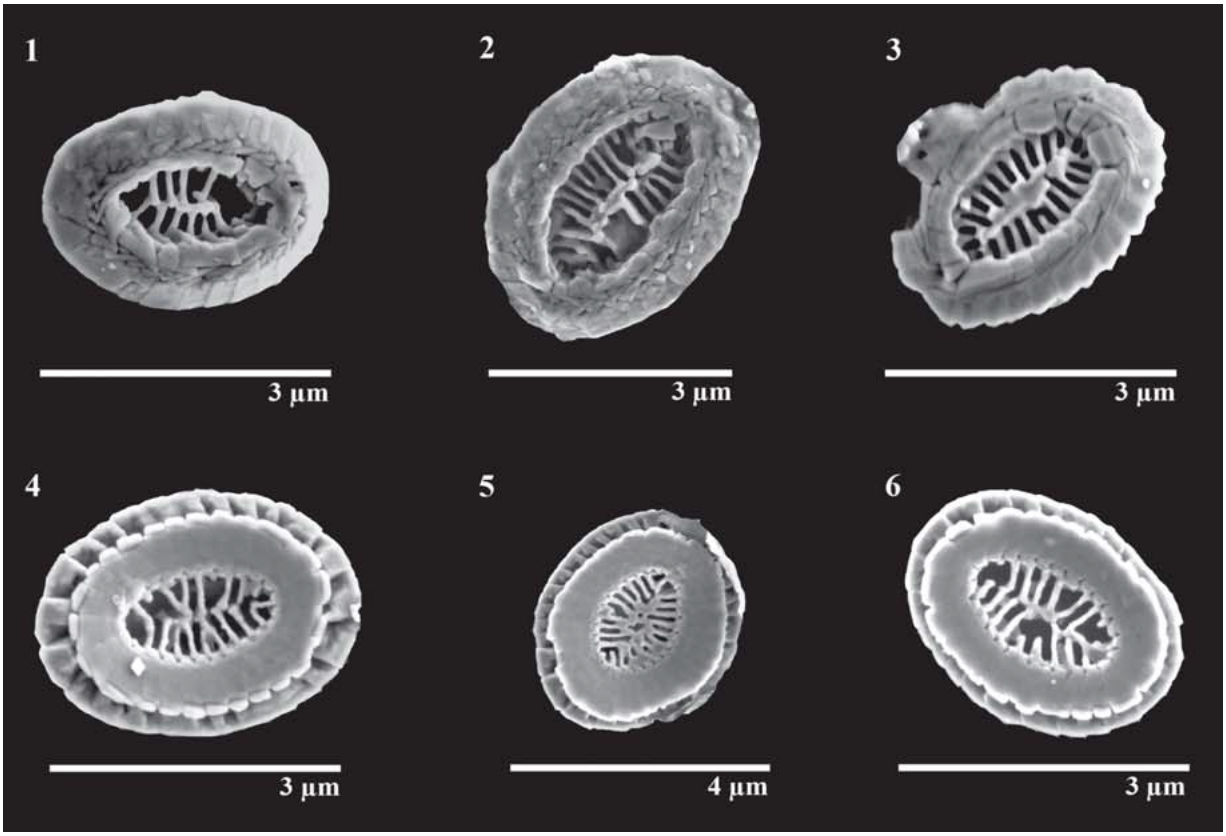
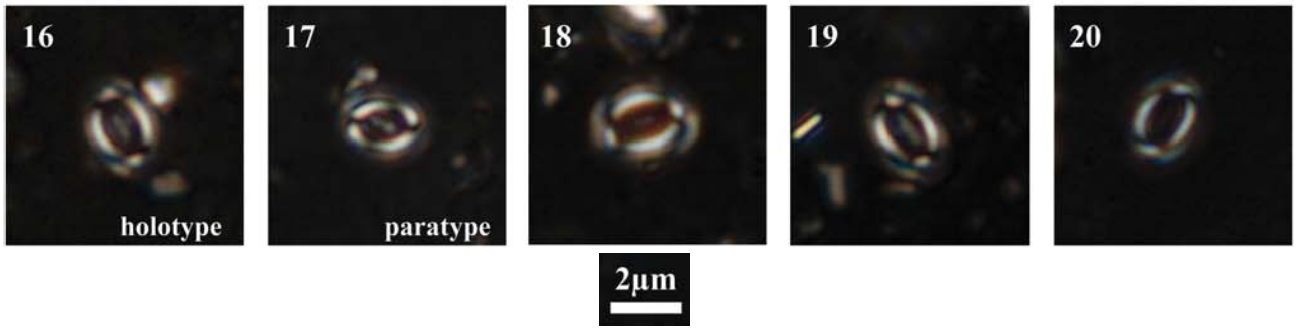
27. Hornibrookina gracila Self-Trail et al. (2021)



