

Red egg crab releasing larvae

Subject: Red egg crab, *Atergatis integerrimus* (Crustacea: Decapoda: Xanthidae).

Subject identified by: Eugene Goh.

Location, date and time: Singapore Strait, off Pulau Subar Darat; 7 April 2015; 2123 hrs.

Habitat: Marine. Coral reef, along the reef crest, at around 3 m depth.

Observer: Eugene Goh.

Observation: One example of about 8 cm carapace width was observed in the open releasing motile larvae (zoea) into the water column (Fig. 1). Probably disturbed by the observer, the crab then retreated under a coral, but continued to release larvae (Figs. 2 & 3). These larvae have hatched from bunches of eggs attached to the abdominal appendages on the underbelly of the female crab. This event occurred after sunset during a period when corals in the vicinity were spawning.

Remarks: The red egg crab is a poisonous species which toxins cannot be destroyed by cooking (Tan & Ng, 1992). Of the two species of *Atergatis* known from Singapore, more seems to be known about the floral egg crab (*Atergatis floridus*), including larval stages (Clark et al., 2004) and toxicology (Arakawa et al., 1995). *Atergatis integerrimus* inhabits coral reef and is listed as a 'vulnerable' species in Singapore (Yeo et al., 2008). It seems possible that the crab's releasing of larvae during coral spawning helps to increase the survival chances of its offspring.

References:

- Arakawa, O., T. Noguchi & Y. Onoue, 1995. Paralytic shellfish toxin profiles of xanthid crabs *Zosimus aeneus* and *Atergatis floridus* collected on reefs of Ishigaki Island. *Fisheries Science*. 61 (4): 659-662.
- Clark, P. F., P. K. L. Ng & P. H. Ho, 2004. *Atergatis subdentatus* (De Haan, 1835), *Atergatopsis germaini* A. Milne Edwards, 1865 and *Platypodia eydouxi* (A. Milne Edwards, 1865) (Crustacea: Decapoda: Xanthoidea: Xanthidae: Zosiminae) – first stage zoeal descriptions with implications for the subfamily. *The Raffles Bulletin of Zoology*. 52 (2): 563-592.
- Yeo, D. C. J., S. H. Tan & P. K. L. Ng, 2008. Horseshoe crabs, decapod crustaceans. In: Davison, G. W. H., P. K. L. Ng & H. C. Ho (eds.). *The Singapore Red Data Book: Threatened Plants & Animals of Singapore*. The Nature Society (Singapore). p. 110-128.
- Tan, L.W. H. & P. K. L. Ng, 1992. *A Guide to Seashore Life*. Singapore Science Centre. 160 pp.



Fig. 1. Red egg crab releasing motile larvae. Video screenshot by Eugene Goh.



Fig. 2. Same crab retreating under coral, and continuing to release larvae. The cloudiness of water in front of the crab is most likely caused by the fanning of the abdominal flap to release the larvae.



Fig. 3. Masses of motile larvae moving away from the parent crab.

Screenshots extracted from a video by Eugene Goh

Contributors: Eugene **Goh**, Jerome **Yong**, Brian **Cabrera**, Ron Kirby **Manit** & Karenne **Tun**
Contact address: egl@dhigroup.com (Goh)