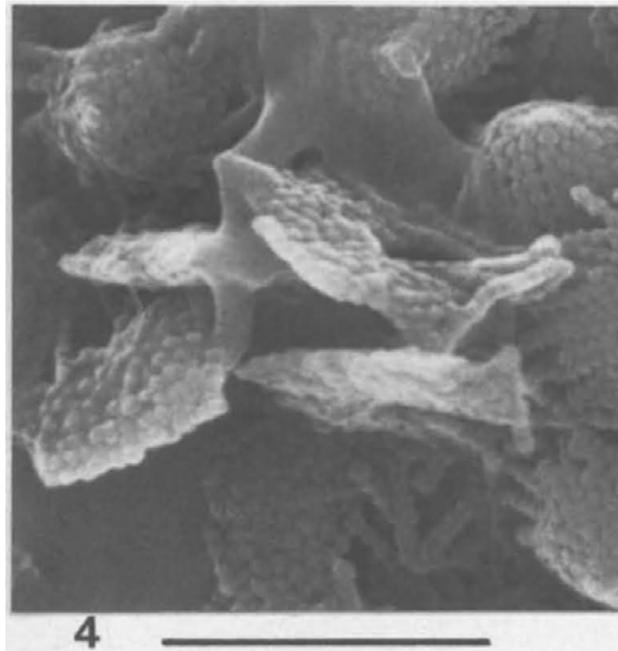
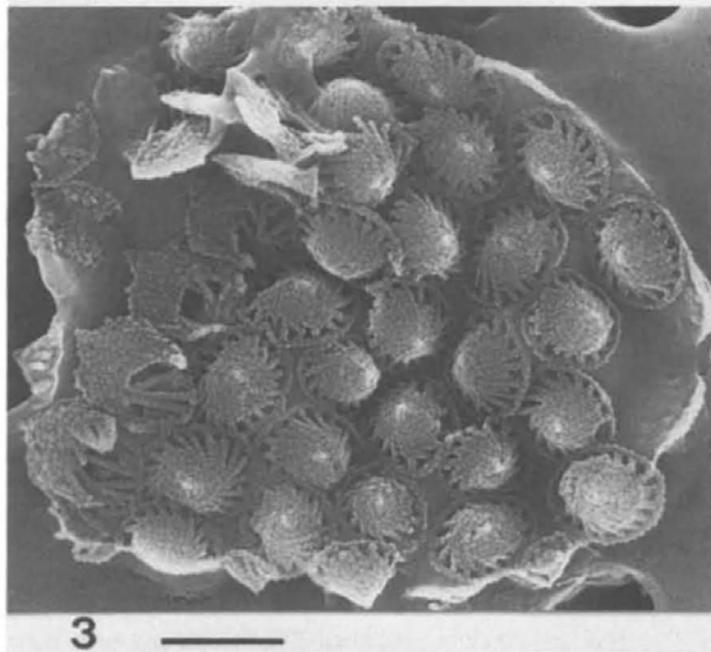
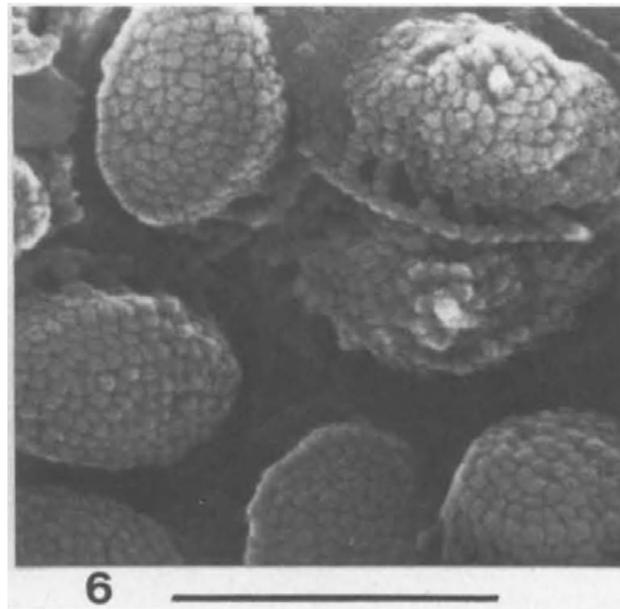
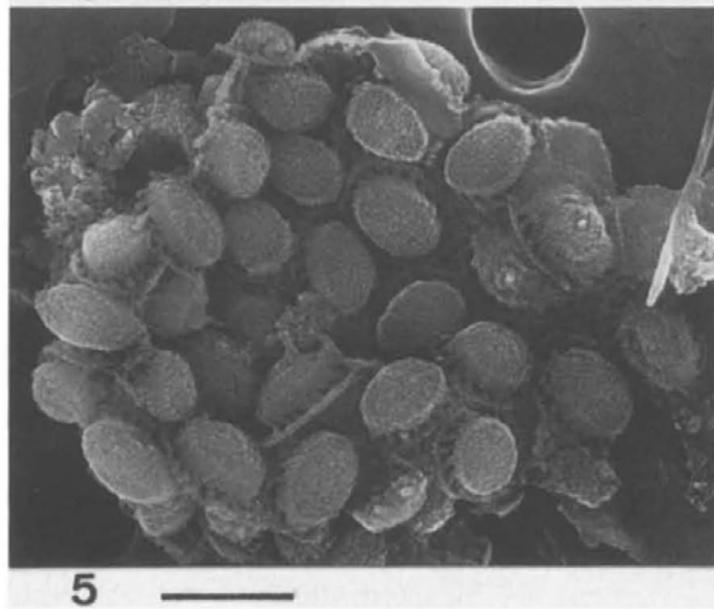


