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Two New Argentinine Fishes of the Genus *Glossanodon* from the Eastern South Pacific

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Abstract Two new species of *Glossanodon* taken from the Nazca submarine ridge are described. *G. danieli* with its 4 branchiostegals is closest to *G. lineatus* from southern Japan but differs in quite peculiar pigmentation of the throat and venter, more numerous gill rakers and longer head. *G. nazca* belongs to the same species group as *G. polli* from the eastern Atlantic, *G. mildredae* from the western Indian Ocean and *G. struhsakeri* from off Hawaii; it can be separated from these related species by presence of pigment on the throat and along the midventral line, absence of dusky blotches on the sides of the body and lower number of dorsal and anal fin-rays.

During two exploratory cruises of the R/V Ikhtiandr to the Nazca and Sala-y-Gomez submarine ridges in 1979 and 1980 an interesting collection of fishes was obtained, which includes several new and unrecorded species from the eastern South Pacific (Parin et al., 1981). Among them, two species of the genus *Glossanodon* were recognized as undescribed. Their descriptions were facilitated by the studies of Daniel M. Cohen who published a series of important papers on the taxonomy of argentinine fishes (Cohen, 1958, 1961, 1964, 1970; Cohen and Atsaides, 1969).

In our descriptions the meristic counts and proportional measurements expressed in percentage of standard length are presented for all or, when indicated, selected specimens of the type series; these data are preceeded by corresponding numbers for holotypes.

Glossanodon danieli, sp. nov.

(Figs. 1, 2)

Holotype. ZIL (Zoological Institute of the Academy of Sciences USSR, Leningrad) 45721 A, female, 103 mm in standard length (SL); Nazca Ridge (21°32′S, 81°39′W) at 310 m, November 11, 1978; bottom otter-trawl, coll. G. A. Golovan and N. P. Pakhorukov.

Paratypes. ZIL 45721, 3 specimens 86～112 mm SL, same data as holotype; USNM (United States National Museum of Natural History, Washington, D. C.) 224259, 2 specimens 116 and 122 mm SL, same data as holotype; ZMMU (Zoological Museum of Moscow State University, USSR) P-15673, 3 specimens 109～119 mm SL; Nazca Ridge (21°30′S, 81°42′W) at 330 m, September 5, 1979; same gear and collectors; ZMMU P-15674, 3 specimens 109～110 mm SL, Nazca Ridge (21°24′S, 81°41′W) at 330～340 m, September 6, 1979; same gear and collectors; IOM (P. P. Shirshov Institute of Oceanology of the Academy of Sciences USSR, Moscow) unreg., 1 specimen 120 mm SL, Nazca Ridge (21°27′S, 81°40′W) at 340 m, August 5, 1980; bottom otter-trawl, coll. Y. V. Tchmovzh.

Other specimens (mostly damaged), all stored in IOM, unreg.: 6 specimens 88～114 mm SL, same data as ZMMU P-15673; 43 specimens 92～121 mm SL, same data as ZMMU P-15674; 18 specimens 93～121 mm SL, Nazca Ridge (21°27′S, 81°44′W) at 330 m, September 7, 1979; 7 specimens 113～123 mm SL, Nazca Ridge (21°27′S, 81°39′W) at 335 m, September 26, 1979; 1 specimen 103 mm SL, Nazca Ridge (25°42′S, 86°32′W) at 420 m, October 31, 1979.

Diagnosis. *Glossanodon danieli* differs from all other species of *Glossanodon* in the distinctive pigmentation of its throat and venter (Fig. 1) and from all species except of *G. lineatus* in having fewer (4 vs. 5) branchiostegals. Furthermore, it differs from *G. pygmaeus* in having the anus immediately anterior to the anal fin base and more pectoral rays (18～22 vs. 12～14); from *G. leioglossus* and *G. semifasciatus* in having dentary teeth along more than half the distance from the angle of the gape to the symphysis; from *G. lineatus* in having more gill rakers (32～34 vs. 26～29) and a longer head

