MACNA 13

The theme of this 2001 conference was “The Living Seas.”

By Terry Siegel

This year's meeting of the Marine Aquarium Conference of North America (MACNA) took place in Baltimore, Maryland, August 17-19, 2001. It was attended by about 500 people, who socialized, attended workshops and listened to a series of notable guest speakers from all over the world. The theme of this year’s conference was “The Living Seas.”

Over the last 13 years I have attended most of these conferences. This year I found two major themes dominating the event: conservation and recent scientific developments in the field of marine biology — especially as they apply to the captive reef aquarium. Regarding the latter, of particular note is the ongoing synergy between serious reef aquarists and scientists.

Not many years ago amateur astronomers with their telescopes made important contributions astronomy. Today’s reef aquarists have, through trial and error, developed the husbandry skills necessary to keep reef animals alive in captivity. This gives the reef aquarist the opportunity to observe many of these creatures in ways not available to biologists working in the field. Furthermore, there are many reefkeepers who are also practicing scientists, and have combined their hobby interests with their training in science to benefit both the professional and amateur alike. Virtually every scientist who spoke at the conference was full of praise for the persistence of amateur reefkeepers in discovering the husbandry needs of creatures taken from the wild and maintained in closed system reef aquaria. Furthermore, many professionals looked to the amateur for support toward understanding and preserving wild coral reefs.

Preserving the planet’s wild reefs was one of the themes of the conference. Although it was often pointed out that the impact from the collection of reef animals was sustainable when practiced properly, and its financial value to local collectors is extremely important, many felt it significant to communicate this to our society as a whole, and that it was too easy to blame our hobby for what is the fault of global industrialization. Furthermore, as can be seen from the accompanying photographs, many popular fish are now aquacultured, as well as are most Tridacna clams offered for sale to hobbyists. Additionally, many of the most prized stony corals are available through large and small aquacultured sources. Dr. Mac and Sons brought more than 500 stony coral fragments to the conference, and sold more than 400 of them.

Two scientific papers struck me as particularly important. I’m referring to Rob Toonen’s (Ph.D.) paper on foods for filter feeders and Gisele Muller-Parker’s (Professor, Biology and Assistant Director of Shannon Point Marine Center) paper on recent research into zooxanthellae. Toonen studied the food value to filter feeders of various common, commercial invertebrate mixes. What he discovered is that though many had inherent food value, most had a very short shelf life, as well as being of the wrong size to be useful to many filter-feeding organisms.

Gisele’s paper pointed out that there are at least 60 species or strains of zooxanthellae, each showing different environmental requirement, and that a particular strain or species may leave its coral host when environmental conditions change. Furthermore, the density of zooxanthellae and the coral’s pigmentation work together to maximize the available light. She also pointed out that the zooxanthellae can only supply “candy bar” nutrition to the coral, while the coral must capture prey to satisfy its protein requirements.

Recent studies indicate that when nutrient conditions are too high, the zooxanthellae grow too rapidly and become a burden to the coral. Zooxanthellae benefit by living inside of a coral because the coral protects them from predation and UV, and they also receive food and CO2 from the host. When a coral bleaches, it loses its strain or species of zooxanthellae, but whether the coral ejects its symbionts or the symbionts leave of their own accord is under investigation. She suspects that when a colony of zooxanthellae leave a coral, it is because the environmental conditions are no longer favorable to them, and that the relationship between the coral and its symbionts is highly dynamic. In fact, the conditions in our captive reefs are probably far more dynamic than many aquarists realize.

The question of specie verses strain or morph is hotly debated in science today, and not only among marine biologists. Both Charles Veron and Gisele Muller-Parker, in different ways, discussed from a morphological point of view the difficulty of distinguishing between strain and species. In many instances, what had been classified as a separate species is now seen as merely a different strain. To demonstrate this point, Veron showed three photographs of skeletal corallites that appeared to come from three entirely different corals species, but in fact came from different parts of the same coral. One

begins to wonder if man, in attempt to classify all life on planet earth, has gone overboard.