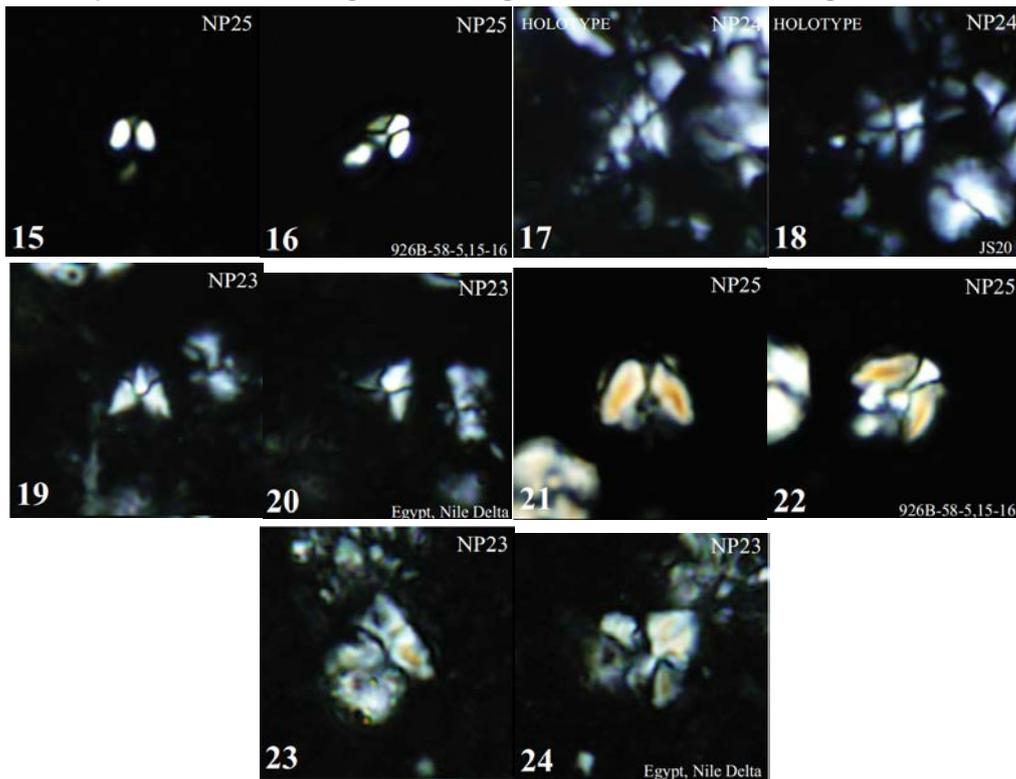


Sphenolithus triangularis Bergen & de Kaenel in Bergen et al. (2017)



Pl. 10, figs 15–24

Derivation of name: from Latin *triangulus*, meaning having three angles.

Diagnosis: A triangular lanceolate sphenolith whose height is equal to or slightly less than its width.

Description: Small to medium, roughly equidimensional, triangular sphenolith. Height of specimen is equal to or slightly less than the width (ratio 0.8–1.0). In lateral view, specimens appear smooth in XPL, as is typical of lanceolate sphenoliths. At 0° to the polarizer, the spine is faintly birefringent to dark and the extinction lines of the brightly birefringent (1st order white) basal elements touch. At 45° to the polarizer, the entire specimen exhibits a 1st order white birefringence. The paired extinction lines remain separate in this orientation, their individual extinction angles variable (50–140°), even on the same specimen. The extinction lines are oriented diagonally. The short spine may have a longitudinal suture. The lateral peripheries are linear and the proximal surface normally indented. L = 2.0–4.4μm; W = 2.4–5.6μm (eight specimens).

Remarks: The equidimensional outline of *S. triangularis* distinguishes it from all other lanceolate sphenoliths. *Sphenolithus avis* is the same size with nearly identical height to width dimensions and also has a short spine, but has a convex basal periphery and large proximal elements. The straight lateral periphery of *S. triangularis* distinguishes it from *S. avis* in poorly preserved assemblages.

Holotype: Pl. 10, figs 17–18.

Type locality: Ciperó coast, north end, Locality 10 of Bolli (1957), south Trinidad.

Type level: Sample JS20, *Globorotalia opima opima* Zone, Lower Oligocene, Zone NP24.

Occurrence: The HO of *S. triangularis* is used as marker in the GoM, where it is paired with the HO of *S. ciperóensis* ($> 6\mu\text{m}$). This event is also within Zone NP25 in Leg 154, dated at 24.700Ma (Table 1). In the GoM, the LO of the species falls in lower Zone NP23, below the Leg 154 research (30.679Ma).

Bergen, J., de Kaenel, E., Blair, S., Boesiger, T. & Browning, E., 2017. Oligocene-Pliocene taxonomy and stratigraphy of the genus *Sphenolithus* in the circum North Atlantic Basin: Gulf of Mexico and ODP Leg 154. *Journal of Nannoplankton Research*, **37(2–3)**: 77–112.