

French ichthyological records for 2017

by

Samuel P. IGLÉSIAS* (1), Ludovic BOUCHE (2), Paul COSQUER (3), Nicolas GOASCOZ (4),
Samuel GUYADER (5), Coline LAZARD (6), Lise MAS (7), Luisa METRAL (8),
Jean-Claude QUÉRO (9) & Jérôme SPITZ (10)



Abstract. – Uncommon records of fishes may evidence local or global changes of fish composition resulting from environmental modifications or anthropic activities. Significant records of uncommon marine fishes, including threatened species, collected in French waters or by French vessels in European waters are reported for the year 2017. They include first, new, rare and unusual records for the following species: *Sphyrna zygaena*, *Acipenser sturio*, *Muraena helena*, *Nessorhamphus ingolfianus*, *Evermannella balbo*, *Raniceps raninus*, *Cheilopogon heterurus*, *Scopelogadus beanii*, *Zenopsis conchifer*, *Eutelichthys leptochirus*, *Serranus cabrilla*, *Naucrates ductor*, *Seriola rivoliana*, *Gobius gasteveni*, *Gobius paganellus*, *Lepidocybium flavobrunneum*, *Ruvettus pretiosus*, *Hippoglossus hippoglossus*, and *Sphoeroides pachygaster*.

Résumé. – Signalements ichthyologiques français pour 2017.

Les signalements inhabituels de poissons peuvent témoigner de changements locaux ou globaux résultant de modifications environnementales ou d'activités anthropiques. Des signalements remarquables de poissons marins, comprenant des espèces menacées, collectés dans les eaux françaises ou bien par des navires français dans les eaux européennes sont mentionnés pour l'année 2017. Ils comprennent des premiers et nouveaux signalements ainsi que des signalements rares et inhabituels pour les espèces : *Sphyrna zygaena*, *Acipenser sturio*, *Muraena helena*, *Nessorhamphus ingolfianus*, *Evermannella balbo*, *Raniceps raninus*, *Cheilopogon heterurus*, *Scopelogadus beanii*, *Zenopsis conchifer*, *Eutelichthys leptochirus*, *Serranus cabrilla*, *Naucrates ductor*, *Seriola rivoliana*, *Gobius gasteveni*, *Gobius paganellus*, *Lepidocybium flavobrunneum*, *Ruvettus pretiosus*, *Hippoglossus hippoglossus* et *Sphoeroides pachygaster*.

© SFI
Submitted: 9 Oct. 2018
Accepted: 17 Jun. 2019
Editor: P. Béarez

Key words

New record
Distribution
Fishes
North Eastern Atlantic
Mediterranean

Surveys of uncommonly recorded fishes primarily document their geographic and bathymetric distribution in an area at a specific date. These records (or non-records) over long time series may evidence local or global changes of fish composition resulting from environmental modifications (e.g. warming waters) or anthropic activities (e.g. overfishing). These first, new or unusual records of species in the Northeastern Atlantic in the last decades are represented primarily by mostly northern range extensions (i.e. meridional-

ization), or by significant increases in abundance, but also by local disappearances for other species (e.g. Quéro and Cendrero, 1996; Quéro *et al.*, 1997, 1998, 2007a; Quéro, 1998). The current records contribute to document and extend national inventories of marine fishes (e.g. for France, Béarez *et al.*, 2017). Significant records of uncommon marine fishes collected in French waters or by French vessels in European waters are here reported for the year 2017. They include new, first or unusual records for 19 species.

- (1) Station Marine de Concarneau, Institut Systématique Evolution Biodiversité (ISYEB), Muséum national d'Histoire naturelle, CNRS, Sorbonne Université, Place de la Croix, France. [samuel.iglesias@mnhn.fr]
- (2) Laboratoire de Technologie et Biologie Halieutiques, Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer), 8 rue François Toullec, 56100 Lorient, France. [Ludovic.Bouche@ifremer.fr]
- (3) DDTM 85/DML/SRAMP/ULAM, 1 quai Dingler, BP 10366, 85108 Les Sables-d'Olonne CEDEX, France. [paul.cosquer29@gmail.com]
- (4) Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer), Laboratoire Ressources Halieutiques Manche/Mer du Nord, Station de Port-en-Bessin, Avenue du Général de Gaulle, BP 32, 14520 Port-en-Bessin, France. [Nicolas.Goascoz@ifremer.fr]
- (5) CNRS, Station Marine d'Endoume, Rue de la Batterie des Lions, 13007 Marseille, France. [sam.guyader@gmail.com]
- (6) Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer), Laboratoire Ressources Halieutiques Manche/Mer du Nord, 150 quai Gambetta, 62200 Boulogne-sur-Mer, France. [Coline.Lazard@ifremer.fr]
- (7) Institut des Milieux Aquatiques (IMA), 1 rue de Donzac, BP 106, 64101 Bayonne CEDEX, France. [l.mas@institutdesmilieuxaquatiques.fr]
- (8) Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer), Laboratoire Halieutique Méditerranée, Avenue Jean Monnet, CS 30171, 34203 Sète CEDEX, France. [Luisa.Metral@ifremer.fr]
- (9) SSNCM, Muséum d'Histoire naturelle, 30 rue Albert 1^{er}, 17000 La Rochelle, France. [jcmquero@wanadoo.fr]
- (10) Observatoire PELAGIS, UMS 3462 Université de La Rochelle/CNRS, 17000 La Rochelle, France. [jerome.spitz@univ-lr.fr]

* Corresponding author

MATERIAL AND METHODS

The present records are opportunistic observations made by biologists during French fishery surveys on research vessels, by fishery observers on commercial fishing boat and by professional or recreational fishermen. A non-native species (i.e. range extension, migration or introduction) is classified into the categories “established” if at least three records, spread over time and space, are known for the considered area (Zenetos *et al.*, 2005; Golani *et al.*, 2017). An individual from an identified species represents a “first record” when it is recorded for the first time in an area. “New records” represent additional records whose observation is posterior to the “first record”. All records with good geographical coordinates are presented on a map (Fig. 1). Voucher specimens

are preserved and deposited into the ichthyological collection of the Muséum national d’Histoire naturelle (MNHN-IC, Tab. I). The “BPS” tissue sample collection is managed by SPI at the Marine Station of Concarneau. The following abbreviations are used: TL = total length; FL = fork length; SL = standard length; A = anal fin; D = dorsal fin; P = pectoral fin.

