

Cichlids of the Americas - The Brasilienoids

The naked eartheaters and a not-so-naked relative.

By Wayne Leibel

In the previous three installments on eartheaters, we have considered members of the genus *Geophagus*, broadly defined. In this installment, we will turn our attention to members of the genus *Gymnogeophagus*, the "naked" eartheaters. In addition, we will meet one other member of the eartheater assemblage, "*Geophagus*" *brasiliensis*, the "mother-of-pearl" eartheater, one of the most common and historically oldest of the South American cichlids (a picture of this species opened the last installment). I will also argue, tentatively, that the "brasiliensoids" are really "naked" eartheaters with clothes on!

The Genus *Gymnogeophagus*

The genus *Gymnogeophagus* was erected by Ribeiro in 1918 to accommodate his new species *cyanopterus* (the same as *Geophagus balzanii* Perugia 1891). The Latin name translates to "naked eartheater" and refers to the characteristic used by Ribeiro as a diagnostic for his new genus — the absence of scales on the cheeks. (Pretty disappointing, given the sensationalistic subtitle of this article, eh?)

Although Ribeiro's new genus was disregarded by subsequent students of cichlid systematics, Gosse (1975), in his revision of the eartheaters, embraced Ribeiro's taxon and added three additional species to it: *australis* Eigenmann (1907), *gymnogenys* Hensel (1870) and *rhabdotus* Hensel (1870), all formerly placed in *Geophagus*. Specifically, Gosse (1975) redefined the genus to include two skeletal characteristics of dorsal fin insertion that occur along with the unscaled cheeks — the absence of supraneurals and the presence of a forward-directed spine on the top of the first dorsal pterygiophore. This "antrorse" spine is unique to *Gymnogeophagus* among the neotropical cichlidae.

Beyond the details of skeletal morphology, which you can read about in Leibel (1988), the point of this discourse is that the sorting of these eartheaters into a separate genus is based on several shared characteristics — not just one or two — that suggest a common ancestry for these fish. It is not surprising, therefore, to find that the "naked" eartheaters have a relatively restricted outside Amazonia distribution in subtropical Southern Brazil, Argentina, Paraguay, Uruguay and Bolivia.

More recently, Reis and Malabarba (1988) have revised the genus *Gymnogeophagus* and added two new species, as well as resurrecting one further species from synonymy, bringing the number of currently recognized "naked" eartheaters to seven. The species roster includes *labiatus* Hensel (1870), *meridionalis* Reis and Malabarba (1988) and *lacustris* Reis and Malabarba (1988), along with the aforementioned *balzanii*, *australis*, *rhabdotus* and *gymnogenys*. We will return to discuss these fish in the aquarium in detail after a brief detour to meet the "brasiliensoids."

The "Brasilienoids"

The "mother-of-pearl" eartheater (*Perlmutterfische*) was described as *Chromys brasiliensis* by Quoy and Gaimard in 1824 from material taken at Rio de Janeiro, Brazil. In fact, "*G.*" *brasiliensis* is also outside Amazonia in distribution, restricted to rivers and streams of the Atlantic slope of Southern Brazil from Bahia down to the Rio de la Plata.

In appearance, the "brasiliensoids" bespeak generic "cichlid" and not eartheater — they are rather high bodied and cut from the same bolt of cloth morphologically as convict or Texas cichlids. The mouth is not underslung, and while they share the lobed gill arch with rakers, they do not "sift" the substrate to the extent the other *geophagines* do.

They are very sexually dimorphic — males are one-third to one-half larger than females and develop dramatic nuchal humps when mature and reproductively active. Both sexes develop the "mother-of-pearl" iridescence in which each scale center is marked with a blue, green or silver nacreous spot, while the unpaired fins are spotted and striped with transparent dots. Both sexes also exhibit a dark mid-lateral blotch and a vertical eye band that passes up through the eye and into the forehead. The base coloration varies anywhere from brown to mahogany to bright red. In fact, mature males, which can reach 10-plus inches in captivity, make beautiful best-in-show fish when reared alone.

As the title for this section would indicate, there are apparently more than one "*G.*" *brasiliensis*. At the very least, we are dealing with a highly polymorphic species. "*Geophagus*" *brasiliensis* has been in the hobby since the early 1900s and, like angelfish and the convict cichlid, has been spawned by Florida or Far Eastern fish farmers for many decades without the introduction of wild fish into the breeding population. That is, the aquarium strain was founded by a relatively few

individuals imported from Brazil many years ago.

