

Argyripnus electronus, a New Sternoptychid Fish from the Sala y Gomez Submarine Ridge

Nikolay V. Parin

P. P. Shirshov Institute of Oceanology, Russian Academy of Sciences,
Moscow 117218, Russia

Abstract *Argyripnus electronus* sp. nov. collected from the Sala y Gomez submarine ridge in the eastern South Pacific is most similar to *A. atlanticus* Maul from the Atlantic Ocean and unnamed *Argyripnus* sp. of Yamamoto (1982) from the Kyushu-Palau ridge. It differs from both these species in having much more photophores in VAV+AC and IC series, in lower body depth and in other characters.

The benthic and benthopelagic fish fauna inhabiting the guyots of the Sala y Gomez and Nazca submarine ridges in the South-east Pacific is highly specific and contains about 48 percent endemic species (Parin, 1990), most of which have been described quite recently. In this paper a species of *Argyripnus* is described that is the second new nearbottom sternoptychid collected from the area; the description of *Polyipnus inermis* was published earlier (Borodulina, 1981).

In the following description, the museum acronyms follow Leviton et al. (1985).

Argyripnus electronus sp. nov.

(Fig. 1)

Holotype. ZIN 49197, a mature female, 86.0 mm in standard length (SL), R/V Professor Shtokman Sta. 1965, 30 April 1987, 24°59'S, 88°29'W, bottom shrimp trawl at 562–545 m.

Paratypes. ZIN 49198, 3 (67.4–83.3 mm SL), collected with holotype; ZIN 49199, 10 (74.9–81.5 mm SL), R/V Professor Shtokman Sta. 1976, 1 May 1987, 25°34'S, 90°19'W, bottom shrimp trawl at 563–590 m; ZMMU 17950, 6 (74.1–85.5 mm SL); USNM 304213, 3 (80.2–81.7 mm SL); AMS I. 28181-001, 3 (76.0–90.5 mm SL)—all collected with ZIN 49199.

Additional material (damaged specimens). IOAN uncatalogued, 9 (74.2–82.3 mm SL), collected with ZIN 49199; IOAN uncatalogued, 1 (ca. 75 mm SL), R/V Professor Shtokman Sta. 1977, 1–2 May 1987, 25°10'S, 90°19'W, bottom shrimp trawl at 545–600 m.

Diagnosis. An *Argyripnus* with elongated body (depth 4.9–5.3 in SL), short head (3.6–3.8 in SL) and large eye (orbit 1.9–2.5 in head). Dorsal fin rays 9–11. Anal fin originating below 1st to 3rd dorsal

ray. Pectoral fin rays 18, rarely 17. Gill rakers on 1st arch 22–24, on its lower raker 17–19. VAV+AC photophores (28–32) + (5–6) + (28–35) = 61–72; posterior group of AC originated above middle of anal fin. IC photophores 78–88.

Description of holotype. (Paratypes in parentheses.) Body elongate, compressed; tail a little longer than head and trunk. Vertebrae 16+37 (15–16+36–38=52–53) (ural centra not included). Anus nearly halfway between pelvic base and anal origin, below interspace between 4th and 5th VAV photophores. Head rather small; eye large; snout about 3 times in diameter of orbit. Mouth large, oblique; upper jaw reaching to a vertical from posterior margin of pupil.

Teeth minute, biserial with inner ones slightly larger on premaxillary, uniserial on maxillary, in three series on anterior portion of dentary and biserial on its posterior portion. Vomer with 5–6 (5–9) teeth on each side, palatines and pterygoids toothless.

D 9 (9–11). A 25 (23–27). P₁ 18 (17–18). P₂ 6. Anal fin originating below interspace between 2nd and 3rd (below 1st to 3rd) dorsal fin rays, with indistinct gap after 11th (10th to 12th) ray. Pelvic fins originating slightly before vertical from dorsal fin origin. Caudal fin with 19 (18–20) rays; upper and lower procurent rays 15 and 7. Gill rakers on first arch 4 + 1 + 17 = 22 (4 + 1 + 17–19 = 22–24); medial edge of arch bearing three small spines near angle. Branchiostegal rays 8. Pseudobranch present.

