

THE NEW ENGLAND AQUARIUM

by John Eccleston, Swarthmore, Pa.

In my first editorial,\* one of the areas I promised to cover was native fish in public aquaria. Apart from one article on the revamped Washington National Aquarium (AC, September '82), I did not live up to this promise. Nevertheless, a recent visit to Boston in November '83 allowed me to tour the New England Aquarium, and this is a brief description of the points of interest to the native-fish enthusiast. I hope it encourages NANFA members to write about other public aquaria.

Such institutions obviously cater to the general public, and so the main attractions usually are the presence of monster fish such as sharks and non-piscatorial species including penguins, seals, and dolphins. The New England Aquarium is no exception; however, it is biased towards being an educational institute, and aims (very successfully, in my view) to educate visitors about the evolution, physiology, behavior, and ecology of fishes. With respect to the last aspect, several aquaria show typical New England habitats, and these would probably be the main interest of a NANFA member.

One aquarium illustrates a typical Connecticut salt marsh, and includes Sheepshead Minnows (Cyprinodon variegatus), Banded Mummichog (Fundulus majalis), and Three- and Four-spined Sticklebacks (Gasterosteus aculeatus and Apeltes quadracus). The 3" C. variegatus were larger than those I had seen previously (from the New Jersey site described by Bruce Gebhardt in the October '83 AC). The bodies were relatively drab compared to the distinct black markings of the N.J. fish, though the black edge to the caudal fin was very pronounced. Also noteworthy were the red pectoral fins and a bluish tinge to the caudal and dorsal fins (See "Fieldnotes on the Sheepshead Minnow" by Linn Blanchard, AC, Dec. '82). Furthermore, the bright blue chevron across the nape was very clear. My previous observations on this fish have been on fresh-caught specimens placed in a photo tank; the chevron fades in the time taken to focus the camera.

I thought that male Fundulus heteroclitus and diaphanus from the brackish N.J. site were impressive; however, the F. majalis at the New England Aquarium were truly spectacular. Approximately 5" long, the upper rear part of the males' bodies was covered with iridescent blue spots. The ventral half of the fish, including the pectoral, ventral, and anal fins, together with the caudal fin, was bright yellow. The similarly sized females were relatively nondescript. Despite the common name given--Banded Mummichog, or Striped Killifish in Eddy & Underhill--no obvious bands or stripes were present.

A second aquarium illustrates a New Hampshire pond with a variety of good-sized fish. They included 15" Largemouth Bass, 6-10" Bluegills and Pumpkinseeds, and a 12" Brown Bullhead--all relatively familiar to me from New Jersey, except for their

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size.

Turning to a completely different habitat, a Vermont trout stream, about fifty 6-8" Brook Trout (Salvelinus fontinalis) are kept in a well aerated aquarium. The large number of fish and their rapid movement make it difficult to examine one fish in detail; however, the brilliant colors of the speckles and bars of the body and bright red of the ventral and anal fins well illustrate the beauty of the Salmonidae. It is unfortunate that these are not really aquarium fish. (I have, though, hatched Brown Trout--Salmo trutta--from eggs and raised them to about 2", though that's another story) A second species of the family exhibited is Salmo salar--the Atlantic Salmon. Several 3-4' specimens are present, the results of artificial spawning in a cooperative effort with the Connecticut River Salmon Restoration Program.

The last New England habitat presented is the Connecticut River basin, and the aquarium includes Pumpkinseeds, Golden Shiners (Notemigonus crysoleucas), Banded Killies (F. diaphanus--not seen), plus the introduced Goldfish and Carp.

Non-New England fish are sparse, probably the only examples being a 2' Longnose Gar (Lepisosteus osseus) and an 18" Short-nose Gar (L. platostomus) illustrating ancient bony fish.

There are many species of marine native fishes on display to illustrate various aspects of fish biology. I was somewhat disappointed, however, that more non-New England freshwater natives are not displayed--very little to show the diversity of the shiners, suckers, and killies; the colors of the sunfish; a majestic Esox to show the angler the beauty of these fish in their own environment; and not a single darter!

Despite these reservations, I recommend a visit to the New England Aquarium to NANFA members able to visit Boston, both for the display of natives and the informative approach to the world of fish in general.

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\*[Editor's note: Since the above report contains a description of Fundulus majalis which gives doubt to its identification, and also to its more appropriate common name, we contacted the New England Aquarium about these points. The following letter was received from Bruce Hecker, Aquarist at the Aquarium.]

"Some confusion exists as to which species of Fundulus was observed by Mr. Eccleston during his visit to the New England Aquarium--tank #9, Connecticut Salt Marsh.

"This tank contains many mature Fundulus which, due to the length of time in captivity, have faded much of their identi-

fyng markings. Fundulus majalis is definitely in the display. I remember when the tank was stocked, 3 years ago, that they distinctly had the transverse black bars (male) and the horizontal black stripes (female). F. heteroclitus has the black barring pattern, but only when very young. Currently, the faint traces of the longitudinal stripes can be seen on some of the females.

"However, some of the males are displaying some coloration that would indicate that F. heteroclitus is also in the display. According to Bigelow & Schroeder, Fishes of the Gulf of Maine, the male F. heteroclitus intensifies its pigmentation during breeding season, becoming, as Mr. Eccleston described, spotted with iridescent blue over the back and upper sides, and yellow on the belly. In addition, some of the males have black patches over the back, further strengthening Mr. Gebhardt's claim that F. heteroclitus is on display.

"Upon close examination of this tank, I conclude that both species, F. majalis and F. heteroclitus, are present. The general outline of the species differs somewhat, and though all these fishes are fat and well-fed, a slight difference in their silhouettes is discernible.

"In regards to the common name given to F. majalis, Bigelow & Schroeder (1952) refer to it as 'striped mummichog,' as opposed to 'common mummichog' for F. heteroclitus. I suspect our label for F. majalis came from this source. The American Fisheries Society, in their list of Common and Scientific Names of Fishes (1980), names these fishes differently. F. heteroclitus is called 'Mummichog,' and F. majalis is called 'Striped Killifish.' Since we consider the A.F.S. book to be the 'Bible' of names, I must concur with Mr. Gebhardt; that while 'Striped Mummichog' isn't wrong, 'Striped Killifish' is perhaps the most standardized form."

--Bruce Hacker, Aquarist  
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#### COLLECTING TRIPS

Two New England aquarium societies have scheduled fall collecting trips. The Norwalk Aquarium Society of Fairfield County, Inc., Connecticut will be collecting in the Hampton Bays area of Long Island on Sunday, September 16. Call NANFA member and society president Bruce Smith, 203-366-2330, for details.

Also, the Boston and Pioneer Valley (W. Mass.) societies will be collecting Sept. 30. Contact Pioneer Valley's William Kenney, another NANFA member, in Springfield, MA. Frankly, the address we're showing on our rolls--85 Ashbrook St., Springfield, MA 01118--may not be current. Perhaps you can also make contact with the Boston society.