

# Timing of larval release by the blue coral, *Heliopora coerulea*, in southern Taiwan

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**Fig. 1** A colony of the blue coral, *Heliopora coerulea*, with externally brooding larvae



**Fig. 2** Brooding larvae on the surface of the blue coral *Heliopora coerulea*

The blue coral *Heliopora coerulea* is a dioecious octocoral that has an annual gametogenetic cycle (Babcock 1990). The fertilized eggs develop into larvae in brooding cavities formed by the inflated tentacles on the surface of the female colony. This surface brooding behavior of *H. coerulea*, characterized by the white larvae and extended transparent polyps that densely cover the brown coenenchyme of the colonies, was observed at Wanlitung (21°59.866'N; 140°41.821'E) in southern Taiwan on 3 April 2002 (Figs. 1, 2).

Eight female colonies were collected, transported to the National Museum of Marine Biology and Aquarium, and maintained in outdoor flow-through aquaria on 5 April 2002. The brooded larvae were released during 14 to 22 April, with the peak on 17 April (lunar day 5). Most of the larvae were released in the daytime. Planulae are elongated, approximately 1250 µm, barrel-shaped, and white-colored due to the absence of zooxanthellae.

The larval release of *H. coerulea* in southern Taiwan occurred coincidentally with the mass spawning of scleractinians which occurs in April and May (Dai et al. 1992). *H. coerulea* releases planulae in June or July in Ishigaki Island, southwest Japan (Harri and Kayanne 2003). However, the spawning of *H. coerulea* occurs in January in the Great Barrier Reef, Australia, which is 1 to 2 months later than that of mass spawning of corals (Babcock 1990).

Planula release by *H. coerulea* in southern Taiwan occurred during the new moon and first quarter moon phases with maximum planulation on lunar day 5, corresponding to the incidence of neap tides. The benefit of planulation during neap tides may be that the larvae would remain in the same area for an extended period of time, thus, increasing the probability of recruitment near parent colonies or local retention.

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