

Redescription of *Apogon (Ostorhinchus) fleurieu* (Lacepède, 1802) with Notes on its Synonymy

Ofer Gon

(Received September 27, 1985)

Abstract The species *Ostorhinchus fleurieu* Lacepède, 1802 is recognized as a senior synonym of *Apogon aureus* (Lacepède, 1802) on the basis of diagnostic colour features of Lacepède's illustration of the species (after Commerson). The species is redescribed and a neotype designated. The synonymy of the species is discussed in the light of the history of Commerson's and Lacepède's work. *Nectamia* is replaced by *Ostorhinchus* as a subgenus of *Apogon*.

Ostorhinchus fleurieu was described by Lacepède (1802: 23–25) from Commerson's drawing published in Lacepède, (1801: pl. 32, fig. 2). The illustrated fish resembles a common Indo-Pacific apogonid species recognized by most authors as *Apogon aureus* (Lacepède, 1802) (Bleeker, 1859; Day, 1875; Weber and De Beaufort, 1929; Burgess and Axelrod, 1975; Masuda et al., 1975; Randall, 1983; Gloerfelt-Tarp and Kailola, 1984; Hayashi in Masuda et al., 1984; Shen, 1984). Lacepède (1802) described two other species, *Dipterodon hexacanthus* (pp. 166–168, figured in Lacepède, 1801: pl. 30, fig. 2) from a drawing found in Commerson's manuscripts and *Centropomus aureus* (pp. 253, 273 and 275) from a written description of Commerson. The drawing of the former and the description of the latter bear close resemblance to *Ostorhinchus fleurieu*. The apparent similarity among the three species resulted in a confusing synonymy.

On the family level, most authors (Jordan and Seale, 1906; Jordan 1917a, b; Fowler, 1918, 1927, 1928; Weber and De Beaufort, 1929; Smith, 1961; Fraser, 1972; and others) included *O. fleurieu* in Apogonidae, giving preference to the drawing over the description. Whitley (1959), following Lacepède's description, placed it in Oplegnathidae, renaming the family as Ostorhinchidae. On the generic level, Jordan and Snyder (1901) and Jordan (1917a, b) recognized *Ostorhinchus* Lacepède, 1802 (type: *O. fleurieu*) as a subgenus of *Apogon* Lacepède, 1801. Smith (1961) elevated it to a valid genus based on the illustration in Lacepède (1801). Fraser (1972) regarded it as a *nomen dubium* in Apogonidae, but pointed out that if the species is accepted as an apogonid, *Osto-*

rhinchus assumes the status of a subgenus in *Apogon*. On the species level, some authors (Weber and De Beaufort, 1929; Herre, 1953) regarded *Ostorhinchus fleurieu* as a doubtful name in the synonymy of *Apogon aureus*. A few recognized it as a valid name (Jordan and Snyder, 1901; Jordan and Seale, 1906; Ogilby, 1916; Fowler, 1918, 1927, 1928; Weber and De Beaufort, 1929; Fowler and Bean, 1930; Smith, 1949, 1961; Klauswitz, 1975; Shen and Lam, 1977).

Reviewing the literature dealing with these two nominal species, one readily notices the absence of references to type specimens of either one of the species. Dr. M. L. Bauchot of the Muséum National d'Histoire Naturelle in Paris confirmed that no type specimens of either species exist in the Museum collections.

The purpose of the present paper is to designate a neotype and redescribe *Apogon (Ostorhinchus) fleurieu*. The reasons for the resurrection of the name and its implications on the validity of the subgeneric name *Nectamia* Jordan, 1917 of the genus *Apogon* are discussed below.

Materials and methods

Counts and measurements generally follow Hubbs and Lagler (1958). Measurements were made to the nearest tenth of a millimeter. Depth of body was measured between the dorsal and ventral surfaces of the body at the level of the pelvic-fin base. Interorbital space is the narrowest bony width. Length of spines was taken along the anterior edge. Caudal peduncle length was taken between verticals at posterior end of anal-fin base and caudal-fin base. Body width

Table 1. Proportional measurements (as a percentage of SL) of the neotype and other specimens of *Apogon fleurieu* from the Pacific Ocean (type locality) and Indian Ocean (D₁=first dorsal fin; D₂=second dorsal fin; A=anal fin).

