Cichlids of the Americas - More South American Cichlasomines

Still in Columbia.

By Wayne Leibel

As you may recall in our installment entitled "The Columbian Connection," we began our discussion of the four cichlasomines that originate in northwestern South America in the rivers west of the Andes with "Cichlasoma" festae and "C." umbriferum. We will now complete our journey to this area with a discussion of the two remaining cichlasomines , "Cichlasoma" atromaculatum and "C." ornatum.

"Cichlasoma" atromaculatum
In Goldstein's (1970) original book, Cichlids, a photo of "Cichlasoma" atromaculatum appeared labeled as the "Jap" cichlid. In the second edition, entitled Cichlids of the World (1973), pictures of the same beast appeared on pages 207 and 208 labeled as Cichlasoma friedrichstahlii.

Goldstein is not to be faulted for these misidentifications given the period and state of the American cichlid hobby at that time (embryonic — in fact, Goldstein single-handedly did more to advance the cichlid hobby than any other aquarist of that time). We have since had ample exposure to the real "Freddy" ("C." friedrichstahlii) of Central American provenance, which is now widely available in the cichlid hobby.

Not so the "atro" ("Cichlasoma" [Amphilophus] atromaculatum Regan 1912), which hails from the Rio Atrato and Rio San Juan basins in far western Colombia, and which is still something of a rarity in the hobby today. What specimens do exist enter only very occasionally as contaminants, with some very limited tank-raised stock available even more occasionally — this is one rare cichlid.

It is also one weird cichlid, unlike any other, save its sister species "C." ornatum. This is a somewhat elongated, torpedo-shaped cichlid with a rather long nose and a small, bird-like mouth. It is yellow to burnt-orange in base coloration, punctuated by a series of black blotches (seven plus) organized primarily along the horizontal mid-lateral line, but with additional black blotches on the dorsum just below the insertion of the dorsal fin. It has spots on the tail fin and the point of insertion of the soft dorsal and anal fins, and again on the belly — these in a more irregular, haphazard way. Indeed, a photo is necessary to appreciate the true appearance of these fish.

The species name "atromaculatum" translates appropriately from the Latin to "black spot." In fact, the black blotches result from the unequal expression (display) of a series of seven to eight black vertical bars. These bars are reminiscent of those of "C." festae, but in "C." atromaculatum are normally not completely expressed.

The coloration is indeed behaviorally correlated, and when this species is stressed or when courting the full bars are exhibited, particularly in the upper (dorsal) half of the body. In the aquarium, atros can reach lengths of 10 inches or more (Eigenmann 1924 quotes a maximum length in wild specimens of about 11 inches), but they will breed at 4 to 5 inches (J. O'Malley, personal communication).

Atros are undemanding in the aquarium and relatively peaceful cichlid community residents — until they reach full adult size. I have kept my five 5- to 6-inch adults in a 70-gallon aquarium with 12 equally sized Aequidens tetramerus with no problems. John O'Malley, who (along with Ginny Eckstein) is one of the only people I know who have spawned this fish (although I think there are others), kept his pair in a 70-gallon community and they spawned there without incident. As they grew, however, the pair were given a 50-gallon breeder tank to themselves. Ginny housed her pair in a 29-gallon high. In her case, eggs were laid at the bottom of an inverted clay flowerpot in which the bottom had been knocked out.

In John's case, the first clutches of eggs were laid under a rock overhang, but when moved to the 50 gallon tank, which contained a large piece of clay chimney flue, the pair chose the flue to retreat into it but laid their eggs on the top flat surface.

Both John and Ginny report that the eggs, numbering 100 to 200, were "the largest cichlid eggs I've ever seen." Having seen them myself, I can only agree. The young stayed "down" for a relatively long period of time after hatching, but once free- swimming they were large enough to eat newly hatched brine shrimp (Artemia nauplii).

Interestingly, O'Malley reports that the fry are initially "mottled" in coloration, like those of Uaru and the green parrot

cichlid (Hoplarchus psittacus), and then develop a dark transverse bar, much like older fry of the latter species. He also reports several other interesting observations concerning the propagation of atros.

First, a large percentage of the fry he raised to significant size, and then distributed to several fellow hobbyists, sexed out as males — he guesses he obtained a sex ratio of at least 3:1 males to females. Whether this is due to the chemistry of his water (actually nothing special was done for them: pH 7.4, moderate hardness) is not clear. In the case of the west African krib (Pelvicachromis pulcher) water chemistry has been shown to determine sex ratios in that species.

Second, the F1 (first generation) females were distinctively sexually dimorphic, in contrast to their mother. All of these females developed a conspicuous red (blushing) ventrum when they reached maturity, whereas the original female (and others in the group that we originally obtained together, approximately 12 fish) did not. This is in addition to two other sexual diagnostics: 1) females are more compact and rounded, whereas males are thinner and more elongate, and 2) females have a distinctive spot in their dorsal fin that is actually an extension of a bar/spot on their dorsums up into the fin — which the males lack — and that turns iridescent blue during courtship and spawn-tending.

