



Department of Biological Sciences

The University of North Carolina at Wilmington

MARINE ORNAMENTAL FISH CULTURE LAB

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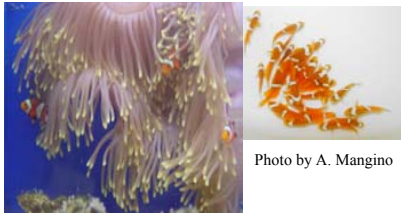


Photo by A. Mangino

Photo by A. Watson

What is Ornamental Culture?

•**Definition:** the culture of a marine organism for the aquarium trade market for ornamentation/pets rather than food.

- fish, shrimp, clams, corals.
- almost exclusively tropical in nature

•**Less than 10% of all ornamental marine organisms are presently cultured**

- over 100 species of 'aquarium' marine fish have been bred in captivity, but relatively few are bred in commercial quantities.
- best-known are the anemonefishes
 - also known as clownfishes in the trade)

Dr. Clavijo's Lab

•Successfully cultured four species of anemonefishes, genus *Amphiprion* (species *clarkii*, *frenatus*, *ocellaris* and *percula*)

•On-going research (honors students):

- Juvenile behavior vs. density (A. Watson)
- Effects of diet on coloration, growth (M. Johnston)
- Pre-mating behavior and pair bonding (U. Lidstrom)

Future Research with *Amphiprion*

- Larvae
 - Improve culture
 - Effects of temperature, photoperiod, food type
- Juveniles
 - Aggression under culture is a problem
 - Effects of substrate, size structure, food, density
- Adults
 - Culture more species (e.g., *A. polymnus*)
 - Reproduction
 - Factors affecting pairing, sex change

Future research with rare species

Banggai cardinalfish *Pterapogon kauderni*

Male broods eggs and larvae in mouth until they are 8mm SL ~30 days

Distribution in the wild is limited to two islands in Indonesia.

Over collecting could cause the extinction of this popular fish.



Dr. Clavijo points to brood stock *A. percula* and egg clutch

Photo by A. Mangino

Opportunities for Biology Majors

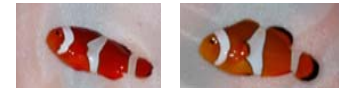
Undergraduates

- Volunteer (get hands-on experience in fish culture techniques) no prerequisites
- Directed Individual Study BIO 491 junior or senior standing
- Honors Work in Biology BIO 499 junior or senior standing

Graduates

- Directed Independent Study BIO 591

Which is brighter?

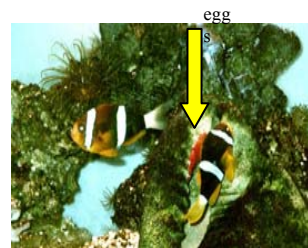


Photos by M. Johnston



Photo by A. Mangino

Poster Presentation at Meeting



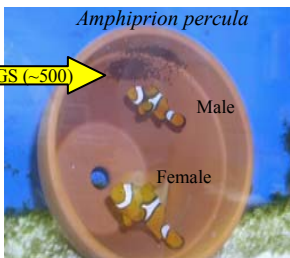
Major finding: The composition of fatty acids changes unexpectedly as the eggs develop.

•*Amphiprion clarkii*

- Fatty acids and phospholipids in eggs and larvae of a clownfish.
- By Dominguez*, Seaton and Clavijo
- Poster at 2nd International Conference Marine Ornamentals, 2001



Photo by U. Lidstrom



We provide artificial substrate in the form of clay pots that are readily used for spawning by our brood stock.

Female is usually larger since she was once a "he".

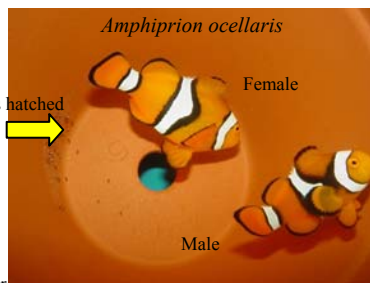


Photo by A. Mangino

* Honors student