RESULTS

***Sphyrna zygaena* (Linnaeus, 1758) and *Sphyrna* sp.**

A first individual of undetermined Hammerhead, (*Sphyrna* sp.), Sphyrnidae, was captured between 14 and 20 August 2017 by the fishing master Mr Alain Voisin on the long

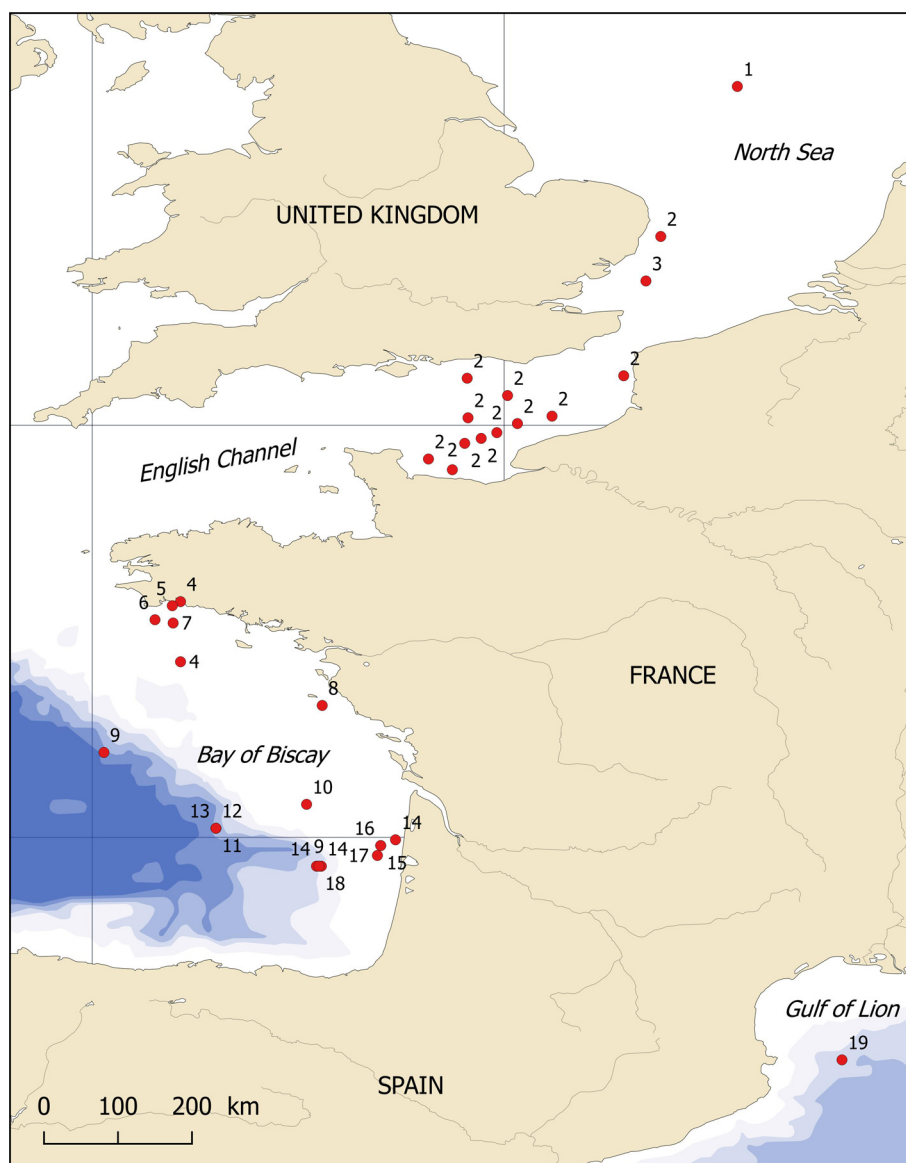


Figure 1. – Location of the significant French ichthyological records for 2017. **1:** *Hippoglossus hippoglossus*, **2:** *Gobius gasteveni*, **3:** *Gobius pagannellus*, **4:** *Acipenser sturio*, **5:** *Cheilopogon heterurus*, **6:** *Zenopsis conchifer*, **7:** *Sphoeroides pachygaster*, **8:** *Raniceps raninus*, **9:** *Lepidocybium flavobrunneum*, **10:** *Serranus cabrilla*, **11:** *Nessorhamphus ingolfianus*, **12:** *Evermannella balbo*, **13:** *Scopelogadus beanii*, **14:** *Sphyrna zygaena*, **15:** *Naukrates ductor*, **16:** *Seriola rivoliana*, **17:** *Muraena helena*, **18:** *Ruvettus pretiosus*, and **19:** *Eutelichthys leptochirus*.

Table I. – List of specimens preserved as vouchers recorded in 2017.

