

Goin' South: Cichlids of the Americas - Pike Cichlids

What to look for at the store.

By Wayne Leibel

In the last two installments of this series we discussed spawning pike cichlids, members of the genus *Crenicichla*, in general terms, without identifying many of the beasts in question. In this installment on pike cichlids I'd like to introduce you to the fishes you're likely to encounter in the hobby. Later I will cover in detail the techniques for raising and breeding them.

What Is *Crenicichla*?

Heckel created the genus *Crenicichla* for the species *macrophthalma* in 1840. In fact, a number of future *Crenicichla* species had already been described in various incorrect genera (e.g., *Cr. saxatilis* as *Perca saxatilis* by Linnaeus in 1758, as *Sparus rufescens* by Gronow in 1763, and as *Cychla rutilans* by Schomburgk in 1843).

Current *Crenicichla* Species List

(arranged chronologically)

saxatilis (Linnaeus 1758)*
brasiliensis (Bloch 1792)
labrina (Spix and Agassiz 1829)
johanna Heckel 1840
lenticulata Heckel 1840
lepidota Heckel 1840
lugubris Heckel 1840
macrophthalma Heckel 1840
reticulata (Heckel 1840)
semifasciata (Heckel 1840)
vittata Heckel 1840
lacustris (de Castelnau 1855)
frenata Gill 1858
acutirostre Gunther 1862
strigata Gunther 1862
cyanotus Cope 1871
lucius Cope 1871
anthurus Cope 1872
proteus Cope 1872
niederleini (Holmberg 1891)
semicineta Steindachner 1892
ocellata (Perugia 1897)
geayi Pellegrin 1903
marmorata Pellegrin 1903
multispinosa Pellegrin 1903
albopunctata Pellegrin 1904
vaillanti Pellegrin 1904
cineta Regan 1905
ornata Regan 1905
punctulata (Regan 1905)
wallacii Regan 1905
scottii (Eigenmann 1907)
cametana Steindachner 1911
dorsocellata Haseman 1911
iguassuensis Haseman 1911
jaguarensis Haseman 1911
santaremensis Haseman 1911

simoni Haseman 1911
 alta Eigenmann 1912
 nanus Regan 1913
 notophthalma Regan 1913
 biocellata von Ihering 1914
 mucuryna von Ihering 1914
 multidentens Steindachner 1916
 ternetzi Norman 1926
 nemopterus (Fowler 1939)
 jupaiensis Britski and Luengo 1968
 haroldoi Luengo and Britski 1974
 britskii Kullander 1982
 astroblepa Ploeg 1986
 compressiceps Ploeg 1986
 cyclostoma Ploeg 1986
 jegui Ploeg 1986
 sedentaria Kullander 1986
 celidochilus Casciotta 1987
 coppenamensis Ploeg 1987
 nickeriensis Ploeg 1987
 sipaliwini Ploeg 1987
 heckelii Ploeg 1989
 regani Ploeg 1989
 urosema Kullander 1990
 hemera Kullander 1990
 percna Kullander 1991
 phaiospilus Kullander 1991
 tigrina Ploeg 1991
 synonym to lenticulata
 synonym to macrophthalmus
 synonym to ocellatus
 synonym to proteus
 *Parentheses indicate that the species was moved from the original genus

What the pike cichlids all have in common is a serrated or denticulated preopercle. That is, there are little teeth on the margin of the first (pre) gill cover. This was Regan's (1905) chief diagnostic for the genus — the first ichthyologist to deal seriously with these fishes.

In practice, the extent of said preopercle "crenation" (i.e., scalloping) is variable. Some species have it and some do not, and some show intraspecific variation in the extent of the denticulation. Interestingly, in spite of the similarity to the checkerboard cichlids in body plan (*Crenicara* and *Dicrossus* species — Part 13) and a shared serrated preopercle, the pike cichlids are believed to be most closely related to members of the genus *Cichla* (e.g., *C. ocellaris*, *C. temensis* and so on), the lukanani or tucanare revered by sports fishermen (Stiassny 1991). We will cover the latter in a future installment of this series.

A second genus of pike-like cichlids, *Batrachops*, was designated by Heckel (1840) in the same monograph. In addition to having a fuller, more "salami-like" body structure and a blunt snout, members of the genus *Batrachops* had non-depressible oral teeth arranged in two to three rows in the mouth, whereas *Crenicichla* had as many as eight rows of teeth in each jaw, with the inner row depressible in a backwards direction. This anatomical adaptation allows pikes to grasp and swallow fish whole — they do not "chew" their prey.

