

240. *Watznaueria bybelliae* Self-Trail & Pospichal in Self-Trail (1999)

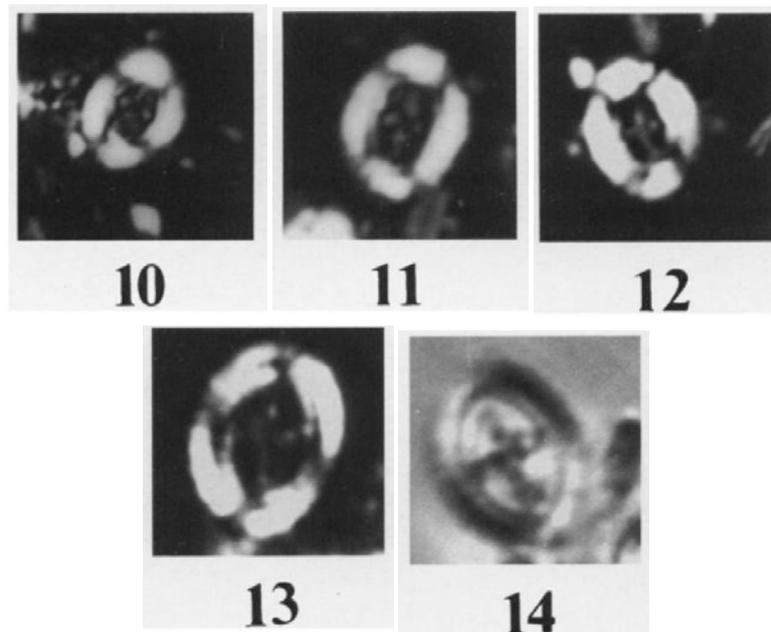


Fig. 6.10-6.14

**Diagnosis:** Elliptical outline, closely appressed distal and proximal shields, and central cross aligned with the major and minor axes of the ellipse.

**Description.** -Small, with length between 3.4  $\mu\text{m}$  and 4.9  $\mu\text{m}$  and width between 2.2  $\mu\text{m}$  and 3.8  $\mu\text{m}$  (Table 2). Proximal shield smaller than distal shield, the two being nestled tightly together. Central cross is aligned with the major and minor axes of specimens. Small diameter of the central opening in which the cross resides is less than or equal to breadth of outer cycle. Distal cycle comprises between 17 and 25 blocky elements.

**Etymology:** Named in honor of Laurel M. Bybell, whose efforts at documenting Tertiary calcareous nannofossil evolution have inspired my own interest in evolutionary trends.

**Types:** Holotype, Figure 6.13, 6.14 (same specimen, different view), catalogue number USNM 498617. Type locality in the Cannon Park core, South Carolina, 251.5 m, Zone CC21, Donoho Creek Formation; paratype, Figure 6.10, catalogue number USNM 498618.

**Type locality:** in the Cannon Park core, 267.3-267.4 m, Zone CC22c, Donoho Creek Formation. All specimens are housed in the collections of the Department of Paleobiology, National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C.

**Occurrence:** This species occurs sporadically in the Donoho Creek and Peedee Formations from Zones CC21 through lower Zone CC26a (late Campanian through late Maastrichtian). It is probable that the range of this species extends up to the

Cretaceous/Tertiary Boundary and that its small size and sporadic occurrence have masked its full range. Burnett (personal commun., 1998) reports this species from a number of Campanian and Maastrichtian low-latitude sites around the Atlantic and Indian Ocean basins and Pospichal (in prep) reports this species from the late Maastrichtian of El Kef, Tunisia.

**Discussion:** *Watznaueria bybelliae* n. sp. most closely resembles *Watznaueria quadriradiata* in having a central cross that consists of parallel laths which are aligned with the major and minor axes of the ellipse. It differs from *W. quadriradiata* in having a more elliptical rather than circular outline, a typically smaller length (averaging 4.3  $\mu\text{m}$  as opposed to 8.2  $\mu\text{m}$ ), and only 17-25 elements in the distal shield in comparison to 25- 32 elements for *W. quadriradiata*. *Watznaueria bybelliae* n. sp. can also be confused with *W. barnesae* if the central cross is broken out or dissolved.

Self-Trail, J.M., 1999. Some New and Rarely Documented Late Cretaceous Calcareous Nannofossils from Subsurface Sediments in South Carolina. *Journal of Paleontology*, **73(5)**: 952-963.