Two New Species of the Deep-Sea Cardinalfish Genus *Epigonus* (Perciformes, Apogonidae) from the Hawaiian Islands, with a Key to the Hawaiian Species¹

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ABSTRACT: Two new species of deep-sea cardinalfish are described from specimens that were collected in Hawaiian waters. *Epigonus glossodontus* and *E. devaneyi* have fewer lateral-line scales than all known congeners except *E. oligolepis*, to which they are most closely related. *Epigonus glossodontus* has two or three large, anteriorly projecting teeth on each side of the symphysis of the lower jaw, and both species have scales on the upper part of the snout. A key to the Hawaiian species of *Epigonus* is provided.

UNTIL RECENTLY, the deep-sea cardinalfishes were an assemblage of problematic genera traditionally grouped in Apogonidae, without proper establishment of their generic and familial relationships or their taxonomic status. Fraser (1972) recognized only three of these genera as true apogonids, namely Epigonus Rafinesque, 1810, Rosenblattia Mead and De Falla, 1965, and Florenciella Mead and De Falla, 1965, all of which formed the subfamily Epigoninae. Epigonus, the largest genus in the subfamily, was revised by Mayer (1974), who recognized 12 species. Epigonus is characterized by dorsal rays VII-VIII + I,9-10; anal rays II,9; pectoral rays 15-23; gill rakers 17-35; suborbital bones 8; and large swim bladder with posterodorsal oval. Epigonus has a worldwide temperature-limited distribution. Most species prefer the temperature range of 5-13°C and inhabit the continental slope at depths of 200-1200 m. Two species were previously known from Hawaiian waters: E. occidentalis Goode and Bean, 1896, known also from the western Pacific Ocean, Caribbean Sea, and Gulf of Mexico; and E. fragilis Jordan and Jordan, 1922, a Hawaiian endemic (Mayer 1974).

Five specimens of *Epigonus glossodontus* were collected by Dennis M. Devaney of the

Bernice P. Bishop Museum, Honolulu, during a deep dive (366 m) aboard the submersible *Makali'i* in Mamala Bay, off Pearl Harbor. Three specimens of *E. devaneyi*, trawled off Necker Island in the Hawaiian archipelago, were donated to the Bishop Museum by the National Marine Fisheries Service, Honolulu Laboratory.

METHODS

Counts and measurements generally follow Hubbs and Lagler (1958). Measurements are made to the nearest 0.1 mm. Depth of body is measured between the dorsal and ventral surfaces of the body at the level of the pelvic insertion. Interorbital width is the least bony width. Length of lower jaw is taken from tip of jaw to angular bone. Length of fin bases is measured from origin of first spine to origin of last ray. Length of spines is taken along the anterior edge. Caudal peduncle length is the distance between verticals at the posterior end of the anal fin base and the caudal fin base. Body width is the greatest width of the body. Pectoral rays are counted on both fins and include the uppermost rudimentary ray. Gillraker counts include rudiments. The last dorsal and/or anal rays are sometimes split to the base, but are counted as one ray.

In the descriptions below, data in parentheses refer to paratypes. Type specimens of the species described are deposited in the Bernice P. Bishop Museum, Honolulu (BPBM).

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FIGURE 1. Holotype of Epigonus glossodontus, BPBM 28611, 78.3 mm SL, Hawaiian Islands.

KEY TO THE HAWAIIAN SPECIES OF Epigonus

1a.	Opercular spine weak, poorly ossified, not visible (unless skin is removed); pectoral rays 16–17
1b.	Opercular spine strong, bony, extending beyond opercular membrane; pectoral rays 19–21
	<i>E. occidentalis</i>
2a.	Pored lateral-line scales 37–40; scales between lateral line and origin of first dorsal fin $2\frac{1}{2}$
2b.	Pored lateral-line scales 48; scales between lateral line and origin of dorsal fin $3\frac{1}{2}$; vomerine
	teeth arranged in an oval patch covering most of bone surface E. fragilis
3a.	Two or three large, anteriorly projecting teeth on each side of symphysis of lower jaw;
	lingual teeth long, slender and arranged in a V-shaped patch with the apex pointing
	posteriorly; pyloric caeca 6–8 E. glossodontus
3b.	Large teeth on symphysis of lower jaw absent; lingual teeth absent; pyloric caeca $7-10$.
	E. devaneyi

Epigonus glossodontus n. sp.

