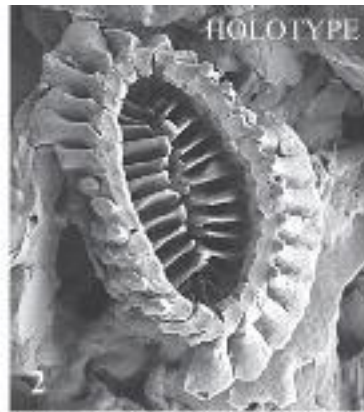


22. *Hornibrookina nicolasii* Pérez Panera in Pérez Panera & Ronchi (2021)



Hornibrookina nicolasii - YT.RMP_N.000007.2-10 - HOLOTYPE

YT.RMP_N.000007.2-11



YT.RMP_N.000007.2-12

YT.RMP_N.000007.2-13

YT.RMP_N.000007.2-14

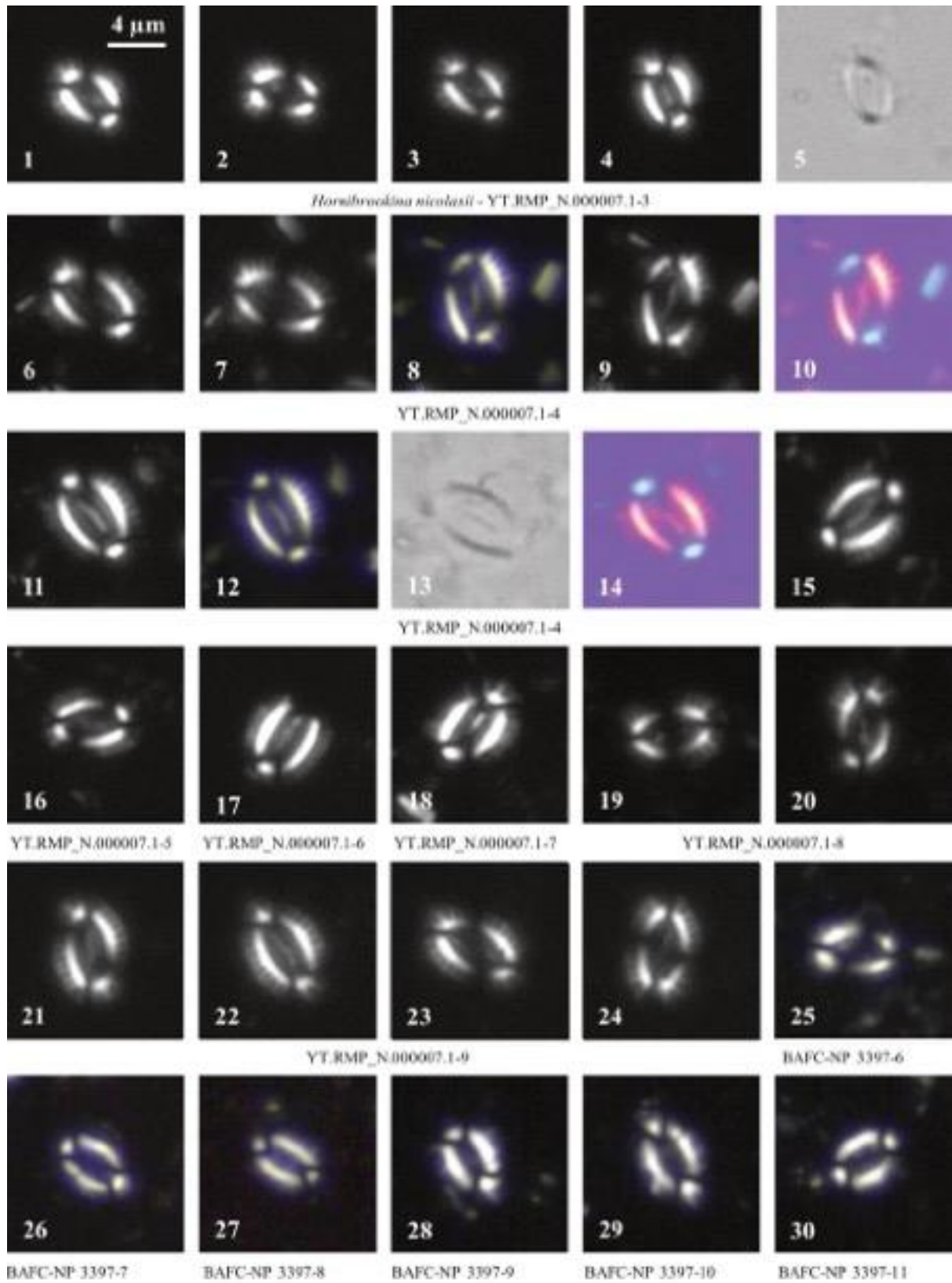


YT.RMP_N.000007.2-15

YT.RMP_N.000007.2-16

YT.RMP_N.000007.2-17

Pl. 3, figs 1-9



Pl. 4, figs 1–30

Derivation of name: Named in honour of Nicolás Pérez Panera, son of Juan P. Pérez Panera.

