

# B O C A G G I A N A

Museu Municipal do Funchal

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DESCRIPTION OF A NEW GENUS AND SPECIES  
OF THE EEL FAMILY NEMICHTHYIDAE  
FROM THE EASTERN ATLANTIC

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With 3 figures and 2 plates

An undescribed eel was found among the stomach contents of a black scabbardfish, *Aphanopus carbo* Lowe, which was taken off the coast of Madeira, in March, 1965. Two further specimens of the same species of eel were found: one in May of the same year and the other much later, in March 1967. Also these came from the stomachs of *Aphanopus carbo* taken near the same place as the first. These eels lack the prolonged beak and teeth in jaws, which are present in other snipe eels. In these characters they resemble the genus *Avocettinops* Roule and Bertin.

Roule and Bertin, 1929, p. 30, established a new family Avocettinopsidae for their new genus *Avocettinops*. Subsequently Norman 1939, p. 34 Böhlke and Cliff 1956, p. 99, placed the genus in the family Nemichthyidae. Norman, 1957, p. 146, in his synopsis, placed the genus in the subfamily Avocettinopsinae. The latter author is followed in leaving *Avocettinops* in the subfamily Avocettinopsinae, in the family Nemichthyidae.

After comparing the three eels with the descriptions given, it was found that there are pertinent characters which are sufficient to describe them as a new genus and species and placing it near *Avocettinops* in the subfamily Avocettinopsinae.

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1) U. S. National Museum, Washington, D. C.  
2) Museu Municipal do Funchal, Madeira.

*Paravocettinops* new genus

Type species, *Paravocettinops trilinearis*

Body compressed and elongated; snout rounded, length about equal to eye diameter; lower jaw lanceolate shaped, shorter than upper jaw and when viewed from above hidden by the latter; anterior nostril in a short tube, a little closer to snout tip than eye, posterior nostril a large pore without tube, just in front of upper half of eye; gill openings large, distinctly separated under throat; upper edge of gill opening near midbase of pectoral fin; jaws without teeth; rictus of jaws located below hind margin of eye; eye large, about equal to snout length; three rows of lateral line pores extending from dorsal part of head and along midpart of body posteriorly to tail, pores arranged in hexagonal pattern along sides, fig. 2; pectorals well developed; dorsal fin origin above middle of head and extending posteriorly to tip of tail.

Frontals ankylosed, without median suture; parietals apparently united by suture; supraoccipital present; pterotics large with tube for anteriorly extending sensory canal; maxillary articulating with premaxillary below anterior nostrils; operculum expanded behind with rounded posterior margin and concave upper margin; preopercle, subopercle and interopercle absent; branchiostegals 12; gill arches 4; cleithrum long, curved, rodlike; supracleithrum absent; hyper- and hypocoracoid present; actinosts 4, fig. 3; suspensorium directed obliquely forward.

Remarks: This genus differs from all others of the family except *Avocettinops* in lacking long, tapering snout and jaw teeth. Its closest relative is *Avocettinops* but differs from it as shown in the table below.

	<i>Paravocettinops</i>	<i>Avocettinops</i>
Lateral line	3 rows	1 row
Vertebrae	222 + · 238 +	184-194
Subopercle	absent	present
Snout	rounded, length about equal to eye diameter	pointed, length about twice eye diameter
Branchiostegals	12	9 or 10
Cleithrum	horizontal length 1 1/2 times longer than vertical length	horizontal length shorter than vertical length
Anterior nostrils	tube short, not forwardly directed	tube long, forwardly directed.

KEY TO THE GENERA OF NEMICHTHYIDAE, (MODIFIED AFTER BEEBE  
AND CRANE, 1937, p. 351)

- 1a. Jaws without teeth, and not produced into a long slender bill. . . . .  
 . . . . . subfamily AVOCETTINOPSINAE
- 2a. One row of pores in lateral line; anterior nostrils with a long, forwardly directed tube; snout pointed . . . *Avocettinops* Roule and Bertin
- 2b. Three rows of pores in lateral line; anterior nostrils with a short tube; snout rounded . . . . . *Paravocettinops* new genus
- 1b. Jaws with teeth, and produced into a long bill; anteriorly upper jaw curved upward and lower jaw curved downward . . . . .  
 . . . . . subfamily NEMICHTHYINAE
- 3a. Lateral line with pores
- 4a. Three rows of tiny pores in lateral line; caudal filament present; vertebrae 300 or more, usually many more . . . . .  
 . . . . . *Nemichthys* Richardson
- 4b. One row of large pores in lateral line; caudal filament absent; vertebrae 200 or fewer
- 5a. Anal fin origin scarcely behind a vertical from pectoral base. . . . .  
 . . . . . *Labichthys* Gill and Ryder
- 5b. Anal fin origin well behind a vertical from pectoral base, the postorbital distance being contained more than  $1 \frac{3}{4}$  times into the distance between insertion of pectoral base and anal origin . . . . .  
 . . . . . *Avocettina* Jordan and Davis
- 3b. Lateral line without pores
- 6a. Gill slits narrow; posteriorly curved teeth well developed and conspicuous in jaws . . . . . *Cercomitus* Weber
- 6b. Gill slits wide, points on teeth small and inconspicuous in jaws . . . . .  
 . . . . . *Nematoprora* Gilbert

***Paravocettinops trilinearis* new species**

*Holotype*: MMF 21163, Off coast of Madeira, from stomach of *Aphanopus carbo* Lowe, March 16, 1965, total length 517 mm. (tip of tail missing).

