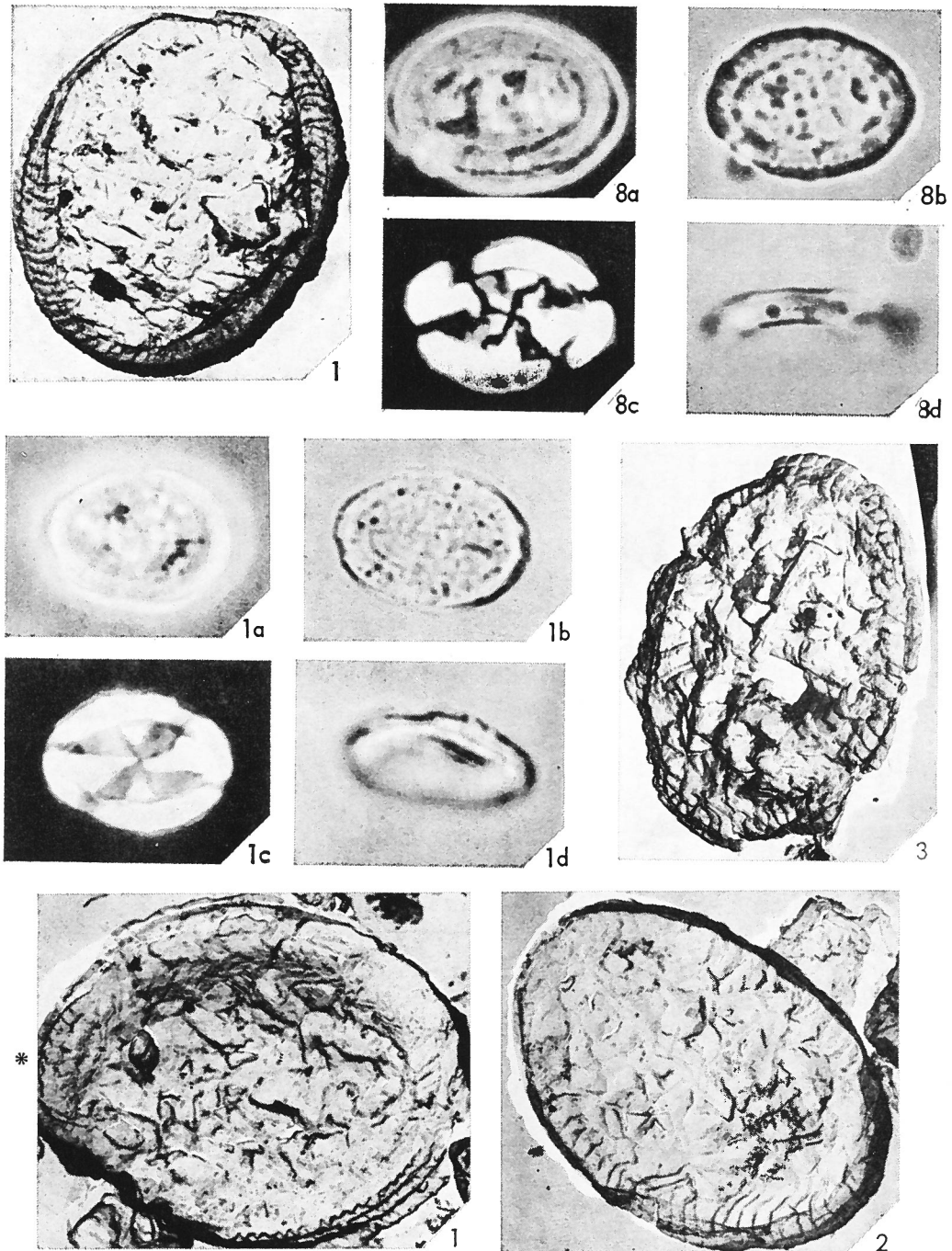


**Arkhangelskiella scapha** GARTNER, 1968



FIGS. 1, 1a-d, 8a-d, 1\*-3 — *Arkhangelskiella scapha* GARTNER, n. sp.; 1) and 1a-d) specimens from Taylor Marl of Texas, 1) distal view, electron micrograph, x 5000, 1a-d) distal (1a-c) and side (1d) view, light micrographs, phase contrast (1a), transmitted light (1b, d), cross-polarized light (1c), x 2500; 8a-d) and 1\*-3) specimens from Austin Chalk of Texas, 8a-d) proximal (8a-c) and side (8d) views, light micrographs, phase contrast (8a), transmitted light (8b, d), cross-polarized light (8c), x 2500; 1\*-3) proximal (1\*) and distal (2, 3) views, electron micrographs, x 5000.

**Description:**

Elliptical disc with 4 closely appressed rim tiers; central area imperforate and made of large crystallites.

Description: The central plate is constructed of irregular elements or large irregular crystallites. The margin of the central plate is constructed of regularly arranged elements forming the distal rim tier. On the distal surface pits or slits mark the places where perforations are located in other species. On the proximal side 3 progressively larger rim tiers can be seen, each made of 60 to 80 elements. The first or proximal tier has a secondary cycle of elements with a serrate margin on its surface.

One of the 2 sutures traversing the central area is aligned almost perfectly with the major axis of the ellipse. The other suture may be rotated a few degrees clockwise or counter-clockwise from the minor axis of the ellipse. The central area is imperforate.

Maximum diameter: 10.2–12.8  $\mu$ . Minimum diameter 7.0–9.4  $\mu$ .

**Remarks:**

In electron micrographs *Arkhangelskiella scapha* is very similar to *A. concava* GARTNER, but differs in lacking an elevated ridge on either side of the suture lines. Also, *A. scapha* is always larger than *A. concava*. In the light microscope, the difference between the two is very much like *A. cymbiformis* VEKSHINA and *A. specillata* VEKSHINA in that the central area is sharply divided into 8 alternating light and dark regions. In *A. concava* these areas are diffuse and poorly defined. Also in the latter species and in *A. costata* GARTNER, n. sp., the elevated ridges on each side of the sutures commonly are clearly visible in polarized light.

**Type level:**

Upper Cretaceous (Austinian. Other occurrence: Tayloran).

**Type locality:**

Austin Chalk of Texas, U.S.A.; sample 9.

**Depository:**

Department of Geology, University of Illinois. Holotype: UI-H-2446 (fig. 1\*).

**Author:**

Gartner S., Jr., 1968, p. 39; pl. 14, fig. 1; pl. 15, figs. 1a–d; pl. 17, figs. 8a–d; pl. 20, figs. 1\*–3.

**Reference:**

Coccoliths and related calcareous nannofossils from Upper Cretaceous deposits of Texas and Arkansas. Univ. Kansas Paleont. Contr., Serial n<sup>o</sup> 48, Protista, Art. 1, pp. 1–56, pls. 1–28, text-figs. 1–5.