



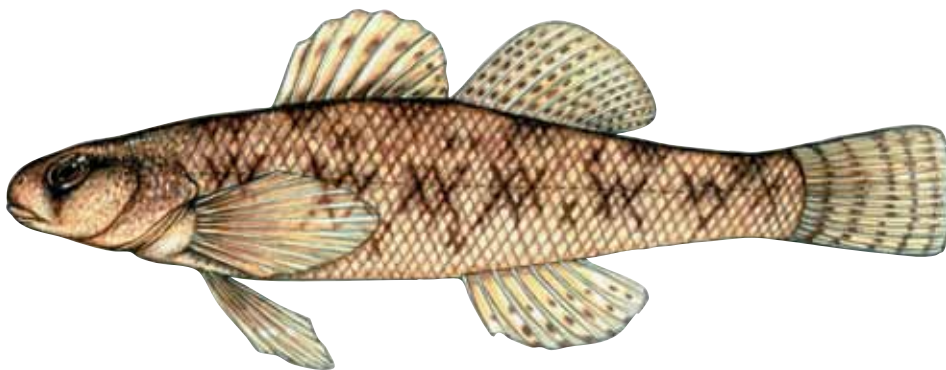
Life history: Johnny darters spawn in spring, April to May. Although the fish normally has a small home range, for spawning it will travel to find a suitable site. The males move into the spawning areas before the females and establish and defend a territory. The johnny darter creates a sort of nest, clearing a spot of silt and debris under an underwater object, like a rock. In a twist different from most other spawning fish, the male and female johnny darter turn upside down to spawn. The adhesive eggs, from 40 to 200 per female, stick to the underside of the rock in a single layer. Other females add to the male's nest, until the eggs there may number as many as 1,000. The male stays and maintains the site after spawning, fanning its fins to keep the eggs clean and aerated. The tiny eggs hatch in about two weeks, depending on water temperature.

Johnny darters show the bottom-dwelling and darting movement typical of other darters. They are sight-feeders, as are other darters. Johnny darters eat zooplankton, midge larvae, mayflies, caddis larvae and other small insects, worms and small snails. The males grow faster than females after the first year. Where they are present, they are a food source for other fishes.

Tessellated Darter *Etheostoma olmstedii*

Species overview: The tessellated darter can be found from southern Canada's St. Lawrence River drainage to Georgia. In Pennsylvania, it is found in the Delaware, Potomac and Susquehanna River watersheds. The tessellated darter greatly resembles the johnny darter, and it was formerly considered a subspecies of the johnny darter.

Identification: "Tessellated" refers to the fish's having a mosaic-like or checkered pattern. The tessellated darter's coloration is pale-sandy, fading to white on the bottom. The back and upper sides of the tessellated darter



have nine to 11 pronounced, small X-shaped or W-shaped marks. This species, like the johnny darter, has a single anal fin spine. Other darters in Pennsylvania have two anal fin spines. The mouth is positioned low and is horizontal. The mouth ends below the front of the eye.

Tessellated darter breeding adults develop 12 or 13 vertical bars on the sides, while losing the X-shaped and W-shaped markings. The upper side scales become wholly outlined in a dark color. The fin membranes, except those of the pectoral fins, grow dark with lighter tips on the pelvic and pectoral fins. In this phase, tessellated darters are sometimes mistaken for small yellow perch. Tessellated darters reach a length of about 3 1/2 inches.

Habitat: The tessellated darter prefers the quieter portions of sandy or mud-bottomed flowing water or still water, except in the breeding season.

Life history: Tessellated darters spawn in the spring, around May or June. The female deposits adhesive eggs on the tops and sides of rocks. The female quivers as she drops her eggs, and the male fertilizes the eggs as he swims slowly over them. After spawning, the female leaves the nest. The male remains to guard the eggs. The male aerates the eggs either by swimming upside down, finning them with his pectoral fins, or by holding his position with the pectoral fins and fanning with his tail. The eggs incubate at around 65 degrees and hatch in about three weeks.

Tessellated darters feed mostly on small insects and crustaceans at first. As the fish grow, they consume bigger insects.

Yellow Perch *Perca flavescens*

Species overview: Yellow perch are native to the northern United States east of the Rocky Mountains and Atlantic Coast watersheds south to South Carolina. They have also been widely introduced throughout the country and are distributed

across Pennsylvania in appropriate habitat. Yellow perch are popular with open-water anglers and ice fishermen. Yellow perch were netted commercially in Lake Erie. The genus name “*Perca*” means “perch,” and the species name “*flavescens*” means “yellow.”

Identification: Yellow perch have a long-looking body, but they are not as slim in appearance as other perch family species. The upper part of the head, back and sides is olive-green to golden-brown, shading to lighter yellow-green or yellow on the sides. The underside is white or

