Phytotaxa 227 (2): 120–134
www.mapress.com/phytotaxa/

Article

ISSN 1179-3155 (print edition)
PHYTOTAXA
ISSN 1179-3163 (online edition)

http://dx.doi.org/10.11646/phytotaxa.227.2.2

The diatom genus *Oricymba* in Vietnam and Laos with description of one new species, and a consideration of its systematic placement

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Abstract

Species from the genus *Oricymba* are studied from freshwater ecosystems of Vietnam and Laos. Three species were found in Vietnam, namely *O. japonica*, *O. subovalis* and *O. perjaponica comb. nov*. The two last species are new taxa for the diatom flora of Vietnam. A new species is described from Laos, *O. voronkinae sp. nov*., and its morphology is documented with light and scanning electron microscopy. *Oricymba voronkinae sp. nov*. represents the first documented occurrence of the genus *Oricymba* in Laos. Our findings provide new information about the morphology and species distribution of the genus *Oricymba* in Indochina. We discuss the systematic position of *Oricymba* within the Cymbellales.

Key words: diatoms, *Oricymba*, new species, morphology, distribution, Vietnam, Laos

Introduction

The genus *Oricymba* was described in Jüttner *et al*. (2010) with *Oricymba japonica* (Reichelt) Jüttner, Cox, Krammer & Tuji in Jüttner *et al*. (2010: 408) (≡ *Cymbella japonica* Reichelt in Kuntze (1898: 391)) as the generitype. This genus was described on the basis of a combination of morphological features, including valve symmetry, the presence of a ridge between the valve face and the mantle, areolar structure, position and structure of the apical pore fields, and raphe path. As described by Jüttner *et al*. (2010), valves are slightly dorsiventral, sometimes symmetrical in outline, elliptical-lanceolate to linear-lanceolate with rounded ends. The valve face is flat, and separated from the mantle by a marginal ridge. An isolated rounded external stigma opening situated between the central nodule and the ventral striae, becomes one or two slit-like stigmal openings occluded by fine ingrowths internally. The raphe is slightly lateral with external undulate and internal straight raphe fissures. The striae are uniseriate, rarely biseriate, extending onto the mantle. The areolae open externally and internally by elongate slits and are partially occluded by dentate projections situated below the valve surface. Internally additional small peg-like projections extend from the edges of the virgae onto the vimines. Apical pore fields are present on the valve mantle only and clearly separated from the areolae. The girdle bands have one row of small pores.

Oricymba belongs to cymbelloid diatoms (order Cymbellales) and for a long time some of the species were considered in the genus *Cymbella* Agardh (1830: 1). In addition to the transfer of *Cymbella japonica* Reichelt in Kuntze (1898), several new species from Nepal were described by Jüttner *et al*. (2010) including *Oricymba subaequalis* Jüttner, Krammer & Cox in Jüttner *et al*. (2010: 411), *Oricymba latirotundata* Jüttner & Van de Vijver in Jüttner *et al*. (2010: 414), *Oricymba subovalis* Jüttner, Krammer & Cox in Jüttner *et al*. (2010: 415). In addition, Jüttner *et al*. (2010) present LM pictures of *Cymbella perjaponica* Krammer & Lange-Bertalot in Krammer (2002: 64, 165) from Nepal.

Species of *Oricymba* prefer oligotrophic waters with low organic pollution and are known especially from South, Southeast and East Asia (Watanabe *et al*. 2005, Jüttner *et al*. 2010). So far, *O. japonica* was reported from Japan, South Korea, Sri Lanka, Vietnam, Thailand, Malaysia and Sumatra (Hustedt 1927, 1937–1938, Okuno 1974, Foged 1971, 1976, Nather Khan 1990, Lee *et al*. 1992, Watanabe *et al*. 2005, Vongsombath *et al*. 2009). *Oricymba subaequalis*, *O. latirotundata* and *O. subovalis* were described and known up to now only from Nepal (Jüttner *et al*. 2010).

 Accepted by Saúl Blanco Lanza: 4 Sept. 2015; published: 23 Sept. 2015