	Neotype				Other specimens						
	BPBM 15921	MNHN 8759	BPBM 28579	MNHN 8759	BPBM 30648	BPBM 30648	RUSI 1158	RUSI 1158	RUSI 1158	RUSI 12345	RUSI 12345
Standard length (mm)	92.5	72.7	79.3	80.3	83.5	87.0	98.0	102.5	105.3	116.5	121.0
Head length (mm)	38.4	27.4	30.0	30.4	34.1	34.7	37.3	40.7	38.4	43.1	49.0
Depth of body	44.6	37.3	41.2	38.6	43.5	43.4	41.6	43.2	43.4	43.9	42.4
Width of body	19.4	17.6	18.4	18.2	19.0	20.2	17.3	20.2	17.7	19.8	20.5
Head length	41.5	37.7	37.8	37.9	40.9	39.9	38.1	39.7	36.5	37.0	40.5
Snout length	7.0	7.2	6.9	7.1	6.5	6.7	7.0	7.6	6.6	7.7	8.1
Eye diameter	15.7	14.2	13.6	13.9	15.4	14.6	14.1	13.9	12.4	12.5	12.6
Interorbital width	9.6	8.4	8.9	8.5	9.4	9.4	8.9	8.5	8.5	9.0	9.4
Upper jaw length	20.5	18.4	18.3	18.8	19.5	19.4	19.1	19.8	17.7	19.5	18.8
Lower jaw length	24.0	23.5	21.3	23.2	23.6	24.0	23.2	24.0	23.1	23.0	24.4
D ₁ base	12.7	13.1	13.6	14.4	13.0	13.4	14.1	14.0	14.5	13.5	13.4
First D spine	2.2	2.2	2.4	2.1	2.5	2.4	2.9	2.5	2.3	2.4	2.9
Second D spine	10.0	8.7	9.1	8.1	8.9	8.9	8.8	8.1	8.6	7.6	8.4
Longest D spine	21.3	20.3	19.3	19.7	20.9	21.7	22.4	20.9	18.9	19.7	20.9
Longest D ray	28.3	27.5	24.7	27.6	27.8	27.7	—	24.7	28.3	25.2	—
D ₂ base	18.2	16.9	17.8	18.2	16.9	16.5	17.2	17.6	18.9	18.0	18.4
A base	15.6	15.4	16.3	16.4	15.0	15.5	16.7	16.5	17.5	16.7	17.2
First A spine	3.1	2.2	2.3	2.5	2.1	2.6	3.5	2.3	2.8	2.6	3.1
Second A spine	16.0	12.2	12.6	12.3	13.4	13.7	15.5	12.8	12.9	12.2	13.3
Longest A ray	24.7	22.7	20.7	23.7	23.5	23.3	23.7	23.2	23.2	19.4	22.4
Pectoral fin length	29.9	26.5	25.3	27.4	29.6	28.4	27.6	27.6	26.6	25.5	25.8
Pelvic fin length	27.0	24.5	23.0	24.7	26.8	27.3	26.5	25.9	—	23.5	24.4
Pelvic spine length	17.6	15.4	15.0	15.2	17.0	17.5	16.7	16.2	15.8	15.5	16.1
Peduncle depth	16.9	16.0	16.5	16.2	17.2	16.9	15.8	16.6	17.4	16.2	15.7
Peduncle length	21.8	23.1	22.7	24.7	21.5	23.2	23.0	21.6	21.3	20.4	22.1
Snout to D ₁	43.9	41.1	41.6	41.5	43.0	43.0	41.4	43.2	41.2	41.7	41.5
Snout to D ₂	62.5	60.1	60.5	61.5	62.7	62.5	60.3	62.7	60.9	61.3	60.6
Snout to A	67.6	60.1	63.8	64.1	66.9	68.6	69.2	67.8	68.5	67.5	69.2
Snout to pelvic	43.2	37.6	38.6	37.6	39.8	42.6	42.4	42.4	39.3	39.1	43.6

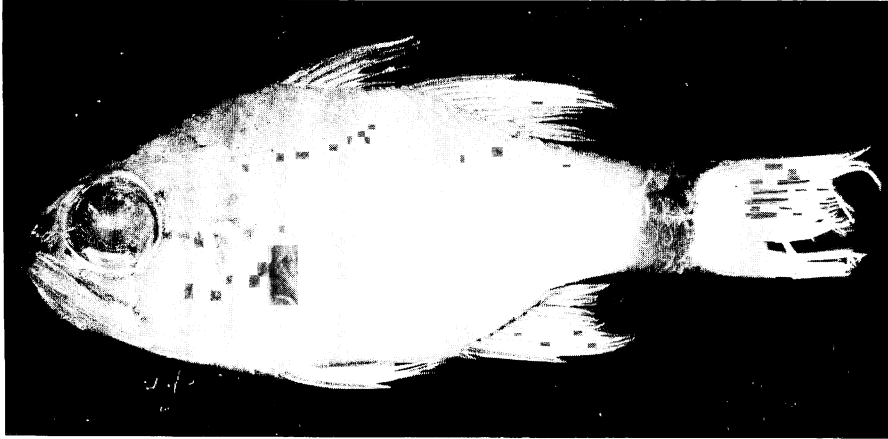


Fig. 1. Neotype of *Apogon fleurieu*, BPBM 15921, 92.5 mm SL, male, New Guinea, Port Moresby, Manuabada Island.

is the greatest width of the body.