Figures 1, 2, Table 1

HOLOTYPE: BPBM 28611, 78.3 mm SL, male, Hawaiian Island, Mamala Bay, off Pearl Harbor, isolated rocky outcrop, small caves in vertical face, 366 m, rotenone, D. M. Devaney, aboard submersible *Makali'i*, 1 September 1982.

PARATYPES: BPBM 30278, 4:39.6–61.0 mm SL, same data as holotype.

DESCRIPTION: Dorsal rays VII + I,10; anal rays II,9; last dorsal and anal rays sometimes split to base; pectoral rays 17; principal caudal rays 9 + 8; pored lateral-line scales 38 (37–39); scales between lateral line and first dorsal fin $2\frac{1}{2}$; scales between lateral line and anal origin 7; predorsal scales 16 (13–16); branchiostegal rays 7; gill rakers 5-6 + 19-21; pyloric caeca 8 (6–8); vertebrae 10 + 15.

Body elongate, moderately compressed, depth 3.8 (3.9–4.3), width 1.6 (1.4–1.6), head length 3.0 (2.6–2.8) in SL; dorsal profile of head slightly convex; eye large, orbit diameter 2.5 (2.3-2.7) in head length; interorbital space wide, the width 4.0 (3.8–4.1) in head length; snout short and rather pointed, its length 5.4 (4.4–4.6) in head length. Anterior nostril round, with a low rim, located halfway between anterior margin of orbit and tip of snout; posterior nostril of equal size, located slightly above anterior nostril and halfway between it and orbit.

Mouth terminal, large and oblique; upper jaw protrusible, its length 2.5(2.4-2.5) in head



FIGURE 2. *Epigonus glossodontus. A*, dorsal view of the tip of the lower jaw (dashed circle = missing tooth; paratype, BPBM 30278, 61 mm SL); *B*, semidiagrammatic dorsal view of the toothed tongue of holotype.

length; maxilla long and slender, reaching under anterior margin of pupil, partly covered by suborbital bone; lower jaw slightly longer 2.3(2.1-2.4) in head length, its tip fitting into a toothless depression in upper jaw; chin nubs absent. Upper jaw teeth moderately long, conical, widely spaced, decreasing in size posteriorly, arranged in a single series visible when mouth closed; tip of lower jaw curved slightly upward, the symphysis forming a thick bony projection; two large anteriorly projecting teeth on each side of symphysis of lower jaw with two or three smaller, retrorse teeth at their base (Figure 2); sides of lower jaw with small conical teeth, increasing in size posteriorly; two rows of small conical teeth along midline of vomer, the first two pairs slightly larger, grouped together and separated from the others; palatines with one or two rows of small teeth decreasing in size posteriorly; endopterygoids bearing minute teeth; lingual teeth long and slender, forming a Vshaped patch on rear three-fourths of tongue with its apex pointing posteriorly (Figure 2).

Opercular spine weak; opercular bones not

serrate, posterior edge of preopercle poorly ossified; gill opening wide, free from isthmus, extending forward under center of orbit; gill rakers moderately long, longest about half diameter of eye; inner edge of rakers scalloped and armed with small, slender teeth; anterior rakers on lower limb with a wide base and a large basal projection; gill filaments shorter than gill rakers.

Body covered with large ctenoid scales; lateral line complete, following dorsal profile and extending onto caudal fin; pored scales smaller than body scales adjacent to them and have less ctenii; membranes of all fins except first dorsal fin scaled; opercular bones, interorbital and upper part of snout scaled.

Origin of dorsal fin on a vertical with upper end of pectoral fin base or slightly behind it; first dorsal base 7.9 (8.4–9.1) in SL; first dorsal spine 5.1 (4.4–5.7) in second spine; second dorsal spine 1.1 (1.1–1.2) in longest spine; longest dorsal spine, third or fourth, 2.2 (2.3–2.8) in head length; second dorsal base 8.1 (7.9–9.1) in SL; spine of second dorsal fin not long 2.8 (2.7–3.2) and longest dorsal ray

TABLE 1

PROPORTIONAL MEASUREMENTS OF TYPE SPECIMENS OF Epigonus glossodontus (AS PERCENTAGE OF STANDARD LENGTH)

