

NEW RECORDS OF HYDROMEDUSAE FROM THE SHELF AREA OFF THE KERALA COAST

Preliminary Note

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HYDROIDS and medusae from the coastal area of southern India were studied by several authors as pointed out recently (Vannucci *et al.* 1970), while the collections taken during the International Indian Ocean Expedition are mainly representative of the plankton from the deep ocean. The shelf area is relatively unstudied apart for the work that has been done for the study of fisheries resources and exploitation.

Plankton samples were taken by the IOBC staff working aboard 'Blue Fin', a stern trawler training vessel belonging to the Central Institute of Fisheries Operatives, at predetermined stations along three sections running from the coast to the edge of the shelf, off Cochin, off Alleppey and off Quilon, from 8° lat. N to 10° lat. N on February 25 and April 8, 1970. Fifty-one different species of hydromedusae were taken, fourteen of which are new records for the Arabian Sea. The present report deals with the following new records. Station list and details on the cruise and plankton hauls are currently being studied and will be published at a later date by the IOBC staff.

Ord. ANTHOMEDUSAE

Fam. Tubulariidae

(1)—*Euphysa aurata* Forbes 1848. A widely distributed species, to be found from Patagonia to northern Norway in the Atlantic Ocean and adjacent seas. In the Pacific Ocean it has been recorded from Chile, Chefoo in China, the Phillippines and the east coast of Malacca. It is new to the Indian Ocean. Two specimens were taken in Arabian Sea Surface Water, February 25.

(2)—*Euphysilla pyramidata* Kramp 1955. This species was known only from the Gulf of Guinea in the Atlantic Ocean and west of Madagascar. A single specimen was taken on 25th February and probably comes from Arabian Sea Surface Water or from the boundary layer between sub-surface and surface waters. This specimen has medusa buds arising from the manubrium, a detail still unrecorded in this rather rare species.

Fam. Hydractiniidae

(3)—*Bougainvillia carolinensis* (McCrary 1857). Known hitherto only from the western side of the Atlantic Ocean, from Woods Hole to southern Brazil and from the Gold Coast on the eastern side. It is a new record for the Indian Ocean. Three specimens were taken February 25th in Arabian Sea Surface Water.

Fam. Pandeidae

(4)—*Pandeopsis scutigera* Kramp 1965. It was first recorded in the Indian Ocean by Navas (under press) who found this species in Bay of Bengal Surface Water. It was previously known from the Philippines, Gulf of Siam and Java Sea. Three adult females and an immature specimen were taken on February 25th in Arabian Sea Surface Water and one more specimen on April 8, again in Arabian Sea Surface Water.

(5)—*Merga tergestina* (Neppi and Stiansy 1912) was first recorded for the Indian Ocean by Navas (under press), who found this species in Bay of Bengal Surface Water and Indian Ocean South Tropical Surface Water (Water masses defined as in Gallagher 1966). It was previously known from the Mediterranean Sea (both the Thyrrenian and Adriatic Seas) and from the Gulf of Guinea. Two specimens were now taken in Arabian Sea Surface Water on April 8. All the specimens taken so far in the Indian Ocean appear to be living in rather low salinity, similarly to the population living in the Adriatic Sea, and high temperature, while all the waters in which this species was found to live, have a high dissolved oxygen content. The population from the Naples Gulf seems to endure higher salinity.

Fam. Calycopsidae

(6)—*Heterotiara minor* Vanhöffen 1911. According to Kramp (1961), this species has been recorded from Nias Island, Chagos Islands and from Vizagapatnam coast in the Indian Ocean; also from Hong Kong, the Philippines, NE Australia, Formosa and New Guinea. One specimen was found now for the first time in the Arabian Sea. Taken April 8, 1970.

(7)—*Bythotiara murrayi* Günther 1903. It is known from the Atlantic Ocean and adjacent seas. It was recorded in the Indian Ocean at Nias Island and Chagos Islands. It is new to the Arabian Sea where it was taken in Arabian Sea Surface Waters, on April 8, 1970.