With the reintroduction of exports from Southern Brazil in the 1970s, particularly from the Argentine/La Plata area, we have seen the reimportation of wild "brasiliensis," usually as a contaminant from new collecting sites. And, they are forcing us to revise our appreciation of what "brasiliensis" really is. Some of the strains have been larger than others, some redder than others — some bluer, some higher-bodied, some stretched out, some pretty — some ugly, some well-behaved, others "hell-on-fins," and so on. One need only peruse the various collections of "G." brasiliensis photos in Stawikowski and Werner (1988) or Axelrod's Atlas (1985) to understand what I'm talking about.

Are they different species? It depends whether you are a taxonomic lumpner or a splitter. I predict that when Sven O. Kullander has a look at the "brasiliensoids," there will be a long laundry list of new species placed in their own new genus. And I'm not sure that's wrong. I also predict that not all of them will have scaled cheeks.

You see, I think that "G." brasiliensis is an honorary "naked" eartheater, or, at least, the closest living relative with shared ancestry. I say that with not one scrap of data, just a gut feeling based on gross morphology and overall behavioral similarity with the substrate-spawning gymnogeophagines.

So far, all of the "brasiliensoids" have proven to be typical substrate spawners, and easy ones at that. "Geophagus" brasiliensis is one of the easiest cichlids to breed (tied for first with the convict cichlid), and that, coupled with the fact that the beautiful mother-of-pearl coloration is attained only at a relatively larger size (3 to 4 inches), has spelled the commercial doom for this otherwise exemplary and gorgeous cichlid. Imagine, a cichlid reared on dry food that spawns every time you do a water change and successfully rears broods of several hundreds — on crushed dry flakes — in packed community tanks! They're most often available at a 1-inch size for one dollar and change, and when you return to the shop two months later, they are usually still there — just bigger.

So let me disabuse you of the notion that "brasiliensis" are to be avoided at all costs! Among the reasons "G." brasiliensis was one of the first "tropical" fish to be imported (along with the port cichlid and the Chanchito) is that they are really subtropical. That is, the three fish prosper in 60- to 70-degree Fahrenheit water. Moreover, unlike most other geophagines from the Amazon that demand soft, acid water, "brasiliensis" is a coastal form that actually prefers harder, more alkaline water.

Couple this with their eagerness to reproduce — pairs will spawn successfully at 2 to 3 inches in size! — and you have a great beginner's cichlid. They eat anything, are relatively resistant to lax water maintenance and grow into incredibly beautiful adults! This is another one of those fish that I keep returning to sporadically despite their "ease" and "commonality."

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The Substrate-Spawning *Gymnogeophagines*

Three of the seven currently recognized *Gymnogeophagus* species are also substrate spawners and, as I intimated above, to a great extent resemble "G." *brasiliensis* in overall appearance and behavior. These are *Gg. rhabdotus*, *meridionalis* and (probably) *australis*.

Although I have photographic evidence that *Gg. rhabdotus* was available in the hobby in the 1950s, it was my good friend Rosario LaCorte, a living legend in the American aquarium hobby, who was responsible for the reintroduction and establishment of this fish. LaCorte and Roberto Takase, a Brazilian aquarist, collected them near Porto Alegre (origin of the "port" cichlid) in extreme southeastern Brazil, and he arranged to have them shipped to New York.

They were introduced on the cover of *Freshwater and Marine Aquarium (FAMA)* in the May 1979 issue and were misidentified as *Gg. gymnogenys*. AFI columnist Paul Loiselle wrote about them first in *Buntbarsche Bulletin* in 1980(a), dubbed them the "rainbow" eartheater and identified them initially as *Gg. australis*. This article provided the basis for a more expanded treatment of this fish that appeared in a 1981 article by Loiselle in *FAMA*. Pictures and a shorter description of this fish appeared in a 1980(b) *FAMA* article in which Loiselle reviewed the eartheaters. A photo of a similar, but more modestly colored *gymnogeophagine*, which Loiselle identified as *Gg. rhabdotus*, was published along with the article.

In the mid-1980s, a fish of more modest dimensions, but equally spectacular coloration, was imported from Europe and circulated as *Gg. rhabdotus*. This same fish was noted in German cichlid texts of the time and likewise identified as *Gg. rhabdotus*, whereas the drabber species was written about as *Gg. australis*.

