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► **To cite this version:**

Gaëlle Simian, Daniel Abraham, Nicolas Bailly, Philippe Béarez, Frank Urtizberea, et al.. Checklist of fishes from the Saint-Pierre and Miquelon archipelago. *Cybium : Revue Internationale d'Ichtyologie*, 2022, 46 (4), pp.371-384. 10.26028/cybium/2022-464-005 . hal-03883051

**HAL Id: hal-03883051**

**<https://hal.science/hal-03883051>**

Submitted on 8 Dec 2022

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# Checklist of fishes from the Saint-Pierre and Miquelon archipelago

by

Gaëlle SIMIAN\* (1, 2), Daniel ABRAHAM (3), Nicolas BAILLY (4, 5), Philippe BÉAREZ (6), Frank URTIZBEREA (7), Axelle PERROT (1), Herle GORAGUER (8), Robert LANGLOIS (9), Piotr DASZKIEWICZ (1), Fabrice TELETCHEA (10), Sandrine TERCERIE (1) & Gaël P.J. DENYS (1, 11)



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Submitted: 22 Mar. 2022  
Accepted: 23 Jun. 2022  
Editors: F. Teletchea, D. Pauly

## Key words

Diadromous fishes  
Marine fishes  
Northwest Atlantic  
Taxonomy

**Abstract.** – A list of diadromous and marine fishes occurring in the Saint-Pierre and Miquelon archipelago and its EEZ has been compiled from various available data sources: collections, local and international databases, and literature. This belated work was needed as the only existing checklist dates back to the 19<sup>th</sup> century and FishBase, as of early 2022, provided a list of only 14 species, and 81 in the French taxonomic register TAXREF. The list assembled here covers 122 species, of which 111 are marine fishes, assigned to 103 genera and 66 families. This list is not comprehensive, but it constitutes a first reference, to be updated with new information.

**Résumé.** – Inventaire des poissons de l'archipel de Saint-Pierre et Miquelon.

Une liste des poissons diadromes et marins de l'archipel de Saint-Pierre et Miquelon et sa ZEE a été constituée à partir des différentes sources de données disponibles : collections, base de données locales et internationales, et bibliographie. Ce travail était nécessaire car l'unique inventaire existant remonte au XIX<sup>e</sup> siècle et FishBase au début de 2022, fournissait une liste de seulement 14 espèces, et 81 dans le référentiel taxonomique français TAXREF. La présente liste contient 122 espèces, dont 111 marines, réparties en 103 genres et 66 familles. Cette liste n'est pas exhaustive et constitue une première référence, qui pourra être mise à jour avec de nouvelles connaissances.

## INTRODUCTION

The archipelago of Saint-Pierre and Miquelon (SPM) is a territorial overseas collectivity of France, located in the northwestern Atlantic Ocean south of the Canadian province of Newfoundland and Labrador in the Gulf of St. Lawrence (Fig. 1). SPM covers a land area of 242 km<sup>2</sup>, and consists of three main islands: Miquelon and Langlade linked together by a 12 km long isthmus, and Saint-Pierre (26 km<sup>2</sup>). Under arbitration with the Canadian government, the Exclusive Economic Zone (EEZ) has a total area of 12,400 km<sup>2</sup>, including a narrow corridor 200 nautical miles long and 10.5 nautical miles wide, locked in the Canadian EEZ, and ironically nicknamed the “French Baguette” (Fig. 1). This unique EEZ has a highly variable bathymetry: to the south (Saint-Pierre Bank), there are shallow-depth areas (45-50 m), while to the east and northeast of Saint-Pierre, the depths exceed 200 m. Finally, at the southernmost end of the EEZ corridor, the seabed is at a depth of 3,000 m.

Another peculiarity of the Saint-Pierre Bank is that it is

bathed by three currents whose waters mix on the bank: the cold Labrador current, from the Northeast, the Gulf Stream, from the South, and a plume of brackish water from the St. Lawrence estuary, from the West. Thus, due to the cold Labrador Current, SPM has often climatic conditions of a subarctic-oceanic character (Aubert de la Rüe, 1970).

The nature of the seabed is also very heterogeneous depending on location and depth, which creates a wide range of habitats hosting a great variety of species.

Fishes are key economical species, and in SPM, fishing is a traditional practice, historically based on the Atlantic cod (*Gadus morhua* Linnaeus, 1758) until the collapse of its fisheries in 1992 (Hutchings and Myers, 1994; Forest, 2022; Palomares and Pauly, 2022). Indeed, around SPM, the seabed and its cold-water corals and sponges, has been ravaged for the most part by the intensive trawling practiced during the years of industrial fishing (Conti, 2017). Thus, a species once very abundant like the Atlantic cod was assessed as “Vulnerable” in 1996 by the IUCN (Hutchings, 2001). The

(1) Unité Patrimoine Naturel – Centre d'expertise et de données (2006 OFB – CNRS – MNHN), Muséum national d'Histoire naturelle, 36 rue Geoffroy-Saint-Hilaire CP 41, 75005 Paris, France. gaelle.simian@mnhn.fr, axelle.perrot@etu.u-pec.fr, piotr.daszkiwicz@mnhn.fr, sandrine.tercerie@mnhn.fr, gael.denys@mnhn.fr

(2)-(11) See at the end of the article

\* Corresponding author

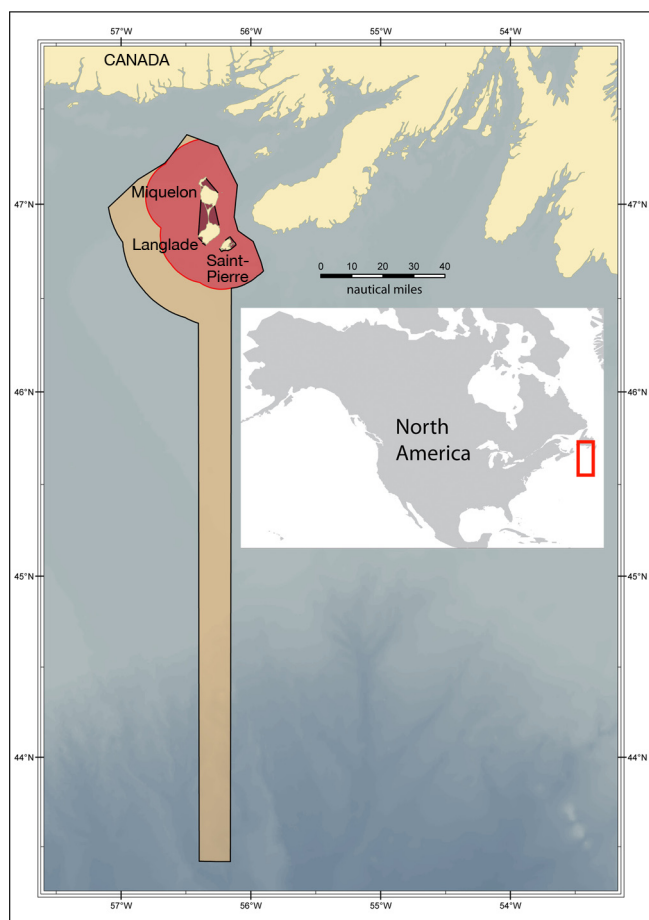


Figure 1. – Maritime space of Saint-Pierre and Miquelon archipelago: inland waters (dark red), Territorial Sea (red), Exclusive Economic Zone (orange). Source SHOM, 2021 and GEBCO, 2014.

species targeted by the fisheries of SPM are nowadays more diversified (Palomares and Pauly, 2022).

