

# Publications and conferences on trochus and other molluscs

## Proceedings of the 11<sup>th</sup> International Congress and Workshop of the Tropical Marine Mollusc Programme (TMMP)

### Note from Chan L. Lee

Some *SPC Trochus Bulletin* readers may be familiar with the publications from the Tropical Marine Mollusc Programme (TMMP) funded by the office of Enhancement of Research Capacity (ENRECA) in the Danish International Development Agency (DANIDA), the Danish Ministry of Foreign Affairs. TMMP, based at the Phuket Marine Biological Center, Thailand, has been operating since 1990 and has produced 11 excellent and highly informative proceedings on tropical marine molluscs. Unfortunately, TMMP ended on 1 January 2002 due to cessation of funding by DANIDA. This is indeed a very sad development for mollusc researchers in the Asia-Pacific region.

I was lucky to get in touch with Professor Jorgen Hylleberg, programme director of TMMP and the editor of the final TMMP proceedings. Professor Hylleberg has kindly given me permission to reproduce some articles of interest from the final TMMP proceedings: Proceedings of the 11th International Congress and Workshop of the Tropical Marine Mollusc Programme (TMMP), 28 September to 8 October 2000, held in Kodaikanal, Rameswaram and Tuticorin, Tamilnadu, India. These articles and details of the final TMMP proceedings are given below.

Hyllebert, J. (ed). 2001. Proceedings of the 11th International Congress and Workshop of the Tropical Marine Mollusc Programme (TMMP), 28 September to 8 October 2000. Phuket Marine Biological Center Special Publication 25:vii-x, 599 p.

### Some articles of interest in the 11<sup>th</sup> TMMP Proceedings:

Victor, A.C.C. 2001. Key note address: Recent development in pearl culture research in India. Phuket Marine Biological Center Special Publication 25(1):23–26.

*Summary:* This is a short article that provides a brief overview of the pearl industry in India. Six species of pearl oysters are found in the country, *Pinctada fucata*, *P. margaritifera*, *P. chemnitzii*, *P. sugillata*, *P. anomiooides* and *P. atropurpurea*. Among them *P. fucata* is the dominant and most valuable species for commercial pearl production in India.

Paongan, Y., Winanto T. and Soekendarsi E. 2001. Biometrics of male and female top shell *Trochus niloticus* Linne. Phuket Marine Biological Center Special Publication 25(1):87–88.

*Summary:* Regression analysis showed a linear correlation between shell diameter and weight of male *Trochus niloticus* ( $r^2 = 0.893$ ), shell height ( $r^2 = 0.899$ ), and diameter of operculum ( $r^2 = 0.848$ ). In females the coefficients of correlation for the same relationships were 0.929, 0.965 and 0.614 respectively.

Paongan, Y., Winanto T. and Soekendarsi E. 2001. Size distribution of male and female top shell *Trochus niloticus* Linne in relation to depth and substrate. Phuket Marine Biological Center Special Publication 25(1):89–90.

*Summary:* The study was conducted at Baki Island Water, Pangkep Regency, South Sulawesi. Baki Island has both sandy shore and coral reef flats. *Trochus niloticus* is rare on the island. The distribution of 49 males (34.5–81.4 mm shell diameter) and 46 females (54.3–105.3 mm shell diameter) was studied in relation to depth and dead coral substrate. Regression analysis showed that both male and female distribution had a positive correlation to depth and substrate.

Soekendarsi, E., Djawad M. I. and Paongan Y. 2001. Growth rate of *Trochus niloticus* L. fed on four species of benthic marine macroalgae. Phuket Marine Biological Center Special Publication 25(1):135–137.

*Summary:* *T. niloticus* were fed dry and fresh algae: *Caulerpa sertularoides* (Vahl) C. Agardh, *Ulva reticulata* Forsskal, *Padina australis* Hauck, and *Gracilaria salicornia* (C. Agardh) Dawson. Green macroalgae resulted in the best growth of trochus. Brown macroalgae also contributed to an increase of shell size, but were inferior to green macroalgae.

Husin, N.M., Yasin Z. and Tan A.S.H. 2001. Shell morphology and culture of *Tridacna squamosa* larvae (Bivalvia:Tridacnidae). Phuket Marine Biological Center Special Publication 25(1):169–172.

*Summary:* The shell morphology of *Tridacna squamosa* larvae is described and illustrated based on SEM pictures. The increase in total shell length and shell width was more distinct compared to the length of hinge teeth. Prodissoconch 1 and prodissoconch 2 could clearly be differentiated. Other important morphological characteristics are discussed.

Granmo, A., Hernroth B. and Lindahl O. 2001. Marine bivalve farming: A sustainable food production. Phuket Marine Biological Center Special Publication 25(1):179–188.

