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Working Document

Quality check surveys: DATRAS North Sea IBTS

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2 Introduction

The North Sea International Bottom Trawl Survey (NS-IBTS) provides the most appropriate data for the examination of large-scale spatial and temporal analyses of fish assemblages for the North Sea, Skagerrak and Kattegat area, and therefore for the derivation of metrics with which to assess changes in the structure, function and diversity of fish assemblages. The survey data are becoming increasingly important for assessing the status of commercial and non-target fish species and fish communities as a whole. Hence, many aspects of the North Sea IBTS survey (e.g. catch sampling and sub-sampling protocols, and fish identification) should ensure that data collection is appropriate for studies of the wider fish community.

It has been highlighted that the IBTS has potential problems associated with (a) input errors and (b) the misidentification of selected taxa, especially with several taxa of non-target fish species (Daan, 2001; ICES, 2005). Additionally, there are several taxa that member states report at a range of taxonomic levels (species, genus or family), which may affect the utility of survey data for fish assemblage studies (e.g. biodiversity studies and metrics for fish communities).

This working document lists these problematic taxa in the North Sea, Skagerrak and Kattegat, and provides recommendations for change. Furthermore, it gives an overview by species and year of recordings of lengths that exceed the theoretical maximum lengths. Both analyses have been executed on all available data in DATRAS, section "North Sea International Bottom Trawl Survey", for the year 1965-2005, last modified on 6 February 2006.
Next to this, for a selection of species that are suspicious for being misreported, detailed analyses have been performed and described to identify possible errors.

3 Overview species

Given below is a table that gives an overview by species of the total number caught (numb), based on catches per hour, and the number of positive hauls (freq). Raw data were extracted from ICES-DATRAS, section "North Sea International Bottom Trawl Survey", for the year 1965-2005, all quarters, last modified on 6 February 2006.
Comments in red are straightforward and should be implemented by the ICES-secretary, after approval of all concerning countries. It often applies to the use of the genus-name *(Name spec.)*, when the genus is only represented by one species in the North Sea. To shorten the list of the number of different species caught and thereby preventing misinterpretations in for example biodiversity studies, we recommend to change the genus name into the species name. The same accounts for family name versus genus name.
The overview below is followed by a summary table with all recommendations.
Comments in blue are based on the interpretation of the authors and sensitive for debate. Therefore we can only recommend people to apply these comments in blue. They will be adopted for internal use at the IMARES (=RIVO).

NODC	TSN	species	numb	freq	comments
871304013400	160876	RAJA RADIATA	91	36	=Amblyraja radiata
871304012500	564140	LEUCORAJA LENTIGINOSA	3	2	Not in CLOFNAM ; id. error?
879103260100	550592	GAIDROPSARUS MACROPTHALMUS	2	1	=Antonogadus macrophthalmus
860301020000	159700	LAMPETRA	8	4	Gen with 1 sp; change into 159719
860301021700	159719	LAMPETRA FLUVIATILIS	96	44	
860301030000	159721	PETROMYZON	10	5	Gen with 1 sp; change into 159722
860301030100	159722	PETROMYZON MARINUS	95	47	
860601020100	159772	MYXINE GLUTINOSA	26934	3656	
870704030200	159911	LAMNA NASUS	4	2	
870801000000	159985	SCYLIORHINIDAE	2	1	S. canicula?; check cntr/rect
870801020300	160034	GALEUS MELASTOMUS	192	73	
870801030000	160053	SCYLIORHINUS	4	3	S. canicula?; check cntr/rect
870801030600	160065	SCYLIORHINUS CANICULA	12399	4996	
870801030700	160067	SCYLIORHINUS STELLARIS	12	5	
870802010200	160181	GALEORHINUS GALEUS	793	294	
870802040000	160226	MUSTELUS	248	48	
870802040800	160240	MUSTELUS ASTERIAS	1470	518	Uncertain; change into 160255
870802040900	160242	MUSTELUS MUSTELUS	703	263	Uncertain; change into 160255
871001000000	160604	SQUALIDAE	142	57	S. acanthias?; check cntr/rect
871001010200	160611	SOMNIOSUS MICROCEPHALUS	4	2	
871001020100	160617	SQUALUS ACANTHIAS	27087	5669	

881801010100	166365	GASTEROSTEUS ACULEATUS	8745	486	
881801050100	166401	SPINACHIA SPINACHIA	1009	65	
882000000000	166438	SYNGNATHOIDEI	2	1	Change tsn --> 166443
882002000000	166443	SYNGNATHIDAE	1965	343	All syngnathidae need checking!!
882002010000	166444	SYNGNATHUS	8	4	
882002011900	166463	SYNGNATHUS ROSTELLATUS	1026	211	
882002012000	166464	SYNGNATHUS ACUS	1101	157	
882002012300	166467	SYNGNATHUS TYPHLE	30	13	
882002210100	166591	ENTELURUS AEQUORAEUS	1251	451	
882002220200	166595	NEROPHIS OPHIDION	37	17	
882002250000	166613	ACENTRONURA	2	1	Not in CLOFNAM; id. error
882601000000	166704	SCORPAENIDAE	2	1	
882601013900	166745	SEBASTES MARINUS	473	108	
882601015100	166756	SEBASTES MENTELLA	2	1	
882601017500	166779	SEBASTES VIVIPARUS	10833	2129	
882601030100	166787	HELICOLENUS DACTYLOPTERUS	7431	1136	
882601062800	166839	SCORPAENA SCROFA	6	4	
882602000000	166972	TRIGLIDAE	5472	526	
882602050100	167039	TRIGLA LUCERNA	6021	1651	
882602060100	167044	EUTRIGLA GURNARDUS	2423043	115975	
882602070100	167046	TRIGLOPORUS LASTOVIZA	12	2	
882602080100	167049	ASPITRIGLA CUCULUS	6067	1502	
883102000000	167196	COTTIDAE	183	110	
883102030800	167209	ARTEDIELLUS ATLANTICUS	2	1	
883102220000	167311	MYOXOCEPHALUS	48	1	Change tsn -->167317
883102220500	167316	TRIGLOPSIS QUADRICORNIS	70	12	Identif. errors; change into 167318
883102220600	167317	MYOXOCEPHALUS SCORPIOIDES	416	61	Identif. errors; change into 167318
883102220700	167318	MYOXOCEPHALUS SCORPIUS	22962	4826	
883102380700	167375	TRIGLOPS MURRAYI	120	64	
883102460100	167390	TAURULUS BUBALIS	3857	758	Id errors!!
883102460200	167391	TAURULUS LILLJEBORGI	20	10	
883108080300	167454	AGONUS CATAPHRACTUS	42005	5913	
883108180100	167478	LEPTAGONUS DECAGONUS	25	3	Check cntr/area
883109000000	167483	CYCLOPTERIDAE	8	4	
883109080000	167550	LIPARIS	308	46	
883109082800	167578	LIPARIS LIPARIS	3489	702	
883109083100	167581	LIPARIS MONTAGUI	169	50	
883109150100	167612	CYCLOPTERUS LUMPUS	6670	3097	
883528010300	168588	TRACHURUS TRACHURUS	5578547	27064	
883543000000	169180	SPARIDAE	6	4	
883543080400	169215	PAGELLUS ERYTHRINUS	3	2	
883543120100	169229	SPONDYLIOSOMA CANTHARUS	389	87	
883545020200	169418	MULLUS SURMULETUS	14958	2001	
883545020300	169419	MULLUS BARBATUS	4	2	Check cntr/area
883575010000	170316	DICENTRARCHUS	12	5	Gen. with 1 sp; change into 179317
883575010100	170317	DICENTRARCHUS LABRAX	185	70	
883601000000	170333	MUGILIDAE	20	9	
883601010100	170335	MUGIL CEPHALUS	4	2	
883601070400	170371	CHELON LABROSUS	140	48	
883601090100	170376	LIZA RAMADA	4	2	
883601090200	170377	LIZA AURATA	13	7	
883901330100	614239	SYMPHODUS MELOPS	14	3	
883901350100	170733	CTENOLABRUS RUPESTRIS	34	13	
883901360300	170737	LABRUS BERGYLTA	15	8	
883901360500	170739	LABRUS BIMACULATUS	1	1	
884006010100	170991	ECHIICHTHYS VIPERA	287451	6544	
884006010200	170992	TRACHINUS DRACO	30690	1256	
884201000000	171124	BLENNIIDAE	2	1	Check cntr/area
884201010000	171125	BLENNIUS	4	1	Check cntr/area
884202000000	171335	ANARHICHADIDAE	61	24	Fam with 1 gen; change into 171336
884202010000	171336	ANARHICHAS	4	2	
884202010200	171338	ANARHICHAS DENTICULATUS	6	3	
884202010300	171341	ANARHICHAS LUPUS	3912	2049	
884202010400	171342	ANARHICHAS MINOR	17	8	
884212000000	171554	STICHAEIDAE	50	9	Check cntr/area
884212090500	171588	LUMPENUS LAMPRETAEFORMIS	43069	4424	
884212180100	171603	LEPTOCLINUS MACULATUS	59	27	
884213020900	171645	PHOLIS GUNNELLUS	2361	234	
884501000000	171670	AMMODYTIDAE	870559	2909	
884501010000	171671	AMMODYTES	721951	1114	
884501010500	171676	AMMODYTES TOBIANUS	51341	573	Change into 171671
884501010600	171677	AMMODYTES MARINUS	576955	2718	Change into 171671
884501020100	171680	GYMNAMMODYTES SEMISQUAMATUS	37389	70	
884501030000	171681	HYPEROPLUS	8687	20	
884501030100	171682	HYPEROPLUS LANCEOLATUS	402364	6849	Change into 171681
884501030200	171683	HYPEROPLUS IMMACULATUS	58507	328	Change into 171681
884601000000	171691	CALLIONYMIDAE	2810	469	Fam with 1 gen; change into 171692
884601010000	171692	CALLIONYMUS	636	149	
884601010600	171698	CALLIONYMUS LYRA	82212	16901	
884601010700	171699	CALLIONYMUS MACULATUS	61394	6879	
884601012000	171712	CALLIONYMUS RETICULATUS	838	219	
884701000000	171746	GOBIIDAE	16465	1086	
884701130000	171833	GOBIUS	22622	68	Pomatoschistus!; Change into 171977
884701130700	171841	GOBIUS COBITIS	2	1	
884701131600	171850	GOBIUS NIGER	119	37	
884701490100	171971	CRYSTALLOGOBIUS LINEARIS	98	19	

871304013400	AMBLYRAJA RADIATA	DEN	2004	3	DAN2	15	2	62	60	Misidentification
871304013400	AMBLYRAJA RADIATA	FRA	1994	3	THA	1	2	80	60	
871304013400	AMBLYRAJA RADIATA	FRA	1995	1	THA	9	2	66	60	
871304013400	AMBLYRAJA RADIATA	FRA	1995	1	THA	48	2	83	60	
871304013400	AMBLYRAJA RADIATA	FRA	1995	1	THA	50	3	82	60	
871304013400	AMBLYRAJA RADIATA	FRA	1996	3	THA2	3	2	76	60	
871304013400	AMBLYRAJA RADIATA	GFR	1977	1	PO	16	2	100	60	
871304013400	AMBLYRAJA RADIATA	GFR	1979	1	PO	48	6	63	60	
871304013400	AMBLYRAJA RADIATA	GFR	1979	1	PO	50	4	61	60	
871304013400	AMBLYRAJA RADIATA	GFR	1979	1	PO	50	2	62	60	
871304013400	AMBLYRAJA RADIATA	GFR	1979	1	PO	50	2	65	60	
871304013400	AMBLYRAJA RADIATA	GFR	1988	1	WAH2	74	2	61	60	
871304013400	AMBLYRAJA RADIATA	GFR	1988	1	WAH2	74	2	65	60	
871304013400	AMBLYRAJA RADIATA	GFR	1992	2	WAH2	77	2	68	60	
871304013400	AMBLYRAJA RADIATA	GFR	1992	2	WAH2	124	2	62	60	
871304013400	AMBLYRAJA RADIATA	NED	1980	1	TRI	3	2	70	60	
871304013400	AMBLYRAJA RADIATA	NED	1989	1	TRI	45	2	65	60	
871304013400	AMBLYRAJA RADIATA	NOR	1987	1	ELD	18	2	77	60	
871304013400	AMBLYRAJA RADIATA	NOR	1987	1	ELD	18	2	79	60	
871304013400	AMBLYRAJA RADIATA	NOR	1993	4	GOS	4	8	78	60	
871304013400	AMBLYRAJA RADIATA	NOR	1994	2	MIC	84	16	70	60	
871304013400	AMBLYRAJA RADIATA	NOR	1994	4	GOS	6	2	64	60	
871304013400	AMBLYRAJA RADIATA	NOR	1995	1	MIC	47	2	82	60	
871304013400	AMBLYRAJA RADIATA	NOR	2000	3	MIC	586	5	82	60	
871304013400	AMBLYRAJA RADIATA	NOR	2001	3	MIC	486	2	69	60	
871304013400	AMBLYRAJA RADIATA	SCO	1980	1	EXP	32	1	80	60	
871304013400	AMBLYRAJA RADIATA	SCO	1988	1	SCO2	29	1	72	60	
871304013400	AMBLYRAJA RADIATA	SCO	1988	1	SCO2	30	1	74	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	2	4	61	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	2	1	68	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	2	1	71	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	62	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	64	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	67	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	68	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	70	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	6	3	71	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	7	2	61	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	9	2	62	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	12	3	61	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	13	4	67	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	14	2	61	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	16	1	64	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	17	2	71	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	18	3	64	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	18	3	71	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	18	6	72	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	21	1	72	60	
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871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	55	1	68	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	55	1	70	60	
871304013400	AMBLYRAJA RADIATA	SCO	1989	1	SCO2	56	2	64	60	
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871304013400	AMBLYRAJA RADIATA	SWE	1993	1	ARG	41	2	67	60	
871304013400	AMBLYRAJA RADIATA	SWE	1993	3	ARG	180	2	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1993	3	ARG	191	2	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1994	1	ARG	8	2	67	60	
871304013400	AMBLYRAJA RADIATA	SWE	1994	2	ARG	107	2	64	60	
871304013400	AMBLYRAJA RADIATA	SWE	1994	2	ARG	108	1	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1995	2	ARG	109	2	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1997	1	ARG	110	2	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1998	3	ARG	508	2	63	60	
871304013400	AMBLYRAJA RADIATA	SWE	1999	1	ARG	152	2	61	60	
871304013400	AMBLYRAJA RADIATA	SWE	1999	3	ARG	18	2	66	60	
874701010900	ALOSA FALLAX	FRA	1999	1	THA2	61	2	110	70	mm??
874701020100	CLUPEA HARENGUS	NOR	1995	4	GOS	14	2	44	40	??
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	10	20	19	unbelievable
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	10	20	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	8	21	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	18	21	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	12	22	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	4	22	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	8	23	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	2	23	19	
874701170100	SPRATTUS SPRATTUS	FRA	1999	1	THA2	17	2	24	19	
874701220100	SARDINA PILCHARDUS	NED	1991	2	ISI	19	2	31	30	
874701220100	SARDINA PILCHARDUS	NED	1992	2	ISI	19	2	31	30	
874702010400	ENGRAULIS ENCRASICOLUS	DEN	2000	3	DAN2	31	44	198	20	mm?
874702010400	ENGRAULIS ENCRASICOLUS	DEN	2000	3	DAN2	31	56	199	20	
874702010400	ENGRAULIS ENCRASICOLUS	DEN	2000	3	DAN2	31	6	200	20	
874702010400	ENGRAULIS ENCRASICOLUS	DEN	2000	3	DAN2	31	2	201	20	
874702010400	ENGRAULIS ENCRASICOLUS	DEN	2005	1	DAN2	1	12	22	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2003	1	THA2	27	2	120	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2003	1	THA2	27	2	135	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	16	21	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	14	22	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	10	23	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	6	24	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	4	27	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2004	1	THA2	1	2	28	20	
874702010400	ENGRAULIS ENCRASICOLUS	FRA	2005	1	THA2	5	2	80	20	
874702010400	ENGRAULIS ENCRASICOLUS	GFR	2000	3	WAH3	22	4	21	20	
874702010400	ENGRAULIS ENCRASICOLUS	NED	1992	4	ISI	35	16	21	20	
874702010400	ENGRAULIS ENCRASICOLUS	SCO	2000	3	SCO3	55	2	21	20	
875601020300	ARGENTINA SILUS	NOR	2003	3	HAV	553	11	69	60	??
875901050100	MAUROLICUS MUELLERI	SCO	1985	1	SCO2	11	1	12	8	
875901050100	MAUROLICUS MUELLERI	SCO	2003	1	SCO3	33	4	9	8	
875901050100	MAUROLICUS MUELLERI	SWE	1972	1	SKA	31	1	9	8	

