

# A new maximum length for *Anguilla anguilla* (Anguillidae)

by

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**RÉSUMÉ.** - Nouvelle taille maximale pour *Anguilla anguilla* (Anguillidae).

Un spécimen d'anguille, *Anguilla anguilla* (Linnaeus, 1758), a été capturé à proximité de Ploče (Adriatique orientale, côte Croate). Sa longueur totale, LT = 148,7 cm, représente la longueur maximale enregistrée pour cette espèce.

**Key words.** - Anguillidae - *Anguilla anguilla* - MED - Adriatic - Maximum length.

Maximum length, weight and age are important theoretical parameters, which are used in fisheries science. Directly or indirectly, these measurements are applied in most of the models used in stock assessments. In this sense, updating the maximum size of a species that might be commercially or recreationally exploited in the future gains importance (Borges, 2001).

The European eel, *Anguilla anguilla* (Linnaeus, 1758), is a catadromous species distributed from the eastern Atlantic (Scandinavia and Iceland) southward to the Canaries and African coast at about 25°N; it also enters the Mediterranean, Black Sea and Sea of Azov with accrued freshwater. It lives on the bottom under stones, in the mud or in crevices (Bauchot, 1986). The best fishing areas in the Adriatic Sea are rivers Neretva, Bojana, Cetina, Zrmanja and Vransko Lake (Jardas, 1996).

The aim of this paper is to present new data on the maximum observed length for the European eel.

## MATERIAL AND METHODS

On 21 September 2006 one specimen of European eel *Anguilla anguilla* (Linnaeus, 1758) was caught by trap, 1.5 km SE of the town of Ploče near the settlement Stablina at river Crna Rijeka (eastern Adriatic, Croatian coast) (43°03'09.10"N; 17°26'39.88"E). The specimen was subsequently measured to the nearest mm and weighed to the nearest g. Morphometric measurements considered for this eel were only total length (TL) and body weight (BW) as it was not possible to take more. Unfortunately, the specimen was not preserved as it was sold by a professional fisherman at the fish market.

## RESULTS AND DISCUSSION

Conspicuous morphological features of the specimen were: pointed head, enlarged eyes, dark skin on the back, while that on the belly was shiny and silvery. We did not have an opportunity to determine age, but these morphological features close correspond to Deelder (1984) who found that at an age of over 30 years, eels begin to undergo a remarkable series of changes in morphology.



Figure 1. - Specimen of the European eel *Anguilla anguilla* caught in river Crna rijeka near Ploče (eastern Adriatic, Croatian coast) TL = 148.7 cm. [Spécimen d'anguille, *Anguilla anguilla* capturé dans le fleuve Crna Rijeka près de Ploče (Adriatique orientale, côte de Croatie) TL = 148,7 cm.]

The European eel mentioned here was 148.7 cm in TL and weighed 5.54 kg (Fig. 1). The maximum recorded total length that we found in the literature was 145 cm (Koli, 1990). Dekker *et al.* (1998) also reported a female of 133 cm in total length. Bauchot (1986) inferred that females can reach over 1 m, while Bauchot (1987) consider 150 cm as the maximum total length that this species could reach. Neither paper mentions any specimen on which these measurements were based. Milišić (1994) and Jardas (1996) considered 100 cm TL as the possible maximum total length *A. anguilla* may achieve. Our specimen from the Adriatic proves that this species can grow above the maximum lengths considered previously.

Our specimen represents the eel population in the Neretva River and its tributaries. The population lives in cold water bodies such as rivers, springs and caves, where water temperature rarely exceeds 17-18°C (Glamuzina, unpubl. data), and most catches were always limited to these colder waters. This is the first time that an eel was caught in the lower estuary, and this was a consequence of intense rains and a flow of water through springs connected with the upper river.

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