

**ASSOCIATION OF *PYTHINA ARCUATA*,
ADAMS 1856, AN ERYCINID BIVALVE WITH
LINGULA TRANSLUCIDA DALL, 1921, FROM
INDIAN WATERS**

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MORE than thirty genera of the superfamily Leptonacea live in close association with other animals in modes of life ranging from symbiotic to parasitic¹. A number of small erycinean bivalves are seen associated with invertebrates such as sponges, coelenterates, sipunculids, echiuroids, bryozoans, annelids, molluscs, echinoderms and crustaceans², but the brachiopods as a group seem to be free of metazoan parasites and other associates³. Available reports on animals associated with brachiopods are of parasitic copepods⁴, trematodes⁵, commensal limpets⁶ and amphipods^{3,7}.

The only previous observation made on the association between the bivalve, *Pythina arcuata* and a brachiopod, *Lingula anatina* was in 1856 from the Isle of Zebu, Philippines⁸. Presently, the occurrence of both *Lingula translucida* and its associate *P. arcuata* is reported for the first time from Indian waters. These inarticulate brachiopods were stranded in thousands along Porto Novo (11° 29' N and 79° 46' E) beach during the summer cyclonic storm in 1979. The bivalves, with an average size of 0.6 mm in length and 0.3 mm in breadth, are seen attached on the outer shell surface of the rounded antero-lateral regions of seven brachiopods (the shell size ranging between 1.9 and 2.9 mm in length, 0.9 and 1.4 mm in breadth) by several fine byssus threads. It is possible that many bivalves were detached from the brachiopods, while uprooted from their burrows and stranded ashore during turbulence.

Although biological reasons for this association are obscure, one of the advantages of this filter-feeding bivalve lying close to the incurrent channels of the brachiopod is that it would facilitate the maximum use of food and oxygen brought out by the water circulation caused by the ciliated tentacles of the brachia of the host in addition to refuge from enemies as the burrow dwelling lingulids could easily glide down into their burrows when disturbed.

From the present and the only previous observation, *P. arcuata* has been observed to live in association only with an inarticulate lingulid brachiopod, an animal which to-date has no other recorded commensal association. This supports Morten's statement that "the erycinid bivalves are very specific to their chosen hosts".

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