*Paratype*: MMF 21181, Off coast of Madeira, from stomach of *Aphanopus carbo* Lowe, May 6, 1965, total length 497 mm. (partially digested and tip of tail missing).

*Paratype*: MMF 22173, Off coast of Madeira, from stomach of *Aphanopus carbo* Lowe, March 10, 1967, total length 540 mm. (partially digested and tip of tail missing).

*Description*: Snout tip to anus 10.8 to 11.2 into total length; snout tip to dorsal origin 1.68 to 1.77, head length 1.17 to 1.24; greatest depth 3.9 to 4.6, head depth 4.5 to 4.7, all into preanal length; snout length 4.1 to 5.4, eye diameter 5.27 to 5.56, upper jaw length (to posterior tip of maxillary) 2.19 to 2.48, all into head length.

Pectoral fin rays 11; lateral line pores (from a perpendicular to anus anteriorly), upper row 31, middle row 18, lower row 26; supratemporal

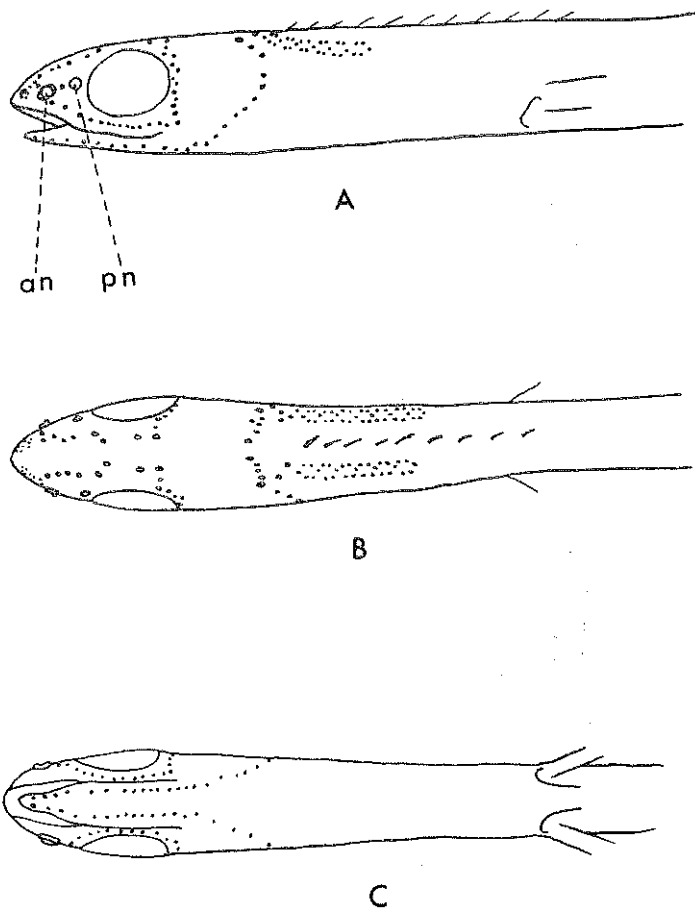


Fig. 1. — View of head showing pore arrangement of *Paravocettinops trilinearis*. A. lateral view, B. dorsal, C. ventral.

pores 9; gill arches 4; gill rakers absent; number of vertebrae 228+, 222+ and 238+ (x-ray, tails missing).

Eye large about equal to snout length; vertex of jaw below posterior edge of eye; upper jaw rounded and overhanging, lanceolate shaped lower jaw; jaws without teeth; tongue adnate to floor of mouth; anterior nostril

with short tube, in front half of snout; posterior nostril a round pore, just in front of middle of eye; numerous pores on head (for arrangement of pores see figure 1 A, B, C); dorsal fin origin above middle of head, anteriorly rays longer, anal fin rays longer posteriorly, pectoral fin rays branched and extending posteriorly to above anus, all rays unstriated. Gill opening large, lateral and about half way between dorsal origin and anus; upper edge of gill opening on a level with middle of pectoral fin base; lateral line pores in three rows, starting from the dorsal part of head and extending posteriorly along body side to tail; pores arranged more or less in hexagonal pattern (see fig. 2); supratemporal pores in an irregular line; dorsal end of cleithrum below 9th vertebra (as determined from radiograph).

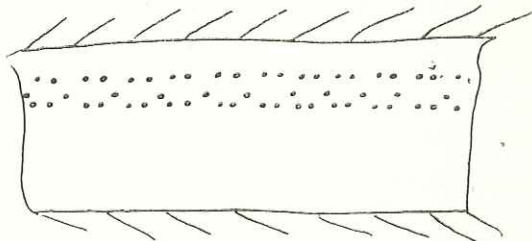


Fig. 2. — The hexagonal arrangement of the lateral line pores from middle part of body.