Pectoral-fin rays were counted on both sides of the fish and include the uppermost rudimentary ray. Gill-raker count includes rudiments. Lateral-line scales were counted on the left side and include all pored scales. The last dorsal and/or anal rays are split to base but were counted as one ray.

The description below is based on 11 specimens collected in New Guinea, Philippines, Mauritius and South Africa (Table 1). Data in parentheses refer to specimens other than the neotype. The neotype is deposited in the Bernice P. Bishop Museum, Honolulu (BPBM). Other specimens are deposited in the Muséum National d'Histoire Naturelle, Paris (MNHN) and in the J. L. B. Smith Institute of Ichthyology, Grahamstown (RUSI).

Apogon (Ostorhinchus) fleurieu

(Lacepède, 1802)

(Fig. 1)

Ostorhinchus fleurieu Lacepède, 1801: pl. 32, fig. 2; 1802: 23 (type locality, Pacific Ocean); Smith, 1961: 399, pl. 46, fig. D (Natal, Mozambique).

Centropomus aureus Lacepède, 1802: 253, 273, 275 (type locality, Mauritius).

Apogon roseipinnis Cuvier in Cuvier and Valenciennes, 1829: 361 (type locality, Ceylon).

Apogon aureus: Bleeker, 1859: 6 (New Guinea); Day, 1875: 61, pl. 16, fig. 8 (India).

Amia aurea: Bleeker, 1863: 249 (Flores Island).

Apogon annularis (non Rüppell): Playfair and Günther, 1866: 20 (Zanzibar).

Amia fleurieu. Jordan and Seale, 1906: 244 (Samoa).

Apogon fleurieu; Smith, 1949: 207, pl. 22, fig. 481 (Natal, Mozambique).

Gronovichthys aureus: Munro, 1956: 142, fig. 890 (Queensland, Western Australia).

Neotype. BPBM 15921, one specimen, 92.5 mm SL (standard length), male, New Guinea, Port Moresby, Manuabada Island, west side, isolated reef patch, 19 m, Rotenone, J. E. Randall and M. Wilson, 22 August 1973.

Other specimens. BPBM 28579, 1, 79.3 mm SL, Philippines, Negros, off South Sea Resort Hotel, Dumaguete City, 5 m, Rotenone, J. E. Randall and M. J. Gawel, 4 June 1981; BPBM 30648, 7, 83.5–87.0 mm SL, collection data as for neotype; MNHN 8759, 2, 72.7, 80.3 mm SL, Mauritius, Mr. Dussumier, 1830?; RUSI 74-90, 2, 79.3, 83.4 mm SL, Mozambique, Inhaca, T. H. Fraser, 14 Dec. 1970; RUSI 75-36, 2, 39.5, 49.2 mm SL, Grand Comore Island, J. E. McCosker, 19 Feb. 1975; RUSI 1158, 3, 98.0–105.3 mm SL, Mauritius, J. de B. Baissac, Jan. 1971; RUSI 3164, 1, 86.5 mm SL, Mozambique, Pinda, J. L. B. Smith and M. M. Smith, 18 June 1950; RUSI 3165, 3, 63.1–86.4 mm SL, Mozambique, J. L. B. Smith and M. M. Smith, June 1950; RUSI 3166, 1, 68.8 mm SL Seychelles, Mahé, J. L. B. and M. M. Smith, Oct. 1954; RUSI 3167, 1, 85.5 mm SL, Zanzibar, J. L. B. and M. M. Smith, 7 Dec. 1957; RUSI 3168, 1, 80.3 mm SL, Mozambique, Bazaruto Island, J. L. B. and M. M. Smith, Sept. 1953; RUSI 3169, 2, 66.7, 96.4 mm SL, Mozambique, Inhaca, J. L. B. and M. M. Smith, Aug. 1948; RUSI 3170, 8, 40.5–63.9 mm SL, Red Sea, E. Clark, Sept. 1960; RUSI 3171, 12, 43.3–62.6 mm SL, Mozambique, Delagoa Bay, J. L. B. and M. M. Smith; RUSI 3172, 2, 47.8, 53.5 mm SL, Mozambique, Inhaca, J. L. B. and M. M. Smith, 26 Aug. 1949; RUSI 3173, 1, 66.5 mm SL, South Africa, Durban, J. L. B. and M. M. Smith; RUSI 3174, 2,

