

SCAMIT CODE: None

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SYNONYMY: *Chrystallophrisson marinelli* Schwabl, 1963

LITERATURE: Schwabl, 1963; Scheltema, 1998

DIAGNOSTIC CHARACTERS:

1. Body regionated; anterium broader than rest of body; neck tapering posteriorly to well-defined constriction between neck and anterior trunk (Figure A); anterior and posterior trunk subequal in length, posterior trunk slightly greater in diameter
2. Oral shield as tall as wide, dorsally cleft; with large well-defined dorsal lobes; more than 2/3 the diameter of the anterium (Figure C)
3. Posterium flared, but not preceded by a constriction at the end of the posterior trunk; with long spicular fringe (Figure B); peribranchial plate flat, peribranchial skirt small and spiculate if visible at all
4. Radula with small but evident denticles; denticles plate-like rather than sickle-shaped (lacking shaft); radular cone tapering sharply above expanded base in frontal view, with distal 1/2 tapering little (Figures D, E); tapering more evenly in lateral view
5. Mid-anterior trunk spicules relatively sharp tipped, broad basally, tapering gradually for proximal 80%, then more sharply in distal 20%; keeled, with multiple ridges nearly as strong as central keel running the length of the spicule. Often with pair of thickened ridges on either side of thick central keel (Figures F, G).

RELATED SPECIES AND CHARACTER DIFFERENCES:

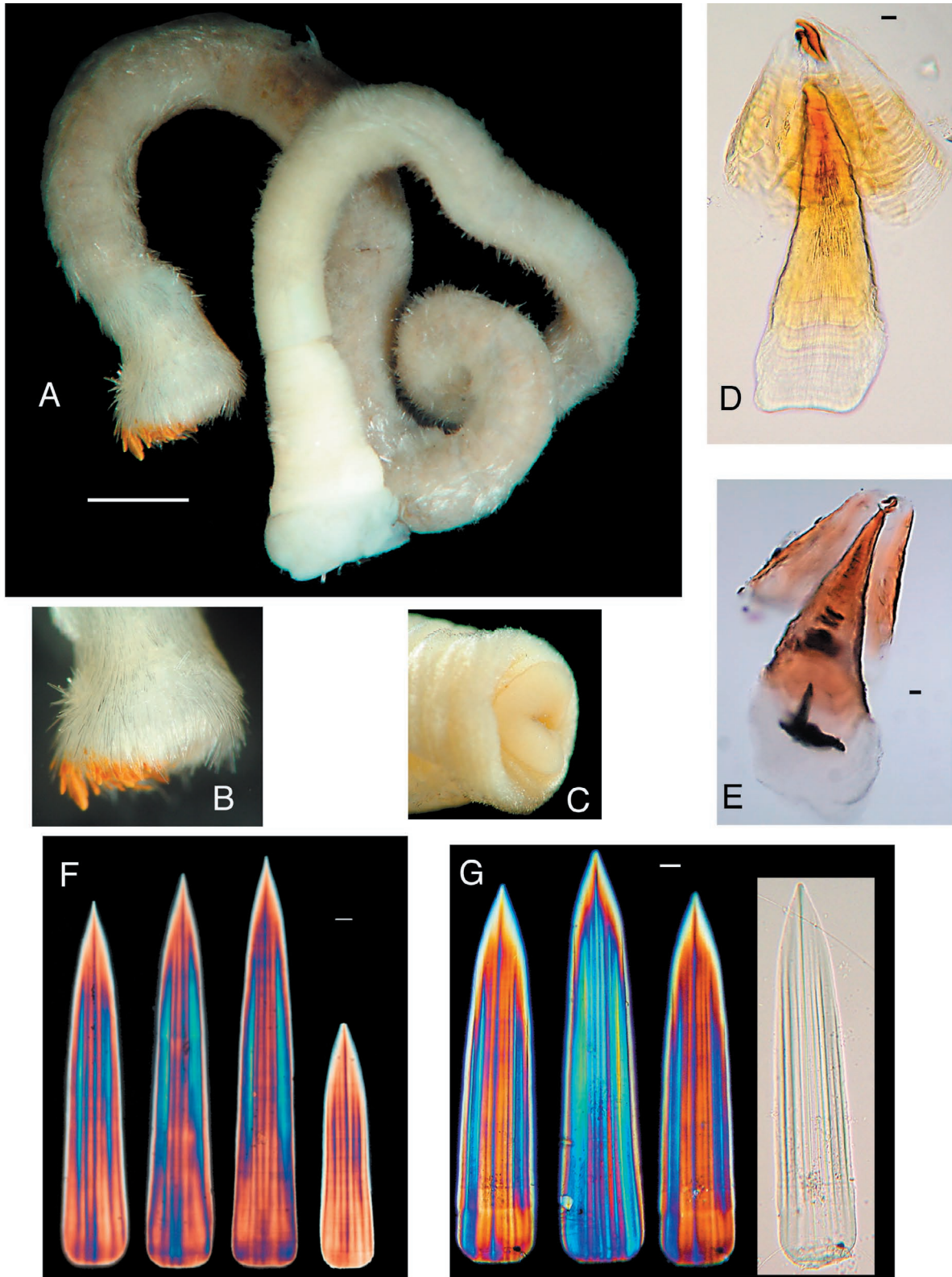
1. *Chaetoderma marinelli* belongs to the elongate group of NEP Chaetoderms which also includes *C. elegans*, *C. hancocki*, and *C. pacificum*. It can be differentiated from them by a combination of characters. It differs from *C. elegans* in having a smaller BLI (11.3-17.6 vs. 20.6-22.9), by not having the anterium carried at a 90° angle to the body axis, in a more flared posterium with a flat rather than convex peribranchial plate, and in having an oral shield as tall as wide and bearing conspicuous dorsal lobes.
2. It differs from *C. hancocki* in having a less inflated anterium, a larger oral shield relative to the anterium, anterior and posterior trunk subequal in length, long spicular fringe on the posterium, in lacking a spicule-free peribranchial skirt, and in having more sculptured spicules.
3. *C. marinelli* can be separated from *C. pacificum* by the following characters: oral shield 2/3 the diameter of the anterium; posterium lacking spicule-free peribranchial skirt, peribranchial plate convex; radular cone bulbous basally in frontal view; spicules with central keel and lateral ridges subequal in strength. This last character can overlap the two species.
4. *Falcidens longus* can easily be confused with *C. marinelli*, but can be separated by having: an oral shield wider than tall, with poorly defined small dorsal lobes, which is 1/2 or less the diameter of the anterium; an anterior trunk which is significantly longer than the posterior trunk; a less expanded posterium not defined by a constriction at the posterior end of the posterior trunk; spicules with a central keel stronger than the lateral ridges; a radular cone which is not bulbously expanded in frontal view, and by large sickle-shaped radular denticles surrounding a triangular plate.

