Darwinilithus Watkins, 1984

Description:
A calcareous nannofossils composed of a flaring, bowlike distal shield, a more or less horizontal, proximally-curving proximal shield, and a number of proximally directed processes that arise from the central area.

Remarks:
The possession of two shields of imbricated elements indicates that this genus is a true fossil coccolith, as opposed to a calcareous nannofossil of uncertain biological affinities. The orientation of these nannofossils is not readily discernible at first glance. The curvature of the shields, however, indicates that the flaring, bowl-shaped shield is distal and the horizontal shield is proximal. Given this orientation, the processes must be radiating outward from the central area in the proximal direction. The possession of structures that flare outward in both the proximal and distal directions is relatively unusual for a fossil coccolith.
The general form of a flaring, bowl-like shield and a more or less flattened, horizontal shield seen in Darwinilithus is similar to that seen in some forms of Cylindricalithus Bramlette & Martini (1964). The major difference between these two genera is the possession of proximally directed processes in Darwinilithus. These processes have no counterpart in Cylindricalithus. Possibly, the processes of Darwinilithus are preservational artifacts resulting from secondary overgrowth of elements in the central area of the proximal shield. Examination of more than 50 specimens of this taxon, however, indicate that the size, shape, number, and placement of these processes is typical of these forms. On the basis of these observations, we believe that the processes are original features of the taxon. Assignment of this form to the genus Cylindricalithus would not, therefore, be consistent with the definition of this genus. Thus, the new genus Darwinilithus has been proposed to include these process-bearing forms. Despite this assignment, however, the morphologic similarities of Darwinilithus and Cylindricalithus imply a relatively close taxonomic relationship between these two genera.

Type species:

Author:

Reference:
(in Watkins D.K. & Bowdler J.L.)