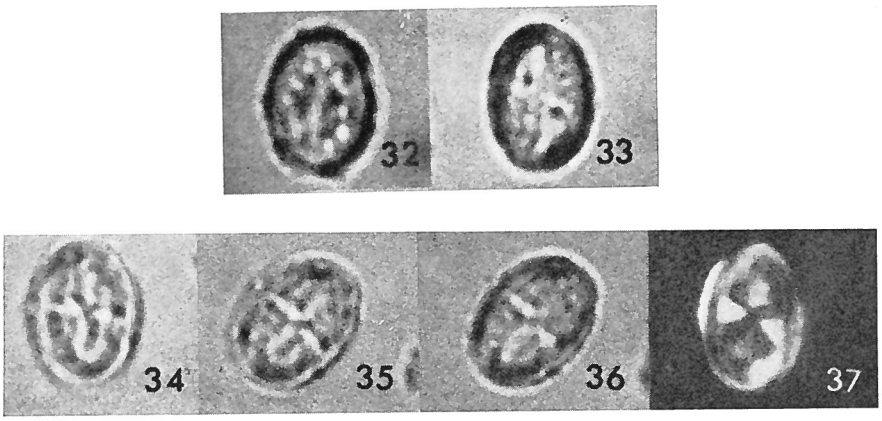
Broinsonia gammation HILL, 1976



Figs. 32-37 — *Broinsonia gammation* n. sp., Holotype, UCLA 38281, Loc. No. 6273-e, HTL6275c, Grayson Marl; 32 lf; 34 hf; 35 hf, rotated 30°; 36 lf, rotated 30°; 37 xn.

Description:

This species has an elliptical rim (eccentricity 1.3 - 1.4) which is smooth in outline. The central area occupies about 70 percent of the long diameter of the coccolith and is divided into quadrants by an axially aligned central cross. Each quadrant may be perforated by circular openings, the number and size of which appear to be very susceptible to the effects of secondary overgrowth and/or dissolution since they vary from specimen to specimen and may vary from quadrant to quadrant in the same specimen. In the holotype, 3 circular pores circumscribe the central area in each of the quadrants. Under crossed nicols (with the axes of the coccolith aligned with the nicols), the rim is traversed by 4 diffuse spiral extinction gyres. The central area is occupied by an axially aligned cruciform figure, each arm of which is straight on one side and flared on the other. The flaring ends of the arm are brighter than the center of the cross and are distinctively brighter than the rim. A spine has not been observed in this form.
This species differs from *Arkhangelskiella cymbiformis* VEKSHINA in being smaller (maximum diameter 5 μm vs. 10 μm), by having spiral rather than straight extinction gyres, and by having a rim which is distinctly dimmer than the central cross (when viewed under crossed nicols). The present species differs from *Broinsonia kontakaina* n. sp., by having a distinct central cross rather than a structureless central area when viewed under bright field illumination, and by lacking, rather than having, a central spine.

Size: Maximum diameter 5 μm.

Derivation of name: *Gammation* from the Greek meaning "swastika".

Type level:

Middle Albian-Cenomanian.
Occurrence: This species is present in both formations of the Fredericksburg Group, and in a formations of the Washita Group except the Denton Marl and Weno Formation.

Type locality:

Loc. No. 6273-e, HTL 6275c, Grayson Marl, Texas.

Depository:

University of California, Los Angeles.
Holotype: UCLA 38281.

Author:

Hill M.E., 1976, p. 126; pl. 2, figs. 32-43.

Reference:

Lower Cretaceous Calcareous Nannofossils from Texas and Oklahoma. Palaeontographica Abt. B, vol. 156, no. 4-6, pp. 103-179, 15 pls., 5 text-figs., 5 maps.