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STUDIES ON THE FAMILY CICHLIDAE:

2. New Developments in the Malawi Genus *Labidochromis*.*

by Warren E. Burgess

For quite some time now there has been confusion as to the identity of a popular aquarium cichlid from Lake Malawi generally sold under the name *Labidochromis joanjohnsonae* or *L. "marineatus."* Much of the confusion stems from two major factors: (1) there is more than one species involved, and (2) the original description of *L. joanjohnsonae* is so inaccurate as to make the fish unrecognizable. In fact, there is some doubt as to whether or not it fulfills the criteria set down for a valid species description.

The original description of *Labidochromis joanjohnsonae* was based on two specimens, a holotype and a paratype, with a photograph supposedly depicting the holotype. According to Mike Oliver (1975), who examined these types, the two specimens belong to two different species, and the photograph is of the paratype, not the holotype. Actually the photograph is not of either specimen but of a third, which also turns out to be a different species entirely. According to the rules of zoological nomenclature, a scientific name belongs to the specimen designated as the holotype, so in this case *Labidochromis joanjohnsonae* is the name to be applied to the holotype. But, according to Oliver, the holotype is identifiable as *Labidochromis fryeri*. Since *Labidochromis fryeri* was described before *L. joanjohnsonae*, and according to the rules an earlier name has priority, *L. joanjohnsonae* becomes a synonym of *L. fryeri*. The specimen designated as the paratype was left without a name, and Oliver has filled this gap by describing it, properly this time, as *Labidochromis textilis*, the brocade cichlid.

Normally this should have cleared things up, but this time it did not. Oliver referred the lower photo on p. 224 of Dr. Axelrod's *African Cichlids of Lakes Malawi and Tanganyika* (second edition) to his *L. textilis*. I have examined the specimen pictured and found it to have bicuspid anterior teeth, not unicuspid as in species of *Labidochromis*, and have come to

* No. 1, "Sexing Mbunas," appeared in **Tropical Fish Hobbyist**, August 1975, pages 14-15, 86-87.

the conclusion that the fish I have is not *L. textilis* Oliver but a new species. I had to wait until Oliver disposed of *L. joanjohnsonae* before describing it. Because of the bicuspid teeth, which occur also in the genus *Pseudotropheus*, I had tentatively placed it in that genus in the third edition. . . but with reservations, since the pharyngeal teeth did not agree with the type found in *Pseudotropheus*. I used the name "*Pseudotropheus joanjohnsonae*" because the photo supposedly depicting the holotype was of the species with bicuspid teeth. As noted above the photo was of neither holotype nor paratype. Additional photographs of this species, showing male and female color patterns, appear on p. 236 of the third edition of Dr. Axelrod's book. Dr. Digby Lewis, now working at Lake Malawi, independently came to the same conclusion that the fish on p. 224 is not a *Labidochromis* and is undescribed. I have written to him in the hopes of working together on this fish.

The two species, *L. textilis* and the new *Pseudotropheus*-like one (which shall be called *Pseudotropheus* U-1 in this article), can easily be distinguished on the basis of their teeth (the former having typical *Labidochromis* unicuspid teeth and the latter *Pseudotropheus*-like bicuspids) and dorsal fin spines (normally XVII for *L. textilis* and XVI for *Pseudotropheus* U-1). Aquarium enthusiasts cannot place their living fishes under a microscope to check the teeth or counts, however, so I have tried to see if an easier method for identification could be found. *Labidochromis* species all have a very narrow snout, literally coming to a point. This aspect can easily be seen in the aquarium and compared with *Pseudotropheus* U-1, which has a less compressed snout. Secondly, *L. textilis* appears to have more lateral stripes than *Pseudotropheus* U-1, and these stripes are not broken or bifurcate as in *Pseudotropheus* U-1. It is unfortunate that these two species have such similar color patterns, because the similarity has caused a great deal of confusion in these mbunas.

I have more specimens of a *Labidochromis* species which have a spotted rather than a striped pattern and a body depth less than that of *L. textilis* Oliver. It agrees reasonably well with descriptions of *L. vellicans* and is tentatively identified as such until I am able to examine the holotype of *L. vellicans*.

