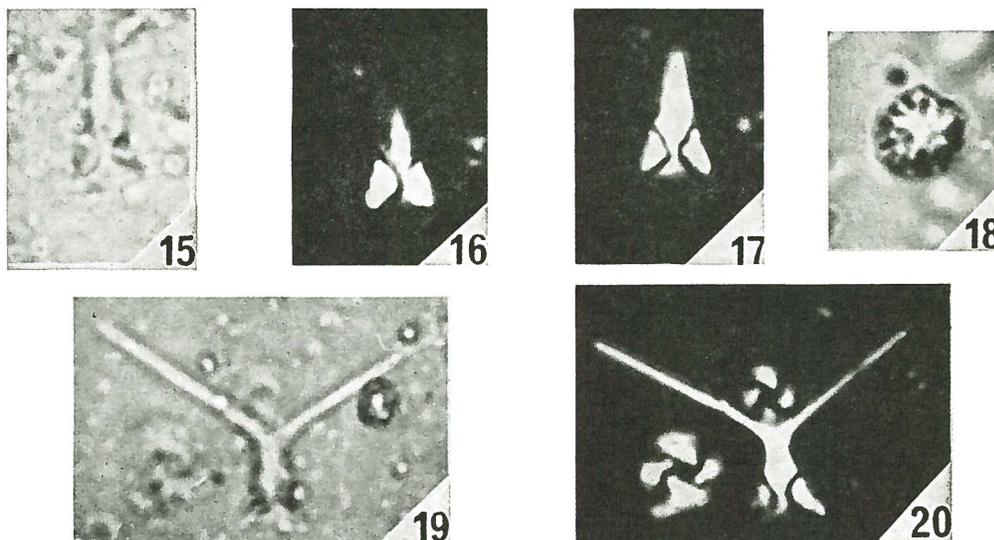


**Sphenolithus ciproensis** BRAMLETTE & WILCOXON, 1967



FIGS. 15-20 — *Sphenolithus ciproensis* BRAMLETTE & WILCOXON, n. sp. (15) side view, T<sub>1</sub>T<sub>0</sub>C 215 656, holotype, U.S.N.M. 650 673, (16) long axis 0° to crossed nicols, (17) long axis 45° to crossed nicols, (18) basal view in silicone oil, (19) bifurcate form, intermediate to progenitor *S. distentus*, T<sub>1</sub>T<sub>0</sub>C 215656, paratype, U.S.N.M. 650 674, (20) long axis 45° to crossed nicols. x 2700.

**Description:**

Sphenolith small, with nearly uniform taper from base to tip of apical spine; about 10—12 spines around the distinctly depressed basal area. Apical spine pointed in most specimens but slightly to strongly bifurcate in some otherwise identical forms. The spine consists of coalesced units of calcite of slightly different orientation (obvious with superimposed quartz plate), hence does not normally show complete extinction between crossed nicols of the apical spine in position parallel to either nicol.

**Remarks:**

Although small, this form is conspicuous between crossed nicols, having a particularly distinctive appearance with length of specimen and apical spine at 45° to either nicol (fig. 17). In this orientation the extinction lines do not cross but appear as two outward curving (chevron-like) lines, with the bright area continuing between them to the base, in contrast to the appearance of *S. distentus* (Pl. 2, fig. 5) in this orientation.

Similar in size and dart-like shape to *S. belemnus*, but the distinction is obvious between crossed nicols. Similarity to *S. distentus* is apparent in the compound apical spine and tendency for bifurcation of this spine. Some overlap in occurrence, including intermediate forms (figs. 19-20), indicate that this species developed from *S. distentus*, and in turn gave rise to the later *S. belemnus*.

**Type level:**

Middle Tertiary.

Distribution — Common in the *Globigerina ciperoensis ciperoensis* Zone, and sparse in the *Globorotalia opima opima* Zone of the Cipero section, and in approximately equivalent strata elsewhere; present in a sample from Escornebeou, France received from Drooger, which he correlates with type Chattian on the basis of the species of *Miogypsina* and *Lepidocyclina*. Common in Joides No. 4 boring at 73 ft. to approximately 150 feet, in the subsurface Hackberry Formation of Texas, and in Tertiary e 1-3 of Indonesia.

**Type locality:**

Cipero section, Trinidad.

**Depository:**

U. S. Nat. Museum; holotype: U.S.N.M. 650 673, TTOC 215 656; paratype: U.S.N.M. 650 574, TTOC 215656.

**Author:**

Bramlette M.N. and Wilcoxon J.A., 1967, p. 120; pl. 2, figs. 15-18, and aff. in figs. 19,20.

**Reference:**

Middle Tertiary calcareous nannoplankton of the Cipero section, Trinidad, W. I. Tulane Studies in Geology, vol. 5, n° 3, pp. 93-131, pls. 1-10.