Fishes also play crucial roles in the functioning of ecosystems, and in the assessment of the ecological status of fresh and marine waters (e.g. Oberdorff *et al.*, 2002). Thus, environmental managers need information on these organisms for various purposes, such as conservation, management and the assessment of a country's natural wealth.

Moreover, France, as a Party to the Convention on Biological Diversity (United Nations, 1992), has undertaken a national census of its biological diversity, important for its conservation and sustainable use. This objective is included in the national environmental code via Article L411-1A, which mandates the development of a National Inventory of Natural Heritage (*Inventaire du Patrimoine Naturel* – INPN) database, including the biological and geological diversity of metropolitan France and its overseas territories. The INPN database, based on the French taxonomic register TAXREF (Gargominy *et al.*, 2021), is assembled under the scientific

responsibility of the Muséum national d'Histoire naturelle (MNHN), with multiple stakeholders, and is made available to the public via its website: [www.inpn.mnhn.fr](http://www.inpn.mnhn.fr). The present list has been drawn up within this framework.

The ichthyofaunas of Canada and the Gulf of Saint Lawrence have been well documented for more than one century (Halkett, 1913; Bigelow and Schroeder, 1948, 1953; Slashtenenko, 1958; McAllister, 1960, 1990; Bigelow *et al.*, 1963, 1964; Anderson *et al.*, 1966; Cohen *et al.*, 1973; Scott and Crossman, 1973; Nafpaktitis *et al.*, 1977; Dawson and Vari, 1982; Scott and Scott, 1988; Böhlke *et al.*, 1989; Coad *et al.*, 1995; Nozères *et al.*, 2010; Coad and Reist, 2004, 2018; Coad, 2013; Collette *et al.*, 2018) with 177 species. However, none of these works mentions SPM as part of the distribution area of any each species, which can be explained by the small size of the archipelago and its location, which is not associated with any ecological feature of the Gulf of Saint Lawrence. Bachelot de La Pylaie (1819) was the first, to our best knowledge, to provide information on the ichthyofauna of SPM, in a manuscript listing only 10 marine and freshwater species. FishBase (Froese and Pauly, 2021), in early 2022, included only fourteen fish species occurring within the EEZ of Saint Pierre and Miquelon, based on references dealing with the western central or eastern Atlantic ichthyofaunas (Fischer, 1978; Whitehead *et al.*, 1986; Quéro *et al.*, 1990), and on Gadiformes (Cohen *et al.*, 1990).

Herein we provide the first checklist of both diadromous and marine fishes occurring in and around the SPM archipelago. Although not comprehensive, it is intended to provide a first reference that may be updated in the light of new future studies.

## MATERIAL AND METHODS

This checklist was established using all the available sources; all fishes belonging to the subphylum Vertebrata were considered, including Myxini, Petromyzonti, Elasmobranchii, Holocephali and Actinopteri (Fricke *et al.*, 2021).

We first consulted global databases, such as FishBase (Froese and Pauly, 2021) and GBIF (Global Biodiversity Information Facility; <https://www.gbif.org/>). From GBIF, we gathered information on specimens in fish collections (Appendix 1) (MNHN, Muséum national d'Histoire naturelle, Paris, France; USNM, Smithsonian Institution National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes, Washington DC, USA; ARC, Atlantic Reference Centre, New Brunswick, Canada; MCZ, Museum of Comparative Zoology, Harvard University, Ichthyology Department, Cambridge, Massachusetts, USA). We also considered local knowledge through a naturalist database (<http://www.naturespm.com/>), the website DORIS (<https://doris.ffessm.fr/>) and naturalist photos. We then con-

ducted a thorough bibliographic study and added information from systematic, faunistic and naturalist publications (Bachelot de La Pylaie, 1819; Fischer, 1978; Whitehead *et al.*, 1986; Cohen *et al.*, 1990; Quérou *et al.*, 1990; Urtizberea *et al.*, 2021), and scientific studies (Skomal *et al.*, 2017).

Species identifications were based mainly on Scott and Crossman (1973), Scott and Scott (1988) and Coad and Reist (2018). We followed the Eschmeyer's Catalog of Fishes (Fricke *et al.*, 2021) for the scientific nomenclature and classification.

Finally, English and French common names are provided for each species, based on FishBase, itself largely based on Page *et al.* (2013).

## RESULTS

This first checklist includes 122 diadromous and marine fish species with confirmed occurrence in the EEZ of SPM, distributed in 66 families and 103 genera (Tab. I). This list is presented in phylogenetic order for classes and orders (Nelson *et al.*, 2016), and then in alphabetical order for families. Diadromous species are indicated with an asterisk, while the threat (if any) status is reported as: NT (Near Threatened), VU (Vulnerable), EN (endangered) and CR (Critically Endangered) (IUCN world assessment; <http://www.iucn-redlist.org>).

The list below, besides being part of FishBase, will be downloadable from the naturalist database Nature SPM (<http://www.naturespm.com/>), as well as through the next version of the French taxonomic register TAXREF (Gargominy *et al.*, 2021).

### CLASS MYXINI

#### Order MYXINIFORMES

##### Family Myxinidae

*Myxine glutinosa* Linnaeus, 1758 – Hagfish – Myxine

### CLASS PETROMYZONTI

#### Order PETROMYZONTIFORMES

##### Family Petromyzontidae

\*<sup>1</sup>*Petromyzon marinus* Linnaeus, 1758 – Sea lamprey – Lamproie marine

### CLASS ELASMOBRANCHII

#### Order CARCHARHINIFORMES

##### Family Carcharhinidae

*Carcharhinus plumbeus* (Nardo, 1827) – Sandbar shark – Requin gris – EN

*Prionace glauca* (Linnaeus, 1758) – Blue shark – Requin bleu – NT

Table I. – Number of orders, families, genera and species of fish currently listed in the EEZ of the Saint Pierre and Miquelon archipelago.

Order	Families	Genera	Species
Acipenseriformes	1	1	1
Anguilliformes	3	3	3
Aulopiformes	2	2	2
Beloniformes	1	1	1
Carcharhiniformes	1	1	1
Chimaeriformes	1	2	2
Clupeiformes	1	2	3
Gadiformes	5	12	14
Gasterosteiformes	1	3	3
Lamniformes	2	3	3
Lampriformes	1	1	1
Lophiiformes	2	2	2
Myctophiformes	1	4	4
Myxiniformes	1	1	1
Notacanthiformes	1	1	1
Osmeriformes	3	4	5
Perciformes	17	25	31
Petromyzontiformes	1	1	1
Pleuronectiformes	1	5	6
Rajiformes	2	5	7
Salmoniformes	1	2	2
Scorpaeniformes	7	11	16
Squaliformes	3	3	3
Stomiiformes	2	3	3
Syngnathiformes	2	2	2
Tetraodontiformes	3	3	4
Total	66	103	122

#### Order LAMNIFORMES

##### Family Cetorhinidae

*Cetorhinus maximus* (Gunnerus, 1765) – Basking shark – Requin pèlerin – EN

##### Family Lamnidae

*Carcharodon carcharias* (Linnaeus, 1758) – Great white shark – Grand requin blanc – VU

*Lamna nasus* (Bonnaterre, 1788) – Porbeagle – Requin-taube commun, marache or maraiche – VU

#### Order SQUALIFORMES

##### Family Etmopteridae

*Centroscyllium fabricii* (Reinhardt, 1825) – Black dogfish – Aiguillat noir

##### Family Somniosidae

*Somniosus microcephalus* (Bloch & Schneider, 1801) – Greenland shark – Laimargue atlantique

<sup>1</sup> This species does not breed in the freshwaters of the archipelago.

