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***POMACANTHUS RHOMBOIDES* (GILCHRIST AND  
THOMPSON), THE VALID NAME FOR THE SOUTH  
AFRICAN ANGELFISH PREVIOUSLY KNOWN AS  
*POMACANTHUS STRIATUS***

by

**John E. Randall**

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# **POMACANTHUS RHOMBOIDES (GILCHRIST AND THOMPSON), THE VALID NAME FOR THE SOUTH AFRICAN ANGELFISH PREVIOUSLY KNOWN AS *POMACANTHUS STRIATUS***

by

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## **ABSTRACT**

The Indian Ocean angelfish from southern Africa heretofore identified as *Pomacanthus striatus* (Rüppell, 1836) is *Pomacanthus rhomboides* (Gilchrist and Thompson, 1908). *P. striatus* is shown to be the young of *P. maculosus* (Forsskål, 1775) which is not known from South Africa; it occurs in the Red Sea, Persian Gulf, and along the East African coast to at least 13°S. *Holacanthus coeruleus* Cuvier, described from a juvenile specimen from the Red Sea, is a junior synonym of *Pomacanthus asfur* (Forsskål), not *P. semicirculatus* (Cuvier), thus casting doubt on the record of the letter from the Red Sea.

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## **INTRODUCTION**

Gilchrist and Thompson (1908) described a new angelfish, *Holacanthus rhomboides*, from one specimen, 234 mm in length, which was said to have come from deep water. They had a second specimen, 114 mm in length which was "caught off the breakwater at Port Natal," (now Durban). They stated, "It agrees very closely with the above, allowing for the difference in size, and seems to be the immature form of this species. The colour, however, differs considerably, being a dark greenish brown with bright blue crescentic stripes across the body..."

Norman (1922) listed *Holacanthus striatus* Rüppell by name only among new records of fishes from Natal, with no mention of *H. rhomboides*.

Barnard (1927) included *Holacanthus striatus* Rüppell in his *Monograph of the Marine Fishes of South Africa*. He placed *H. rhomboides* Gilchrist and Thompson in the synonymy of *striatus*. He noted that the South African common name is "Old Woman" and gave the distribution as "Indo-Pacific". He stated that *H. striatus* is usually considered to be the young of *semicirculatus* but added that this cannot be true; he gave differences between the young of *semicirculatus* (illustrated herein as Fig. 1) and the young Natal specimens he identified as *striatus*.

Fraser-Brunner (1933) recorded specimens from the Red Sea, Wasim (East Africa), and Durban as *Pomacanthus striatus*. He also listed *Holacanthus rhomboides* as a junior synonym of *P. striatus*, and illustrated the young and adult (his text-fig. 8).

Smith (1953: pl. 29, no. 583) followed Fraser-Brunner in the use of the name *Pomacanthus striatus* and figured an adult and subadult in colour. His colour illustration of a 1.5-inch juvenile (pl. 30, fig. 584) labelled as *P. semicirculatus* (Cuvier) is, however, the young of the species he identified as *P. striatus*. He gave the distribution of *striatus* as Indo-Pacific, adding that the fish is not uncommon at Delagoa Bay and occasionally reaches Knysna. Smith (1955) reclassified *striatus* in the genus *Pomacanthodes* Gill.

Allen (1979), van der Elst (1981), Heemstra (1984), and Smith and Heemstra (1986) reverted to the use of the genus *Pomacanthus* for *striatus*. Allen (p. 310) and van der Elst (p. 242) figured the juvenile and adult in colour. Van der Elst's distribution map shows the species occurring from Knysna to Somalia. Smith and Heemstra illustrated the adult in black and white (p. 626, fig. 204.12) and 3.5 and 5.5-cm juveniles in colour (Plates 73 & 74, fig. 204.12). They gave the distribution of *striatus* as western Indian Ocean from the southern Red Sea southwards.

