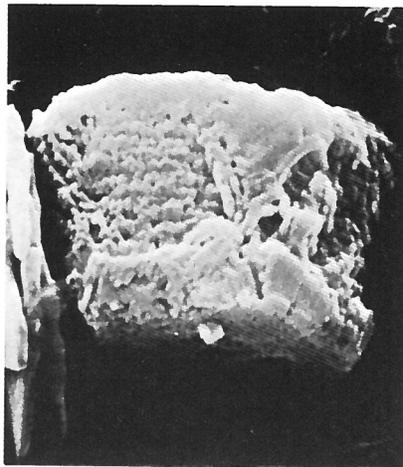
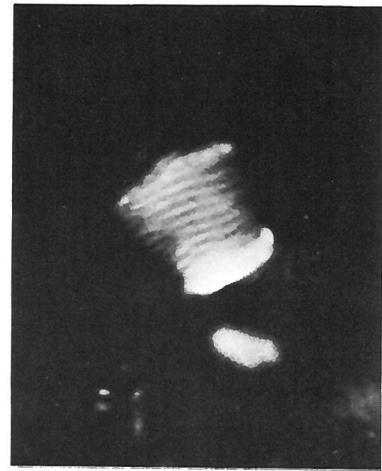


*Zebrashapka
vanhintei*

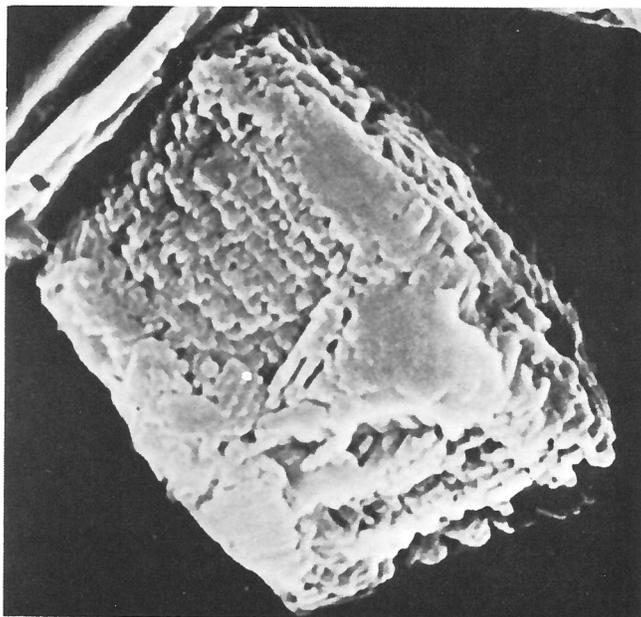
Zebrashapka vanhintei COVINGTON & WISE, 1987



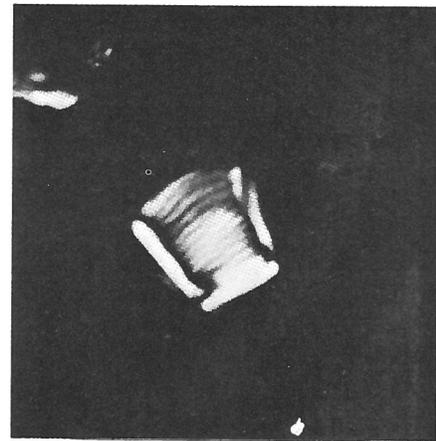
3



4



6



7

Figs. 3, 4, 6, 7 — *Zebrashapka vanhintei* n. sp. Sample 603B-57-2, 131 cm; 3) holotype (same specimen as fig. 6), L, $\times 8500$; 6) holotype, L, $\times 13500$; Sample 603B-55, CC; 4) paratype, Pol, $\times 2500$; 7) paratype, Pol, L, $\times 3000$.

Description:

From the suboval base, this compact holococcolith expands somewhat in the proximal direction so that the sides flare slightly outwards. It rises to a height that varies from roughly one half to twice the width of the base. Partially etched specimens reveal that the sides (but not the distal surface) are veneered with at least two layers of fine cubes.

The cubes in each layer of the veneer near the base are aligned in rows that form an angle with the basal surface of between 55 and 70°, but the rows of each layer are inclined in opposite directions so that they crisscross each other. Beneath the outer veneer, the internal structure is composed of regular rows of cubes arranged in layers that are roughly but not strictly parallel to the basal surface. Measured along the etched sides of the coccoliths, there are on average between five and seven rows or layers of cubes per micrometer.

Viewed laterally in cross-polarized light, the internal rows of cubes produce a set of about a dozen highly birefringent lines subparallel to the basal surface and separated from each other by dark lines so that they yield a pattern similar to the stripes of a zebra. In lateral view, there are two to three birefringent lines per micrometer, which is somewhat less than half the numbers of rows of cubes measured on the electron micrographs. The veneer along the sides (and base?) is not in optical continuity with the internal structure and, therefore, produces a bright border in lateral view. The total optical effect renders an object that resembles a traditional Russian winter hat or a modern-day drum major's (Plate 6, Figs 7-9; Plate 7, Figs. 1-5).

Size: Holotype: 4.4 μm long across the base, 6 μm long across the distal surface, and 4 μm high; paratypes, 4 to 5.5 μm long across the base, 5 to 7.5 μm long across the distal surface, and 3 to 6.5 μm high.

Remarks:

Named in honor of Professor Jan E. van Hinte, Cochief Scientist on DSDP Leg 93.

Type level:

DSDP Sample 603B-57-2, 131 cm (Barremian).

Occurrence: Rare to abundant in the upper Hauterivian to lower-most Aptian in DSDP Hole 603B, North American Basin.

Type locality:

DSDP Sample 603B-57-2, 131 cm.

Depository:

Not given.

Holotype: Plate 5, Figure 6; Plate 6, Figure 3.

Paratypes: Plate 5, figures 4, 5, 7; Plate 6, Figures 1, 2, 4-9; Plate 7, Figures 1-5.

Author:

Covington J.M. & Wise S.W., 1987, p. 633; pl. 5, figs. 4-7; pl. 6; pl. 7, figs. 1-5.

Reference:

Calcareous nannofossil biostratigraphy of a Lower Cretaceous deep-sea fan complex: Deep Sea Drilling Project Leg 93 site 603, lower continental rise off Cape Hatteras. Init. Repts. DSDP, vol. 93, pp. 617-660, 23 pls., 5 text-figs.