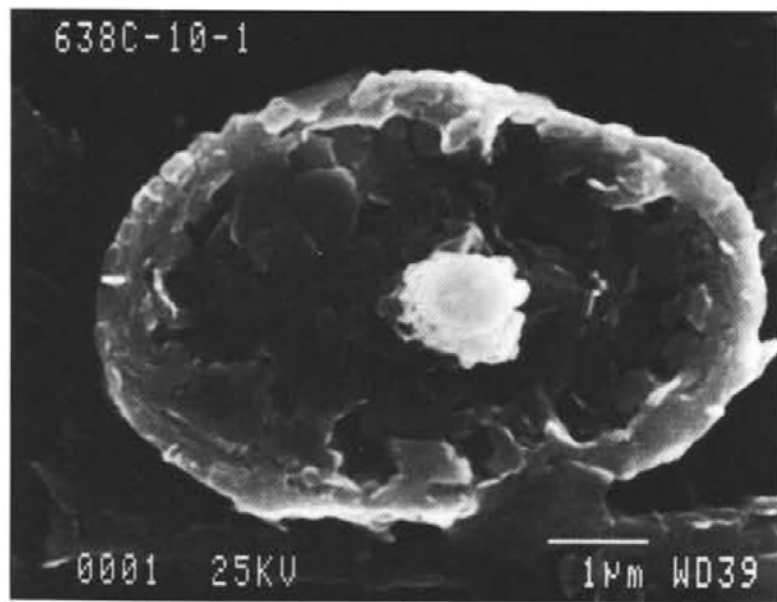


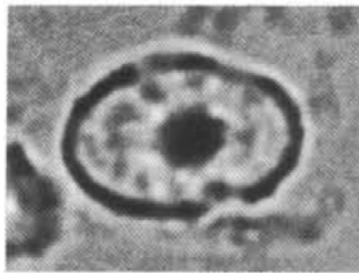
88. *Eiffellithus primus* Applegate & Bergen (1988)



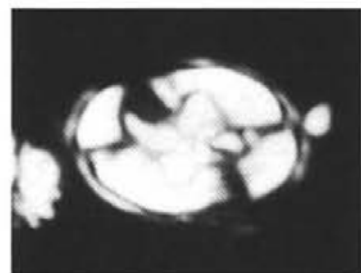
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2



