

NEW SPECIES OF *GOMPHOCYMBELLA* FROM HUBEI PROVINCE, CHINA

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Abstract: In the paper, 2 new species and 1 new record of *Gomphocymbella* (Bacillariophyta) in China were reported. The species are *Gomphocymbella laxistria* Shi et N. Li and *G. asymmetrica* Shi et N. Li, and the new record is *G. brunii* (Fricke) O. Müller.

Key words: *Gomphocymbella*; New species

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Gomphocymbella was established by Müller^[1] in 1905. It has characteristics of both *Gomphonema* and *Cymbella*. The genealogical classification about the genus is still not confirmed, but usually it is included in *Gomphonemaceae*^[2]. The genus is very rare, only 10 taxa^[3-15] had been reported in the world up to now, and in China only one was recorded. In process of studying the classification of *Gomphonemaceae* in Hubei (China) in recent years, 3 species of *Gomphocymbella* have been reported. Among them, *Gomphocymbella laxistria* Shi et N. Li and *G. asymmetrica* Shi et N. Li are identified as new species, *G. brunii* (Fricke) O. Müller is determined as new record in China. The typus of these new species are conserved in the Herbarium of Institute of Hydrobiology, The Chinese Academy of Sciences.

1 *Gomphocymbella laxistria* Shi et N. Li, sp. nov. Fig. 1; 1

Valvae lanceolato-clavatae bilateribus et biextremis paulo asymmetricae, bilateribus curvatim convexae, sed paulo dorsoventrales, in medio latissimae, apice basique rotundae. Area axialis angusta. Area centralis lata, transversali-oblonga; una stria centrali valde brevi in ventre, sed alia longiore in dorso et uno stigmate solitario conspicue instructa juxta extremum aliam. Striae radiantes, laxiores, 6-7 (medio) et 8-9 (extremis) in 10 μm . Valvae 37-42 μm longae, 8-9 μm latae.

Nova species habitu cum *G. ancylus* (Cleve) Hustedt^[8] congruens, sed differt a quo valvis bilateribus paulo asymmetricis; area centralis uno stigmate solitario conspicue dorsaliter instructa juxta extremum striae centralis; Striis radiantibus, conspicue laxioribus.

Hab.: Hubei Provincia, Wuhan-Shi Urbs, in puteo, 1995-4-20, HP6223 (typus, HBI).

2 *Gomphocymbella asymmetrica* Shi et N. Li, sp. nov. Fig. 1; 2-3

Valvae lineari-clavatae, bilateribus conspicue asymmetricae, cum conspicuo dorso et ventre, in medio latissimae et inflatae, interdum bilateraliter paulo undulatae; biextremis paulo asymmetricae, rotundae, basi angustiore quam apice. Area axialis latior, circa 1/4 valvae latitudinis et gradatim asymmetricae dilatata versus aream centralem, simul dilatata versus biextrema et in spatium majus orbiculatum transiens ad apicem, spatio circum striis brevibus. Area centralis lata et cum area axiali connexa, irregulariter orbiculata vel elliptica, striis centrali aliquae brevibus bilateraliter seorsim instructa, uno stigmate solitario dorsaliter praedita juxta nodulum centralem. Raphe extremitate juxta nodulum centralem perlaria. Striae conspicue radiantes in medio et extremis, fere parallelae in aliis, 10-12 (medio) et 14-15 (extremis) in 10 μm . Valvae 59-64 μm longae, 9-10 μm latae.

Nova species habitu cum *G. brunii* (Fricke) O.

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Müller^[4,15] congruens, sed differt a quo valvis lineari-clavatis; area axiali latiore, gradatim asymmetricice dilatata versus aream centralem, simul dilatata versus biextrema et in spatium majorius orbiculatum transiens ad apicem, spatium circum striis brevibus; area centrali valde lata et cum area axiali connexa, irrugulariter orbiculata vel elliptica, Hab.: Hubei Provincia, Echeng-Shi Urbs, ad saxum in Liangzi Lacu, 1955-4-2, HP6212 (typus, HBI); Hubei Provincia, Luotian-Xian Regio, affixus ad grama in fluvio, 1965-3-10, Zhu Hui Zhong et al., HP510.