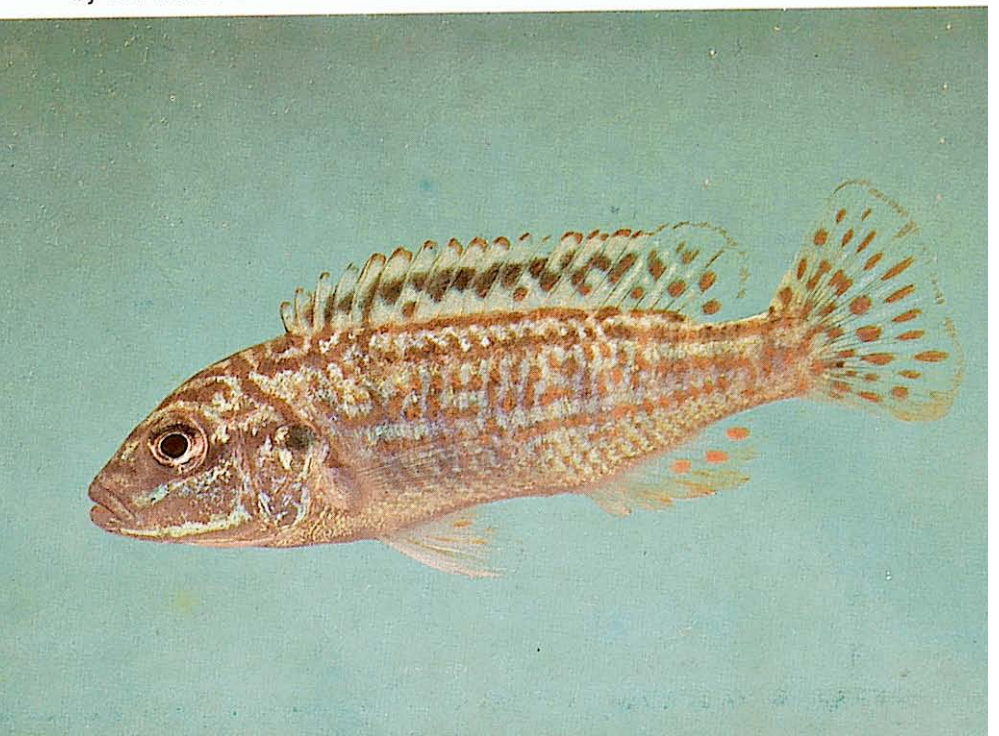
To summarize these findings: we now have *Labidochromis textilis* Oliver as the proper name for one of the fishes called "*L. joanjohnsonae*" in the trade (i.e. the one that is a true *Labidochromis*); a new species that is being described,

This fish appears to have the many-striped pattern of *L. textilis*. Unfortunately the specimen is not available to confirm the identification. Photo by Dr. Bruce J. Turner.

Labidochromis vellicans (?). These somberly-colored males agree fairly well with the description of *L. vellicans*. Photo by Dr. Herbert R. Axelrod.

Pseudotropheus U-1 or opaline cichlid from Likoma Island, Lake Malawi. Male in breeding color. Photo by Dr. Herbert R. Axelrod.

Pseudotropheus U-1 from Likoma Island, Lake Malawi. Female. Photo by Dr. Herbert R. Axelrod.



Pseudotropheus U-1 (possibly in a new genus); and the name *L. joanjohnsonae* relegated to the synonymy of *L. fryeri*. For the new species I suggest aquarists call it the Likoma Island labido, the opaline labido (in reference to the breeding color of the male), or simply *Pseudotropheus* U-1 as I have done in this article. It is very improper and confusing to use a scientific name for a fish before it has been properly described, and it is hoped that importers and dealers will not use such pseudo-scientific names. Although the names may be well intentioned, when the fishes are indeed scientifically described these names will have to be discarded.

REFERENCES

Axelrod, Dr. H.R. 1974. African Cichlids of Lakes Malawi and Tanganyika, 2nd ed. T.F.H. Publications, Inc. Ltd., Hong Kong. 256 pp.

_____ 1975. Ibid. Third ed. 288 pp.

Oliver, M. 1975. *Labidochromis textilis*, A New Cichlid Fish (Teleostei: Cichlidae) from Lake Malawi. Proc. Biol. Soc. Wash. 88(29):319-330.