41.3, 51.0 mm SL, collection data unknown; RUSI 3175, 1, 54.2 mm SL, Seychelles, Mahé, J. L. B. and M. M. Smith, Oct. 1954; RUSI 3176, 1, 43.0 mm SL, Seychelles, Assumption, J. L. B. Smith and M. M. Smith, 11 Nov. 1954; RUSI 3205, 1, 54.0 mm SL, collection data unknown; RUSI 4398, 3, 63.7–74.5 mm SL, Mozambique, Quilaluia, M. M. Smith and R. E. Stobbs, 12 Oct. 1973; RUSI 9207, 3, 32.8–45.9 mm SL, South Africa, Sodwana, P. C. Heemstra and T. Hecht, 9 Apr. 1979; RUSI 11655, 8, 85.0–91.0 mm SL, South Africa, mouth of Durban Harbour, P. C. Heemstra and M. M. Smith, 16 Mar. 1980; RUSI 12345, 3, 102–121 mm SL, South Africa, Natal, Durban, wreck off Brighton Beach (29°56'S, 31°01'E), Rotenone, P. C. Heemstra and A. Connell, 29 Apr. 1980; RUSI 16074, 2, 88.1, 96.9 mm SL, Natal, J. L. B. Smith and M. M. Smith.

Diagnosis. Pectoral-fin rays 14. Pored lateral-line scales 28. Developed gill-rakers 17–23. A black spot under each lateral-line scale. Dark spots on membrane between bases of anal-fin rays. A dark band around caudal peduncle. The combination of these characters distinguishes *Apogon fleurieu* from all other congeners.

Description. Dorsal fins VII+I, 9; anal fin II, 8; last dorsal and anal ray sometimes split to base. Pectoral-fin rays 14. Principal caudal-fin rays 9+8, upper and lowermost unbranched. Pored lateral-line scales 28. Predorsal scales 5 (4 or 5). Gill-rakers 5 to 7+15 to 19 (developed rakers 17 to 23). Branchiostegal rays 7. Vertebrae 10+14.

Measurements as a percentage of SL are given in Table 1. Body deep and compressed, the maximum depth (at pelvic fin insertion) 2.2 (2.3 to 2.7) in SL. Head large, the length 2.4 (2.4 to 2.7) in SL. Dorsal profile of head slightly convex, a small hump develops above posterior margin of eye. Snout short, 5.9 (4.7 to 6.3) in head length. Nostrils small, of similar shape and diameter, situated in front of orbit. Anterior nostril lower and closer to upper lip and with a low rim. Eye diameter 2.6 (2.6 to 3.2) in head length. Interorbital space slightly elevated along mid-line of head, its width 4.3 (4.1 to 4.7) in head length. Mouth large, oblique, maxilla partly covered by suborbital bone, reaching posteriorly under rear margin of pupil. Upper jaw length 2.0 (1.9 to 2.2) and lower jaw 1.7 (1.6 to 1.8) in head length. Lips thin. Both jaws with a polyserial band of small, conical teeth. A patch of slightly larger, recurved teeth at symphysis of

lower jaw. Vomer V-shaped, with 1–2 rows of small teeth becoming larger posteriorly. Palatines with 1–2 somewhat irregular rows of small teeth. Posttemporal bone usually serrated. Preopercle ridge smooth, edge serrated. Gill membranes free from isthmus and gill opening extends anteriorly to under front margin of eye. Gill-rakers slender, moderately long, not more than half eye diameter. Gill filaments shorter than gill-rakers. Body covered with large ctenoid scales. Lateral line complete, extending onto caudal fin. The pored scales slightly larger than body scales. Last lateral-line scale elongate and pointed. Predorsal scales reach forward to above preopercle ridge. Opercular bones scaled. Interorbital space and snout naked. No scales on fin membranes. Origin of 1st dorsal fin on a vertical with pectoral and pelvic insertion. First dorsal fin base 7.8 (6.9 to 7.7) in SL. First dorsal spine short 4.4 (2.9 to 4.1) in 2nd spine. Second dorsal spine 2.1 (2.1 to 2.6) in longest spine. Longest dorsal spine (usually third) 1.9 (1.7 to 2.0) in head length. Second dorsal fin base 5.5 (5.3 to 6.0) in SL. Longest dorsal ray 1.5 (1.3 to 1.6) in head length. Anus between tips of pelvic fins. Origin of anal fin under third to fourth soft dorsal ray. Anal fin base 6.4 (5.7 to 6.6) in SL. First anal spine short 5.1 (4.4 to 6.2) in second spine. Second anal spine 2.6 (2.5 to 3.1) and longest anal ray 1.7 (1.6 to 1.9) in head length. Margin of second dorsal and anal fins emarginate. Pectoral fin 3.3 (3.4 to 3.9) in SL, somewhat pointed dorsally, upper rays longest. Pelvic fin 1.5 (1.4 to 1.7) in head, not reaching anal origin. Pelvic spine 2.4 (2.3 to 2.5) in head length. Caudal peduncle short and deep, the depth 1.3 (1.2 to 1.4) in the length and the length 4.6 (4.0 to 4.9) in SL. Caudal fin emarginate.