DEPTH RANGE: 29 - 101m

DISTRIBUTION: Southern California Bight continental shelf

DISCUSSION: This is one of a group of species whose characters tend to overlap, especially those characters dealing with regionation of the body and external appearance. It has often been misidentified in the past, and co-occurs with *Falcidens longus*. The two species are both characteristic members of the Continental Shelf aplacophore assemblage, and are quite convergent in external morphology. They can be clearly differentiated by the radular differences which separate the two genera *Falcidens* and *Chaetoderma*, but externally the two can seldom be separated with complete accuracy, even by an experienced eye. Spicule preparations help, especially when birefringent appearance is considered, but definitive placement requires examination of radulae. The specimen illustrated in Figure A was confirmed as *C. marinelli* by Amélie Scheltema (personal communication) and she has confirmed several more specimens from the San Diego area as belonging to this species.

The possibility that the slope records of this species in Schwabl (1963) are erroneous needs to be seriously considered. Scheltema (1998) did not note that material she re-examined was mis-identified, but did comment that she thought the species was restricted to shelf-depths. No specimens from deeper than 100m have been identified as *C. marinelli* in recent investigations. Given the convergence of *C. marinelli* with several other forms in many characters, misidentification, even by the taxon's author, remains at least possible, if not probable.



Chaetoderma marinelli (Schwabl 1963) A. Whole animal, lateral view (scale bar 1mm) B. Lateral posterior view C. Anterior view D. and E. Radula lateral views F. and G. Spicules from mid-anterior trunk (scale bars 0.01mm) (Fig. A – C, E, G :CSD Sta. E21(2), 4APR00, 375ft.) (Fig. F: CSD voucher #M29 Sta. A10(1), 12JAN93, 154ft.) (Fig. D: location unknown)