**Ventimolina stellata** Thomsen, Østergaard, & Cros (2015)

Figs 2–6. *Ventimolina stellata* TEM whole mounts of a single specimen from the Andaman Sea. 2 – whole cell (holotype) with details accounted for in Figs 3–6; 3 – details of circumflagellar coccoliths. The arrow points to a distally slightly convex BC in side view; 4 – detail of body coccolith in lateral view showing clearly the rim and central area calcification and the central superstructure which is slightly convex distally; 5 – body coccoliths showing the single layer rim calcification; 6 – details of the body coccolith calyx (‘windmills’).
Figs 7-10. *Ventimolina stellata* SEM images of two cells from the NW Mediterranean. 7 – complete coccosphere; 8 – detail of BC from the cell shown in Fig. 7. The arrow points to a coccolith calyx that is clearly convex; 9 – complete coccosphere. The arrow points to a CFC that clearly shows the central are calcification and further lends support to the interpretation of the calyx being perpendicular to the longest axis of the CFC; 10 – detail of BC from the cell shown in Fig. 9. A distinctly convex coccolith calyx is pointed out by arrow.
Fig. 11. Schematic drawings of *Ventimolina stellarata* BC and CFC drawn approximately to scale. A – side view of BC; B – top view of BC; C – top view of CFC; D – side view of CFC.

**Synonyms:** Unidentified sp. 2 in Cros 2001 (publ. in 2002) Plate 76 Figs 5–6 Unidentified sp. 2 in Cros and Fortuño 2002 l.c. Fig. 111D

**Diagnosis:** With the characteristics of the genus. The coccosphere measures ca. 10 × 5 µm (Fig. 2). Body coccoliths oval (ca. 1.0 × 0.6 µm). The stem of the calicate spine is a short (ca. 0.3 µm) continuation of the cruciform central area calcification (Fig. 4). The calyx is constructed of four right-angled triangular elements in which the hypotenuse is jagged (Fig. 6). The four elements are neatly arranged in a symmetrical wheel which is placed perpendicular to the stem (Fig. 4). There is a differentiation in size and robustness of the calyx structure, i.e. a gradual decrease in size (1.1–1.3 µm) from the anterior cell end towards the posterior end (Fig. 2). Flagellar pole coccoliths (ca. 12) with a quasicircular outline and a cruciform central area calcification that leads into a conspicuous calicate spine. The stem measures ca. 1.5 µm. The flattened calyx is arranged alongside the stem and comprises four elements. One element is hypertrophied, angled and pointed, and resembles the blade of an axe (Fig. 3). The length of the axe edge is 1.6–2.1 µm. The axe blade is on the proximal side supported by a triangular element reminiscent of those forming the body coccolith calyx. Opposite the axe blade are two elongate and narrow triangular elements that are joined end-to-end forming a spindle-shaped structure. The rim calcification is similar in BC’s and CFC’s and comprises a single cycle of rod-shaped elements (0.2–0.25 µm) joined end-to-end (Fig. 5).

**Holotype:** Figs 2–6 (same cell). Illustrations are used here as a substitute type specimen because the TEM images provide the most details, and because the TEM grid which carries the specimen in question does suffer from long time preservation problems.
Type locality: Collected from the Andaman Sea at #10 (8°24′N/97°03′W) on 19 August 1996 and from a depth of 80 meters (ca. 25°C and 34 psu).

Etymology: ‘stellata’ is derived from ‘stellatus’ (L) meaning in the shape of a star. The species name reflects the star-like appearance of the body coccolith calyx.

The description above of a single specimen observed in the Andaman Sea sample is fortunately corroborated by two additional specimens of *V. stellata* observed in a NW Mediterranean sample (Figs 7–10; see also Cros and Fortuño 2002 l.c. Fig. 111D). Despite the vast geographical distance between the NW Mediterranean and the SW Thailand coastline the cells appear convincingly similar. The morphological elaboration of both the CFC and BC central appendages are thus identical. The edge of the CFC axe blade is 1.6–2.1 µm and the BC calyx diameter 0.8–1.4 µm which are values that match those of the Andaman Sea type material. It is not possible based on the material available to ascertain whether the two-dimensional calyx is oriented parallel with or perpendicular to the longest axis of the CFC. However, when scrutinizing in particular the cell illustrated in Fig. 9 (arrow) it appears that the calyx is in fact perpendicular to the longest axis of the CFC. The difference in size of the BC ‘windmills’ from the anterior towards the posterior cell end is also pronounced in the NW Mediterranean cells (Figs 7, 9). It is evident that the BC superstructures are not completely flattened but distally slightly convex (Figs 8, 10; arrows) and apparently more so than in the Thailand type material. This is indicated when comparing Figs 3–4 showing BC’s in side view with the BC’s pointed out in Figs 8, 10. A schematic drawing of the BC and CFC in side and top view is included (Fig. 11).

There is no evidence of unmineralized under layer scales nor can we at this stage provide information with reference to a possible life history counterpart of *V. stellata*.