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A NEW EEL LARVA, *LEPTOCEPHALUS PSEUDOMICROCEPHALUS*, BELONGING TO THE SUBFAMILY BATHYMYRINAE (ANGUILLIFORMES, CONGRIDAE)

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SUMMARY

An eel larva, caught in the mid North Atlantic, represents a new species and is described as *Leptocephalus pseudomicrocephalus*. In most of its characters it resembles the larvae of the *Ariosoma-Bathymyrus* group, especially in the pigmentation and the presence of an outer intestine or exterilium. The main differences are the greater length and the number of myomeres.

RÉSUMÉ

Une larve d'Anguille capturée en Atlantique Nord représente une espèce nouvelle et est décrite comme *Leptocephalus pseudomicrocephalus*. Par la plupart des caractères, mais surtout par la pigmentation et la présence d'un intestin externe (exterilium), elle ressemble aux larves du groupe *Ariosoma-Bathymyrus*. Les différences les plus importantes résident dans la taille supérieure et dans le nombre des myomères.

INTRODUCTION

During the Amsterdam Mid North Atlantic Plankton Expedition*, 27 May - 24 June 1983, samples were taken between 55°N and 24°N with a combined I.O.S. Rectangular Midwater Trawl (RMT 1+8) with open-

ing and closing device, at depths between 30 and 1752 m. Van der Spoel (1985) gives a complete station list, including technical and hydrological data.

The larva recorded here was caught in the RMT 8 net and is retained in the collection of the Zoölogisch Museum, Amsterdam (ZMA).

The single specimen collected is characterized by its great length and the presence of an exterilium. In general appearance it shows some similarities with *Leptocephalus macreteron* D'Ancona, 1928, as de-

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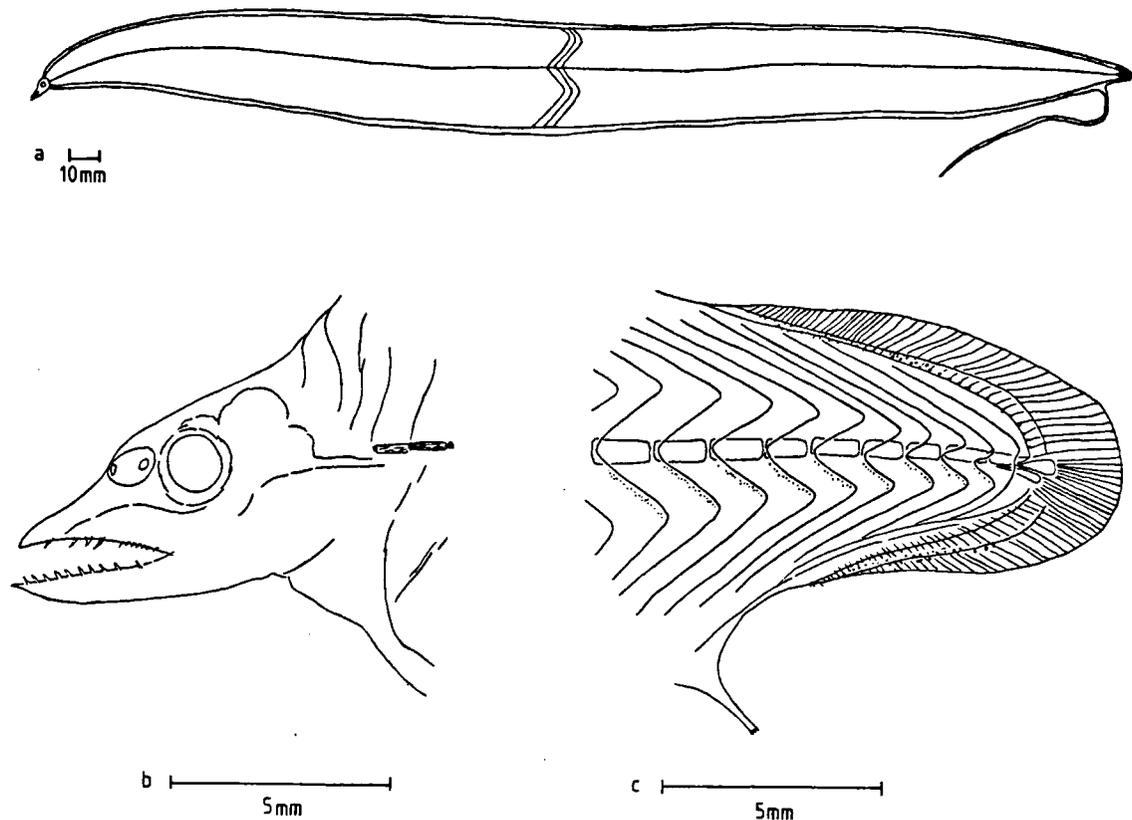


Fig. 1. *Leptocephalus pseudomicrocephalus* n.sp., 373 mm SL, ZMA coll. no. 119.964: a, habitus; b, head; c, tail.

scribed by Smith (1979: 27, fig. 37), and also with the leptocephalus Type A4 and type A5, described by Mochioka et al. (1982: 48-50, fig. 11). Furthermore it shows some similarities with the larva of *Cynoponticus ferox* Costa, 1846 (Blache, 1968: 701-709, figs. 8, 9, 10, 11 and 13), and with the larva of *Ariosoma mellissi* (Günther, 1869) (Blache, 1977: 102-108, fig. 33).

