



R  
B R A Z I L

AND

T H E B R A Z I L I A N S

P O R T R A Y E D I N

*H I S T O R I C A L A N D D E S C R I P T I V E  
S K E T C H E S .*

B Y

R E V . J A M E S C . F L E T C H E R ,

A N D

R E V . D . P . K I D D E R , D . D .

*I L L U S T R A T E D B Y O N E H U N D R E D A N D F I F T Y E N G R A V I N G S .*

S I X T H E D I T I O N ,

R E V I S E D A N D E N L A R G E D .

B O S T O N :

L I T T L E , B R O W N , A N D C O M P A N Y .

L O N D O N : S A M P S O N , L O W , S O N , & C O .

1866.

Good Hope. In America it is met with in all the streams of the continent, from Patagonia to the Gulf of Mexico; being substituted in the North by the *Elychtidæ* (*Centrarchids*), which might well be joined with the true *Chromids*.

"The professor has paid particular attention to the study of the *Chromids*, on account of the difficulties presented in the knowledge of the species.

"It is almost impossible to determine with precision the special characteristics of these fishes without examining a great number of specimens, because the young and adult differ considerably in some genera, and there is a notable difference between the two sexes. In some genera the young have a more elongated form than the adults; the contrary happening in others. It is by the color, however, that the adults are most distinguishable from the young. The *Tucunarés*, for example, when completely developed are remarkable for their brilliant colors, transversal stripes, and a beautiful dark-blue spot on the tail, having a yellowish or pink fringe. The young, on the other hand, are pale, and have only a longitudinal stripe. In the new *Pleoropo*, the longitudinal stripes that the young have are substituted in adolescence by some black spots on the sides and tail. The contrary is observed in the genus *Mesonauta*. A line of black dots, which the young have, disposed diagonally on the sides, is transformed by age into a continuous streak; and in other genera modifications more or less remarkable, according to age, are observed.

"It is therefore evident that, to appreciate these great differences, the examination of one individual is insufficient. For this reason the descriptions published up to the present time cannot give an exact idea of these fishes, and it is very probable that some fishes, considered as different species, are only the same at different ages. Still more: the adults vary, likewise, according to the season, and at the time of spawning, during which they have the most brilliant colors. On this point, however, the inquiries require much time. The difference of character between the sexes does not appear to be the same in all the genera. The most considerable we found among the *Cychla* and *Geophagus* (*Tucunaré* and *Acará*). The male possesses at the milting season an adporous protuberance in the head, as I have already mentioned, and which Schomburg gives as special characteristic of the species *Cychla trifasciata* and *Cychla nigromaculata*.

"The habits of the *Chromids* are very variable. Whilst some swim at the surface, as the *Lepteroptilum* (*Acará-pena*) and the *Mesonauta* (*Acará Meré*), others descend a little below. Of this kind is the genus *Cychla*; but the *Hygrogonus* does not leave the bottom, and, buried in the mud, often escapes the net. This genus, which comprehends the *Acará-assu*, is one of the most beautiful, from the carmine spots that the fishes have on the tail, upon the dorsal and side fins. Its habit is to leave eggs in the orifices found in the banks, and to remain there until the young can accompany it.

"The fishes of genera *Geophagus* and *Satanoperca* (*Acaráyané* and *Acaratinga*) keep the eggs in a pouch formed by the superior pharyngeal bones, which curve upon the branchial arches.

"The professor had an opportunity of studying the complete development of the eggs, (observing the newly-born in the branchial pouch up to their state of swimming freely,) in the species to which he gave the name of the Emperor, *Geophagus Pedroinus*, and of which he made a complete study.\*

\* This fish was first discovered on the 22d of November, 1862, by Sr. Henrique Antonil and J. O. F., while collecting specimens for Professor Agassiz, in an *igarapé* on the island of Papagayos, opposite the *Mañós*.

"The configuration of the head is very curious in these species that preserve the eggs in the branchial pouch. They have a nervous protuberance, resembling the electric lobule of the *Malapterurus*, in the part posterior to the cerebellum, serving as a root to the nerve that is prolonged hence to the inferior branchial arch, forming, evidently, such a centre of special action as is shown in the marsupial pouch. For this reason the protuberance well merits the name of 'genetic lobule.'

"About thirty years ago the family of the *Chromids* was established, almost at the same time, by Heckel and Müller, with some genera of the *Labroides* and *Scienuoides* of Cuvier. The number of its species was then very limited. In the British Museum catalogue published in 1862, which gives the last and most complete enumeration of this family, the number of its species in all the world is 110, distributed in 19 genera. Of these species, only 12 belonged to the Amazon. Now, however, we have here 120 species, almost all new,—that is, a greater number than were known in 1862 in all points of the globe.

"At another opportunity I will speak of the families of the Siluroids and Characins.

"In the next fortnight we purpose setting out for Maués, and thence to Pará."

#### A VOLCANO IN SOUTHERN BRAZIL.

Captain Burton, F.R.G.S., English Consul at Santos, writes a brief but interesting letter to "The Anglo-Brazilian Times," in regard to the discovery of a volcano in Southern Brazil, about half-way between S. Paulo and Paranaguá.

"MR. EDITOR:—I was canoeing down the river of Iguapé,—in this consular district,—it is called, ridiculously enough, the Ribeira, or rivulet,—when, calling on the excellent vigario (vicar) of Xiririca, M. J. Gabriel da Silva Cardoso, and looking over his Livro do Tombo, (Parish Register,) I was struck by the name of a place, in the Tupi or Lingua Geral 'Vutupoca,' translated *Morro que rebenta*, 'hill that explodes.' On the other side of the river, bearing southwest from the vicarage, rose the morro, clothed with trees *cap-à-pié*, an isolated gradual cone, with a distinctly volcanic outline. Its northeastern face is, I was told, a perpendicular rock.

"The fearful rains of January, 1866, prevented my ascending the Exploding Hill. But the result of many local inquiries was that as lately as fifteen years ago flame has been seen rising from the hill, and the phenomenon was accompanied by rumblings and explosions which extended across the river to the opposite range of Bananal Pequeno.

"You will, I hope, hear from me again. Should this report of a dormant volcano in Southern Brazil be confirmed by absolute exploration, the discovery will be of no little value in a geographical point of view. And these lines may perhaps, should I be unable to carry out my project, induce another and a better man to undertake the task. It is not, you will remember, half a century ago when the scientific men of Europe declared that no volcanic formations, and certainly no volcanoes, could be found in this magnificent empire.

"I am, sir,

"Your obedient servant,

RICHARD F. BURTON, F.R.G.S.

"HOTEL MILTON, SANTOS, BRAZIL."