

CONFESSION: "Enneacanthus obesus" spawning was crossing of E. obesus male, E. gloriosus female

by Bruce Gebhardt, Phila., PA

The June Lateral Line contained a "mini-report" on an alleged spawning of Enneacanthus obesus, the Banded Sunfish, a species found in the Atlantic Coastal Plain. I now believe I left the wrong female in with a male obesus.

Another NANFA member called my bluff on this; he wondered if the offspring were not gloriosus. Because the offspring resemble obesus more than anything else, I responded with an outline of distinguishing points. A month or so later, while observing some of the young sunnies near the top of their tank, lit with a pink fluorescent. Just below the dorsal, there were green iridescent spots. I had never seen an obesus with green spots in that position. I found a picture of what (whom) I believed to be the female. While there were some ambiguities in it, it matched some aspects of some gloriosus I had, and was one, I am forced to conclude.

Going into April of last year, I had both species in a 20. I decided to separate the species, leaving the obesus in the tank. Apparently I left in the wrong female. Not too long after the separation, I went away for over a week. The spawning had occurred by the time I returned. After a couple of days, I had to remove the female, since it was getting battered by the male. In fact, it died shortly thereafter. I guess I never examined it critically; I never assumed that anything would have bred with an obesus but an obesus. Actually, I already knew that to be untrue.

In the Atlas, Dave S. Lee and C. R. Gilbert, who wrote on both species, noted that one finds ambiguous specimens in nature; they suspect cross-breedings.¹ That accords with the field observations of most collectors. Further, the species have crossed in aquaria. And further still--depriving me of all distinction--such cross-breeding has been described in American Currents.

There follow two reprints and a rewriting. The first two are by Robert T. Rosen, E. Windsor, NJ, a past president and still-current member of NANFA.

References

¹Lee, D.S. & C. R. Gilbert, "Enneacanthus gloriosus" and "Enneacanthus obesus," in Lee, D.S. et al., Atlas of North American Freshwater Fishes, N.C. State Museum of Nat. Hist., Raleigh, 1980, pp. 588 & 589.

I. A NEW HYBRID: Enneacanthus obesus X Enneacanthus gloriosus
by Robert T. Rosen, reprinted from American Currents, Vol. 2,
No. 2, 1974.

I have successfully mated a first-generation male Banded Sunfish (obtained from the wild when very small) and a female (seventh tank-raised generation) Bluespotted Sunfish. On April 12, 1974, the male and two females were introduced into a five-gallon long aquarium. On April 16, one female sought out the male and laid approximately seventy-five eggs. The eggs were deposited on the bare slate bottom rather than in the usual artificial spawning grass. Approximatel.

fifty-five eggs hatched in two days, and the young were free-swimming three days after that. I consider this a fairly good yield. However, about half died in the first week; possibly only one sex survived, as has been reported with other hybrids. All fry were initially fed on newly hatched San Francisco brine shrimp. In one or two weeks, they will be fed the very small tubifex worms picked out of a store-bought clump. Other details will not be readily determined until sexual maturity, probably sometime in the late fall. If two sexes survived, some attempts will be made to breed these (if possible).

If specimens are desired for scientific characterization, they can be obtained from me in the fall.

II. HYBRID REPORT: ENNEACANTHUS OBESUS X ENNEACANTHUS GLORIOSUS
by Robert T. Rosen, reprinted from American Currents, Vol. 2,
No. 4, 1974.

In a recent description of the mating of a male E. obesus with a female E. gloriosus on April 16, 1974, it was noted that the fry were indeed healthy, free-swimming, and growing rapidly.¹ Further details are now available and will be given in this article.

Thirty-six adults survived the initial week after hatching, and now are still alive eight months later. Indeed, these hybrids are hardier than the original species, as was evidenced when they reached sexual maturity four months after hatching. Two sexes have survived, and the first mating rituals were observed on September 1, 1974. Eggs were collected and hatched in the usual manner (apart from the adults), and now an F₂ generation is three months old. Generalities on the fertility of the F₁ parents cannot be made at this time, as the fertility of eggs from first spawns is usually poor.

The parents have the general rounded shape of the Banded Sunfish, but have the coloration of the male Bluespotteds (E. gloriosus). While a female Bluespotted Sunfish has

little coloration, both sexes of the F_1 hybrids have blue spots. It is quite easy to distinguish a male E. gloriosus from a female of the same species; it is rather difficult, however, to distinguish sexes of the F_1 hybrids--that is, until the males put on their spawning colors. The blue spots glow against a dark brown background. The dorsal and anal fins are dark blood red.

