D.] punctata maroccana Nesemann & Neubert, 1994 occur in water bodies that often dry (Ben Ahmed et al. 2013). E. [= D.] stschegolewi (Lukin & Epshtein, 1960) prefers estuaries (Bielecki 1995), and E. [= D.] apáthyi Gedroyć, 1916 is common in moors and in waters of low pH (Lukin 1976). There are also erpobdellid leeches that occur in caves, such as E. [= D.] absoloni (Johansson, 1913), E. [= D.] krasensis (Sket, 1968) and E. [= Croatobranchus] mestrovi (Kerovec, Kučinić & Jalžić, 1999), the latter closely related to the ‘Dina’ species (Sket et al. 2001; Siddall 2002).