

***Gyropaigne mirabilis* (Playfair) comb. nov. (Astasiaceae/Astasiidae, Euglenozoa)**

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Sphenomonas mirabilis Playfair was described as having a single emergent flagellum, although it is not apparent in the original illustrations (Playfair, 1921: 140, pl. IX [9]: figs 4, 5). Later this species was transferred to the genus *Rhabdomonas* Fresenius because of this character, making it different from the biflagellate genus *Sphenomonas* F.Stein (Schroeckh & al., 2003: 161). However, *S. mirabilis* has a very prominent projected spiral longitudinal hyaline striae of pellicle (Playfair, 1921) which forms "...an envelope widely separated from an oblong cytoplasm" (Yamagishi, 2010: 106), or, in other words, results in "...the impression that the cytoplasm is retracted into a central region of the body." (Schroeckh & al., 2003: 161). This is in contrast to longitudinal grooves and low and wide ridges, a character typical of the genus *Rhabdomonas* (Leedale, 1967; Schroeckh & al., 2003). This species is transferred here to the genus *Gyropaigne* Skuja as it has a single emergent anterior flagellum, elliptical-cylindrical rigid, strongly keeled cells, circular with arcuate incisions in cross-section, with widely rounded poles identical to each other (without any tail-like extensions or endings), a flagellum flexible along its entire length, and numerous small paramylon grains, i.e. characters typical of *Gyropaigne* (Skuja, 1939; Huber-Pestalozzi, 1955; Leedale, 1967; Popova & Safonova, 1976; Starmach, 1983; Vetrova, 1980; Shi & al., 1999).

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Basionym: *Sphenomonas mirabilis* Playfair *Proceedings of the Linnean Society of New South Wales* 46: 140, pl. IX [9]: figs 4, 5, 1921

≡ *Rhabdomonas mirabilis* (Playfair) Schroeckh, Won J.Lee & D.J.Patterson *Hydrobiologia* 493(1): 161, 2003

Lectotype (icon! designated here): Playfair 1921: pl. IX [9]: fig 5.

Isolectotype: Playfair 1921: pl. IX [9]: fig. 4.

Registration (of name): <http://phycobank.org/105197>

Registration (of lectotype): <http://phycobank.org/105198>

Syntype localities (Playfair 1921: 140): Australia, the neighbourhood of Lismore, different water bodies: "a swampy pool formed entirely with surface water"—sample 345 (Playfair 1918: 497, 498), plankton of unreported habitat—sample 328 (Playfair 1918: 497), unreported habitat—sample 365.

Note: Playfair (1921) does not specify from which of the samples cited the illustrations were made. Both are in the vicinity of Lismore, New South Wales, Australia. *Gyropaigne mirabilis* is similar to *G. spiralis* (Matvienko) Bourelly & Georges and *G. ucrainica* Asaul in cell shape and appearance of cytoplasm as retracted from pellicle. It differs in less pellicle striae—6 vs. 12 and 10–14, and wider cells. Additionally, *G. mirabilis* differs from *G. spiralis* in larger cells, another direction of spiral striae of pellicle, widely rounded apical poles of cells, a shorter flagellum, and apical to slightly subapical opening of flagellar pocket in contrast to clearly subapical one of the latter species.

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