Diagnosis: A medium-sized species of *Hornibrookina* with a broad, bicyclic distal shield, broad, monocyclic proximal shield and central-area filled by 11 to 14 pairs of alternating laths.

Description: Medium-sized, elliptical placolith with a broad, bicyclic distal shield and a medium to large central-area occupied by 11 to 14 flattened pairs of laths that are perpendicular to the inner wall of the shield. The junction of the laths is slightly offset and forms parallel to the major axis of the ellipse. Overgrowth can result in enlarged ends on the laths, which form a 'hammer' shape. There is no separate longitudinal bar. The outer cycle of the distal shield is broad and the elements are slightly imbricated clockwise in distal view. The elements have a trapezoidal shape and are thinner towards the central-area. This produces a conspicuous slit between the elements that is also distinctive in the LM. The inner cycle of the distal shield is tall and thin. In some specimens, protruding knobs have developed at the contact between the outer and inner cycles of the distal shield. The proximal shield is also broad, but smaller than the distal shield. Under crossed polars, the inner cycle of the distal shield is highly birefringent, while the outer cycle has low birefringence and a serrated aspect due to the thinning of the elements between the sutures. The central-area has low birefringence and, in some cases, a bright line appears subparallel to the major axis of the ellipse. This is due to the enlargement of the laths where they connect and not because of the presence of a longitudinal bar.

Differentiation: *Hornibrookina nicolasii* differs from other species of the genus in having an outer cycle of elements with slits between them, which gives a spinose aspect under crossed polarisers. It also differs from the co-occurring *H. lae* in its larger size and different arrangement of laths.

Remarks: When observed under crossed polarisers and with a gypsum plate, the tube and distal shield elements show the same crystallographic orientation (Pl. 4, figs 10, 14). This is not the case in other species of *Hornibrookina*, where the tube elements correspond to R-units and the shield elements to V-units, producing an alternation of colours between the tube and the distal shield. However, it is possible that the birefringent elements correspond to the proximal shield elements that are R-units and not to the distal shield elements. In any case, this new species is included in the genus *Hornibrookina* because it presents the diagnostic characteristics of the genus, in being a narrowly elliptical placolith with a central-area filled by large bars, having a monocyclic proximal shield, and with a bicyclic distal shield with an inner cycle forming a crown-like structure.

Dimensions: Length = 5.48–6.15 μm ; width = 3.66–4.46 μm ; axial ratio = 1.34–1.56 (Table 3).

Holotype: YT.RMP_N.000007.2-10 (Pl. 3, figs 1, 2).

Paratypes: YT.RMP_N.000007.2-11 (Pl. 3, fig. 3), YT.RMP_N.000007-12 (Pl. 3, fig. 4), YT.RMP_N.000007.2-13 (Pl. 3, fig. 5), YT.RMP_N.000007.2-14 (Pl. 3, fig. 6), YT.RMP_N.000007.2-15 (Pl. 3, fig. 7), YT.RMP_N.000007.2-16 (Pl. 3, fig. 8), YT.RMP_N.000007.2-17 (Pl. 3, fig. 9), YT.RMP_N.000007.1-3 (Pl. 4, figs 1–5), YT.RMP_N.000007.1-4 (Pl. 4, figs 6–15), YT.RMP_N.000007.1-5 (Pl. 4, fig. 16), YT.RMP_N.000007.1-6 (Pl. 4, fig. 17), YT.RMP_N.000007.1-7 (Pl. 4, fig. 18), YT.RMP_N.000007.1-8 (Pl. 4, figs 19, 20), YT.RMP_N.000007.1-9 (Pl. 4, figs 21–24), BAFC-NP 3397-6 (Pl. 4, fig. 25), BAFC-NP 3397-7 (Pl. 4, fig. 26), BAFC-NP 3397-8 (Pl. 4, fig. 27), BAFC-NP 3397-9 (Pl. 4, fig. 28), BAFC-NP 3397-10 (Pl. 4, fig. 29), BAFC-NP 3397-11 (Pl. 4, fig. 30). **Type locality:** Río de la Turba section, Argentina (53.92°S, 68.38°W).

Type level: Sample 022, La Despedida Group, NP16, Middle Eocene.

Occurrence: Early to Middle Eocene (NP13–NP16) in the Austral Basin, Patagonia. Late Ypresian to Early Bartonian (NP13–NP16) in the Campo Bola Well (1015–1020 m); Late Lutetian to Early Bartonian (NP16) in the Río de la Turba outcrop.