

First record of the fourfinger threadfin, *Eleutheronema tetradactylum* (Shaw, 1804) in Belgium



Jan J. Breine^{*}, Isabel Lambeens, Yves Maes, Adinda De Bruyn, Linde Galle

Research Institute for Nature and Forest, Dwersbos 28, B-1630, Linkebeek, Belgium

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ABSTRACT

A single small specimen (810 mm total length) of polynemid fish was caught in the Zeeschelde, near the village of Branst. The fish was captured in a mid-water beam trawl from an anchored boat in September 2016. It is the first record of *Eleutheronema tetradactylum* (Shaw, 1804) in Belgium.

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11. Introduction

The fourfinger threadfin, *Eleutheronema tetradactylum* (Actinopterygii: Perciformes: Percoidae: Polynemidae), is an amphidromous marine species migrating to brackish and freshwater (Riede, 2004). The fourfinger threadfin is of considerable commercial importance as well in fisheries as in aquaculture (Abu Hena et al., 2011). It was first recorded from Ohilika lake, a lagoon on the east coast of India (Chauduri, 1917). The known distribution of *Eleutheronema tetradactylum* ranges from the Persian Gulf to Papua New Guinea and northern Australia (Motomura, 2004). According to EOL (2016) the species was also captured in the Gambia River (EOL, 2016). However, this record is not mentioned in the Global Biodiversity Information Facility (GBIF, 2016). Adults occur mainly over shallow muddy bottoms in coastal waters and during winter the adults ascend the rivers (Menon and Babun Rao, 1984; Kailola et al., 1993; Yamada et al., 1995). Juveniles are found in estuaries.

Eleutheronema tetradactylum (Shaw, 1804) (Fourfinger threadfin; Dutch: Reuzenkapiteinvis; FR: Burbure à quatre doigts).

The River Schelde is 435 km long originating on the plateau of Saint-Quentin in France. The Schelde estuary itself is approximately 160 km long and has a complete salinity gradient from polyhaline to a tidal freshwater zone, including extensive freshwater, brackish and salt marshes to its ecosystem. It is a well-mixed estuary characterized by strong currents, high turbidity and large tidal amplitude up to 6 m (Seys et al., 1999). It can be divided in two sections (downstream to upstream): the Westerschelde in the Netherlands

from Vlissingen to Zandvliet and the Zeeschelde in Belgium, from Zandvliet to Gent. The specimen was captured in the freshwater part of the Zeeschelde estuary near Branst (lat. 51°04'16.12"N, long. 4°11'9.11"E) (Fig. 1) on 20 September 2016. This specimen has been deposited in the Royal Belgian Institute of Natural Sciences (Brussels, Belgium) as reference material (1 specimen, location: Branst, collection reference: KBIN 25143).

One juvenile specimen of 82.2 mm total length, 67.4 standard length, 17.2 mm head length and 4.1 g total weight (Fig. 2) was caught in a mid-water beam trawl from an anchored boat. Each trawl consists of a net fixed between two eight meter long steel beams. The lower beam is lowered to the bottom of the river while the upper beam is held at the surface. Both ends of the beams are attached to the anchor which keeps the boat at a fixed place. At the sampling site the nets are placed for one or two hours during flood and ebb-tide. The survey occurred in the framework of a fish monitoring research of the Research Institute for Nature and Forest.

The specimen was carefully examined and identified as *Eleutheronema tetradactylum* following Motomura (2004). The morphometric characteristics and meristics of this specimen (Table 1) were similar to those reported in the literature (Motomura, 2004).

We consider water ballast as the vector for the introduction of this species in the Zeeschelde. We can exclude active migration over long distances since there is no report of this species in other European estuaries or seas.

^{*} Corresponding author.

E-mail address: jan.breine@inbo.be (J.J. Breine).

