

ON TWO SPECIES OF CICHLID FISHES FROM THE
MALAGARAZI RIVER (TANGANYIKA), WITH NOTES ON
THE PHARYNGEAL APOPHYSIS IN SPECIES OF THE
HAPLOCHROMIS GROUP.

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THE material described in this paper was collected during a survey of the fish and fisheries of the Malagarazi River and swamps carried out in August and September, 1952, by members of the East African Fisheries Research Organisation and the Inland Fisheries Officer (Kigoma).

Previous records of Cichlid fishes from the Malagarazi River have been published by David (1937) and Poll (1946 and 1948). These included *Haplochromis burtoni* (Günther) and *H. malagaraziensis* David from the upper reaches of the river, and *Tilapia karomo* Poll from the delta. The present collection was made at Uvinza and Iragala on the open river and at Katare on one of the numerous swamps. Besides the one new species described below, *H. burtoni* and *H. horei* were collected at Iragala, and a species of *Serranochromis* at Uvinza and Katare. Two apparently new species of *Haplochromis* were collected in all three areas and will be described at a later date.

The swamp area investigated lies on a perennial tributary of the Malagarazi, Mgoma River, which flows through the swamp about one and a half miles off shore. At Katare the depth of the water in the swamp, although subject to seasonal variation, is usually less than ten feet. Much of the water surface is covered by the leaves of *Nymphaea stellata*, whilst below the surface are dense stands of *Utricularia*, *Ceratophyllum* and *Chara*. The bottom is covered by a thick deposit consisting mainly of decomposing plant material and fish faeces. Inshore the bottom deposit is less deep and overlies sand which is often exposed. In

some places there is a narrow band of emergent marginal vegetation composed of rushes and sedges, but it is nowhere dense or extensive.

At Uvinza the Malagarazi is fairly fast-flowing, and at a point about one and a half miles above its confluence with the Ruchugi River it is thrown into a series of small rapids. These rapids seem to have little effect on the distribution of the Cichlid species, which are essentially the same in the Katara swamp and this stretch of the river.

Between Uvinza and Iragala the river is broken by larger rapids which may have prevented the ascent of *H. burtoni* and *H. horei* from the lower reaches of the river, but since *Tilapia karomo* is present on both sides of the rapids, other ecological factors may be operative in restricting the range of these species.

In her paper on the fishes of Urundi, Dr. David described a species of Cichlid which she considered to be a *Haplochromis*, namely *H. malagaraziensis*. Whilst not denying the close relationship of this species to *Haplochromis*, I consider it to have diverged sufficiently to rank as a genus for which the name *Orthochromis* is now proposed. Many systematists (*vide* Simpson, 1945, and Mayr, 1944) have expressed an understandable dislike for the monotypic genus, particularly on the grounds of convenience. But study of the *Haplochromis* species flock in Lake Victoria has convinced me that this category is necessary if evolutionary results are to be clearly represented. Lake Victoria provides examples of both completely and partially differentiated monotypic genera. *Macroleurodus bicolor* illustrates the latter condition; it differs from *Haplochromis* in its peculiarly developed dentition (Regan, 1922 a) but can be related through decreasingly specialized *Haplochromis* species to a generalized ancestral form. Thus there is some doubt as to the advisability of referring it to a distinct genus. If, however, as is the case with the other monotypic genera from this lake, the intermediate species had not survived, there would be very little doubt of its generic status. Similarly, in the changing river systems of Africa during the Tertiary period, a species near the end of an evolving chain might alone survive and, completing its evolution in isolation, become the monotypic genus of the present. Such is probably the history of *H. malagaraziensis*, with its nearest relative *H. polyacanthus* representing a surviving link in a series which has diverged from the more typical *Haplochromis* stem.

ORTHOCHROMIS, gen. nov.

Cichlid fishes with the apophysis for the upper pharyngeal bones formed by the parasphenoid in the middle and the basioccipital at the sides. Fourth vertebra with an inferior apophysis. Cheek and lateral aspect of the chest without scales; scales of the body ctenoid except those of the ventral surface, which are small, cycloid and deeply embedded; two incomplete lateral lines. Body elongate, dorsal profile of the head strongly decurved, eyes supero-lateral, giving a Goby-like appearance. Outer series of jaw-teeth mainly bicuspid anteriorly but