The name *Batrachops* means "frog-like in appearance" and aptly describes the fattened, bug-eyed look of the species populating this genus (e.g., *B. reticulatus*, *semifasciatus*, *cyanotus*). Other students of these fishes believed this second genus to be spurious and synonymized it with *Crenicichla* — most recently, Sven Kullander (1986). I, for one, protest for aesthetic reasons alone! *Batrachops* is a lovely and apt name for these "salami" pikes.

A third, and more recent, genus *Teleocichla*, was erected by Kullander (1988) to hold six newly described species of dwarf, rheophilic (current loving), pike-like cichlids captured initially from among the rocks in the rapids of the Rios Tocantins, Tapajos and Xingu. Kullander (1990) has suggested the valid species ranks will swell shortly to 10. These are currently among the most curious and coveted species of pike cichlids in the hobby.

Identifying Pike Cichlids

One of the problems associated with keeping pike cichlids is identifying what you are keeping. Unfortunately, the existing aquarium literature is not particularly helpful in this regard. Part of the problem is that the few keys that do exist in the scientific literature depend primarily on scale and fin ray numbers, and the line drawings that sometimes accompany them are not particularly helpful. Unless your specimen dies and you have the equipment and patience to examine it, unequivocal identification is difficult to obtain.

Until recently, Pellegrin's (1904) and Regan's (1905, 1913) revisions and keys were all we had. Fowler (1954), in his *Os Peixes de Agua Doce do Brasil*, offers some reasonable line drawings, but they are not exhaustive and cover only Brazilian/Amazonian species. There are really only two photographic sources available to American aquarists: the aforementioned Stawikowski and Werner (1988) book and an earlier series of articles by Uwe Werner on pike cichlids that appeared in *Tropical Fish Hobbyist* (TFH) magazine in 1982.

I particularly recommend Werner's four-part series for solid background information on these fish. Actually, this series was responsible for tweaking my initial interest in pike cichlids via the dwarf pikes. And, of course, the Stawikowski and Werner opus is probably the best pictorial advertisement for keeping these fish.

As more and more pike cichlids are imported from the Tocantins/Xingu area, many of them collected and returned by adventuresome German hobbyists, I expect that the German aquarium magazines (DCG and DATZ) will continue to be the best sources for up-to-date pictorial I.D.s, along with their somewhat later appearance in Ad Konings' recent Cichlid Yearbook series (four volumes, as of this writing, and available from various sources, including the ACA).

That having been said, some of the more available pike cichlids are indeed well known and quite identifiable. Moreover, the genus *Crenicichla* sorts nicely into a number of apparently discrete species assemblages, which provide a basis for identifying imports, particularly if the origin of collection/export is known.

As mentioned previously, one of the salient species diagnostics is the number of scales along, or just below, the lateral line(s). There are two (the line is divided) — you need to count the longitudinal series of scales. The full-sized species sort nicely into two groups: the so-called large-scaled forms with longitudinal scale counts below 70 (typically 60 to 70), and the small-scaled forms with longitudinal scale counts above 80, often over 100.

Within these gross assemblages are several discrete subassemblages, so the I.D. situation is not hopeless. Remember, there are at least 50 species of *Crenicichla*! A few less than the *Apistogramma*, but an evolutionarily successful, species-rich genus nevertheless. Let's look first at the large-scaled forms.

The saxatilis Complex

Members of the *Cr. Saxatilis* complex are among the more recognizable of the pike cichlids. These grow to nearly 12 inches and have long, tapered snouts.

Members of the complex share a similar color pattern — a dark stripe that extends from the mouth through the eye to the operculum, and then less darkly back longitudinally to the caudal peduncle, where it ends in a small ocellus. They also sport a pronounced humeral (shoulder) ocellus just behind the operculum and above the pectoral fin — dark black, often irregular, ringed in iridescent silver (white, pink) scales.

The ocellus is more pronounced in males, which are also dramatically and liberally sprinkled with silvery scales on their flanks. Females have less spangling and typically may have one to several small black ocelli in their dorsal fins, just under a white submarginal band. The dorsal fins of the male are simply spotted in white, along with the other unpaired fins. The background color varies from olive to red-brown, becoming whitish-pink on the belly. Many times, the face is bright orange, red or gold, particularly in newly shipped wild specimens.

Conditioned females develop lovely cherry bellies, not unlike those of the West African krib, *Pelvicachromis pulcher*. In fact, many pike cichlids show similar dramatic sexual dimorphism. Males grow about one-third larger than females (Werner 1982b). They also develop filamentous dorsal and anal fins.

A reading of Ploeg (1986a, b, 1987), the current authority on pike cichlids from northern South America, suggests that the true *Cr. saxatilis*, the flagship of this assemblage, is limited in its distribution to Surinam and French Guiana, in spite of its being listed in Eigenmann's (1912) treatise on fishes of Guiana (Guyana). The other saxatilis-like species from the Guianas include: *Cr. albopunctata* (formerly *Cr. saxatilis albopunctata*), *alta*, *coppenamensis*, *nickeriensis* and *sipaliwini*.