Colouration. In life: golden to rusty red with metallic sheen. Snout dusky with a dark stripe from tip through eye to preopercle edge (sometimes continues to edge of opercle). Upper and lower margins of the stripe with thin, iridescent blue lines; similar iridescent line along mid-line of maxilla expansion. A black spot under center of each lateral-line scale. A small dark spot on membrane between bases of anal-fin rays. A dark, wide band encircling caudal peduncle at caudal-fin base. Front of first dorsal fin dusky to dark. Other fins pinkish red and transparent. A color illustration of this species is given by

Burgess and Axelrod (1975: fig. 101), Masuda et al. (1975; pl. 37, fig. G), Masuda et al. (1984: pl. 131, fig. I) and Randall (1983: species no. 82).

In alcohol: light brown to whitish yellow. Head darker than body, both usually covered with small dark spots, larger on head. The dark stripe from tip of snout to edge of preopercle, dark spots under centre of lateral-line scales and dark spots along anal-fin base may all disappear after a long period in preservative. Front of first dorsal fin as well as first spine and ray of other fins except pectoral fin dusky. Frequently silvery reflecting areas appear on opercle, from under pectoral fin down to pelvic fin and throat. Upper section of gill chamber and gill-rakers on upper 2/3 of gill arches dusky to dark.

Remarks. The pigmentation of the caudal-fin base, gill chamber and gill arches changes with age. Specimens up to about 50 mm SL have a large caudal spot. As the fish grows the pigment spreads to encircle peduncle. Frequently the pigmentation is diffuse on lower side and ventral surface of peduncle. Upper section of gill chamber and bases of rakers on upper limb of arches darkening at about 35–40 mm SL. Dark pigment spreads ventrally and along rakers. Body pigmentation varies from no spots to fairly densely covered. A row of dark spots along anal-fin base may be apparent in fishes smaller than 40 mm SL. The peritoneum is silvery and the intestine dark brown to black. In preserved material the testes are opaque white and the ovaries creamy white enveloped in silvery mesentery.

Discussion

At the end of 1766 Philibert Commerson (an enthusiastic naturalist) joined the famous French navigator Louis-Antoine de Bougainville on a long voyage around the world. During that voyage Commerson collected fish in the Atlantic Ocean, along the coast of Brazil and the Malay Archipelago (Cuvier and Valenciennes, 1828a: 89). He disembarked in Mauritius where he resided until his death in 1773. During his stay he collected and studied terrestrial and aquatic animals of the islands of Mauritius (Ile-de-France) and Madagascar. According to Cuvier and Valenciennes (1828a: 90) Commerson's descriptions were accompanied by dried specimens and drawings made by himself, Sonnerat (whom he

met in Mauritius and became friendly with) and a painter named Jossigny. After Commerson's death his collections and papers were delivered to Buffon who made use of the notes concerning bird life and ignored the rest. Lacepède received Commerson's collections and papers in a state of great disorder and had difficulty in relating descriptions to drawings (Cuvier and Valenciennes, 1828a: 127). Political circumstances following the French revolution forced Lacepède out of Paris to seek refuge in the country. Unfortunately notes, drawings and collections were left behind and he went on writing his book on the natural history of fishes without having Commerson's material at his disposal (Bauchot, 1976). Undoubtedly, the mishandling of Commerson's material and the conditions under which Lacepède had worked resulted in inaccuracy, confusion and error. Cuvier and Valenciennes (1828a: 127–128) pointed out that Lacepède often confused drawings and descriptions of 3 or 4 fishes with each other and even put the imaginary fishes he created in different genera. For example, *Bodianus hirsutus* was given 5 different names (3 by Lacepède) and the same fish was used 3 times as holotype for Lacepède's species and as a paratype for a species of Valenciennes (Bauchot, 1976).

Cuvier (in Cuvier and Valenciennes, 1828b: 107), in his discussion of the genus *Apogon* referred to the drawing of *Ostorhinchus fleurieu* published in Lacepède (1801: pl. 32, fig. 2; Fig. 2), but did not mention a description made by Commerson. Later on he assumed (p. 108) that Commerson's description which led Lacepède to create *A. aureus* refers to that drawing.

