WHY THE FOUNTAIN DARTER STAYED ENDANGERED

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(Comments on "Food Habits and Feeding Behavior of the Fountain Darter, Etheostoma fonticola (Osteichthyes: Percidae)," The Southwest Naturalist, February 10, 1977, Vol. 21, No. 4, 487-492), authors' names mercifully omitted.

The Fountain Darter, now federally listed as Endangered, occurs in an extremely small area of Texas. At the time the article was written, a population was also being maintained at Dexter National Fish Hatchery, New Mexico. The authors studied the natural populations of the species. In fact, they studied the darters throughout the species' entire range, small as that was--an 18-hectare lake (whatever a[n] hectare is) and 4.8 km of the San Marcos River.

The authors made monthly collections of the endangered darter in six different locations. They "fixed" all the fish they collected in 10% formalin. Table 1 records stomach contents of stream fish only. The authors fixed 380 endangered Fountain Darters from the stream. Table 2 records stomach contents of 72 endangered darters from the lake. That's 452 endangered darters fixed so far. Table 3 analyzes seasonally the stomach contents of 380 stream fish, the number of stream fish analyzed in Table 1; Table 4 analyzes seasonally the stomach contents of 72 lake fish, the number analyzed in Table 2. Let's charitably assume that Tables 3 and 4 are just re-workings of data in Tables 1 and 2. It is thus possible that no additional specimens were taken and fixed for Tables 3 and 4. Thus, only 452 federally endangered Fountain Darters were killed.

What would happen to the average naturalist--accountant, minister, mechanic, or writer--who applied for an official permit to take six little Fountain Darters to keep them alive in his aquarium? What would happen to that person if, uncertain of what he'd collected, and without a permit to take endangered species, he took some Fountain Darters and was queried somehow by a warden? What would happen to the angler, who, desiring bait, took the state limit of bait fish in Fountain Darters without knowing what he had? Or, to introduce some moral ambiguities, suppose someone knew perfectly well what Fountain Darters were, and that they were endangered, but took two lousy pairs home to an aquarium anyway to try and breed them and somehow was caught? Let's say he was so indiscreet as to write an article about catching, keeping, and breeding them.

The difference, of course, is that the southwestern naturalists were engaged in Vital Scientific Research. Therefore, they presumably applied for permits and had no trouble receiving them. Possibly the permitting procedure and legal penalties were not in effect in 1977 or whenever the two collected, relieving them of any moral burden. Whatever, the results certainly justified the sacrifice of just a few hundred endangered darters.

Now in case you are just beginning your study of America's native fishes and are not familiar with this monumental treatise--a landmark in American ichthyology you'll want to memorize--let me recount the major conclusions. Quote marks are left in to prove I'm not just making these up.

1. "This species was found to be selective in how and what it eats. The food habits varied with seasons and size of fish and the species fed primarily during daylight."

2. "E. fonticola held in an aquarium fed on moving aquatic invertebrates while disregarding those which remained immobile which suggested that the fish responded to visual cues."

[Previous speculation on their food-finding had centered on their use of radar and Fruit-of-the-Month Club catalogues.]

3. "The food habits...were...different as the fish increased in size and two possible explanations for this difference seem most plausible. First, the fish prefer particular food organisms because of their size. *** Second, availability of particular food items may be important." [The first finding led science to discard the theory that these darters preyed on wading bison. The second confirmed what I'd long suspected but could never prove: fish don't eat foods that aren't there.]

4. "[S]easonal fluctuations in prey species occur which could explain some of the changes in the food habits of E. fonticola." [Could well. See above. Previously it had been assumed that they froze daphnia and preserved vegetables to tide them over between crops.]

Why does the government fund so much wasteful nonsense when we can get meaningful stuff like this for only the cost of 452 endangered fish?

This epochal study led the American Fisheries Society to pass a resolution stating that persons wanting to study a fish should prove they have IQ's superior to the fish's. The rule was later repealed when it led to a 90% decline in ichthyological research.

To close, let me requote my favorite lines:

> 3. "The food habits...were...different as the fish increased in size and two possible explanations for this difference seem most plausible. First, the fish prefer particular food organisms because of their size. *** Second, availability of particular food items may be important."

Can't argue.