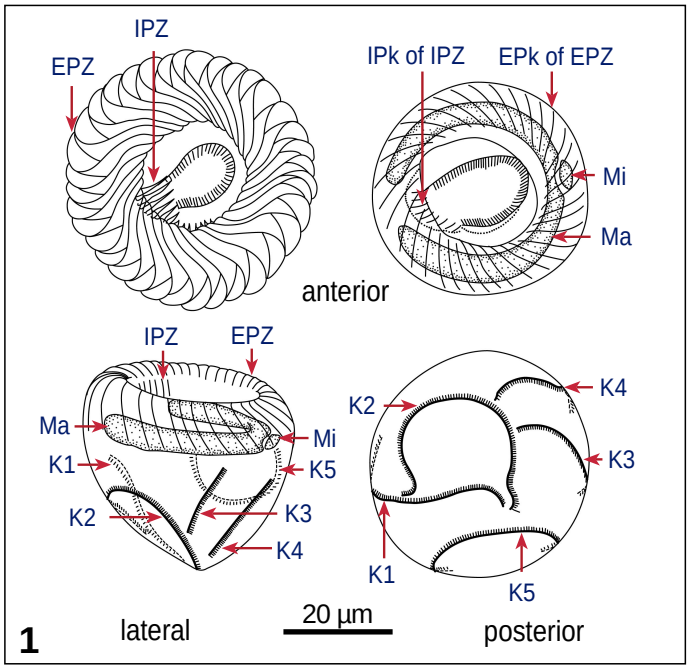
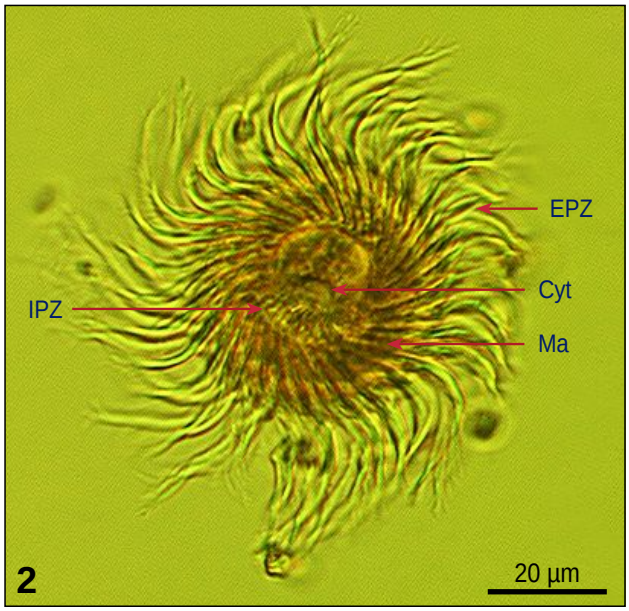
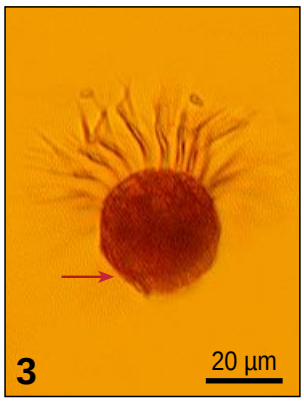
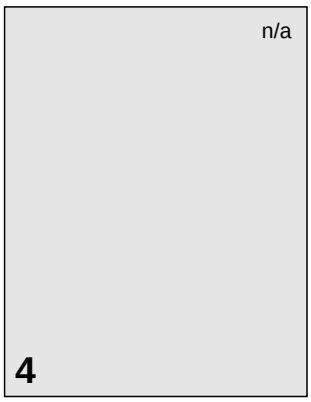
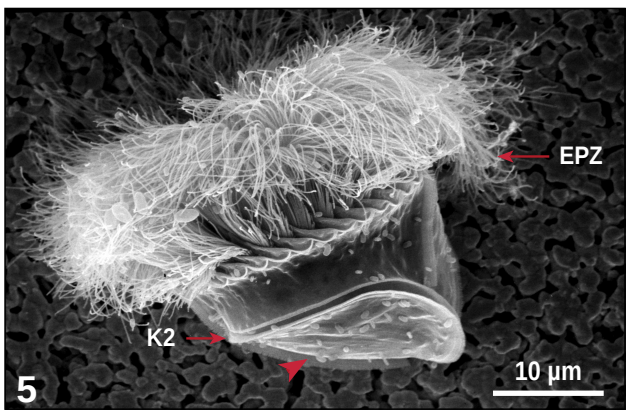
Strobilidium spiralis (Leegaard, 1915) Lynn & Montagnes, 1988