Lacepède's account of "L'ostorhinque fleurieu" (1802: 24–25) may be divided into three sections. The first section is a description of the fins and the mouth of the group which Lacepède named "Les ostorhinqes", by a comparison with scarids, diodontids and tetraodontids, as well as other animals such as tortoises and parrots. The second section begins with Lacepède's words (1802: 24): "Ils (les ostorhinqes) ne composent encore qu'une espèce, dont nous publions la description d'après les manuscrits de Commerson, qui en a dessiné les traits", which indicates that the description of the species is based on Commerson's original drawing of the fish. It is then followed by collection details and the naming of

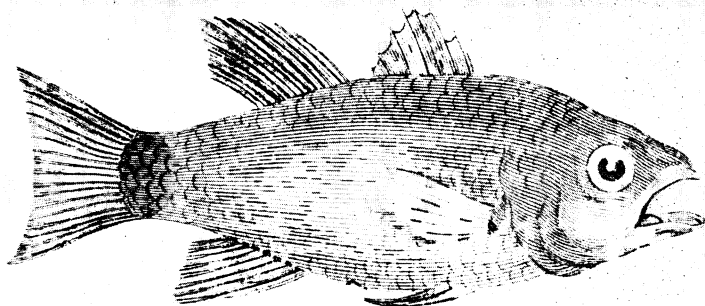


Fig. 2. *Ostorhinchus fleurieu* (from Lacepède, 1801: pl. 32, fig. 2).

the species after Mr. Fleurieu. The third section is the actual description of the species and begins with Lacepède's words (1802: 24, last line): "L'ostorhinque que nous examinons..." Since Lacepède's description does agree with the drawing, the latter is recognised here as truly representing the species *O. fleurieu*.

Whitley (1959) was wrong in placing *O. fleurieu* in Oplegnathidae. Oplegnathids have a single dorsal fin, deeper body and much smaller scales. The unmistakable dissimilarity between the fish in Commerson's drawing in Lacepède (1801: pl. 32, fig. 2; Fig. 2) and oplegnathids leads one to conclude that Whitley (1959: 315) overlooked Commerson's drawing in Lacepède. Furthermore, Whitley (1959) based his argument for accepting the genus *Ostorhinchus* in Oplegnathidae on the first section of Lacepède's account, but was uncertain in synonymizing *O. fleurieu* with any oplegnathid species. It seems that the description of the mouth, which Whitley considered as of great importance, is Lacepède's own interpretation from Commerson's drawing. In fact, in his description of the fish, Lacepède (1802: 25) pointed out that the lower jaw is in advance of the upper jaw. In scarids, diodontids and tetradodontids the upper jaw usually projects in front of the lower jaw. Obviously, Lacepède's observation points out a superficial resemblance to these groups which does exist in the drawing.

Most authors (Jordan and Seale, 1906; Jordan, 1917a, b; Fowler, 1918, 1927, 1928; Weber and De Beaufort, 1929; Fowler and Bean, 1930; Smith, 1961; Fraser, 1972; and others) have regarded the drawing of *O. fleurieu* as representing an apogonid fish despite the erroneous fin-ray

count and absence of lateral line (also indicated in the text). Referring to that problem, Smith (1961: 399) commented: "...to me his (Lacepède's) 1802, pl. 32, fig. 2 of *fleurieu* represents nothing else (but an apogonid fish)...and I find it a better representation of the species than others of his (Lacepède's), whose names are now in common use". Recent authors who reject recognition in *Apogon* seem to have legitimately done so. However, they will be wrong in judging the work of early ichthyologists according to present scientific standards. The somewhat philosophical question as to how much inaccuracy and discrepancy in early works may be accepted by modern ichthyology has no clearcut resolution, and rules cannot be set. In the present case, evidence for and against recognition of the name should be reviewed keeping in mind the misfortune of Commerson's collections and papers, the conditions under which Lacepède had to work and the nature of his work as described above. Furthermore, when diagnostic features of a species are recorded in a drawing or a description, other inaccuracies may be ignored. For example, *Cheilodipterus lineatus* (Lacepède, 1801: p. 542, pl. 34, fig. 1) as known today, is undoubtedly the species in Lacepède's illustration. Yet, in comparing the number of spines in the first dorsal fin, drawing (8 spines), description (9 spines) and specimens (6 spines) do not agree with each other.

Although inaccurate, Commerson's drawing of *O. fleurieu* as published by Lacepède (1801: pl. 32, fig. 2; Fig. 2), provides diagnostic features. A close examination of the illustration reveals a row of dark spots along the base of the anal fin which was apparently overlooked by Lacepède

and subsequent authors. The combination of the row of dark spots with the dark band on the caudal peduncle is found only in the species here identified as *Apogon fleurieu* and in *A. annularis* Rüppell, 1829 from the Red Sea. However, *A. annularis* is a smaller species readily distinguished from *A. fleurieu* by having a diagonal cheek mark from the eye to the angle of the preopercle and by lacking the dark spots on the lateral line. In addition, *A. annularis* has 23–29 developed gill-rakers as opposed to 17–23 in *A. fleurieu*.

Dipterodon hexacanthus was described by Lacepède (1802) from Commerson's drawing figured in Lacepède (1801: pl. 30, fig. 2). It also resembles an apogonid fish, but the description of its teeth and the head scalation as shown in the illustration have not been found in any known apogonid species. Fraser's (1972) treatment of that species as a *nomen dubium*, possibly in Apogonidae, and its rejection from genus *Apogon* is accepted here.

