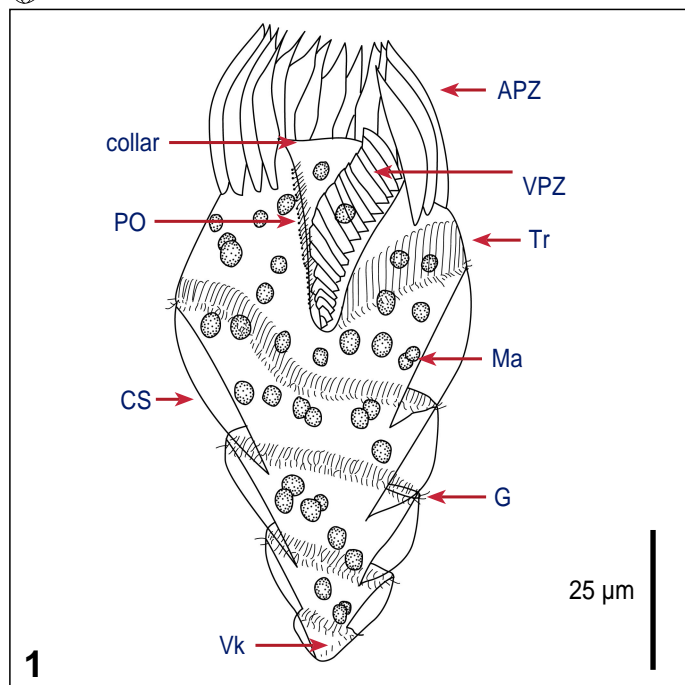


Laboea strobila Lohmann, 1908



Key features

Cell conical; screw-like appearance, girdle kinety as helix of approximately 5 whorls; multiple macronuclei, spheroid, scattered throughout cytoplasm.

Measurements

Length:	85 (45-115) µm
Width:	42 (20-55) µm
No of APk:	14 (10-19)
No of VPk:	16 (12-24)
Ma size:	7 (2-15) µm
Biovolume:	60,000 µm ³

Movement

Swims in a zigzag pattern with sharp turns

Food

Mixotrophic, chloroplast-retention, nanoflagellates, centric diatoms (5-10 µm)

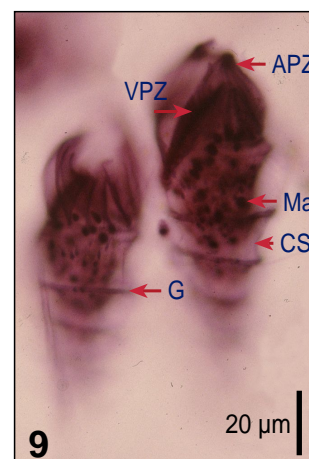
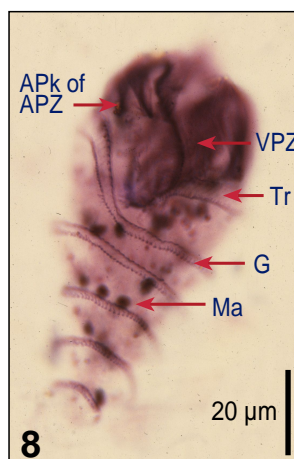
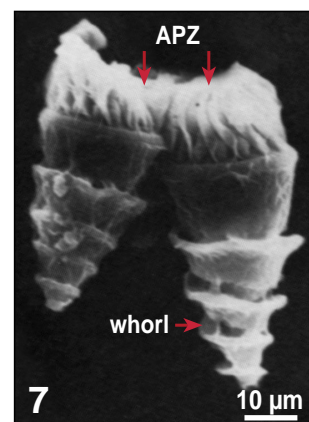
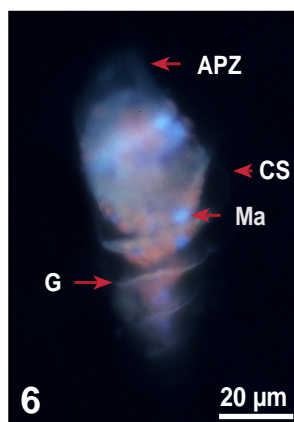
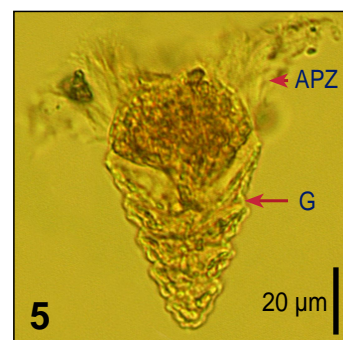
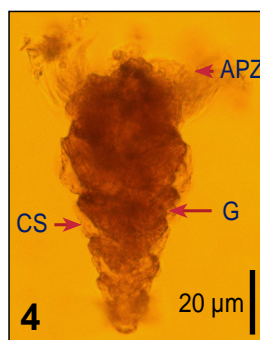
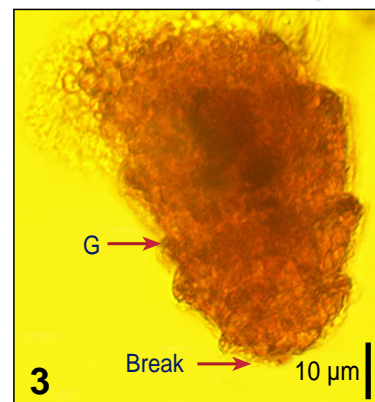
Ecological data