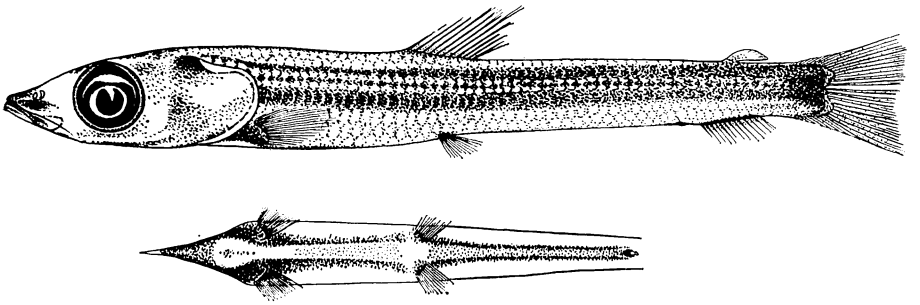

Fig. 1. *Glossanodon danieli*, sp. nov. Holotype, 103 mm SL (lateral and ventral views), ZIL 45721 A, Nazca Ridge, 21°32′S, 81°39′W at 310 m.

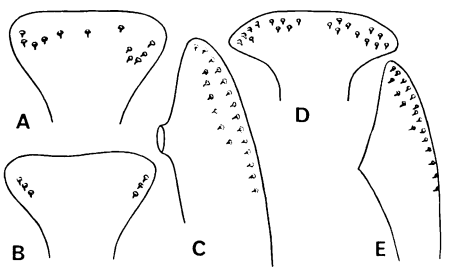

Fig. 2. Heads of vomer and palatines of *Glossanodon danieli* (A～C) and *G. nazca* (D～E).

(30.9～32.4 vs. 26.4～27.5% of SL); from *G. polli* in having more lateral line scales (56～57 vs. 49～51) and in the absence of densely pigmented spots along the midlateral line; from *G. mildredae* and *G. struhsakeri* in having more vertebrae (55～57 vs. 49～52), fewer pectoral rays (18～22 vs. 23～25), fewer dorsal rays (11～12 vs. 12～14), and in the absence of densely pigmented spots along the midlateral line; and from *G. nazca* in having more lateral line scales (56～57 vs. 50) and vertebrae (55～57 vs. 50～51), fewer gill rakers (32～34 vs. 34～37) and a longer head (30.9～32.4 vs. 27.6～28.6% of SL).

Description. Greatest depth behind the head, gently tapering to caudal peduncle. Vertebrae 56, 55～57 (including ural centrum). Scales along lateral line about 56, 56～57; predorsal scales 19, 18～20 (counted from scale pockets). Dorsal profile of head not broken by the upper rim of eye. Upper edge of maxillary hidden under lacrimal. Jaws subequal, rounded. Interorbital flattened.

Each palatine with 24 to 30 small conical teeth usually in two rows along lateral margin of the bone (Fig. 2C). Vomerine teeth of similar shape, their number varies from 2 to 3 on each side of the head of bone to 12 in an irregular row across the head (Fig. 2A, B). Lingual teeth apparently absent. Dentary teeth 17～30, in a row extending two thirds the distance from angle of gapes to symphysis. Branchiostegals 4. Gill rakers elongate and closely spaced, 10+1+22, 9～10+1+21～23, total 32～34.

D 11, 11～12; A 13, 12～14; P_1 20, 18～22; P_2 12～13. Length of pectorals about a half the distance between its origin and pelvic insertion. Longest rays of dorsal longer than body depth.

Peritoneum dusky; swimbladder lacks silvery pigment. Stomach unpigmented. Pyloric caeca digitiform, 6 to 8.

