

SPC aids squaretail coral grouper efforts in Guam

*The squaretail coral grouper, **Plectropomus areolatus**, is one of the coral groupers that form spawning aggregations. It is a highly prized food fish, particularly in Asia, and a recent assessment by the International Union for Conservation of Nature indicates that the species is vulnerable to extinction. In Guam, it has almost disappeared from the nearshore catch and is seldom seen in the wild.*

Several agencies — the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/ AQD), SPC's Aquaculture Section, and the Center for Tropical and Subtropical Aquaculture (CTSA) — are helping Guam to restore a coral grouper broodstock population and establish a marine finfish hatchery that will focus on this species.

The Guam Aquaculture Development and Training Center (GADTC) has received funding from CTSA to determine the health status of a founding population for a planned restocking and fisheries enhancement programme. As part of the project, Dr Leobert de la Peña

of the SEAFDEC/AQD Fish Health Section has been assisting the project with technical advice and onsite training. Dr Jenee Odani, from the Hawaii Department of Agriculture Veterinary Laboratory, also provided technical assistance to this project.

In 2012, SPC's Aquaculture Section provided technical assistance to GADTC on aquatic biosecurity and aquatic animal health-related issues, and funded GADTC's Dr John Brown to attend the 8th Regional Training Course on Grouper Hatchery Production. The training course was held in Krabi, Thailand from 8–26 October 2012, at the Krabi Coastal Fisheries Research and Development Center.

The course was organized into five topics: 1) broodstock management, maturation and spawning; 2) larval rearing; 3) culture and maintenance of live feeds; 4) fish health; and 5) physical facilities. The training began with an overview of the physical facilities at Krabi. Presentations were given on site selection and design, water systems, rearing units and water quality management. Broodstock management lectures provided an overview of grouper biology, with an emphasis on reproduction and hormonal control pathways. Additional lectures were on broodstock selection and management, nutrition, assessment of maturation, and preparation for spawning and spawning protocols. Hands-on exercises included anaesthetizing and handling broodstock, determining egg maturity, and inducing spawning with hormones.

Larval rearing lessons were initiated with the spawning of two sets of broodstock. Egg numbers and fertilization rates were determined. Embryonic development was observed and hatching rates were determined. Once the larvae were stocked into two tanks, daily monitoring was begun (and continued for the remainder of the course) for larval health, feeding status and development.

Concurrent with the initial stocking of newly hatched larvae, a series of lectures and hands-on exercises on live feed culture and feeding was carried out. Techniques for culturing marine algae, rotifers, *Artemia* and marine yeasts were presented.



Dr Leobert de la Peña of the Fish Health Section of SEAFDEC/AQD (left) instructs Dr Hui Gong on health examinations of coral groupers.

SPC ACTIVITIES

The three-week course included various field trips to a number of relevant sites. These included other government hatcheries, private grouper nurseries and grow-out operations, as well as shipping facilities.

Sponsoring a GADTC staff member to attend the training course on grouper hatchery production has been a highly cost-effective method for transferring some of the skills and techniques that will be necessary if Guam is to succeed in its planned effort to revitalize its population of squaretail coral groupers.

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Taking a tissue sample from a coral grouper for testing by polymerase chain reaction (PCR) for viral nervous necrosis.



Dr John Brown (far left) with his classmates waiting to see what the farmer has in this net during a visit to a floating cage grouper farm in Krabi, Thailand.