Selected proportional measurements (in percent of SL) of holotype and 3 paratypes (67.4–83.3 mm SL): head 26.6 (26.0–27.2), snout 4.8 (4.6–4.8), eye 13.7 (13.9–14.1), interorbital 8.7 (9.3–9.7), upper jaw 18.1 (17.5–18.1), premaxillary 8.8 (8.7–9.8), toothed

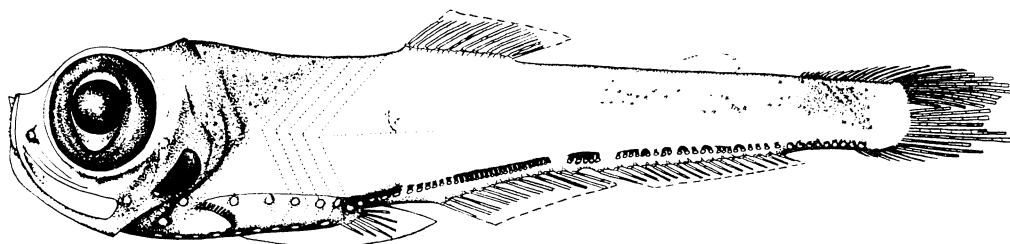


Fig. 1. *Argyripnus electronus*, sp. nov. Paratype, 79.0mm SL, ZIN 49199, collected from Sala y Gomez ridge, 25°34'S, 90°19'W at 563–590 m.

portion of maxillary 12.4 (11.6–12.7), body depth 19.8 (18.8–20.4), caudal peduncle depth 6.4 (6.7–6.9), predorsal length 44.3 (42.7–45.1), preanal length 48.0 (46.5–48.6), interspace between dorsal and adipose fins 23.0 (21.0–22.4), pelvic origin to middle of anus (5.8 in paratype 72.1 mm SL), middle of anus to anal fin origin (4.3 in the same paratype), dorsal fin base 8.9 (9.1–10.0), anal fin base 42.0 (39.8–43.4).

Photophores. Photophores on head and anterior part of body larger than those on tail. ORB 1 front of eye and level with ventral margin of pupil. OP 3, upper organ close to eye and level with its center, the lower anterior organ just behind end of maxillary, the lower posterior large organ vertically elongated. Some of serial body photophores grouped together in common glands. BR 6. IV 6 + 10. OV 7 (6–7). VAV and AC continuous, 70 on left and 72 on right sides (61–70), consisting of three glands; anterior gland of 32 (27–31) organs, 9 (7–9) of them in front of anal fin, the first one slightly higher than others which diminish in size posteriorly, the last above 9th anal fin ray; middle gland of 5 (5–6) medium size organs above gap dividing anal fin; posterior gland of 33–35 (28–35) small to moderate organs, the first above 13–14th anal fin ray and far before a vertical from adipose fin origin, most of them arranged by 2 to 4 photophores to a group, the last 12 (12–13) separated 9 (9–11) of them behind end of anal fin enlarged. IC 86–88 (78–85).

Color. Color in alcohol yellowish with some black pigment scattered on dorsal part of body. Two distinct dark blotches behind head and on caudal peduncle; all fins hyaline.

Distribution. Specimens of the type series were taken by bottom trawl fishing at 545–600 m on two seamounts of the Sala y Gomez submarine ridge located between 24°59'–25°34'S and 88°29'–90°19'W.

Etymology. The species name refers to the name unofficially used by the USSR fishermen for the seamount where the holotype was collected. In Russian, “gora Yantarnaya” means “Amber seamount” and “amber” is equivalent to “elektron” in ancient Greek. Moreover, the general tone of the fish coloration is reminiscent of light and semitransparent Baltic amber.

Distinction. Four species of *Argyripnus* have been recognized: *A. ephippiatus* Gilbert and Cramer from around Hawaii, *A. iridescens* McCulloch from the Great Australian Bight, *A. atlanticus* Maul from off Madeira (type locality), Florida, Puerto Rico and other localities in the Atlantic Ocean and *A. brocki* Struhsaker from off Hawaii (type locality) and northwestern Australia (Gilbert and Cramer, 1987; McCulloch, 1926; Maul, 1952, Grey, 1961, 1964; Badcock and Merrett, 1972; Struhsaker, 1973; Gloerfelt-Tarp and Kailola, 1984); *A. brocki* was recently recorded from off northwestern Madagascar (R/V Vityaz, Sta. 2603, 12 November 1988, 12°31'S, 48°18'E, bottom shrimp trawl at 380 m). One more species briefly but quite adequately described and illustrated by Yamamoto (1982) from the Kyushu-Palau submarine ridge remains unnamed.

