

**ON THE OCCURRENCE OF THE PELAGIC MOLLUSC,
CARDIAPODA PLACENTA (LESSON) IN THE ARABIAN SEA**

Ten specimens of *Cardiapoda placenta* (Lesson) were obtained from the plankton collections made from R. V. *VARUNA*, in and around the Laccadive Sea as per details given in Table I.

The present collection is a new record for the Arabian Sea and extends the distribution of the genus *Cardiapoda* and the species *C. placenta* to this region.

Family : CARINARIIDAE.

Genus : *Cardiapoda* d' Orbigny 1836.

= *Carinaroida* Souleyet 1852.

The genus *Cardiapoda* was created by d' Orbigny (1836) to receive the *Carinaria*-like heteropods with a much thinner cutis, a pedunculate visceral nucleus, and a shell too minute to cover the whole of the latter. Later, the genus was recorded from the tropic and subtropic seas by Souleyet (1852), Smith (1888), Vayssiere (1904), Tesch (1906, 1910, 1949), and Bonnevie (1920).

Tesch (1949), after a review of all the earlier records, came to the conclusion that all the hitherto described species of *Cardiapoda* could be brought under the two species : *C. placenta* (Lesson) 1830, and *C. richardi* Vayssiere 1904.

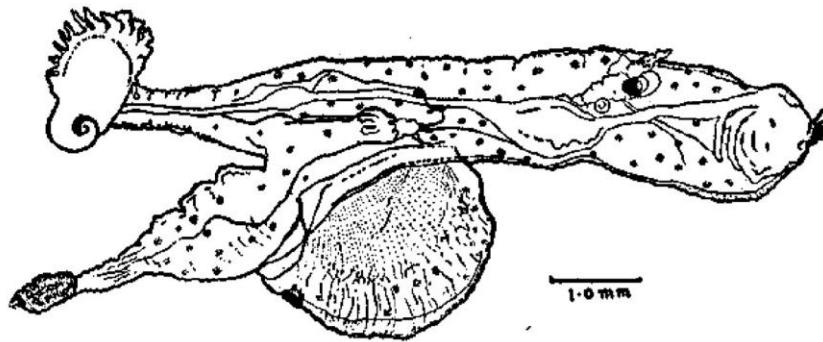


FIG. *Cardiapoda placenta* (Lesson)

The characteristic number of twenty or more separate gills was observed in the bigger specimens although in some of the smaller ones the number of separate gills was fewer than twenty.

The largest of the specimens measured 22 mm. and the smallest, 6 mm. in length from the anterior most end to the posterior border of the visceral nucleus.

An interesting feature is their paucity in plankton collections. This is especially evident in that the Challenger Expedition (Smith, 1888) and the Michael Sars Expedition (Bonnevie 1920) could collect only a single adult specimen each, the Voyages of 'Hirondelle' and 'Princesse Alice' collected only two (Vayssiere, 1904) and the

TABLE I

Details of collection of *Cardiopoda placenta*

S. No.	Station Number	Position		Date	Time	Depth of Haul m	Depth at the Station m	Type of Net	No. of specimens
		Lat. N.	Long. E.						
1.	1329	11° 22'	73° 46'	28-11-62	18.35-21.00	30	2050	½ m. diameter 'Mosquito' net.	1
2.	do.	do.	do.	do.	do.	50	do.	do.	2
3.	1340	11° 22'	70° 00'	30-11-62	07.50-11.10	50	4300	do.	1
4.	1342	11° 58'	70° 00'	do.	15.25-17.30	200-0	4240	1 m. diameter net	2
5.	1344	12° 34'	70° 00'	do.	21.50-00.50	30	3250	½ m. diameter 'Mosquito' net.	2
6.	1347	12° 47'	70° 47'	1-12-62	09.55-11.55	100	2370	do.	1
7.	1351	12° 53'	72° 00'	do.	21.15-24.00	50	1440	do.	1

NOTES

Percey Sladen Trust Expedition to the Indian Ocean (Tesch, 1910) could collect only five specimens. However, the Siboga Expedition (Tesch, 1906) and the Dana Expedition with the assistance of Danish merchant vessels (Tesch, 1949) were able to obtain them in fairly good numbers.

A study of the distribution of the genus *Cardiapoda* in the Indian Ocean shows that the species *C. richardi* is reported only rarely, whereas the species *C. placenta* has been collected a few times from the Indo-Malayan waters, and from the West Coast of Sumatra to the waters neighbouring the Amirante group of islands and Madagascar. The present record extends the distribution of *C. placenta* to northern waters and to the Arabian Sea.

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Central Marine Fisheries Research Sub-station,
Ernakulam,

M. J. SEBASTIAN

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ON THE ASSOCIATION BETWEEN THE FISH, *CARANX MALABARICUS* CUV. & VAL. AND THE SIPHONOPHORE, *PORPITA PACIFICA* LESSON

Several instances of association between young fish and jellyfish are found in the literature. In India, Panikkar and Prasad (1952) reported on an association between the young of *Caranx kalla* Cuv. & Val. and *Rhopilema hispidum* Maas. Jones (1960) reported about the young *Seleroides leptolepis* (Cuv. & Val.) forming a vanguard with *Acromitus flagellatus* (Stiasny). The present instance, however, depicts the association of young caranx with a siphonophore.

The specimens were collected about twenty-five miles off Karwar while on board the Research Vessel *VARUNA* on 30-3-1962, at about 2.30 p.m. Many round, disc-like, biscuit coloured organisms were found floating near the vessel and they were recognized as siphonophores. A closer observation revealed that each of the siphonophores had a small fish moving with it (Fig. I). Instances where more than one fish associated with a siphonophore or *vice versa* were not found. Two siphonophores which came very close to the vessel were taken on board. They were