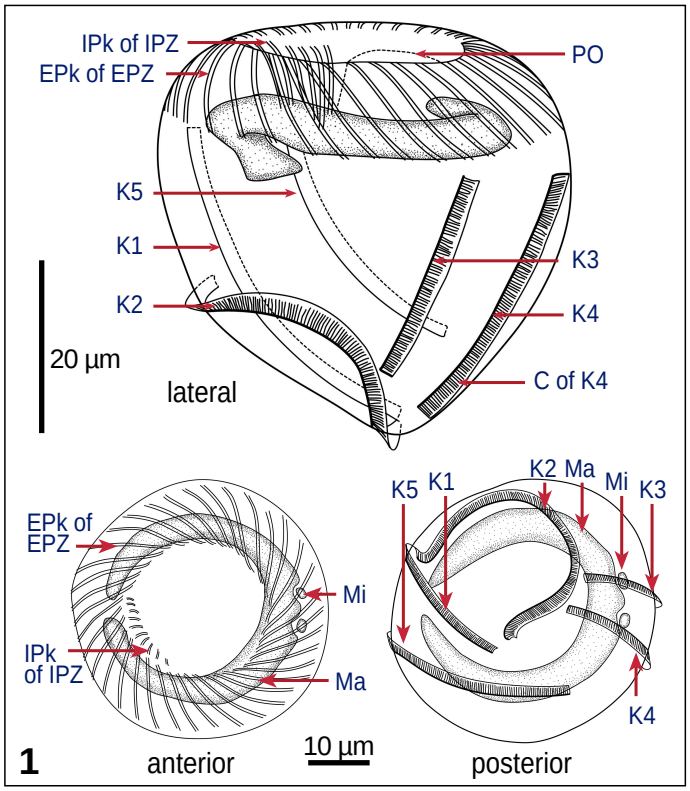
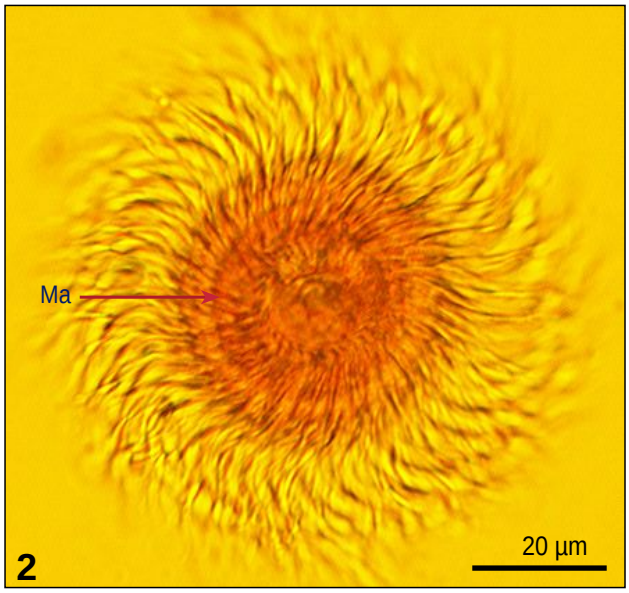
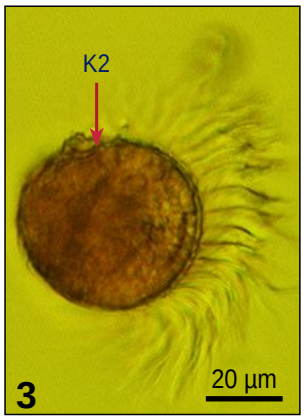
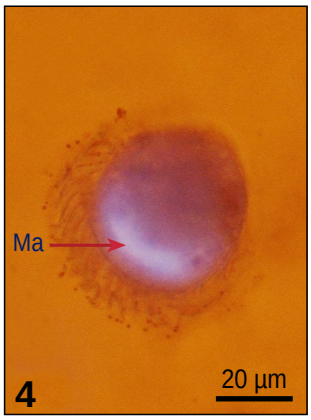
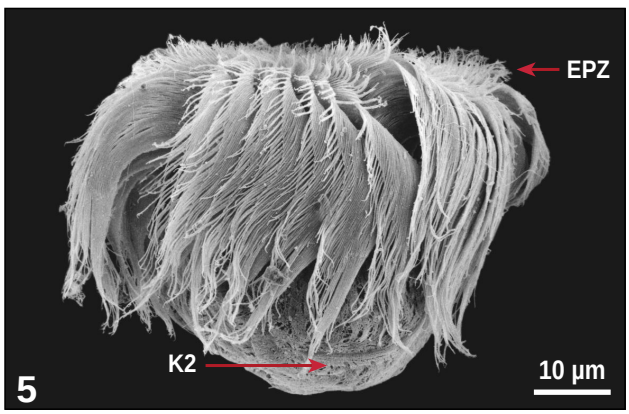
Strobilidium neptuni Montagnes & Taylor, 1994

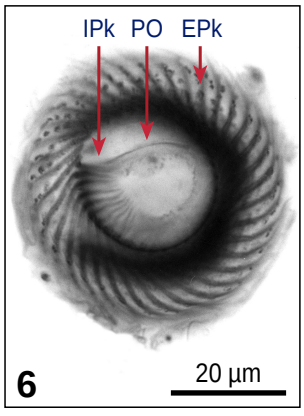


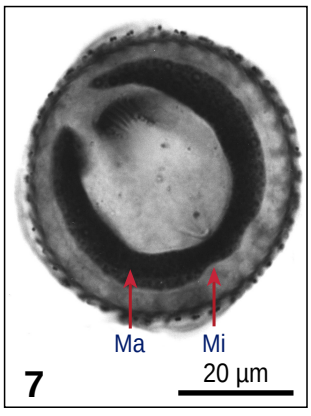












Key features
Cell subspherical one side flattened; oral cavity acentric, funnel-shaped; one macronucleus, C-shaped, anterior; 2 micronuclei; 5 somatic kineties, K2 characteristically arched, K5 originates 1/3 of the cell length away from the posterior end, runs partly parallel to K1; K2 may form a flat side on the posterior part of the cell