	ноготуре, врвм 28611		paratypes, bpbm 30278			
Standard length (mm)	78.3	61.0	54.0	50.5	39.6	
Length of head (mm)	26.1	21.6	20.7	18.1	14.7	
Depth of body	26.3	23.8	25.5	25.1	23.1	
Width of body	16.7	14.6	15.7	15.8	16.4	
Head length	33.4	35.4	38.4	35.9	37.9	
Snout length	6.2	7.7	8.7	8.4	8.3	
Orbit diameter	13.5	13.3	15.9	15.8	14.9	
Interorbital width	8.2	8.7	9.2	9.5	9.3	
Length of upper jaw	13.2	14.1	15.4	14.4	15.4	
Length of lower jaw	14.2	15.6	16.2	17.0	17.7	
Length of first dorsal fin base	12.6	11.8	11.8	11.2	11.0	
Length of first dorsal spine	2.7	2.4	3.0	2.6	3.0	
Length of second dorsal spine	13.6	14.1	13.1	12.7	13.2	
Length of longest dorsal spine	14.8	15.1	15.5	14.6	15.1	
Length of second dorsal fin base	12.4	12.6	12.4	11.2	11.0	
Length of second dorsal fin spine	12.0	12.9	12.3	11.4	11.6	
Length of longest dorsal ray	21.0	18.2	16.1	19.0	2 <u></u>	
Length of anal fin base	10.8	11.5	10.9	10.1	10.8	
Length of first anal spine	1.5	2.0	2.2	1.6	1.8	
Length of second anal spine	11.5	13.1	12.4	11.8	11.9	
Length of longest anal ray	17.6	18.8		17.8	17.0	
Length of pectoral fin	21.6	20.5	20.5	21.0	20.4	
Length of pelvic fin	20.2	20.7	19.6	19.0	17.7	
Length of pelvic spine	12.6	13.4	13.7	12.7	12.4	
Depth of caudal peduncle	11.4	10.6	10.6	10.3	8.3	
Length of caudal peduncle	24.0	24.6	25.4	25.7	23.0	
Snout to first dorsal fin	37.4	36.9	39.5	39.0	37.9	
Snout to second dorsal fin	57.0	56.1	59.2	58.6	56.8	
Snout to anal fin	62.7	62.3	64.2	64.0	63.9	
Snout to pelvic fin	37.4	36.1	38.4	38.9	37.2	

1.6 (1.9–1.9) in head length; origin of anal fin under posterior half of second dorsal fin base; anal fin base 9.2 (8.7-9.9) in SL; first anal spine short 7.5 (5.6-7.4) in second spine; second anal spine 2.9 (2.7-3.1) and longest anal ray 1.9(1.9-2.2) in head length; pectoral fin rounded, upper middle ray longest 4.6 (4.8–4.9) in SL; pelvic insertion under lower end of pectoral fin base; pelvic length 4.9 (4.8-5.6) in SL, not reaching anal fin origin; pelvic spine 2.6 (2.6-3.0) in head length; anus between tips of pelvic fin, about three-fourths of the distance between pelvic insertion and anal fin origin; caudal peduncle length 4.2 (3.9-4.3) in SL; caudal peduncle depth 2.1 (2.1-2.8) in its length; caudal fin forked.

COLOR IN ALCOHOL: Body brown to olive-

green, darker on dorsal surface and lighter ventrally; body covered with small, dark spots, denser on head (which is darker); opercle black; proximal third of pectoral fin dusky, remaining two-thirds hyaline; all other fins dark gray to black; melanophores spread along inner side of both jaws and on anterior part of mouth floor; peritoneum blackish.

REMARKS: Dentition as described above for a mature individual of *Epigonus glossodontus* is basically present in smaller as well as immature fishes. Ontogenetic changes involve only the number and size of the teeth. The bony dentary base at the tip of the lower jaw as well as the symphyseal teeth are less conspicuous in small specimens. As the length of the fish increases, the bony base thickens, the teeth become more robust, and the angle of their forward inclination increases. Lingual teeth of the smallest specimen (39.6 mm SL) occupy the posterior half of the tongue, the lateral arms of the V-shaped patch consist of only one row of teeth. More teeth are added anteriorly and laterally as the fish grows. *Epigonus glossodontus* is closely related to *E. devaneyi* from Hawaii (described below). The most important difference is in dentition. *Epigonus devaneyi* lacks lingual and endopterygoid teeth, and its vomerine teeth are arranged in a more or less round patch. For other differences see remarks for *E. devaneyi* below.