**Family Squalidae**

*Squalus acanthias* Linnaeus, 1758 – Piked dogfish –  
Aiguillat commun

**Order RAJIFORMES****Family Arhynchobatidae**

*Bathyraja spinicauda* (Jensen, 1914) – Spinytail skate –  
Raie à queue épineuse

**Family Rajidae**

*Amblyraja radiata* (Donovan, 1808) – Thorny ray – Raie  
épineuse – VU  
*Leucoraja erinaceus* (Mitchill, 1825) – Little skate – Raie-  
hérisson  
*Leucoraja ocellata* (Mitchill, 1815) – Winter skate – Raie  
tachetée – EN  
*Malacoraja senta* (Garman, 1885) – Smooth skate – Raie  
lisse – VU  
*Rajella bigelowi* (Stehmann, 1978) – Bigelow's ray – Raie  
de Bigelow  
*Rajella fyllae* (Lütken, 1887) – Round ray – Raie ronde

**CLASS HOLOCEPHALI****Order CHIMAERIFORMES****Family Chimaeridae**

*Hydrolagus affinis* (de Brito Capello, 1868) – Small-eyed  
rabbitfish – Chimère de profondeur

**CLASS ACTINOPTERI****Order ACIPENSERIFORMES****Family Acipenseridae**

\*<sup>2</sup>*Acipenser oxyrinchus* Mitchill, 1815 – Atlantic sturgeon –  
Esturgeon noir – NT

**Order ANGUILLIFORMES****Family Anguillidae**

\**Anguilla rostrata* (Lesueur, 1817) – American eel –  
Anguille d'Amérique – EN

**Family Serrivomeridae**

*Serrivomer beanii* Gill & Ryder, 1883 – Stout sawpalate –  
Serrivomer trapu

**Family Synphobranchidae**

*Synphobranchus kaupii* Johnson, 1862 – Northern  
cutthroat eel – Anguille égoragée bécue

**Order NOTACANTHIFORMES****Family Notacanthidae**

*Notacanthus chemnitzii* Bloch, 1788 – Snubnosed spiny eel  
– Poisson-tapis sombre

**Order CLUPEIFORMES****Family Clupeidae**

\*<sup>3</sup>*Alosa pseudoharengus* (Wilson, 1811) – Alewife –  
Gaspereau  
\*<sup>4</sup>*Alosa sapidissima* (Wilson, 1811) – American shad –  
Alose savoureuse  
*Clupea harengus* Linnaeus, 1758 – Atlantic herring –  
Hareng de l'Atlantique

**Order OSMERIFORMES****Family Alepocephalidae**

*Alepocephalus agassizii* Goode & Bean, 1883 – Dusky  
slickhead – Alépocéphale obscure  
*Alepocephalus bairdii* Goode & Bean, 1879 – Manyray  
smoothhead – Alépocéphale multirai

**Family Argentinidae**

*Argentina silus* (Ascanius, 1775) – Greater argentine –  
Grande argentine

**Family Osmeridae**

*Mallotus villosus* (Müller, 1776) – Capelin – Capelan  
\**Osmerus mordax* (Mitchill, 1814) – Rainbow smelt –  
Éperlan arc-en-ciel

**Order SALMONIFORMES****Family Salmonidae**

\**Salmo salar* Linnaeus, 1758 – Atlantic salmon – Saumon  
atlantique  
\**Salvelinus fontinalis* (Mitchill, 1814) – Brook trout –  
Omble de fontaine

**Order STOMIIFORMES****Family Sternoptychidae**

*Polyipnus clarus* Harold, 1997 – Slope hatchetfish – Hache  
d'argent bathyale

**Family Stomiidae**

*Malacosteus niger* Ayres, 1848 – Lightless loosejaw –  
Drague sans lampe  
*Stomias boa* (Risso, 1810) – Boa dragonfish – Stomie  
commune

**Order AULOPIIFORMES****Family Paralepididae**

*Arctozenus risso* (Bonaparte, 1840) – Spotted barracudina –  
Barracudine pintade

**Family Scopelarchidae**

*Benthalbella infans* Zugmayer, 1911 – Zugmayer's pearleye  
– Œil-perlé à basse quille

<sup>3</sup> This species does not breed in freshwaters of the archipelago.

<sup>4</sup> This species does not breed in freshwaters of the archipelago.

<sup>2</sup> This species does not breed in freshwaters of the archipelago.

**Order MYCTOPHIFORMES****Family Myctophidae**

*Benthoosema glaciale* (Reinhardt, 1837) – Glacier lanternfish  
– Lanterne glaciaire

*Ceratospopelus maderensis* (Lowe, 1839) – Madeira  
lanternfish – Lanterne cornée

*Myctophum punctatum* Rafinesque, 1810 – Spotted  
lanternfish – Lanterne ponctuée

*Notoscopelus kroyeri* (Malm, 1861) – Krøyer's lanternfish –  
Lanterne de Krøyer

**Order LAMPRIFORMES****Family Lamprididae**

*Lampris guttatus* (Brünnich, 1788) – Opah – Opah

**Order GADIFORMES****Family Gadidae**

*Boreogadus saida* (Lepechin, 1774) – Polar cod – Morue du  
Nord

*Gadus macrocephalus* Tilesius, 1810 – Pacific cod – Morue  
ogac

*Gadus morhua* Linnaeus, 1758 – Atlantic cod – Morue de  
l'Atlantique

*Melanogrammus aeglefinus* (Linnaeus, 1758) – Haddock –  
Aiglefin – VU

*Pollachius virens* (Linnaeus, 1758) – Saithe – Lieu noir

**Family Lotidae**

*Brosme brosme* (Ascanius, 1772) – Cusk – Brosme

*Enchelyopus cimbrius* (Linnaeus, 1766) – Fourbeard  
rockling – Motelle à quatre barbillons

**Family Macrouridae**

*Coryphaenoides rupestris* Gunnerus, 1765 – Roundnose –  
Grenadier de roche – CR

*Macrourus berglax* Lacepède, 1801 – Rough head grenadier  
– Grenadier berglax

*Nezumia bairdii* (Goode & Bean, 1877) – Marlin-spike  
grenadier – Grenadier du Grand Banc

**Family Merlucciidae**

*Merluccius bilinearis* (Mitchill, 1814) – Silver hake – Merlu  
argenté – NT

*Merluccius albidus* (Mitchill, 1818) – Offshore silver hake  
– Merlu blanc

**Family Phycidae**

*Phycis chesteri* Goode & Bean, 1878 – Longfin hake –  
Merluce à longues nageoires

*Urophycis tenuis* (Mitchill, 1814) – White hake – Merluce  
blanche

**Order LOPHIIFORMES****Family Lophiidae**

*Lophius americanus* Valenciennes, 1837 – American angler  
– Baudroie d'Amérique