Amazonian cognates of the saxatilis complex include *Cr. anthurus*, *lucius*, *proteus* and *semicineta* (Kullander 1986). *Crenicichla frenata* hails from Trinidad, *Cr. labrina* from the Rio Tocantins, and there are apparently a few Ecuadorian/Venezuelan saxatilis-complex species, including *Cr. geayi* from the Orinoco drainage, and some undescribed, as well.

Many of these have non-ocellated humeral spots and little to no spangling on their sides, but otherwise resemble *Cr. saxatilis*. The species you are most likely to encounter in the trade are *Cr. proteus* and *Cr. anthurus* from Peru, and *Cr. alta* and *Cr. cf. saxatilis* (undescribed cognate; Ploeg 1986a) from Guyana — the "saxatilis" of the aquarium trade — and *Cr. geayi*, which to my eye resembles *Cr. lepidota* (see below).

Good pictures of most of these are found in Stawikowski and Werner (1986), and some good photos of *Cr. Saxatilis*, probably the Guyana *Cr. cf. saxatilis*, are found in Werner (1982b). In general, members of the saxatilis complex seem particularly aggressive and not particularly amenable to the blind-date approach to breeding. Mature specimens often must be kept separated.

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The lepidota Complex

Closely related to the saxatilis-complex pikes is another assemblage of large-scaled forms, the lepidota complex. These resemble the saxatilis-complex species in terms of body shape and size, and are equally sexually dimorphic.

Like the "saxatilis" species, these have a longitudinal band extending from the snout through the eye back to the posterior margin of the gill cover, where it ends in a (smaller) humeral spot that is modestly (or not) ocellated, and then proceeds less darkly back to a small ocellus at the base of the caudal fin. Most diagnostically, the light longitudinal stripe is overlaid by a series of seven to 10 vertically oriented irregular blotches, often with iridescent silver or gold highlights. The face is orange to green, and the dorsal fin, in females, is heavily ocellated with small white-ringed, irregular black spots. Females develop conspicuous pink-red bellies when they are ripe.

Kullander (1982) restricted the real *Cr. lepidota* to the La Plata Basin (Paraguay, Argentina, Southern Brazil). The lepidota group includes the species *Cr. britskii* and *Cr. brasiliensis*, both from southern South America (Kullander 1982), and probably a few undescribed species as well (at least one from Bolivia; Werner 1982b). Again, I direct you to the excellent photos of Stawikowski and Werner (1988) and Werner (1982b).

Confusion arises, at least my own, in Kullander's (1982) restriction of the distribution of *Cr. lepidota* to the Rio Paraguay system in southern South America. There are a number of similar fish imported from the Orinoco — Colombia, Venezuela (e.g., *Cr. geayi*) — and even Amazon basins that are often sold in the trade as *Cr. "lepidota"* because of the similarity. Kullander (1982) notes that similarity and observes that lepidota and saxatilis have been interchangeably synonymized several times in the literature by earlier ichthyologists (e.g., the report of Ringuelet et al. [1967] of *Cr. saxatilis* from Argentina is only one of many examples).

In fact, these fish and members of their respective groups differ only in scale and fin ray counts, which are just slightly higher in the saxatilis group (more than 50 versus 33 to 52). The separation of these groups may be simply an artifact of their mutually exclusive geographic distributions. They are clearly closely related, and just as clearly arose from a common ancestor.

The lacustris Complex

A third group of large-scaled pikes with a southerly (i.e., Paraguayan, Argentine, southern Brazilian) distribution constitutes the *Cr. lacustris* complex (Kullander 1981, 1982). The 15 species of this group include *Cr. lacustris*, *biocellata*, *cametana*, *celidochilus*, *dorsocellata*, *haroldoi*, *iguassuensis*, *jaguarensis*, *jupaiensis*, *mucuryna*, *multidens*, *niederleini*, *polysticta*, *punctata* and *scottii*. Originally, Kullander (1981) attributed *Cr. vittata* to this group, but he has since removed it (Kullander 1991; see below).

None has a humeral spot and many have a large ocellus or many ocelli in their dorsal fins. Frequently, the body and dorsal fins are spotted and the dorsal fin is adorned by a large ocellus (Kullander 1981). They have 60 to 70 longitudinal scales.

This list is not exhaustive. Few of these fishes have been in the aquarium hobby, and they are conspicuously missing, save some pictures of pickled museum specimens, from Stawikowski and Werner's (1988) compendium.

The strigata Complex

Now, let's get back to some fish that are available in the hobby today! The small-scaled forms, which constitute the other major grouping of pike cichlids, are available, but present an interesting and formidable challenge in identification.

