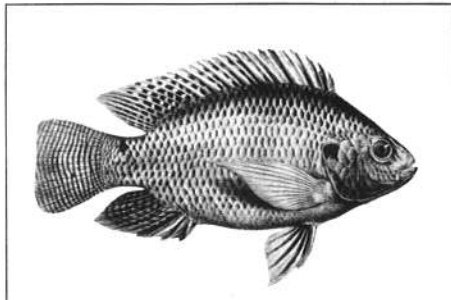


The debate on the scientific nomenclature for tilapias is likely to intensify with the publication this year by the British Museum of Natural History of Dr. Ethelwynn Trewavas' long-awaited monograph "A review of the tilapiine fishes of the genera *Sarotherodon*, *Oreochromis* and *Danakilia*." The most important point for applied researchers and culturists is her proposal to split the genus *Sarotherodon* to the effect that almost all the mouthbrooding species currently important in aquaculture will be renamed *Oreochromis*.

Dr. Trewavas formerly advocated the

## Tilapia, Sarotherodon or Oreochromis?

Tilapia and Dr. Trewavas: Nomenclature is vital.



genera *Tilapia* for the substrate spawning tilapias and *Sarotherodon* for the mouthbrooders rather than the single all-embracing genus *Tilapia*. At the Bellagio Conference on the Biology and Culture of Tilapias, September 1-6, 1980 (see ICLARM Newsletter, October 1980, p. 11), this earlier split into *Tilapia* and *Sarotherodon* was supported by biochemical evidence. The conference agreed to follow Dr. Trewavas' nomenclature in its published proceedings, as have increasing numbers of researchers and culturists.

The same conference, however, recognized the existence of a group of west African species which, together with *Sarotherodon galilaeus*, raise doubts about including all the mouthbrooders in the *Sarotherodon* genus, particularly if one accepts reproductive behavior as a distinguishing character of major importance.

This group includes *Sarotherodon melanotheron* (the type species of *Sarotherodon*). *S. melanotheron* has eggs which are normally brooded by the male parent and *S. galilaeus* has eggs brooded by both parents. The other *Sarotherodon* species well-known to culturists are all maternal mouthbrooders. Moreover, the members of this problematical group, for which observations have been made, do not show lek-spawning behavior as do the cultured maternal brooders. Lek behavior involves congregation in breeding arenas prior to migration of the brooding parent to a nursery area.

Following observations in Kenya in January 1981, Dr. Trewavas came to the

this was the first name given to this group of fishes (the type species being *Oreochromis hunteri* Günther, a small tilapia inhabiting a craterlike lake on Mount Kilimanjaro and related to the maternal mouthbrooders of the Upper Pangani system, Tanzania).

Table below shows three of the proposed four genera for the tilapias and some examples of the changes for important cultured species (*Danakilia*, which is omitted, is of no interest to culturists).

According to Dr. Trewavas, the elevation of *Oreochromis* to genus is further justified by the following points which are not merely academic but are of direct practical relevance to culturists: 1) the necessity of artificial fertilization for experimental hybridization of subgenus *Sarotherodon* with members of subgenus *Oreochromis*, 2) the difficulty of sexing immature *Sarotherodon galilaeus*, a relatively easy task for most members of *Oreochromis* and 3) the importance of lek-spawning behavior in a new mass fry-production system (see R.D. Haller and I.S.C. Parker, *Fish Farming International*, March 1981, p. 16-18), which restricts its use to members of *Oreochromis*.

Genus	Type species	Other examples
<i>Tilapia</i> A. Smith	<i>T. sparrmanii</i> A. Smith	<i>T. rendalli</i> Boulenger <i>T. zillii</i> Gervais
<i>Sarotherodon</i> Rüppell	<i>S. melanotheron</i> Rüppell	<i>S. galilaeus</i> (Linn.)
<i>Oreochromis</i> Günther	<i>O. hunteri</i> Günther	<i>O. niloticus</i> (Linn.) <i>O. mossambicus</i> (Peters) <i>O. aureus</i> (Steindachner) <i>O. spilurus</i> (Günther)

conclusion that these differences merit separate generic status for the problematical group. In her revised nomenclature, the genus *Sarotherodon* will be retained for *S. galilaeus*, the type species *S. melanotheron*, and its other west African relatives (which are not of current importance in aquaculture). This group has already been separated from the maternal mouthbrooders at subgeneric level: the former as subgenus *Sarotherodon*, the latter as subgenus *Oreochromis*.

Dr. Trewavas proposes in her monograph the raising of subgenus *Oreochromis* to generic status in accordance with the international rules of nomenclature, since

One cannot presuppose whether future work will support Dr. Trewavas or those who prefer to retain the 'lumped' genera *Tilapia* or *Tilapia* plus *Sarotherodon*. There is little doubt that the common name 'tilapias' will be retained for all the cultured species. Culturists may be tempted to ask, "What's in a name?" and to dismiss the debate as having little relevance for them. It must be recognized, however, that following the publication of Dr. Trewavas' monograph, the name *Oreochromis* will be used by biologists and librarians and will be entered into computer data bases along with *Tilapia* and *Sarotherodon*. R.S.V. Pullin