882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	44	2	42	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	47	2	36	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	47	2	39	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	55	2	31	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	55	2	42	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	58	2	37	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	59	2	37	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	67	2	37	30	
882002220200	NEROPHIS OPHIDION	FRA	2005	1	THA2	70	2	41	30	
882002220200	NEROPHIS OPHIDION	NOR	2004	1	HAV	26	2	33	30	
882002220200	NEROPHIS OPHIDION	NOR	2004	1	HAV	26	2	40	30	
882002220200	NEROPHIS OPHIDION	NOR	2004	1	HAV	31	3	33	30	
883102460100	TAURULUS BUBALIS	DEN	1999	3	DAN2	45	2	19	17	misidentification
883102460100	TAURULUS BUBALIS	DEN	1999	3	DAN2	45	2	27	17	
883102460100	TAURULUS BUBALIS	DEN	1999	3	DAN2	45	2	30	17	
883102460100	TAURULUS BUBALIS	ENG	1982	1	CIR	4	2	29	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	33	4	20	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	33	2	22	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	33	2	23	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	34	2	22	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	34	2	26	17	
883102460100	TAURULUS BUBALIS	ENG	1984	1	CIR	41	2	20	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	2	18	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	6	20	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	10	21	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	6	22	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	12	23	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	6	24	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	4	25	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	42	2	26	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	53	6	22	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	55	4	20	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	55	2	21	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	55	4	22	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	55	2	23	17	
883102460100	TAURULUS BUBALIS	ENG	1985	1	CIR	55	2	28	17	
883102460100	TAURULUS BUBALIS	ENG	1993	3	CIR	39	2	25	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	59	6	19	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	59	2	21	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	59	2	27	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	78	3	25	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	78	3	27	17	
883102460100	TAURULUS BUBALIS	ENG	1994	4	CIR	78	3	31	17	
883102460100	TAURULUS BUBALIS	ENG	2001	1	CIR	8	2	22	17	
883102460100	TAURULUS BUBALIS	FRA	1992	1	THA	31	2	19	17	
883102460100	TAURULUS BUBALIS	FRA	1992	1	THA	31	2	21	17	
883102460100	TAURULUS BUBALIS	FRA	1992	1	THA	31	2	23	17	
883102460100	TAURULUS BUBALIS	FRA	1992	1	THA	32	2	18	17	
883102460100	TAURULUS BUBALIS	FRA	1992	1	THA	39	2	30	17	
883102460100	TAURULUS BUBALIS	FRA	1993	3	THA	8	2	18	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	12	19	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	6	20	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	31	22	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	12	23	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	18	25	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	20	12	26	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	25	2	23	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	27	4	18	17	
883102460100	TAURULUS BUBALIS	FRA	1994	3	THA	27	4	19	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	12	18	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	12	19	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	4	20	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	6	21	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	2	22	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	6	23	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	2	25	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	8	2	26	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	9	2	18	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	10	18	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	10	19	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	16	20	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	2	21	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	4	22	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	2	23	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	2	24	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	24	4	26	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	25	2	19	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	26	2	19	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	26	2	20	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	26	4	21	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	26	2	22	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	26	2	26	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	27	2	20	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	28	2	18	17	
883102460100	TAURULUS BUBALIS	FRA	1995	1	THA	28	2	20	17	

883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	39	4	24	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	40	4	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	40	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	40	2	26	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	20	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	18	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	18	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	6	21	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	2	24	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	41	2	26	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	42	4	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	42	4	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	42	2	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	58	2	22	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	59	2	21	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	61	10	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	61	8	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	61	2	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	61	2	22	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	71	4	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	71	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	71	6	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	71	2	25	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	22	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	16	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	10	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	12	21	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	4	22	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	4	23	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	10	24	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	73	2	25	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	81	2	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	4	20	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	6	21	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	10	22	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	2	23	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	82	2	24	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	83	2	18	17
883102460100	TAURULUS BUBALIS	FRA	1998	1	THA2	83	2	20	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	2	4	20	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	3	10	18	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	3	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	4	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	5	2	21	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	7	2	22	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	8	2	29	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	27	2	25	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	30	2	23	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	32	2	21	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	4	18	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	4	20	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	2	21	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	14	22	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	4	23	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	34	2	24	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	18	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	19	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	20	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	21	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	6	22	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	4	23	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	24	17
883102460100	TAURULUS BUBALIS	FRA	1999	1	THA2	35	2	25	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	1	2	19	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	1	2	24	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	2	2	23	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	30	2	23	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	30	2	25	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	2	18	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	2	20	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	4	21	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	2	22	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	6	23	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	2	25	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	4	26	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	31	4	27	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	32	2	20	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	32	2	22	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	32	2	27	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	32	2	28	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	41	2	21	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	41	2	22	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	42	2	18	17
883102460100	TAURULUS BUBALIS	FRA	2000	1	THA2	42	2	21	17

884006010100	ECHIICHTHYS VIPERA	FRA	2001	1	THA2	52	146	19	18	
884006010100	ECHIICHTHYS VIPERA	FRA	2001	1	THA2	52	163	20	18	
884006010100	ECHIICHTHYS VIPERA	GFR	1995	2	WAH3	7	6	19	18	
884006010100	ECHIICHTHYS VIPERA	GFR	1995	2	WAH3	7	18	20	18	
884212180100	LEPTOCLINUS MACULATUS	DEN	1989	1	DAN2	35	2	21	20	??
884212180100	LEPTOCLINUS MACULATUS	DEN	1991	4	DAN2	7	2	21	20	
884212180100	LEPTOCLINUS MACULATUS	DEN	1991	4	DAN2	7	2	27	20	
884212180100	LEPTOCLINUS MACULATUS	ENG	1997	3	CIR	34	2	23	20	
884212180100	LEPTOCLINUS MACULATUS	ENG	1997	3	CIR	40	2	31	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	21	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	24	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	26	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	27	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	28	20	
884212180100	LEPTOCLINUS MACULATUS	NOR	1999	3	MIC	556	2	29	20	
884212180100	LEPTOCLINUS MACULATUS	SCO	1991	3	SCO2	33	1	27	20	
884212180100	LEPTOCLINUS MACULATUS	SCO	1991	3	SCO2	33	1	34	20	
884213020900	PHOLIS GUNNELLUS	FRA	2005	1	THA2	67	4	26	25	??
884213020900	PHOLIS GUNNELLUS	FRA	2005	1	THA2	67	2	27	25	
884213020900	PHOLIS GUNNELLUS	FRA	2005	1	THA2	67	2	29	25	
884213020900	PHOLIS GUNNELLUS	FRA	2005	1	THA2	67	2	31	25	
884213020900	PHOLIS GUNNELLUS	FRA	2005	1	THA2	67	2	33	25	
884501010000	AMMODYTES	ENG	1983	1	CIR	49	2	28	25	??
884501010000	AMMODYTES	ENG	1984	1	CIR	17	2	26	25	
884501010000	AMMODYTES	ENG	1984	1	CIR	35	2	26	25	
884501010000	AMMODYTES	ENG	1984	1	CIR	35	2	27	25	
884501010000	AMMODYTES	ENG	1988	1	CIR	3	2	27	25	
884501010000	AMMODYTES	ENG	1988	1	CIR	12	4	27	25	
884501010000	AMMODYTES	ENG	1988	1	CIR	13	2	30	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	9	2	27	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	14	36	26	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	14	31	27	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	14	18	28	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	14	4	29	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	14	4	30	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	15	4	26	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	63	4	30	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	64	2	28	25	
884501010000	AMMODYTES	ENG	1989	1	CIR	64	2	30	25	
884501010000	AMMODYTES	ENG	1990	1	CIR	2	2	30	25	
884501010000	AMMODYTES	ENG	1990	1	CIR	34	2	27	25	
884501010000	AMMODYTES	ENG	1992	4	CIR	35	2	26	25	
884501010000	AMMODYTES	ENG	1992	4	CIR	35	2	27	25	
884501010000	AMMODYTES	ENG	1993	3	CIR	10	118	26	25	
884501010000	AMMODYTES	ENG	1993	3	CIR	10	47	27	25	
884501010000	AMMODYTES	ENG	1993	3	CIR	10	24	28	25	
884501010000	AMMODYTES	ENG	1993	4	CIR	55	2	27	25	
884501010000	AMMODYTES	ENG	1995	3	CIR	23	2	26	25	
884501010000	AMMODYTES	NOR	1991	2	JHJ	26	12	26	25	
884501010000	AMMODYTES	NOR	1991	2	JHJ	26	12	26	25	
884501010000	AMMODYTES	NOR	1991	2	JHJ	26	3	27	25	
884501010000	AMMODYTES	NOR	1991	2	JHJ	26	3	29	25	
884501010000	AMMODYTES	NOR	1993	1	MIC	46	2	26	25	
884501010000	AMMODYTES	NOR	1993	1	MIC	46	4	27	25	
884501010000	AMMODYTES	NOR	1993	1	MIC	46	10	28	25	
884501010000	AMMODYTES	NOR	1993	1	MIC	46	4	29	25	
884501010000	AMMODYTES	NOR	1993	1	MIC	46	2	31	25	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	68	38	22	21	??
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	68	15	23	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	69	2	27	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	71	2	27	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	71	2	29	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	72	5	24	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	72	5	31	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	72	5	32	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	73	2	30	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	75	2	24	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	75	6	25	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	75	6	26	21	
884501010500	AMMODYTES TOBIANUS	FRA	1998	1	THA2	76	2	22	21	
884501010500	AMMODYTES TOBIANUS	FRA	2001	1	THA2	5	2	24	21	
884501010500	AMMODYTES TOBIANUS	FRA	2001	1	THA2	5	2	25	21	
884501010500	AMMODYTES TOBIANUS	FRA	2001	1	THA2	5	2	26	21	
884501010500	AMMODYTES TOBIANUS	FRA	2001	1	THA2	37	2	22	21	
884501010500	AMMODYTES TOBIANUS	FRA	2001	1	THA2	56	2	22	21	
884501010500	AMMODYTES TOBIANUS	FRA	2003	1	THA2	7	2	24	21	
884501010500	AMMODYTES TOBIANUS	FRA	2004	1	THA2	40	2	24	21	
884501010500	AMMODYTES TOBIANUS	FRA	2004	1	THA2	40	2	27	21	
884501010500	AMMODYTES TOBIANUS	NED	1983	1	TRI	59	2	22	21	
884501010500	AMMODYTES TOBIANUS	NOR	1976	1	JOH	36	16	23	21	
884501010500	AMMODYTES TOBIANUS	SCO	1993	2	SCO2	32	2	22	21	
884501010500	AMMODYTES TOBIANUS	SWE	1995	2	ARG	131	6	22	21	

884701510100	POMATOSCHISTUS MINUTUS	GFR	1988	1	WAH2	46	2	11	9	errors
884701510100	POMATOSCHISTUS MINUTUS	GFR	1992	3	WAH2	83	6	19	9	
884701510100	POMATOSCHISTUS MINUTUS	GFR	2000	1	WAH3	59	2	55	9	
884701510300	POMATOSCHISTUS MICROPS	GFR	1991	1	WAH2	11	2	7	6	??
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	38	6	mm??
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	42	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	45	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	49	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	51	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	4	52	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	53	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	54	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	2	56	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	4	57	6	
884701660100	APHIA MINUTA	SWE	1972	1	SKA	41	4	58	6	
885703170200	ARNOGLOSSUS LATERNA	SCO	2003	3	SCO3	88	2	22	20	??
885703210100	ZEUGOPTERUS PUNCTATUS	SWE	1981	1	ARG	13	2	29	25	
885703230200	LEPIDORHOMBUS WHIFFIAGONIS	GFR	1987	1	WAH2	101	2	65	60	
885703230200	LEPIDORHOMBUS WHIFFIAGONIS	SCO	1980	1	EXP	51	1	62	60	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	GFR	1994	1	WAH3	76	2	71	50	unbelievable
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	4	51	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	1	52	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	3	53	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	5	54	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	5	55	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	2	56	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	1	57	50	
885704060300	HIPPOGLOSSOIDES PLATESSOIDES	SCO	1997	2	SCO2	35	1	59	50	
885704090400	LIMANDA LIMANDA	NED	1970	1	WIL	11	8	47	45	
885704090400	LIMANDA LIMANDA	NED	1970	1	WIL	11	8	48	45	
885704090400	LIMANDA LIMANDA	NED	1970	1	WIL	11	16	49	45	
885704090400	LIMANDA LIMANDA	NED	1970	1	TRI	13	4	100	45	
885801080100	BUGLOSSIDIUM LUTEUM	FRA	2000	1	THA2	68	4	20	18	??
885801080100	BUGLOSSIDIUM LUTEUM	FRA	2000	1	THA2	68	4	21	18	
885801080100	BUGLOSSIDIUM LUTEUM	GFR	2001	1	WAH3	35	2	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	GFR	2005	1	WAH3	42	2	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1980	1	EXP	53	1	19	1	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1982	1	EXP	37	1	21	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1983	1	EXP	14	2	20	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1983	1	EXP	14	1	21	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1983	1	EXP	15	1	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1983	1	EXP	15	1	28	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1984	1	EXP	17	1	21	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1984	1	EXP	17	1	22	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1991	1	SCO2	47	2	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1991	3	SCO2	53	1	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1991	3	SCO2	54	1	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1992	1	SCO2	43	3	21	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1992	2	SCO2	51	1	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1992	2	SCO2	52	1	19	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1992	3	SCO2	66	2	20	18	
885801080100	BUGLOSSIDIUM LUTEUM	SCO	1993	3	SCO2	72	2	19	18	

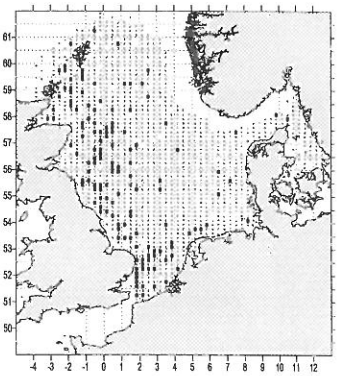
4.1 Recommendations

All institutes should check their records exceeding the maximum length and correct if necessary and possible.

58	20	36	15
59	14	23	23
60	16	18	8
61	10	18	10
62	6	40	6
63	10	27	10
64	6	10	5
65	2	18	7
66	.	15	8
67	.	6	5
68	2	18	12
69	.	18	6
70	2	28	7
71	.	14	5
72	2	14	10
73	4	14	6
74	4	14	5
75	.	10	9
76	4	28	11
77	.	19	8
78	.	19	4
79	2	17	8
80	6	32	8
81	.	10	.
82	2	10	12
83	2	22	13
84	2	15	8
85	.	20	6
86	2	10	4
87	2	21	4
88	.	9	4
89	2	13	4
90	.	17	10
91	2	16	2
92	.	16	6
93	.	18	6
94	.	2	4
95	.	13	14
96	.	6	4
97	.	6	2
98	.	4	2
99	.	12	4
100	2	18	4
101	.	4	4
102	.	2	2
103	.	2	.
110	2	.	2
113	.	2	.
115	.	2	.
117	.	2	2
118	.	.	2
132	.	.	2
145	.	2	.
151	.	.	2

Large numbers of extremely small *M. mustelus* have been reported. Given a size at birth of 35 cm, this appears to be totally irrealistic. For the remainder the size compositions of the two species largely overlap.