**Family Ogocephalidae**

*Dibranchius atlanticus* Peters, 1876 – Atlantic batfish –  
Malthe atlantique

**Order BELONIFORMES****Family Scomberesocidae**

*Scomberesox saurus* (Walbaum, 1792) – Atlantic saury –  
Balaou atlantique

**Order GASTEROSTEIFORMES****Family Gasterosteidae**

\**Gasterosteus aculeatus* Linnaeus, 1758 – Three-spined  
stickleback – Épinoche à trois épines

\**Apeltes quadracus* (Mitchill, 1815) – Four-spined  
stickleback – Épinoche à quatre épines

\**Pungitius pungitius* (Linnaeus, 1758) – Nine-spined  
stickleback – Épinoche à neuf épines

**Order SYNGNATHIFORMES****Family Centriscidae**

*Macroramphosus scolopax* (Linnaeus, 1758) – Longspine  
snipefish – Bécasse de mer

**Family Syngnathidae**

*Hippocampus erectus* Perry, 1810 – Lined seahorse –  
Hippocampe rayé – VU

**Order SCORPAENIFORMES****Family Agonidae**

*Aspidophoroides monopterygius* (Bloch, 1786) –  
Alligatorfish – Poisson alligator atlantique

*Leptagonus decagonus* (Bloch & Schneider, 1801) –  
Atlantic poacher – Agone atlantique

**Family Cottidae**

*Artediellus atlanticus* Jordan & Evermann, 1898 –  
Atlantique hookear sculpin – Hameçon atlantique

*Artediellus uncinatus* (Reinhardt, 1834) – Arctic hookear  
sculpin – Hameçon neigeux

*Myoxocephalus aenaeus* (Mitchill, 1814) – Grubby –  
Chaboisseau bronzé

*Myoxocephalus octodecemspinosus* (Mitchill, 1814) –  
Longhorn sculpin – Chaboisseau à dix-huit épines

*Myoxocephalus scorpius* (Linnaeus, 1758) – Shorthorn  
sculpin – Chaboisseau à épines courtes

*Triglops murrayi* Günther, 1888 – Moustache sculpin –  
Faux-trigle armé

**Family Cyclopteridae**

*Cyclopterus lumpus* Linnaeus, 1758 – Lumpfish – Lompe

*Eumicrotremus spinosus* (Fabricius, 1776) – Atlantic spiny lumpsucker – Poule de mer atlantique

#### Family Hemitripteraeidae

*Hemitripterus americanus* (Gmelin, 1789) – Sea raven – Hémitriptère atlantique

#### Family Liparidae

*Liparis gibbus* Bean, 1881 – Variegated snailfish – Limace marbrée

#### Family Psychrolutidae

*Cottunculus microps* Collett, 1875 – Polar sculpin – Cotte polaire

#### Family Sebastidae

*Sebastes fasciatus* Storer, 1854 – Acadian redfish – Sébaste acadien

*Sebastes mentella* Travin, 1951 – Beaked redfish – Sébaste rose

*Sebastes norvegicus* (Ascanius, 1772) – Golden redfish – Sébaste doré

### Order PERCIFORMES

#### Family Ammodytidae

*Ammodytes americanus* DeKay, 1842 – American sand lance – Lançon d'Amérique

*Ammodytes dubius* Reinhardt 1837 – Northern sand lance – Lançon du nord

#### Family Anarhichadidae

*Anarhichas denticulatus* Krøyer, 1845 – Northern wolffish – Loup gélatineux

*Anarhichas lupus* Linnaeus, 1758 – Atlantic wolffish – Loup atlantique

*Anarhichas minor* Olafsen, 1772 – Spotted wolffish – Loup tacheté

#### Family Carangidae

*Selene setapinnis* (Mitchill, 1815) – Atlantic moonfish – Musso atlantique

*Seriola dumerili* (Risso, 1810) – Greater amberjack – Sériole couronnée

#### Family Centrolophidae

*Centrolophus niger* (Gmelin, 1789) – Rudderfish – Centrolophe noir

*Hyperoglyphe perciformis* (Mitchill, 1818) – Barrelfish – Centrolophe perciforme

#### Family Coryphaenidae

*Coryphaena hippurus* Linnaeus, 1758 – Common Dolphinfinch – Coryphène commune

#### Family Istiophoridae

*Kajikia albida* (Poey, 1860) – Atlantic white marlin – Makaïre blanc de l'Atlantique – VU

#### Family Labridae

*Tautogolabrus adspersus* (Walbaum, 1792) – Cunner – Tanche-tautogue

#### Family Lumpenidae

*Lumpenus lampraeformis* (Walbaum, 1792) – Snake blenny – Lompénie serpent

#### Family Lutjanidae

*Lutjanus campechanus* (Poey, 1860) – Northern red snapper – Vivaneau campêche

#### Family Moronidae

*Morone* sp. – Basses – Bars américains

#### Family Pholidae

*Pholis gunnellus* (Linnaeus, 1758) – Rock gunnel – Gonelle

#### Family Polyprionidae

*Polyprion americanus* (Bloch & Schneider, 1801) – Wreckfish – Cernier commun

#### Family Scombridae

*Sarda sarda* (Bloch, 1793) – Atlantic bonito – Bonite à dos rayé

*Scomber scombrus* Linnaeus, 1758 – Atlantic mackerel – Maquereau commun

*Thunnus alalunga* (Bonnaterre, 1788) – Albacore – Germon – NT

*Thunnus thynnus* (Linnaeus, 1758) – Bluefin tuna – Thon rouge – EN

#### Family Stichaeidae

*Eumesogrammus praecisus* (Krøyer, 1836) – Fourline snakeblenny – Quatre-lignes atlantique

*Stichaeus punctatus* (Fabricius, 1780) – Arctic shanny – Stichée arctique

*Ulvaria subbifurcata* (Storer, 1839) – Crinkly dick – Ulvaire deux-lignes

#### Family Stromateidae

*Peprilus triacanthus* (Peck, 1804) – Atlantic butterfish – Stromatée à fossettes

#### Family Xiphiidae

*Xiphias gladius* Linnaeus, 1758 – Swordfish – Espadon

#### Family Zoarcidae

*Lycenchelys verrillii* Goode & Bean, 1877 – Wolf eelpout – Lycode à tête longue

*Lycodes esmarkii* Collett, 1875 – Greater eelpout – Lycode d'Esmark

*Lycodes reticulatus* Reinhardt, 1835 – Arctic eelpout – Lycode arctique

*Lycodes vahlii* Reinhardt, 1831 – Checker eelpout – Lycode à carreaux

*Zoarces americanus* (Bloch & Schneider, 1801) – Ocean pout – Loquette d'Amérique

**Order PLEURONECTIFORMES****Family Pleuronectidae**

- Glyptocephalus cynoglossus* (Linnaeus, 1758) – Witch flounder – Plie cynoglosse  
*Hippoglossoides platessoides* (Fabricius, 1780) – American plaice – Plie canadienne  
*Hippoglossus hippoglossus* (Linnaeus, 1758) – Atlantic halibut – Flétan de l'Atlantique – EN  
*Myzopsetta ferruginea* (Storer, 1839) – Yellowtail flounder – Limande à queue jaune  
*Pseudopleuronectes americanus* (Walbaum, 1792) – Winter flounder – Plie rouge  
*Reinhardtius hippoglossoides* (Walbaum, 1792) – Greenland halibut – Flétan du Groenland

**Order TETRAODONTIFORMES****Family Balistidae**

- Balistes capricornis* Gmelin, 1789 – Grey triggerfish – Baliste cabri – VU

**Family Molidae**

- Mola mola* (Linnaeus, 1758) – Ocean sunfish – Poisson-lune – VU

**Family Monacanthidae**

- Aluterus schoepfii* (Walbaum, 1792) – Orange filefish – Bourse orange  
*Aluterus scriptus* (Osbeck, 1765) – Scribbled leatherjacket filefish – Poisson-lime gribouillé

**DISCUSSION**

Compared with the number of known species in the Gulf of St. Lawrence (96; Appendix 2), the number of species identified in the Saint Pierre and Miquelon archipelago, 122 species, including 111 marine species, seems quite large. The spatial distribution of species record cannot be illustrated by a map due to the heterogeneity of the data and the imprecision of the sampling locations.

