

PROCEEDINGS
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BIOLOGICAL SOCIETY OF WASHINGTON

ON THE INDO-AUSTRALIAN FISHES OF THE GENUS
SCATOPHAGUS, WITH DESCRIPTION OF A
NEW GENUS, *SELENOTOCA*.

BY GEORGE S. MYERS.¹

In the winter of 1932-1933, aquarists in New York and Philadelphia obtained living specimens of a vertically-banded species of *Scatophagus* very different from the common spotted *S. argus*, which has been known as an aquarium fish in Europe and America for many years. Mr. W. T. Innes of Philadelphia gave a fine photograph (Innes, 1933, and 1935, p. 424) of the banded form under the name *Scatophagus tetracanthus* (Lacépède). The identification was undoubtedly based on the concept of the species of the genus as expressed by Fowler and Bean (1929, pp. 34-40). In this 1929 paper, but two species are recognized, a spotted one (*argus*) and a banded one (*tetracanthus*). Fowler and Bean mention the color as the sole distinguishing feature of the two species, and on this inadequate basis propose a new subgenus (*Desmoprenes*) with *Chaetodon tetracanthus* Lacépède as genotype. With both *argus* and *tetracanthus* Fowler and Bean synonymize several nominal forms.

Pellegrin (1935), evidently without knowledge of Fowler and Bean's paper, has criticized Innes's use of the name *tetracanthus* for the figured species. Pellegrin recognizes three species of *Scatophagus*, the spotted *argus* of the Indo-Malayan region, the banded *tetracanthus* of Africa and the banded *multifasciatus* of the Australian-Papuan region, and asserts that Innes's figure represents the last. Mr. Innes has asked me to pass judgment on the matter and I have examined the literature and the material in the National Museum.

I find that Pellegrin, in his differentiation of at least three species, is certainly correct. Further, Fowler and Bean have lumped at least two

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generically distinct forms under *tetracanthus*. Pellegrin shows clearly that the spotted *argus* and the banded *tetracanthus* are alike in form and in the comparatively large scales, which are very different from the minute, almost invisible scales of the banded Australian *multifasciatus*. Pellegrin, and apparently all other authors have, however, missed one very important and easily-seen difference, which, together with the trenchant character of the scales, seems to me to be of generic significance. In *argus* the gill-membranes, although connected with the isthmus anteriorly, form a distinct, deep, free fold across it. In *multifasciatus*, on the contrary, the gill-membranes are fully fused with the body, and the isthmus, though narrow, is smoothly connected with the thorax. No sign of a fold is present. Unfortunately, I have not been able to examine specimens of the true *tetracanthus*, but since it is so similar to *argus* in squamation and other respects (Pellegrin, 1933, pp. 106-107, fig. 62) I have little doubt in regard to its generic position.

Fowler and Bean's new subgenus *Desmoprenes*, based wholly on the color, is thus an erroneous conception, and since its stated genotype is *tetracanthus*, it falls as a synonym of *Scatophagus*. The distinct subgenus or genus represented by *multifasciatus* is left without a name.

I therefore propose the new genus **SELENOTOCA**, with *Scatophagus multifasciatus* Richardson (Voy. Erebus and Terror: 57, pl. 35) as its genotype, the generic characters being the tiny, almost invisible scales and the absence of a free fold across the isthmus. *Selenotoca multifasciata* is distinctly different from *S. argus* and *S. tetracanthus* in its form, the body being less elevated, the head longer, and the preorbital bone more elongate.

Some others of the nominal species of *Scatophagus* may be valid, but I am unable to comment on them due to lack of critical material. Certain young specimens (supposedly from the East Indies) which I have seen in aquaria have vertical bands or vertical rows of spots, as well as areas of bright red on the frontal region, below the origin of the spiny dorsal, below the origin of the soft dorsal, and on the upper part of the caudal peduncle. These specimens have recently received the name *Scatophagus rubifrons* from a certain German aquarium fish dealer. This name was evidently proposed only in his commercial correspondence or advertising matter, but it has gotten rather firmly fixed in some aquarium journals. Stoye (1932, pl. 165) figures four of these specimens in color under the name *S. rubifrons*. This fish has nothing to do with *Selenotoca multifasciata*. It is the young of *S. argus*, *S. tetracanthus*, or some other form.

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