5.3 Presence–absence by species



Mustelus sp.

37	.	.	10	.	.	.	.	.
38	4	2	24	.	.	.	.	.
39	4	5	26	.	.	.	.	.
40	.	.	30	.	.	.	2	.
41	.	3	34	.	1	.	.	.
42	.	.	46	2	1	.	.	.
43	.	.	43	.	.	.	.	.
44	.	.	40	.	2	.	1	.
45	.	3	36	4	.	.	5	.
46	.	.	32	2	.	.	2	.
47	.	.	26	2	4	.	.	.
48	.	2	26	4	3	.	1	.
49	2	.	24	2	.	.	4	.
50	.	.	8	2	.	.	.	.
51	2	.	8	.	.	7	.	.
52	.	.	4	2	2	7	1	.
53	.	2	14	.	3	.	4	.
54	.	.	6	.	2	.	2	.
55	.	.	6	4	.	.	2	.
56	.	2	27	6	.	.	.	.
57	.	.	30	.	2	.	1	.
58	.	.	25	6	2	.	3	.
59	.	.	4	8	2	2	5	2
60	.	.	8	.	4	.	6	.
61	2	2	8	4	.	2	.	.
62	2	.	24	6	1	.	7	.
63	.	.	20	4	.	.	3	.
64	.	.	6	2	.	.	.	2
65	.	.	.	4	2	.	12	.
66	.	2	4	6	.	.	3	.
67	.	2	2	2	.	.	.	.
68	.	.	8	8	.	.	2	.
69	.	4	.	12	.	.	2	.
70	.	2	14	4	6	.	2	.
71	.	2	2	10	.	.	.	.
72	.	.	2	8	.	.	4	.
73	.	2	.	4	.	.	8	.
74	2	6	.	2	.	.	4	.
75	.	4	4	2	.	.	.	.
76	3	7	6	6	.	.	6	.
77	.	8	8	2	.	.	1	.
78	.	6	4	4	.	.	5	.
79	2	2	.	2	.	7	4	.
80	.	4	12	6	2	4	4	.
81	2	2	2	2	.	.	2	.
82	2	2	2	2	.	.	2	.
83	2	8	4	4	.	.	4	.
84	2	6	2	4	.	.	1	.
85	2	4	6	4	4	.	.	.
86	.	6	2	2	.	.	.	.
87	4	4	4	4	.	3	2	.
88	2	4	2	.	.	.	1	.
89	2	9	2	.	.	.	.	.
90	.	4	4	2	3	.	4	.
91	7	6	.	2	.	.	1	.
92	2	8	4	.	.	1	1	.
93	2	8	.	8	.	.	.	.
94	.	2	.	.	.	.	.	.
95	2	7	4	.	.	.	.	.
96	.	4	.	.	.	.	2	.
97	2	4	.	.	.	.	.	.
98	.	2	.	2	.	.	.	.
99	.	8	.	4	.	.	.	.
100	2	6	4	2	2	.	2	.
101	.	4	.	.	.	.	.	.
102	.	2	.	.	.	.	.	.
103	2	.	.	.	.	.	.	.
113	2	.	.	.	.	.	.	.
115	2	.	.	.	.	.	.	.
117	2	.	.	.	.	.	.	.
145	2	.	.	.	.	.	.	.

***M. mustelus* - 870802040900**

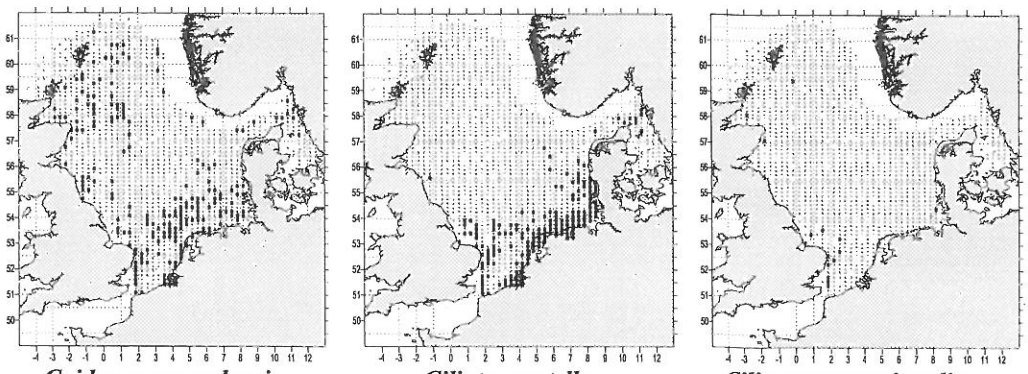
Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
3	8	.	.	.	.	.	.	.
4	4	.	.	.	.	.	.	.
5	56	.	.	.	.	.	.	.
6	12	.	.	.	.	.	.	.
7	2	.	.	.	.	.	.	.
8	2	.	.	.	.	.	.	.
9	4	.	.	.	.	.	.	.
11	4	.	.	.	.	.	.	.
13	4	.	.	.	.	.	.	.
28	.	2	.	.	.	.	.	.
30	.	4	.	.	.	.	.	.
31	.	.	.	.	2	.	.	.

Country	year	870802040000 *Mustelus*	870802040800 *M. asterias*	870802040900 *M. mustelus*	comments
DEN	1992	.	8	.	
DEN	1998	.	.	6	
DEN	1999	.	24	.	
DEN	2000	.	.	38	
DEN	2001	.	.	84	
DEN	2002	.	2	24	
DEN	2003	.	18	6	
DEN	2004	.	10	4	
DEN	2005	.	10	2	
ENG	1984	.	.	4	
ENG	1991	.	9	.	
ENG	1992	.	16	2	
ENG	1993	.	14	8	
ENG	1994	.	25	2	
ENG	1995	.	2	.	
ENG	1996	.	30	2	
ENG	1997	.	24	6	
ENG	1998	.	2	6	
ENG	1999	.	2	.	
ENG	2000	.	2	14	
ENG	2001	.	2	.	
ENG	2002	.	56	.	
ENG	2003	.	14	2	
ENG	2005	.	26	.	
FRA	1990	.	.	8	
FRA	1991	.	.	4	
FRA	1992	.	.	16	
FRA	1993	30	.	30	
FRA	1994	214	82	108	
FRA	1995	.	14	117	
FRA	1996	.	30	68	
FRA	1997	.	.	2	
FRA	1998	.	32	.	
FRA	1999	.	297	.	
FRA	2000	.	6	10	
FRA	2001	.	22	.	
FRA	2002	.	48	6	
FRA	2003	.	124	4	
FRA	2004	.	50	.	
FRA	2005	.	26	.	
GFR	1990	.	.	2	
GFR	1991	.	4	.	
GFR	1992	.	.	4	
GFR	1994	.	4	.	
GFR	1996	.	.	6	
GFR	1997	.	2	.	
GFR	1998	.	4	.	
GFR	1999	.	.	10	
GFR	2000	.	4	.	
GFR	2001	.	26	.	
GFR	2002	.	26	4	
GFR	2003	.	20	.	
GFR	2004	.	52	6	
GFR	2005	.	42	8	
NED	1978	.	.	2	
NED	1992	.	14	6	
NED	1993	.	6	10	
NED	1994	4	.	.	
NED	1995	.	.	2	
NED	1997	.	6	.	
NED	1998	.	6	.	
NED	1999	.	6	.	
NED	2002	.	4	.	
NED	2003	.	1	.	
NED	2004	.	1	.	
NED	2005	.	4	.	
NOR	1996	.	24	.	
NOR	1997	.	4	12	
NOR	2001	.	2	.	
NOR	2004	.	3	.	
SCO	1971	.	1	.	
SCO	1976	.	.	1	
SCO	1988	.	.	12	
SCO	1991	.	.	1	
SCO	1992	.	2	.	
SCO	1993	.	4	1	
SCO	1994	.	1	.	

Size Class	879103200000 *Gaidropsarus*	879103200100 *G. vulgaris*	879103200200 *G. mediterraneus*	879103200400 *G. argentatus*	879103240100 *Ciliata mustella*	879103240200 *C. septemtrionalis*
2	.	2	.	.	.	.
3	.	4	.	.	.	.
4	.	2	.	.	2	.
5	.	.	.	.	5	1
6	1	4	.	.	9	5
7	.	16	.	.	34	12
8	.	39	.	.	82	20
9	.	43	.	.	108	31
10	1	28	.	.	78	10
11	.	8	.	.	59	8
12	.	18	.	.	82	2
13	1	19	.	.	118	4
14	1	47	.	.	142	1
15	6	46	.	.	92	2
16	7	103	.	.	146	.
17	6	116	2	.	127	.
18	15	139	.	.	85	.
19	4	167	.	.	78	.
20	13	140	2	.	76	.
21	12	113	.	.	121	.
22	8	75	6	.	42	.
23	.	71	2	.	27	.
24	3	40	.	6	11	.
25	1	31	2	.	10	.
26	1	33	.	.	.	.
27	1	13	2	.	2	.
28	.	16	2	.	.	.
29	.	.	2	.	.	.
30	.	4	.	.	.	.
33	.	1	.	.	.	.
34	.	2	.	.	.	.
35	.	1	.	.	.	.
36	.	6	.	.	.	.
38	.	2	.	.	.	.
39	.	4	.	.	.	.
41	.	2	.	.	.	.
44	.	2	.	.	.	.
46	.	3	.	.	.	.
47	.	1	.	.	.	.
53	.	.	.	.	2	.

The threebearded rockling *(Gaidropsarus vulgaris)* is known to grow up to 55 cm, the shore rockling *(G. mediterraneus)* to 25 cm. the bigeye rockling *(G. macrophthalmus)* to 10 cm and the Arctic rockling *(G. argentatus)* to 30 cm, while the five-bearded rockling *(Ciliata mustella)* may reach 30 cm, and the northern rockling *(Ciliata septemtrionalis)* has a maximum length of 18 cm. Judging the length-frequency distributions of these species, most recordings of the six species are within their size range. However, three specimens of the 20 *G. mediterraneus* reported were larger than the reported maximum size of the species and should be considered as misidentifications.

6.3 Presence-absence by species



Gaidropsarus vulgaris ***Ciliata mustella*** ***Ciliata septemtrionalis***

Three-bearded rockling *(G. vulgaris)* is mainly distributed in the southern and northwestern North Sea, and hardly occurs in the central North Sea, nor in the Skagerrak/Kattegat. The five-bearded rockling *(C. mustela)* is restricted to the southern North Sea. The northern rockling

19	.	68	7	10	34	40	8	.
20	.	80	4	4	10	36	6	.
21	5	42	2	2	2	43	17	.
22	.	26	.	4	.	37	8	.
23	.	12	4	2	5	43	5	.
24	.	4	4	.	2	20	10	.
25	.	4	.	.	6	10	11	.
26	5	2	.	.	2	14	10	.
27	5	.	.	2	.	.	6	.
28	.	2	.	.	2	12	.	.
30	.	.	.	.	.	.	4	.
33	.	.	.	.	.	.	1	.
34	.	.	.	.	.	2	.	.
35	.	.	.	.	.	.	1	.
36	.	.	.	2	2	.	2	.
38	.	.	.	.	2	.	.	.
39	.	.	.	.	.	.	4	.
41	.	.	.	2	.	.	.	.
44	.	.	.	.	.	.	2	.
46	.	.	.	.	.	.	3	.
47	.	.	.	.	.	.	1	.

***G. mediterraneus* - 879103200200**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
17	.	.	.	2	.	.	.	.
20	.	.	.	2	.	.	.	.
22	.	.	.	6	.	.	.	.
23	.	.	.	2	.	.	.	.
25	.	.	.	2	.	.	.	.
27	.	.	.	2	.	.	.	.
28	.	.	.	2	.	.	.	.
29	.	.	.	2	.	.	.	.

***G. argentatus* - 879103200400**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
24	.	.	.	.	.	6	.	.
3	4	.	.	.	.	.	.	.

***Ciliata mustela* - 879103240100**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	.	2	.	.	.	.	.
5	.	2	2	.	.	.	1	.
6	.	4	2	.	3	.	.	.
7	4	2	24	.	4	.	.	.
8	6	4	32	.	38	.	.	2
9	.	18	46	6	33	.	1	4
10	4	10	24	2	32	.	.	6
11	2	4	8	2	39	.	.	4
12	16	12	29	6	19	.	.	.
13	.	16	27	22	33	.	.	20
14	.	23	32	14	70	.	1	2
15	2	20	30	6	32	.	.	2
16	.	28	29	8	81	.	.	.
17	8	16	37	2	62	.	.	2
18	3	5	32	8	37	.	.	.
19	4	11	34	4	25	.	.	.
20	.	8	17	2	47	.	.	2
21	.	4	14	.	103	.	.	.
22	.	10	16	2	14	.	.	.
23	.	6	14	.	7	.	.	.
24	.	2	4	2	3	.	.	.
25	.	2	2	2	4	.	.	.
27	.	.	.	.	2	.	.	.
53	.	.	.	.	2	.	.	.

***C.septemtrionalis* - 879103240200**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
5	.	.	.	.	.	.	1	.
6	.	4	.	.	1	.	.	.
7	.	2	2	.	8	.	.	.
8	.	2	10	.	7	.	1	.
9	.	4	20	.	7	.	.	.
10	.	4	4	.	2	.	.	.
11	.	.	.	.	8	.	.	.
12	.	.	.	.	1	.	1	.
13	.	.	.	.	4	.	.	.
14	.	.	.	.	1	.	.	.
15	.	2	.	.	.	.	.	.

6.6 Consistency in reporting within countries among years

The next table identifies the number of records by species, country and year:

Cntry	year	879103200000 *Gaidropsarus*	879103200100 *G. vulgaris*	879103200200 *G. mediterraneus*	879103200400 *G. argentatus*	879103240100 *Ciliata mustella*	879103240200 *C. septemtrionalis*	comments

NOR	1978	21	2	.	.	.	.
NOR	1982	.	2	.	.	.	.
NOR	1984	.	26	.	.	.	.
NOR	1986	.	2	.	.	.	.
NOR	1991	.	8	.	.	.	.
NOR	1992	.	95	.	.	.	.
NOR	1993	.	40	.	.	.	.
NOR	1995	.	14	.	6	.	.
NOR	1996	.	38	.	.	.	.
NOR	1999	.	92	.	.	.	.
NOR	2001	.	55	.	.	.	.
NOR	2005	.	4	.	.	.	.
SCO	1970	.	49	.	.	.	.
SCO	1973	.	33	.	.	.	.
SCO	1975	.	1	.	.	.	.
SCO	1976	.	.	.	.	1	.
SCO	1977	.	2	.	.	.	.
SCO	1978	.	1	.	.	.	.
SCO	1981	.	5	.	.	.	.
SCO	1982	1	.	.	.	.	.
SCO	1983	.	3	.	.	.	.
SCO	1984	.	2	.	.	1	1
SCO	1985	.	5	.	.	1	1
SCO	1987	.	1	.	.	.	.
SCO	1990	.	2	.	.	.	.
SCO	1996	.	.	.	.	.	1
SCO	1999	.	6	.	.	.	.
SCO	2000	.	12	.	.	.	.
SCO	2002	.	2	.	.	.	.
SWE	1993	.	4	.	.	.	.
SWE	1997	.	.	.	.	2	.
SWE	1999	.	.	.	.	6	.
SWE	2000	.	.	.	.	32	.
SWE	2005	.	.	.	.	4	.

