

A new species of *Hemigastrostyla* and notes on the non-monophyly of some oxytrichid genera (Ciliophora, Hypotricha)

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We found a new species of the genus *Hemigastrostyla* Song & Wilbert, 1997 in sandy sediments of the Jiaozhou Bay (Yellow Sea, China). Species of this marine/brackish genus have, like many other hypotrichs, basically an 18 frontal-ventral-transverse cirri pattern. Previously, all 18-cirri hypotrichs have been assigned to the oxytrichids because the characteristic pattern formed by the 18 cirri was interpreted as apomorphy of this group (Kahl 1932, Tierwelt Dtl. 25; Berger 1999, Monographiae biol. 78). Interestingly, the classification based on the ventral ciliature is in conflict with the dorsal kinety pattern and most gene sequence data, indicating that this complex 18-cirri pattern must have evolved much earlier in the Hypotricha tree, very likely already in their stemline (Berger 2008, MB 85). Due to these changes in hypotrich taxonomy, some genera – for example, *Oxytricha* and *Hemigastrostyla* – are obviously no longer monophyletic. *Oxytricha granulifera* Foissner & Adam, 1983 – type of the notoriously difficult genus *Oxytricha* Bory de Saint-Vincent, 1824 – has a dorsal kinety 3 fragmentation and dorsomarginal kineties. Consequently, *Oxytricha* species which lack the fragmentation (e.g., *Oxytricha islandica* Berger & Foissner, 1989; *O. lanceolata* Shibuya, 1930; *O. longa* Gelei & Szabados, 1950) have to be transferred to a (new?) genus outside the oxytrichids, but within the Dorsomarginalia Berger, 2006 which unify all hypotrichs having a dorsomarginal kinety. By contrast, *Oxytricha* species which lack both kinety fragmentation and dorsomarginal rows [e.g., *Oxytricha geleii* (Wilbert, 1986)] have to be placed outside the Dorsomarginalia, that is, near the base of the Hypotricha tree.

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