

***Strombomonas siboneum* sp. nov.**

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Abstract — A new species of the genus *Strombomonas* (*Euglenophyceae*) is described from the small eutrophic lake in Cuba (prov. Habana). This species belongs to the group of *Strombomonads* with flat loricae bearing keels. A comparison with the related species and descriptions of two other interesting *Strombomonads*, found in the same locality, are included in the article.

There are localities which are qualitatively and quantitatively rich in *Euglenophyceae*, especially in the species of the genus *Trachelomonas* and *Strombomonas*. Small, shallow water basins, sometimes with a rich submersed and littoral vegetation of macrophytes, abundant detritus, and a high content of mineral and organic substances, belong to such biotopes. They are known in the temperate zones as well as in tropical and subtropical areas (e.g. BOURRELLY et GAYRAL 1951, FOTT et KOMÁREK 1960, SKVORCOV 1925, 1937, SZABADOS 1938, etc.).

I studied the microflora of small lakes (lagunas) of the above mentioned character in the central regions of Cuba (prov. Habana) from January to April 1964. A description of a new species of the genus *Strombomonas* from there is given in this article. A new *Strombomonas* was found in the plankton of a small lake with abundant vegetation approximately 2 km southwards from Tapaste. *Euglenophyceae* (*Lepocinclis salina*, *Strombomonas fluviatilis* f., *S. gibberosa* f., *Trachelomonas arnaua*, *T. hispida*, *T. volvocinopsis*) dominated in the phytoplankton; *Desmidiaceae* (*Cosmarium* sp., *Staurastrum* sp.) and *Cryptophyceae* had only few representatives. The water temperature varied between 20°—28 °C during that season, pH from 6.8 to 8.2 during the daytime. The lake was slightly eutrophized by cattle. The new species was found regularly in all plankton samples.

Strombomonas siboneum KOMÁREK sp. nov.

Cells metabolic, with 3 to 7 parietal, irregularly oval chloroplasts and a distinct minute eye-spot; paramylon grains small; flagellum longer than the cell.

Lorica transparent in young monads, later yellow to brown or red-brown, symmetrical according to the two perpendicular planes: The basic form is a flat solid envelope, spatulate in outline (Figs. 1, 2), broadest in the posterior third, thickened backwards, with an indistinct fine opening at the caudal point (in its widest place) from the inside of the lorica; the massive

collar in the anterior part arises directly from the body of the narrowed lorica. In the front part of the lorica (about four fifths of its whole length), there are two massive, flat and hollow keels, placed vertically to the basic plane of the lorica, into which the body of the cell extends. When the surface of the keels is viewed, the lorica is oval in outline (Fig. 3), prolonged at the anterior end, running out into a rounded caudal projection (i. e. lateral view of the posterior part of the flat lorica). The lorica is cross-shaped from the front-view (Fig. 9). The surface of the lorica is irregularly granular with a conspicuous sculpture at the caudal end (where the surface passes into a system of rough and irregular furrows, placed \pm parallel to the longer axis of the lorica) and at the base of the collar (where the rough surface forms a distinct margin, Fig. 10).

Dimensions: Cell 17–21 μm long; lorica 31–35 \times 15–18 μm (if both the surfaces of the lorica and of the keels are observed), collar \pm 5 μm long.

Figures: 1, 2 — lateral view of the surface of the lorica, 3 — view of the surface of the keels, 4 to 8 — examples of the turned loricae, 9 — front view of the lorica (schematically), 10 — detail of the collar, 11 — detail of the caudal end, 12 — the cell.

Etymology: The specific name is derived from the name of the tribe of the original inhabitants of Cuba (Siboney).

Diagnosis: Cellulae metabolicae, chromatophoris 3–7, parietalibus, irregulariter ovalibus. Flagellum longius quam cellula. Lorica complanata, spathulata, pallide fusca ad rubro-fusca, superficie irregulariter aspera usque ad granulata, collo massivo. Carinae duae in parte anteriori loricae (4/5 longitudinis) dispositae, ad superficiem loricae perpendiculares. Dimensiones: cellula 17–21 μm longa, lorica 31–35 \times 15–18 μm , collum \pm 5 μm longum. — Habitatio: Lacusculi vegetatione abundanti prope oppidum Tapaste, provincia Habana, Cuba, America centralis. — Iconotypus: Figs. 1, 3, 6, 12.

Strombomonas siboneum belongs morphologically to the group of species of the genus *Strombomonas* with loricae bearing keels. Related species differ in the following features: *S. triquetra* (PLAYF.) DEFL. (described from Australia) has a triangular lorica in transverse section; *S. vermonti* (DEFL.) DEFL. (from France) has a square-shaped lorica in cross-section, a specific outline from the lateral view, and a differently modified caudal end; *S. subcurvata* (PROŠK.-LAVR.) DEFL. and its var. *africana* BOURR. et GAYR. (Soviet-Union, Marocco) and *S. spiralis* (PLAYF.) DEFL. (Australia) have a spiral loricae; *S. tetraptera* BALECH. et DAST. (Argentine) has an irregular and variable outline of the lorica (with 4 keels) and a different morphology of its caudal end. The dimensions of all species mentioned here are also different.