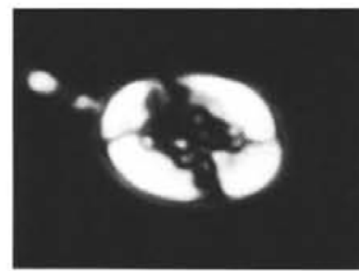
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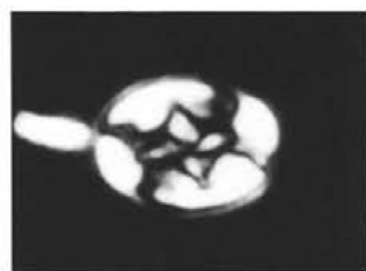
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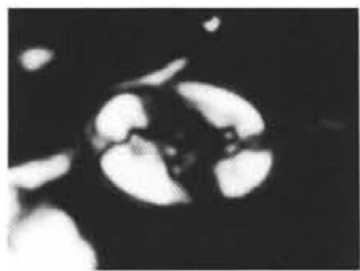
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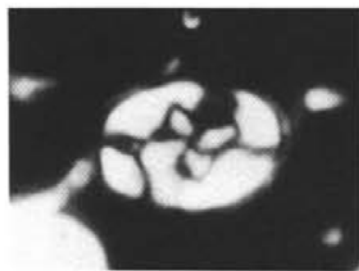
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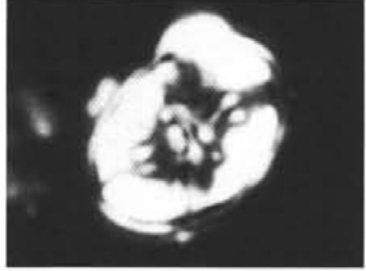
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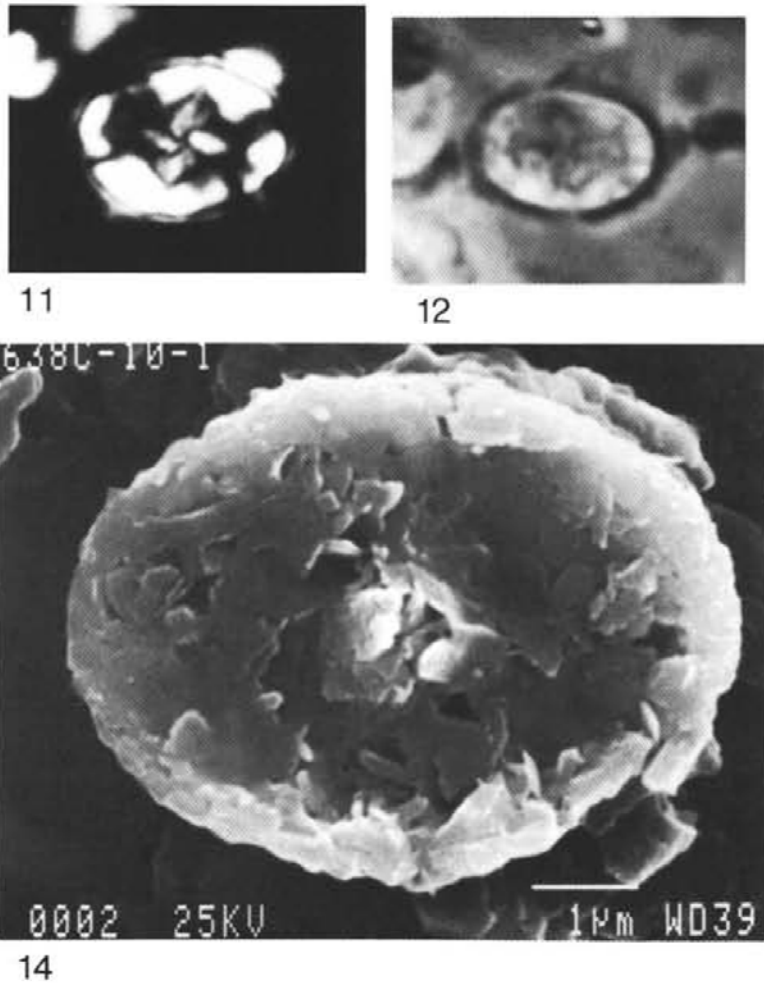
8



9



10



Pl. 11, figs 1-12 and 14

**Diagnosis:** A small species of *Eiffellithus* that has crossbars in the major and minor axes.

**Description:** Under the light microscope in cross-polarized light, this species exhibits split crossbars that are aligned with the major and minor axes. At 0°, the crossbars appear to be solid and appear to be at an angle from 10° to 20° from the major and minor axes. In phase contrast or transmitted light, the crossbars are observed in the major and minor axes.

**Differentiation:** *Eiffellithus primus* differs from *Eiffellithus eximius* by its smaller size and unique behavior under crossed polars (as previously described). *Eiffellithus* sp. 1 has its central cross 10°-15° from the major and minor axes and does not exhibit a split in the central cross in polarized light. It is distinguished from *Eiffellithus windii* n. sp. by having its crossbars in the major and minor axes.

**Remarks:** This species is the oldest known form of the genus *Eiffellithus*, and hence the name "primus". This form has its last occurrence near the first occurrence of *E. windii*, suggesting an evolutionary step in which the central cross rotates 45° to the major and minor axes.

**Occurrences:** Rare to few in the lower to upper Valanginian of ODP Holes 638B, 638C, and 639A.

**Size:** Holotype, 6.5  $\mu\text{m}$  in length.

**Holotype:** Plate 11, Figures 1-5.

**Type locality:** ODP Sample 103-638C-10R-1, 35-36 cm.

Applegate, J.L. & Bergen, J.A., 1988. Cretaceous calcareous nannofossil biostratigraphy of sediments recovered from the Galicia Margin, ODP Leg 103. *Proceedings of the Ocean Drilling Program, Scientific Results*, **103**: 293-348.