Ord. LEPTOMEDUSAE

Fam. Campanulariidae

(8)—*Eucheilota maculata* Hartlaub 1894. This species has so far been recorded only in the North Sea and English Channel. One of us found some specimens that were hesitatingly referred to this species in coastal waters at 25° lat. S. on the Brazillian coast (unpublished). The present finding is extraordinary and rearing of the hydroid would be desirable to confirm the validity of the present determination. Morphologically, however, the medusa generation agrees entirely with the North Sea material. One specimen was found on April 8.

(9)—*Eucheilota paradoxica* Mayer 1900. A species known from Japan, Bali, Strait of Malacca, Florida and Bahama Islands in the Atlantic Ocean; 123 specimens were taken on February 25 all at the same station in Arabian Sea Surface Water. The specimens were noteworthy for their small size, gonads and medusae budding from the gonads and radial canals may be seen in specimens as small as 300-400 μ umbrella width. Intensive budding goes on while the specimens are still growing. A few large individuals were noticed having reached full size at 3-4 mm. umbrella width.

Fam. Phialuciidae

(10)—*Phialucium condensum* Kramp 1953. A species hitherto known only from the Great Barrier Reef and from Chefoo in China. It has been recorded from the Indian Ocean by Navas (under press) who found it in Bay of Bengal Surface Water or at the boundary between Bay of Bengal Surface Water and Bay of Bengal Sub Surface Water. Six specimens were taken on 25th February, all in Arabian Sea Surface Water.

Fam. Eirenidae

(11)—*Helgicirra medusifera* (Bigelow 1909). This species known hitherto only from the Pacific coast of Mexico and Panama, was first recorded from the Indian Ocean by Navas (under press). It was known from Bay of Bengal Surface Water from the boundary layer with sub surface waters ; it has been taken now for the first time in the Arabian Sea.

(12)—*Petasiella asymmetrica* Uchida 1947. Known hitherto from the Palao Islands, Philippines, Malacca, Bali and Nicobar Islands. Eleven specimens were taken in Arabian Sea Surface Water on February 25.

Fam. Rhopalonematidae

(13)—*Aglantha elata* (Haeckel 1879) is known from southeast Australia and West Africa. One specimen was now taken April 8, in Arabian Sea Surface Water.

(14)—*Crossota pedunculata* Bigelow 1914. This species was hitherto known only from the Pacific coast of the United States, near to the Columbia River mouth. It is a large, dark brown-red, deep water species taken from Arabian Sea Sub Surface Water. A single specimen was found, very well preserved it shows clearly a well marked peduncle that together with the large number of tentacles are distinctive of the species. This specimen, however, shows also very clearly the longitudinal ridges on the manubrium and the flat furrows in between them in its upper part that have been described in the other species of the genus.

SUMMARY

Only three out of the 14 new records refer to species that have no hydroid stage in their metagenetic cycle. These three Trachymedusae are either deep water forms (*Crossota pedunculata*); or rare species (*Aglantha elata*) easily mistaken with the similar and far more common *Aglaura hemistoma* or are rather fragile like *Petasiella asymmetrica*. Any of these reasons may explain why they had been not recorded so far. *Crossota pedunculata* was found in a deep haul ; *Aglantha elata* in warm water with high salinity and high oxygen content just off the edge of the shelf and *Petasiella asymmetrica* was taken over the shelf over 30-65 m. depth.

The remaining 11 species all must have a hydroid in their life-cycle and are somewhat bound to the sea bottom to complete their metagenetic cycle. It may be a reason why they remained unrecorded during the IIOE. These species fall under five categories ;

1. Species from the three oceans : *Euphysa aurata* and *Eucheilota paradoxica*. The first has a wide latitudinal range while the second is from the temperate and tropical belts.

2. Species rarely recorded because it is rare or because it lives at greater depths ; *Euphysilla pyramidata*.
3. Indo-Malayan species : *Podocoryne apicata* ; *Pandeopsis scutigera* ; *Heterotiar minor* ; *Phialucium condensum*.
4. Exclusively Atlantic and Indian Ocean species : *Bougainvillia carolinensis* ; *Merga tergestina* ; *Bythotiar murrayi* ; *Eucheilota maculata*.
5. Eastern Pacific and Indian Ocean ; *Helgicirra medusifera*.

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