13. *Anthosphaera periperforata* Kleijne (1991)





Pl. IX, figs 3-6

**Diagnosis:** *Testa coccolithica dimorpha, constans ex duobus coccolithorum typis. Coccolithi ordinarii sunt calyptrolithi, crassitudine unius crystallorum strati, longitudine 0.9-1.2  $\mu\text{m}$ , latitudine 0.6-0.8  $\mu\text{m}$ . Coccolithi forma variabiles: de discis fere planis ad calyptras, altitudine 0.4-0.5  $\mu\text{m}$ . Annulus crystallorum circumcludit calyptram, cum qua connecta est per circa 16 seriebus radialibus duorum vel trium crystallorum. Coccolithi ordinarii fere plani in holotypo habent parvum tumulum centralem, sed in coccusphaeris quae habent coccolithos ordinarios alte arcuatos, nonnulli coccolithi habent similem spinam in regione polari. Pars proximalis coccolithorum stomatalium (fragariolithi) similiter constructa, annulus ovalis crystallorum connexus cum protrusione distali per series latitudine unius crystalli. Protrusio distalis extenta in processum foliaceum acutum, altitudine 1.0 $\mu\text{m}$ , latitudine 1.0 $\mu\text{m}$  maxime.*

Coccolith case dimorphic, consisting of two types of holococcoliths. Ordinary coccoliths are elliptical calyptroliths of one crystal layer thickness; 0.9-1.2  $\mu\text{m}$  long, 0.6-0.8  $\mu\text{m}$  wide. The coccoliths vary in shape from a nearly flat disc to a highly vaulted cap, height 0.4-0.5  $\mu\text{m}$ . A ring of crystals surrounds the cap and is connected with it by about 16 radial rows of 2 or 3 crystals. The nearly flat ordinary coccoliths of the holotype bear a small central knob, while coccospheres with highly vaulted ordinary coccoliths have some coccoliths bearing a similar small spine in the polar region. The proximal part of the stomatal coccoliths (fragarioliths) is similarly constructed: an oval ring of crystals connected with the distal protrusion by rows of one crystal width. The distal protrusion is drawn out in a pointed leaf-like process, 1.0  $\mu\text{m}$  high and maximum 1.0  $\mu\text{m}$  wide.

**Holotype:** Plate IX, 3, 4.

**Paratype:** Plate IX, 5, 6, Station Gx-164.

**Type locality:** 31°26.9'N, 36° 14.2'W (Station T86-14R, 20, C, central North Atlantic Ocean), depth 20 m.

**Derivation of specific name:** "peri" (G.), around; "perforata" (L.), perforated; referring to the peripheral perforations in the coccoliths.

**Number of specimens studied:** 8.

**Remarks:** This species differs from *A. fragaria* in having stomatal coccoliths with a smaller distal process, in being constructed of microcrystals with a more irregular shape and in having a ring of perforations between the radial rows of microcrystals. It differs from *A. lafourcadii* in having stomatal coccoliths with a sharply pointed protrusion instead of a blunt process.

**Distribution (Fig. 10a):** Arabian Sea (Station Gx-84) and Mediterranean Sea, rare. Cruise APNAP I: Station T86-14R, 20, C, central North Atlantic.

Kleijne, A., 1991. Holococcolithophorids from the Indian Ocean, Red Sea, Mediterranean Sea and North Atlantic Ocean. *Marine Micropaleontology*, **17**: 1-76.