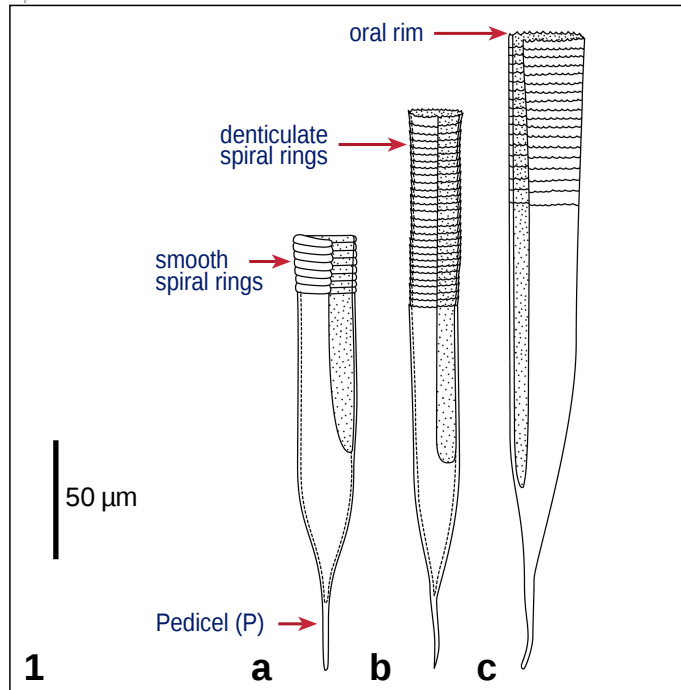


Helicostomella subulata (Ehrenberg, 1833) Jörgensen, 1924



Key features

Lorica elongate-cylindrical and narrow, highly variable in length, hyaline, tapering to a pointed, slender pedicel and closed at the posterior end; oral end of the lorica with a variable number of spiral rings; 2 macronuclei, medio-lateral

Measurements

Length (lorica): 180 (150-500) µm
Oral diameter (lorica): 20 (15-30) µm
No of EPK: 14
No of IPK: 4
Ma diameter: 8-10 µm
Biovolume: 25,000 µm³

Movement

Swims slow and straight

Food

Autotrophic flagellates (chrysophytes, chlorophytes, 2-10 µm)

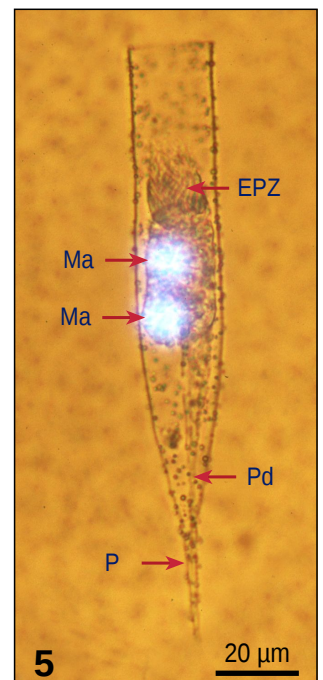
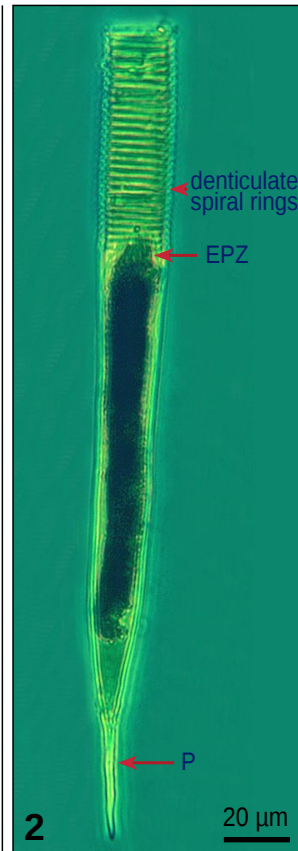
Ecological data

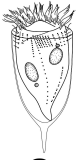
Temperature: 6-28 °C; eurythermal
Salinity: 25-32 ‰; euryhaline