Color: Body color blackish, lighter dorsally.

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*Etymology:* *Paravocettinops* from the Greek prefix *par* meaning near plus *Avocettinops* the genus of Roule and Bertin, which has a genitive ending *ops* in Greek, meaning appearance or view; *trilinearis* referring to the 3 rows of lateral line pores.

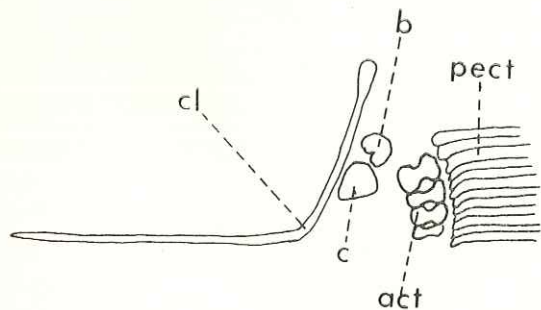


Fig. 3. — Pectoral girdle, *cl* cleithrum, *b* hypercoracoid, *c* hypocoracoid, *act* actinosts, *pect* pectoral rays.

*Remarks:* The hexagonal arrangement of the three rows of lateral line pores, the shape of the vertical fins and the coloration resemble those that are found in *Nemichthys scolopaceus* Richardson. The dorsal end of the cleithrum is below the seventh vertebra in *Avocettinops schmidti* (Norman 1939, p. 35, text. fig. 8).

*Aphanopus carbo* is generally caught some five to eight miles off the southern coast of Madeira. It is not a bottom feeder and caught at depths

of 500 to 1000 metres. Therefore, one can assume that *P. trilinearis* occurs at depths at least as great as those where *A. carbo* is caught.

The holotype, MMF 21163 and paratype MMF 21181 are placed in the collection of the Museu Municipal do Funchal and paratype, MMF 22173 is placed in the collection of the United States National Museum, USNM 201410.

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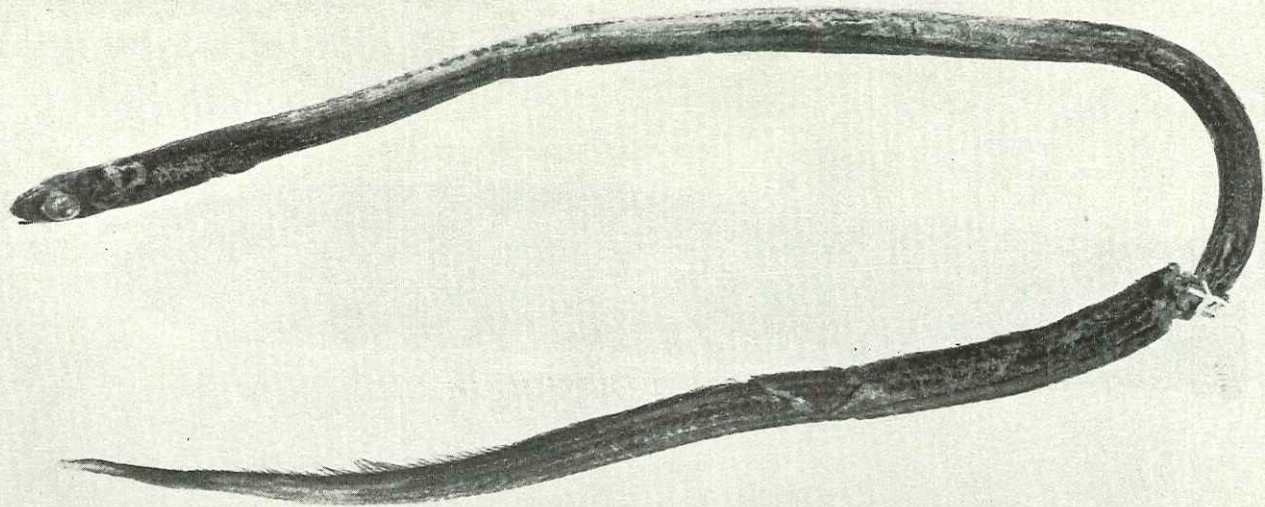


Plate I. — Holotype of *Paravocellinops trilinearis* MMF 21163.

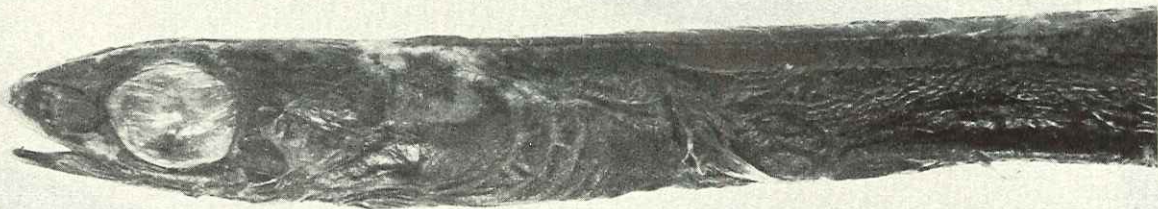


Plate 2. — Head of holotype of *Paravocettinops trilinearis* MMF 21163.