Species	Specimen coll. No.	Preservation	DNA coll. No.	Date	Locality
<i>Acipenser sturio</i>	MNHN-IC 2019-0092	Taxidermized	BPS-3840	22-23 Apr. 2017	Off Concarneau
<i>Muraena helena</i>	MNHN-IC 2019-0093	Taxidermized	BPS-3856	11 Feb. 2017	Off south Lacanau
<i>Nessorhamphus ingolfianus</i>	MNHN-IC 2019-0094	Ethanol	BPS-3978	29 Oct. 2017	Southern Bay of Biscay
<i>Evermannella balbo</i>	MNHN-IC 2019-0095	Ethanol	BPS-3977	29 Oct. 2017	Southern Bay of Biscay
<i>Raniceps raninus</i>	MNHN-IC 2019-0096	For osteology	–	22 Nov. 2017	Southern Bay of Biscay
<i>Cheilopogon heterurus</i>	MNHN-IC 2019-0097	Ethanol	BPS-3857	23 June 2017	Off Concarneau
<i>Scopelogadus beanii</i>	MNHN-IC 2019-0098	Ethanol	BPS-3976	29 Oct. 2017	Southern Bay of Biscay
<i>Zenopsis conchifer</i>	–	–	BPS-3971	10 Oct. 2017	Off Glenan archipelago
<i>Eutelichthys leptochirus</i>	MNHN-IC 2019-0099	Ethanol	BPS-3975	22 June 2017	Gulf of Lion
	–	–	BPS-3974	22 June 2017	Gulf of Lion
<i>Serranus cabrilla</i>	MNHN-IC 2019-0100	For osteology	–	20 Nov. 2017	Southern Bay of Biscay
<i>Gobius gasteveni</i>	MNHN-IC 2019-0101	Ethanol	BPS-3789	21 Jan. 2017	Eastern English Channel
	MNHN-IC 2019-0102	Ethanol	BPS-3790	21 Jan. 2017	Eastern English Channel
<i>Gobius paganellus</i>	MNHN-IC 2019-0103	Ethanol	BPS-3839	07 Feb. 2017	Southern North Sea
<i>Lepidocybium flavobrunneum</i>	MNHN-IC 2019-0104	Taxidermized	BPS-3860	18 July 2017	Bay of Biscay
<i>Hippoglossus hippoglossus</i>	MNHN-IC 2019-0105	Taxidermized	BPS-3836	04 Feb. 2017	North Sea
<i>Sphoeroides pachygaster</i>	MNHN-IC 2019-0106	Taxidermized	BPS-3989	26 July 2017	Off Glenan archipelago

liner *Marial* from the île d'Yeu, off Arcachon (Aquitaine, Bay of Biscay, France). A second individual of *Sphyrna* sp. was captured on 13 September 2017 by the same fisherman and boat. It was again collected off Arcachon, at 44.650°N, –2.217°W, at 25-30 m depth above a 1500 m deep continental slope. The specimen was estimated to weigh about 80 kg. The hook baited with sardine was hooked close to the eye. The specimen was hoist on board then returned to the sea with low survival probability according to fishermen. A third individual was captured on 14 September 2017 by the same fisherman and boat. It was again captured off Arcachon, at 44.650°N, –2.283°W, at 25-30 m depth, above a 2000-2200 m deep continental slope. The specimen was estimated to weigh about 70-80 kg. The hook baited with sardine was in the same way hooked close to the eye. The specimen broke loose and got away in good condition. Observations by PC. A fourth individual, identified as *Sphyrna zygaena*, the Smooth hammerhead (Fig. 2A), was captured on 18 September 2017 by the fishing master Mr Rémy Descamps on the gillnetter *Petit Loïc* from Arcachon targeting Common sole. It was captured off Lacanau (Aquitaine, Bay of Biscay, France), at 44.969°N, –1.319°W, at 30 m depth. The specimen was estimated to measure about 250 cm and to weigh about 90 kg. The fisherman said he captured six or seven individuals of Hammerhead during the summer 2017. Observations by LM. As mentioned for the year 1983 by Quéro *et al.* (1984), records of Hammerhead shark in the southern Bay of Biscay looked higher in 2017 than usually observed. The present specimens are new records for the Bay of Biscay where the species was still uncommonly recorded.

Acipenser sturio Linnaeus, 1758

A first European sea sturgeon, Acipenseridae (Fig. 2B), was captured on 22-23 April 2017 by Mr Charles Rannou on a recreational boat with a trammel net. It was captured in front of the Concarneau port (Southern Brittany, France), close to the beacon *le Cochon*, at 47.859°N, –3.925°W, at about 10 m depth. The specimen was found dead on 24 April into the net and directly brought to the Marine Station of Concarneau located just in front of the capture locality. The specimen was a little damaged due to long time spent dead in water. The fresh specimen measured 922 mm TL, 817 mm FL, head was 195 mm long. It weighed 3430 g, its liver was 83.5 g, its 21 cm long gonads weighed 17.07 g, its pancreas 14.66 g, its spleen 3.65 g. It was tentatively identified as male according to gonad aspect. The specimen was born in captivity in 2013 and it was released at three months old in the Garonne River. The specimen was preserved for taxidermy with the collection No. MNHN-IC 2019-0092 (according to regulation by decree No. 2001-916 of 3 October 2001), and a tissue sample was preserved under No. BPS-3840. A second individual was captured on 5 October 2017 by the fishermen of the coastal trawler *P'tit Jules-II* from Lorient (Josse, 2017). It was captured off the island Belle-Île (Bay of Biscay, France), at 47.1288°N, –3.9347°W, at 114 m depth. The dead specimen was landed in the fish market of Lorient. It was brought to the Marine Station of Concarneau for analyses. The fresh specimen measured 1174 mm TL, and its head was 231 mm long. The eviscerated weight was 6.03 kg. A tissue sample was preserved under No. BPS-3970. The specimen was born in captivity in 2012 and it was released at larval stage in the Garonne River. Recorded by SPI. Both of these specimens, born in captivity, were initially released



