

Blackites hayi STRADNER, 1968

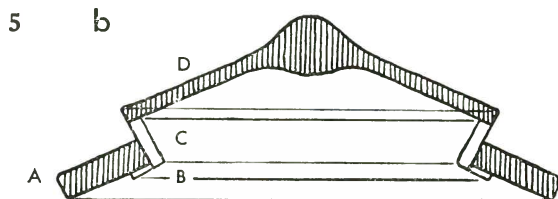
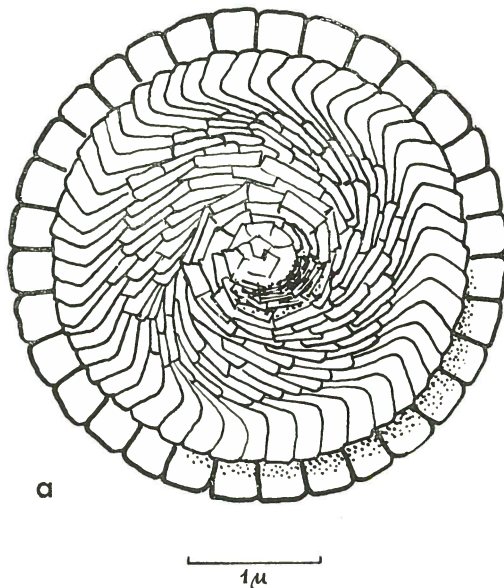
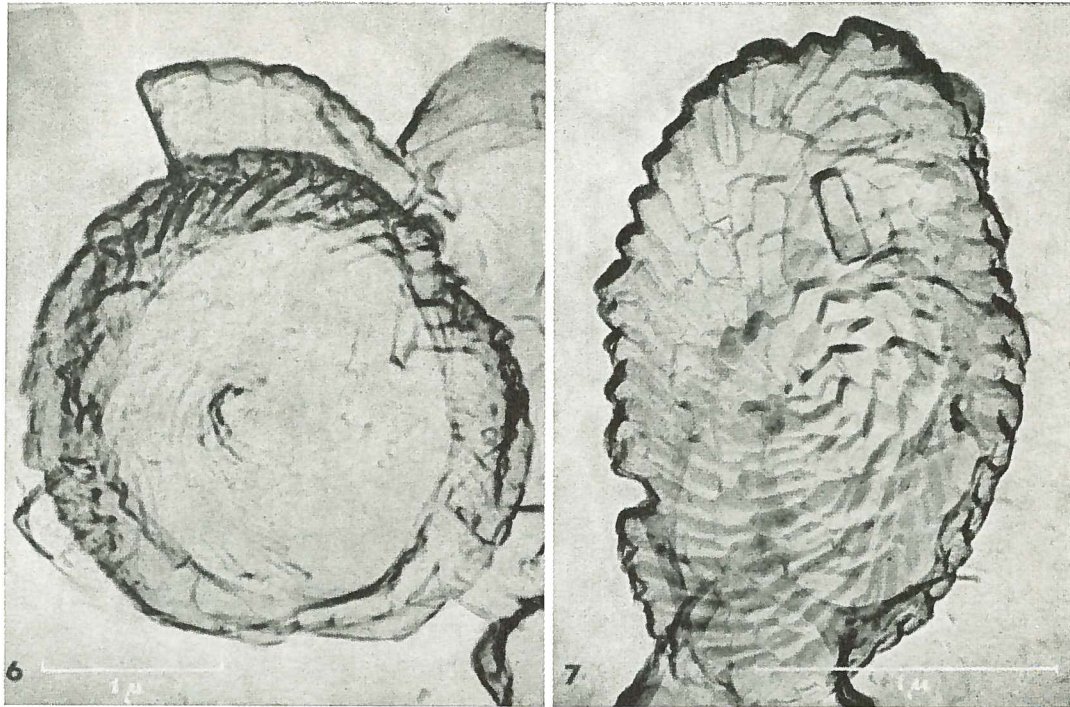


FIG. 6 — *Blackites hayi* nov. spec., distal view showing complete cupula and fragmentary outer rim. Holotype: 3376 + 3377/65 em 24,000 x.

FIG. 7 — *Blackites hayi* nov. spec., oblique side view of proximal side of cupula. Paratype: 1899 + 1900/65 em 40,500 x.

FIG. 5 — *Blackites hayi* n. sp.: a) Top view of distal side showing outermost cycle of trapezoid crystal plates (A) and cupula (D). b) Cross section reconstructed from stereoelectronmicrographs showing cycle (B) of supporting crystal rods and the reversed conical cycle (C), on which the cupula is mounted.

Description:

Diagnosis and description: Rhabdoliths with a circular, cupula-shaped basalplate without central tube.

The outer ring (A) of trapezoid-shaped crystal plates is similar to that of *Blackites rectus* (DEFLANDRE), as far as can be judged from the fragmentary specimen of fig. 6. The inner cupula-shaped structure (D) of spirally arranged crystal units is overlapping two cycles which can be correlated with the cycles (B) and (C) of *Blackites rectus* (DEFLANDRE). There is a narrow cycle of radial crystals supporting the cycle (A) at its proximal side and another reversed-conical cycle (C) of crystal laths, which are thought to be analogous to cycle (C) in *Blackites rectus*. The cupula (D) is composed of a whirl of numerous elongated crystals adjoining and partly penetrating each other. At the centre they are turned upright so that the cupula is thicker there and appears tipped like the cupula of a mosque.

Dimensions: Diameter 3.7μ in holotype (3376+3377/65); diameter of the cupula 2.9μ in holotype, 2.2μ in paratype (1899+1900/65).

Remarks:

Blackites hayi nov. spec. is an atypical representative of the genus because it lacks the characteristic tube or shaft. However, the ultrastructure of the basal plate leaves no doubt as to its generic position, since it shows all typical features of *Blackites* described first by Hay and Towe.

Type level:

Upper Eocene.

Type locality:

Diatomite at William's Bluff, Oamaru, New Zealand.

Depository:

New Zealand Geological Survey Laboratory. Holotype: 3376+3377/65; paratype: 1899+1900/65.

Author:

Stradner H. in Stradner H. and Edwards A.R., 1968, p. 32; pl. 31, figs. 6, 7; text-fig. 5a, b.

Reference:

Electron Microscopic Studies on Upper Eocene Coccoliths from the Oamaru Diatomite, New Zealand. Jb. Geol. B.A. Wien, Sonderband 13, pp. 1-66, pls. 1-48, text-figs. 1-8.