

THE CREEK CHUB

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The Creek Chub (Semotilus atromaculatus atromaculatus) was probably the first North American species of fish I ever caught in its natural habitat. I recall the anxious moments I had negotiating the undergrowth in the proximity of Beaver Creek, Warren County, New Jersey. We were foolishly walking around in our bare feet even though Copperheads were undoubtedly in the area.

Beaver Creek was nothing more than a small stream, no wider than four feet with an average depth of six inches (in June). It is probably a tributary of the Paulins Kill which in turn runs into the Delaware River in northwestern New Jersey. The bottom of the stream consisted of gravel, highly favored for the breeding habits of the Creek Chub, and the species was well in evidence. It took me a matter of only minutes, if not seconds, to catch enough for my requirements. The young fishes I netted averaged 1½" long and were not immediately identifiable. They were olivaceous on the back, white below, with a golden line above a blackish lateral band. There was the suspicion of a black spot at the base of the first three rays of the dorsal fin, a feature which was to become more evident as the fishes grew older. I found them to be good travellers. When I arrived home in England, I found I hadn't lost one.

They took little time to settle down in their new aquarium environment, and it soon became evident that they were going to grow fairly rapidly because of the rapacious nature of their feeding habits. They will positively eat anything! A danger with this species is its ability to consume large morsels of food. The mouth is large, reminiscent of that of England's native chub. It was soon to be proven that the Creek Chub was quite capable of engulfing a fish only a little smaller than itself. A friend of mine lost a couple of his Golden Shiners (Notemigonus crysoleucas) this way.

One endearing feature of this fish is its remarkable tameness; indeed, if my charges' mouths were well furnished with teeth, I wouldn't have any fingers left. On one occasion I slid back the hood of their tank in order to look in over the top and one of them jumped out of the water and bit me on the end of the nose!

Although they have settled down quite readily to life in an aquarium, my chances of breeding them in captivity are rather remote in view of the difficulty one must encounter in simulating their natural environment, as I shall clarify presently. I certainly have had them in condition to breed--indeed, the females have become quite fat and the males have developed an attractive adornment of color, with tints of

rose, orange, yellow, blue, and purple on the body, especially on the sides of the body, with, of course, the characteristic, very conspicuous black spot on the dorsal fin.

In nature, breeding occurs in the spring from a temperature of 55°F upwards. The male creates a depression in the gravelly stream bottom by vigorously swimming against it and by collecting stones in its mouth and carrying them a short distance upstream. By excavating downstream and depositing upstream, the fish digs a furrow that is constantly being filled in. The spawning occurs in this long pit, the eggs dropping quickly to the bottom and then automatically being covered with stones carried from the downstream end. The furrow may be as wide as 12" and many feet long. The male has many wives and at the same time continues to expand the trench downstream and cover it and the eggs upstream. Also at the same time, he guards the entire area from other, marauding males. When the spawning is at last finished, the eggs are buried under the stones and the completed nest assumes the appearance of a long gravel ridge.

The actual spawning act is a fairly robust affair. According to Reighard, the female approaches the pit guarded by the male, who immediately, on contact, moves her into an upright position with a quick flip of the head and extended pectoral fin, a movement too quick for the naked eye. At the same time, he embraces her body with his own. This embrace lasts only for a split second, during which time about forty eggs, possibly a few more, are extracted from the female and fertilized. They sink to the bottom of the pit. After being emptied of her spawn, the female may turn upside down for a few moments, giving one the impression that she is dead. She soon recovers, then quietly swims away. The male then settles back to wait the arrival of another female.

The growth rate of the Creek Chub is quite rapid. A youngster can reach anything from 2-3" in the first year and 4-6" in the second. Sexual maturity in the females is usually reached in three years, whilst the males have to go another year before they are ready for breeding. By that time, they have developed the characteristic tubercles around the head. Sometimes these are quite sharp, leading to the alternate common name Horned Dace.

As I mentioned earlier, Creek Chubs usually breed in spring, but sometimes the breeding period extends into July.

The Creek Chub is one of the most common stream minnows of eastern North America. The range covers the eastern half of Canada and the United States. A southeastern variety, once recognized as the subspecies S. atromaculatus thoreauianus, tends to have more distinct markings, and there is an additional lustre to the coloration. I was fortunate enough to have been presented with a couple of this type by Rosario LaCorte, an eminent breeder of tropical fishes in the U.S.

Male Creek Chubs are reputed to reach 10-12" in length, with the females averaging a more modest 7-8" when fully grown. Exceptionally large specimens have occasionally been reported.

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During development, their diet is quite varied--planktonic organisms when the fish are small, after which they graduate to aquatic insects of all kinds, and finally add small fish and crayfish to their diet when grown.

The Creek Chub is a reasonably desirable fish for the home aquarium, but is best kept with its own kind. It is very lively, so it is essential that its tank remains covered at all times. It is never likely to be on sale in aquarium shops in England or elsewhere, except by accident. Although it has its good points, its general appearance deteriorates quickly as the fish grows older. It is, nevertheless, very hardy and will live for years. Finally, if it grows too large, you will be pleased to learn that the flesh of this fish is excellent.

Reference

Reighard: excellent summaries appear in Breder, Charles M., & Donn Eric Rosen, Modes of Reproduction in Fishes (Jersey City/ Neptune, NJ: TFH Publications), 1966, pp. 200-202. Several publications by Reighard, 1910-1920, may have covered the Creek Chub.