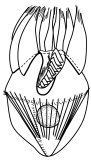
Temperature: 5-19 °C; eurythermal
Salinity: 7-32 ‰; euryhaline

References

Agatha S (unpubl); Alekperov IK & Mamayeva NV 1992; Kahl A 1932; Kuylenstierna M & Karlson B 1996-2000 (www.marbot.gu.se/SSS/others/Laboea_strobila.htm); Leegaard C 1915; Lohmann H 1908; Fauré-Fremiet E 1924; Lynn DH & Gilron GL 1993; McManus GB & Fuhrman JA 1986; Montagnes DJS et al. 1988; Wulff A 1919

Fig 1 Line drawing of a protargol stained cell. **Fig 2-5** Lugol's fixed cells, lateral view, partly with deformation due to fixation (e.g. Fig 3: the posterior part of the cell broke off). **Fig 6** Lugol's fixed and DAPI stained cell, illustrating nuclear fragmentation; the red background fluorescence of the cytoplasm is due to the sequestered chloroplasts. **Fig 7** SEM of Lugol's fixed cells with characteristic shape, lateral view (picture courtesy of G. B. McManus). **Fig 8,9** Protargol stained cells, lateral and ventral views.





Laboea strobila Lohmann, 1908

Species description

Body conical, 85 (45-115) μm long and 42 (20-55) μm wide; **screw-like appearance** (Fig 1,2,4,5,6,7,11-13); **short trichites as extrusomes**, inserted anterior to the girdle kinety (Fig 1,8); distended cell surface between whorls (Fig 1,4,9,11).

Shallow acentric oral cavity; **peristomial collar small** (5 μm high); 14 (10-19) APks and 16 (12-24) VPks, APZ and VPZ separated (Fig 1,2,8,9); paroral kinety (PO) ciliated, extending deeply into oral groove.

Girdle kinety as sinistral helix of approximately 5 whorls when viewed from posterior (Fig 1,6,8,9) – kinetids with stubby cilia; ventral kinety short, 3-15 dikinetids from the posterior end of the girdle to the aboral pole, not seen in Lugol's.

Multiple macronuclei (25-75), spheroid, scattered throughout the cytoplasm (Fig 1,6,8,9,13).

Similar species

Strombidium reticulatum (anterior protuberance, no whorls);
Strombidium compressum (less APks, APZ and VPZ not so clearly separated, no whorls, small trichites);
S. conicoides (more APks, no whorls).