The problem can be summarized best by the name of the assemblage — the strigata complex. Along with *Cr. saxatilis*, most cichlidophiles know the name and basic appearance of the fish sold as *Cr. strigata* — juveniles, at least. Juveniles of members of this complex, anywhere up to 4 to 5 inches, share a common color pattern until they metamorphose into their adult coloration, typically losing all elements of that initial juvenile pattern. As you might guess, several species have been described and named twice, both juvenile and adult forms, because they are usually so different.

A description of the "strigata" juvenile pattern might go something as follows. Bold longitudinal stripe extending from the eye straight back and into the caudal fin, where it ends in a distinct dark spot on the fin itself. The main band is echoed by one or more thin stripe(s) made up of fused spots that parallel the longitudinal band at the base of the dorsal fin and again half way between this band and the longitudinal band. The face and head are usually spotted with small irregular black dots.

In some species, the longitudinal band is orange or even red and outlined in lines of broken dots. The posterior margin is usually edged in black, brown or red, forming a half circle, often with a radially concentric second submarginal band in white. This striping is often mirrored in the dorsal fin.

Finally, because the scales are small and numerous, the "W"-shaped epaxial muscle units are often visible in nested, vertical array along the sides, giving a curious repeating "herring-bone" appearance to the flanks. Because a picture is worth a thousand words, let me direct you to Warzel's article on these fish in Konings (1991), where a rogue's gallery of color juvenile photos can be found. Or, Werner's (1982c) article on these fish will do. When you see the picture, you'll probably know the fish.

The list of strigata-complex pikes includes *Cr. cincta*, *Cr. funebris*, *Cr. johanna*, *Cr. lenticulata*, *Cr. lugubris*, *Cr. marmorata*, *Cr. ornata*, *Cr. strigata* and an increasing list of unnamed forms from the Rio Xingu, pictures of which appear in Konings (1991). Ploeg (1986c) synonymized *Cr. strigata* with *Cr. lugubris*, but Kullander (1990) treats them as distinct, valid species.

The adults are another story, indeed. These fish get huge, some maxing out at well over 12 to 18 inches. Their snouts are broad and blunt, and they look "friendlier" (more like puppy dogs) than the obviously piscivorous large-scaled forms. And, as they reach sexual maturity, they go through an astounding color metamorphosis.

Virtually all of the species whose young have been reared to adulthood lose the characteristic "strigata" stripes and head spotting. Some get fairly drab: the body turning brown or gray or sometimes a pleasant mahogany, with perhaps a dark blotch or two on the side or behind the eye (*Cr. johanna*, *Cr. lugubris*). Others replace the stripe with large dark blotches and retain the head spotting (*Cr. lenticulata*), or develop bright orange-red marble patterning (*Cr. marmorata*). Usually, there is considerable individual variation in the extent and nature of the patterning.

It is well-nigh impossible to predict what you have if you obtain juveniles of unknown provenance until they turn! Luckily, these fish are sexually dimorphic. Females develop distended cherry-red bellies, not unlike those of the saxatilis- and lepidota-complex species. They also retain the white submarginal bands in the dorsal fin and caudal fin; males usually sport only a dark marginal band.

Bonded pairs, though often huge, are usually devoted to one another and quite peaceful in the community tank despite their size. And, as juveniles, they are downright sociable, as long as there are no inequities in size. Next to the dwarf pikes, these are my favorites.

The "Sharp-Headed" Pikes: The vittata Complex

The second group of "small-scaled" forms with fewer than 100 longitudinal scales (70 to 90; *Cr. acutirostre* an exception with 103 to 111; Kullander 1991) comprises a subgroup that the German's call "spitzkopfigen," or "sharp-headed" pike cichlids — because of the chiseled profile of their heads. The species include *Cr. acutirostre* (Rio Tapajos), *Cr. jegui* (Rio Tocantins), *Cr. multispinosa* (Guianas), *Cr. ternetzi* (Guianas) and *Cr. vittata* (Paraguay, Argentina). Two new species from the Rio Xingu, *Cr. percna* and *Cr. phaiospilus*, may also be referable to this group (see below). Again, these are little known in the illustrated aquarium literature.

Pictures of *Cr. acutirostre* and *Cr. vittata* can be found in Stawikowski and Werner (1988) and recent pictures of *Cr. jegui* appeared in DATZ (Stawikowski and Werner 1991). Of these fishes, *Cr. vittata* is the only one, to my knowledge, that has been sporadically imported.

They are large and mean. They have been spawned (Werner 1992). There are hopes that *Cr. jegui*, a very beautiful and interesting rheophilic pike from the Rio Tocantins will be exported soon (more on them later).