*Summary:* Increased supply of nutrients to the sea is a serious environmental problem nearly worldwide and many coastal areas suffer from eutrophication. This has led to raised phytoplankton production and increased growth of filamentous algae followed by increased oxygen consumption in bottom waters as well as decreased penetration of light through the watercolumn. One possibility to counteract this problem is to recycle nutrients from sea to land by the cultivation of filter-feeding organisms, such as bivalves. The paper points out that bivalve farming is a sustainable way to produce food of high nutritional value. At the same time, the cultivation will result in advantageous environmental effects in areas where eutrophication is a problem. However, in many coastal areas humans also introduce pollutants (heavy metals, hydrocarbons, pesticides, and detergents) into the aquatic ecosystem. The occurrence of toxic algae is another serious threat to bivalve farming. Furthermore, high densities of pathogenic bacteria and viruses are often present in coastal waters. Increased knowledge of the capacity of molluscs to deal with pollutants, pathogens and toxic algae and how to optimise the location of farms is necessary in order to give important guidance to future management strategies.

Le, D.M. 2001. Reproductive characteristics of *Haliotis ovina* Gmelin, 1791 in South Central Vietnam. Phuket Marine Biological Center Special Publication 25(1):197–201.

*Summary:* The reproductive cycle, initial size at sexual maturity, sex ratio and fecundity of *Haliotis ovina* Gmelin, 1791 were studied in Cam Ranh Bay, Khanh, Hoa Province. *H. ovina* spawned year round, but intensively from April to August. Sexual maturity was first attained at size 44.4 mm for male and 48.0 mm for female. The sex ratio of wild *H. ovina* was 1:0.9 (M:F). Fecundity of females varied from 142,000 to 751,000 eggs with a mean of 392,760 eggs.

Le, D.M. 2001. Preliminary results on the artificial breeding of the abalone *Haliotis asinina* Linne, 1758 in Vietnam. Phuket Marine Biological Center Special Publication 25(1):203–205.

*Summary:* Wild-caught broodstock of the abalone *Haliotis asinina* were placed in a 600-L capacity composite tank and conditioned to photoperiods of 12 h light and 12 h darkness. Spawning occurred after 17–22 days. More than 400,000 newly hatched larvae were cultured. On average, 1.29 per cent of them reached the juvenile stage, which occurred after 35–40 days of rearing.

## Conference

The triennial conference of the Malacological Society of Australasia will be holding the 15th World Congress of Malacology, 11–16 July 2004 in Perth, Western Australia. A major symposium on molluscan fisheries and aquaculture will be held as the key component of the World Congress.

For more information on the conference, visit [www.amonline.net.au/malsoc](http://www.amonline.net.au/malsoc) or [www.inter.nl.net/users/Meijer.T/UM/um.html](http://www.inter.nl.net/users/Meijer.T/UM/um.html) or write to Dr Fred E. Wells, Western Australian Museum, 1 Francis Street, Perth, WA, Australia 6000, email: [fred.wells@museum.wa.gov.au](mailto:fred.wells@museum.wa.gov.au); Fax 61-8-9472 2882.

## Consultancy, training and eco-tour

Dr Richard Braley from the Aquasearch Lab, Aquarium and Consultancy provides training in the following activities:

- Tropical marine biology and aquaculture consultancies;
- Marine display viewing for public and educational groups featuring cultured 17-year old giant clams (*Tridacna gigas*), fish and corals;
- Selected fresh- and saltwater fish and aquarium supplies for sale; and

- Assistance to educational groups for low-tide reef walks.

More information is available from their website: [www.aquasearch.net.au/aqua/consultancies.htm](http://www.aquasearch.net.au/aqua/consultancies.htm)

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## In preparation for the next issue of the *SPC Trochus Bulletin*

In the next issue of this bulletin Dr Chan Lee will be featuring the achievement of a community-based hatchery located at One Arm Point (OAP), Kimberley, Australia. The Bardi Aborigines Association based at OAP has collected and traded trochus shells for many decades. As the price for trochus shells dropped from AUD 9.50/kg to AUD 8.50 in 2000 and to AUD 7.00 last year, the community has decided to go into the

aquarium trade, selling hatchery-produced juvenile trochus. Prices of AUD 2.00 to AUD 3.50 have been obtained for juvenile trochus ranging in size from a basal diameter of 10–25 mm.

Below are two photos of the OAP hatchery. More information and photos will be provided in *SPC Trochus Bulletin #11*.

Looks like a hatchery.  
Find out more in *SPC Trochus Bulletin #11*



Power from solar panels for a hatchery?  
Find out more in *SPC Trochus Bulletin #11*