Figure 2. – Significant French ichthyological records for 2017. **A:** *Sphyrna zygaena*, ~250 cm, 18 Sep. 2017, (photo by Rémy Descamps); **B:** *Acipenser sturio*, 922 mm TL, 22–23 Apr. 2017, MNHN-IC 2019-0092; **C:** *Muraena helena*, 1153 mm TL, 11 Feb. 2017, MNHN-IC 2019-0093; **D:** *Nessorhamphus ingolfianus*, 460 mm TL, 29 Oct. 2017, MNHN-IC 2019-0094; **E:** *Evermannella balbo*, 123 mm TL, 29 Oct. 2017, MNHN-IC 2019-0095; **F:** *Raniceps raninus*, 118 mm TL, 22 Nov. 2017, MNHN-IC 2019-0096; **G:** *Cheilopogon heterurus*, 370 mm TL, 23 June 2017, MNHN-IC 2019-0097; **H:** *Scopelogadus beanii*, 97 mm TL, 29 Oct. 2017, MNHN-IC 2019-0098; **I:** *Zenopsis conchifer*, 245 mm TL, 10 Oct. 2017; **J:** *Eutelichthys leptochirus*, 68 mm TL, 22 June 2017, MNHN-IC 2019-0099.

according to a reintroduction plan for this Critically Endangered and protected species (Gesner *et al.*, 2010). Their age was known according to genetic parental reattribution and confirmed by reading rings on pectoral ray section. All capture information and samples were returned to the competent authorities according to the National Actions Plan for

the European sea sturgeon. The present specimens represent currently rare records for the Bay of Biscay where the species has been extracted.

***Muraena helena* Linnaeus, 1758**

A Mediterranean moray, Muraenidae (Fig. 2C), was cap-

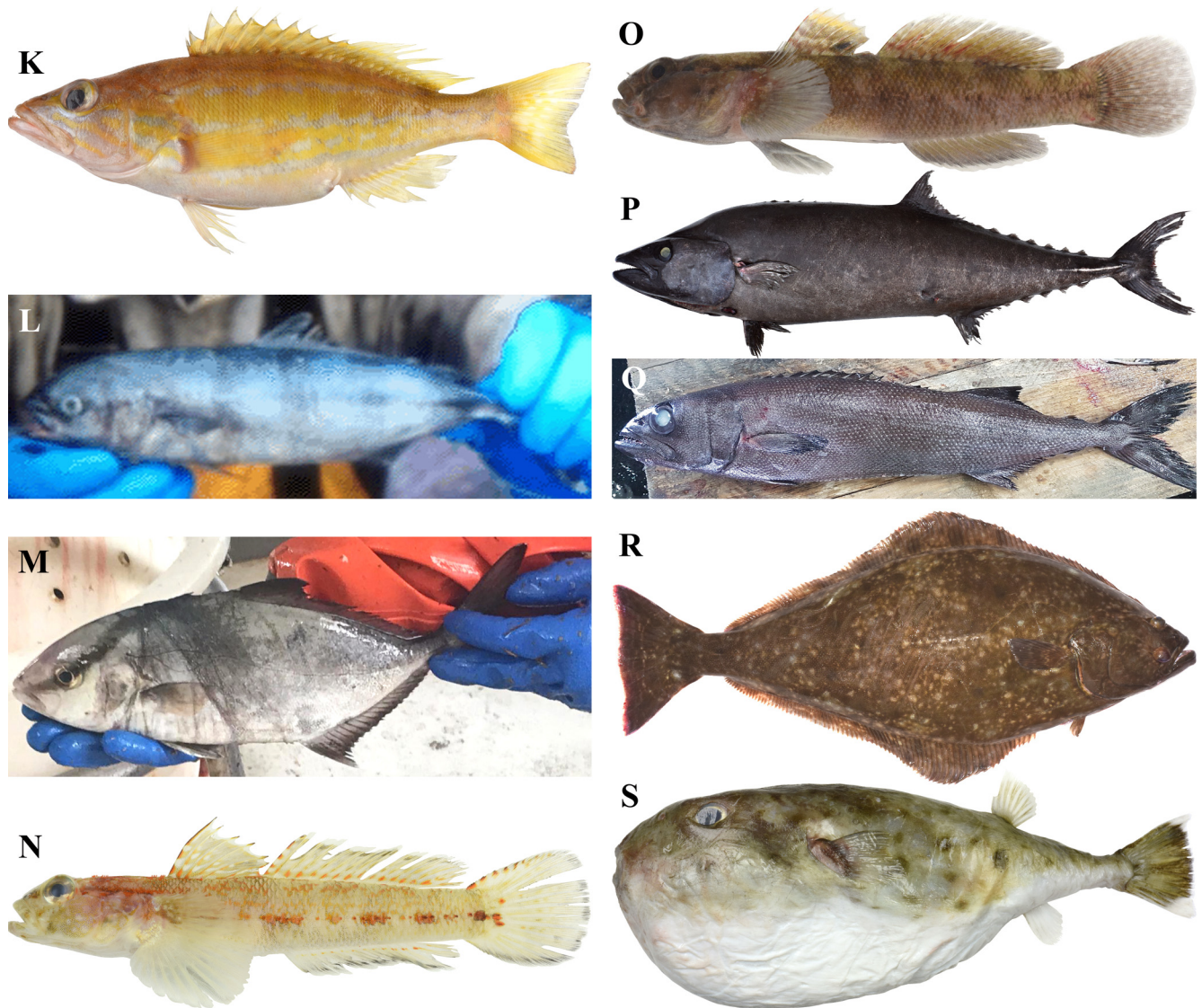


Figure 2 (continued). – Significant French ichthyological records for 2017. **K:** *Serranus cabrilla*, 20 Nov. 2017, 195 mm TL, MNHN-IC 2019-0100; **L:** *Naucrates ductor*, ~ 25 cm TL, May 2017 (photo by Rémy Descamps); **M:** *Seriola rivoliana*, ~ 30 cm TL, 12 July 2017 (photo by Rémy Descamps); **N:** *Gobius gasteveni*, 84 mm TL, 21 Jan. 2017, MNHN-IC 2019-0101; **O:** *Gobius paganellus*, 67 mm TL, 07 Feb. 2017, MNHN-IC 2019-0103; **P:** *Lepidocybium flavobrunneum*, 1683 mm TL, 18 July 2017, MNHN-IC 2019-0104; **Q:** *Ruvettus pretiosus*, 665 mm TL, 29 Aug. 2017; **R:** *Hippoglossus hippoglossus*, 1010 mm TL, 04 Feb. 2017, MNHN-IC 2019-0105; **S:** *Sphoeroides pachygaster*, 303 mm TL, 26 July 2017, MNHN-IC 2019-0106.