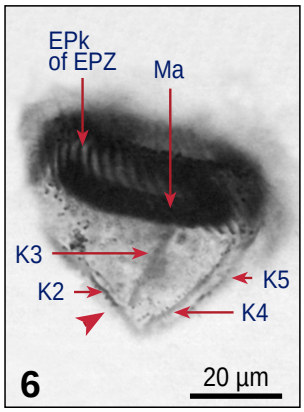


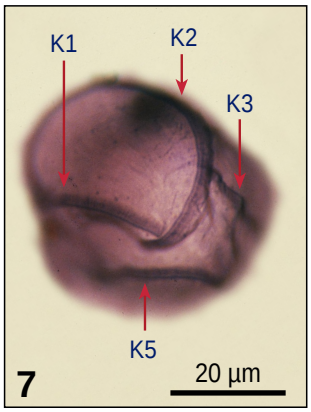












Key features
Cell subspherical one side often flattened; oral cavity acentric, funnel-shaped; one macronucleus, C-shaped, anterior; 1 micronucleus; 5 somatic kineties, K5 describes partial circle, originates and ends towards the anterior; K1 and K2 form the flat side on the posterior part of the cell

Measurements

Length:	45 (35-65) µm
Width:	45 (35-65) µm
No of EPk:	36 (33-40)
No of IPk:	13 (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 (5-15 µm)

Ecological data
Temperature: 5-20 ˚C
Salinity: 30-33 ‰

References
Alekperov IK & Mamayeva NV 1992; Jonsson PR 1987; Kuylenstierna M & Karlson B 1996-2000 (www.marbot.gu.se/SSS/others/Strobilidium _spiralis.htm); Leegaard C 1915; Lynn DH & Montagnes DJS 1988

Fig 1 Line drawings of protargol impregnated 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 described by K1 an K2 (arrow). (**Fig 4** Lugol's fixed and DAPI stained cell, illustrating nuclear shape and number.) **Fig 5** SEM of Lugol's fixed cell, showing flattened region (arrowhead) and K2 (picture courtesy of P. R. Jonsson). **Fig 6,7** Protargol stains: 6. Lateral view, showing flattened region described by K1 and K2 (arrowhead), and macronucleus; 7. Posterior region of the cell, showing kineties.

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Species description

Body **subspherical**, fixed with **one side flattened** (Fig 1,5,6,10); 46 (35-60) µm long, 44 (35-60) µm wide.

Oral cavity acentric, funnel-shaped; 36 (33-40) EPks and 13 (8-20) IPks; IPk and EPk contiguous, some may be continuous (Fig 1,2,8,9); paroral kinety consists of 20-25 kinetids (not visible in Lugol's fixed material).

5 somatic kineties with their cilia directed to the right (when viewed from aboral); K1 slightly dextrally spiralled, K2 describes characteristic arc and has a crook at the end (Fig 1,5,7,10), **K5 describes partial circle, originates and ends towards the anterior** (Fig 1,7).

One macronucleus, C-shaped, around the oral cavity and below EPZ, opening near the cytostome (Fig 1,2,6,8-10); **1 micronucleus**, often indented into the macronucleus, opposite to the cytostome (Fig 1).

Similar species

Strobilidium neptuni (2 micronuclei, K5 originates more posterior); *Strobilidium caudatum* (freshwater, 6 somatic kineties, body more conical in shape); *Strobilidium veniliae* (smaller, somatic kineties straight).

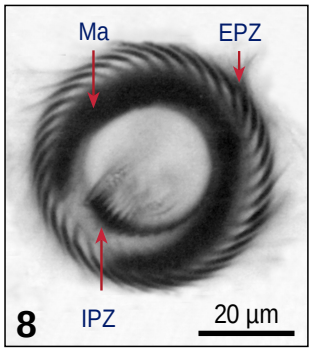
List of synonyms

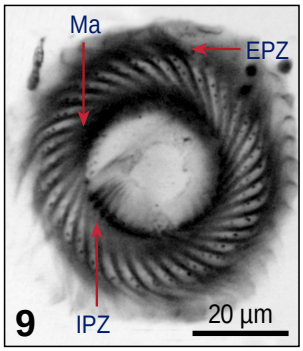
1915 *Lohmanniella spiralis* Leegaard, Nyt Mag Naturvid 53: 27, Fig 18

1995 *Pelagostrobilidium spirale* Petz et al., Stapfia 40: 141

Taxonomical remarks

Petz and Foissner (1992) defined the spiralling of the somatic kineties at the posterior end as distinguishing character for the genus *Strobilidium,* and thus transferred all but one species to the genus *Rimostrombidium*. Partially based on this diagnosis, Petz et al. (1995) erected the new genus *Pelagostrobilidium* and included *Strobilidium spiralis* as *Pelagostrobilidium spirale*. 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).





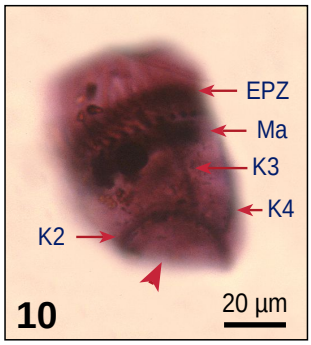


Fig 8-10 Protargol stained cells: 8,9. Viewed from apical, showing details of the oral structures and the macronucleus; 10. Lateral view, showing characteristic features; the arrowhead points to the flattened side.

Notes