

# DESCRIPTION AND ECOLOGY OF THE NEW FORAMINIFERAL SPECIES *ELPHIDIUM BALTICUM* – WITH A GENETIC AND MORPHOLOGICAL COMPARISON TO *ELPHIDIUM INCERTUM* (WILLIAMSON, 1858) AND *ELPHIDIUM ASKLUNDI* BROTZEN, 1943

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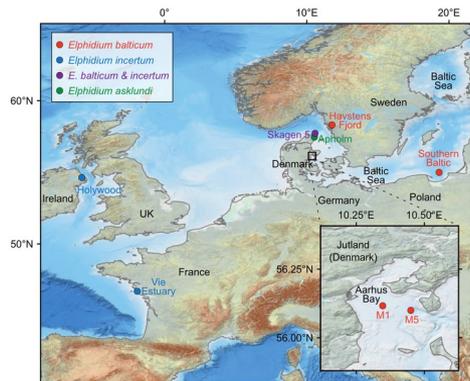
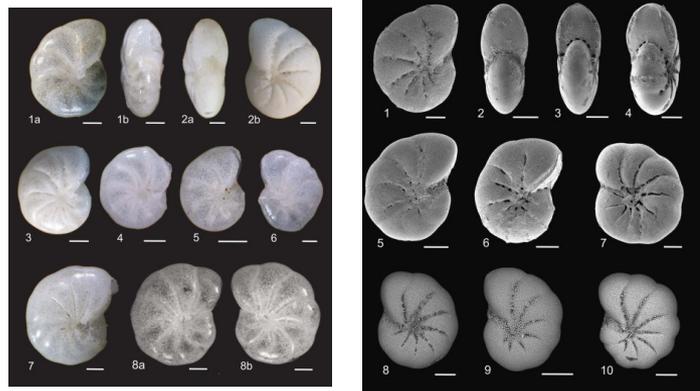


FIGURE 1. Location maps of the study area in Northwest Europe. Red dots = sampling sites with illustrated specimens of *Elphidium balticum* n. sp. and *Elphidium incertum*. Blue dots = sampling sites with illustrated specimens of *Elphidium incertum* (Williamson). Purple dot = sampling site with both *Elphidium balticum* n. sp. and *Elphidium incertum*. Green dot = sampling site with illustrated specimens of *Elphidium asklundi* Brotzén. The inset map shows the type locality for *Elphidium balticum* n. sp. in Aarhus Bay, off the east coast of Jutland (Holotype from M5, Paratypes from M1 and M5). The basemap with bathymetry and topography is the 2022 version of the harmonized digital terrain model obtained from the European Marine Observation and Data Network (<https://cmoudnet.ec.europa.eu/en/bathymetry>).



RHIZARIA Cavalier-Smith, 2002  
 RETARIA Cavalier-Smith, 2002  
 Phylum FORAMINIFERA d'Orbigny, 1826  
 Class GLOBOTHALAMEA Pawlowski et al., 2013  
 Order ROTALIIDA Lankester, 1885  
 Superfamily ROTALIOIDEA Ehrenberg, 1839  
 Family ELPHIDIIDAE Galloway, 1933  
 Genus *Elphidium* de Montfort, 1808

*Elphidium balticum* Knudsen, Schweizer & Seidenkrantz, n. sp.  
 Figs. 3–7

*Elphidium incertum* (Williamson), Rottgardt, 1952, p. 182, pl. 2, fig. 27; Feyling-Hanssen et al., 1971, p. 277, pl. 12, figs. 11, 12; pl. 21, figs. 8, 9; Hansen & Lykke-Andersen, 1976, p. 35, pl. 12, figs. 5–9; Grobe & Fütterer, 1981, pl. 1, figs. 1–6; pl. 2, figs. 3–8; Knudsen, 1982, p. 170, fig. 14:12, no. 16; Knudsen, 1993, p. 86, pl. 2, figs. 4–6; Polyak et al., 2002, p. 257, pl. 1, figs. 1–4 (not figs. 5–7); Polodova et al., 2009, p. 135, pl. 1, figs. 12–15; Schönfeld, 2018, p. 389, pl. 1, figs. 1–2 and figs. 8–11 (not fig. 3); figs. 6, 7, 12, 13, 14, and 15: presumably also synonyms, but this cannot be determined with certainty from the images; Knudsen et al., 2021, p. 493, pl. 8.4, fig. 16.

*Cribronion incertum* (Williamson), Brodniewicz, 1965, p. 207, pl. 10, figs. 9–11; text figs. 30, 31; Lutze, 1965, p. 103, pl. 21, figs. 43, 44; text fig. 17; Lutze, 1974, text fig. 9.

*Criboelphidium incertum* (Williamson), Wollenburg, 1995, p. 41, pl. 6, fig. 14.

*Elphidium* sp. (S23), Brinkmann et al., 2023, p. 6, fig. 2, image (P); Supporting information, p. 33, GF885-*Elphidium*\_sp-S23 and GF886-*Elphidium*\_sp-S23; p. 34, GF922-*Elphidium*\_sp-S23.

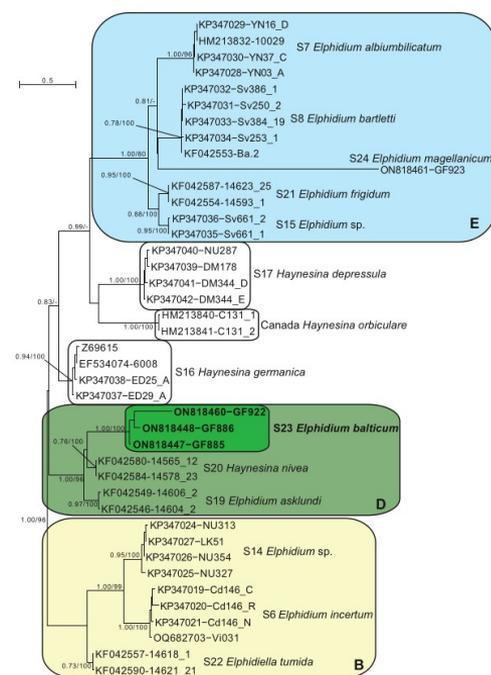


FIGURE 2. Molecular phylogeny of selected elphidiids based on partial SSU rDNA sequences inferred using the ML method with the GTR model. The tree is rooted on clade B and support values for ML and BI are indicated at the main nodes. Note that S22, *Elphidiella tumida* (Gudina, 1969), was referred to *Elphidiella groenlandica* (Cushman, 1939) by Piles et al., 2011. Original references for each of the species are given in Table 2.