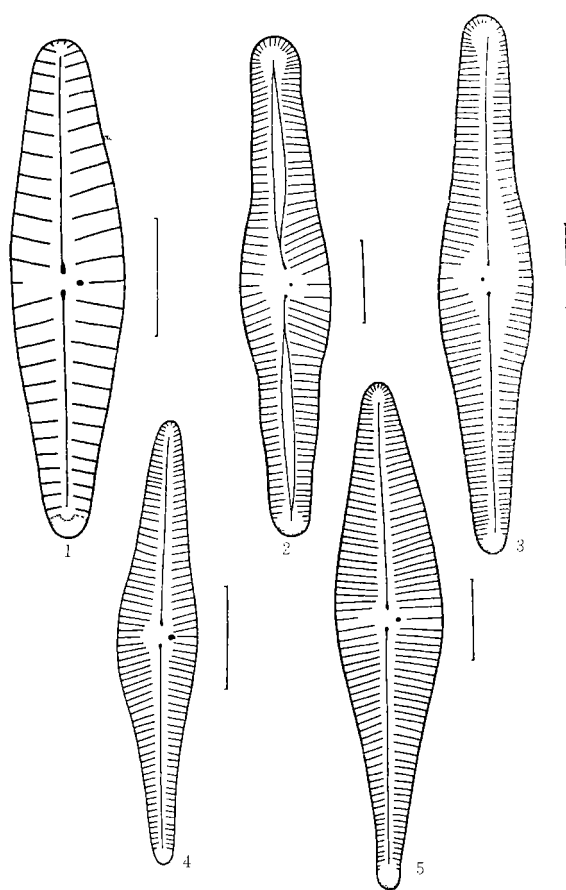


Fig.1 1. *Gomphocymbella laxistria* Shi et N. Li (疏纹楔桥弯藻); 2-3. *Gomphocymbella asymmetrica* Shi et N. Li (不对称楔桥弯藻); 4-5. *Gomphocymbella brunii* (Fricke) O. Müller (波润楔桥弯藻). Scale bar = 10 μ m

3 *Gomphocymbella brunii* (Fricke) O. Müller, Bacill. Nyssal. ben. Geb. 36, 150, Pl. 2-3, 1905. (new record) *Gomphonema brunii* Fricke, 1902, in Schmidt et al., Atlas Dit. Kunde, Pl. 238, figs. 12-14, 1874-1959.

Valve spindle-lanceolate, asymmetrical to the apical axis, greatest width at the middle, slightly asymmetrical to the transverse axis, with acute rounded or acute apex. Axial area narrow. Raphe linear. Central area broad transversely,

rectangular or orbicular, with 1-several shortened striae, an isolated punctum at the end of the median stria on one side. Striae radiate, 10-11 (middle) and 13-15 (ends) in 10 μ m. Valve 37-63 μ m long, 6.5-13.5 μ m broad.

Hab.: Luotian Xian (County), Hubei Province, attached at the grass in a ditch, in which water is running, 1965-3-10, Zhu Hui Zhong et al., HP510; Jingzhou Shi (City), Hubei Province attached at the grass in a fish-pond, water temperature 20.5°C, pH6.5, 1983-5-5, Shi Zhi Xin, HP8454.

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湖北省楔桥弯藻属新种类

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摘要:楔桥弯藻属 (*Gomphocymbella*)是由 Müller 在 1905 年建立的,它兼有桥弯藻属和异极藻属的双重特性。虽然对它的系统发育及分类问题仍在讨论之中,但一般把它归于异极藻科中。它较为罕见,至今报道的种类仅有 10 个左右。在我国至今只报道有一个种。近几年来,著者对湖北省硅藻类中的异极藻科 (*Gomphomenaceae*)进行了分类学研究,发现有 3 个楔桥弯藻属的种类,其中 2 个为新种类:疏纹楔桥弯藻 (*Gomphocymbella laxistria* Shi et N. Li)和不对称楔桥弯藻 (*G. asymmetrica* Shi et N. Li);另一个种为我国首次报道的新记录:波润楔桥弯藻 (*G. brunii* (Fricke) O. Müller)。

关键词: 楔桥弯藻属;新种类