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

JOANNA M. CICHOCKA<sup>1,5</sup>, ALEKSANDER BIELECKI<sup>1</sup>, JAROSŁAW KUR<sup>2</sup>, DOROTA PIKUŁA<sup>1</sup>,  
ADRIANNA KILIKOWSKA<sup>3</sup> & BEATA BIERNACKA<sup>4</sup>

<sup>1</sup>Department of Zoology, University of Warmia and Mazury in Olsztyn, Oczapowskiego St. 5, 10-718 Olsztyn.

Email: [joanna.cichocka@uwm.edu.pl](mailto:joanna.cichocka@uwm.edu.pl), [alekb@uwm.edu.pl](mailto:alekb@uwm.edu.pl), [dorota.pikula@uwm.edu.pl](mailto:dorota.pikula@uwm.edu.pl)

<sup>2</sup>Empty Spaces Research, Miłosza St. 14b, 83-000 Pruszcz Gdański. E-mail [jarek.kur@gmail.com](mailto:jarek.kur@gmail.com)

<sup>3</sup>Department of Genetics, Faculty of Biology, University of Gdansk, Wita Stwosza St. 59, 80-308 Gdańsk.

E-mail: [adrianna.kilikowska@biol.ug.edu.pl](mailto:adrianna.kilikowska@biol.ug.edu.pl)

<sup>4</sup>Department of Biology, The University of Winnipeg, 515 Portage Ave., Winnipeg, Manitoba, Canada, R3B 2E9.

E-mail: [b.biernacka@uwinnipeg.ca](mailto:b.biernacka@uwinnipeg.ca)

<sup>5</sup>Corresponding author. E-mail: [joanna.cichocka@uwm.edu.pl](mailto:joanna.cichocka@uwm.edu.pl)

### 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. Ocegüera-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* Gedroyc, 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.* [= *Croatobranchnus*] *mestrovi* (Kerovec, Kučinić & Jalžić, 1999), the latter closely related to the ‘*Dina*’ species (Sket *et al.* 2001; Siddall 2002).