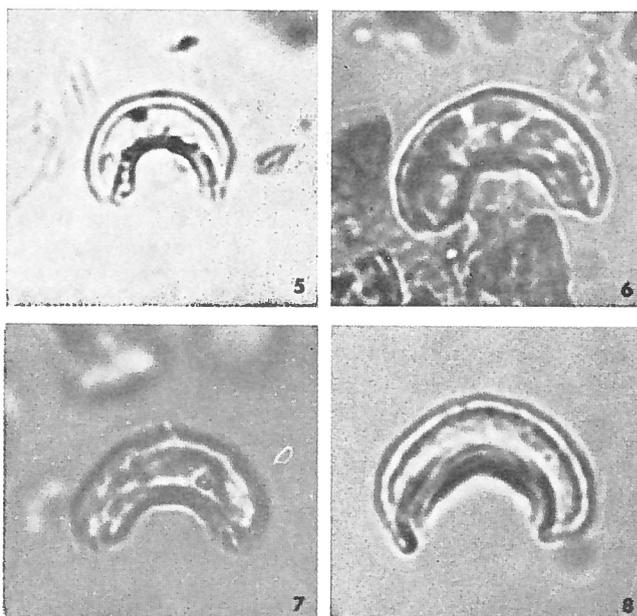


Peritrachelina joidesa BUKRY & BRAMLETTE, 1968



FIGS. 5-8 — *Peritrachelina joidesa* n. sp. 5) Yazoo Clay, Eocene, bright field, plan. U.S.N.M. 651141. 6) J6, 73 m, Oligocene, bright field, plan. U.S.N.M. 651142. 7) J6, 73 m, Oligocene, bright field, plan. U.S.N.M. 651143. 8) Holotype, U.S.N.M. 651140, Red Bluff Clay, Oligocene, bright field, plan. x 2100, except fig. 5 = x 1700.

Description:

The crescent outline of this nannofossil is emphasized by the presence of marginal lips bordering a featureless interlip area. The short inner lip, while normally smooth, may be beaded (fig. 5). The long outer lip is a peripheral ridge, rarely somewhat irregular. In plan view, as the microscope stage is rotated between crossed polarizers, this species remains dark—a character of the genus.

In samples subjected to excess calcification, the area between the lips is progressively filled-in until there is usually no distinction between the lips and the interlip area (for example, in JOIDES Blake Plateau cores where, however, the identity with normal specimens is indicated by rare less calcified ones).

Maximum length: 14 μ .

Remarks:

The lack of any ornamentation extending from the short inner lip onto the interlip area distinguishes this new species from *P. ornata* DEFLANDRE. Also, *P. ornata* lacks the distinct long outer lip characteristic of *P. joidesa* n. sp.

Care should be taken in identifying this new species, because broken specimens of some co-occurring heliolithid coccoliths like *Apertapetra umbilica* (LEVIN) may superficially resemble *P. joidesa*. However, the behavior between crossed polarizers makes the distinction obvious, as *P. joidesa* is uniformly dark between crossed polarizers, whereas fragments of a coccolith such as *A. umbilica* have a radial array of numerous calcite elements that produces part of a maltese-cross shaped set of extinction lines (see above comment on Gorka, 1957). Early forms of *Ceratolithus* appearing in the upper Miocene are horseshoe-shaped and likewise remain dark between crossed polarizers. These forms can be distinguished by the slenderness and circular cross-section of the *Ceratolithus* arms. The limbs of *Peritrachelina* are wide and planar except when heavily calcified, as in the JOIDES Blake Plateau cores. The crystallographic character and general shape of these two genera might suggest an evolutionary sequence from *Peritrachelina* to *Ceratolithus*. At present, however, the middle Oligocene Blake Plateau specimens of *P. joidesa* n. sp. are the latest known occurrence of *Peritrachelina*, and the late Miocene specimens of *Ceratolithus tricorniculatus* GARTNER, emended, are the earliest known occurrence of *Ceratolithus*.

Electron micrographs of *P. joidesa*, referred to as *Peritrachelina* sp., appear in a forthcoming paper by S. Gartner and D. Bukry.

Type level:

Oligocene.

Distribution: Earliest occurrences are from upper Eocene (Bartonian) strata of the Côte de Basque of France at Biarritz; from the St. Lon region of southwest France at Brihande; and from the Yazoo clay of the Gulf Coast of the United States. Oligocene occurrences are from the Red Bluff Clay, in Alabama, the Mint Spring Marl Member of the Marianna Limestone, and the Glendon Limestone Member of the Byram Formation of the Vicksburg Group, in Mississippi; from north of Vaigana on Eua Island in the Tonga Group; and from Lamont core C10-11, at 66 to 71 centimeters. The species is most common in JOIDES core 3 from 85 to 153 meters, and there are sparse occurrences in JOIDES core 4 in the Oligocene between approximately 45 and 75 meters, and in JOIDES core 6 in the lower Oligocene from 7 to 48 meters and in the upper Eocene from 50 to 80 meters. These nearly worldwide occurrences begin in the *Isthmolithus recurvus* Zone and terminate in the *Sphenolithus ciperoensis* Zone (see Bramlette and Wilcoxon, 1967, for this nannofossil zonation).

Type locality:

Red Bluff Clay, St. Stephens Quarry, Alabama, U.S.A.

Depository:

U. S. National Museum. Holotype: U.S.N.M. 651140 (fig. 8); paratypes: U.S.N.M. 651141-43.

Author:

Bukry D. and Bramlette M. N., 1968, p. 154; pl. 2, figs. 5-8.

Reference:

Stratigraphic Significance of two genera of Tertiary calcareous nannoplankton. Tulane Studies in Geology, vol. 6, n° 2, pp. 149-155, pls. 1, 2.