

Protoperidinium compressum (Abé) Balech 1974

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Basionym: *Congruentidium compressum* Abé 1927

Sc. Rep. of the Tohoku Imp. Univ., 4th Ser., Biol. 2(4): 420-422, figs 36a-e.

Nom. Synonym: *Peridinium compressum* (Abé) Abé ????, fide Balech 1974

33) *Congruentidium compressum*, n. sp.

A peculiarly flattened, pentagonal species with a minute apical horn and two small, widely separated antapical spines intervening a shallow but wide post-indentation.

The body is pentagonal, strongly flattened dorso-ventrally, its length is 1.03 transdiameter and its dorso-ventral diameter on the middle of the girdle level is 0.26 transdiameter. The cross-sections at the girdle and in the dorso-ventral meridional plane are both elongated and are somewhat slightly deformed spindle shapes. The epitheca is not so strongly flattened as the hypotheca, as the post-marginal part of the latter is extremely thin. The epitheca is broad and slender conical in ventral and side views, respectively, provided with convex sides and a slight step-like shoulder in the apical-precingular suture. Its sides contract to a small but distinct apical horn, widening slightly anteriorly, with a minute pore and a narrow ventral slit which continues to a fine canal leading into the inner cavity. The thecal wall is thick, especially in the marginal parts where the dorsal and the ventral walls fuse to form a broad and very thick wall except at the apex where a fine canal connects the narrowed cavity with the pore penetrating through the wall. The plate structure is obscured by the inner plasm at the central part, so that it is very difficult to analyse fully the relations of the plates in the central region. The plates comprising the epitheca are 10 in number. The mid-ventral apical 1 is an elongated, rhombic plate narrowing anteriorly, and the other apicals are all triangular, two small ones, 2 and 4, on the lateral sides of the former and a large one, 3, on the dorsal, occupying nearly its anterior

half with an incurved basal rim. The precingular plates are all low in altitude, numbering 5, comprising two ventral, two side, and one flat dorsal plate. Along the middle of the side precingular plates are the marginal body edges. A flat, somewhat lens-shaped intercalary plate is on the dorsal side, two ends of which are truncated obliquely. The girdle is relatively wide, ascending slightly, and is displaced distally. It is median in the ventral and distinctly post-median in the dorsal, so that the girdle plane inclines dorsally about 60° . The furrow is deeply impressed with low but stout sidelists. The ventral area is narrow and short, only extending posteriorly half way between the girdle and the post-margin. It expands a little abruptly to the right to form a pocket-like depression in the bottom of which lies the flagellar pore, but in some specimens this impression is seen along the middle of the area instead of on its right side. The anterior plate indents the hypotheca a little, ending in a sharply truncated terminal. The hypotheca is broad and trapezoidal with two spines on the widely separated angles and also shoulders in the postcingular-antapical sutures. The post-margin is slightly indented, the bottom of which is nearly straight, and slightly convex or concave at the intra-antapical suture. The antapical horn is short, and is hardly appreciable in some specimens, ending in a small spine. Low hyaline, denticulated fins are seen in some of them, along the sides and the posterior margins of the antapical plates. The postcingular-antapical suture is broad, subparallel to the girdle in the dorsal, but strongly displaced posteriorly in the ventral side by the development of the large ventral intercalary plate. The postcingular plates are 5 comprising one dorsal, two lateral, and two ventral ones. The antapical are two, each covering the postero-lateral corners. A large intercalary plate is at the rear of the ventral area, indenting the antapicals deeply. It is also slightly concave following the ventral area. The intercalary bands between different series of plates are broad and striated, but those of the intraserials are narrow, except the intra-antapical one. The surface is smooth.

This peculiar and interesting species has, as far as I know, clearly defined and isolated characters which distinguish it from any other species of all the *Peridinales*. It is remarkable in form, in the strong dorso-ventral flattening and in the dorsal inclination of the girdle plane, as well as in the number and the arrangement of the thecal plates.

In the characters of the widely separated antapical spines, it is closely related to *Gonyaulax catenata*, but differs in having the small antapical horn, smaller number of the antapical spines, the epithecal and the hypothecal shoulders, and the strong flattening. From some strongly flattened species of *Heterodinium*, it is distinguished by its plate arrangement and the dorsally inclined girdle plane, as well as in having a complete girdle furrow and two antapical plates.

Dimensions: Length, 62–65 μ ; transdiameter, 58–63 μ ; dorso-ventral dimension, 15 μ .

Loc. Off Futagojima, Aug. 23, 1926.

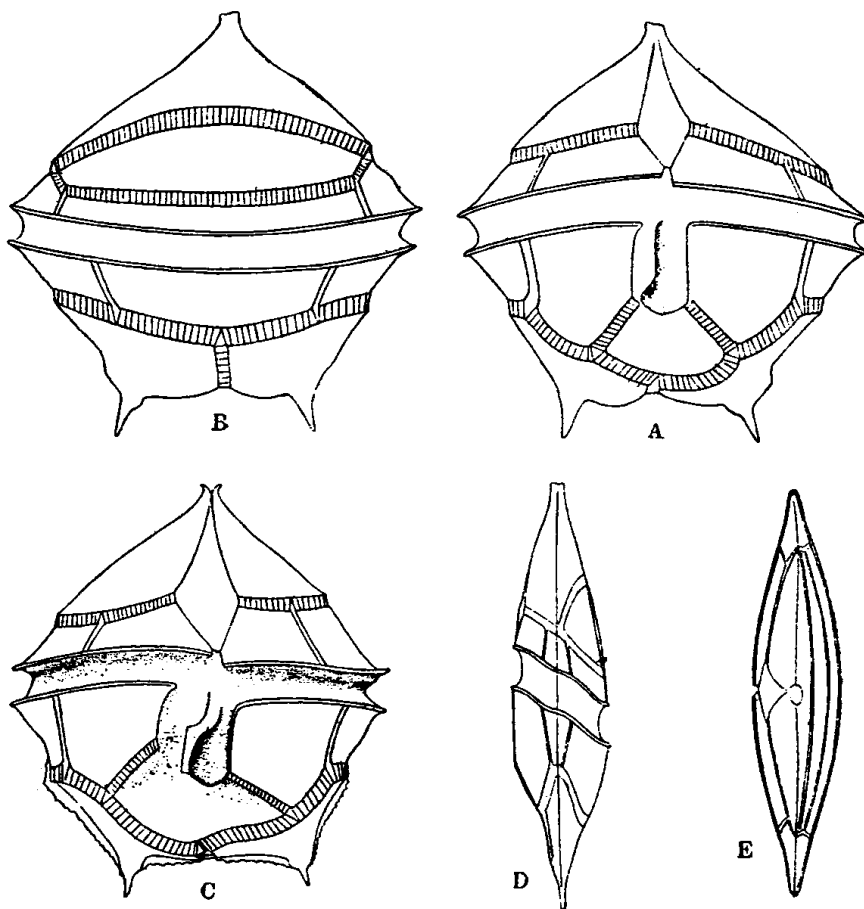


Fig. 36. *Congruentidium compressum*, n. g., n. sp.

A, Ventral view. B, Dorsal view. C, Ventral view of another specimen. D, Side view. E, Diagram of the pattern of the plate in the epitheca. ($\times 600$)

References:

- Abé T. (1927) Report of the biological survey of Mutsu Bay. 3. Notes on the protozoan fauna of Mutsu Bay. I. Peridiniales. - Science Reports of the Tohoku Imperial University, Biology, Sendai, Japan Sér. 4, Biol. 2: 383-438.
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