The annual reports by country indicate large discrepancies in catch rates of the various species, jumping from large numbers for one species in one year and none for the others to the reverse situation next year. We suggest that this is a crew effect. In the case of Holland, we have only quite recently learned to properly distinguish *C. septemtrionalis* from *G. vulgaris* and many of the older identifications of the latter may in fact refer to *C. septemtrionalis*. Given the apparent problems in this group, we also somewhat mistrust the single records of *G. macrophthalmus* and *G. argentatus*.

6.7 Proposed corrections

The data suggest that not only have species been misidentified within the two genus, but also among genus. Therefore, it is not easy to come up with a proper correction procedure, but because *C. mustela* appears to be far the most abundant species in these surveys, we suggest to replace all species by *Ciliata* sp. In the DATRAS data base, unless countries can ensure that recent identifications have been correct.

6.8 Recommendation:

This group clearly needs careful consideration and the IBTS working group should take steps to ensure that future records are trustworthy, for instance by freezing all rocklings caught or exchange photographs of each catch.

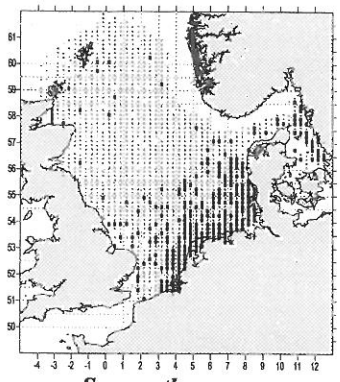
Meanwhile members of the group should be asked to carefully consider their recent records and indicate where they are trustworthy and change the record otherwise to 164778 (*Ciliata* sp.).

7 *Syngnathus* – Pipefish

7.1 Coding

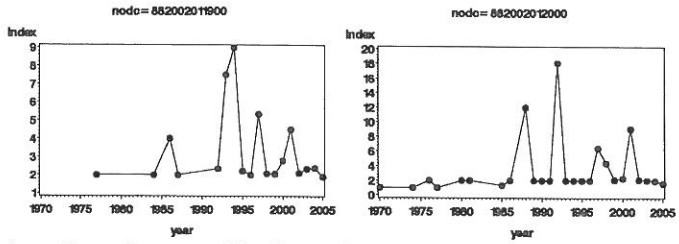
DATRAS records 3 species (Greater pipefish - *Syngnathus acus*; Nilsson's pipefish - *S. rostellatus*; Deep-snouted pipefish - *S. typhle*) as well as the genus unspecified (*Syngnathus*). The following codes have been used:

Latin name	tsn-code	NODC	Synonym



Syngnathus sp.

7.4 Trends in abundance



Annual catch rates of both species fluctuate widely from year to year, but oddly, at some points the peaks seem to switch by subsequent years. Catches of *S. rostellatus* are high in 1986, 1993 and 1994, while *S. acus* shows high peaks in 1987 and 1992. Both species have a moderate peak in 1997 and 2001. These findings may indicate inaccurate determinations and probably small *S. acus* has been mistaken for by *S. rostellatus*.

7.5 Consistency in reporting among countries

(NB. the catches refer to numbers-per-hour-fishing; because most hauls have a duration of 30 minutes, the numbers are often multiples of 2!):

***Syngnathus* - 882002010000**

LngtClass	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE	comments
12	.	.	2	.	.	.	.	.	
13	.	.	4	.	.	.	.	.	
24	.	.	2	.	.	.	.	.	probably *S. acus*

***S. rostellatus* - 882002011900**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
5	.	6	.	.	.	.	.	.
6	.	4	.	4	11	.	.	.
7	.	32	.	5	9	.	.	.
8	.	80	.	23	30	.	.	.
9	.	144	.	36	62	.	.	2
10	.	86	.	51	194	.	.	48
11	.	52	4	48	132	.	.	10
12	.	56	.	65	65	.	.	16
13	.	22	.	34	79	.	.	26
14	.	4	.	18	9	.	.	10
15	.	4	.	8	18	.	.	2
16	.	2	.	.	2	.	.	.
17	.	.	.	.	2	.	.	.
26	.	.	.	2	.	.	.	.

probably *S. acus*

***S. acus* - 882002012000**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
7	.	.	.	.	3	.	.	.
8	.	.	11	.	20	.	.	.
9	.	.	.	2	145	.	.	.
10	.	2	.	2	505	.	.	.
11	.	.	.	2	58	.	1	.
12	.	.	2	4	14	.	.	.
13	.	8	.	.	9	.	.	.
14	.	2	3	.	12	.	.	3
15	.	2	.	2	4	.	.	22
16	.	.	2	.	2	.	.	2

NED	1980	.	.	2
NED	1981	.	.	2
NED	1988	.	.	12
NED	1990	.	.	4
NED	1991	.	.	4
NED	1992	.	.	488
NED	1993	.	36	2
NED	1994	.	48	2
NED	1995	.	6	.
NED	1997	.	4	204
NED	1998	.	2	112
NED	1999	.	14	.
NED	2000	.	2	.
NED	2001	.	2	.
NED	2002	.	4	2
NED	2003	.	122	.
NED	2004	.	348	.
NED	2005	.	23	15
SCO	1974	.	.	1
SCO	1985	.	.	4
SCO	1986	.	.	2
SWE	1977	.	.	1
SWE	1991	.	.	2
SWE	1992	.	.	6
SWE	1993	.	.	6
SWE	1996	.	10	4
SWE	1997	.	58	4
SWE	1998	.	2	18
SWE	1999	.	2	6
SWE	2000	.	6	18
SWE	2001	.	.	20
SWE	2002	.	.	10
SWE	2003	.	20	17
SWE	2004	.	8	10
SWE	2005	.	8	16

Except for 2003, England has determined all *Syngnathus* species to be either *S. rostellatus* or *S. acus* in alternating years, which we consider to be at least suspicious. Even more fishy is the inconsistency in determination of pipefish by the Netherlands throughout the years: before 1993 almost all were identified as *S. acus*, and since then high amounts of either one of the species were found in the years 1997-1998 and 2003-2004.
These findings plead (again) for a more precise determination of *Syngnathus* species in the future.

7.7 Proposed corrections

Country	year	Q	ship	haulno	lngtclass	hlnoatlngt	*change* speccode	*into* speccode
FRA	2005	1	THA	23	24	2	166444	166464
GFR	1993	1	WAH	59	26	2	166463	166464

7.8 Recommendation:

In the view of the observed inconsistency in records of pipefish, in particular the smaller sizes, participants in the IBTS should in the future count the rings of both *S. rostellatus* and *S. acus* using a stereo-microscope for clear determination; *S. rostellatus* has 13-17 rings before the anal opening, *S. acus* 17-21. All records for specimens <17 cm in the DATRAS data base should be changed to TSN code 166444 (*Sygnathus* sp.)

8 *Triglidae* – Gurnards

8.1 Coding

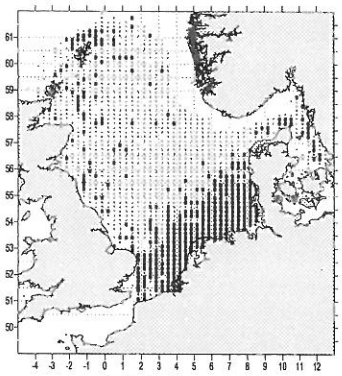
DATRAS records in the section North Sea IBTS four species that belong to four different genera within the family of gurnards *(Triglidae)*, namely *Trigla lucerna* (tub gurnard), *Eutrigla gurnardus* (grey gurnard), *Trigloporus lastoviza* (streaked gurnard) and *Aspitrigla cuculus* (red gurnard). Unspecified genera have not been recorded.

Latin name	tsn-code	NODC	Synonym
Triglidae	166972	882602000000	
Trigla lucerna	167039	882602050100	

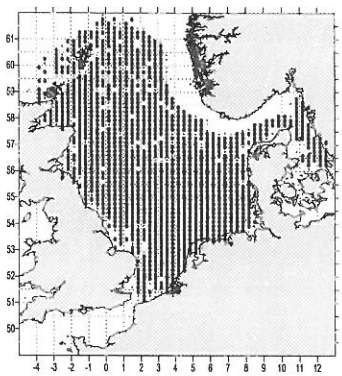
25	298	237	125495	.	399
26	173	241	103417	.	320
27	126	236	90690	.	244
28	137	269	78008	.	235
29	60	208	62712	.	188
30	33	154	50076	.	127
31	48	172	43851	.	111
32	31	121	33026	.	104
33	20	92	24904	.	79
34	13	101	18768	.	42
35	2	73	11662	.	25
36	13	109	9154	.	13
37	15	65	6334	.	8
38	1	49	4239	.	13
39	2	39	2561	.	.
40	.	39	1223	.	1
41	1	42	687	.	.
42	1	24	377	.	.
43	1	16	243	.	1
44	1	16	81	.	.
45	.	24	39	.	.
46	.	14	23	.	.
47	.	19	16	.	.
48	.	4	6	.	.
49	.	13	6	.	.
50	.	8	.	.	.
51	.	6	.	.	.
52	.	2	.	.	.
53	.	4	.	.	.
54	.	2	.	.	.

According to Whitehead *et al.* (1986) *Trigla lucerna* may grow up to 75 cm, *Eutrigla gurnardus* up to 50 cm, *Trigloporus lastoviza* up to 40 cm, and *Aspitrigla cuculus* up to 50 cm. Judging the length-frequency distribution, all records are within the size ranges of the species.

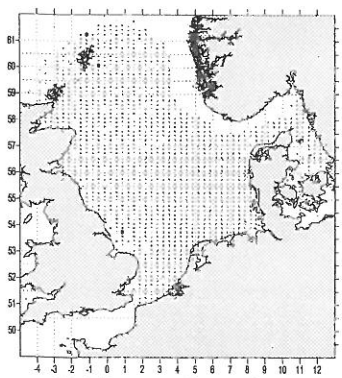
8.3 Presence–absence by species



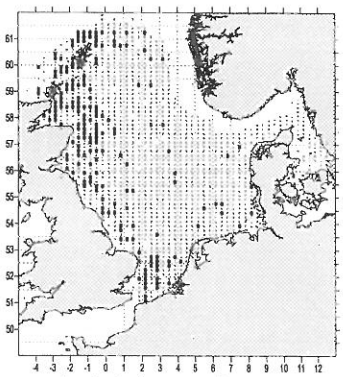
Trigla lucerna



Eutrigla gurnardus



Trigloporus lastoviza



Aspitrigla cuculus

Most common gurnard in the North Sea is *E. gurnardus* and it is spread throughout the entire area. *T. lucerna* is common in the southeastern parts of the North Sea, while *A. cuculus* is

Trigla lucerna **882602050100**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	2	.	.	.	.	.	.
5	.	2	.	.	.	.	.	.
6	2	6	.	.	2	.	1	.
7	2	6	.	.	.	5	.	2
8	4	2	.	.	.	.	.	2
9	4	6	.	.	45	.	.	3
10	10	2	.	.	48	.	.	8
11	10	14	4	.	214	2	.	6
12	12	4	.	.	36	8	.	7
13	2	12	4	2	172	4	4	11
14	2	14	2	.	52	25	2	3
15	.	10	.	12	326	51	2	3
16	2	16	6	2	396	47	.	2
17	10	14	6	.	82	32	.	2
18	8	18	2	2	62	139	2	10
19	11	12	2	10	30	154	2	7
20	.	24	4	31	36	104	2	5
21	10	26	12	36	64	78	2	1
22	20	16	18	24	52	65	2	5
23	20	44	49	26	152	58	7	7
24	14	57	33	45	62	20	4	2
25	29	60	21	28	75	11	8	5
26	22	50	46	20	81	2	4	16
27	17	50	53	14	84	3	9	6
28	34	50	29	38	94	2	5	17
29	27	47	31	22	74	.	3	4
30	10	22	12	22	62	8	7	11
31	2	42	16	24	86	.	.	2
32	11	29	13	6	54	2	4	2
33	.	31	6	8	38	.	5	4
34	8	24	8	17	36	2	2	4
35	14	12	2	20	22	.	3	.
36	44	17	12	10	20	.	4	2
37	4	19	8	4	24	.	6	.
38	6	9	4	2	20	.	4	4
39	2	14	11	2	4	.	4	2
40	4	9	6	8	10	.	.	2
41	2	16	2	4	16	.	2	.
42	4	8	.	2	10	.	.	.
43	2	2	2	2	8	.	.	.
44	4	4	.	2	6	.	.	.
45	.	10	.	10	4	.	.	.
46	2	6	.	2	2	.	2	.
47	4	7	.	4	4	.	.	.
48	.	2	.	2	.	.	.	.
49	.	5	4	.	4	.	.	.
50	.	.	.	2	6	.	.	.
51	2	2	.	2	.	.	.	.
52	.	.	2	.	.	.	.	.
53	.	.	4	.	.	.	.	.
54	.	.	.	.	2	.	.	.

Eutrigla gurnardus **882602060100**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
2	.	.	.	.	.	2	.	.
3	.	.	.	4	4	4	1	.
4	14	10	.	4	.	2	12	2
5	27	12	26	28	.	11	29	15
6	131	64	44	78	10	19	97	71
7	327	99	89	190	134	98	264	247
8	586	158	270	328	442	162	392	720
9	1025	286	480	437	958	150	430	1290
10	1655	442	761	520	1158	192	605	1825
11	2358	819	955	662	803	266	876	2263
12	3500	1491	1387	1171	1219	538	1461	2472
13	3429	2904	1440	2721	1552	779	2735	2227
14	6102	4701	2004	4521	2237	1008	4838	2257
15	13131	7782	4341	10409	3860	1602	7887	3383
16	25162	12761	8785	19435	10761	3703	12189	5477
17	35875	18588	13535	29216	18287	6685	17940	5602
18	42013	25349	15621	37164	23356	8740	25591	4999
19	47024	29890	17659	40149	30419	10992	29654	3647
20	50810	31801	20348	46939	28165	14060	31544	2573
21	45453	33512	20324	46140	27097	12416	29199	2114
22	43758	29164	18329	49705	25937	12288	25649	1741
23	36140	25601	17231	41648	22101	10244	21143	1268
24	31340	22227	14679	37245	21246	8314	17424	838
25	24839	18320	11424	36101	13398	6786	14077	550
26	18410	14201	9718	30195	14687	4777	11043	385
27	17379	11707	8799	25476	12973	4385	9663	307
28	16018	9564	6350	22121	11965	3937	7821	232
29	11955	9012	4818	17978	9404	2642	6781	121
30	10165	7186	3981	14462	6501	2370	5291	119
31	9815	6395	2955	11946	6150	1935	4580	75