tured on 11 February 2017 by the fishing master Mr Rémy Descamps on the coastal gillnetter *Atalante* from Arcachon. It was caught in a trammel net targeting Common sole off south Lacanau (Bay of Biscay, Aquitaine, France), at 44.7833°N, -1.5417°W, at 63 m depth on a sandy bottom. The fresh specimen measured 1153 mm TL, 1140 mm SL, and the head was 146 mm long. Its weight was 3.88 kg. The specimen was preserved for taxidermy with the collection No. MNHN-IC 2019-0093 and tissue sample was preserved under No. BPS-3856. Recorded by LM. The present specimen is a new record for the French Atlantic coast where the species is uncommonly recorded.

Nessorhamphus ingolfianus (Schmidt, 1912)

A Duckbill oceanic eel, Derichthyidae (Fig. 2D), was collected on 29 October 2017 during the survey EVHOE on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0494 (Southern Bay of Biscay, France), at 45.1322/45.1033°N, -3.4696/-3.5432°W, at 750 m depth above a 1334/1340 m deep continental slope. The fresh specimen measured 460 mm TL, 450 mm SL, and the head was 54 mm long. The weight was 51.1 g. The specimen was preserved with the collection No. MNHN-IC 2019-0094 and a tissue sample was preserved under No. BPS-3978. Recorded by JS. The present specimen is a new record for the Bay

of Biscay where the species is uncommonly recorded due to its bathypelagic range.

***Evermannella balbo* (Risso, 1820)**

A Balbo saber-toothed, Evermannellidae (Fig. 2E), was collected on 29 October 2017 during the survey EVHOE on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0494 (Southern Bay of Biscay, France), at 45.1322/45.1033°N, -3.4696/-3.5432°W, at 750 m depth above a 1334/1340 m deep continental slope. The fresh specimen measured 123 mm TL, 114 mm FL, 108 mm SL, and the head was 25 mm long. Its weight was 8.3 g. The specimen was preserved with the collection No. MNHN-IC 2019-0095 and a tissue sample was preserved under No. BPS-3977. Recorded by JS. The species is very uncommonly recorded in the Bay of Biscay.

***Raniceps raninus* (Linnaeus, 1758)**

A large individual of Tadpole fish, Gadidae, was collected on 24 March 2017 by the fisherman Mr Geoffrey Blaisel on the gillnetter *Don Lubi II* from Dunkerque. It was collected off Dunkerque (Pas de Calais, North Sea, France). Recorded by CL.

A second specimen (Fig. 2F) was collected on 22 November 2017 during the survey EVHOE on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0506 (Southern Bay of Biscay, France), at 46.7035/46.6869°N, -2.2320/-2.1952°W, at 20-25 m depth. The fresh specimen measured 118 mm TL, 105 mm SL, and the head was 34 mm long. Its weight was 18.2 g. The specimen was preserved for anatomical preparation with the collection No. MNHN-IC 2019-0096. Recorded by LB. The present specimens are new records for the Bay of Biscay where the species is uncommonly recorded due to its cryptic habitat avoiding most fishing gears (Legendre, 1950; Quéro *et al.*, 1980).

***Cheilopogon heterurus* (Rafinesque, 1810)**

A Mediterranean flyingfish, Exocoetidae (Fig. 2G), was collected on 23 June 2017 by the fisherman Mr William Chaligné on the purse seiner *Waraog IV* from Concarneau. It was collected off Moustierlin (South Brittany, Bay of Biscay, France), at 47.812°N, -4.032°W. The fresh specimen measured 370 mm TL, 303 mm FL, 285 mm SL, and the head was 60 mm long. Its weight was 271.3 g. Predorsal scales: 34; A: 7; D: 14; P: 15. The specimen was preserved with the collection No. MNHN-IC 2019-0097 and tissue sample was preserved under No. BPS-3857. Recorded by SPI. The present specimen is a new record for the NE Atlantic and the Bay of Biscay where the species is very uncommonly recorded (Parin, 1986a; Quéro *et al.*, 2006).

***Scopelogadus beanii* (Günther, 1887)**

A Bean's bigscale, Melamphaidae (Fig. 2H), was collected on 29 October 2017 during the survey EVHOE on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0494 (Southern Bay of Biscay, France), at 45.1322/45.1033°N, -3.4696/-3.5432°W, at 750 m depth above a 1334/1340 m deep continental slope. The fresh specimen measured 97 mm TL, 93 mm FL, 84 mm SL, and the head was 34 mm long. Its weight was 10.3 g. The specimen was preserved with the collection No. MNHN-IC 2019-0098 and a tissue sample was preserved under No. BPS-3976. Recorded by JS. The present specimen is a new record for the Bay of Biscay where the species is uncommonly recorded.

***Zenopsis conchifer* (Lowe, 1852)**

A Silvery John Dory, Zeidae (Fig. 2I), was collected on 10 October 2017 by the fishing master Mr Frederik Louedec on the coastal bottom trawler *P'tit Emile* from Concarneau. It was collected at 47.6378°N, -4.2362°W, at 95 m depth, off the Archipelago îles de Glénan (Southern Brittany, Bay of Biscay, France). The fresh specimen measured 245 mm TL, 233 mm FL, 205 mm SL, and the head was 75 mm long. The eviscerated weight was 162.9 g. Tissue sample was preserved under No. BPS-3971. Recorded by SPI. The present specimen is a new record for the Bay of Biscay and European Atlantic waters where the species is uncommonly recorded but where a northern migration was evidenced by Quéro *et al.* (1998) in the last decades.

