

An Outbreak of the Colonial Sand Tube Worm, *Phragmatopoma* sp., Threatens the Survival of Scleractinian Corals

Hui Huang, Xiu-Bao Li*, Jian-Hui Yang, Jian-Sheng Lian, and Liang-Min Huang

Key Laboratory of Marine Bio-resources Sustainable Utilizing and Key Laboratory of Tropical Marine Environmental Dynamics, South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou 510301, China

(Accepted September 25, 2008)

Phragmatopoma spp. are marine, reef-building polychaetes that inhabit the intertidal and shallow subtidal zones of tropical coasts (Drake et al. 2007). At Fenjiezhou I. (18°34'45"N; 110°11'33"E) and Xincun Bay (18°23'17"N; 109°57'48"E), southeastern coastline of Hainan I., China, the colonial sand tube worm *Phragmatopoma* sp. was seen to be overgrowing and covering live and dead coral colonies, which caused smothering of the live corals (Smith and Harriott 1998) (Fig. 1A). Massive, tabular and encrusting scleractinian corals are more easily covered by the tube worm. Worm patches are present at most of the above areas. The outbreak of the tube worm in reef areas was first recorded in the South China Sea. Video transect surveys along 50 m lines revealed

that tube worm covered 8.8% at a depth of 2 m and 1.2% at a depth of 5 m at Fenjiezhou I., and 11% at 2 m and 0% at 5 m in Xincun Bay, which indicates that the tube worm mainly appears in shallow-water areas. Tube worm coverage was negatively correlated with live scleractinian coral cover (Spearman correlation, $r = -0.8$) and positively correlated with dead scleractinian coral cover (Pearson's correlation, $r = 0.442$). So, the colonial sand tube worm *Phragmatopoma* sp. severely inhibits live scleractinian corals. It is a new threat to Fenjiezhou and Xincun's coral reefs, an important reef area in China. The cause of the outbreak of the colonial sand tube worm is unknown. Further research should be conducted. <http://zoostud.sinica.edu.tw/Journals/48.1/106.pdf>

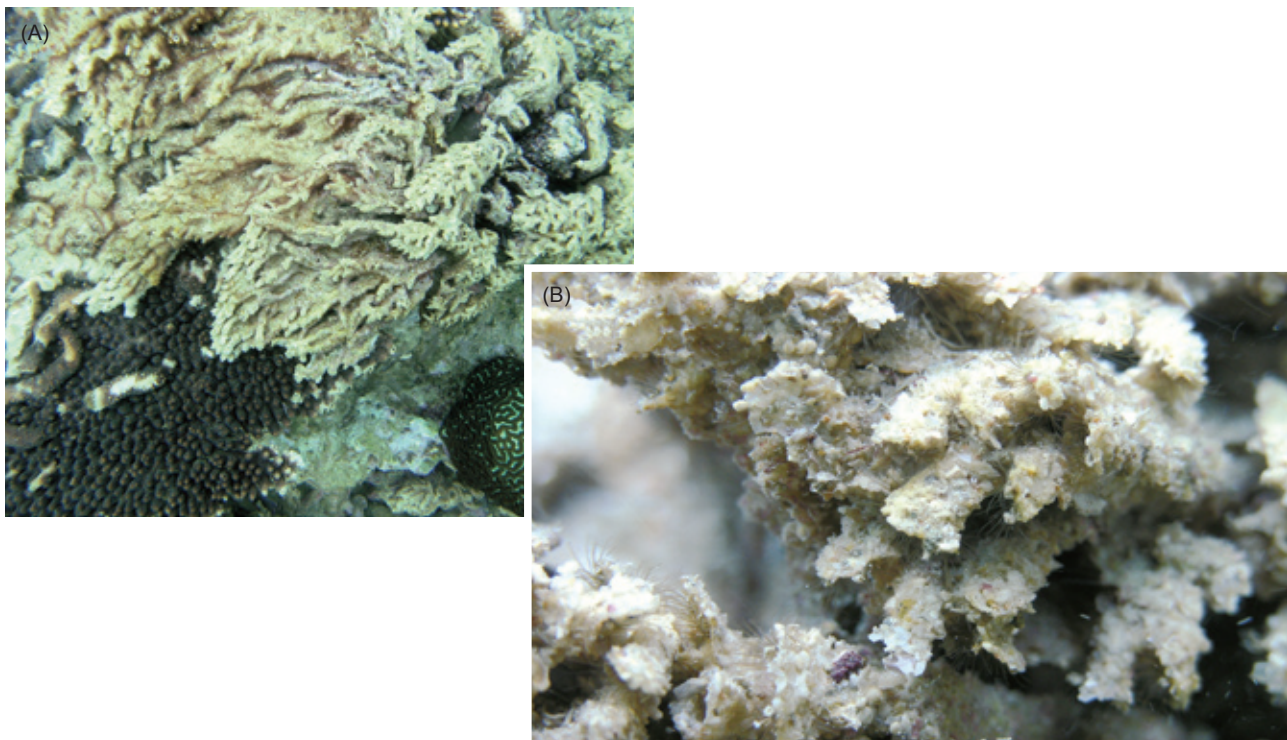


Fig. 1. (A) Coverage of the tube worm on scleractinian corals; (B) close-up photo of the tube worm.

Acknowledgments: This work was supported by grants (40776085 and 40830850) from the National Natural Science Foundation of China.

REFERENCES

- Drake CA, DA McCarthy, CD von Dohlen. 2007. Molecular relationships and species divergence among *Phragmatopoma* spp. (Polychaeta: Sabellaridae) in the Americas. *Mar. Biol.* **150**: 345-358.
- Smith SDA, VJ Harriott. 1998. Tube-building polychaete worms smother corals in the Solitary Islands Marine Park, northern NSW, Australia. *Coral Reefs* **17**: 342.

*To whom correspondence and reprint requests should be addressed. E-mail: lixubao@scsio.ac.cn