List of synonyms

1910 *Conocylis helix* Meunier, Camp Arctique 1907: 147, Pl 10, Fig 32, Pl 7, Fig 28.
 1919 *Strombidium strobilum* Wulff, Wiss Meeresuntersuch, Helgoland 13: 114, Fig 21, 29, 30.
 1932 *Strombidium (Laboea) strobilus* Kahl, Tierwelt Dtl 25: 99, Fig 23, 24 on p. 490.
 1992 *Strombidium strobilum* Alekperov & Mamayeva, Zool Zh 71: 10, Fig 3(4).

Taxonomical remarks

Lohmann (1908) described *Laboea strobila* as the type species of the genus. Wulff (1919) synonymised *Laboea* with *Strombidium* since species of both genera possess cortical polysaccharide plates. Fauré-Fremiet (1924) emended the diagnosis of the genus *Laboea* to include the typical spiraled shape. Montagnes et al. (1988) redescribed the species after protargol impregnation and added the series of whorls formed by the sinistrally spiralling girdle and the short ventral kinety as diagnostic characters for the genus *Laboea*.

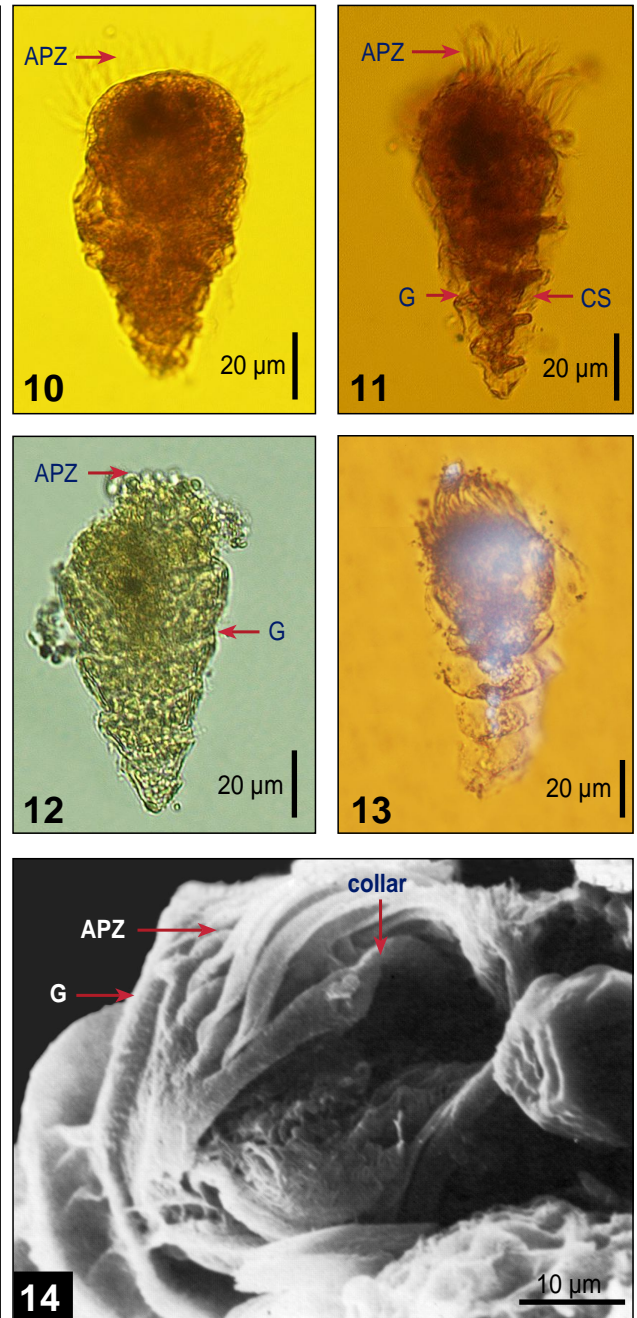


Fig 10-12 Images of Lugol's fixed cells, partly showing fixation artefacts, lateral view. **Fig 13** Lugol's fixed and DAPI stained cell. **Fig 14** SEM image of the oral region (picture courtesy of G. B. McManus).

Notes