THE RAINWATER KILLIFISH

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Reprinted from the Advanced Aquarist Magazine,
Published by the Advanced Aquarists of Atlanta

LUCANIA PARVA (BAIRD AND GIRARD, 1855) is commonly known as the rainwater fish, although this appelation is quite misleading. The fish is common in brackish water, occasionally sea water, and probably never occurs in strictly fresh water except as a stray. It is known from Cape Cod to Key West (Hildebrand and Schroeder, 1928), and has been accidentally introduced on the west coast and in some freshwater bodies in the desert southwest (Hubbs and Miller, 1965). Although tolerant of freshwater habitation, it can be considered naturally a brackish water killifish. Counts are: D 11-12; A 10-11; Ll 25-26, but greater variation does occur. See Hubbs and Miller (1965) for more comprehensive morphometric and meristic treatment.

During a recent investigation of a mangrove swamp on the coast of southern Florida in the vicinity of Turkey Point (near Homestead), a number of specimens of L. parva were collected from tidal creeks. Specimens taken during November and December, 1973 were aggregated for feeding, but were not in spawning coloration (males) nor heavy with roe (females). Several specimens were taken back to North Carolina for propagation, and this was successful following heavy feeding, maintenance in 1/3 sea water (synthetic), and a period of about a month. The fish were fed TetraMin and frozen adult Artemia, with periodic feedings of live Artemia nauplii. No food preferences were noted in aquaria, although it is known (Odum, 1971) to be carnivorous, feeding largely on insect larvae, amphipods, mysids, ostracods, and copepods. Because of its abundance in estuaries over much of its range, it is probably an important mosquito control agent (Harrington and Harrington, 1961). In the south Florida mangrove regions, it has been found in salinities as low as 9 ppt, but not in full fresh water (Tabb, Dubrow and Manning, 1962). During my work, my crew has collected occasional specimens well upstream in the St. Johns River in the vicinity of Palatka, Florida (between Orlando and Jacksonville), but this section of the river is characterized by a rich brackish fauna, despite its distance from the sea.

Because of its abundance in its natural habitats, L. parva is certainly an important forage fish, serving as a food source for other (some important as food or sport) piscivorous species, especially snappers (Lutjanus spp.). Common in both mangrove-lined tidal creeks and Juncus marsh pools, it is rare outside of any region where vegetation cannot provide some significant cover.

General body coloration is light gray with black edging to the scales. During fright phases, the black edged scales tend to be clustered vertically forming indistinct bands, and several pearly olive spots tend to occur on the flanks and generally are more prominant on the dorsal surface. The male has a well developed black mark on the leading edge of the dorsal fin, and

this may sometimes appear as a half ocellus. His dorsal, anal and pelvic fins are light red, with the pigment tending to concentrate more deeply distally on the fins. The anal fin is margined in black. Colors are enhanced during periods of spawning activity, but are always present in adult males even during other periods.

Eggs are placed (in aquaria) in spawning mops, and I have found more in floating than in sunken mops. Eggs are about the diameter of the eye, or a bit smaller, and hatch in about 10-15 days at cool room (basement) temperatures. The fry are hardy and grow rapidly on Artemia nauplii; in nature they feed on planktonic copepods. Diseases have not been a problem, but feeding heavily is important.

I have not obtained large numbers of eggs, although all eggs appear viable. In my opinion, mass propagation would seem to be feasable for any aquarist so inclined, but the availability of this fish to me from the wild precludes any such programs of home breeding on my part.

Other fishes collected in the same areas as L. parva include belonids (needlefish), small barracuda, snappers, engraulids (anchovies), toadfish (Opsanus), silversides (atherinids), other cyprinodontids, and many other species, too numerous to list here. Although our collections were not extensive (being primarily qualitative), the natural abundance of L. parva in its more or less normal habitats can be surmised from statements in Hildebrand and Schroeder (1928) who reported that in seven hauls with a 30 foot seine they collected 18,300, and in 20 hauls in another location, 14,600 specimens. These collections were in a brackish creek and brackish pond in the region of Chesapeake Bay.

This is a pretty little killifish, always under two inches in total length, and will probably never be a popular aquarium fish in the United States. It will probably attain popularity in Europe, where it would of course be considered an exotic. American aquarists tend to ignore native species, no matter how beautiful or adaptable to aquaria. Furthermore, aquarists all over the world tend to ignore brackish water species for some reason too deep for me to fathom. With the availability of synthetic marine salts, there is now all that is required for the maintenance and breeding of many species of estuarine fishes. Few people appreciate the fact that estuarine species typically have broad salinity and temperature tolerances, and are among the easiest fishes to maintain in good health.

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