Pl. 3, figs 1–6

SDB = South Dover Bridge core. 1-6 *Hornibrookina gracila*. 1 N12424-51, 680.3′, SDB; 2 N12499-1, 689.0′, SDB; 3 N13803-15, 568.1′, SDB; 4 N12424-2, 680.3′, SDB; 5 N12424-13, 680.3′, SDB; 6 N12424-41, 680.3′, SDB.



Pl. 5, figs 16–20

All photographs are in cross polarized light, unless otherwise noted. HP = Hope Plantation core; MCBR = Mattawoman Creek Billingsley Road core; ODP = Ocean Drilling Program core; SDB = South Dover Bridge core; SI = Solomons Island core; PC = phase contrast light. 16-20 *Hornibrookina gracila.* 16 N12424, 680.3′ SDB; 17 N12496, 681.0′, SDB; 18 N13970, 674.3′, SDB; 19 N13942, 676.3′, SDB; 20 N12424, 680.3′, SDB.

Derivation of name: From the Latin *gracilis*, meaning slight or slender. A reference to its small size and the delicate, thin horizontal/transverse laths.

Diagnosis: A small species of *Hornibrookina* with rounded ends and having two shields that are only slightly arched. The central area contains slender horizontal/transverse laths that occasionally merge to form a "v" shape and meet in the center to form a narrow, longitudinal bar.

Description: *Hornibrookina gracila* has 25–30 elements in the distal shield and 27–32 elements in the proximal shield. Shield elements overlap slightly on the distal surface and show an interlocking pattern with mild diagenesis. The proximal shield is slightly smaller than the distal shield. The central area is surrounded by an oval wall of steeply dipping, imbricate elements. The central area contains slender horizontal/transverse laths, usually 12–30, attached on the outer edge to a cycle of blocky elements, and they extend inward from either side and meet to form a narrow, central longitudinal bar. These laths occasionally merge to form a "v" shape (see Pl. 3, figs. 4, 6). The longitudinal bar is not visible from the proximal surface.

Differentiation: *Hornibrookina gracila* most closely resembles *H. weimerae* in being small and somewhat difficult to distinguish under the light microscope. However, the outline of *H. gracila* is clearly more rounded (average width of 2.6 μm) than that of *H. weimerae* (whose width averages 1.8 μm) and the laths in *H. weimerae* are very broad (Pl. 3, figs. 7–12) rather than the narrow bars of *H. gracila*. In poorly to moderately preserved material, *H. gracila* in the LM can be easily confused with small specimens of *Biscutum* and/or *Toweius* (see Pl. 4, fig. 12). In particular, *H. gracila* closely resembles *Toweius reticulum* (see images of Bown 2016). However, there are some areas of clear distinction between *H. gracila* and *T. reticulum*. *Hornibrookina gracila* (1.8–4.5 μm) is bigger than *T. reticulum* (1.8–3.0 μm), has a strongly imbricated inner cycle of elements (see Plate 3, fig. 1) that is lacking in *T. reticulum* (see Plate 10, fig. 1 of Bown (2016) for comparison), and lacks the central longitudinal structure with pores (compare Plate 3, figs. 4–5 with Bown (2016), their Plate 10, figure 5 paratype).

Remarks: Specimens of *H. gracila* are documented from cores located on the Atlantic Coastal Plain (text-fig. 11) from sediments deposited in paleodepths between 120 and 140 m (Stassen et al. 2015; Robinson and Spivey 2019).

Dimensions: L = 1.7–4.5 μm; W = 1.3–3.6 μm

Holotype: Pl. 5, fig.16

Paratypes: Pl. 3, fig. 4; Pl.5, fig. 17

Type locality: South Dover Bridge core, Talbot County, MD (USA).

Type level: Upper Paleocene, USGS sample N12472, 207.4 m (Zone NP9).

Occurrence: Middle Paleocene to early Eocene, Zones NP5–14.

Self-Trail, J.M., Watkins, D.K., Pospichal, J.J. & Seefelt, E.L., 2021. Evolution and taxonomy of the Paleogene calcareous nannofossil genus *Hornibrookina. Micropaleontology,* **68(1):** 85–113.