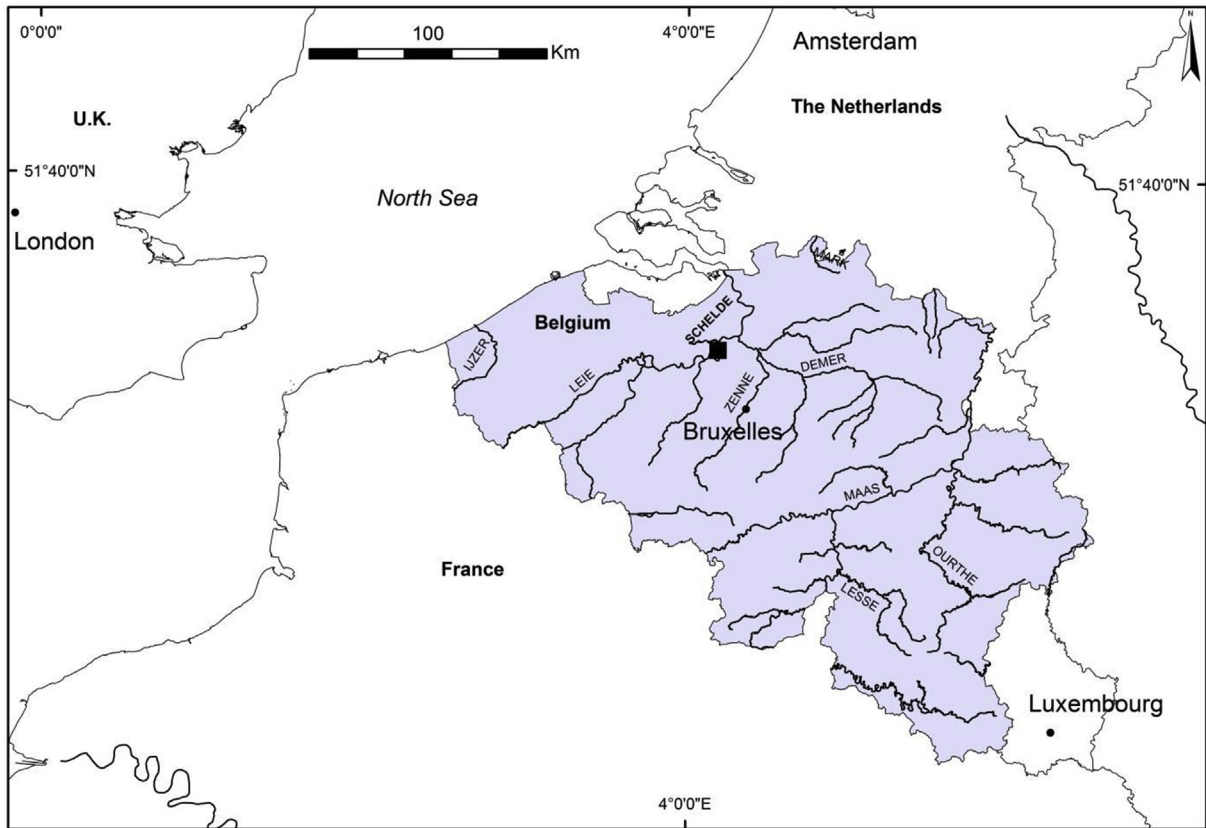


Fig. 1. Location of first record of *Eleutheronema tetradactylum* in Belgium (■).

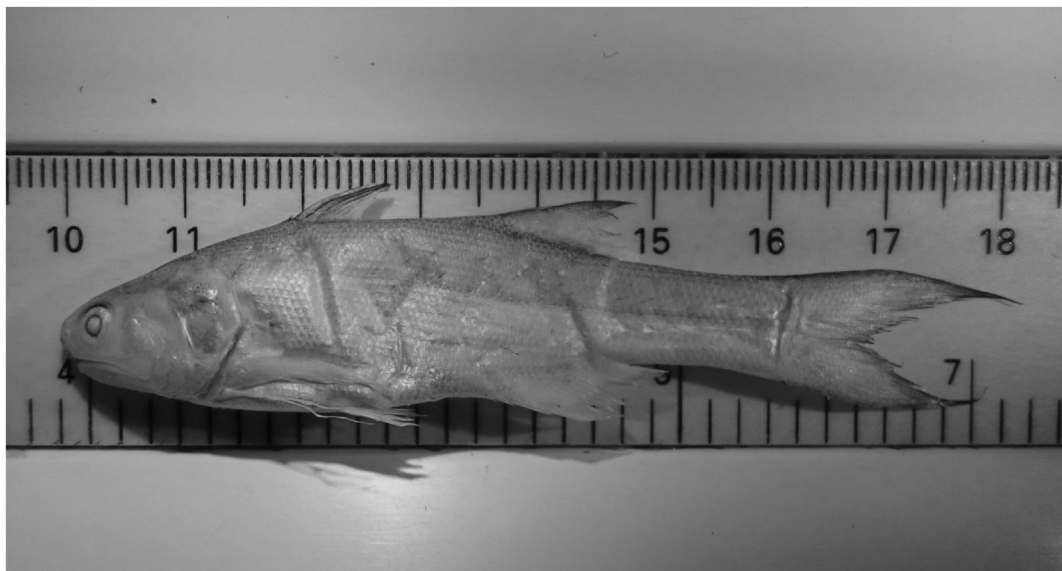


Fig. 2. First recorded specimen of *Eleutheronema tetradactylum* in Belgium (82.2 mm TL).

Table 1

Meristics and morphometric characteristics (in mm) of the first *Eleutheronema tetradactylum* specimen caught in Belgium in the Zeeschelde estuary near Branst (lat. 51°04'16.12"N, long. 4°11'9.11"E) on 20 September 2016.

Character	Counts/Measurements (mm)
Total length	82.23
Standard length	67.48
Counts	
Scales above lateral line	12
Scales below lateral line	16
Pectoral filaments	4
First dorsal fin	VIII
Second dorsal fin	I/14
Anal fin	III/15
Measurements	
Head length	17.24
Snout length (preorbital length)	2.36
Eye diameter	1.41
Orbit diameter	3.19
Upper jaw length	8.31
Body depth	14.99
Pectoral-fin length	14.66
Pectoral-filament length	17.15
Second dorsal-fin base length	9.22
Caudal-peduncle depth	7.68
Anal-fin base length	11.66

Note: Spinous rays in Roman letter type, soft rays in Arabic letter type.

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