Selected proportional measurements of holotype and 4 paratypes 109～120 mm in SL: head length 32.4, 30.7～32.4; snout 9.8, 9.0～10.0; eye 10.6, 9.3～10.8; interorbit 7.8, 7.0～9.0; maxillary length 8.0, 6.8～8.2; maxillary width 1.9, 1.9～2.1; depth at dorsal fin 10.0, 9.8～11.8; width behind head 11.8, 9.7～11.9; depth of caudal peduncle 5.6, 4.8～5.4; predorsal 50.0, 48.0～51.2; preanal 84.0, 85.1～88.2; prepectoral 30.3, 30.1～32.4; prepelvic 55.8, 52.9～54.1; snout to adipose fin 85.0, 84.0～88.2; center of anus to anal fin 1.4, 1.4～3.1; pelvic to anal fin 29.6, 30.2～32.6; length of pectorals 10.4+, 9.6～11.5; length of pelvic 9.1, 9.4～11.7; length of dorsal base 6.9, 6.3～7.8; length of anal base 6.8, 6.4～7.4.

In ethyl alcohol (after fixation in formalin) body strawcolored, with a wide brown band

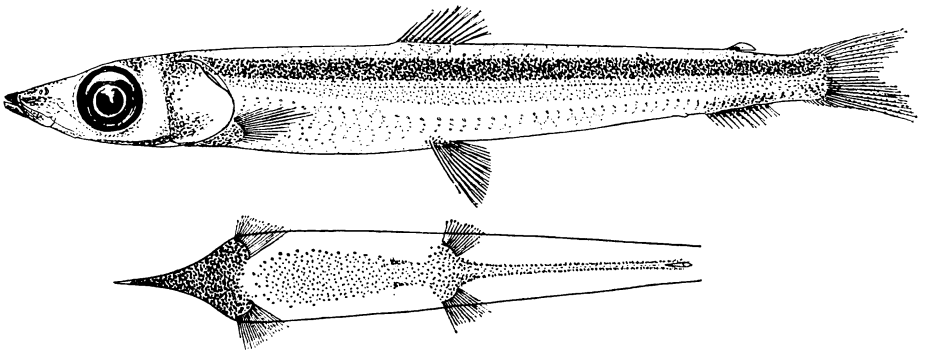

Fig. 3. *Glossanodon nazca*, sp. nov. Holotype, 104 mm SL (lateral and ventral views), ZIL 45722, Nazca Ridge, 21°30′S, 81°42′W at 330 m.

extending along the side around the midline. Ventral surface distinctively pigmented with large melanophores; black pigmentation extending from throat to pectoral bases and outlining a light subtriangular space on breast, from which two narrow dark stripes outline a midventral silvery streak that extends beyond the pelvic fin bases to the anus. A black strip is also present along anal fin base.

Comparison. *Glossanodon danieli* seems to be closest to *G. lineatus*, a species endemic to the seas of southern Japan (Matsubara, 1943; Kamohara, 1952). Each has four branchiostegals and differs in this important character from all other congeners, which have five.

Etymology. The name *danieli* is dedicated to Dr. Daniel M. Cohen, who has contributed much to the knowledge of the Argentinidae.

Glossanodon nazca, sp. nov.
(Figs. 2, 3)

Holotype. ZIL 45722, female, 104 mm SL; Nazca Ridge (21°30′S, 81°42′W) at 330 m, September 5, 1979; bottom otter-trawl, coll. G. A. Golovan and N. P. Pakhorukov.

Paratypes. (All in rather poor condition.) ZMMU P-15676, 4 specimens 101～126 mm SL; Nazca Ridge (25°38′S, 85°26′W) at 180～190 m, October 5, 1980; bottom otter-trawl, coll. Y. V. Tchmovzh.

Diagnosis. *Glossanodon nazca* differs from all other species of *Glossanodon* in the distinctive pigmentation of its throat and venter (Fig. 3). Furthermore it differs from *G. pygmaeus* in having the anus immediately anterior to the anal fin base and in having more pectoral rays (20～21 vs. 12～14); from *G. lineatus* and *G. danieli* in having more branchiostegals (5 vs. 4) and gill rakers (34～37 vs. 26～29 and 32～34) and fewer vertebrae (50～51 vs. 55～57 in *danieli*); from *G. leioglossus* and *G. semifasciatus* in having dentary teeth along the entire distance from the angle of the gape to the symphysis; from *G. polli*, *G. mildredae* and *G. struhsakeri* in having no densely pigmented spots along the midlateral line, fewer dorsal rays (11 vs. 12～14), and anal rays (10～11 vs. 12～13) and, from the two latter, also in having fewer pectoral rays (20～22 vs. 23～25).