A. electronus differs from *A. ephippiatus*, *A. iridescens* and *A. brocki* in having anal fin origin below the first few dorsal fin rays (not below the posterior half of the dorsal), more gill-rakers (22–24 vs 16–20), and much more photophores in VAV + AC (61–72 vs 35–40) and IC (78–88 vs 51–56) as well as in other characters. The new species is most similar to *A. atlanticus* and *Argyripnus* sp. of Yamamoto (1982), but both of them have less photophores in the VAV + AC (46–51 and 56–57 respectively vs 61–72), IC (62–67 and 72–73 vs 78–88) and the posterior group of AC (16–18 and 21 vs 28–35) which originates above the last or the 2nd last anal fin ray (above the middle of anal fin base in *A. electronus*)

and a deeper body (3.6–4.3 and 3.9–4.1 vs 4.9–5.3 in SL). Additionally, there are more gill rakers in *Argyripnus* sp. (27–29 vs 22–24) and the head is longer in *A. atlanticus* (3.1–3.5 vs 3.6–3.8 in SL).

Being more elongated than any other species of *Argyripnus* and having more AC photophores, of which the last 12–13 are not grouped together, *A. electronus* may be considered the least advanced member of the genus.

Acknowledgments

I thank Dr. J. R. Paxton for his helpful comments on the manuscript and Miss T. N. Steiker for preparing the illustration.

Literature cited

- Badcock, J. R. and N. R. Merrett. 1972. On *Argyripnus atlanticus* Maul, 1952 (Pisces, Stomiatoidei), with a description of post-larval forms. J. Fish. Biol., 4: 277–287.
- Borodulina, O. D. 1981. New species of the genus *Polyipnus*—*P. inermis* Borodulina (Sternoptychidae) from the southeastern Pacific. Voprosy Ikhtiol., 21(3): 556–558. (In Russian.)
- Gilbert, C. H. and F. Cramer. 1897. Report on the fishes dredged in deep-water near the Hawaiian Islands, with descriptions and figures of twenty-three new species. Proc. U.S. Nat. Mus., 51(2149): 135–214.
- Grey, M. 1961. Fishes killed by the 1950 eruption of Mauna Loa. Part I. Gonostomatidae. Pac. Sci., 15(3): 462–476.
- Grey, M. 1964. Family Gonostomatidae. Pages 78–240 in Fishes of the western North Atlantic, Part 4. Mem. Sears Found. Mar. Res., No. 1.
- Leviton, A. E., R. H. Gibbs, Jr., E. Heal and C. E. Dawson. 1985. Standards in herpetology and ichthyology: Parts 1, 2 and 3. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. Copeia, 1985(3): 802–832.
- McCulloch, A. R. 1926. Report on some fishes obtained by the F. I. S. “Endeavour” on the coasts of Queensland, New South Wales, Victoria, Tasmania, south and south-western Australia. Part V. Biol. Res. Fish. Exp. F. I. S. “Endeavour” 1909–14, 5(4): 157–216.
- Maul, G. E. 1952. Monografia des Peixes do Museu Municipal do Funchal. Additions to previously revised families. Bol. Mus. municip. Funchal, 6(16): 51–62.
- Parin, N. V. 1990. Preliminary review of fish fauna of the Nazca band Sala y Gomez submarine ridges (southern east Pacific Ocean). Trudy Inst. Okeanol., 125: 6–36. (In Russian.)
- Struhsaker, P. 1973. *Argyripnus brocki*, a new species of stomiatoid fish from Hawaii, with observations on *A. ephippiatus* and *A. iridescent*. Fish. Bull., 71(3): 827–836.
- Yamamoto, E. 1982. *Argyripnus* sp. Pages 74–75, 325 in O. Okamura, K. Amaoka and F. Mitani, eds. Fishes of the Kyushu-Palau Ridge and Tosa Bay. Japan Fish. Res. Cons. Assoc., Tokyo.

(Received July 31, 1989; accepted October 24, 1991)

東部南太平洋の海嶺から採集されたムネエソ科魚類の1新種 *Argyripnus electronus*

Nikolay V. Parin

東部南太平洋の海嶺から採集された標本に基づき、ムネエソ科の新種 *Argyripnus electronus* を記載した。本種は、類似種2種 (*A. atlanticus* と Yamamoto (1982) の *A. sp.*) とは、VAV+AC と IC の発光器数が多いこと、ならびに体高が低いこと等の形質によって容易に識別される。