Leptocephalus pseudomicrocephalus n.sp.

Type locality

41°01.5'N 35°27.0'W, depth between 0 and 80 m, 01.53-02.57 h, salinity at the surface 36.29‰. AMNAPE Pro-

ject 101A: Sta. 81, haul 13, 12 June 1983. Holotype: ZMA coll. no. 119.964.

Before preservation the present specimen was almost completely transparent. Total length 373 mm; length of head 7.76 mm; length of snout 2.48 mm; length of upper jaw 4.56 mm; length of lower jaw 4.88 mm; diameter of circular eye 1.68 mm; length of exterilium 75.5 mm; height behind head 5.28 mm; height halfway the body 34.7 mm (fig. 1a). In the lower jaw 12 teeth, uniform in shape and size. Anteriorly, in the upper jaw nine teeth of the same shape and size, 16 small teeth, also uniform in size and shape posteriorly (fig. 1b). Nasal capsule slightly oval with two round nostrils. Number of myomeres

172. Last vertical blood vessel between 91st myomere at ventral side and 97th myomere at chorda.

Origin of dorsal fin far caudal, at 169th myomere, continuous around tip of tail, with short anal fin. Anal fin originating at myomere 170 (fig. 1c). Gut straight, without swellings. Fine melanophores present along entire length of specimen in myosepta below level of chorda; arranged in irregular rows to point where caudally directed of myomeres bends in anterior direction (fig. 1c).

Etymology

The name *pseudomicrocephalus* is proposed and refers to the small size of the head in relation to the dimensions of the body. However, the size of the head in the present specimen does not differ from that of most larvae of other Anguilliformes.

DISCUSSION

Smith (1979: 26) summarized the characters of the subfamily Bathymyrinae, based on the larvae of *Ariosoma*. These are: "long gut; origin of dorsal fin near posterior end of body; lateral pigment minute melanophores outlining the myosepta immediately below the midline, forming series of short diagonal lines from head to tail; ventral pigment in small melanophores below gut anteriorly switching to the top of the gut behind the liver; series of small melanophores on dorsal midline from head to tail". Moreover, Smith (1979) pointed to the fact that in some *Ariosoma* and *Ario-soma*-like larvae the posterior end of the gut is extending free from the body. Castle (1984) likewise noticed the presence of this exterillum and the diagonal pigment in the myosepta below the chorda in some *Ariosoma*- and *Bathymyrus* larvae.

With respect to these characters, the larva described above fits quite well with the *Ariosoma-Bathymyrus* group. A distinct exterillum is present (fig. 1a). Also the diagonal pigment spots are present in the myosepta (fig. 1c). However, in *Leptocephalus pseudomicrocephalus* these are not arranged in regular patterns or rows, like the very minute melanophores in the dorsal midline. Some are arranged in small groups, whereas others are scattered. On the

dorsal side of the body they are present in somewhat greater numbers than on the ventral side. Ventrally fine pigment spots are arranged laterally, along the first three-quarters of the gut. Their distribution is irregular, and caudally they decrease in numbers, to form finally a single row of fine scattered melanophores. Anteriorly, loosely arranged groups of melanophores are present along the gut.

The caudal fin rays are supported by two hypurals. The dorsal one forms a continuation of the chorda, the ventral one is directed downward (fig. 1c). The same situation is present in *Cynoponticus ferox* (Blache, 1968) and the leptocephali Type A4 and Type A5 (Mochioka et al., 1982). In *Leptocephalus macreteron* the situation is reversed; here the ventral hypural forms the continuation of the chorda, while the dorsal one is bent upward (Smith, 1979).

The following larvae of the *Ariosoma-Bathymyrus* group have an exterillum: the larva of *Cynoponticus ferox*, 141-147 myomeres (Blache, 1968; Castle, 1969); *Leptocephalus macreteron*, 136-139 myomeres (Castle, 1964; Smith, 1979); the larva of *Ariosoma mellissi*, 141-151 myomeres (Blache, 1963; 1977); the larva of *Parabathymyrus* sp., 146-154 myomeres (Blache, 1977).

Mochioka et al (1982) described a series of *Ariosoma*-type larvae from the west Pacific, which all have an exterillum. In general characters, pigmentation and shape, they more or less resemble *Leptocephalus pseudomicrocephalus*. With respect to the number of myomeres the present specimen comes close to their Type A4 with 160-173, and Type A5 with 171-177 myomeres. However, Type A4 is 102.5 mm long, and Type A5 189 mm.

So, from the features given above, it can safely be concluded that the specimen presented here is a new *Ariosoma-Bathymyrus* type of larva.

As far as can be ascertained now, larvae of the *Ariosoma-Bathymyrus* group and their relatives having an exterillum, are known from the eastern part of the Atlantic Ocean in subtropical and tropical waters, and from the temperate and warmer parts of the west Pacific Ocean. However, they are not mentioned so far from the eastern Pacific and from the Indian Ocean.

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