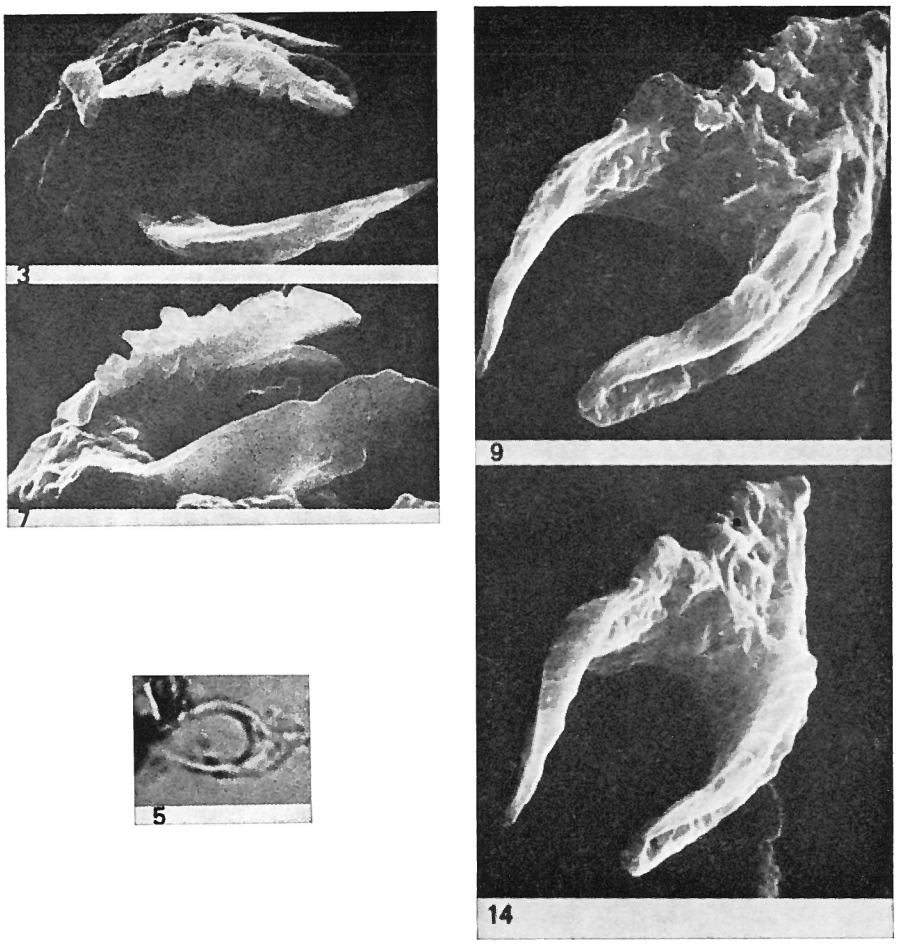
Amaurolithus ninae PERCH-NIELSEN, 1977



Figs. 3, 7, 5, 9, 14 — *Amaurolithus ninae* n. sp. 3, 7) Holotype. Sample 354-4, cc. × 6800. 9, 14) Sample 354-5, cc. × 6100. 5) Sample 354-4, cc. LM, × ca. 2000.

Description:

Diagnosis: Ceratolith with a well-developed apical region and two unequal to subequal, long horns. The shorter horn bears side nodes and a row of rods on the proximal side. The longer horn and the distal side of the ceratolith are armed by non-structured keels.

Description: *A. ninae* has a very well-developed apical region extending from the proximal side of the arch and usually not directly connected with the keel or row of rods on the horns. The row of rods on the proximal side of the shorter horn stand perpendicular to the plane of the ceratolith. Side rods also occur at the boundary between the extension of the apical lump along the shorter horns and that horn itself. On the distal side, the keel is unstructured. In the light microscope, specimens of *A. ninae* show no birefringence.

Remarks:

No other species of *Amauroliths* or *Ceratolithus* has an equally well-developed apical region as *A. ninae*. *A. ninae* is further distinguished from *C. armatus* by the presence of rows of rods on both horns in *C. armatus*, where one row of rods extends to the tip of the apical point. In *C. acutus,* the length of the horns is more unequal than in *A. ninae*, it has an apical suture and the row of rods stands on the longer horn. According to the description of *A. delicatus*, this species also develops an apical lump or a short apical point.

Type level:

A. tricorniculatus Zone, (NN12); late Miocene.
Occurrence: The earliest *A. ninae* were found in the core catcher of Core 5 belonging to the late Miocene *A. primus* Subzone of Bukry (1973) and show a deltoid apical region. The apical region is developed as an apical lump or blade in the core catcher of Core 4, from where the holotype is described. Some younger specimens in the still upper Miocene Sample 354-4-6, 76 cm, on the other hand, have a less well-developed apical region, but better developed side nodes. In a still younger sample, the longer horn develops into a blade and the rather fragile apical structure can be broken off.

Type locality:

Cearà Rise, site 354. Western south Atlantic.

Depository:

Perch-Nielsen Collection.

Author:

Perch-Nielsen K., 1977, p. 745; pl. 2, figs. 8, 9, 14; pl. 4, figs. 3, 6-14; pl. 5, figs. 9, 12-14; pl. 49, fig. 5.

Reference:

Albian to Pleistocene calcareous nannofossils from the Western South Atlantic, DSDP Leg 39. Initial Reports of the Deep Sea Drilling Project, vol. 39, pp. 699-824, 50 pls., 23 tbs., 1 text-fig.