Among the marine species, 31 species identified from Saint-Pierre and Miquelon are not known from the nearby Gulf of St. Lawrence. Several hypotheses may explain the presence of these species. One of these hypotheses is provided by the bathymetry of the SPM's EEZ, which includes great depths (down to 3,000 m at the southernmost end of the "Baguette") which would explain the presence of bathyal species such as *Rajella bigelowi* or *Malacosteus niger*. This is the case for 17 of these 35 different recorded species.

On the other hand, while the SPM archipelago is bathed by the cold Labrador current, the southern tip of its EEZ is influenced by the warm waters of the Gulf Stream. Thus, the warmer waters of this zone can explain the presence of tropical or subtropical species such as *Hippocampus erectus*.

This is the case for 10 of these 35 different recorded species. This hypothesis is corroborated by the presence of sea turtles: *Caretta caretta* (Linnaeus, 1758) regularly observed and *Lepidochelys kempii* (Garman, 1880) very occasionally (Claro *et al.*, 2016). However, specific studies are needed to confirm this inference. The potential impact of global warming should not be ruled out, either. The remaining four species occur at moderate depth and/or in oceanic waters.

Finally, two species were not included. One is rainbow trout, *Oncorhynchus mykiss* (Richardson, 1836), and called *Salmo gairdnerii* Richardson, 1836 (Champigneulle *et al.*, 1983; Briand *et al.*, 2021) was introduced, but is not longer present in SPM. The other is Black wing flyingfish *Hirundichthys rondeletii* (Valenciennes, 1847), which is listed in the DORIS website. However, subaquatic identification of exocoetids is difficult and three other species [*Cypselurus furcatus* (Mitchill, 1815), *Cypselurus menalurus* (Valenciennes, 1846) and *Hirundichthys affinis* (Günther, 1866)] may live in this area (Scott and Scott, 1988; Parin, 2003). Thus, this species was removed from the list as its record and identification are questionable.

Among the 122 species, 20 are threatened according to the world IUCN assessment; of these, 7 are particularly so: *Coryphaenoides rupestris* (CR), *Carcharhinus plumbeus* (EN), *Cetorhinus maximus* (EN), *Leucoraja ocellata* (EN), *Anguilla rostrata* (EN), *Thunnus thynnus* (EN), *Hippoglossus hippoglossus* (EN). A regional IUCN assessment would be interesting for those species, as well as for all diadromous fish species occurring in the inland waters, which have declined these last decades. The required surveys could be undertaken using also the environmental DNA approach, which is a very efficient complement to standard method (e.g. Gold *et al.*, 2021), which would be especially appropriate for the small EEZ of SPM.

The checklist will also change with the growth of the taxonomic knowledge. Coulson *et al.* (2011) and McCusker *et al.* (2013) already listed several cases for which taxonomical revision works are needed in the Canada's Atlantic region, as exemplified below.

According to molecular data, a potential undescribed species of capelin *Mallotus* sp. co-occurs with *Mallotus villosus* on Northwestern Atlantic coast (Dodson *et al.*, 2007; Præbel *et al.*, 2008; Colbeck *et al.*, 2011; McCusker *et al.*, 2013), thus likely also in SPM. A recent morphometric study revealed the discrimination between female specimens of populations from Newfoundland, Arctic region and Alaska (Ressel *et al.*, 2020). Taxonomical investigations with both molecular and morphometric data are needed to characterize this new evolutionary lineage of capelin.

Coulson *et al.* (2011) found also intraspecific divergence in the spinytail skate *Bathyraja spinicauda* as well as in the starry ray *Amblyraja radiata*. These two species deserve of a taxonomic revision.