The major difference between the European import and the LaCorte fish was size (the LaCorte fish was somewhat larger), as well as spotting versus striping in the unpaired fins (the LaCorte fish was striped). In 1987, wanting to solve the apparent discrepancy and using Gosse's (1975) descriptions as a basis, I analyzed (i.e., counted scales, fin rays, vertebrae, etc.) specimens of all three fish and was led to the conclusion that the LaCorte rainbow eartheater was not *Gg. rhabdotus* (Leibel 1987).

The status of the drab "rhabdotus" was unclear, but I suggested that it might be the true *Gg. australis*. With the publication of the Reis and Malabarba (1988) revision, it becomes clear that this drab fish, Loiselle's (1980b) "rhabdotus" is really the newly described species *Gg. meridionalis*, and that *Gg. australis* has not been seen in the hobby. See Leibel (1988) for a more recent and complete discussion of the controversy.

I have kept and spawned both *Gg. rhabdotus*, the rainbow eartheater, and *Gg. meridionalis*, and their care and breeding is identical. I recommend either of Loiselle's articles (1980a, 1981) for additional information.

For starters, both fish are relatively "dwarf"-like, growing no larger than 4.5 to 5 inches for males, and one-half to two-thirds that for females. Thus, these are reasonable candidates for smaller tanks.

They both share with "G." *brasiliensis* the same non-eartheater body plan, along with similarities in color pattern. All three have a black mid-lateral blotch on their flanks, and vertical eye bands that come and go with behavioral mood. They have the transparent spotting in the unpaired fins that characterize the "brasiliensoids," but instead of the center of each scale being dotted in iridescence, the pearl spots are organized into parallel, alternating longitudinal lines, not unlike those of the *surinamensoids*.

In *Gg. rhabdotus* these stripes are conspicuous and often bright blue alternating with bright red; *rhabdotus* means "striated" or "striped" — Loiselle's choice of the name "rainbow" eartheater was a worthy one. (The European fish is also sold as "metallic" eartheater.) In *Gg. meridionalis* the striping is less prominent and colorful. Of the two, *Gg. rhabdotus* is the more spectacular.

They also both share non-mouthbrooding and substrate spawning with the "brasiliensoids." It is no coincidence that occasional strains of "G." *brasiliensis* have been marketed (erroneously and possibly intentionally) as *Gg. rhabdotus*, but having once seen the fish there is no reason for confusion.

It is here that the similarities to "G." *brasiliensis* end. In terms of aquarium maintenance, both *Gg. rhabdotus* and *Gg. meridionalis* are somewhat more demanding. Like the "brasiliensoids," these gymnogeophagines share coastal distributions. In my experience, both *Gg. rhabdotus* and *Gg. meridionalis* do better in moderately hard, slightly alkaline water. I find dolomite in the filter to be a useful additive to my soft, acidic water.

Additionally, both species are particularly intolerant of lax water maintenance and tend to bloat and die if water quality is neglected for any period of time. Both are moderately peaceful, relatively small (4 to 4.5 inches total length for males), safe with plants and harem spawners when given the opportunity. A pair can easily be housed in a 10-gallon tank, but will hold their own nicely — and spawn — in a larger community setting.

Spawning is relatively easy to induce, but the fry are too small for newly hatched brine shrimp. Instead, the fry demand "green water," Liquifry, OSI APR (encapsulated rotifers) and/or microworms. They grow slowly to the first 1 inch regardless of frequent water changes and rich feedings. *Gymnogeophagus meridionalis* is somewhat easier to rear than *Gg. rhabdotus* — the fry grow rapidly and without a hitch.

Unfortunately, the LaCorte Porto Alegre rainbow eartheater is, to my knowledge, no longer in the hobby. My last record of the fish is 1990 — some inbred and deformed older adults that succumbed to bloat in my tanks. My own fault! Perhaps, Terry Lombardi, who diligently maintained this strain for so many years and who gave these to me, still has them. Nevertheless, we are in dire need of a wild gene infusion!

The European *Gg. rhabdotus* is available on a more-or-less regular basis through the usual import channels and can be found at ever more reasonable prices these days. Finally, *Gg. meridionalis*, some prettier than others, still trickle in as wild contaminants in shipments from the La Plata drainage, principally Argentine. They are often mixed in with *Laetacara dorsigera* from this area. Although not as spectacular as the "rainbow" eartheater, *Gg. meridionalis* is nonetheless desirable for aquarists on the prowl for "something new and rare."