***Eutelichthys leptochirus* Tortonese, 1959**

Two specimens of this Liparidae were collected on 22 June 2017 during the survey MEDITS on the Research Vessel *Europe* from Ifremer institute, using a bottom trawl. They were collected in the Gulf of Lion (Mediterranean Sea, France), at Operation No. 78, at 42.349/42.320°N, 4.128/4.118°E, at 748-917 m depth, water temperature was 13.27-13.39°C and salinity was 38.04-38.33‰ on the bottom. The first specimen was 68 mm TL (Fig. 2J) and the second specimen was 56 mm TL, 52 mm SL, head 12 mm long. The specimen was preserved with the collection No. MNHN-IC 2019-0099 and tissue samples were preserved under No. BPS-3975 and 3974, respectively. Recorded by LM. The species known only in the western Mediterranean is very uncommonly recorded and it is here a first record for the Gulf of Lion. 68 mm TL is possibly the largest known size for the species.

***Serranus cabrilla* (Linnaeus, 1758)**

Two Combers, Serranidae, have been collected at distinct dates in early summer 2017 by the fishing master Mr Marc Chaduc on the coastal longliner *Idéfrix* from Concarneau. It was collected close to the Archipelago îles de

Glénan (Southern Brittany, Bay of Biscay, France), at about 47.7°N, -3.9°W. They measured about 30 cm long each. They were given alive to the *Marinarium* of Concarneau where they have been exposed since 31 August 2017 in the public aquarium. One of the specimens was given to the Aquarium *Oceanopolis* in Brest. Recorded by SPI. A third individual (Fig. 2K) was collected on 20 November 2017 during the survey EVHOE on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0500 (Southern Bay of Biscay, France), at 45.4200/45.3898°N, -2.4121/-2.3981°W, at 112.3-115.6 m depth. The fresh specimen measured 195 mm TL, 181 mm FL, 160 mm SL, and the head was 60 mm long. Its weight was 87.7 g. The specimen was preserved for osteological preparation with the collection No. MNHN-IC 2019-0100. Recorded by LB. The present specimen is a new record for the Bay of Biscay where the species is uncommonly recorded (Quéro *et al.*, 1994).

***Naucrates ductor* (Linnaeus, 1758)**

A Pilotfish, Echeineidae (Fig. 2L), was captured on May 2017 by the fishing master Mr Rémy Descamps on the coastal gillnetter *Atalante* from Arcachon. It was collected in a trammel net used for Common sole off south Lacanau (Bay of Biscay, Aquitaine, France), at about 44.9°N, -1.5°W, at about 50 m depth. The fresh specimen measured about 25 cm TL. Recorded by LM. The present specimen is a new record for the Bay of Biscay where the species is uncommonly recorded (Legendre, 1950; Quéro *et al.*, 2007a).

***Seriola rivoliana* Valenciennes, 1833**

A Longfin yellowtail, Carangidae (Fig. 2M), was collected on 12 July 2017 by the fishing master Mr Rémy Descamps on the coastal gillnetter *Atalante* from Arcachon. It was collected in a trammel net used for Common sole off south Lacanau (Bay of Biscay, Aquitaine, France), at about

44.9°N, -1.5°W, at about 50 m depth. The fresh specimen measured about 30 cm TL. Recorded by LM. The present specimen is a new record for the Bay of Biscay where the species is uncommonly recorded (Quéro *et al.*, 2007a).

***Gobius gasteveni* Miller, 1974**

Fifteen Steven’s gobies, Gobiidae, were collected during the survey IBTS and CGFS on the Research Vessel *Thalassa* from Ifremer institute (Tab. II). The specimens 1 to 4 and 6 to 15 were collected on eastern English Channel (France). The specimen 5 was collected in the southern North Sea (UK). Specimens 1 (Fig. 2N) and 2 are preserved with the collection No. MNHN-IC 2019-0101 and 2019-0102 and tissue samples were recorded under No. BPS-3789 and 3790, respectively. Recorded by SPI & CL. This goby is poorly recorded and these specimens represent new records for the eastern English Channel and for the North Sea.

***Gobius paganellus* Linnaeus, 1758**

A Rock Goby, Gobiidae (Fig. 2O), was collected on 7 February 2017 during the survey IBTS on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0126, 51.7352/51.7687°N, 1.7421/1.7697°E, at 29.2-30.8 m depth (southern North Sea, UK). The fresh specimen measured 67 mm TL, 57 mm SL. The specimen was preserved with the collection No. MNHN-IC 2019-0103 and a tissue sample was recorded under No. BPS-3839. Recorded by SPI & CL. The record of this typically intertidal species at 30 m depth, off shore, is uncommon and surprising. The present specimen is a new record for the North Sea where the species is uncommonly recorded.

***Lepidocybium flavobrunneum* (Smith, 1843)**

A first Escolar, Gempylidae (Fig. 2P), was collected on 18 July 2017 by the fishing master Mr Anthony Sheehs on the Irish pelagic trawler *Lövön* from Cork and targeting tuna.

Table II. – Capture data for 15 individuals of *Gobius gasteveni* recorded in 2017 in the English Channel and the North Sea.