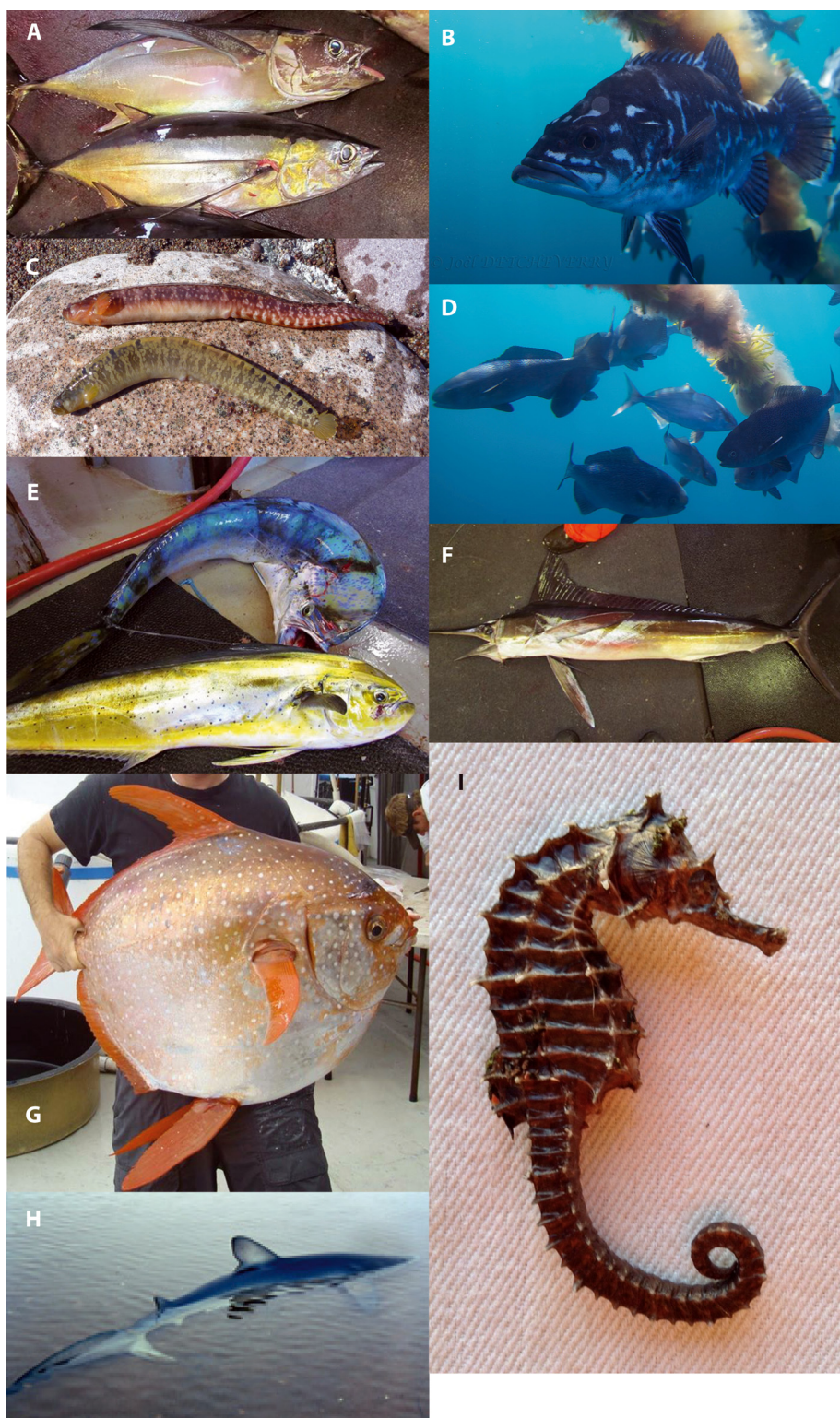


Figure 2. – Naturalist pictures of fishes from Saint-Pierre and Miquelon archipelago. **A:** *Thunnus alalunga* (Bonnaterre, 1788) (photo: Karl Beauptuis); **B:** *Polyprion americanus* (Bloch & Schneider, 1801) (photo: Joël Detcheverry); **C:** *Phollis gunnellus* (Linnaeus, 1758) (photo: Nicolas Cormier); **D:** *Hyperoglyphe perciformis* (Mitchill, 1818) + *Seriola dumerili* (Risso, 1810) (photo: Emmanuel Lemaillier); **E:** *Coryphaena hippurus* Linnaeus, 1758 (photo: Karl Beauptuis); **F:** *Kajikia albida* (Poey, 1860) (photo: Karl Beauptuis); **G:** *Lampris guttatus* (photo: Joël Detcheverry); **H:** *Prionace glauca* (Linnaeus, 1758) (photo: Joël Detcheverry); **I:** *Hippocampus erectus* Perry, 1810 (photo: Claire Lesoavec).

The Atlantic batfish *Dibranchius atlanticus* is a benthic species occurring in both sides of North and Central Atlantic Ocean at depths of 274 to 1,300 m (Scott and Scott, 1988). McCusker *et al.* (2013) do not mention it in their study because there is no available western Atlantic population to compare with their dataset. Like other ogcocephalids, this species moves by walking on the ground using its pectoral fins instead of swimming (Ward, 2002), and thus, western and eastern Atlantic populations appear to be isolated from each other, as evidence by Bradbury (1999), who found morphological differences related to the colour patterns and the numbers of pelvic-fin rays. The type locality of *D. atlanticus* lies with the eastern population off the African coasts. If molecular data support Bradbury's results, the species name of the western Atlantic population would change into *Dibranchius senticosus* (Goode, 1881), the first available name that would be then revalidated.

There are also cases where several species would become invalid according to molecular data (McCusker *et al.*, 2013). Sometimes, both molecular and morphological data do not allow to discriminate *Ammodytes americanus* from *Ammodytes dubius* Reinhardt, 1837 (Nizinski *et al.*, 1990; McCusker *et al.*, 2013). If a taxonomical revision considers these two taxa as only one species, *A. dubius* would be the senior synonym and the valid name. Other species group like *Lycodes* spp., *Macrourus* spp., *Sebastes* spp. and *Triglops* spp. are also of concern. There is work to do.

**Acknowledgements.** – This work was supported by the MNHN, the Unité PatriNat 2006, the UMR BOREA 8067 and the French Office of Biodiversity (OFB). We are particularly grateful to P. Dupont, O. Gargominy and E. Rodinson who supported the project, and to the ichthyology curators of MNHN (P. Pruvost, Z. Gabsi and J. Pfliger) who provided access to the specimens. We also thank S. Pamerlon and A.-S. Archambeau for providing data from GBIF, as well as the photographers (J. Detcheverry, K. Beaupertuis, N. Cormier, E. Lemaillier and C. Lesoavec) for providing naturalist photos. The authors thank two anonymous reviewers for their useful comments.

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(2) Centre de Recherche et d'Enseignement sur les Systèmes Côtiers (CRESCO), Muséum national d'Histoire naturelle, IFREMER, 38 rue du Port Blanc, 35800 Dinard, France. – (3) Inventaire des richesses faunistiques et floristiques des Iles Saint-Pierre-et-Miquelon, 32 rue Brue, Saint-Pierre. F-97500 Saint-Pierre-et-Miquelon, France. [danart20@hotmail.com](mailto:danart20@hotmail.com) – (4) Sea Around Us, Institute for the Oceans and Fisheries, University of British Columbia, Vancouver, BC V6T 1Z4, Canada. [n.bailly@q-quadrics.org](mailto:n.bailly@q-quadrics.org) – (5) UBC Fish Collection, Beaty Biodiversity Museum, University of British Columbia, Vancouver, BC V6T 1Z4, Canada – (6) Archéozoologie, archéobotanique : sociétés, pratiques et environnements (AASPE UMR 7209), Muséum national d'Histoire naturelle, CNRS, 55 rue Buffon CP 56, 75005 Paris, France. [philippe.bearez@mnhn.fr](mailto:philippe.bearez@mnhn.fr) – (7) Direction des Territoires, de l'Alimentation et de la Mer, Boulevard Constant Colmay, BP4217, 97500 Saint-Pierre-et-Miquelon, France. [urtizberea.frank@gmail.com](mailto:urtizberea.frank@gmail.com) – (8) Délégation Ifremer, BP4240, 97500 Saint-Pierre-et-Miquelon, France. [Herle.Goraguer@ifremer.fr](mailto:Herle.Goraguer@ifremer.fr) – (9) Fédération pour la Pêche et la Protection des Milieux Aquatiques de Saint-Pierre-et-Miquelon, Place du Général de Gaulle, 97500 Saint-Pierre, Saint-Pierre-et-Miquelon, France. [boblanglois64@gmail.com](mailto:boblanglois64@gmail.com) – (10) Unité de Recherche Animal and Fonctionnalités des Produits Animaux, Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement, Université de Lorraine, 54505 Vandœuvre-lès-Nancy, France [fabrice.teletchea@univ-lorraine.fr](mailto:fabrice.teletchea@univ-lorraine.fr) – (11) UMR Biologie des Organismes et Ecosystèmes Aquatiques (UMR BOREA 8067), MNHN, CNRS, IRD, SU, UCN, UA, 57 rue Cuvier CP26, 75005 Paris, France.

## Additional data

Appendix 1. – List of fish species from Saint Pierre and Miquelon archipelago in collections.