Of all known members of the genus Epigonus, E. oligolepis Mayer, 1974, is the most closely related to E. glossodontus. Although the general pattern of dentition is similar in both species, a close examination reveals substantial differences in the arrangement and type of teeth. The large symphyseal teeth on the lower jaw are absent in E. oligolepis and its premaxilla is toothless or with a few small teeth anteriorly. Epigonus glossodontus has one series of conical teeth, increasing in size anteriorly, along the full length of the premaxilla. Both species have lingual teeth as well as teeth on the roof of the mouth. These teeth are long and slender, usually with curved tips in E. glossodontus, as opposed to the small conical teeth found in E. oligolepis. The vomer of E. oligolepis is covered with irregular tooth patches, and teeth are present along the midline of the palate (Mayer 1974). In E. glossodontus teeth on the vomer and along the midline of the palate are arranged in two rows, beginning with two pairs of teeth on the center of the vomer. The tongue of E. oligolepis is more or less triangular in shape, wide-based at the origin and gradually narrowing anteriorly, ending in a fleshy triangular tip. A distinctive median groove divides the tongue into two lobes. Both lobes are densely covered by minute teeth. The groove has much fewer teeth, mostly posteriorly. The fleshy tip bears no teeth (holotype and paratype USNM 207721). In E. glossodontus the tongue is narrow and elongate, without a median groove (Figure 2). Lingual teeth are long and slender, usually with curved tips,

arranged in a V-shaped pattern on the posterior three-fourths of the tongue. The auxiliary tooth patches on the roof of the mouth of *E. oligolepis* (Mayer 1974) are absent in *E. glossodontus*. Predorsal scales of *E. oligolepis* reach forward only to the interorbital space, but advance as far as the upper part of the snout in *E. glossodontus*. Furthermore, *E. glossodontus* has a deeper body (depth 23.1–26.3% SL versus 19.8–24.5% SL in *E. oligolepis*), fewer gill rakers (24–27 versus 29–31), fewer pyloric caeca (6–8 versus 8–10), and more lateral-line scales (37–39 versus 33–36).

The gill rakers on the lower limb of the first gill arch of *Epigonus glossodontus* are similar in form to those described by Mayer (1974) for *E. pectinifer* Mayer, 1974. Lingual teeth are found also in *E. constanciae* Giglioli, 1880, and most specimens of *E. pectinifer* (Mayer 1974). In addition, *E. constanciae* has the same number of vertebrae with plural ribs as *E. glossodontus*. Both *E. constanciae* and *E. pectinifer* have a strong opercular spine and higher lateral-line scale counts, hence are not as closely related to *E. glossodontus* as *E. oligolepis*. Dentition and scalation will separate *E. glossodontus* from all other congeners.

The holotype had a large parasitic isopod in its gill cavity.

ETYMOLOGY: *glossodontus* (Greek), toothed tongue; *glossa* = tongue; *odontos* = tooth.

Epigonus devaneyi n. sp.

Figure 3, Table 2

HOLOTYPE: BPBM 22429, 100.0 mm SL, female, Hawaiian Islands, off south end of Necker Island, 311–347 m, bottom trawl, *Townsend Cromwell* cruise 76-06, station 4, 15 October 1976.

PARATYPES: BPBM 30277, 2:65.6–68.5 mm SL, same data as holotype.

DESCRIPTION: Dorsal rays VII + I,10; anal rays II,9; pectoral rays 17 (17–18); principal caudal rays 9 + 8; scales between lateral line and origin of first dorsal fin $2\frac{1}{2}$; pored lateralline scales 38 (38–39); gill rakers 6–7 +



FIGURE 3. Holotype of *Epigonus devaneyi*, BPBM 22429, 100 mm SL, Hawaiian Islands.

20-22; branchiostegal rays 7; pyloric caeca 7 (8-10); plural ribs 7, inserted on vetebrae 3 to 9; two pterygiophores between neural spines 9 and 10; vertebrae 10 + 15.

Body elongate, moderately compressed; depth 4.1 (4.7–4.8); head large, 2.7 in SL; the dorsal profile of head straight; eye large, round to slightly oval, orbit diameter 2.4 (2.3–2.4) in head length; bony rim of orbit raised above dorsal profile; interorbital space wide, 4.2 (3.8–3.8); snout rather blunt, moderate in length, 4.4 (4.0–4.0) in head length; nostrils on dorsal surface of snout, in front of eye, both slitlike and about the same size.

