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VARIATION IN *CAVOLINIA LONGIROSTRIS* (DE BLAINVILLE, 1821) FROM THE PACIFIC OCEAN WITH DESCRIPTION OF A NEW FORMA (MOLLUSCA, PTEROPODA)

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ABSTRACT

Cavolinia longirostris forma *megowani* nov. forma is described from the Pacific Ocean.

INTRODUCTION

The euthecosomatous pteropod *Cavolinia longirostris* (ms. Lesueur) (De Blainville, 1821) shows great variation, and various infraspecific taxa have been described. Concerning the distribution of the different forms no detailed information exists, only the general range of the groups is known. Many of the forms seem to occur sympatrically and numerous intermediates are found. McGowan (unpubl: 126) stated: "the various shell forms ..... therefore represent an inherent capacity for variation which may be elicited by temporary, localized environmental pressure". I can support this opinion, although the temporary character of the pressure seems doubtful since the distribution of the different formae is rather constant. If the occurrence of the various taxa is really dependant on such variable environmental factors it is difficult to understand how the forms can show distinct characters and constant distributional patterns. It is obvious that the recognizable taxa in *C. longirostris* should be treated as formae and not as subspecies.

At the time five formae of *C. longirostris* have been described, viz.: the formae *longirostris* (ms. Lesueur) (De Blainville, 1821) and *limbata* (d'Orbigny, 1836) with a cosmopolitan distribution, the forma *strangulata* (Deshayes, 1823) occurring in the Atlantic and Pacific Oceans, the forma *angulosa* (ms. Eydoux & Souleyet) (Gray, 1850) occurring in the Indo-Pacific Ocean, and the forma *flexipes* Van der Spoel, 1971, restricted to the Red Sea. For the description of the known formae one is referred to previous papers (Van der Spoel, 1970a, b, 1971).

It is interesting that there exists a forma with a distribution restricted to the Pacific Ocean. This forma which is new to science and for which the name *megowani* is proposed, is well

characterized and clearly different from the other formae.

The forma *mcgowani* was already figured by McGowan (unpubl., figs. 39 g-h). McGowan did not indicate to which forma the specimen of his figure should be referred, and the locality where the specimen was collected was not given. Probably he was of the opinion that the specimen of fig. 39g belonged to the same forma as the one illustrated in fig. 39i (forma *longirostris*).

There is, however, no resemblance between the new forma and the typical forma, even when the lateral spines in the forma *mcgowani* are broken off. There is a slight resemblance between the forma *mcgowani* and *Hyalea longispina* Quenstedt (1885: 610, pl. 48, fig. 11) but the vague description is not in support of identity.

Cavolinia longirostris (ms. Lesueur) (De Blainville, 1821) forma *mcgowani* nov. forma (figs. 1-4)

Type locality: Dana expedition, Stat. 1205V; 06° 49'N 80°25'W, 14 Jan. 1922, 100 m.w. S200. The holotype is kept in alcohol in the Universitetes Zoologiske Museum at Copenhagen together with damaged paratypes.
Other localities: In the United States National Museum at Washington dry specimens are preserved from:
USNM 123073 - Off Mexico, 16°47'30"N 99°59'30"W; surface temp. 83°F; bottom temp. 53.3°F; depth 141 fathoms; "Albatross" Station 3422; 12 April 1891.
USNM 229125 - China Sea, North of Corregidor, 14°24'30"N 120°33'40"E; surface temp. 78°F; depth 28 fathoms; "Albatross" Station 5107; 9 Jan. 1908.
USNM 262455 - China Sea, Sombrero Island, S 41° E, 4.5 miles, 13°45'15"N 120°46'30"E; surface temp. 80°F; depth 236 fathoms; "Albatross" Station 5111; 16 Jan. 1908.
USNM 274535 - Philippine Islands, Sulu Archipelago, Tawi-Tawi group, off Tocanhi Point, S 27°E, 2.1 miles, 05°18'10"N 120°2'55"E; surface temp. 80°F; depth 49 fathoms; "Albatross" Station 5153; 19 February 1908.
USNM 274874 - Philippine Islands, Jolo Island vicinity, Jolo Island Light, S 46°W, 11.9 miles, 06°11'5 "N 121°8'20"E; surface temp. 80°F; bottom temp. 57.4°F; depth 161 fathoms; "Albatross" Station 5153; 7 February 1908.

DESCRIPTION

The hyaline shell is broadly triangular in dorsal view. The shell shows a faint yellowish-brown hue. The dorsal lip is relatively short for the species, gutter-shaped, and not provided with any incision; it curves slightly ventrad.