		Triglidae	*Trigla lucerna*	*Eutrigla gurnardus*	*Trigloporus lastoviza*	*Aspitrigla cuculus*
DEN	1973	.	.	748	.	.
DEN	1974	.	.	448	.	.
DEN	1985	.	.	806	.	.
DEN	1986	.	.	496	.	.
DEN	1987	.	.	121	.	.
DEN	1988	.	26	569	.	.
DEN	1989	.	.	1714	.	.
DEN	1990	.	.	1467	.	.
DEN	1991	.	6	15562	.	.
DEN	1992	.	.	28496	.	.
DEN	1993	.	.	28949	.	.
DEN	1994	.	.	64831	.	.
DEN	1995	.	.	54242	.	.
DEN	1996	.	.	36074	.	.
DEN	1997	.	.	35670	.	.
DEN	1998	.	93	37479	.	.
DEN	1999	.	72	28938	.	.
DEN	2000	.	44	28388	.	.
DEN	2001	.	26	36208	.	.
DEN	2002	.	26	23202	.	.
DEN	2003	.	32	37876	.	.
DEN	2004	.	20	19130	.	.
DEN	2005	.	52	39540	.	.
ENG	1977	.	.	1	.	.
ENG	1982	.	.	1261	.	.
ENG	1983	.	.	2234	.	.
ENG	1984	.	.	26505	.	.
ENG	1985	.	.	3887	.	.
ENG	1986	.	.	10028	.	.
ENG	1987	.	.	4485	.	.
ENG	1988	.	4	2649	.	.
ENG	1989	.	2	2722	.	.
ENG	1990	.	.	5410	.	2
ENG	1991	.	149	26131	.	58
ENG	1992	.	104	27105	.	26
ENG	1993	.	76	17979	.	8
ENG	1994	.	42	24639	.	4
ENG	1995	.	42	25263	.	2
ENG	1996	.	30	17859	.	22
ENG	1997	.	70	10676	.	.
ENG	1998	.	14	11545	.	2
ENG	1999	.	42	14666	.	2
ENG	2000	.	12	12399	.	2
ENG	2001	.	70	27428	.	4
ENG	2002	.	64	26208	.	8
ENG	2003	.	51	20730	.	10
ENG	2005	.	82	18809	.	20
FRA	1985	128	62	2214	.	.
FRA	1986	.	.	2004	.	234
FRA	1987	.	.	6588	.	50
FRA	1988	2508	.	411	.	.
FRA	1989	.	.	1349	.	12
FRA	1990	105	4	3663	.	120
FRA	1991	12	.	7673	.	4
FRA	1992	74	44	11579	.	44
FRA	1993	8	117	10300	.	14
FRA	1994	2	89	8078	.	35
FRA	1995	.	16	21160	8	18
FRA	1996	.	51	17740	.	30
FRA	1997	.	.	3429	.	2
FRA	1998	.	6	5541	.	.
FRA	1999	.	.	6338	.	.
FRA	2000	.	.	9571	.	4
FRA	2001	.	.	20368	.	4
FRA	2002	.	.	20514	.	2
FRA	2003	.	12	21503	.	10
FRA	2004	.	15	11811	.	8
FRA	2005	.	18	22408	.	4
GFR	1977	.	2	2245	.	.
GFR	1978	.	.	731	.	.
GFR	1979	.	.	537	.	.
GFR	1981	.	.	44337	.	.
GFR	1982	.	.	72	.	.
GFR	1983	.	2	1837	.	.
GFR	1984	.	.	12	.	.
GFR	1985	.	6	2685	.	.
GFR	1986	.	6	10752	.	.
GFR	1987	.	8	3701	.	.
GFR	1988	.	2	2116	.	.
GFR	1989	.	.	5970	.	.
GFR	1990	.	18	15689	.	.
GFR	1991	.	2	21038	.	22

SCO	1970	.	.	2259	.	.
SCO	1971	3	.	231	.	1
SCO	1972	.	.	223	.	.
SCO	1973	.	.	700	.	1
SCO	1974	.	.	2055	.	.
SCO	1975	.	.	651	.	4
SCO	1976	.	1	1912	.	.
SCO	1977	2213	.	1	.	1
SCO	1978	3	1	6963	.	12
SCO	1979	1	1	508	.	2
SCO	1980	.	.	413	.	35
SCO	1981	3	.	1924	.	.
SCO	1982	412	.	365	.	.
SCO	1983	.	.	2802	.	.
SCO	1984	.	.	2791	.	1
SCO	1985	.	.	701	.	2
SCO	1986	.	.	1127	.	15
SCO	1987	.	.	462	.	6
SCO	1988	.	.	651	.	.
SCO	1989	.	.	5144	.	7
SCO	1990	.	.	4568	.	13
SCO	1991	.	.	12458	.	187
SCO	1992	.	.	17757	.	45
SCO	1993	.	1	14922	.	170
SCO	1994	.	3	13594	.	20
SCO	1995	.	.	7777	.	13
SCO	1996	.	1	18236	.	26
SCO	1997	.	.	14309	.	33
SCO	1998	.	2	20909	.	234
SCO	1999	.	22	35396	.	586
SCO	2000	.	14	19689	.	238
SCO	2001	.	6	13903	.	214
SCO	2002	.	10	22146	.	88
SCO	2003	.	14	17117	.	332
SCO	2004	.	10	18493	.	536
SCO	2005	.	16	18925	.	204
SWE	1972	.	72	.	.	.
SWE	1974	.	.	59	.	.
SWE	1975	.	2	76	.	.
SWE	1976	.	.	74	.	.
SWE	1977	.	.	75	.	.
SWE	1978	.	.	229	.	.
SWE	1979	.	.	662	.	.
SWE	1980	.	.	36	.	.
SWE	1981	.	.	394	.	.
SWE	1982	.	.	279	.	.
SWE	1983	.	.	198	.	.
SWE	1984	.	.	278	.	.
SWE	1985	.	.	128	.	.
SWE	1986	.	.	159	.	.
SWE	1987	.	.	324	.	.
SWE	1988	.	.	156	.	.
SWE	1989	.	.	693	.	.
SWE	1990	.	.	1566	.	.
SWE	1991	.	6	5050	.	.
SWE	1992	.	24	3706	.	.
SWE	1993	.	.	4343	.	.
SWE	1994	.	2	3730	.	.
SWE	1995	.	.	2409	.	.
SWE	1996	.	.	1175	.	.
SWE	1997	.	.	860	.	.
SWE	1998	.	.	1307	.	.
SWE	1999	.	2	3579	.	.
SWE	2000	.	2	2154	.	.
SWE	2001	.	7	1747	.	.
SWE	2002	.	.	1681	.	.
SWE	2003	.	8	1292	.	.
SWE	2004	.	12	1889	.	.
SWE	2005	.	30	6684	.	.

It seems plausible that the high Scottish records of *Triglidae* in 1977 and 1982 (and the French in 1988) were *E. gurnardus*, taking into account the numbers of *E. gurnadus* reported in the adjoining years.

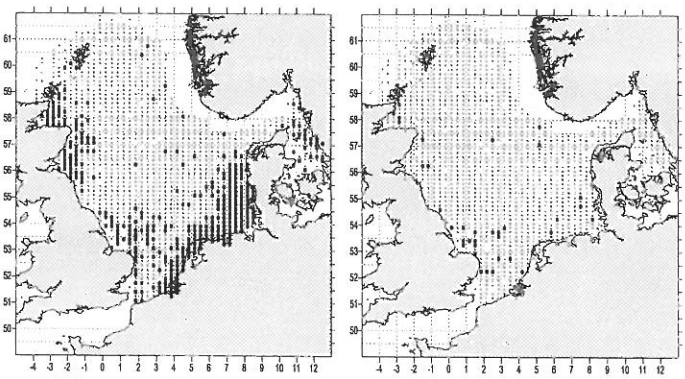
8.7 Proposed corrections

We suggest that for community analyses, the catches reported as *Triglidae* are redistributed among the various species according to the species composition of catches of other countries fishing in the same year and rectangle. Species identification appears to be satisfactory.

25	.	701	78
26	.	549	40
27	.	380	34
28	.	240	8
29	.	97	5
30	.	51	4
31	.	27	4
32	.	30	.
33	.	4	.
34	.	10	.
35	.	9	.
37	.	2	.

The reported maximum size of *M. scorpius* is 60 cm and for *T. bubalis* 17 cm. It follows that the reports for the latter are suffering from a serious identification problem.

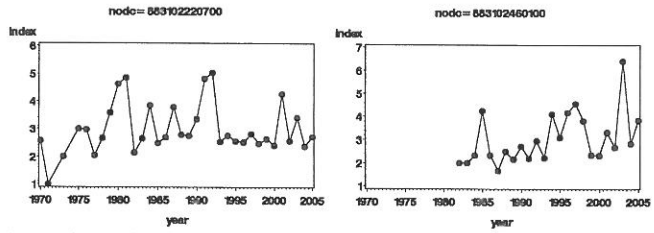
9.3 Presence-absence by species



Myoxocephalus scorpius *Taurulus bubalis*

The bullrout is mainly distributed in waters <50m along the continental and British coast and in the Kattegat. The sea scorpion is rather rare.

9.4 Trends in abundance



Annual catch rates of both species fluctuate widely from year to year, but both *T. bubalis* (right) appears to have increased in abundance over the survey period.

9.5 Consistency in reporting among countries

(NB. the catches refer to numbers-per-hour-fishing; because most hauls have a duration of 30 minutes, the numbers are often multiples of 2):

Myoxocephalus - **883102220000**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE	comments
18	.	.	.	.	96	.	.	.	

Myoxocephalus scorpius - **883102220700**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	16	4	.	4	.	.	.
5	22	14	8	.	.	.	.	.
6	25	48	10	.	32	.	.	.
7	53	48	16	4	69	.	1	4
8	114	54	54	18	157	.	5	2
9	113	38	96	45	239	.	2	4
10	83	44	172	42	281	.	7	6

DEN	1998	.	133	.
DEN	1999	.	75	6
DEN	2000	.	68	.
DEN	2001	.	152	.
DEN	2002	.	14	.
DEN	2003	.	104	.
DEN	2004	.	109	.
DEN	2005	.	108	.
ENG	1982	.	20	2
ENG	1983	.	86	4
ENG	1984	.	.	48
ENG	1985	.	126	90
ENG	1986	.	199	30
ENG	1987	.	584	18
ENG	1988	.	118	16
ENG	1989	.	130	10
ENG	1990	.	158	56
ENG	1991	.	125	.
ENG	1992	.	42	.
ENG	1993	.	8	2
ENG	1994	.	10	19
ENG	1995	.	14	.
ENG	1996	.	32	.
ENG	1997	.	70	.
ENG	1998	.	32	.
ENG	1999	.	16	.
ENG	2000	.	4	.
ENG	2001	.	82	2
ENG	2002	.	36	6
ENG	2003	.	263	76
ENG	2005	.	18	.
FRA	1992	.	.	22
FRA	1993	.	.	14
FRA	1994	.	.	167
FRA	1995	.	.	384
FRA	1996	.	.	452
FRA	1997	.	.	555
FRA	1998	.	.	737
FRA	1999	.	.	124
FRA	2000	.	.	112
FRA	2001	.	741	54
FRA	2002	.	170	132
FRA	2003	.	824	471
FRA	2004	.	610	12
FRA	2005	.	492	90
GFR	1977	.	6	.
GFR	1979	.	6	.
GFR	1985	.	6	.
GFR	1986	.	147	.
GFR	1987	.	20	.
GFR	1989	.	2	4
GFR	1990	.	18	.
GFR	1991	.	22	2
GFR	1992	.	558	28
GFR	1993	.	8	.
GFR	1994	.	218	.
GFR	1995	.	76	.
GFR	1996	.	35	.
GFR	1997	.	120	.
GFR	1998	.	357	.
GFR	1999	.	55	.
GFR	2000	.	40	.
GFR	2001	.	47	.
GFR	2002	.	90	.
GFR	2003	.	20	.
GFR	2004	.	26	.
GFR	2005	.	42	.
NED	1970	.	34	.
NED	1973	.	12	.
NED	1975	.	17	.
NED	1976	.	182	.
NED	1977	.	40	.
NED	1978	.	20	.
NED	1979	.	50	.
NED	1980	.	118	.
NED	1981	.	314	.
NED	1982	.	16	.
NED	1983	.	182	.
NED	1984	.	860	.
NED	1985	.	382	.
NED	1986	.	824	.
NED	1987	.	1156	.

9.7 Proposed corrections

Altogether, only the Dutch species identifications after 1977 appear to be trustworthy, and possibly those by England and France after 2001 and 2003. For all other country-year combinations, all fish >17 cm should be labeled as *M. scorpius* (TSN 167311) and all fish ≤17 cm as *Myoxocephalus* sp. (TSN 167311). In addition, *M. scorpioides* should be changed to *M. scorpius* and *T. lilljeborgi* to *T. bubalis*.

9.8 Recommendation:

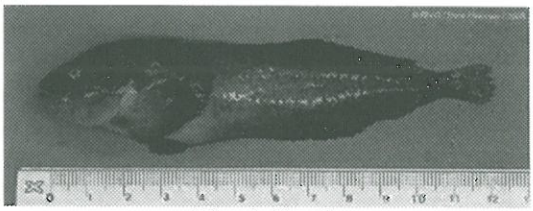
Countries should certify correct identification of this group.

10 *Liparis* – Seasnails

10.1 Coding

The ICES data-base describes many species that belong to the genus *Liparis*, but only two species have been reported in the North Sea IBTS section of DATRAS, namely *Liparis liparis* (striped seasnail) and *Liparis montagui* (Montagu's seasnail). The unspecified genus name *(Liparis spec.)* has also been reported.

Latin name	tsn-code	NODC	Synonym
Liparis	**167550**	**883109080000**	
Liparis liparis	**167578**	**883109082800**	
Liparis montagui	**167581**	**883109083100**	



Liparis liparis

Liparis montagui

The easiest way to identify the two species is by looking at the anal fin: the anal fin of *L. liparis* overlaps one-quarter to one-half of the caudal fin, while the anal fin of *L. montagui* reaches only the base of the caudal fin.

10.2 Length-frequency distribution:

Size Class	883109080000 *Liparis*	883109082800 *L. liparis*	883109083100 *L. montagui*	comments
3	.	4	.	
4	.	8	6	
5	6	56	8	
6	28	168	10	
7	79	439	30	
8	46	706	17	
9	36	538	6	
10	24	367	6	
11	24	274	6	
12	43	269	10	
13	12	284	20	
14	10	281	22	
15	.	107	28	
16	.	11	.	
17	.	2	.	
18	.	2	.	
19	.	2	.	
32	.	2	.	
35	.	2	.	

The striped seasnail *(L. liparis)* is known to grow up to 18 cm, while *L. montagui* can reach sizes up to 10 cm. Therefore, we may assume that the recordings of size 11 cm or more for

4	.	6	.	.	2	.	.	.
5	5	18	.	8	22	.	3	.
6	12	58	20	32	28	.	14	4
7	65	168	76	48	64	4	8	6
8	58	290	197	28	127	.	6	.
9	22	214	116	22	162	.	2	.
10	4	118	126	6	111	.	2	.
11	7	82	108	.	74	.	3	.
12	2	56	147	2	62	.	.	.
13	.	36	184	6	58	.	.	.
14	6	18	174	8	75	.	.	.
15	.	6	78	4	19	.	.	.
16	.	.	8	.	3	.	.	.
17	.	.	2	.	.	.	.	.
18	.	.	.	2	.	.	.	.
19	.	.	2	.	.	.	.	.
32	.	.	.	.	2	.	.	.
35	.	.	.	.	2	.	.	.

***L. montagui* - 883109083100**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	2	.	.	.	.	2	2
5	.	2	4	.	2	.	.	.
6	2	2	2	.	4	.	.	.
7	8	2	6	.	12	.	2	.
8	6	.	2	2	4	.	.	3
9	4	.	.	.	.	.	.	2
10	4	.	2	.	.	.	.	.
11	.	.	6	.	.	.	.	.
12	.	2	8	.	.	.	.	.
13	.	.	20	.	.	.	.	.
14	.	.	22	.	.	.	.	.
15	.	.	28	.	.	.	.	.

Germany and England are just about the only countries that have reported seasnail by the unspecified genus name. From the following table is visible that these data are all from years in which the seasnail was not recorded by species, just by genus. We may therefore safely assume that these all refer to *L. liparis*.

France is the main country reporting 'oversized' *Liparis montagui* and it is strongly recommended that in the future care will be taken into determining the seasnail.

The Netherlands have reported catches of *L. liparis* of lengths 32 and 35 cm, which is impossible. These records should be changed into 'unknown size', although possibly the species is an input error and they were actually *Cyclopterus lumpus*.

