

Introductions of fish and crabs in the Schelde estuary

M. STEVENS, J. MAES & F. OLLEVIER

Abstract

Since 1991, we have systematically recorded the fish and crab fauna of the Schelde estuary in samples of power plants cooling water and of fyke nets. In this period, we found 71 fish species of which eight were introduced (table 1). Additionally, one native and three non indigenous crab species were observed. All non native marine species recorded in the estuary arrived from North America. Probably, their presence is due to transport via the ballast water of ships docking at the port of Antwerp. All non native freshwater species in the estuary arrived from eastern Europe and Asia. The occurrence of these species in the estuary is almost invariably due to deliberate

introductions. The most recent observations of non indigenous species in the Schelde estuary date from October 2001 when two young *Vimba vimba* and an adult *Micropogonias undulatus* were caught nearby the Dutch-Belgian border (STEVENS *et al.*, submitted). These species have not been recorded yet in Belgium.

Maarten STEVENS
Joachim MAES
Frans OLLEVIER
Laboratory of Aquatic Ecology
Katholieke Universiteit Leuven
Ch. de Beriotstraat 32
B-3000 Leuven

Table 1 — List of species of fish and crabs recorded in the Schelde between Antwerp and Zandvliet since 1991. Non indigenous species are presented as "introduced".

<i>Scientific name</i>	<i>common name (Eng.)</i>	<i>common name (Ned.)</i>	
ANADROMOUS SPECIES			
<i>Alosa fallax</i>	Twaite shad	Fint	
<i>Lampetra fluviatilis</i>	River lamprey	Rivierprik	
<i>Petromyzon marinus</i>	Sea lamprey	Zeeprik	1 record
<i>Salmo salar</i>	Atlantic salmon	Atlantisch zalm	1 record
<i>Salmo trutta trutta</i>	Sea trout	Zeeforel	
CATADROMOUS SPECIES			
<i>Anguilla anguilla</i>	Eel	Paling	
FRESHWATER SPECIES			
<i>Abramis brama</i>	Bream	Brasem	
<i>Blicca bjoerkna</i>	White bream	Kolblei	
<i>Carassius auratus</i>	Goldfish	Giebel	introduced

<i>Scientific name</i>	<i>common name (Eng.)</i>	<i>common name (Ned.)</i>	
<i>Carassius carassius</i>	Crucian carp	Kroeskarper	
<i>Cottus gobio</i>	Bullhead	Rivierdonderpad	2 records
<i>Cyprinus carpio</i>	Carp	Karper	introduced
<i>Esox lucius</i>	Northern pike	Snoek	
<i>Gasterosteus aculeatus</i>	Three-spined stickleback	Driedoornige stekelbaars	
<i>Gymnocephalus cernuus</i>	Ruffe	Pos	
<i>Hypophthalmichthys molitrix</i>	Silver carp	Zilverkarper	introduced 1 record
<i>Ictalurus nebulosus</i>	Brown bullhead	Bruine dwergmeerval	introduced 1 record
<i>Lepomis gibbosus</i>	Pumpkinseed	Zonnebaars	introduced
<i>Leucaspis delineatus</i>	Moderlieschen	Vetje	
<i>Leuciscus leuciscus</i>	Dace	Serpeling	1 record
<i>Perca fluviatilis</i>	Perch	Baars	
<i>Pungitius pungitius</i>	Ten-spined stickleback	Tiendooornige stekelbaars	
<i>Rhodeus sericeus</i>	Bitterling	Bittervoorn	
<i>Rutilus rutilus</i>	Roach	Blankvoorn	
<i>Scardinius erythrophthalmus</i>	Rudd	Rietvoorn	
<i>Stizostedion lucioperca</i>	Pikeperch	Snoekbaars	introduced
<i>Tinca tinca</i>	Tench	Zeelt	
<i>Vimba vimba</i>	Baltic vimba	Blauwneus	introduced 2 records
MARINE SPECIES			
<i>Agonus cataphractus</i>	Hook-nose	Harnasmannetje	
<i>Ammodytes tobianus</i>	Sandeel	Zandspiering	
<i>Aphia minuta</i>	Transparent goby	Glasgrondel	
<i>Atherina presbyter</i>	Sand-smelt	Koornaarvis	
<i>Callionymus lyra</i>	Dragonet	Pitvis	
<i>Ciliata mustela</i>	Five-bearded rockling	Vijfdradige meun	
<i>Clupea harengus</i>	Herring	Haring	
<i>Cyclopterus lumpus</i>	Lumpsucker	Snotolf	
<i>Dicentrarchus labrax</i>	Bass	Zeebaars	
<i>Engraulis encrasicolus</i>	Anchovy	Anchovis	
<i>Eutrigla gurnardus</i>	Grey gurnard	Grauwe Poon	
<i>Gadus morhua</i>	Cod	Kabeljauw	
<i>Hippocampus ramulosus</i>	Seahorse	Zeepaard	1 record
<i>Hyperoplus lanceolatus</i>	Great sandeel	Smelt	1 record
<i>Limanda limanda</i>	Dab	Schar	

