

Alien macrobenthic species in the Sea Scheldt and its tidal tributaries (Belgium)

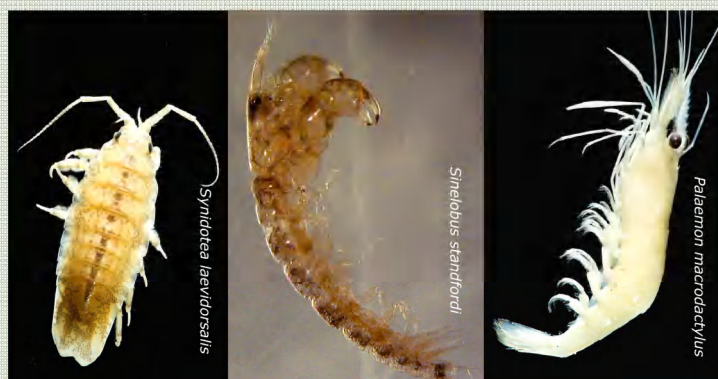
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The Sea Scheldt comprises the brackish (Belgian-Dutch border to Burcht) and fresh water part (Burcht to Ghent) of the macrotidal Scheldt estuary. The port of Antwerp is situated in the brackish part of the river. Brackish harbour regions are considered particularly susceptible to introductions, because the diversity of native species is usually low and the import rate of new species (e.g. by ballast water) is high. Canals, inland navigation and active introduction are other possible ways for colonisation. Although there is no specific research program for exotic species in the Sea Scheldt and its tidal tributaries, they are regularly encountered during the monitoring campaigns for benthic infauna, as by-catch in the monitoring campaigns for migratory fish, on artificial substrates used for monitoring glass eel migration or on buoys.



Buoys (left) and glass eel substrate (right), two examples of artificial substrates sheltering many exotic species

The table shows a non exhaustive list of 27 alien macro-benthic species that we encountered in the intertidal or sub-tidal zone since 1993. The tanaid *Sinelobus stanfordi* was found for the first time in Europe. The isopod *Synidotea laevidorsalis* is new for NW-Europe. The Oligochaet *Monopylephorus limosus* and the Turbellarian *Dendrocoelum romanodanubiale* are recent adds to the list but still need to be confirmed. Other exotic species such as the bivalve *Rangia cuneata* and the crab *Callinectes sapidus* have been reported by other researchers. Most alien species in the Sea Scheldt originate from the NW-Atlantic, but the NW-pacific and Ponto-Caspian region are also important source areas.

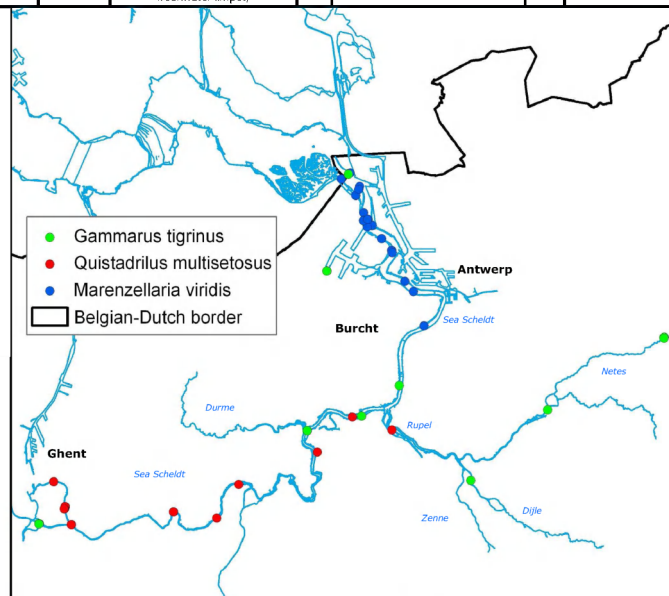


Selected references

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		Species	Salinity zone	Occurrence	First record Sea Scheldt	Natural distribution
1	Amphipoda	<i>Dugesia tigrina</i>	F	single catch near Melle (Kwatrecht)	2008	N-America
2		<i>Psammoryctes moravicus</i>	F	rare (Kwatrecht, Heusden)	2008	Ponto-Caspian
3		<i>Quistadrilus multisetosus</i>	F	common, mainly in the upper most part of the estuary but also found near Rupel mouth	1996	N-America
4		<i>Marenzelleria viridis</i>	B(F)	not uncommon in brackish zone but at low densities	1995	NW-Atlantic
5	Amphipoda	<i>Dohrniphora cornuta</i>	F	single catch in at that time heavily polluted Rupel, species of sewage, compost, ...	2005	subtropical
6	Decapoda	<i>Corophium curvispinum</i>	B	single catch on buoy close to Belgian-Dutch border	1998	Ponto-Caspian
7		<i>Crangonyx pseudogracilis</i>	B/F	local	2007	N-America
8		<i>Dikerogammarus villosus</i> (Ponto-Caspian killer shrimp)	B	single catch on buoy	1999	Ponto-Caspian
9		<i>Gammarus tigrinus</i>	B/F	very common; in very large densities on glass eel substratum	2005	W-Atlantic
10		<i>Incisocallope aestuarius</i>	B	single catch on buoy near Galgeschoor	2002	N-America
11		<i>Melita nitida</i>	B	local, also on buoys	2000	N-America
12		<i>Orchestia cavimana</i>	B(F)	probably common	1927	Ponto-Caspian
13		<i>Atyaephyra desmarestii</i>	F	single catch on glass eel substratum	2007	Mediterranean
14		<i>Eriocheir sinensis</i> (Chinese mitten crab)	B/F	very common throughout Sea Scheldt, sometimes in large numbers, frequent by catch in fykes	1933	NW-Pacific
15		<i>Hemigrapsus takanoi</i> (Brush-clawed shore crab)	B	probably common	2007	NW-Pacific
16	Isopoda	<i>Palaemon macrodactylus</i>	B	local	2003	NW-Pacific
17		<i>Rhithropanopeus harrisi</i> (White-tipped mud crab)	B	common, also on buoys	1985	NW-Atlantic
18		<i>Synidotea laevidorsalis</i>	B	local	2005	E-Asia
19		<i>Sinelobus stanfordi</i>	B	single catch on harbour dock wall, but more widespread	2007	southern hemisphere
20	Mollusca	<i>Corbicula fluminea</i> (Asian clam)	F	single catch at Uilbergen	2008	S and E-Asia, Africa
21		<i>Dreissena polymorpha</i> (Zebra mussel)	F	local	2008	Ponto-Caspian
22		<i>Mya arenaria</i> (Soft-shelled clam)	B	common in brackish zone	?	NW-Atlantic
23		<i>Mytilopsis leucophaea</i> (Dark false mussel)	B	single catch on buoy	1835	NW-Atlantic
24		<i>Petricola pholadiformis</i> (American piddock)	B	two catches at Groot Bultenschoor	1995	NW-Atlantic
25		<i>Physella acuta</i> (European physa)	F	common?	2007	S-Europe, Africa
26	Gastropoda	<i>Potamopyrgus antipodarum</i> (New Zealand mudsnail)	B/F	two catches on harbour dock wall and on plastic bottle; probably widespread	1927	New-Zealand
27		<i>Ferrissia fragilis</i> (N-American freshwater limpet)	F	local	2007	N-America



Distribution patterns of a brackish (*M. viridis*), fresh water (*Q. multisetosus*) and indifferent (*G. tigrinus*) species (only based on own catches)