

*biatus* and *Chromadora indica*, there was a preponderance of gravid females both during the monsoon and the post-monsoon periods. As the salinity increased during the hot pre-monsoon months (Table 1), the breeding activity was either reduced, or completely stopped. The maximum breeding activity of the different species is shown in Table 3.

The data pertaining to the incidence of gravid females and juveniles expressed as percentages of the total population are presented in Table 2. It is noteworthy that there is general agreement and correlation between the data on the occurrence of gravid females and the incidence of juveniles in the various samples examined. A preponderance of juveniles in the populations was usually preceded by a peak in the occurrence of the gravid females. The data on the incidence of juveniles thus serve as confirmatory evidence to the data obtained on the incidence of gravid females.

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in plankton from most of the world and have been known for some time in the Singapore-West Malaysian plankton. In all parts of the world adults are rather rarely reported, perhaps in part because of their nocturnal, burrowing habits. No adult has previously been seen anywhere in the vast central area of the Indo-West Pacific region between the Red Sea in [the west and Japan-Samoa-Australia in the east. It is thus of interest to report on a small specimen obtained in West Malaysia even though the specimen is fragmentary.

*Laomedea astacina* de Haan, 1849

Full description : Sakai, 1962, 27-34, pl. V-VII

Material examined : 1 fragmented young specimen, carapace length 3.6 mm, from mangrove swamps, Pt. Swettenham, Malaysia. Coll. Asit Kumar, 20.1.69. Specimen J 11898, Department of Zoology, University of Singapore.

The single specimen was found amongst a collection of burrowing crustaceans obtained by Mr. Asit Kumar of the School of Biological Sciences, University of Malaya in the course of a quantitative study and sent to me for identification. I am grateful to Mr. Asit Kumar for allowing me to retain and comment on the specimen. Associated crustacean fauna included burrowing alpheid prawns and very small specimens of *Thalassina anomala*, themselves of a size which is seldom encountered although such small specimens must, in theory, be common.

Despite its fragmented condition the specimen is clearly identifiable as a member of the genus *Laomedea*. Until recently the only known species of the genus was *L. astacina* reported only from Japan and Korea (de Man, 1928 ; Sakai, 1962 ; Wear and Yaldwyn, 1966). Wear and Yaldwyn note, however, the occurrence of another large species on the eastern coast of Australia. A preliminary description of the species as *L. healyi* has been published by Yaldwyn and Wear (1970) and a colour photograph of the type specimen forms the frontispiece of Healy and Yaldwyn (1970). It is thus necessary to determine the identity of the Malaysian specimen with some care.

Comparison with the description of Sakai shows no significant divergence in features which can be observed in the Malaysian specimen. The eyes are a little large but this is a juvenile feature shown by other young laomedidiids. In particular there is no trace of the antennal spine regarded by Yaldwyn and Wear as characteristic of their new species. The antepenultimate segment of the 2nd pereopod has an almost straight posterior margin, showing none of the inflation found in *L. healyi*.

As has been noted by Wear and Yaldwyn there is some confusion in the literature as to certain characters of *L. astacina*. Borradaile (1903) took the absence of a flagellum on the first maxillipede as a generic characteristic differentiating this form (along with other features) from the genus *Jaxea*. The distinction is erroneous since *L. astacina* also has a well-developed flagellum, as has already been figured by Sakai (1962) and so does *L. healyi* (Wear and Yaldwyn, 1966). The 2nd pereopod of *Laomedea* is usually regarded as being simple but Wear and Yaldwyn state that this appendage in their new species can only be regarded as being sub-chelate. However, in my view, and accepting the figure given by Yaldwyn and Wear (1970) as not being misleading the limb is scarcely sub-chelate and can perhaps best be described as having sub-chelate tendencies. This slight sub-chelate tendency is also observable in the same limb of *L. astacina* though it is even less pronounced there and so

has escaped the notice of previous workers. The general structure of the distal portions of this limb shows some resemblance to the equivalent limb in *Thalassina*, especially in the presence and distribution of the longitudinal rows of long, stiff setae, and in the form and backward deflection of the dactylus. The latter has the anterior surface flattened and shaped somewhat like a builders trowel. This limb is presumably used in a similar fashion to the equivalent limb of *Thalassina* with the setae serving as a basket for mud transport and the anterior face of the dactylus as a tamp for patting mud into place at the mouth of the burrow and smoothing the inside of the burrow.

There is very little evidence as to the real habitat of *L. astacina*. Sakai (1962) records it as burrowing in muddy sand in the tidal zone with piled sand around the openings of the holes, a description which is in agreement with the *Thalassina*-like habits deduced from the structure. Sakai's habitat does not appear to have been in mangrove but the new species, *L. healyi*, lives in mangrove swamps and their drainage channels presumably in situations similar to those inhabited by *L. astacina* at Port Swettenham. If, as seems likely, it shares the permanently burrowing, nocturnal habits of *Thalassina*, *L. astacina* may well be a reasonably common animal instead of the extreme rarity it now appears to be. Such an animal would be missed in all ordinary collecting and even its burrows would be overlooked in areas dominated by the more conspicuous burrows and mounds of *Thalassina* and grapsoid crabs.

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