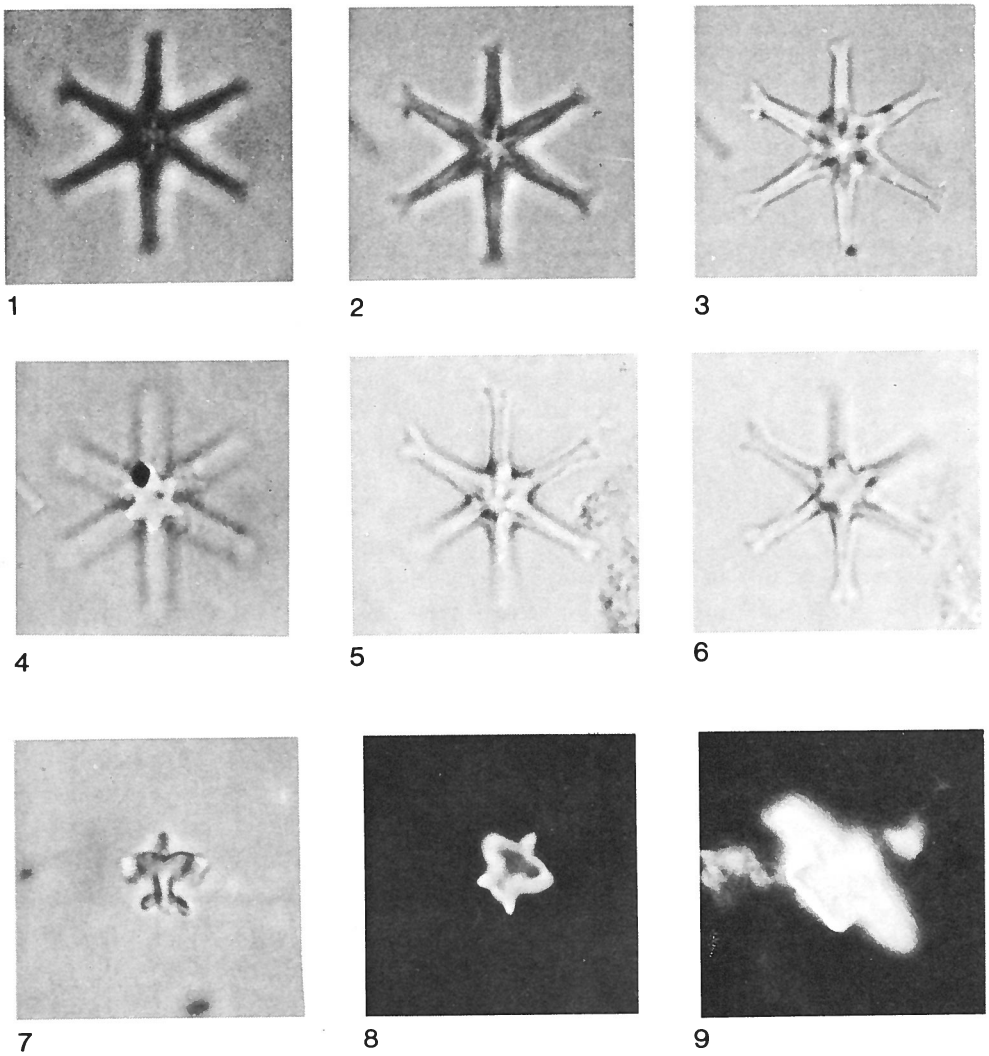
Discoaster tuberi FILEWICZ, 1985



Figs. 1-9 - *Discoaster tuberi* n.sp., 1-4) holotype USNM 371078, Sample 569-10,CC, high to low focus sequence, 5-6) isotype USNM 371079, Sample 568-31-1, 110 cm, high and low focus, 7-8) side view of knob detached from rays, Sample 569-10,CC, 9) side view showing the flaring, through-going knob and slightly bent rays, Sample 568-31-1, 110 cm.

Description:

Asterolith with six slightly tapered and bent rays, which terminate in short, blunt bifurcations. A large, flaring stellate knob is present on one side and dominates the central area, which is 25 to 30% of the asterolith diameter. Knob rays are usually aligned with the rays of the asterolith. A second small knob on the opposite side of the central area is formed by the termination of low ridges, which extend radially along the periphery of each asterolith ray. Size: 8-14 μm.

Remarks:

Discoaster tuberi is most similar in outiline and structure to *D. exilis.* It differs from *D. exilis,* however, by its more prominent, flaring stellate knob *D. tuberi* also possesses two knobs on opposite sides, whereas only a single knob was originally described by Martini and Bramlette (1963) in the original species description of *D. exilis.* Illustrations of *D. exilis* in side view by Martini and Bramlette (1963) and in this chapter (Plate 1, Figs. 10-12) do show a definite thickening of the central area which may be the remnant (or predecessor) of two central knobs, suggesting the close, but morphologically distinct, relationship between this species and *D. tuberi. D. tuberi* differs from *D. signus* by its short bifurcations, (present even in well-preserved samples containing delicate *D. signus* morphotypes with intact bifurcations), rays which are consistently thicker, tapered and bent, and development of a wider central area with a flaring, through-going knob. *D. tuberi* differs from both *D. bollii* and *D. sanmiguelensis* by its longer rays and smaller central area. *D. sanmiguelensis* also differs by its possession of one central-area knob. *D. tuberi* differs from Eocene *Discoaster* species which possess two knobs, such as *D. bifax* and *D. diastypus,* by its maximum number of free rays (six).

Type level:

Miocene.

Occurence: *Discoaster tuberi* is frequent to common in the middle Miocene Sphenolithus heteromorphus (CN4) Zone sediment penetrated on Leg 84 at Site 568. A thin interval of S. heteromorphus Zone sediment containing frequent *D. tuberi* was also recovered at Site 569. Rare specimens of *D. tuberi* were also noted in the upper Helicosphaera ampliaperta (CN3) sediment at this site; they may represent its first evolutionary appearance. Specimens of *D. tuberi* were not observed in sediments younger than the S. heteromorphus Zone at any of the Leg 84 sites.

D. tuberi may be restricted in its occurrence to low-latitude, lower middle Miocene (upper CN3-CN4) hemipelagic sediments. It is absent in numerous wells and surface sections containing lower to middle Miocene sediments examined by the author throughout California and the Southern California borderland (north of 32° latitude). *D. tuberi* may have been taxonomically combined with *D. exilis* s. ampl. and *D. signus* s. ampl. in previous studies on low-latitude lower to middle Miocene sediment, especially if it was a rare assemblage constituent and was not observed in diagnostic side view.

Type locality:

Landward slope of the Middle America Trench offshore Guatemala, eastern equatorial Pacific, DSDP Sample 569-10, CC, (87.40 m).

Depository:

Holotype: USNM 371078 (Plate 1, Fig. 1-4)
Isotype: USNM 371079 (Plate 1, Fig. 5-6).

Author:

Filewicz M.V., 1985, p. 357; pl. 1, figs. 1-9.

Reference:

Calcareous nannofossil biostratigraphy of the Middle America Trench and Slope, Deep Sea Drilling Project Leg 84. Init. Repts. DSDP, vol. 84, pp. 339-361, 1 pl., 5 text-figs.