Both sexes, if kept isolated, can develop long anal and dorsal fin streamers that can hang back well beyond the tail. Obviously these are very beautiful and curious cichlids, and it is hoped that further breeding efforts will make them more available in the future.

"Cichlasoma" ornatum
Also described by Regan (1905), "Cichlasoma" (Amphilophus) ornatum is another species, like "C." atromaculatum, that has been misidentified in the hobby for reasons of its sheer rarity. Loiselle (1981), in his benchmark two-part article on South American cichlasomines, suggests that "C." ornatum resembles the Jack Dempsey ("Cichlasoma" octofasciatum) and that "its behavior and maintenance requirements are identical in all significant respects to those of the Jack Dempsey, with the proviso that C. ornatum appears somewhat less aggressive than C. octofasciatum in the cichlid community tank." It is also, according to Loiselle (1980), "less liberally marked with iridescent spangling than is that old aquarium favorite. Unlike the Dempsey, C. ornatum undergoes dramatic behaviorally related color changes."

It is my opinion that the fish Loiselle describes is most likely a Jack Dempsey morph or some other species, and not "C." ornatum. I say this for two reasons: 1) Stawikowski and Werner (1988) offer photos of a fish they believe to be "C." ornatum alongside photos of "C." atromaculatum — they don't look like Jack Dempseys, and 2) I had the privilege (thanks to Carl Ferraris) of examining the types at the California Academy of Science this past summer and they look just like the Stawikowski and Werner photos and not like Jack Dempseys, even allowing for some fading of the color in preservative.

They look much like "C." atromaculatum in shape and overall appearance, have incomplete black bars (on the midsection and ventral aspect) and spots, including the dorsal-anal-caudal fin triad like the atros. Unlike the atros, they have an overall reddish-salmon pink base color (bordering on brown in preservative), and the "face" (operculars and preoperculars) is peppered with iridescent spots, as are the soft dorsal and anal fins. Unlike Jack Dempseys, there are no obvious spangles on the bodies of the 4- to 6-inch individuals I examined, but the black blotches/bars are quite distinctive on the pale brown body.

The fish is found in southwestern Colombia and in northwestern Ecuador (Eigenmann 1924). The ones pictured in Stawikowski and Werner (1988) were from the Rio Esmeraldas from Colombia.

Eigenmann (1924) describes them thusly: "general coloration olive-green, lighter on operculum below eye, three yellow streaks from anterior corner of eye to gape; silvery yellow spots on operculum; dark green vertical streaks. Pectorals and ventrals clear light yellow; dorsal tipped with deep crimson; transverse streaks or dots of clear light blue mixed with colorless patches. Caudal and anal similar, latter with considerable orange or deep yellow. Caudal ocellus black." The maximum recorded size for wild specimens is 10 inches (Eigenmann 1924), much like "C." atromaculatum.

In the same monograph, Eigenmann (1924) describes a new subspecies, Cichlasoma ornatum gephyrum from the Rio San Juan and the Rio Dagua systems in western Colombia . He asserts: "its coloration is so peculiar that it might well be a hybrid between C. atromaculatum and C. ornatum." He goes on: "Remains of cross-bands occur especially along back and middle of sides, many of the scales of the bands below the middle have black bases; axil black, centers of scales otherwise largely light; soft dorsal, caudal, and posterior half of soft anal with translucent spots...small (blue?) spots on cheeks and opercles, a black spot on base of upper half of caudal, a black spot on bases of soft dorsal and anal near the ends of these fins." Eigenmann (1924) figures both "C." ornatum and his new sub-species (Plate 31) and they do look different in the sketches.

Loiselle (1980) suggested that "this cichlid differs sufficiently from that species (i.e., "C." ornatum) in color pattern to

warrant full specific rank," but also records that it is "not imported to date." In fact, Eigenmann (1924) concedes that small specimens "might be considered as belonging to C. atromaculatum, if there were not a number of specimens of the latter species of equal size from the same place with the perfectly characteristic color of C. atromaculatum." Stawikowski and Werner (1988) point out that the scale and fin counts overlap — they believe that "C." ornatum gephyrum is simply a geographical morph of "C." ornatum.

In the absence of living specimens, the argument remains unresolved. It seems unlikely that this fish (not to mention "C." ornatum) will be available in the hobby anytime soon, unless avid hobbyists travel to the location and collect them.

The "C." ornatum photographed in Stawikowski and Werner (1988) apparently had been cherry-picked by a Dutch aquarist. However, I have never seen it on export lists from Europe (nor, for that matter, have I seen "C." atromaculatum). Given the apparent similarity to "C." atromaculatum, one might reasonably expect "C." ornatum to respond to the same aquarium conditions. I'm hopeful we will get to test that out one day.

Conclusion
The cichlasomines from northwestern South America are a rather unique and interesting group of cichlids that more resemble their relatives in Central America, than some of their derivatives in the heart of South America (i.e., chocolate cichlids, severums and so on). Indeed, being trans-Andean in provenance, they may well be closer to the ancestral cichlid stock that crossed the isthmus of Panama and resulted in the explosive radiation of cichlasomines that occurred in Central America.