No.	Survey	Station	Date	Lat.	Long.	Depth (m)	TL (mm)
1 & 2	IBTS	V0011	21 Jan. 2017	50.1071/50.1138° N	0.5504/0.6073° E	36.4-36.6	84 & 92
3		V0018	22 Jan. 2017	50.3575/50.3582° N	0.0158/0.0711° E	54.0-55.0	~90
4		V0021	23 Jan. 2017	50.6127/50.5845° N	1.4594/1.4385° E	31.1-31.9	~60
5		V0029	24 Jan. 2017	52.2717/52.3036° N	1.8973/1.9002° E	26.3-28.7	83
6 & 7		CGFS	V0429	13 Oct. 2017	50.0142/50.0210° N	0.1346/0.1831° E	37
8	V0438		14 Oct. 2017	49.9106/49.9049° N	-0.0617/-0.1108° W	43	~60
9 & 10	V0449		16 Oct. 2017	49.7842/49.7853° N	-0.5057/-0.4558° W	40	~60 & 80
11	V0450		16 Oct. 2017	49.8341/49.8387° N	-0.3081/-0.2554° W	41	~70
12	V0456		17 Oct. 2017	50.0851/50.0988° N	-0.4643/-0.4181° W	46	~60
13	V0459		18 Oct. 2017	50.5813/50.5669° N	-0.4261/-0.4682° W	64	~50
14	V0474		20 Oct. 2017	49.5875/49.5935° N	-0.9324/-0.9018° W	33	~80
15	V0478		21 Oct. 2017	49.4547/49.4591° N	-0.6062/-0.6542° W	28	~40

It was collected at 46.0331°N, -4.8561°W, at 10-30 m depth, above the continental slope (Bay of Biscay, France). It was landed at the Douarnenez fish market. The fresh specimen measured 1683 mm TL, 1516 mm FL, 1420 mm SL, and the head was 340 mm long. Its total weight was 41.98 kg, the liver 398 g, gonads 580 g, gall bladder 60 g, stomach (empty) 579 g, pyloric caeca 572 g, spleen 27 g. The specimen was preserved for taxidermy with the collection No. MNHN-IC 2019-0104 and a tissue sample was recorded under No. BPS-3860. Recorded by SG. A second individual was collected on 29 August 2017 by the fishing master Mr David Orseauneau on the longliner *Mamouth* from the île d'Yeu at 44.65°N, -2.25°W with the next Oilfish and landed in the fish market of Les Sables-d'Olonne. The individual measured 162 cm TL. Recorded by PC. The present specimen is a new record for the Bay of Biscay where the species is uncommonly recorded with a single individual previously recorded (Quéro *et al.*, 1999).

***Ruvettus pretiosus* Cocco, 1833**

An Oilfish, Gempylidae (Fig. 2Q), was collected on 29 August 2017 by the fishing master Mr David Orseauneau on the longliner *Mamouth* from the île d'Yeu, at 44.65°N, -2.25°W with the previous Escolar and landed in the fish market of Les Sables-d'Olonne. The individual measured 665 mm TL. Recorded by PC. The present specimen is a new record for the Northeastern Atlantic where the species is uncommonly recorded (Parin, 1986b; Quéro *et al.*, 1986, 1988, 2007b).

***Hippoglossus hippoglossus* (Linnaeus, 1758)**

An Atlantic halibut, Pleuronectidae (Fig. 2R), was collected on 4 February 2017 during the survey IBTS on the Research Vessel *Thalassa* from Ifremer institute. It was collected at Station V0103, 54.1228/54.0933°N, -2.8248/2.8579°W, at 49.9-46.3 m depth, (North Sea, Netherlands). The fresh specimen, an immature female, measured 1010 mm TL. Its total weight was 12.86 kg. The specimen was preserved for taxidermy with the collection No. MNHN-IC 2019-0105 and tissue sample was recorded under No. BPS-3836. An otolith was preserved by Ifremer institute. Recorded by SPI. The present specimen is a new record for the southern North Sea where the species is currently uncommonly recorded (Nielsen, 1986).

***Sphoeroides pachygaster* (Müller & Troschel, 1848)**

A Blunthead puffer, Tetraodontidae (Fig. 2S), was collected on 26 July 2017 by the fishing master Mr Youenn le Cloarec on the coastal bottom trawler *Okleanos* from Le Guilvinec. It was collected off western archipelago îles de Glénan (Southern Brittany, Bay of Biscay, France), at about 47.60°N, -04.15°W, at 90 m depth. The fresh specimen, an adult female, measured 303 mm TL, 295 mm FL, 262 mm

SL, and the head was 92 mm long. Its weight was 830 g, the ovaries 7.42 g, the liver 66.6 g, the stomach content 91.6 g, which included pieces of two undetermined bony fishes and pieces of a squat lobster *Munida rugosa* (Fabricius, 1775). The specimen was taxidermized with the collection No. MNHN-IC 2019-0093 and the skeleton preserved. A tissue sample was recorded under No. BPS-3989. Recorded by NG. The present specimen is a new record for the French waters and for the Bay of Biscay where the species is uncommonly recorded and where a northern migration was evidenced by Quéro *et al.* (1998) in the last decades. This non-native species in the European Atlantic waters, with a circumglobal distribution in tropical and others temperate seas, can now be considered established in the Bay of Biscay.

DISCUSSION

The present uncommon records are represented by a single species with a cold-waters affinity (*H. hippoglossus*), and they are mostly represented by species with warm-waters affinity (*S. zygaena*, *M. helena*, *C. heterurus*, *Z. conchifer*, *S. cabrilla*, *N. ductor*, *S. rivoliana*, *L. flavobrunneum*, *R. pretiosus* and *S. pachygaster*). One of them (*S. pachygaster*) represents a newly established species. These records, which present a warm-affinity bias, suggest they could be a consequence of the global climate change and warming waters (Quéro *et al.*, 1997, 1998; Quéro, 1998). The uncommon records of the deep-water species (*N. ingolfianus*, *E. balbo*, *S. beanii* and *E. leptochirus*) could be explained by the poor samplings performed in their habitat. None of the present records from French waters represent addition to the *Checklist of the marine fishes from metropolitan France* (Béarez *et al.*, 2017).

Acknowledgments. – For collection of individuals or information we greatly thank Bernard Bourles, Pascal Breton, Romain Fageot, Bernard Jannes, cited fishermen and the Ifremer institute for permitting participation on cruises. We greatly thank Anouchka Krygelmans for her proofreading.