10.6 Consistency in reporting within countries among years

The next table identifies the number of records by species, country and year:

Country	year	883109080000 *Liparis*	883109082800 *L. liparis*	883109083100 *L. montagui*	comments
DEN	1987	.	12	.	
DEN	1991	.	10	.	
DEN	1993	.	27	.	
DEN	1994	.	16	.	
DEN	1995	15	6	.	
DEN	1996	.	7	.	
DEN	1997	.	10	.	
DEN	1998	.	1	6	
DEN	1999	.	8	.	
DEN	2000	.	48	.	
DEN	2001	.	2	.	
DEN	2003	.	18	.	
DEN	2004	.	.	4	
DEN	2005	.	20	14	
ENG	1982	.	34	.	
ENG	1983	.	120	.	
ENG	1984	108	.	.	
ENG	1985	.	134	.	
ENG	1986	.	126	.	
ENG	1987	.	206	.	
ENG	1988	.	152	6	
ENG	1989	.	158	.	
ENG	1990	.	98	.	
ENG	1992	.	8	.	
ENG	1993	4	.	.	
ENG	1994	.	2	.	
ENG	1996	.	2	.	
ENG	1997	.	.	2	
ENG	2001	.	10	2	
ENG	2002	.	18	.	

these countries record by species. The relative abundance in years when France reported both species appears to be inconsistent with all other countries and all *L. montagui* over the Lmax should be changed to *L. liparis*.

10.7 Proposed corrections

Country	year	Q	ship	haulno	lngtclass	hlnoatlngt	*change* lngtclass	*into* lngtclass
NED	1994	2	TRI2	13	35	2	35	-9
NED	1997	1	TRI2	30	32	2	32	-9

Country	year	Q	ship	haulno	lngtclass	hlnoatlngt	*change* tsn	*into* tsn
ENG	2001	1	CIR	34	12	2	167581	167578
FRA	1999	1	THA2	3	12	4	167581	167578
FRA	1999	1	THA2	3	13	10	167581	167578
FRA	1999	1	THA2	3	14	8	167581	167578
FRA	1999	1	THA2	3	15	8	167581	167578
FRA	2000	1	THA2	43	14	2	167581	167578
FRA	2000	1	THA2	43	15	2	167581	167578
FRA	2002	1	THA2	68	12	2	167581	167578
FRA	2002	1	THA2	68	14	2	167581	167578
FRA	2002	1	THA2	68	15	2	167581	167578
FRA	2002	1	THA2	69	12	2	167581	167578
FRA	2002	1	THA2	69	13	10	167581	167578
FRA	2002	1	THA2	69	14	10	167581	167578
FRA	2002	1	THA2	69	15	16	167581	167578

The records for *Liparis* sp. should be changed to *L. liparis*.

10.8 Recommendation:

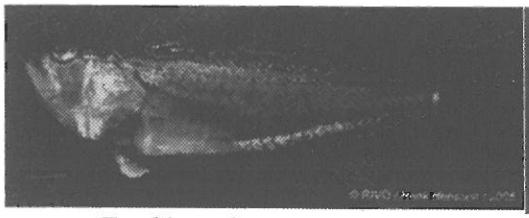
In order to avoid misidentifications in the future, we recommend strongly that the observers will be focused on correct determination of the species.

11 *Trachinus* – Weevers

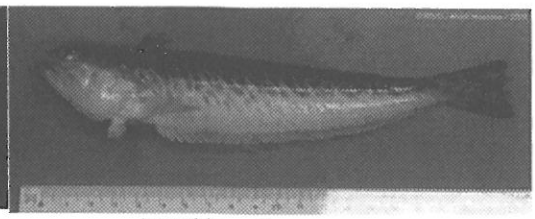
11.1 Coding

The ICES data-base knows fours species that belong to the genus *Trachinus*, namely *Trachinus araneus* (spotted weever), *Trachinus radiatus* (streaked weeverfish), *Trachinus draco* (greater weever), and *Trachinus vipera* (lesser weever). The first two species are restricted to the Mediterranean Sea and adjacent areas, and only the latter two are present in the North Sea.

Latin name	tsn-code	NODC	Synonym
Trachinus	**170990**	**884006010000**	
Trachinus vipera	**170991**	**884006010100**	***Echiichthys vipera***
Trachinus draco	**170992**	**884006010200**	

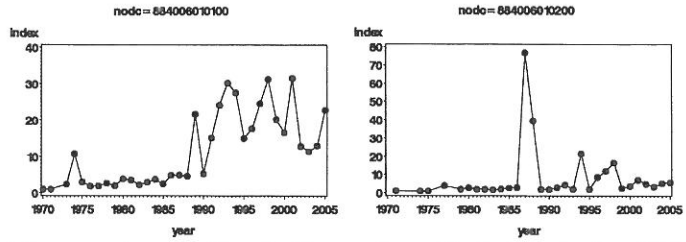


Trachinus vipera



Trachinus draco

Identification should not present a problem, The greater weever *(T. draco)* can be distinguished from the lesser weever *(T. vipera)* by having 2-3 small spines in front of each eye, the oblique lines crossing the sides and the much longer body.



After a serious decline in the southern North Sea in the 1960s, the catches of *T. draco* (884006010200) have been fairly stable throughout the years, with an exception of an extreme peak in Swedish catches in 1987-1988. The lesser weever (884006010100) is showing an increase in its catches since the late 1980s.

11.5 Consistency in reporting among countries

(NB. the catches refer to numbers-per-hour-fishing; because most hauls have a duration of 30 minutes, the numbers are often multiples of 2!):

***Trachinus vipera* - 884006010100**

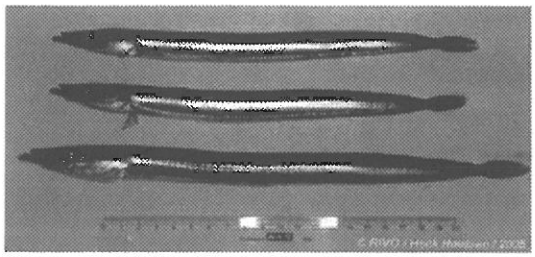
Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE	comments
1	.	.	.	.	8	.	.	.	
4	.	.	.	.	1	.	.	.	
5	128	14	34	.	140	.	.	.	
6	361	382	174	28	510	.	.	.	
7	1825	1818	874	41	1417	.	8	.	
8	4928	4372	2080	66	5996	.	29	.	
9	10990	7898	4912	407	13366	.	235	.	
10	25023	14407	9575	1039	21367	.	705	.	
11	28222	13776	10048	1252	20297	.	1187	2	
12	15868	7299	6346	822	13589	.	1116	.	
13	7641	2862	2352	530	5747	.	608	2	
14	4035	1166	1143	174	2523	.	241	.	
15	1498	270	258	94	924	.	53	.	
16	536	53	137	12	41	.	8	.	
17	176	2	16	16	3	.	1	.	
18	.	2	16	8	4	.	.	.	
19	.	.	146	6	.	.	.	.	
20	.	.	163	18	.	.	.	.	

***Trachinus draco* - 884006010200**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
6	25	.	.	.	.	.	.	.
7	10	.	.	.	.	.	.	.
8	82	.	.	.	.	.	.	.
9	131	.	.	2	.	12	.	.
10	201	.	.	4	.	66	.	.
11	281	.	2	2	.	216	.	2
12	387	.	2	4	.	141	.	30
13	136	.	.	2	8	77	.	38
14	72	.	.	4	.	24	.	138
15	2	.	.	.	8	.	.	235
16	29	.	.	.	16	4	.	639
17	.	.	.	.	32	4	.	1640
18	.	.	.	.	40	2	.	1626
19	10	.	.	.	81	2	.	2910
20	10	.	.	2	152	3	1	2916
21	5	.	.	.	136	.	.	2606
22	27	.	.	.	64	6	.	2461
23	4	.	.	2	88	2	.	2383
24	14	.	.	.	88	8	.	2413
25	10	.	.	2	100	14	.	1553
26	20	.	.	4	46	4	.	958
27	24	2	.	6	24	4	.	1150
28	8	.	.	.	20	4	.	630
29	16	.	2	2	32	5	1	710
30	10	2	.	.	8	4	1	367
31	12	2	.	2	36	2	1	333
32	7	4	.	6	50	.	2	117
33	21	.	.	2	16	.	.	31
34	1	4	.	6	8	.	.	17
35	.	.	.	.	11	8	.	8
36	2	.	.	.	8	.	.	2
37	.	.	.	.	.	.	.	2
38	.	.	.	.	2	.	.	.
39	.	.	2	.	.	.	.	2
40	.	.	.	2	.	.	.	.

GFR	1985	.	14
GFR	1986	18	.
GFR	1988	50	.
GFR	1990	122	.
GFR	1991	90	8
GFR	1992	1673	.
GFR	1993	126	10
GFR	1994	428	2
GFR	1995	218	8
GFR	1996	10	4
GFR	1997	146	.
GFR	1998	4	.
GFR	1999	210	.
GFR	2000	228	2
GFR	2001	214	.
GFR	2002	48	4
GFR	2003	370	.
GFR	2004	2	.
GFR	2005	548	.
NED	1970	4	.
NED	1971	4	.
NED	1973	19	.
NED	1975	12	.
NED	1976	18	.
NED	1977	24	.
NED	1978	28	.
NED	1979	2	.
NED	1980	60	4
NED	1981	12	.
NED	1982	2	.
NED	1983	18	.
NED	1984	96	8
NED	1985	6	.
NED	1986	42	.
NED	1987	156	.
NED	1988	60	2
NED	1989	118	.
NED	1990	273	.
NED	1991	9296	4
NED	1992	19751	3
NED	1993	13814	2
NED	1994	14594	2
NED	1995	6033	.
NED	1996	3594	.
NED	1997	9918	.
NED	1998	1972	1048
NED	1999	824	.
NED	2000	740	.
NED	2001	208	.
NED	2002	2180	.
NED	2003	321	1
NED	2004	1036	.
NED	2005	698	.
NOR	1971	.	1
NOR	1975	.	2
NOR	1977	.	12
NOR	1982	.	2
NOR	1984	.	18
NOR	1985	.	4
NOR	1986	.	2
NOR	1988	.	6
NOR	1990	.	4
NOR	1993	.	2
NOR	1994	.	8
NOR	1995	.	14
NOR	1996	.	118
NOR	1997	.	408
NOR	1998	.	2
NOR	2000	.	2
NOR	2002	.	4
NOR	2004	.	3
SCO	1974	54	.
SCO	1976	1	.
SCO	1977	1	.
SCO	1978	4	.
SCO	1980	10	.
SCO	1981	1	.
SCO	1983	.	1
SCO	1991	289	.
SCO	1992	1805	1
SCO	1993	125	2
SCO	1994	55	1
SCO	1995	510	1

Ammodytes	**171671**	**884501010000**
A. tobianus	**171676**	**884501010500**
A. marinus	**171677**	**884501010600**
Gymnammodytes	**171679**	**884501020000**
G. semisquamatus	**171680**	**884501020100**
Hyperoplus	**171681**	**884501030000**
H. lanceolatus	**171682**	**884501030100**
H. immaculatus	**171683**	**884501030200**



Hyperoplus lanceolatus

Although *Hyperoplus* sp. should be easily distinguishable from the *Ammodytes/Gymnamnodytes* complex by the fixed upper lip of the former and the extrudable mouth of the latter, identification at the species level is extremely difficult without counting meristic characters of individuals.

12.2 Length-frequency distribution:

SizeClass	884501000000 *Ammodytidae*	884501010000 *Ammodytes*	884501010500 *A. tobianus*	884501010600 *A. marinus*	884501020100 *G. Semisquamatus*	884501030000 *Hyperoplus*	884501030100 *H. lanceolatus*	884501030200 *H. immaculatus*
2	.	.	4	1	.	.	.	.
3	1	.	10	.	.	.	3	.
4	2	19	20	2	.	.	11	.
5	8	430	10	7	.	.	25	.
6	2306	1402	16	94	.	.	164	8
7	5788	8731	1143	524	.	.	379	20
8	19989	26240	7081	1840	8	.	673	28
9	31574	22754	11877	2821	6	.	590	6
10	35134	14453	6698	2912	5	.	469	14
11	33182	11282	1595	2721	249	.	367	12
12	66331	9548	1546	14041	2976	.	437	10
13	95372	40433	3483	38894	7002	.	3560	35
14	83405	99978	2841	90953	7245	160	10016	556
15	80185	144103	2707	98048	12320	812	14978	5797
16	92078	133877	2839	91899	5413	1569	22377	12823
17	141371	110551	3174	65899	949	1881	51461	16171
18	136414	53283	3467	55615	767	2257	79124	12914
19	19856	14844	1665	40135	325	804	50728	5854
20	10387	4347	435	33450	80	80	35376	3466
21	8982	5629	292	22300	38	.	28913	144
22	3836	795	67	7156	5	82	26646	255
23	2639	676	35	1885	.	160	24805	58
24	906	687	13	1011	.	.	17265	56
25	446	533	8	568	.	80	12409	20
26	149	180	8	629	.	400	7012	10
27	52	101	6	10	.	162	4685	16
28	19	56	.	4	1	240	2901	15
29	26	11	2	4	.	.	2152	8
30	23	14	2	.	.	.	1230	6
31	6	2	5	.	.	.	539	4
32	11	.	5	.	.	.	318	.
33	12	.	.	.	.	.	291	2
34	17	.	.	.	.	.	104	2
35	3	.	.	.	.	.	70	.
36	4	.	.	.	.	.	33	2
37	2	.	.	.	.	.	206	.
38	5	.	.	.	.	.	12	.
39	2	.	.	.	.	.	5	.
40	1	.	.	.	.	.	4	.
41	1	.	.	.	.	.	.	.
55	.	.	.	.	.	.	2	.

21	47	.	266	.	6768	1890	5	6
22	6	.	123	.	2524	1175	8	.
23	36	.	85	.	1960	555	3	.
24	617	.	48	.	15	222	2	2
25	4	.	32	.	12	394	4	.
26	20	.	14	.	4	105	6	.
27	23	.	2	.	.	26	1	.
28	13	.	.	.	.	5	1	.
29	2	.	2	.	2	19	1	.
30	.	.	4	.	.	19	.	.
31	2	.	.	.	.	.	4	.
32	2	.	4	.	.	.	5	.
33	2	.	.	.	2	.	8	.
34	2	.	2	.	4	.	9	.
35	.	.	.	.	.	.	3	.
36	.	.	.	.	2	.	2	.
37	2	.	.	.	.	.	.	.
38	.	.	.	.	.	4	1	.
39	2	.	.	.	.	.	.	.
40	.	.	.	.	.	.	1	.
41	.	.	.	.	.	.	1	.

***Ammodytus* - 884501010000**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	6	.	5	.	8	.	.
5	.	379	.	5	.	46	.	.
6	16	1287	15	35	14	35	.	.
7	112	7899	44	572	39	51	.	14
8	1031	23823	58	1182	60	36	.	50
9	1433	19996	189	887	52	91	.	106
10	1700	11749	116	607	38	169	.	74
11	1505	3649	249	694	52	5083	.	50
12	1256	2030	60	675	111	5392	.	24
13	320	6301	21	924	110	32739	.	18
14	118	29445	60	537	146	69599	.	73
15	188	46481	10	214	129	97006	.	75
16	111	31812	10	94	274	101393	.	183
17	417	12392	8	128	307	96730	.	569
18	852	10667	10	68	94	41453	.	139
19	594	4816	10	53	47	9232	.	92
20	151	3997	18	63	40	15	.	63
21	90	856	20	52	.	4609	.	2
22	10	663	22	55	2	31	.	12
23	10	564	2	37	.	63	.	.
24	.	574	.	.	.	113	.	.
25	.	461	.	2	.	70	.	.
26	.	166	.	.	.	14	.	.
27	.	94	.	.	.	7	.	.
28	.	46	.	.	.	10	.	.
29	.	4	.	.	.	7	.	.
30	.	14	.	.	.	.	.	.
31	.	.	.	.	.	2	.	.