Lacepède's description of *A. aureus* (1802: 253) is a mere translation of Commerson's (1802: 273, footnote 4). Unfortunately no illustration is available, but the golden coppery colour of the body, the dark first dorsal fin and the black caudal fin base mentioned in the description represent the most conspicuous colour features of a live *A. fleurieu*. Thus, *A. aureus* becomes a junior synonym of *A. fleurieu*.

It may be argued that the replacement of *Apogon aureus* with *A. fleurieu* is disturbing stability. Such an argument do not apply in this case since the specific name *fleurieu* was recently used by some authors as a valid name (Smith, 1961; Klausewitz, 1975; Shen and Lam, 1977). As shown above, *A. fleurieu* is clearly an identifiable taxon and its acceptance complies with the Principle of Priority as specified by the International Code of Zoological Nomenclature (Article 23). If the senior name, *A. fleurieu*, is rejected in order to maintain stability, it should then be removed from the status of a *nomen dubium* and be placed in the synonymy of *A. aureus*.

Jordan and Snyder (1901), who regarded *A. fleurieu* as a valid name senior to *A. aureus*, divided the genus *Apogon* Lacepède, 1801 into two subgenera, namely *Ostorhinchus* Lacepède, 1802 (seven dorsal spines) and *Apogon* (six dorsal spines), both with a forked to lunate caudal fin. In a later work, while maintaining *Ostorhinchus*

at the subgenus level (Jordan, 1917a, b), Jordan (1917b) created the genus *Nectamia* based on specimens identified as *Apogon fuscus* Quoy et Gaimard, 1824, from Guam and Samoa, with six dorsal spines, large scales, long and rounded caudal fin and long caudal peduncle. Fraser (1972) regarded *Ostorhinchus* as a *nomen dubium*. In addition, finding Jordan's reasons for separating *Nectamia* from *Apogon* unjustified, he lowered *Nectamia* to a subgenus of *Apogon*, assigning to it a large and varied group of species, including *A. aureus*. According to Fraser (1972), if the seniority of *A. fleurieu* over *A. aureus* is accepted then *Ostorhinchus* must replace *Nectamia* as a subgenus of *Apogon*.

Acknowledgments

I wish to thank Dr. M. L. Bauchot of the Muséum National d'Histoire Naturelle, Paris for providing specimens and historical information and Dr. J. E. Randall and Mr. A. Y. Suzumoto of the Bernice P. Bishop Museum, Honolulu for loans of specimens. Mrs. P. Hodnett of the Albany Museum and Ms. C. Damerell of Rhodes University, both in Grahamstown, were indispensable in translating French papers. Dr. P. C. Heemstra of the J. L. B. Smith Institute of Ichthyology kindly reviewed the manuscript.

Literature cited

- Bauchot, M. L. 1976. Les poissons en herbier de Commerson. Trav. Docums. O.R.S.T.O.M. (47): 3–9.
- Bleeker, P. 1859. Enumeratio specierum piscium hucusque in Archipelago Indico observatarum. Act. Soc. Sci. Indo-Neerl., 6, xxxvi+276 pp.
- Bleeker, P. 1863. Deuxième notice sur la faune ichthyologique de l'île de Flores. Ned. Tijdschr. Dierk., 1: 248–252.
- Burgess, W. and H. R. Axelrod. 1975. Pacific marine fishes. The fishes of Melanesia, Book 6. T.F.H. Publ., Neptune City, pp. 1387–1654.
- Cuvier, G. and A. Valenciennes. 1828a. Histoire naturelle des poissons, 1. Strasbourg, xiv+424 pp., pls. 1–8.
- Cuvier, G. and A. Valenciennes. 1828b. Histoire naturelle des poissons, 2. Strasbourg, xvii+371 pp., pls. 9–40.
- Cuvier, G. and A. Valenciennes. 1829. Histoire naturelle des poissons, 3. Strasbourg, xxii+368 pp., pls. 41–71.

