



FLOUNDER DOORMATS

By

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Doormats — that's what big flounders are called. While Louisiana has many species of flounder, the fishery is centered around the southern flounder, *Paralichthyes lethostigma*. Concern over the biological health of the stock of this fish has led to both recreational and commercial harvest restrictions. Unfortunately, flounder are a poorly-researched fish in Louisiana.

One study done by Louisiana State University scientists does give some information on the biology of this popular fish. The researchers obtained 1,259 southern flounders from recreational fishermen and commercial fish dealers. Each fish was weighed and measured, the spawning condition noted, and they were aged by counting the rings in their otoliths (ear bones).

The results were interesting. First, male and female flounders were quite different, biologically. Males live to a maximum of four years old, compared to eight years for females. In spite of the fact that males grew faster than females, the shorter life span of males meant that females grew much larger than males. The most frequently found size for females in the study was just under 16 inches long, compared to 11 inches for males. Females grew to a maximum size of over 30 inches (a real doormat) compared to under 17 inches for males.

The research also indicated that males are much more likely to be found in offshore waters than females, except during spawning season when both sexes are present. Female flounders begin moving from bays and estuaries in the fall out to offshore waters, where spawning takes place in December and January.

Females were sampled during the spawning season. Nine of 11 one year old and 123 of 128 two year old females were mature, which indicates that 50 percent of the females may reach maturity before their first birthday. (It should be noted that the researcher cautioned that more research is needed in this area.) At 20 inches and 2 1/2 pounds, all females are mature. During the two-month spawning season, females were found to spawn every 3.6 to 6.4 days, producing an average of 44,225 to 62,473 eggs per spawn.

Their doormat appearance disguise hunting agility. Flounder are well adapted for ambushing quick-moving prey such as fish or shrimp. The flattened shape allows them to become nearly invisible on the bottom. Their brains have large optic lobes to serve their large eyes, and they have large mouths and strong teeth. Typically, they remain motionless on the bottom and wait for their prey to come within striking distance before attacking. While waiting, flounder show rapid eye movements as they track their prey.

Research indicates that flounders will eat from 4 to 8 percent of their body weight in food each day. Feeding activity is heaviest at water temperatures of 61 to 77 degrees Fahrenheit and during the three-day period following a first quarter moon and the three-day period before a new moon.

Flounders eat a wide variety of food items including shrimp, mullet, anchovies, croakers and menhaden (pogies). One research project in Texas reported southern flounders to be the dominant fish predator of brown shrimp during the spring in Galveston Bay. The researcher also noted an set increase in the predation rate of brown shrimp in muddy water. This may have been due to the feeding advantage of muddy water or to a change in shrimp behavior. Flounders feeding on fish seem to prefer smaller ones. Unlike most predatory fish, which eat larger fish as they get larger, flounder just eat higher numbers of small fish.