Mouth terminal, oblique, and of moderate size; upper jaw protractile, its length 2.5 (2.3-2.4) in head length; maxilla long and slender, reaching posteriorly under anterior margin of pupil and partly covered by suborbital bone; lower jaw longer, 2.3 (2.1-2.2) in head length, its tip fitting into a toothless gap in upper jaws; chin nubs absent. Most teeth missing in all three specimens, either broken near base or abraded; each jaw apparently with a single series of teeth; vomer with a round to slightly oval patch of teeth in center of bone; palatines with a single row of teeth, anterior teeth vertical, located on ventral surface, posterior teeth usually horizontal, located on inner surface; symphyseal as well as lingual and endopterygoid teeth absent.

Opercular bones smooth; opercular spine weak; gill opening wide, extending forward under anterior margin of pupil, its membrane free from isthmus; gill rakers moderately long, longest raker about half orbit diameter; inner edge of gill rakers undulate near base and armed with minute teeth; gill filaments shorter than gill rakers; chin nubs absent. Scales of all three specimens were lost except for lateralline scales of holotype; scale pockets covering body and membranes of all fins except first dorsal fin; predorsal scales reaching forward to upper part of snout; opercular bones with scale pockets; lateral line complete, extending onto caudal fin, its scales ctenoid and apparently somewhat smaller than body scales.

Origin of first dorsal fin on a vertical with pelvic insertion, its base 8.2 (8.7-9.1) in SL; first dorsal spine short, about 14 in second spine; second spine long, 1.2-1.3 in longest spine: longest spine, usually the third, 2.3-2.4 in head length; origin of second dorsal fin on a vertical with anus, its base 8.1 (8.5-9.0) in SL; spine of second dorsal fine 2.9(2.7-3.0) and longest dorsal ray 2.4 in head length; origin of anal fin under rear half of second dorsal fin base; anal fin base 9.9 (9.6-9.0) in SL; first anal spine 5.4 (6.0-7.1) in second spine; second anal spine 3.0 (2.9-3.3) in head length; pectoral insertion slightly in advance of origin of first dorsal fin; pectoral fin pointed, uppermost rays longest 4.9 (5.0-5.3) in SL; pelvic spine 2.6 (2.7-3.0) in head length; anus located at about three-fourths of the distance between pelvic insertion and anal fin origin; caudal peduncle length 4.1 (3.9-4.1) in SL; caudal peduncle depth 2.5 (2.6-2.8) in its length; caudal fin forked.

COLOR IN ALCOHOL: General color reddish brown; most scale pockets on body with a

TABLE 2

PROPORTIONAL MEASUREMENTS OF TYPE SPECIMENS OF Epigonus devaneyi (as Percentage of Standard Length)

	ноготуре, врвм 22429	paratypes, bpbm 30277	
Standard length (mm)	100.0	68.5	65.6
Length of head (mm)	36.5	25.5	24.5
Depth of body	24.2	20.9	21.3
Width of body	17.0	14.9	16.2
Head length	36.5	37.2	37.3
Snout length	8.2	9.3	9.1
Orbit diameter	15.1	15.3	16.0
Interorbital width	8.7	9.8	9.7
Length of upper jaw	14.7	15.3	15.8
Length of lower jaw	15.6	16.9	17.5
Length of first dorsal fin base	12.1	10.9	11.4
Length of first dorsal spine		1.0	0.9
Length of second dorsal spine	12.0		12.9
Length of longest	15.4	—	16.1
Length of second	12.3	11.1	11.7
Length of second	12.5	12.4	13.7
Length of longest dorsal ray	15.0	-	_
Length of anal fin base	10.1	10.1	10.4
Length of first anal spine	2.2	1.5	2.1
Length of longest anal ray	—	_	_
Length of pectoral fin	20.3	20.1	19.0
Length of pelvic fin			-
Length of pelvic spine	13.8	12.2	13.6
Depth of caudal peduncle	9.5	9.0	9.1
Length of caudal	24.2	25.4	24.2
Snout to first dorsal	39.4	37.1	40.5
Snout to second dorsal fin	53.1	56.9	58.3
Snout to anal fin	66.2	65.1	67.1
Snout to pelvic fin	38.0	37.5	40.4

black spot; opercle somewhat darker than rest of body, its inner side lined with blackish membrane; membranes of all fins except pectoral fin black; pectoral fin reddish; inner side of upper jaw with melanophores on anterior half; melanophores spread along midline of tongue; peritoneum dark brown.

