

The return of the true giant clam to Kosrae

For many years, aquaculture activities in the Federated States of Micronesia (FSM) have focused on the production of giant clams for both natural stock enhancement activities and the aquarium trade. Martin Selch, manager of the National Aquaculture Center (NAC) in Kosrae, one of the most successful giant clam farming spots in the Pacific, has been involved in this activity for more than 20 years. A few years ago, he began to assess the possibility of bringing *Tridacna gigas* (the true giant clam) broodstock to Kosrae from neighbouring Palau where it is still present, as FSM's population was completely depleted. The objective of this introduction was to try to spawn *T. gigas* artificially in order to produce spat for restocking and, depending on the results, to produce juveniles for the aquarium trade.

The project has been privileged to benefit from the commitment and collaboration of many stakeholders within the Micronesia subregion, including Minister F. Umiih Sengebau of the Palau Ministry of Natural Resources, Development and Tourism, who delivered the research permit for the project; Hon Marion Henry, Secretary for FSM Department of Resources and Development who established the contact to Minister Sengebau; Dr Victor Yano and his team from Belau Aquaculture who made all arrangements in Palau and organised the packing of the animals; and Mr Sone Shigeaki and his team at the Micronesian Mariculture Demonstration Center for general assistance. Thanks to this great support, Martin got the authorisation and all permits, including CITES permits, to transfer five medium-size *T. gigas* clams from Palau to FSM, for research purposes. Each animal was about 60-cm wide and weighed close to 65 kg.

The animals were imported in May 2019, following strict quarantine measures. They were kept under observation for four weeks at the College of Micronesia Land Grant hatchery in Pohnpei, as authorised by Dr Singeru Singeo, Executive Director and Dr Manoj R. Nair, Aquaculture Programs Director and Chief Scientist. The owner of the private company LP Gas, William Hawley, arranged all logistics on Pohnpei, while the FSM Resources and Development Department issued the import permit, and United Airlines Cargo Guam offered a very low freight rate to support the return of the true giant, the world's largest bivalve, to FSM.

Quarantine protocols included external (shell) cleaning and disinfection of animals before and after shipment, complete isolation of the animals, treatment and filtration of effluent waters, daily monitoring during quarantine, observation of behaviour and abnormal clinical signs, and the removal and biosecure disposal of one clam that died during quarantine. The other four were packed and shipped to the NAC hatchery in Kosrae, where they were quarantined for an additional six months.

After several months of acclimation, the animals were strong enough for spawning to be induced. Spawning was successful in early 2020, and the first batch of juveniles were visible in NAC raceways shortly thereafter.

Martin Selch is very pleased with the outcome of the experiment and has announced that “we plan to grow them at the hatchery for about two years before transferring them to sea cages to let them grow further and, if possible, to send some to neighbouring islands or other FSM states.”

For more information:

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Left: *Tridacna gigas* prepared in Palau for shipping to FSM. ©National Aquaculture Centre

Right: Juvenile *Tridacna gigas* growing steadily in National Aquaculture Center tanks in Kosrae. July 2020. ©National Aquaculture Center

