

cies), and on cultured *Pteria sterna* next February or March (also the end of the reproductive cycle).

It has not been easy to arrive at this stage. There have been many previous studies on pearl oyster and pearl culture in South Baja California, but most of them have been unsuccessful, mainly because of the lack of bioecological information on the species and the application of imported culture techniques which were not suitable.

In this sense, I could say that our research is the first in 15 years to have yielded positive results concerning extensive culture and repopulation. The resource has undergone almost 400 years of unregulated fisheries and it has been under legal protection only since 1940. Many sites where once the pearl oysters were abundant are now exhausted. One of them is the area of Los Cabos.

However, in La Paz Bay, after more than 50 years of permanent protection the natural beds are recuperating, slowly and insufficiently, due to furtive

fisheries, but nevertheless noticeably. For the moment, it is however out of the question to rely on natural broodstock for fisheries or grafting; this is why the improvement of massive extensive culture techniques and the efficient repopulation of natural beds using cultured individuals are our main objectives.

The contact with scientists of the Pearl Oyster Special Interest Group would be valuable to us. We are also interested in the possibility of sending students abroad (Australia, Hawaii) to prepare their Masters, Ph.D., Postdoctoral research and / or training, on subjects related to pearl oyster, hatchery and pearl culture.

Moreover, if anyone is interested in developing particular research here in La Paz with *Pinctada* and *Pteria*, we would be delighted to provide all kinds of facilities.

(Ed: see also pp. 24–27 of this issue)

Company plans pearl culture trials in Venezuela

**Source: Gary Kraidman
Margaronics Inc.
New Jersey, USA**

Margaronics Incorporated, a privately held New Jersey corporation formed in 1986, plans to create a cultured pearl industry in Venezuela. Natural pearls were discovered by Christopher Columbus in 1498 during his third voyage near Venezuela. Margaronics will be the first company to develop cultured pearls from the native Venezuelan pearl oyster *Pinctada radiata*.

The mother-of-pearl layer (nacreous portion) of the Venezuelan pearl oyster is thick and displays iridescence (orient) above that seen in the shell of the Japanese variety.

The Venezuelan oyster is consumed solely for its food, and although there is a small natural pearl market, the mollusc faces extinction due to overfishing. A research foundation in Venezuela, near the natural pearl oyster banks, is currently doing paid service work for Margaronics Inc. to cover such topics as distribution, habitat, legal issues, and other matters.

The President of Margaronics, Gary Kraidman, has a Master of Science Degree in Biology and a pearl certificate from the Gemological Institute of America as well as an established track record in microbiology. Substantial publicity has been given to the pearl project both in the United States and overseas. A preliminary study for the basis of future

work was completed by the Venezuelan research foundation with positive conclusions.

Mr. Kraidman is a member of many scientific societies as well as the Venezuelan-American Association of the United States of America, Inc. He is planning his third visit to the pearl banks and the research foundation in late 1993 or early next year to begin the feasibility farming project.

A spherical or baroque Venezuelan cultured pearl could offer a high quality jewel. The market for high-quality pearls increases and our company believes that a Venezuelan cultured pearl could capture a significant portion of the market currently estimated at 1.5 billion dollars a year.

Margaronics Inc. hopes to focus on small spherical cultured saltwater pearls and hopefully can fill a market for high-lustre 5–6 mm pearls where there will be a continued shortage of supply. The pilot feasibility study, when funded, should focus on nucleating a *Pinctada radiata* with a 4.5mm bead nucleus so that a high-quality 5.5mm pearl can be produced with fine lustre and orient within two years of nucleation.

A recent expedition to the Venezuelan pearl banks undertaken by Margaronics Incorporated revealed sufficient pearl oysters to begin oyster farming in a

site also located near the banks. At this site the pearl oyster would be cultured in captivity for one year

with a co-study in nucleation or implantation to determine pearl production capability.

Calling mainland China

by C. Dennis George
Cairns, Australia

C. Dennis George, of Cairns, Australia, writes:

The recent reference to China in *Pearl Oyster Bulletin* # 5 is appropriate. What about the Korean pearl, which is also of significance? I need a contact with mainland China (for historical/record purposes). Please, can you assist me? Many years back I had a contact but I lost it.

I am pleased with the initiative to preserve the 'grey' literature, as I have plenty of that. As my days are coming to an end, I would like to see better utilisation of my accumulated files/library/experiences and I feel they would be more effective if sold to someone who will appreciate them. Do you know anyone who could be interested?

Dissertation studies management of the Tuamotuan pearl culture industry

Source: M. Rapaport
Honolulu, Hawaii

Moshe Rapaport, of the East–West Center and the University of Hawaii at Manoa, has recently completed his PhD dissertation, entitled Defending the Lagoons: Insider/Outsider Struggles over the Tuamotuan Pearl Industry. This dissertation is the product of five years of research at the University of Hawaii and the East–West Center. The fieldwork, conducted primarily on Takarua Atoll took place during 1990–91, at the height of a black pearl boom, and was sponsored by a Fulbright study abroad grant, an East–West Center scholarship, and a research contract from the Institute for the Promotion of Aquaculture and Maritime Activities (EVAAM), French Polynesia. An abstract of his thesis is given below.

Because of their natural stocks of black pearl oysters, Tuamotuan lagoons have attracted the covetous interests of external society since the early 19th century. Under the French colonial administration, land was individualised and lagoons were declared public domain. Island populations responded to these intrusions through hidden and open forms of resistance.

Nevertheless, pearl oyster stocks were over-exploited and became nearly extinct on many atolls.

By 1970, the mother-of-pearl industry had ended. It was replaced by a pearl farming industry, now pitting Tuamotuan populations against the Tahitian administration.

The struggle over land and sea resources parallels a deeper struggle over ideology and meaning. External administrations, entrepreneurs, and local populations have contrasting ideologies of rights and different conceptualisations of environment, society, and the nature of their interrelationships.

Notes on the Pearl Oyster (*Mutiara*) production in Maluku Province, Eastern Indonesia

by Rick Braley, Nell Tetelepta and Bob Mosse
Pattimura University
Poka-Ambon, Maluku, Indonesia

Pearl oyster farms make up the largest number of aquaculture businesses in the Maluku Province of eastern Indonesia. Here, suitable areas for culture are relatively distant from high density human populations.

The greatest concentration of farms is located in Maluku Tenggara (S.E. Maluku) – the Aru Islands, some in the Kei Islands and in the Tanimbar Islands.

The main farms are joint ventures with Japanese companies. The Indonesian-owned companies are new, small, and susceptible to any short- or long-term disasters.

The Provincial Government Fisheries Department (Dinas Perikanan – Ambon) produces annual statistical records for Maluku Province. The drop in production of whole shell in 1990 to about half the