REMARKS: The major difference between Epigonus devaneyi and E. glossodontus is in dentition. All three specimens of the former lack symphyseal as well as lingual and endopterygoid teeth. Jaw teeth, although almost all missing in all three specimens, seem to be arranged as in E. glossodontus, namely a single series of teeth on each jaw. Vomerine teeth of E. devaneyi are arranged in a round patch rather than in two rows along the midline of the bone as in E. glossodontus. Other differences between these species are in body depth (4.1-4.8 in SL in E. devanevi versus 3.8-4.3 in SL in E. glossodontus), snout length (4.0-4.4 versus 4.4-5.1 in head length), pectoral fin length (4.9-5.3 versus 4.6-4.9 in SL), number of pyloric caeca (7-10 versus 6-8), and number of gill rakers (26-29 versus 24-27). The tip of the lower jaw of E. devaneyi is square, similar to that of E. glossodontus, but somewhat less thickened. The body scales were lost in all specimens of E. devaneyi except for the lateral-line scales of the holotype, which are similar to those of E. glossodontus in shape and serration. The morphological and osteological (as seen in radiographs) similarity between these two spcies suggests that both belong to one species complex.

Epigonus oligolepis (Mayer 1974), a Gulf of Mexico endemic, is also closely related to *E. devaneyi* but differs in having lingual and endopterygoid teeth and predorsal scales that reach forward only to the interorbital space. *Epigonus oligolepis* has fewer pored scales on its lateral line (33–36 versus 38–39 in *E. devaneyi*) and more gill rakers (29–31 versus 26–29). *Epigonus devaneyi* shares with *E. oligolepis* as well as *E. glossodontus* and *E. constanciae* [most specimens based on Mayer (1974)] the same number of vertebrae with pleural ribs.

Epigonus devaneyi also bears morphological resemblance to *E. fragilis*. In addition to the differentiating characters given in the key (above), the eye of *E. devaneyi* is round or slightly oval as opposed to markedly oval in *E. fragilis*; predorsal scales in *E. devaneyi* reach forward to the upper part of the snout but stop on the interorbital space in *E. fragilis*; *E. devaneyi* has two pterygiophores between neural spines 9 and 10 and seven vertebrae with pleural ribs, while *E. fragilis* has only one pterygiophore between neural spines 9 and 10 and eight vertebrae with pleural ribs.

The holotype and one paratype had large parasitic isopods in their gill cavities.

Epigonus devaneyi is named in honor of Dr. Dennis M. Devaney of the Bernice P. Bishop Museum, Honolulu, who was lost at sea while diving off the island of Hawaii in 1983.

DISCUSSION

In his revision of Epigonus, Mayer (1974) stated that no member of the genus exhibits anteriorly projecting teeth such as found in Rosenblattia (and Florenciella Mead and De Falla, 1965) and that scales are absent from the snout. Epigonus glossodontus has both characters and E. devanevi has scales on the upper part of the snout, which may merit generic (or subgeneric) division. In addition to morphology and lepidology, interspecific relationships in Epigonus are based on osteology and swim-bladder structure (Mayer 1973). The small number of specimens of both species as well as the poor condition of the teeth and damaged swim bladder in E. devanevi (and three out of five specimens of E. glossodontus) does not allow a complete comparative study. More specimens will have to be examined before a final classification of these species within the subfamily Epigoninae can be made.

The information gathered for Epigonus glossodontus and E. devanevi was compared with data from Mayer (1974, 1975), Mead and De Falla (1965), and specimens as well as radiographs of E. robustus, E. fragilis, E. denticulatus, E. oligolepis, and Florenciella lugubris. Body proportions, opercular armor, shape of fin spines, and number and shape of scales indicate that E. glossodontus and E. devanevi are very closely related to Epigonus, but the symphyseal teeth and head scalation do provide a link to the genera Rosenblattia and Florenciella. Mayer (1973) divided Epigonus into two species groups, namely the pandionis group and the constanciae (=trewavasae)group. I provisionally put E. glossodontus and E. devaneyi in a separate, third group, closely related to the constanciae group. The affinity

to the *constanciae* group is based on the similarity to *E. oligolepis*, *E. pectinifer*, and *E. constanciae* (see the remarks in both species accounts above).

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