Description. Greatest depth behind the head, gently tapering to caudal peduncle. Vertebrae 50, 50～51 (including ural centrum). Scales along lateral line about 50, 50; predorsal scales 13, 13～14 (counted from scale pockets). Dorsal profile of head not broken by the upper rim of eye. Upper edge of maxillary hidden under lacrimal. Jaws subequal, rounded. Interorbital flattened.

Each palatine with 18～20 small conical teeth in one (anteriorly) to 2～3 rows along lateral margin of the bone (Fig. 2E). From 10 to 20 vomerine teeth of similar shape in one or two rows across the head of bone (Fig. 2D). Lingual teeth usually absent (a single small tooth present in the middle part of tongue in one paratype 101 mm SL). Dentary teeth 12～15, scattered in a row extending along the entire distance from the angle of gape to symphysis. Branchiostegals 5. Gill rakers elongate and closely spaced, 11+1+23, 10～11+1+23～25, total 34～37.

D 11, 11; A 11, 10～11; P_1 20, 21～22; P_2 13, 13～14. Length of pectorals about a half the

distance between its origin and pelvic insertion. Longest rays of dorsal scarcely longer than body depth.

Peritoneum dusky, swimbladder lacks silvery pigment. Stomach unpigmented. Pyloric caeca digitiform, 7, 7～8.

Selected proportional measurements of holotype and one paratype 105 mm SL: head 28.6, 27.6; snout 10.2, 9.4; eye 8.7, 7.2, interorbit 6.2, 6.3; maxillary length 6.7, 6.6; maxillary width 2.0, 1.5, depth at dorsal fin 13.6, 10.7; width behind head 9.6, 9.8; depth of caudal peduncle 5.7, 4.5; predorsal 45.1, 46.0; preanal 86.0, 85.0; prepectoral 27.6, 27.8; prepelvic 52.0, 52.2; snout to adipose fin 86.8, 88.0; center of anus to anal fin 1.9, 2.7; pelvic to anal fin 34.1, 34.8; length of pectorals 9.2+, 9.2+; length of pelvic 9.2, 8.7; length of dorsal base 8.2, 6.3; length of anal base 7.2, 6.5.

In ethyl alcohol (after fixation in formalin) body strawcolored with a wide brown band extending along the side around its middle. Ventral surface distinctively pigmented with large melanophores: throat and pectoral bases very dark, posteriorly a gradually tapering streak of pigment extends along the midventral line, widening at the pelvic bases and becoming a narrow stripe between the pelvics and anus.

Comparison. In such characters as presence of teeth along the entire dentary and low vertebral count this species is similar to *G. polli* distributed along the Atlantic coast of Africa (Poll, 1953; Cohen, 1958) and to *G. mildredae* and *G. struhsakeri* known only from type-localities in the Arabian Sea (Cohen and Atsaides, 1969) and off Hawaii (Cohen, 1970). *G. nazca* is easily distinguished from all of these by its peculiar pigmentation and lower number of dorsal and anal rays.

Etymology. The name *nazca* is referred to the type locality of species on the Nazca Ridge. It should be treated as a noun in apposition.

Acknowledgments

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南太平洋東部からのニギス属2新種

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Nazca 海嶺で採集されたニギス属の2新種について報告する．その1種 *Glossanodon danieli* は南日本海域のイチモンジイワシに最も近縁で4本の鰓条骨をもつが，喉部と腹部の特異な色素分布，より多い鰓耙，より長い頭部などによって区別される．他の1種 *G. nazca* は大西洋東部の *G. polli*，またインド洋西部の *G. mildredae*，ハワイ沖の *G. struhsakeri* と同じ一群に属する．しかし *G. nazca* は喉部と腹部正中線に沿って分布する色素，体側の黒斑の欠除，背鰭と臀鰭軟条の少ないことで近縁種から区別される．