



First record of *Dactylopterus volitans* (Dactylopteridae) in the Eastern English Channel

by

Kélig MAHÉ* (1), Eric FOUCHER (2), Romain ELLEBOODE (1),
Samuel P. IGLESIAS (3) & Alain TETARD (2)

Received: 22 Apr. 2013
Accepted: 10 Jun. 2013
Editor: R. Causse

Résumé. – Premier signalement de *Dactylopterus volitans* (Dactylopteridae) en Manche orientale.

Un grondin volant, *Dactylopterus volitans* (Linnaeus, 1758), est signalé pour la première fois en Manche orientale. Le spécimen a été capturé le 24 novembre 2011 en baie de Seine. Il mesurait 47 cm et pesait 840 g. D'après l'étude des otolithes, il s'agissait d'un individu adulte âgé de 4 ou 5 ans. Un autre spécimen a été observé en Manche occidentale par un pêcheur de Granville, le 10 octobre 2012.

Key words. – Dactylopteridae – *Dactylopterus volitans* – Atlantic Ocean – Eastern English Channel – First record.

The family *Dactylopteridae* comprises seven valid species mostly distributed in tropical and subtropical seas (Eschmeyer and Fong, 2013). The flying gurnard *Dactylopterus volitans* (Linnaeus, 1758) is present in the Eastern Atlantic, apparently from the North Sea to Angola, including the entire Mediterranean Sea and the Azores, and in the Western Atlantic, from Canada to Argentina (Froese and Pauly, 2013). It is the only species of the family *Dactylopteridae* present in the European Atlantic (from 36°N to 66°N) (Roux, 1986; Quéro *et al.*, 2003). The point map of *D. volitans* given in FishBase (Froese and Pauly, 2013) showed a single record in the Bay of Biscay and a single record point in the Southern North Sea, although the latter seems to be an estimation, not a real observation. This paper reports the first record of *D. volitans* in the Eastern English Channel.

MATERIAL AND METHODS

The specimen (MNHN 2013-0612) has been caught on 24 November 2011 near the French coast in the Eastern English Channel (49°29'N latitude and 0°32'W longitude; Fig. 1) by a French trawler "Patron Jean Tabourel" from the fishing harbour of Port-en-Bessin, Normandy, France. The measurements and meristic characters were recorded in the fisheries laboratory of the French Research Institute for Exploitation of the Sea (IFREMER) at Port-en-Bessin. This specimen was sent to the Muséum national d'Histoire naturelle of Concarneau. An otolith sample has been sent to the Sclerochronology Centre of IFREMER in Boulogne-sur-Mer in order to estimate the age. After extraction, the sagittal otolith

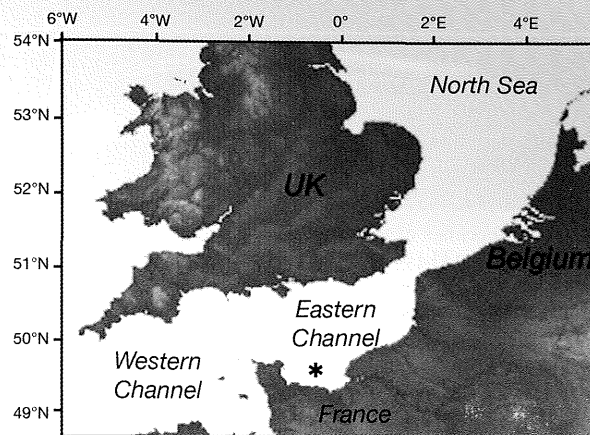


Figure 1. - Location of the sampling site (star) of flying gurnard *Dactylopterus volitans* in the Eastern English Channel.

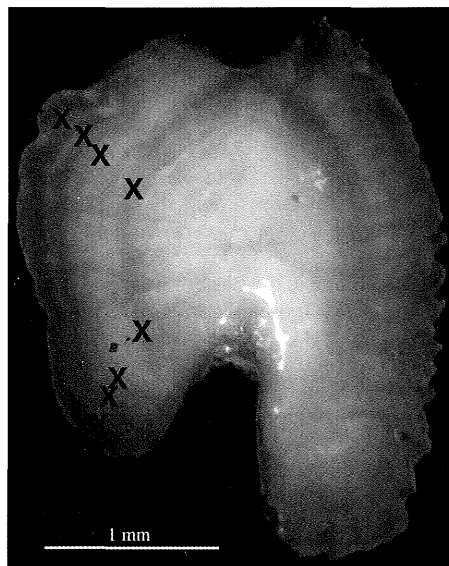


Figure 2. - Whole otolith of flying gurnard (*Dactylopterus volitans*) with annotation of growth rings (red stars).

(1) IFREMER, Sclerochronology Centre, Fisheries Laboratory, 150 quai Gambetta, BP 699, 62 321 Boulogne-sur-Mer, France. [romain.elleboode@ifremer.fr]

(2) IFREMER, Fisheries laboratory, Avenue du Général de Gaulle, 14520 Port-en-Bessin, France. [Eric.Foucher@ifremer.fr] [alain.tetard@ifremer.fr]

(3) Muséum national d'Histoire naturelle, Département Milieux et Peuplements Aquatiques, UMR BOREA 7208, Station de Biologie marine de Concarneau, Place de la Croix, 29900 Concarneau, France. [iglesias@mnhn.fr]

* Corresponding author [kelig.mahe@ifremer.fr]