<i>Scientific name</i>	<i>common name (Eng.)</i>	<i>common name (Ned.)</i>	
<i>Liparis liparis</i>	Sea snail	Slakdolf	
<i>Liza ramada</i>	Thin-lipped grey mullet	Dunlipharder	
<i>Merlangius merlangus</i>	Whiting	Wijting	
<i>Micropogonias undulatus</i>	Atlantic croaker	Atlantische ombervis	introduced 1 record
<i>Mullus surmuletus</i>	Striped red mullet	Mul	
<i>Myoxocephalus scorpius</i>	Bull-rout	Zeedonderpad	
<i>Osmerus eperlanus</i>	Smelt	Spiering	
<i>Pholis gunnellus</i>	Butterfish	Botervis	
<i>Pleuronectes flesus</i>	Flounder	Bot	
<i>Pleuronectes platessa</i>	Plaice	Schol	
<i>Pollachius pollachius</i>	Pollack	Pollak	1 record
<i>Pomatoschistus lozanoi</i>	Lozano's goby	Lozano's grondel	
<i>Pomatoschistus microps</i>	Common goby	Brakwatergrondel	
<i>Pomatoschistus minutus</i>	Sand goby	Dikkop	
<i>Pomatoschistus pictus</i>	Painted goby	Kleurige grondel	1 record
<i>Raniceps raninus</i>	Tadpole-fish	Vorskwab	
<i>Scomber scombrus</i>	Mackerel	Makreel	
<i>Scophthalmus rhombus</i>	Brill	Griet	
<i>Solea solea</i>	Sole	Tong	
<i>Spinachia spinachia</i>	Fifteen-spined stickleback	Zeestekelbaars	
<i>Sprattus sprattus</i>	Sprat	Sprot	
<i>Syngnathus acus</i>	Greater pipefish	Grote zeenaald	
<i>Syngnathus rostellatus</i>	Nilsson's pipefish	Kleine zeenaald	
<i>Trachinus vipera</i>	Lesser weever	Kleine pieterman	
<i>Trachurus trachurus</i>	Horse mackerel	Horsmakreel	
<i>Trigla lucerna</i>	Tub gurnard	Rode poon	
<i>Trisopterus luscus</i>	Bib	Steenbolc	
<i>Zoarces viviparus</i>	Eelpout	Puitaal	
CRUSTACEANS			
<i>Callinectes sapidus</i>	Blue crab	Blauwe zwemkrab	introduced
<i>Carcinus maenas</i>	Shore crab	Strandkrab	
<i>Crangon crangon</i>	Common shrimp	Grijze garnaal	introduced
<i>Eriocheir sinensis</i>	Chinese mitten crab	Chinese wolhandkrab	introduced