***A. tobianus* - 884501010500**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
2	.	.	.	.	.	4	.	.
3	.	.	.	.	.	10	.	.
4	.	.	.	.	.	20	.	.
5	.	.	2	.	.	8	.	.
6	.	2	10	.	.	4	.	.
7	.	10	1099	.	4	8	.	22
8	.	14	6846	.	4	22	89	106
9	.	16	11279	.	2	214	238	128
10	.	26	6147	.	.	215	258	52
11	124	16	1201	.	.	152	102	.
12	640	2	639	.	2	170	23	70
13	496	.	2240	.	12	283	12	440
14	124	.	1679	.	18	746	13	261
15	.	.	341	.	14	2117	96	139
16	.	4	109	.	20	2125	484	97
17	2	.	273	.	10	1420	1154	315
18	20	.	285	.	2	1309	1008	843
19	.	.	180	.	2	859	188	436
20	.	.	99	.	2	128	22	184
21	.	.	71	.	.	122	9	90
22	.	.	44	.	2	.	2	19
23	.	.	15	.	.	16	.	4
24	.	.	13	.	.	.	.	.
25	.	.	8	.	.	.	.	.
26	.	.	8	.	.	.	.	.
27	.	.	6	.	.	.	.	.
29	.	.	2	.	.	.	.	.
30	.	.	2	.	.	.	.	.
31	.	.	5	.	.	.	.	.
32	.	.	5	.	.	.	.	.

20	12591	3817	1265	6604	4014	184	2424	4477
21	6528	3939	975	5485	4137	673	2978	4198
22	5805	2987	870	4528	3446	920	5368	2722
23	7514	1827	884	4465	4730	887	2715	1783
24	6941	1053	815	3079	2667	622	1173	915
25	4953	585	430	1810	2433	471	888	839
26	2436	399	248	1179	1292	297	534	627
27	940	265	218	949	1245	184	534	350
28	533	403	89	576	763	65	275	197
29	395	255	73	488	336	98	241	266
30	252	209	32	261	248	32	155	41
31	32	84	26	94	143	19	141	.
32	19	39	2	80	44	9	125	.
33	10	27	2	125	22	2	103	.
34	28	5	.	.	25	2	44	.
35	4	5	.	.	23	.	38	.
36	.	4	2	4	6	.	17	.
37	.	4	.	.	198	.	4	.
38	.	2	.	.	6	.	4	.
39	.	.	.	.	4	.	1	.
40	.	.	.	.	2	.	2	.
55	.	.	.	2	.	.	.	.

***H. immaculatus* - 884501030200**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
6	.	2	6	.	.	.	.	.
7	.	.	20	.	.	.	.	.
8	.	.	28	.	.	.	.	.
9	.	.	6	.	.	.	.	.
10	.	.	14	.	.	.	.	.
11	.	.	10	.	2	.	.	.
12	.	2	8	.	.	.	.	.
13	.	.	33	.	2	.	.	.
14	.	.	471	.	.	.	85	.
15	.	.	5606	.	10	.	181	.
16	.	.	12048	.	42	.	733	.
17	.	.	15139	.	46	.	986	.
18	.	.	12459	.	42	.	413	.
19	.	.	5581	.	24	.	249	.
20	.	.	3333	.	28	.	105	.
21	.	.	89	.	20	.	35	.
22	.	.	218	.	14	.	23	.
23	.	.	30	.	16	.	12	.
24	.	.	36	.	16	.	4	.
25	.	.	16	.	2	.	2	.
26	.	.	8	.	2	.	.	.
27	.	.	12	.	2	.	2	.
28	.	.	8	.	.	.	7	.
29	.	.	8	.	.	.	.	.
30	.	.	2	.	2	.	2	.
31	.	.	4	.	.	.	.	.
33	.	.	.	2	.	.	.	.
34	.	.	.	.	.	.	2	.
36	.	.	.	.	2	.	.	.

Discrepancies in the genus identification in terms of maximum size appear to be largely restricted to England, France, Germany and Scotland. Within species, only Denmark stays within the reported range.

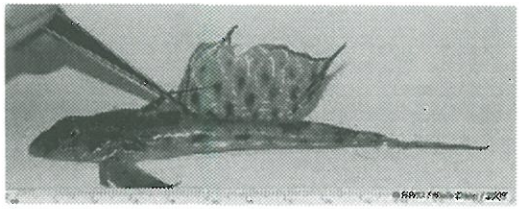
12.6 Consistency in reporting within countries among years

The next table identifies the number of records by species, country and year:

Country	year	884501000000 *Ammodytidae*	884501010000 *Ammodytes*	884501010500 *A. tobianus*	884501010600 *A. marinus*	884501020100 *G.semisquamatus*	884501030000 *Hyperoplus*	884501030100 *H. lanceolatus*	884501030200 *H. immaculatus*	comments
DEN	1971	.	34	.	.	.	.	.	.	
DEN	1972	.	3252	.	.	.	.	.	.	
DEN	1973	.	46	.	.	.	.	.	.	
DEN	1974	.	2	.	.	.	.	.	.	
DEN	1985	.	16	.	.	.	.	.	.	
DEN	1986	.	6564	.	.	.	.	.	.	
DEN	1987	15572	.	.	.	.	.	26	.	
DEN	1988	6	.	.	.	.	.	6	.	
DEN	1989	2401	.	.	.	.	.	50	.	
DEN	1990	22	.	.	.	.	.	90	.	
DEN	1991	1380	.	.	.	.	.	27	.	
DEN	1992	2556	.	.	.	.	.	232	.	
DEN	1993	49553	.	.	.	.	.	226	.	
DEN	1994	778	.	.	.	.	.	30	.	
DEN	1995	155	.	.	.	.	.	425	.	
DEN	1996	1231	.	.	.	.	.	2257	.	
DEN	1997	76	.	.	.	.	.	2	.	
DEN	1998	19405	.	.	.	135	.	5532	.	
DEN	1999	1172	.	1404	.	.	.	13406	.	

NED	1980	3938	.	.	.	.	.	294	.
NED	1981	114	.	.	.	.	.	40	.
NED	1982	.	14	.	.	.	.	.	.
NED	1983	.	10	70	.	.	.	14	.
NED	1984	.	660	4	146	.	.	16	.
NED	1985	266	.	.	.	.	.	4	.
NED	1986	142	.	.	.	.	.	6	.
NED	1987	340	.	.	.	.	.	.	.
NED	1988	82	.	.	.	.	.	12	.
NED	1989	210	.	.	.	.	.	56	.
NED	1990	14	.	.	.	.	.	11	.
NED	1991	33390	.	.	.	.	.	6433	.
NED	1992	215183	.	.	.	.	.	24938	.
NED	1993	60194	.	.	.	.	.	4387	.
NED	1994	81003	.	.	.	.	.	12296	.
NED	1995	2750	.	.	.	.	.	1343	.
NED	1996	24418	.	.	.	.	.	1896	.
NED	1997	20430	.	.	.	.	.	1704	.
NED	1998	370	.	.	.	.	.	74	.
NED	1999	68	.	.	.	.	.	42	.
NED	2000	26	.	.	.	.	.	140	.
NED	2001	116	.	.	.	.	.	190	.
NED	2002	.	52	20	.	.	.	.	272
NED	2003	.	428	.	.	.	.	47	.
NED	2004	.	324	.	.	.	.	78	.
NED	2005	.	27	.	.	.	.	13	.
NOR	1971	.	1	.	.	.	.	.	.
NOR	1975	.	460357	.	.	.	.	6	.
NOR	1976	.	42	1625	.	.	.	.	.
NOR	1977	86	.	.	.	.	.	.	.
NOR	1978	2	.	.	.	.	.	.	.
NOR	1979	2	.	342	.	.	.	.	.
NOR	1981	.	26	.	.	.	.	.	.
NOR	1982	.	206	.	.	.	.	.	.
NOR	1984	18	2	.	.	.	.	.	.
NOR	1985	22	.	.	.	.	.	.	.
NOR	1986	.	.	224	.	.	.	.	.
NOR	1987	.	.	74	.	.	.	.	.
NOR	1988	.	.	26	.	.	.	.	.
NOR	1989	.	.	626	.	.	.	.	.
NOR	1990	.	10	.	.	.	.	2	.
NOR	1991	.	693	2	.	.	.	2	.
NOR	1992	36	116	.	14	.	.	94	.
NOR	1993	.	2032	.	.	.	.	2	.
NOR	1994	496	16	.	.	.	.	108	.
NOR	1995	2586	.	.	220	.	.	506	.
NOR	1996	2525	499	7018	329	.	.	274	.
NOR	1997	13748	.	.	.	.	.	2	.
NOR	1998	4	.	.	.	.	.	2	.
NOR	1999	5840	4	.	42	.	.	857	.
NOR	2000	.	.	.	10	.	.	2111	.
NOR	2001	.	.	2	60	.	.	32	.
NOR	2002	32	.	.	6	.	.	506	.
NOR	2004	30	.	13	.	.	.	35	.
SCO	1971	8	.	.	.	.	.	.	.
SCO	1972	2	.	.	.	.	.	.	.
SCO	1973	29	.	.	.	.	.	.	.
SCO	1974	1	.	.	.	.	.	.	.
SCO	1975	22	.	.	.	.	.	.	.
SCO	1976	2	.	.	.	.	.	.	.
SCO	1977	104	.	.	.	.	.	.	.
SCO	1979	22	.	.	.	.	.	.	.
SCO	1980	107	.	.	.	.	.	.	.
SCO	1981	6	.	.	.	.	.	.	.
SCO	1982	11	.	.	.	.	.	.	.
SCO	1983	41	.	3182	8118	.	.	1	.
SCO	1984	.	.	.	31	.	.	6	.
SCO	1985	.	.	.	541	.	.	5	.
SCO	1986	.	.	.	25	.	.	1	.
SCO	1987	.	.	.	423	.	.	12	.
SCO	1988	.	.	.	127	.	.	3	.
SCO	1989	.	.	.	678	.	.	1	.
SCO	1990	.	.	.	391	.	.	65	.
SCO	1991	.	.	.	1465	.	.	10841	.
SCO	1992	.	.	.	5351	.	.	4404	2822
SCO	1993	.	.	385	5306	.	.	3158	.
SCO	1994	.	.	2	5495	.	.	742	.
SCO	1995	.	.	.	24103	.	.	10305	2
SCO	1996	.	.	.	384	.	.	28	.
SCO	1997	.	.	129	1574	8	.	512	1
SCO	1998	.	.	.	898	.	.	16	2
SCO	1999	.	.	.	2482	.	.	243	2
SCO	2000	.	.	.	10	.	.	338	.
SCO	2001	.	.	.	1904	.	.	1976	.

Callionymus maculatus



Callionymus lyra

Callionymus reticulatus

Although adult males of the three species can be easily distinguished based on the colour patterns in the dorsal fin, this becomes more difficult for females and especially the juveniles. However, *C. lyra* always has an horizontal line in the dorsal fin and has a broader head, while the pattern on the side is a good aid for distinguishing the other two: *C. maculatus* always has many small spots, whereas *C. reticulatus* has a few outstanding spots on the side line. The forward pointing spine at the end of the gill cover in *C. lyra* and *C. maculatus* is often another distinction, but less reliable, because it is sometimes missing.

13.2 Length-frequency distribution:

Size Class	884601010600 *C. lyra*	884601010700 *C. maculatus*	884601012000 *C. reticulatus*	884601000000 *Callionymidae*	884601010000 *Callionymus*	comments
2	2	.	.	.	.	
3	13	49	.	.	14	
4	206	321	15	.	80	
5	659	764	123	3	76	
6	1064	1686	178	20	40	
7	1785	4034	235	146	32	
8	2273	8194	152	113	18	
9	2427	10138	156	307	6	
10	2579	10943	121	342	2	
11	2489	8510	73	255	2	
12	3564	6766	27	296	18	
13	4556	4569	7	255	40	
14	6074	2480	29	218	54	
15	7680	1136	4	90	56	
16	8695	494	4	105	46	
17	8349	240	8	150	36	
18	7801	282	6	130	34	
19	7088	42	.	120	29	
20	5452	41	.	111	6	
21	3307	57	.	67	29	
22	2340	24	.	48	6	
23	1167	28	.	13	12	
24	622	14	.	5	.	
25	310	8	.	10	.	
26	141	5	.	5	.	
27	75	2	.	1	.	
28	23	.	.		.	
29	5	2	.		.	
30	2	1	.		.	
31	6	.	.		.	
32	2	.	.		.	
35	2	.	.		.	
36	4	.	.		.	
38	3	.	.		.	

According to Whitehead *et al.* (1986), *C. lyra* may grow up to 30 cm, *C. maculatus* up to 16 cm and *C. reticulatus* up to 11 cm. Looking at the length frequency distribution, all species exceed their supposed maximum length. *C. lyra* undoubtedly growth larger and 38 cm is probably more appropriate. We have also positively identified a 20 cm *C. maculatus* and a 12 cm *C. reticulatus*. However, this still suggests that many *C. lyra* have been misidentified as *C. maculatus* and many *C. maculatus* as *C. reticulatus*.

Furthermore, since there is only 1 genus (*Callionymus*, 171692) within the family *Callionymidae*, the taxon Callionymidae is redundant and all *Callionymidae* (171691) should be renamed *Callionymus* (171692).

12	.	.	.	.	.	232	58	6
13	.	.	.	.	.	173	72	10
14	.	.	.	.	.	164	52	2
15	.	.	.	.	.	71	15	4
16	.	.	.	.	.	82	23	.
17	.	.	.	.	.	111	39	.
18	.	.	.	.	.	104	24	2
19	.	.	.	.	.	97	17	6
20	.	.	.	.	.	87	22	2
21	.	.	.	.	.	57	10	.
22	.	.	.	.	.	41	7	.
23	.	.	.	.	.	8	5	.
24	.	.	.	.	.	2	3	.
25	.	.	.	.	.	7	3	.
26	.	.	.	.	.	.	5	.
27	.	.	.	.	.	.	1	.

***Callionymus* 884601010000**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
3	14	.	.	.	.	.	.	.
4	77	.	.	3	.	.	.	.
5	73	.	.	3	.	.	.	.
6	40	.	.	.	.	.	.	.
7	32	.	.	.	.	.	.	.
8	14	.	4	.	.	.	.	.
9	4	.	.	.	.	2	.	.
10	2	.	.	.	.	.	.	.
11	.	.	.	.	.	2	.	.
12	.	.	.	.	.	18	.	.
13	.	.	.	.	.	40	.	.
14	.	.	.	.	.	54	.	.
15	.	.	2	.	.	54	.	.
16	.	.	4	.	.	42	.	.
17	.	.	2	.	.	34	.	.
18	.	.	.	.	.	34	.	.
19	.	.	2	3	.	24	.	.
20	.	.	.	.	.	6	.	.
21	.	.	2	.	.	27	.	.
22	.	.	2	.	.	4	.	.
23	.	.	.	.	.	12	.	.

***Callionymus lyra* 884601010600**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
2	.	.	2	.	.	.	.	.
3	5	6	.	2	.	.	.	.
4	78	8	16	42	52	6	.	4
5	397	70	46	74	57	.	3	12
6	490	124	145	104	122	10	18	51
7	997	206	222	88	125	60	25	62
8	1010	191	363	89	232	190	58	140
9	1100	147	298	95	130	399	124	134
10	1231	169	243	105	158	375	169	129
11	960	205	315	127	185	317	216	164
12	1078	462	605	196	348	262	247	366
13	1198	628	645	231	603	206	327	718
14	1343	885	923	334	831	78	459	1221
15	1731	1250	924	478	1455	63	569	1209
16	1945	1324	964	551	1676	40	766	1428
17	1645	1354	967	676	1752	36	657	1262
18	1486	1180	929	584	1834	41	644	1103
19	1519	1076	812	561	1410	49	510	1151
20	924	886	668	446	1203	47	460	817
21	470	601	431	376	524	18	306	580
22	330	432	288	261	390	16	288	335
23	97	213	158	173	197	5	196	128
24	57	115	79	85	93	.	167	26
25	27	55	23	29	68	.	104	4
26	6	14	14	12	31	18	44	2
27	.	14	4	17	16	.	24	.
28	.	5	.	.	4	.	14	.
29	.	1	.	2	.	.	2	.
30	.	.	.	.	2	.	.	.
31	.	.	.	6	.	.	.	.
32	.	.	.	2	.	.	.	.
35	.	.	.	2	.	.	.	.
36	.	.	.	4	.	.	.	.
38	.	.	.	2	.	.	1	.