Collection	Collection ID	Species
ARC, Atlantic Reference Centre, New Brunswick, Canada	ARC_9111070	<i>Argentina silus</i> (Ascanius, 1775)
	ARC_8703242	<i>Ceratoscopelus maderensis</i> (Lowe, 1839)
	ARC_8703272	<i>Arctozenus risso</i> (Bonaparte, 1840)
	ARC_8703269	<i>Arctozenus risso</i> (Bonaparte, 1840)
	ARC_8703244	<i>Bentosema glaciale</i> (Reinhardt, 1837)
	ARC_8703243	<i>Polyipnus clarus</i> Harold, 1994
	ARC_8703270	<i>Serrivomer beanii</i> Gill & Ryder, 1883
	ARC_8703245	<i>Notoscopelus kroeyeri</i> (Malm, 1861)
	ARC_8703241	<i>Myctophum punctatum</i> Rafinesque, 1810
	ARC_9311985	<i>Lycenchelys verrillii</i> (Goode & Bean, 1877)
	ARC_22621	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)
	ARC_21907	<i>Argentina silus</i> (Ascanius, 1775)
	ARC_22939	<i>Triglops murrayi</i> Günther, 1888
	ARC_22991	<i>Triglops murrayi</i> Günther, 1888
	ARC_22289	<i>Urophycis tenuis</i> (Mitchill, 1814)
	ARC_23292	<i>Triglops murrayi</i> Günther, 1888
	ARC_22199	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)
	ARC_27577	<i>Zoarces americanus</i> (Bloch & Schneider, 1801)
	ARC_23134	<i>Artediellus atlanticus</i> Jordan & Evermann, 1898
	ARC_22227	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)
	ARC_27326	<i>Lycodes esmarkii</i> Collett, 1875
	ARC_22431	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)
	ARC_22528	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)
ARC_22429	<i>Enchelyopus cimbricus</i> (Linnaeus, 1766)	
ARC_27353	<i>Myoxocephalus octodecemspinosus</i> (Mitchill, 1814)	
USNM, Smithsonian Institution National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes, Washington DC, USA	USNM 83887	<i>Amblyraja radiata</i> (Donovan, 1808)
	USNM 38090	<i>Glyptocephalus cynoglossus</i> (Linnaeus, 1758)
MCZ, Museum of Comparative Zoology, Harvard University, Ichthyology Department, Cambridge, Massachusetts, USA	MCZ:Ich:27825	<i>Phycis chesteri</i> Goode & Bean, 1878
	MCZ:Ich:37998	<i>Lycodes vahlii</i> Reinhardt, 1831
	MCZ: Ich:37997	<i>Amblyraja radiata</i> (Donovan, 1808)
MNHN, Muséum national d'Histoire naturelle, Paris, France	mnhn/ic/1998-1431	<i>Alosa pseudoharengus</i> (Wilson, 1811)
	mnhn/ic/1998-1432	<i>Alosa pseudoharengus</i> (Wilson, 1811)
	mnhn/ic/1998-1443	<i>Mallotus villosus</i> (Müller, 1776)
	mnhn/ic/1998-1445	<i>Mallotus villosus</i> (Müller, 1776)
	mnhn/ic/1998-1444	<i>Mallotus villosus</i> (Müller, 1776)
	mnhn/ic/1998-1458	<i>Zoarces americanus</i> (Bloch & Schneider, 1801)
	mnhn/ic/1998-1451	<i>Scomberesox saurus</i> (Walbaum, 1792)
	mnhn/ic/1998-1433	<i>Myoxocephalus scorpius</i> (Linnaeus, 1758)
	mnhn/ic/1998-1435	<i>Myoxocephalus scorpius</i> (Linnaeus, 1758)
	mnhn/ic/1998-1434	<i>Myoxocephalus scorpius</i> (Linnaeus, 1758)
	mnhn/ic/1998-1455	<i>Sebastes norvegicus</i> (Ascanius, 1772)
	mnhn/ic/1998-1456	<i>Sebastes norvegicus</i> (Ascanius, 1772)
	mnhn/ic/1998-1446	<i>Pholis gunnellus</i> (Linnaeus, 1758)
	mnhn/ic/1998-1447	<i>Pholis gunnellus</i> (Linnaeus, 1758)
	mnhn/ic/1998-1453	<i>Scomber scombrus</i> Linnaeus, 1758
	mnhn/ic/1998-1452	<i>Scomber scombrus</i> Linnaeus, 1758
	mnhn/ic/1998-1439	<i>Gadus morhua</i> Linnaeus, 1758
	mnhn/ic/1998-1440	<i>Gadus morhua</i> Linnaeus, 1758
	mnhn/ic/2001-1808	<i>Gadus morhua</i> Linnaeus, 1758

## Appendix 1. – Continued.

Collection	Collection ID	Species
	mnhn/ic/1998-1441	<i>Gadus morhua</i> Linnaeus, 1758
	mnhn/ic/2005-1206	<i>Gadus morhua</i> Linnaeus, 1758
	mnhn/ic/1998-1442	<i>Urophycis tenuis</i> (Mitchill, 1814)
	mnhn/ic/1998-1425	<i>Ammodytes americanus</i> DeKay, 1842
	mnhn/ic/1998-1427	<i>Ammodytes americanus</i> DeKay, 1842
	mnhn/ic/1998-1426	<i>Ammodytes americanus</i> DeKay, 1842
	mnhn/ic/1998-1428	<i>Ammodytes americanus</i> DeKay, 1842
	mnhn/ic/1998-1459	<i>Carcharhinus plumbeus</i> (Nardo, 1827)
	mnhn/ic/1998-1449	<i>Pseudopleuronectes americanus</i> Walbaum, 1792
	mnhn/ic/1998-1450	<i>Pseudopleuronectes americanus</i> Walbaum, 1792
	mnhn/ic/1998-1448	<i>Pseudopleuronectes americanus</i> Walbaum, 1792
	mnhn/ic/1998-1454	<i>Benthalbella infans</i> Zugmayer, 1911
	mnhn/ic/1998-1436	<i>Triglops murrayi</i> Günther, 1888
	mnhn/ic/1998-1429	<i>Hyperoglyphe perciformis</i> (Mitchill, 1818)
	mnhn/ic/1998-1430	<i>Hyperoglyphe perciformis</i> (Mitchill, 1818)
	mnhn/ic/1998-1457	<i>Benthodesmus elongatus</i> (Clarke, 1879)
	mnhn/ic/1998-1437	<i>Melanogrammus aeglefinus</i> (Linnaeus, 1758)
	mnhn/ic/1998-1438	<i>Melanogrammus aeglefinus</i> (Linnaeus, 1758)

## Appendix 2. – List of fish species occurring in the Gulf of St. Lawrence according to Scott and Scott (1988) and not yet listed in the EEZ of the Saint Pierre and Miquelon archipelago.