Measurements

Length:	45 (30-70) µm
Width:	45 (20-60) µm
No of EPk:	35 (28-40)
No of IPk:	11 (8-20)
Ma thickness:	7 (5-15) µm
Biovolume:	85,000 µm^3

Movement
Rotates in one position, then jumps 2-4 body lengths

Food
Flagellates and dinoflagellates (2-10 µm), centric and pennate diatoms

Ecological data
Temperature: 0-20 ˚C
Salinity: 16-34 ‰; euryhaline

References
Agatha S (unpubl.); Montagnes DJS & Taylor FJR 1994; Petz et al. 1995

Fig 1 Line drawings of protargol stained cells, showing kineties, oral structures and nuclei. **Fig 2,3** Lugol's fixed cells: 2. Oral region, viewed from apical end with Ma; 3. Lateral view, showing the flattened region (arrow). **Fig 4** Lugol's fixed and DAPI stained cell, illustrating nuclear shape. **Fig 5** SEM of Lugol's fixed cell. **Fig 6,7** Protargol stains, viewed from apical end: 6. Oral region of the cell; 7. Macronucleus, showing indentations in macronucleus where micronuclei sit.

Strobilidium neptuni Montagnes & Taylor, 1994

Species description

Body **subspherical**, anterior slightly cylindrical, posterior more subconical; fixed with **one side flattened** (Fig 3); 45 (30-70) µm long and 45 (25-60) µm wide; cell surface in protargol stains often covered by small rods (extrusomes).

Oral cavity acentric, funnel-shaped, cytopharyngeal fibers present; 35 (28-40) EPks and 11 (8-20) IPks; EPks with cilia of unequal length; IPk and EPk contiguous, some may be continuous; paroral kinety consists of monokinetids, it lies internal to EPZ, and begins parallel to the last IPk (Fig 1,6,8).

5 somatic kineties, ciliated, partially covered by cytoplasmic flap; K1 slightly dextrally spiralled (from posterior to just below EPZ, **K2 characteristically arched**, with a small crook; **K5 originates at 1/3 of the cell length away from the posterior end, runs partly parallel to K1** (Fig 1,9).

One macronucleus, C-shaped, 7 (5-15) µm large, around the oral cavity and below EPZ, opening near the cytostome (Fig 1,4,6,7); **2 micronuclei**, indented into macronucleus, opposite to the cytostome (Fig 1,7).

Similar species

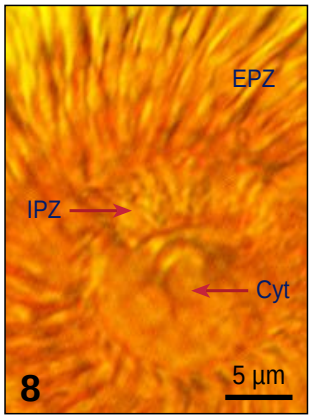
Strobilidium spiralis (only 1 Mi, K5 originates anteriorly); *Strobilidium caudatum* (only 1 Mi, 6 somatic kineties, body more conical in shape); *Strobilidium veniliae* (smaller).

List of synonyms

1994 *Strobilidium neptuni* Montagnes & Taylor, J Euk Microbiol 41: 572, Fig 1-3.
1995 *Pelagostrobilidium neptuni* Petz et al., Stapfia 40: 139, Fig 41.

Taxonomical remarks

Petz and Foissner (1992) defined the spiralling of the somatic kinetids at the posterior end as distinguishing character for the genus *Strobilidium* and thus transferred all but one species to the genus *Rimostrombidium*. Based on this diagnosis, Petz et al. (1995) erected the new genus *Pelagostrobilidium* for *Strobilidium neptuni,* since there is no such spiral in this species. We do not follow this suggestion but consider the covering of the somatic cilia by a cytoplasmic flap as diagnostic character for the genus *Strobilidium* (Lynn & Montagnes 1988).



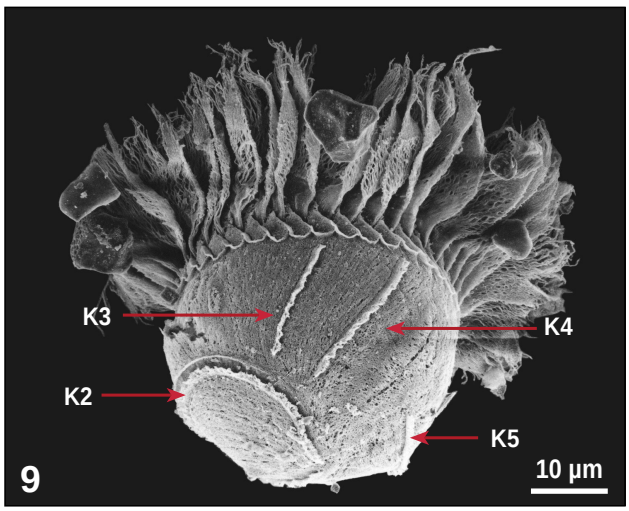


Fig 8 Details of the oral structures. **Fig 9** SEM image of a Lugol's fixed cell, showing the somatic kineties.

Notes