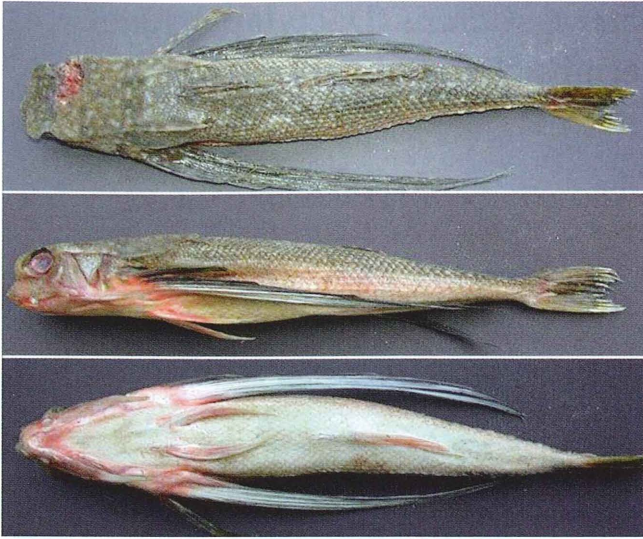


Figure 3. - Specimen of flying gurnard *Dactylopterus volitans* (MNHN 2013-0612; 47 cm TL) caught in the Eastern English Channel in 2011.

was cleaned, immersed in water, and examined under binocular with transmitted light (Fig. 2). The voucher specimen was fixed in 4% formalin, then preserved in 80% ethanol and deposited in the collection of the Muséum national d'Histoire naturelle of Paris (MNHN), under the number MNHN 2013-0612.

RESULTS AND DISCUSSION

The specimen measured 47 cm (total length ± 1 cm) and weighed 840 g (total weight ± 1 g). The fin ray meristics were: 7 dorsal spines; 8 dorsal soft rays; 0 anal spines; 6 anal soft rays. The pectoral fin was large and fan-like, with a brilliant, iridescent blue line and dot markings. The body was in shades of grey to yellow brown with white spots and the snout was blunted (Fig. 3). All these characters closely correspond to those listed by Quéro *et al.* (2003), and typify the specimen as *Dactylopterus volitans*.

There are few publications on the presence of *D. volitans* to the north of the 36°N latitude in the Eastern Atlantic Ocean: 10 catches were identified, of which four in the Irish waters in 1995, 1998 and 2003 (Quigley *et al.*, 2004), one in the Western English Channel in 1980 (Quéro and Guéguen, 1981), and five in the Bay of Biscay in 1963, 1974, 1989, 1993 and 2003 (Quéro *et al.*, 2004).

This is the first official record of the flying gurnard *D. volitans* in the Eastern English Channel. Another specimen was caught in the Western English Channel by a fisherman on 10 October 2012, that was sent to the Aquarium of Granville. These were the eleventh and twelfth specimens observed in the North-Eastern Atlantic Ocean during the last 50 years. They were caught in October and November, which is comparable with the recordings (September-

December) of the other *D. volitans* specimens in European waters (Quigley *et al.*, 2004). Only limited information exists on this species. Individuals living within the normal distribution boundary might migrate from Madeira and the Azores to the North in Autumn, when the environmental conditions, such as sea temperature, salinity and food availability, allow for it (Poulard and Blanchard, 2005; Rose, 2005).

Our specimen measured 47 cm in total length. Roux (1986) reported a maximum size of 50 cm (standard length), while Quigley *et al.* (2004) noted that the total length was comprised between 29 and 40 cm for all specimens in the Bay of Biscay and in Irish waters. Based on the otolith readings, our specimen reached an age of four to five years.

Acknowledgements. - This study was supported by IFREMER. We are grateful to Jean-Baptiste Houchard, fisherman on the boat "Patron Jean Tabourel", who provided the samples to IFREMER. We also thank one anonymous reviewer for his critical review of the manuscript.

REFERENCES

- ESCHMEYER W.N. & FONG J.D., 2013. - Species of Fishes by family/subfamily. Electronic version (20 Mar. 2013). <http://research.calacademy.org/research/ichthyology/catalog/SpeciesByFamily.asp>.
- FROESE R. & PAULY D. (eds.), 2013. - FishBase. World Wide Web electronic publication. <http://www.fishbase.org>, version Mar. 2013.
- POULARD J.C. & BLANCHARD F., 2005. - The impact of climate change on the fish community structure of the eastern continental shelf of the Bay of Biscay. *ICES J. Mar. Sci.*, 62: 1436-1443.
- QUÉRO J.C. & GUÉGUEN J., 1981. - Capture près de la côte sud-ouest de l'Angleterre d'un *Cephalacanthus volitans* (Linné, 1758) (Pisces, Dactylopterifonnes, *Cephalacanthidae*) espèce probablement nouvelle pour la faune anglaise. *Cybium*, 5(4): 87-89.
- QUÉRO J.C., PORCHÉ P. & VAYNE J.J., 2003. - Guide des Poissons de l'Atlantique européen. 465 p. Neuchâtel: Delachaux & Niestlé.
- QUÉRO J.C., BELLAIL R., SPITZ J., TARDY J. & VAYNE J.J., 2004. - Observations ichthyologiques effectuées en 2003. *Ann. Soc. Sci. Nat. Charente-Mar.*, 9(4): 367-370.
- QUIGLEY D.T.G., FLANNERY K., O'SHEA J., BLAKE G. & SMITH T., 2004. - First records of flying gurnard *Dactylopterus volitans* L. from Irish waters and a review of north-western European records. *Ir. Nat. J.*, 27(12): 458-460.
- ROSE G.A., 2005. - On distributional responses of North Atlantic fish to climate change. *ICES J. Mar. Sci.*, 62: 1360 - 1374.
- ROUX C., 1986. - Dactylopteridae. In: Fishes of the North-eastern Atlantic and the Mediterranean 3 (Whitehead P.J.P., Bauchot M.L., Hureau J.C., Nielsen J. & Tortonese E., eds), pp. 1284-1285. Paris: UNESCO.