Spawning Johnny Darter, *Etheostoma nigrum*

Donald Buth

The johnny darter, *E. nigrum*, is perhaps the easiest of all darter species to spawn in captivity due to its wide range of environmental tolerances and particular reproductive adaptations. Trautman (1957) referred to *E. nigrum* as the "most tolerant darter" in reference to the wide range of acceptable bottom types and turbidity levels. The habit of this species to lay eggs on the undersides of objects allows reproduction in relatively turbid situations. Successful egg development is enhanced by the silt-cleaning and protective services offered by the male guarding the particular nest site.

Johnny darters may be obtained by seining, etc. from Midwestern creeks immediately prior to the spring spawning season. Gravid females should be in evidence at this time as well as some males in spawning coloration. The reproductively colored male (Figure 1) has developed a dark blue-purple head with dark brown vertical bars on the sides of the body which may be compared to the non-reproductively colored individual previously pictured (**American Currents** 4(4):7).

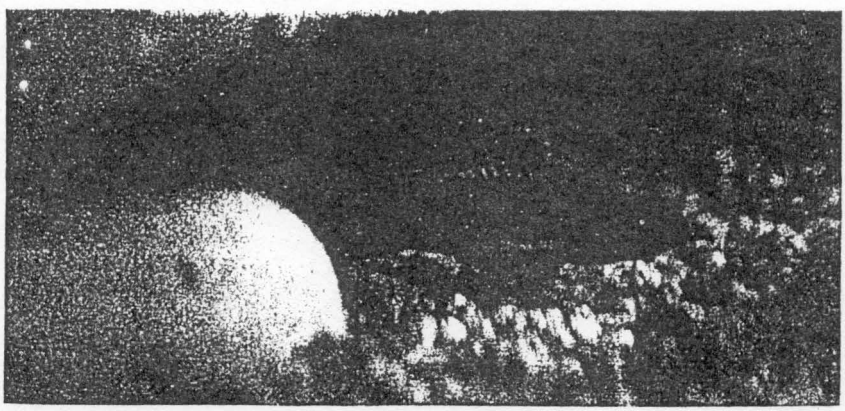

Figure 1. Male johnny darter in breeding coloration.

Acclimated captured darters may be added to aquaria in which suitable spawning substrates are available. Suggested substrates include pieces of slate or tile arranged as cave-like structures (Figure 2). Single males will claim individual "caves" and exclude other males from the immediate vicinity. A number of females may then spawn with the guarding male yielding a clutch of eggs on the upper surface of the "cave" (Figure 3). Adults may claim territories and spawn within 4 hours of capture under acceptable conditions. Reproductively active adults may be maintained at room temperature (68-74°F) which may further enhance reproductive activity, Hatching has been observed about

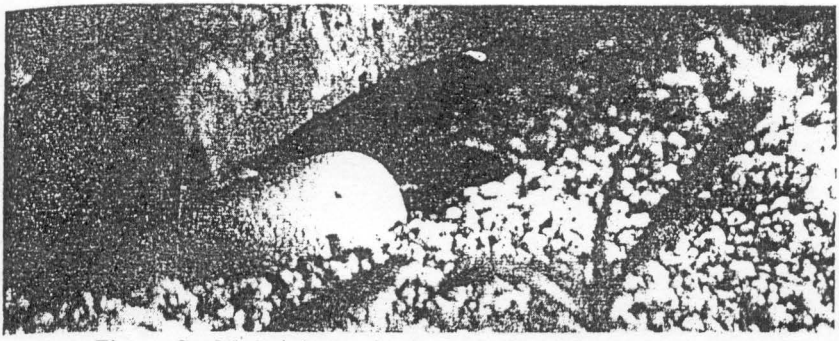

Figure 2. Male johnny darter guarding nesting site with two females nearby.

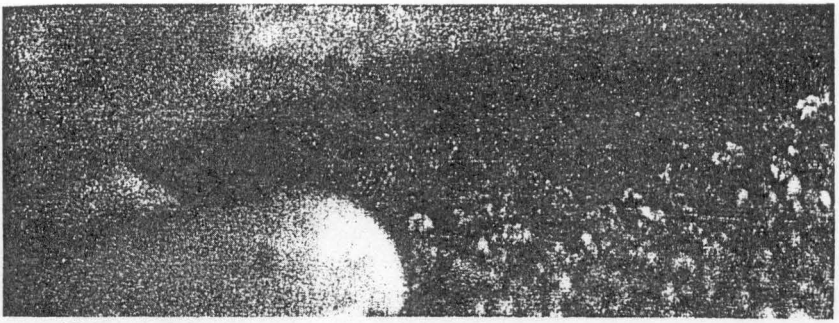

Figure 3. Clutch of eggs being guarded by male johnny darter (eggs on upper surface of shelter).

eight days after the eggs have been laid.

A feeding problem may complicate *E. nigrum* spawning. Recently captured adults may feed on their own newly-hatched offspring if they have not yet adapted to feeding in the aquarium environment. This problem may be circumvented by keeping a supply of live food such as *Daphnia* before the adults at all times during spawning. ‡

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