Family	Species	Family	Species
Myxinidae	<i>Myxine limosa</i> Girard, 1859	Salmonidae	<i>Oncorhynchus nerka</i> (Walbaum, 1792)
Carchariidae	<i>Carcharias taurus</i> Rafinesque, 1810	Salmonidae	<i>Oncorhynchus tshawytscha</i> (Walbaum, 1792)
Alopiidae	<i>Alopias vulpinus</i> (Bonnatere, 1788)	Salmonidae	<i>Salmo trutta</i> Linnaeus, 1758
Triakidae	<i>Mustelus canis</i> (Mitchill, 1815)	Salmonidae	<i>Salvelinus alpinus</i> (Linnaeus, 1758)
Carcharhinidae	<i>Rhizoprionodon terraenovae</i> (Richardson, 1836)	Sternoptychidae	<i>Maurolicus muelleri</i> (Gmelin, 1789)
Torpedinidae	<i>Tetronarce nobiliana</i> (Bonaparte, 1835)	Myctophidae	<i>Symbolophorus veranyi</i> (Moreau, 1888)
Rajidae	<i>Amblyraja hyperborea</i> (Collett, 1879)	Zeidae	<i>Zenopsis conchifer</i> (Lowe, 1852)
Rajidae	<i>Amblyraja jenseni</i> (Bigelow & Schroeder, 1950)	Phycidae	<i>Urophycis chuss</i> (Walbaum, 1792)
Rajidae	<i>Dipturus laevis</i> (Mitchill, 1818)	Gaidropsaridae	<i>Enchelyopus cimbrius</i> (Linnaeus, 1766)
Arhynchobatidae	<i>Bathyraja richardsoni</i> (Garrick, 1961)	Gaidropsaridae	<i>Gaidropsarus ensis</i> (Reinhardt, 1837)
Dasyatidae	<i>Bathytoshia centroura</i> (Mitchill, 1815)	Gadidae	<i>Arctogadus glacialis</i> (Peters, 1874)
Acipenseridae	<i>Acipenser brevirostrum</i> Lesueur, 1818	Gadidae	<i>Microgadus tomcod</i> (Walbaum, 1792)
Albulidae	<i>Albula vulpes</i> (Linnaeus, 1758)	Stromateidae	<i>Peprilus triacanthus</i> (Peck, 1804)
Halosauridae	<i>Halosaurus macrochir</i> (Günther, 1878)	Pomatomidae	<i>Pomatomus saltatrix</i> (Linnaeus, 1766)
Notacanthidae	<i>Notacanthus chemnitzii</i> Bloch, 1788	Scombridae	<i>Euthynnus alletteratus</i> (Rafinesque, 1810)
Muraenidae	<i>Gymnothorax funebris</i> Ranzani, 1839	Syngnathidae	<i>Amphelikturus dendriticus</i> (Barbour, 1905)
Congridae	<i>Conger oceanicus</i> (Mitchill, 1818)	Syngnathidae	<i>Syngnathus fuscus</i> Storer, 1839
Clupeidae	<i>Alosa aestivalis</i> (Mitchill, 1814)	Scophthalmidae	<i>Scophthalmus aquosus</i> (Mitchill, 1815)
Clupeidae	<i>Brevoortia tyrannus</i> (Latrobe, 1802)	Paralichthyidae	<i>Hippoglossina oblonga</i> (Mitchill, 1815)
Clupeidae	<i>Dorosoma cepedianum</i> (Lesueur, 1818)	Paralichthyidae	<i>Paralichthys dentatus</i> (Linnaeus, 1766)
Dussumieriidae	<i>Etrumeus sadina</i> (Mitchill, 1814)	Pleuronectidae	<i>Liopsetta putnami</i> (Gill, 1864)
Bathylagidae	<i>Bathylagus euryops</i> Goode & Bean, 1896	Carangidae	<i>Decapterus macarellus</i> (Cuvier, 1833)
Salmonidae	<i>Coregonus artedi</i> Lesueur, 1818	Carangidae	<i>Seriola zonata</i> (Mitchill, 1815)
Salmonidae	<i>Oncorhynchus clarkii</i> (Richardson, 1836)	Atherinopsidae	<i>Menidia menidia</i> (Linnaeus, 1766)
Salmonidae	<i>Oncorhynchus gorbuscha</i> (Walbaum, 1792)	Fundulidae	<i>Fundulus heteroclitus</i> (Linnaeus, 1766)
Salmonidae	<i>Oncorhynchus kisutch</i> (Walbaum, 1792)	Hemiramphidae	<i>Hyporhamphus unifasciatus</i> (Ranzani, 1841)

## Appendix 2. – Continued.

Family	Species
Gigantactinidae	<i>Gigantactis longicirra</i> Waterman, 1939
Tetraodontidae	<i>Sphoeroides maculatus</i> (Bloch & Schneider, 1801)
Monacanthidae	<i>Monacanthus ciliatus</i> (Mitchill, 1818)
Monacanthidae	<i>Stephanolepis hispidus</i> (Linnaeus, 1766)
Moronidae	<i>Morone americana</i> (Gmelin, 1789)
Moronidae	<i>Morone saxatilis</i> (Walbaum, 1792)
Sparidae	<i>Archosargus probatocephalus</i> (Walbaum, 1792)
Sparidae	<i>Stenotomus chrysops</i> (Linnaeus, 1766)
Sciaenidae	<i>Cynoscion regalis</i> (Bloch & Schneider, 1801)
Sciaenidae	<i>Pogonias cromis</i> (Linnaeus, 1766)
Zoarcidae	<i>Gymnelus viridis</i> (Fabricius, 1780)
Zoarcidae	<i>Lycenchelys kolthoffi</i> Jensen, 1904
Zoarcidae	<i>Lycodes lavalaei</i> Vladykov & Tremblay, 1936
Zoarcidae	<i>Lycodes mucosus</i> Richardson, 1855
Zoarcidae	<i>Lycodes pallidus</i> Collett, 18979
Zoarcidae	<i>Lycodes polaris</i> (Sabine, 1824)
Zoarcidae	<i>Lycodes turneri</i> Bean, 1879
Stichaeidae	<i>Chirolophis ascanii</i> (Walbaum, 1792)
Lumpenidae	<i>Anisarchus medius</i> (Reinhardt, 1837)
Lumpenidae	<i>Leptoclinus maculatus</i> (Fries, 1838)
Lumpenidae	<i>Lumpenus fabricii</i> Reinhardt, 1836
Pholidae	<i>Pholis fasciata</i> (Bloch & Schneider, 1801)

Family	Species
Ammodytidae	<i>Ammodytes hexapterus</i> Pallas, 1814
Serranidae	<i>Centropristis striata</i> (Linnaeus, 1758)
Triglidae	<i>Prionotus carolinus</i> (Linnaeus, 1771)
Triglidae	<i>Prionotus evolans</i> (Linnaeus, 1766)
Gasterosteidae	<i>Gasterosteus wheatlandi</i> Putnam, 1867
Cottidae	<i>Gymnocanthus tricuspis</i> (Reinhardt, 1830)
Cottidae	<i>Icelus bicornis</i> (Reinhardt, 1840)
Cottidae	<i>Icelus spatula</i> Gilbert & Burke, 1912
Cottidae	<i>Myoxocephalus quadricornis</i> (Linnaeus, 1758)
Cottidae	<i>Myoxocephalus scorpioides</i> (Fabricius, 1780)
Cottidae	<i>Triglops nybelini</i> Jensen, 1944
Cottidae	<i>Triglops pingelii</i> Reinhardt, 1837
Agonidae	<i>Aspidophoroides olrikii</i> Lütken, 1877
Agonidae	<i>Hemitripterus americanus</i> (Gmelin, 1789)
Cyclopteridae	<i>Eumicrotremus derjugini</i> Popov, 1926
Liparidae	<i>Careproctus ranula</i> (Good & Bean, 1879)
Liparidae	<i>Careproctus reinhardti</i> (Krøyer, 1862)
Liparidae	<i>Liparis atlanticus</i> (Jordan & Evermann, 1898)
Liparidae	<i>Liparis coheni</i> Able, 1976
Liparidae	<i>Liparis fabricii</i> Krøyer, 1847
Liparidae	<i>Liparis inquilinus</i> Able, 1973
Liparidae	<i>Liparis tunicatus</i> Reinhardt, 1836