The author has dived extensively and made large fish collections in the Red Sea and Gulf of Aden. Since he has not observed a fish like the South African "*Pomacanthus striatus*" in the Red Sea or Gulf of Aden nor found any specimens of this fish from these localities in museums, he suspected that the 2-inch fish described by Rüppell (1836) as *Holacanthus striatus* might be the young of another species of *Pomacanthus*.

Dor (1984) recorded nine species of pomacanthid fishes from the Red Sea, four in the genus *Pomacanthus*: *P. imperator* (Bloch), *P. maculosus* (Forsskål), *P. semicirculatus* (Cuvier), and *P. striatus* (Rüppell). He also listed *Arusetta asfur* (Forsskål) which some authors, including Randall (1983), placed in *Pomacanthus*.

Dor's record of *Pomacanthus semicirculatus* from the Red Sea seems to be in error. It is based on two juveniles of 2.5 and 3 cm identified by Kossman and Räuber (1877) as *Holacanthus striatus* var. *semicirculatus* and the 27-mm holotype of *Holacanthus coeruleus* (Ehrenberg, MS) Cuvier in Cuvier and Valenciennes (1831). Klunzinger (1884) regarded *coeruleus* as a senior synonym of *Holacanthus striatus*. More recent authors (Fraser-Brunner, 1933; Bauchot, 1963) placed it in the synonymy of *P. semicirculatus*. Kossman and Räuber described their specimens as having 5 – 6 vertical bluish stripes on the body; there was no mention of these bands being curved, an important characteristic of juvenile *semicirculatus*. Unfortunately their two specimens could not be located. Horst Zetzsche of the Senckenberg Natur- Museum und Forschungs Institut in Frankfurt wrote that he was unable to find them, nor did they appear in recent Kossman and Räuber material that was transferred to the Senckenberg Museum from Heidelberg. Cuvier described *H. coeruleus* as deep indigo blue with 13 or 14 vertical white lines and a yellow caudal fin.

Discounting his obviously erroneous fin-ray counts, the description of *H. coeruleus* could apply to the juvenile stage of either *P. maculosus* (Forsskål) or *P. asfur* (Forsskål). M.L. Bauchot of the Museum National d'Histoire Naturelle in Paris was asked to make fin-ray counts of this specimen. She provided the following: dorsal rays XII, 19; anal rays III, 19; and pectoral rays 18 or 19. These counts are diagnostic for *Pomacanthus asfur*; therefore, *Holacanthus coeruleus* is referred to the synonymy of *P. asfur*.

*Pomacanthus imperator* can also be eliminated as an earlier name of *Holacanthus striatus* Rüppell because of the distinctive circular pattern of the narrow pale bands on the body of its juvenile stage. This leaves only *P. asfur* (Fig. 2) and *P. maculosus* (Fig. 3) as possible senior synonyms of *H. striatus*. These two angelfishes are easily separated by fin-ray counts (see meristic data in Randall, 1983). Rüppell's fin-ray counts for his specimen of *striatus* (D XII, 23; A III, 21; P<sub>1</sub> 19) fit *P. maculosus* better than *asfur*.

The southern African angelfish formerly identified as *Pomacanthus striatus* must now be called *Pomacanthus rhomboides*. Below is a diagnosis of this species and a summary of its distribution and habits.

*Pomacanthus rhomboides* (Gilchrist and Thompson, 1908)

Figs. 4, 5

*Holacanthus rhomboides* Gilchrist and Thompson, 1908: 161 (type locality, Natal); Gilchrist and Thompson, 1917: 277.

*Holacanthus striatus* (non Rüppell); Norman, 1922: 321; Barnard, 1927: 616.

*Pomacanthus striatus* (non Rüppell): Fraser-Brunner, 1933: 560, text-fig. 8; Smith, 1953: 235, pl. 29, figs. 583; Allen, 1979: 310, figs. 457, 458; van der Elst, 1981: 240, 2 figs.; Heemstra, 1984: 14; Smith and Heemstra, 1986: 626, fig. 204.12, pl. 73, fig. 204.12.