References

Jörgensen E 1924; Kuylenstierna M & Karlson B 1996-2000 (www.marbot.gu.se/SSS/others/Helicostomella_subulata.htm); Marshall SM 1969; Pierce RW unpubl.; Protist Information Server 1995-2001 (<http://protist.i.hosei.ac.jp/Galleries/Nakamachi/Helicostomella/index.html>)

Fig 1 Line drawings of three different lorica morphotypes of *Helicostomella subulata*: a. *H. edentata* type; b. *H. subulata* type; c. *H. kiliensis* type (see remarks, page 2). **Fig 2** Lugol's fixed cell viewed in phase contrast, clearly showing the spiral rings (picture courtesy of J. R. Dolan). **Fig 3,4** Lugol's fixed cells, lateral view, showing oral spirals, pedicel, peduncle and ciliate cell. **Fig 5** Lugol's fixed and DAPI stained cell, illustrating shape and location of the macronuclei.





Helicostomella subulata (Ehrenberg, 1833) Jörgensen, 1924

Species description

Lorica tube-shaped (elongate-cylindrical, narrow), highly variable in length, **hyaline**, **posterior tapering to a pointed, closed, slender pedicel**; **oral end of the lorica with a variable number (5-30) of spiral turns** (Fig 1-5); collar margin may be smooth or denticulate; wall thin, trilaminate with fine uniform primary structure; produces cysts.

Oral cavity centric, 14 EPks and 4 IPks (Fig 6).

One ventral kinety, anterior with 20 ciliated monokinetids, posterior with dikinetids - only one kinetosome ciliated; K2 absent; one dorsal kinety with 23-32 dikinetids - only the posterior kinetosome ciliated; posterior kinety absent; dense kinetal field (DKF) with 6 kineties, each with 11-14 monokinetids; 5 somatic kineties in the left field, 5 somatic kineties in the right field (Fig 6).

Two macronuclei, medio-lateral, ovoid (Fig 5).

Similar species

Metacylis annulata, *M. annulifera* (rounded aboral end, only few spiral rings at oral end); *Helicostomella longa* (much shorter lorica); *Favella* spp., *Parafavella* spp. (lorica much wider).

List of synonyms

1833 *Tintinnus subulatus* Ehrenberg, Abh Akad Wiss Berlin: 274.

Taxonomical remarks

Helicostomella subulata is the type species of the genus. It is distinguished from other *Helicostomella* species by the length and morphology of the lorica. However, length of the lorica is a very variable character in *Helicostomella* as it is in many tintinnids. Additionally, Margaleff & Duran found great variability among lorica forms and therefore, *Helicostomella fusiformis*, *H. edentata*, and *H. kiliensis* are probably synonymous with *H. subulata*.

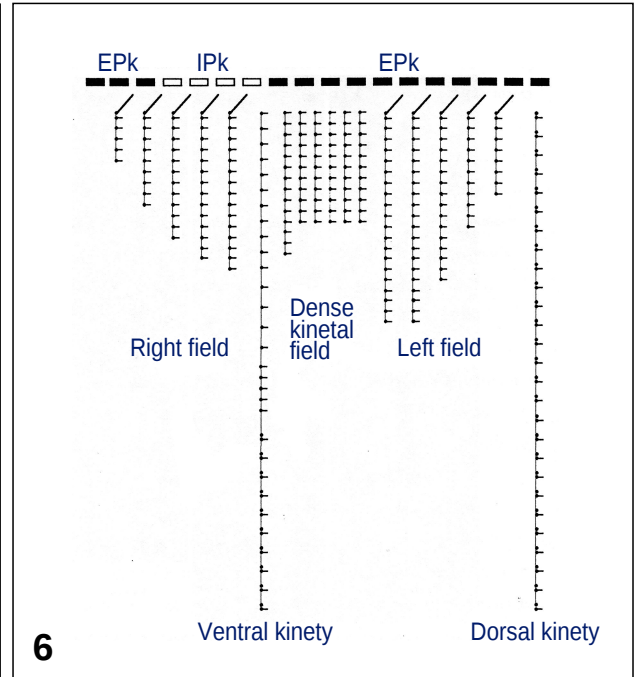


Fig 6 Kinetal map (schematised drawing of the somatic and oral infraciliature; see Foissner & Wilbert 1979) of *Helicostomella subulata* (picture courtesy of R. W. Pierce)

Notes