The hybrids still have the intense fear of light as reported for the Bluespotted Sunfish.² This fear is not observed in the fry, but is prevalent in the sexually mature adults. These fish, again, are a twilight species that ventures out in the early morning and early evening hours.

References

¹Rosen, R.T., American Currents, Vol. 2, No. w, 1974.

²Rosen, R.T., American Currents, Vol. 1, No. 4, 1973.

III. REWRITING OF "BANDED SUNFISH (ENNEACANTHUS OBESUS) SPAWNED; a minireport," by Bruce Gebhardt, Phila., PA, Lateral Line, June, 1982.



CROSSING OF BANDED SUNFISH (ENNEACANTHUS OBESUS) WITH BLUESPOTTED SUNFISH (ENNEACANTHUS GLORIOSUS); a minireport, by Bruce Gebhardt, Phila., PA

Raised and conditioned trio of Banded Sunfish (2 m., 1 f.) together with potential breeder Bluespotted Sunfish and Blackbanded Sunfish (E. chaetodon) through winter. In March, what were assumed to be the Bluespotteds and the Blackbandeds were put outside for "cold wintering." Bandeds were to be kept in 20 in cellar. Apparently a Bluespotted female was left in the tank with the two male Bandeds; the Banded female was inadvertently removed. The two male Bandeds assumed magnificent color; female was noticeably drabber. It had fewer spots, and they were gold, not blue, green, or turquoise as in the males. The female (Bluespotted) also was distinguishable by greater girth. This resulted from intensive mid-March feeding (before separation) with live foods--glassw., tubif., br. shr., bloodw, supplemented by frozen bloodw. & br. shr. Intensive live feeding continued after separation. Rapid water changes began after separation; about every other day, up to 2/3 of tank water. Additions: about 2/3 rainwater (soft, acid) and 1/3 Phila. tapwater (hard, alkaline).

By early April, the males were 4" & 3½"; the female was 3". On April 7, lg. m. & f. noted in back corner behind filter. I had to go away 4/10 for 4 days. On return 4/14, I noticed: (1) f. looked slimmer than before; (2) #2 m. was horribly battered, the wounds streaming fungus; and finally (3), a few tiny fry. Water on discovery 62°F, pH c. 6, soft. Parents had tunneled labyrinth through piles of sphagnum on bottom.

On 4/17, m. observed beating up on f. Decided to remove and separate parents. After 4 brine shrimp cultures failed, I began lugging water from fishless, acid pond, including *Daphnia*, *Bosminiae*, *Cyclops*, *infusoria*, snails, larvae, beaver, otters, and moose. Additions seemed to sustain fish, which appeared to number around 100 (4/28 count 111). Fry rejected frozen baby brine shrimp several days running. Live baby brine first fed to the fry 4/28. Growth was not particularly eventful, except for several deaths caused by additions of extremely acid rain (paper said 3.36 pH; other pollution possible). Some remain, and are available to NANFA members.

As Rosen has noted, young seem to have "bulldog" bodies of *E. obesus*, but the metallic spots, instead of being arranged in vertical rows, as typical with *E. o.*, trail off in randomly horizontal fashion, similar to *E. g.*. As yet, fish have not developed the aversion to light typical of adult *E. g.*, which Rosen has noted. As he has also noted, however, young *E. g.* are less bothered by light than older ones, so perhaps this phobia will develop later.¹ On the other hand, Rosen also notes that fish raised in tanks from an early age are less fearful of light, so maybe it will never appear. Indeed, the behavior of the young hybrids is "extroverted," more like the attitude of *E. o.* than of the often shy *E. g.*. *E. o.* are not unduly fearful of light.

Frankly, even though hybridization is much rarer for the aquarist than regular intraspecific spawning (this is my first), I was a little disappointed to learn of it. Not only because I feel stupid, but because I have been aiming for an "*Enneacanthus* Grand Slam"--breeding all three species. I had a spawning of *E. chaetodon* in 1979, and I thought I'd reached the second stage; now my score reverts to 1.5. I am consoled by Rosen's report that the first generation of hybrids can breed a second. (He has reported to me that the second generation he produced was sterile.) Another consolation is the hope of the glorious color he forecasts when my hybrids have grown up.

References

¹Rosen, R. T., "Meet the Blue-spotted Sunfish, American Currents, Introductory Issue, 1972-1973, p. 8, and "Blue-spotted Sunfish (Part II), American Currents, Vol. 1, No. 4, 1973.

²personal communication, 1982.