A NEW MAXIMUM LENGTH FOR THE SNIPEFISH *MACRORAMPHOSUS SCOLOPAX*.

Lisa BORGES, Instituto de Investigação das Pescas e do Mar, Avenida de Brasília, 1449-006 Lisboa, PORTUGAL. Present address: Marine Fisheries Services Division, Marine Institute, Snugboro Road, Abbotstown, Dublin 15, IRELAND. [lisa.borges@marine.ie]

RÉSUMÉ. – Une nouvelle taille maximale pour la bécasse de mer, *Macroramphosus scolopax*.

Une bécasse de mer, *Macroramphosus scolopax* (Linnaeus, 1758) de 228 mm de longueur totale, a été capturée au large du Portugal en février 1999. C'est le plus grand spécimen capturé à ce jour pour cette espèce.

Key words. – Macroramphosidae - *Macroramphosus scolopax* - ANE - Portugal - Maximum length.

Maximum length and maximum age are important theoretical parameters in fisheries science. Directly or indirectly, these measurements enter in most of the models used in stock assessments. In this sense, updating the maximum size of a species that might be commercially exploited in the future gains importance.

Material and methods

On 20 February 1999, during IPIMAR acoustic survey with R/V *Noruega*, a snipefish *Macroramphosus scolopax* (Linnaeus, 1758) was caught by bottom trawl, 47 km west of Aveiro, Portugal (9°31'W, 40°32'N). The gear used was the Norwegian Campell Trawl with a 20 mm cover mesh. The tow was carried out over the continental shelf, at 142 m depth, during daylight, with a duration of 20 min approximately.

The specimen was stored frozen for further analysis in the laboratory. Morphological characters such as total length (TL), snout length (measured from the tip of the snout to anterior edge of orbit) (SnL) and length of second dorsal spine (LDS) were collected. The morphometric lengths were measured to the nearest mm and total weight was determined to the nearest 0.01 g. The specimen was examined for the presence of parasites both externally and internally. Gender and maturity state was determined by the external appearance of the gonad based on Arruda (1988). Age was determined by observation of the *sagittae* otoliths under a compound stereoscope with reflected light following the procedure described in Borges (2000). Length, width and radius of the otolith were also measured.

Results and discussion

The snipefish caught was a female at stage four of maturation (developing - latter) with 228 mm TL, 61 mm SnL, 39 mm LDS and weighing 67.05 g (Fig. 1). Considering the length-weight relationship given in Borges (2000) ($a = 0.00401$; $b = 3.127$), the expected weight of 70.8 g, a value close to the observed one, indicates that this specimen has grown following the previous estimated relationship. The otoliths were of normal shape, with clear translucent bands and their measurements (1.742 mm length, 1.680 mm width and 0.984 mm radius) within previous found intervals (Borges, 2000). The specimen was six years old, with age corresponding to the number of translucent bands observed in the otoliths.

The maximum total length that was known in the literature was 192 mm (Ehrich, 1976). Bauchot and Pras (1993) consider 18 cm as the maximum total length *M. scolopax* may achieve; Heemstra (1986) cites 19 cm and Ehrich (1986) 20 cm. This specimen proves that this species can grow above the maximum lengths considered previously. Also, six years of age corresponds to the maximum age attributed to this species (Borges, 2000).

Increased body size may be linked to discrepancies in external morphological characters caused by parasitic infestation (Bauer, 1961). However, the snipefish observed had no apparent parasitic infection and presented morphometric measurements within intervals described for this species (Brêthes, 1975, 1979). The uncommon growth observed is probably the result of hereditary factors or some sort of glandular disturbance.

Acknowledgements. – I am grateful to C. Chaves for collecting and bringing the specimen to my attention.

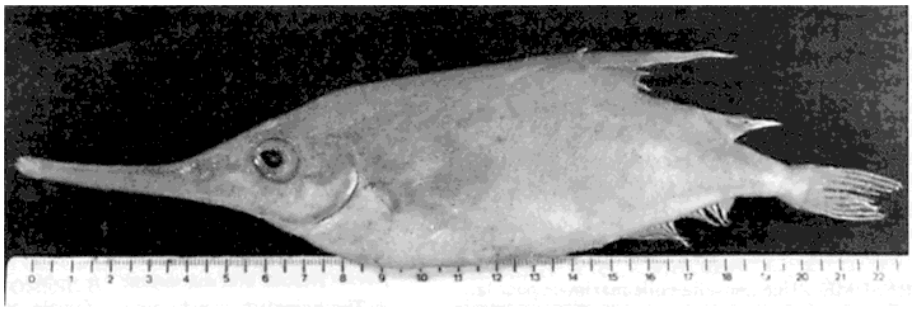

Fig. 1. - Snipefish, *Macroramphosus scolopax* caught off Aveiro, Portugal, 228 mm TL.

REFERENCES

ARRUDA L.M., 1988. - Maturation cycle in the female gonad of the snipefish, *Macrorhamphosus gracilis* (Lowe, 1839) (Gasterosteiformes, Macrorhamphosidae), off the western coast of Portugal. *Invest. Pesq.*, 52(3): 355-374.

BAUCHOT M.-L. & A. PRAS, 1993. - Guía de los Peces de Mar de España y de Europa. 227 p. Barcelona: Ediciones Omega.

BAUER O.N., 1961. - Relationships between host fishes and their parasites. *In:* Parasitology of Fishes (Dogiel V.A., Petrushevski G.K. & Yu. I. Polyanski, eds), pp. 84-103. London: Oliver and Boyd.

BORGES L., 2000. - Age and growth of the snipefish, *Macrorhamphosus* spp., in the Portuguese continental waters. *J. Mar. Biol. Ass. U.K.*, 80: 147-153.

BRETHES J.C., 1975. - La bécasse de mer des eaux atlantiques marocaines. Premières observations sur la biométrie et la biologie. *Trav. Doc. Dev. Pêches Maroc*, 15: 1-39.

BRETHES J.C., 1979. - Contribution à l'étude des populations de *Macrorhamphosus scolopax* (L, 1758) et *Macrorhamphosus gracilis* (Lowe, 1839) des côtes atlantiques marocaines. *Bull. Inst. Pêches Marit.*, 24: 1-62.

EHRICH S., 1976. - Zur Taxonomie, Oekologie und Wachstum von *Macroramphosus scolopax* (Linnaeus, 1758) (Pisces, Syngnathiformes) aus dem subtropischen Nordostatlantik. *Ber. dt. Wiss. Komm. Meeresforsch.*, 24: 251-266.

EHRICH S., 1986. - Macroramphosidae. *In:* Fishes of the North-eastern Atlantic and the Mediterranean, Vol. II (Whitehead P.J.P., Bauchot M.-L., Hureau J.-C., Nielsen J. & E. Tortonese, eds), pp. 627. Paris: UNESCO.

HEEMSTRA P.C., 1986. - Macrorhamphosidae. *In:* Smiths' Sea Fishes (Smith M.M. & P.C. Heemstra, eds), pp. 459-461. Berlin: Springer Verlag.

Reçu le 15.01.2001.
Accepté pour publication le 05.04.2001.