*Pomacanthus semicirculatus* (non Cuvier): Smith, 1953 (in part): 235, pl. 30, fig. 584.

*Pomacanthodes striatus* (non Rüppell): Smith, 1955: 383.

DIAGNOSIS: Dorsal fin rays XI-XIII, 22 - 25; anal fin rays III, 21 - 23; pectoral fin rays 19 - 21; lateral-line scales about 46; longitudinal scale series difficult to count, about 60 - 70; gill rakers 4 - 6 + 12 - 13.

Body moderately deep and compressed, the depth 1.6 - 1.8 in SL (body depth greater, in general, in juveniles than adults); dorsal profile of head steep, older specimens developing a broad convexity on nape; spine at corner of preopercle unusually small for an angelfish, not reaching past edge of operculum, its length less than eye diameter; a small spine on side of snout above mouth; origin of dorsal fin approximately above tip of appressed pectoral fin, the spines progressively longer commencing with a very short first spine; contour of soft portion of dorsal fin rounded, without a filament; third to sixth dorsal soft-rays longest, about equal to head length and 4 times longer than last ray; anal fin of similar configuration; caudal fin of adults truncate or with the upper and lower corners slightly produced; caudal fin of juveniles rounded.

Colour of adults brown, the centres of the scales darker except on thorax and lower abdomen; posterior third of body abruptly light brownish gray.

Colour of juveniles black with vertical to slightly curved, narrow, pale yellowish to bluish white bands alternating with pale blue line, these bands and lines curving posteriorly and branching irregularly in the dorsal and anal fins; caudal fin dusky with faint blue lines and spots, the rear margin hyaline; pectoral fins dusky with one or two pale blue lines at the base; pelvic fins blue and black.

REMARKS: This species is reported to attain at least 46 cm. The South African angling record is 3.0 kg.

Because of the confusion with the young of *Pomacanthus maculosus*, which occurs from the Red Sea to at least 13°S on the East African coast, the distribution of *P. rhomboides* must of necessity be based on localities from which specimens have been collected or photographed. Accordingly, the known range is from Delagoa Bay, Mozambique to Knysna (though apparently only the young stray as far south as the latter locality). The species is unusual for an angelfish in its tolerance for temperate waters. It is the most common species of the family in South Africa.

*Pomacanthus rhomboides* is not a deep-water fish as presumed by Gilchrist and Thompson (1908). The young are solitary and often found in tidepools (the specimen of Fig. 4 was collected from a tidepool); they tend to be more wary than adults. They are, however, popular aquarium fish. The smallest specimen examined, RUSI 27042 from East London, measures 36 mm SL. Adults may be solitary but are more often seen in small aggregations, sometimes in midwater or near the surface. Van der Elst (1981) wrote that adults browse on encrusting organisms such as sponges, coral polyps, and tunicates, adding that small invertebrates such as crabs and marine worms may also be consumed. Smith and Heemstra (1986), however, reported that this species is "usually seen feeding on plankton in midwater".

The holotype of *Pomacanthus rhomboides*, SAM 9905, 217 mm SL, is in the South African Museum, Cape Town (S.X. Kannemeyer, *in litt.*, via Ofer Gon). Gilchrist and Thompson's second specimen (SAM 9906, 102 mm SL), which was not specifically designated as a type, is, as they presumed, the young of *P. rhomboides*.

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Figure 1. *Pomacanthus semicirculatus*, 33 mm SL; Taiwan. Figure 2. *P. asfur*, 47 mm SL; Suakin, Sudan. Figure 3. *P. maculosus*, 40 mm SL; Mersa Towartit, Sudan. Figure 4. *P. rhomboides*, juvenile, 74 mm SL; Natal. Figure 5. *P. rhomboides*, adult, 264 mm SL; Natal.