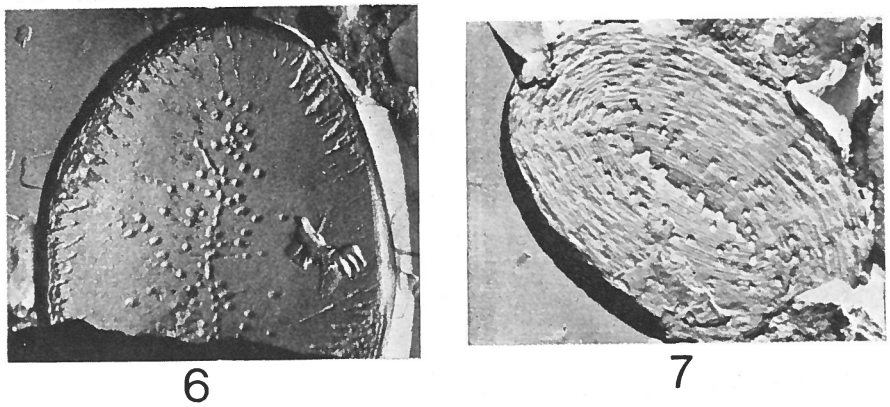
## **Pontosphaera messinae** BARTOLINI, 1970 emend. BURNS, 1973

1969 *Pontosphaera scutellum* n. sp. Hay & Boudreau (part), 271, pl. 5, fig. 9. Rev. Esp. Micropal. vol. 1, n. 3.
1970 *Pontosphaera messinae* n. sp. Bartolini, 150, pl. 7, figs. 1, 2. Micropaleont., vol. 16, n. 2.



6 7

Figs. 6, 7 - *Pontosphaera messinae* BARTOLINI, 1970 emend.
6) proximal surface, ×5800; 7) lower layer proximal surface, ×5800.

**Description:**

Diagnosis: Elliptical concave-convex cribriliths possessing a central aera with small perforations randomly arranged but restricted to the centre of the central aera.

Description: The cribriliths possess the typical *Pontosphaera*-like construction of lamellar flange (Pl. 2, figs. 4, 5) and central area constructed of two layers (Pl. 2, figs. 4, 5). The majority of the central area is usually imperforate except for the central region which possesses a variable number of small perforations or pits which are randomly disposed and which vary in number as shown in Pl. 2, figs. 4, 6. These perforations however are not always continued through the lower layer of the central area as shown in Pl. 2, fig. 5 (distal surface). The distal surface of the lower layer however, often possesses a high number of small pits or perforations which also do not penetrate right through the upper layer (Pl. 2, fig. 5).

Dimensions Range: Major axis diameter from outer flange margin, 5-15 $\mu$.

**Remarks:**

In the original description of this species Bartolini (1970: 150) clearly misinterpreted the distal and proximal orientation and two-layered structure of this coccolith, thus necessitating the present emendation. He referred to and figured the «distal side surface » with striations as in *Discolithina japonica* TAKAYAMA, 1967. However, comparison of this feature in present specimens (Pl. 2, figs. 5-7) with illustrations by Bartolini clearly show this surface to be proximal surface of the central area lower layer, from which the upper layer has been eroded (Pl. 2, fig. 7). The correct distal view is shown in Pl. 2, fig. 5 with the lamellar flange projecting from the coccolith. This inadvertent inversion of the coccolith by Bartolini accounts for the description of the species holotype as possessing up to about

100, 0.2 $\mu$ perforations, as Pl. 2, fig. 5 shows these small perforations to be more correctly positioned on the distal surface, possessing pits which do not perforate completely through this lower layer. Similarly the more diagnostic proximal surface (Pl. 2, figs. 4, 6) characteristically possesses a large slightly concave surface with a prominent central area suture line and a variable number of central area pits in random spatial arrangement (Pl. 2, figs. 4, 6).

This species shows some close structural similarities to *Pontosphaera scutellum* KAMPTNER, and has in the past been often mistaken for this species. It is however clearly separated from that species by the diagnostic central area perforations or pits found on the distal and proximal surfaces, *Pontosphaera scutellum* having originally been figured as an imperforate species (Kamptner 1952: 379, Abb. 17). The differences between the two species are well shown in the illustrations by Hay and Boudreaux (1969, pl. v, figs. 8, 9) although both of these specimens were attributed to the species *Pontosphaera scutellum.*

**Type level:**

Recent.

**Type locality:**

South West Pacific Ocean.

**Depository:**

New Zealand Oceanographic Institute.

**Author:**

Burns D.A., 1973, p. 153; pl. 2, figs. 4-7.

**Reference:**

Structural Analysis of Flanged Coccoliths in Sediments from the South West Pacific Ocean. Revista Española de Micropaleontologia, vol. 5, no. 1, pp. 147-160, 2 pls., 1 text-fig.