- Day, F. 1875. The fishes of India, 1. London, 168 pp., 40 pls.
- Fowler, H. W. 1918. New and little-known fishes from the Philippines. Proc. Acad. Nat. Sci. Philad., 70: 2-71.
- Fowler, H. W. 1927. Notes on the Philippine fishes in the Collection of the Academy. Proc. Acad. Nat. Sci. Philad., 76: 255-297.
- Fowler, H. W. 1928. The fishes of Oceania. Mem. Bernice P. Bishop Mus., 10: 1-540.
- Fowler, H. W. and B. A. Bean. 1930. The fishes of the families Amiidae, Chandidae, Duleidae, and Serranidae, obtained by the United States Bureau of Fisheries Steamer Albatross in 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. U.S. Natn. Mus., Bull. 100, 10, ix+334 pp.
- Fraser, T. H. 1972. Comparative osteology of the shallow water cardinal fishes (Perciformes: Apogonidae) with reference to the systematics and evolution of the family. Ichthyol. Bull. J. L. B. Smith Inst. Ichthyol., (34): 1-105, pls. 1-44.
- Gloerfelt-Tarp, T. and P. J. Kailola. 1984. Trawled fishes of southern Indonesia and northwestern Australia. The Australian Development Assistance Bureau, the Directorate General of Fisheries, Indonesia, and the German Agency for Technical Cooperation, xvi+406 pp., 3 pls.
- Herre, A. W. 1953. Checklist of Philippine fishes. Res. Rep. U.S. Fish Wildl. Serv., 20: 1-977.
- Hubbs, C. L. and K. F. Lagler. 1958. Fishes of the Great Lakes region (revised ed.). Bull. Cranbrook Inst. Sci., 26, lxi+213 pp., 44 pls.
- Jordan, D. S. 1917a. The genera of fishes, from Linnaeus to Cuvier, 1758-1833, with the accepted type of each. A contribution to the stability of scientific nomenclature. Stanford Univ. Publ., Univ. Ser., pp. 1-161.
- Jordan, D. S. 1917b. Notes on *Glossamia* and related genera of cardinal fishes. Copeia, 1917 (44): 46-47.
- Jordan, D. S. and A. Seale. 1906. The fishes of Samoa; description of the species found in the Archipelago with a provisional check-list of the fishes of Oceania. Bull. Bur. Fish., Wash., 1905 (1906), 25: 173-455, pls. 38-53.
- Jordan, D. S. and J. O. Snyder. 1901. A review of the cardinal fishes of Japan. Proc. U. S. Natn. Mus., 23(1240): 891-913.
- Klausewitz, W. 1975. Handbuch der Meeres-Aquaristik Seewasserfische. Band I Knochenfische, 1 Teil. Engelbert Pfriem Verlag, Wuppertal-Elberfeld, 220 pp.
- Lacepède, B. 1801. Histoire naturelle des poissons, 3. Paris, lxvi+558 pp., 34 pls.
- Lacepède, B. 1802. Histoire naturelle des poissons, 4. Paris, xlv+728 pp., 16 pls.
- Masuda, H., C. Araga and T. Yoshino. 1975. Coastal fishes of southern Japan. Tokai Univ. Press, Tokyo, 379 pp.
- Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino, eds. 1984. The fishes of the Japanese Archipelago. English text and plates. Tokai Univ. Press, Tokyo, xxii+437 pp., 370 pls.
- Munro, I. S. R. 1956. Handbook of Australian fishes. Fisheries Newsletter, October 1960, 35: 141-144.
- Ogilby, J. D. 1916. Ichthyological notes no. 3. Mem. Qld. Mus., 5: 181-185.
- Playfair, R. L. and A. Günther. 1866. Fishes of Zanzibar. John van Voorst, Paternoster Row, London, 153 pp., 21 pls.
- Quoy, J. R. C. and J. P. Gaimard. 1824. Voyage de l'Uranie. Zoologie. Paris, 712 pp.
- Randall, J. E. 1983. Red Sea reef fishes. Immel Publ., London, 192 pp.
- Shen, S. C. 1984. Coastal fishes of Taiwan. Taipei, 379 pp.
- Shen, S. C. and C. Lam. 1977. A review of the cardinal fishes (family Apogonidae) from Taiwan. Acta Oceanogr. Taiwan, 7: 154-192.
- Smith, J. L. B. 1949. The sea fishes of southern Africa. Central News Agency Ltd., Cape Town, 580 pp., 111 pls.
- Smith, J. L. B. 1961. Fishes of the family Apogonidae of the western Indian Ocean and the Red Sea. Dept. Ichthyol., Rhodes Univ., Ichthyol. Bull., 22: 373-418, 52 pls.
- Weber, M. and L. F. De Beaufort. 1929. Fishes of the Indo-Australian Archipelago, 5. E. J. Brill, Leiden, xiv+458 pp.
- Whitley, G. P. 1959. Ichthyological snippets. Austr. Zool., 7(4): 310-333.
- (J. L. B. Smith Institute of Ichthyology, Grahamstown 6140, South Africa)

Apogon (Ostorhinchus) fleurieu (Lacepède, 1802) の再記載とシノニムについての知見

Ofer Gon

Lacepède (1802) により発表された *Ostorhinchus fleurieu* について Commerson の描いた図の色彩的な特徴を基に検討した結果、アオスジテンジクダイ *Apogon aureus* (Lacepède, 1802) の古参シノニムであることが明らかになった。本報で本種の再記載を行い、新模式の指定を行った。また本種のシノニム関係について、Commerson と Lacepède の仕事に基づき検討した。*Apogon* 属の亜属として現在用いられている *Nectamia* は *Ostorhinchus* 亜属に置き換えられる。