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On the type species of *Trichopodus* (Teleostei: Perciformes: Osphronemidae)

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> Abstract

We examined the taxonomic papers about the type species fixation of the genus *Trichopodus* Lacepède, 1801. As the result we found that under the current version of the ICZN the designation of the type species by Bleeker (1879) is the valid one. Therefore, the type species of *Trichopodus* is *Labrus trichopterus* Pallas, 1770. The genus *Trichopodus* is a currently valid genus of Osphronemidae, which includes the following species: *T. trichopterus, T. leerii, T. microlepis and T. cantoris*.

> Kurzfassung

Die Literatur zur Typusart der Gattung *Trichopodus* Lacepède, 1801 wurde überprüft. Unter Berücksichtigung der aktuellen Ausgabe der Internationalen Regeln für die zoologische Nomenklatur (ICZN) kommen wir zum Ergebnis, dass die erste und damit valide Festlegung der Typusart durch Bleeker (1879) erfolgte. Als gültige Typusart der Gattung *Trichopodus* hat somit *Labrus trichopterus* Pallas, 1770, zu gelten. Die taxonomisch valide Gattung *Trichopodus* enthält die folgenden Arten: *T. trichopterus, T. leerii, T. microlepis and T. cantoris*.

> Key words

Taxonomy, nomenclature, type species, Osphronemidae, Trichopodus trichopterus, Trichogaster.

Introduction

The genus *Trichopodus* is one of the oldest genus-group names within the South-east Asian fish family Osphronemidae. When the taxon was established in the early 19th century it was not usual to designate a type species for a new genus, because this concept became established later on. This is why many of the old genera had no type species until later authors designated one. However, sometimes there are discussions about the question which is the first designation. In such cases, with all the numerous old literature at hand, it is often a challenge to find out which species is the type species for a genus-group name. There are also disagreements (e. g., Myers, 1923; Derijst, 1997) and discussions (e.g., Britz, 2004; Schäfer, 2003; Schindler, 2009; Töpfer, 2008) about which species-group taxon has to be treated as the type species of *Trichopodus*. This is the reason of our analyses of the available taxonomic papers concerning *Trichopodus*. We review the sources under the rules of the current version of the *International Code of Zoological Nomenclature* (ICZN, 4th edition 1999) to clarify the type fixation of this genus-group name.

Type species of *Trichopodus* Lacepède, 1801

The genus *Trichopodus* was created by Lacepède (1801) for the two species-group taxa *T. mentum* (named by Lacepède in the same chapter) and *Labrus trichopterus* Pallas, 1770. No type species was selected. Cuvier (in Cuvier & Valenciennes 1831: 388) included *Labrus trichopterus* Pallas, 1770 as the single species for *Trichopodus* Lacepède. He treated the genus *Trichogaster* Bloch & Schneider as a synonym of *Trichopodus*. Jordan (1917) designated

Tab. 1. Type species and valid species-group taxa of the genus *Trichopodus*.

Genus-group name	type species	Species
Trichopodus	*Labrus trichopterus*	*cantoris*
		leerii
		microlepis
		trichopterus

Trichopodus mentum LACEPÈDE (a synonym of *Osphronemus goramy*; see ROBERTS, 1992) as the type species for *Trichopodus* LACEPÈDE (see JORDAN, 1917: 61) and *Trichogaster fasciatus* BLOCH & SCHNEIDER (correctly *T. fasciata*; see appendix) as the type species for *Trichogaster* BLOCH & SCHNEIDER (see JORDAN, 1917: 58). In 1923 MYERS challenged the designation by JORDAN and interpreted CUVIER's restriction of *Trichopodus* (thus also for *Trichogaster*) to a single species as an implication for a type designation. However, the "Elimination of all but one of the originally included nominal species from a nominal genus or subgenus does not in itself constitute type fixation" (ICZN Art. 69.4.). DERIJST (1997) argued that CUVIER's statement "Le véritable trichopode" for *Trichopodus trichopterus* might be treated as a fixation of a type species. However, the simple emphasizing of a particular species is not sufficient to establish a type selection by itself (ICZN Art. 67.5.: "The term 'designation' in relation to fixation of a type species ... must be rigidly construed"). This is why - in our point of view - CUVIER (in CUVIER & VALENCIENNES, 1831) did not fulfil the requirements for a valid type species fixation.