REFERENCES

- BÉAREZ P., PRUVOST P., FEUNTEUN E., IGLÉSIAS S., FRANCOUR P., CAUSSE R., DE MAZIERES J., TERCERIE S. & BAILLY N., 2017. – Checklist of the marine fishes from metropolitan France. *Cybium*, 41(4): 351-371.
- GESNER J., WILLIOT P., ROCHARD E., FREYHOF J. & KOTTELAT M., 2010. – *Acipenser sturio*. The IUCN Red List of Threatened Species 2010: e.T230A13040963. <http://dx.doi.org/10.2305/IUCN.UK.2010-1.RLTS.T230A13040963.en>. (Downloaded on 15 March 2019).
- GOLANI D., MASSUTI E., ORSI-RELINI L., QUINGNARD J.P., DULČIĆ J. & AZZURRO E., 2017. – CIESM atlas of exotic fishes in the Mediterranean. <http://www.ciesm.org/atlas/appendix1.html> (Accessed March 2019).

- JOSSE C., 2017. – Un esturgeon dans les langoustines ! *Ouest-France*, 21-22 octobre 2017.
- LEGENDRE R., 1950. – Quelques poissons observés à Concarneau en ces dernières années. *Bull. Lab. Mar. Dinard*, 33: 2-15.
- NIELSEN J.G., 1986. – Pleuronectidae. *In: Fishes of the North-eastern Atlantic and the Mediterranean* (Whitehead P.J.P., Bauchot M.L., Hureau J.C., Nielsen J. & Tortonese E., eds), 3: 1299-1307. Unesco, United Kingdom.
- PARIN N.V., 1986a. – Exocoetidae. *In: Fishes of the North-eastern Atlantic and the Mediterranean* (Whitehead P.J.P., Bauchot M.L., Hureau J.C., Nielsen J. & Tortonese E., eds), 1: 612-619. Unesco, United Kingdom.
- PARIN N.V., 1986b. – Gempylidae. *In: Fishes of the North-eastern Atlantic and the Mediterranean* (Whitehead P.J.P., Bauchot M.L., Hureau J.C., Nielsen J. & Tortonese E., eds), 1: 128-147. Unesco, United Kingdom.
- QUÉRO J.C., 1998. – Changes in the Euro-Atlantic fish species composition resulting from fishing and ocean warming. *Ital. J. Zool.*, 65(S1): 493-499.
- QUÉRO J. & CENDRERO O., 1996. – Incidence de la pêche sur la biodiversité ichthyologique marine: le bassin d'Arcachon et le plateau continental sud Gascogne. *Cybiurn*, 20: 323-356.
- QUÉRO J.C., DECAMPS P., DURON M., FONTENEAU J. & VERRON R., 1980. – Observations ichthyologiques effectuées en 1979. *Ann. Soc. Sci. Nat. Charente-Mar.*, 6(7): 697-705.
- QUÉRO J.C., DELMAS G., FONTENEAU J., GUILLOU A. & LAFON A., 1984. – Observations ichthyologiques effectuées en 1983. *Ann. Soc. Sci. Nat. Charente-Mar.*, 7(2): 253-257.
- QUÉRO J.C., DELMAS G., DU BUIT M.H., FONTENEAU J. & LAFON A., 1986. – Observations ichthyologiques effectuées en 1985. *Ann. Soc. Sci. Nat. Charente-Mar.*, 7(4): 493-498.
- QUÉRO J.C., DU BUIT M.H., FONTENEAU J. & VAYNE J.J., 1988. – Observations ichthyologiques effectuées en 1987. *Ann. Soc. Sci. Nat. Charente-Mar.*, 7(6): 721-725.
- QUÉRO J.C., DU BUIT M.H., FONTENEAU J., LABORDE J.L., MORANDEAU G. & VAYNE J.J., 1994. – Observations ichthyologiques effectuées en 1993. *Ann. Soc. Sci. Nat. Charente-Mar.*, 8(3): 359-369.
- QUÉRO J.C., DU BUIT M.H. & VAYNE J.J., 1997. – Les captures de poissons à affinités tropicales le long des côtes européennes. *Ann. Soc. Sci. Nat. Charente-Mar.*, 8(6): 651-673.
- QUÉRO J.C., DU BUIT M.H. & VAYNE J.J., 1998. – Les observations de poissons tropicaux et le réchauffement des eaux dans l'Atlantique européen. *Oceanol. Acta*, 21(2): 345-351.
- QUÉRO J.C., DU BUIT M.H., CAILL N., CASAMAJOR M.N., CAZEILS N., DEWEZ A., MORANDEAU G. & VAYNE J.J., 1999. – Observations ichthyologiques effectuées en 1998. *Ann. Soc. Sci. Nat. Charente-Mar.*, 8(8): 925-934.
- QUÉRO J.C., SPITZ J. & VAYNE J.J., 2006. – Observations ichthyologiques effectuées en 2005. *Ann. Soc. Sci. Nat. Charente-Mar.*, 9(6): 613-620.
- QUÉRO J.C., SPITZ J. & VAYNE J.J., 2007a. – Faune française de l'Atlantique, poissons Carangidés. *Ann. Soc. Sci. Nat. Charente-Mar.*, 9(7): 709-722.
- QUÉRO J.C., SPITZ J., VAYNE J.J., ABERNOT-LE GAC C., DE CASAMAJOR M.N., DUHAMEL E., MORANDEAU G., GAUTIER G. & VAN CANNEYT O., 2007b. – Observations ichthyologiques effectuées en 2006. *Ann. Soc. Sci. Nat. Charente-Mar.*, 9(7): 699-707.
- ZENETOS A., ÇINAR M.E., PANCUCCI-PAPADOPOULOU M.A., HARMELIN J.G., FURNARI G., ANDALORO F., BELLOU N., STREFTARIS N. & ZIBROWIUS H., 2005. – Annotated list of marine alien species in the Mediterranean with records of the worst invasive species. *Medit. Mar. Sci.*, 6(2): 63-118.