Further species of *Strombomonas* were found in the community of *S. siboneum* differing in details from their original diagnoses:

S. fluviatilis (LEMM.) DEFL. f. (Figs. 13, 14); the shape of the lorica corresponds to the typical species, but the dimensions are larger (40–50 \times 22–25 μm , caudal projection 7–15 μm long, collar 5–6.5 μm long), and the walls sometimes slightly and irregularly undulate. The cells have numerous parietal discoid chloroplasts without pyrenoids. The loricae are transparent, colourless or brownish. The species approaches var. *elegans* DREZEP. in size, but the ratio of length: width, and the length of the caudal projection, are different.

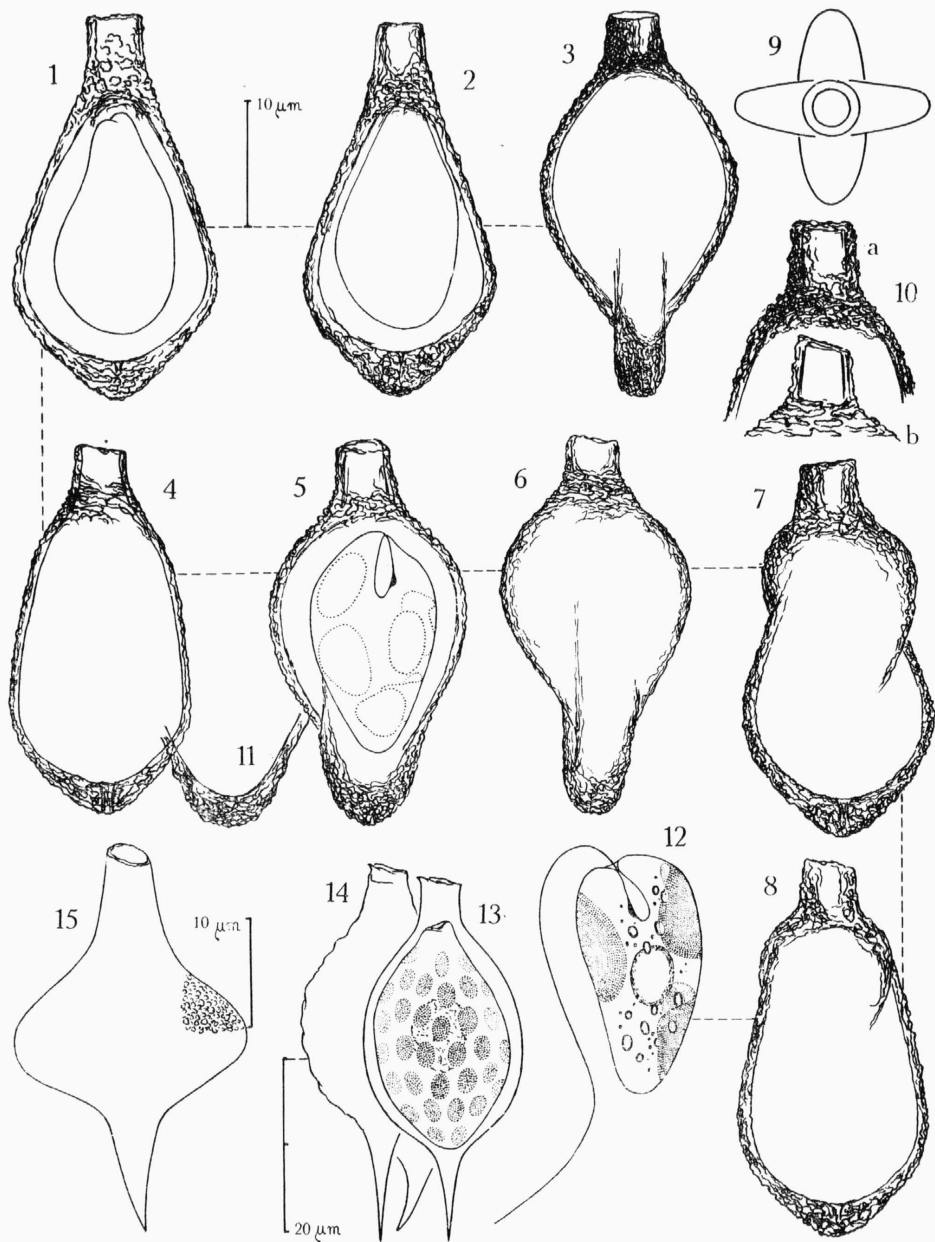
S. gibberosa (PLAYF.) DEFL. f. (Fig. 15); corresponds in the form of its lorica to the type, but the dimensions are substantially smaller, as in var. *deflandrei* CONR., also described from the Caribbean region (Venezuela). However, the ring-shaped thickenings on the posterior half of the lorica were not observed in the material from Cuba. The loricae are transparent and their surface rough. Dimensions: 36–40 \times 20–22 μm ; the caudal projection 14–15 μm long, collar \pm 10 μm long.

V článku je popsán a vyobrazen nový druh rodu *Strombomonas* (schránkaté *Euglenophyceae*) z malého eutrofního jezera v centrální části Kuby (provincie Havana). Patří do skupiny málo známých strombomonád s plochými schránkami, nesoucími kýly. Popis nového *S. siboneum* je srovnán s diferenčními znaky těchto druhů. K článku jsou připojeny popisy a kresby dvou dalších druhů rodu *Strombomonas*, nalezených na téže lokalitě v netypické formě.

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See also plate XVI. in the appendix.



Tab. XVI.: Fig. 1—12, *Strombomonas siboneum* sp. nova; 13—14, *S. fluviatilis* (LEMM.) DEFL. forma; 15, *S. gibberosa* (PLAYF.) DEFL. forma.

J. Komárek: *Strombomonas siboneum* sp. nov.