The ventral lip, curved ventrad, shows a small depression in the middle but a distinct depression on the ventral side is absent. The shell aperture is regularly triangular. On the dorsal side faint growth-lines are found as well as five moderately developed longitudinal ribs, the lateral two of which are almost invisible. There is no separation between the dorsal shell surface and the dorsal lip. The ventral side shows faint growth-lines and thin transversal ribs. The lateral spines, entirely composed of the ventral shell parts, are extremely long and flat. To conclude from the growth-lines on these spines and on the ventral shell surface, the lateral spines are formed additionally to the full-grown shell. But even without these additions, the lateral sides in *mcgowani* never show resemblance to those in any of the other formae of the species. There is no sculptural separation between the lateral spines and the ventral shell side. The lateral spines are not curved dorsad but lie in one level with the ventral surface. The embryonic shell and the caudal spine are always lost in adults. The opening left is closed by a small vault resulting in a scar of about 0.88 mm in length. The caudal spine mark protudes relatively far caudad as in the forma *angulosa*. The shell borders between the caudal mark and the lateral spines are nearly straight. The ventral side is regularly rounded. In size this forma resembles closely the forma *longirostris*, but it is much more flattened dorso-ventrally.
Shell length of the holotype 4.20 mm, width (lateral spines excluded) 3.00 mm, distance between the tops of the lateral spines 4.82 mm.

ETYMOLOGY

The name *mcgowani* is given in honour of Dr. J.A. McGowan who first depicted this forma.

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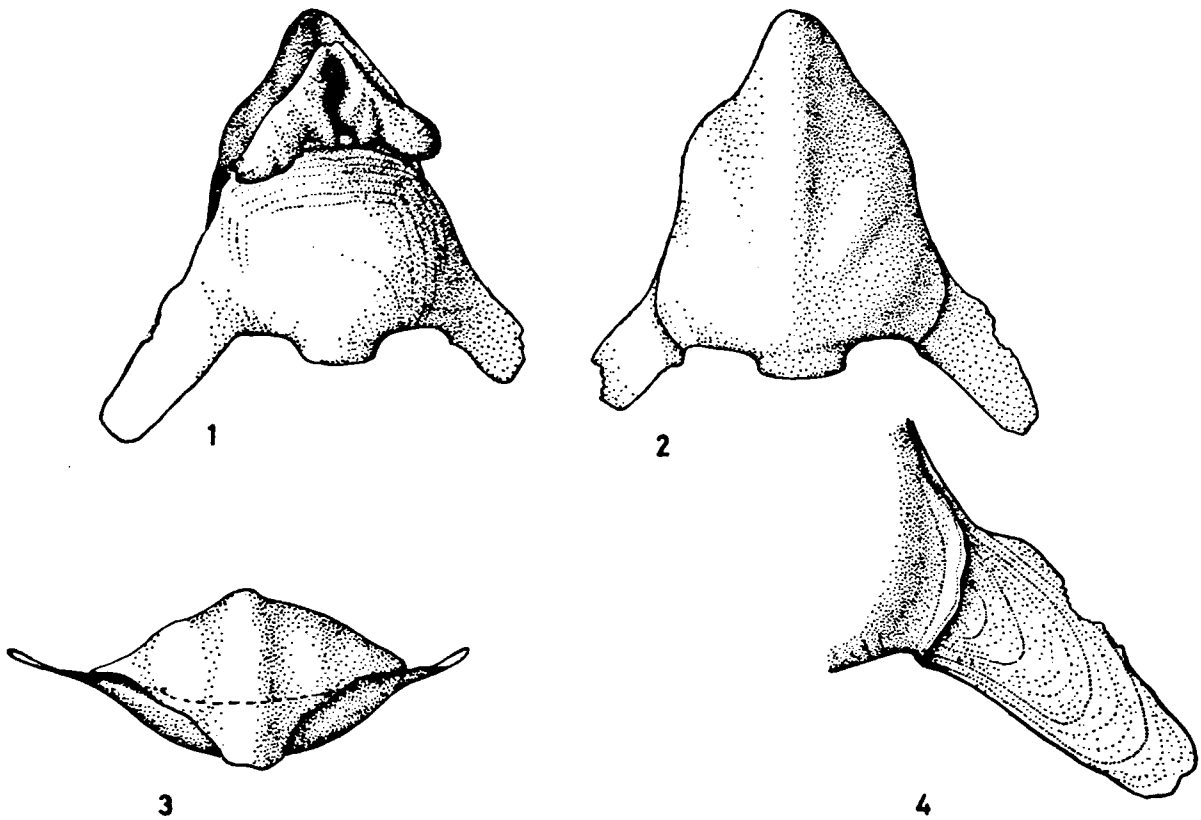

Figs. 1-4. Holotype of *Cavolinia longirostris* forma *megowani* nov.
1, shell in dorsal view; 2, shell in ventral view; 3, shell in cranial view; 4, the left lateral spine more enlarged.