***Callionyus maculatus* 884601010700**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
3	6	.	.	4	.	.	.	39
4	16	8	2	16	.	.	1	278
5	42	22	18	20	.	18	3	641
6	39	82	67	40	2	58	6	1392
7	240	152	124	92	4	79	35	3308
8	417	219	103	206	3	133	63	7050

ENG	1987	346	.	.	.	.	
ENG	1988	154	.	.	.	.	
ENG	1989	634	20	.	.	.	
ENG	1990	684	110	.	.	.	
ENG	1991	1785	86	.	.	.	
ENG	1992	846	156	.	.	.	
ENG	1993	628	22	24	.	.	4 > Lmax
ENG	1994	410	87	8	.	.	
ENG	1995	685	24	.	.	.	
ENG	1996	260	36	.	.	.	
ENG	1997	196	8	6	.	.	
ENG	1998	100	34	.	.	.	
ENG	1999	716	34	10	.	.	2 > Lmax
ENG	2000	244	26	.	.	.	
ENG	2001	900	280	18	.	.	2 > Lmax
ENG	2002	534	54	.	.	.	
ENG	2003	1474	208	16	.	.	
ENG	2005	586	311	.	18	.	
FRA	1988	36	.	.	.	.	
FRA	1989	34	.	.	.	.	
FRA	1990	112	.	.	.	.	
FRA	1991	758	.	.	.	.	
FRA	1992	1646	.	.	.	.	
FRA	1993	890	.	.	.	.	
FRA	1994	625	.	.	.	.	
FRA	1995	883	.	.	.	.	
FRA	1996	370	.	.	.	.	
FRA	1997	241	9	.	.	.	
FRA	1998	140	.	.	.	.	
FRA	1999	235	.	.	.	.	
FRA	2000	380	300	.	.	.	
FRA	2001	495	2	4	.	14	
FRA	2002	902	.	.	.	.	
FRA	2003	861	12	.	.	4	
FRA	2004	659	86	34	.	.	12 > Lmax
FRA	2005	817	149	.	.	.	4 > Lmax
GFR	1977	36	.	.	.	.	
GFR	1978	20	.	.	.	.	
GFR	1979	34	.	.	.	.	
GFR	1982	30	.	.	.	.	
GFR	1984	2	.	.	.	.	
GFR	1985	52	.	.	.	.	
GFR	1986	262	.	.	.	.	
GFR	1987	94	2	.	.	.	
GFR	1988	180	.	.	.	.	
GFR	1989	232	44	.	.	.	
GFR	1990	212	42	.	.	.	2 > Lmax
GFR	1991	308	16	.	.	.	
GFR	1992	542	178	.	.	.	16 > Lmax
GFR	1993	202	20	.	.	.	
GFR	1994	268	144	.	.	.	
GFR	1995	150	234	.	.	.	20 > Lmax
GFR	1996	90	74	.	.	.	
GFR	1997	206	38	.	.	.	
GFR	1998	142	168	.	.	.	
GFR	1999	574	234	.	.	.	
GFR	2000	480	412	.	.	.	
GFR	2001	532	303	.	.	.	
GFR	2002	276	278	22	.	9	
GFR	2003	550	68	4	.	.	2 > Lmax
GFR	2004	34	48	12	.	.	
GFR	2005	246	56	40	.	.	
NED	1970	67	.	.	.	.	
NED	1971	72	.	.	.	.	
NED	1972	2	.	.	.	.	
NED	1973	250	.	2	.	.	2 > Lmax
NED	1974	890	.	.	.	.	
NED	1975	1958	.	9	.	.	
NED	1976	234	.	6	.	.	2 > Lmax
NED	1977	112	.	.	.	.	
NED	1978	74	.	2	.	.	
NED	1979	2	.	.	.	.	
NED	1980	134	.	2	.	.	
NED	1981	250	4	.	.	.	
NED	1982	12	.	2	.	.	2 > Lmax
NED	1983	116	.	12	.	.	
NED	1984	48	4	.	.	.	
NED	1985	6	2	.	.	.	
NED	1986	8	6	.	.	.	
NED	1987	35	.	.	.	.	
NED	1988	24	.	.	.	.	
NED	1989	102	.	.	.	.	
NED	1990	106	.	.	.	.	

SWE	1977	2	40	.	.	.	
SWE	1978	.	1	.	.	.	
SWE	1979	.	248	.	.	.	
SWE	1980	2	54	.	2	.	
SWE	1981	2	82	.	2	.	8 > Lmax
SWE	1982	11	13	.	50	.	
SWE	1983	6	126	.	.	.	
SWE	1984	40	93	.	.	.	
SWE	1985	10	100	.	.	.	
SWE	1986	50	228	.	.	.	
SWE	1987	468	201	.	.	.	
SWE	1988	4	82	.	.	.	
SWE	1989	148	90	.	.	.	
SWE	1990	90	887	.	.	.	
SWE	1991	1338	4234	.	.	.	
SWE	1992	2390	2784	.	.	.	
SWE	1993	1020	3855	.	.	.	
SWE	1994	335	4610	.	.	.	
SWE	1995	574	3922	.	.	.	
SWE	1996	128	1396	.	.	.	
SWE	1997	106	2835	.	.	.	
SWE	1998	137	8767	.	.	.	
SWE	1999	600	4619	.	.	.	
SWE	2000	438	1373	.	.	.	5 > Lmax
SWE	2001	472	1239	.	.	.	
SWE	2002	880	1257	.	.	.	
SWE	2003	476	1948	.	.	.	
SWE	2004	607	2580	.	.	.	
SWE	2005	711	1816	4	.	.	

The determination of dragonets up to only the genus *(Callionymus)* or family *(Callionymidae)* level by Denmark, Sweden and Scotland as mentioned in the previous section, is restricted to only a few years. Norway has consequently reported large numbers of dragonets by only genus or family name, but seriously improvements have been made during the last 5 years and all dragonets were determined up to species level.

All countries seem to have had problems with the identification of these three species according to the numbers that exceed the reported maximum length of one or the other. Denmark has never positively identified the reticulated dragonet and the numbers of the spotted dragonet reported in the early 1990s were relatively large compared with other countries. England started to report spotted dragonets in 1989 and the reticulated dragonet in 1993, suggesting that before the latter date species identifications were uncertain. This also applies to French data before 2001 and GFR data before 2002. Netherlands has consistently reported relatively large numbers of the reticulated dragonet, although a few appear to have been misidentified and presumably have been spotted dragonets. Norway has reported the two smaller species only since 2001, but the reticulated ones appear to be incorrect. Scotland has consistently reported spotted dragonets, some of which appear to have been common dragonets, whereas reticulated dragonets were rarely reported. Sweden finally covers an area, where the abundance of spotted dragonets exceeds the one of common ones. However, in the early years common dragonets appear to have been somewhat underestimated.

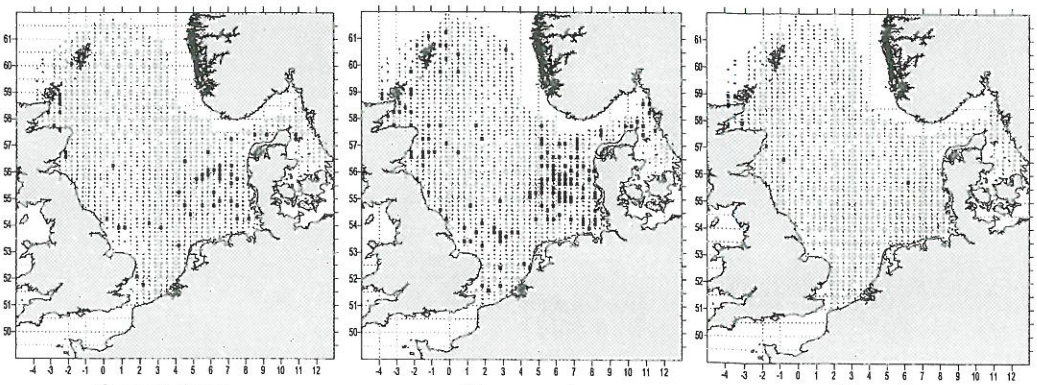
The Dutch catches clearly indicate that the distributions of the spotted and reticulated dragonet hardly overlap, the former being distributed in waters deeper than 50 m and particularly around Scotland, while the latter is restricted to the shallower depth range in the south. It appears that at present we are not able to estimate the exact distributions nor the temporal trends in any of these species and the future identification needs careful attention. It might be possible to correct the identifications based on the differences in spatial distributions. However, as a first step all records with specimens of reticulated dragonets above 12 cm should be recorded as spotted dragonets and all spotted dragonets >20 cm as common dragonets.

13.7 Proposed corrections

Change			**Into**		
tsn	**nodc**	**name**	**tsn**	**nodc**	**name**
171691	884601000000	CALLIONYMIDAE	171692	884601010000	CALLIONYMUS

Change			**Into**	
tsn	**name**	**lngtclass**	**tsn**	**name**
171712	C. RETICULATUS	[>=13 <21 cm]	171699	C. MACULATUS
171712	C. RETICULATUS	[>=21 cm]	171698	C. LYRA

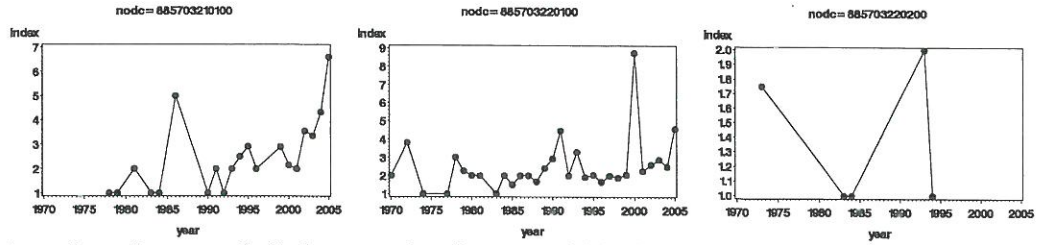
14.3 Presence-absence by species



Z. punctatus *Z. norvegicus* *Z. regius*

These maps would indicate quite a bit of overlap in distribution between *Z. punctatus* and *Z. norvegicus,* with *Z. regius* largely restricted to Scottish waters (with one outlier). The apparent distribution of the former two species does not correspond with existing knowledge (Wheeler, 1978): *Z. punctatus* is an uncommon flatfish of rather restricted distribution, living among rocks in shallow waters (1-25 m), while *Z. norvegicus* is a moderately common flatfish on rough grounds living at depths of 20-50m. *Z. regius* is relatively uncommon and confined to offshore rocky grounds to the West of the British isles and therefore, rare catches in Scottish North Sea waters might be expected.

14.4 Trends in abundance



Annual catch rates of all three species fluctuate widely from year to year, but both *Z. punctatus* and *Z. norvegicus* appear to have increased in abundance over the survey period.

14.5 Consistency in reporting among countries

(NB. the catches refer to numbers-per-hour-fishing; because most hauls have a duration of 30 minutes, the numbers are often multiples of 2):

Zeugopterus - **885703210000**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE	comments
6	.	.	.	.	2	.	.	.	
7	.	.	.	.	2	.	.	.	

Z. punctatus - **885703210100**

Size Class	DEN	ENG	FRA	GFR	NED	NOR	SCO	SWE
4	.	.	2	4	.	.	.	.
5	8	.	.	6	.	.	.	.
6	20	.	6	4	.	.	3	.
7	16	.	6	2	.	.	8	.
8	10	.	12	4	.	.	3	.
9	42	.	14	20	.	.	5	.
10	48	.	8	14	.	.	1	2
11	30	.	12	.	.	.	.	.
12	97	.	.	2	.	.	.	.
13	24	.	.	.	.	.	.	.
14	10	.	.	.	.	.	.	.
16	4	.	.	.	.	.	1	.
18	2	.	2	.	.	.	.	.
29	.	.	.	.	.	.	.	2

FRA	2002	.	8	38	.	
FRA	2003	.	.	17	.	
FRA	2004	.	6	.	.	41F0: 2>14 cm; prob. Z .punctatus
FRA	2005	.	10	8	.	
GFR	1981	.	.	2	.	
GFR	1985	.	.	2	.	
GFR	1986	.	10	.	.	
GFR	1987	.	.	2	.	
GFR	1989	.	.	6	.	
GFR	1990	.	.	4	.	
GFR	1992	.	.	6	.	
GFR	1993	.	.	10	.	
GFR	1994	.	.	8	.	
GFR	1995	.	.	18	.	
GFR	1996	.	.	2	.	
GFR	1998	.	.	16	.	
GFR	1999	.	46	.	.	
GFR	2000	.	.	2	.	
GFR	2002	.	.	4	.	
NED	1970	.	.	2	.	
NED	1978	.	.	4	.	
NED	1991	4	.	2	.	
NED	1992	.	.	4	.	
NED	1993	.	.	2	.	
NED	1995	.	.	4	.	
NED	1997	.	.	2	.	
NED	2005	.	.	35	.	
NOR	1978	.	.	2	.	
NOR	1979	.	.	28	.	
NOR	2004	.	.	3	.	
SCO	1972	.	.	19	.	
SCO	1973	.	.	.	7	
SCO	1974	.	.	1	.	
SCO	1977	.	.	1	.	
SCO	1978	.	1	.	.	
SCO	1979	.	2	1	.	
SCO	1980	.	.	2	.	
SCO	1983	.	2	1	1	
SCO	1984	.	1	.	4	
SCO	1985	.	.	4	.	
SCO	1986	.	7	.	.	
SCO	1988	.	.	1	.	
SCO	1990	.	1	.	.	1>14 cm; probably Z. punctatus
SCO	1991	.	.	8	.	1>14 cm; probably Z. punctatus
SCO	1992	.	2	.	.	
SCO	1993	.	.	.	2	
SCO	1994	.	3	1	1*	*40F6; unlikely identification
SCO	1996	.	.	1	.	
SCO	1998	.	.	3	.	
SCO	1999	.	.	2	.	
SCO	2000	.	2	.	.	
SCO	2001	.	.	2	.	
SWE	1981	.	2	.	.	
SWE	1984	.	.	2	.	
SWE	1991	.	2	18	.	
SWE	1993	.	.	22	.	
SWE	1994	.	.	2	.	
SWE	1995	.	.	4	.	
SWE	1999	.	.	12	.	
SWE	2000	.	.	24	.	
SWE	2001	.	.	2	.	
SWE	2002	.	.	4	.	
SWE	2003	.	.	4	.	
SWE	2004	.	.	2	.	
SWE	2005	.	.	28	.	

Among a set of 52 country/year combinations, only in 7 cases have both species been recorded. In all other cases, countries reported either one species or the other. In the case of Germany and to a lesser extent France and Scotland, this happened consistently in alternating years. The emerging pattern leaves no other conclusion than that the species identifications for topknots in the IBTS have been highly unsatisfactory and something has to be done about this, either within DATRAS or before using DATRAS.

14.7 Proposed corrections

The 2 records in DATRAS for *Zeugopterus spp.* refer to a Dutch catch of two individuals in rectangle 50E8 in 1991:

References

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