JORDAN (1917) as well as MYERS (1923) did not mention the paper by BLEEKER (1879). BLEEKER (1879: 21) wrote under the genus *Trichopodus*: "J'y rapporte outre l'espèce type, les *Osphromenus siamensis* et *microlepis* GÜNTH.". The only other species BLEEKER (1879) dealt with in *Trichopodus*, besides the two mentioned before, was *T. trichopterus*. Hence, *Labrus trichopterus* PALLAS became unquestionably the type species of *Trichopodus* LACEPÈDE, 1801. Thus, the earliest valid designation of a type species for *Trichopodus* is by BLEEKER (1879) and the later type species fixation by JORDAN (1917) is not valid (ICZN 69.1.).

Discussion

With the clarification of the type species of the genus *Trichopodus* the generic assignment of the species currently recognized as *Trichogaster* (e.g., SMITH, 1945; ROBERTS, 1989) must be changed (see Table 1). According to Article 70.2. of the ICZN ("If it is found that an earlier type species fixation has been overlooked, the overlooked fixation is to be accepted and any later fixations are invalid. If this is considered to cause instability or confusion the case is to be referred to the Commission for a ruling") every case has to be send to the Commission if the stability of nomenclature is threatened. However, in this case no type fixation was "overlooked", but it was misinterpreted by MYERS (1923). Since MYERS (1923) assumed that *Trichogaster* BLOCH & SCHNEIDER is the senior synonym of *Trichopodus* LACEPÈDE (actually *Trichogaster* BLOCH & SCHNEIDER, 1801 would be the junior synonym of *Trichopodus* LACEPÉDE, 1801; see DERIJST, 1997) he synonymised both under the name *Trichogaster* with the type species *Labrus trichopterus* PALLAS. Before this taxonomic misinterpretation and raise of confusion (based on MYERS, 1923) the South-east Asian gouramies were included in the genus-group name *Trichopodus* and the Indian dwarf gouramies were assigned to *Trichogaster* (see e.g., GÜNTHER, 1861; DAY, 1877; REGAN, 1910). This is why we refrain from sending an application to the Commission (cf. BRITZ, 2004; TÖPFER, 2008).

If the type species designation by JORDAN (1917) for *Trichogaster* is the valid one (see above) the species currently assigned to *Colisa* (see e.g., JAYARAM 1981, Schaefer 2003) have to be called *Trichogaster* (cf. DERIJST, 1997; BRITZ, 2004; TÖPFER, 2008). This would be in the sense of the publications of GÜNTHER (1861), DAY (1877), BLEEKER (1879) and REGAN (1910), which all treated *Trichogaster* as the valid genus-group name for the Indian dwarf gouramies. However, a comprehensive discussion about the possible type species of *Trichogaster* is not within the scope of this contribution.

In the case of *Trichopodus* it does not matter if CUVIER (in CUVIER & VALENCIENNES, 1831) or BLEEKER (1879) did the first and thus valid fixation of type species, because both used the very same species-group taxon viz. *Labrus trichopterus*. Therefore, the type species of *Trichopodus* is undoubtedly *Labrus trichopterus* PALLAS, 1770. According to this result (see also DERIJST, 1997; BRITZ, 2004; TÖPFER, 2008) we have summarized the conclusion in Table 1 (for the discussion of the validity of *Trichopodus cantoris* see PAEPKE, 2009).

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Appendix

The genus name *Trichogaster* is feminine (Eschmeyer, 1990; Schindler, 2009). All species-group names ends in a Latin or latinized adjective must agree in the grammatical gender with the genus-group name (Art. 31.2. ICZN). Therefore, the correct spelling for *Trichogaster fasciatus* Bloch & Schneider, 1801 is *Trichogaster fasciata*. The specific name *lalius* (often erroneously misspelled as *lalia*) is a noun or at least has to be treated as a noun (Art. 31.2.2. ICZN). A noun in apposition is not in need to agree with the grammatical gender of the genus-group name (Art. 31.2.1). The original spelling of it has to be retained (Art. 31.2.1. ICZN). Thus, the correct spelling is *lalius*.