

Spawning and asexual reproduction of tropical holothurians

In the Beche-de-mer Information Bulletin #7, Chantal Conand asked for spawning information as well as asexual reproduction observation by fission and regeneration. We have received since then several replies, which are shown below.

1. Fission and regeneration:

- Species: *Holothuria atra*.
- Site: Fonadu Island harbour area and north of Gamu Island, Laamu atoll, Republic of the Maldives;
- Habitat: both areas are flat reef areas of about 1–2 metres deep;
- Date: June 1995 (near the site of our laboratory, regenerating animals are seen throughout the year);
- State of regeneration of fission: both anterior and posterior parts were seen in various stages of regeneration;
- Number of regenerating and non-regenerating animals: regenerating animals are frequently seen whereas in the area north of Gamu regenerating animals are not frequently seen;
- Variations in behaviour: none observed;
- Observers: N. Reichenbach, Y. Nishar.

2. Spawning

2.1 La Réunion

- Site: Indian Ocean, La Réunion, La Saline Reef [back reef, sandy bottom], depth: 0.5 m
- Date: 15/2/95 at 18h00, low tide, full moon;
- Species: *Bohadschia vitiensis*
- Remarks: two individuals were in spawning posture but sexes have not been identified. No other species with typical postures were observed around.
- Observer: P. Durville

2.2 New Caledonia

- Date: 15 February 1996
- Time: 17h00
- Place: Baie des Citrons, Noumea, New Caledonia
- Species: *Bohadschia marmorata*
- Moon phase: New –4

- Sea surface temperature $\approx 28^{\circ}\text{C}$
- Tide: High tide at 16h30
- Remarks: Observation was made, while swimming with mask and snorkel, at Baie des Citrons, a very popular beach of Noumea. *B. marmorata* is abundant in this sandy bay, it can be seen from 3 metres to 15 metres depth with, in some places, concentrations of more than one individual per square metre. At time of observation, about half of the individuals observed had their body half erected and were spawning. The total time of spawning is not known as the observation lasted only for one hour. However, it should be noted that no spawning was observed during a one hour swim the day before (14 February) and the day after (16 February) at approximately the same time (17h00–18h00).
- Observer: Aymeric Desurmont
- Date: 15 February 1996
- Time: 17h00
- Place: Baie des Citrons, Noumea, New Caledonia
- Species: *Actinopyga echinites*
- Moon phase: New –4
- Sea surface temperature $\approx 28^{\circ}\text{C}$
- Tide: High tide at 16h30
- Remarks: *A. echinites* is not as abundant as *B. marmorata* at the place of observation. Only 20 individuals could be observed during the one-hour swim and only one was found spawning. This individual had half of its body buried in the sand and the other half erected, moving slowly back and forth. It was interesting to note that this individual was in the middle of a concentration of spawning *B. marmorata* (about 20 individuals in 4 square metres). As for *B. marmorata*, no spawning was observed on the day before and the day after.
- Observer: Aymeric Desurmont