

ANNEX V

Species occurrence, by number (No.) and percentage (%) of trips and tows in which the species has occurred, in each métier (Min.-minimum, Max.-maximum). In bold are represented the 93 discarded fish and cephalopod species used for the statistical analysis.

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

Species	Class	Depth (m)			Crustacean trawl				Fish trawl			
					35 trips		72 tows		17 trips		92 tows	
		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Abralia veranyi</i>	Cephalopoda	150.0	394.7	649.7	3	8.6	3	4.2	-	-	-	-
<i>Acanthocardia echinata</i>	Bivalvia	120.0	133.4	220.0	1	2.9	1	1.4	13	76.5	23	25.0
<i>Actinauge richardi</i>	Anthozoa	120.0	473.2	754.0	26	74.3	37	51.4	1	5.9	1	1.1
<i>Aegaeon lacazei</i>	Malacostraca	183.0	292.9	420.0	2	5.7	2	2.8	1	5.9	1	1.1
<i>Alepocephalidae n.i.</i>	Osteichthyes	501.4	539.0	572.8	1	2.9	1	1.4	-	-	-	-
<i>Alloteuthis media</i>	Cephalopoda	220.0	265.7	358.7	1	2.9	1	1.4	9	52.9	21	22.8
<i>Alloteuthis spp.</i>	Cephalopoda	45.0	74.0	150.0	-	-	-	-	2	11.8	9	9.8
<i>Alloteuthis subulata</i>	Cephalopoda	117.1	269.8	595.0	6	17.1	7	9.7	16	94.1	45	48.9
<i>Alosa fallax</i>	Osteichthyes	52.7	84.6	111.6	-	-	-	-	1	5.9	3	3.3
<i>Ampulla priamus</i>	Gastropoda	378.8	545.3	665.0	2	5.7	3	4.2	8	47.1	13	14.1
<i>Anadara diluvii</i>	Bivalvia	150.0	262.6	390.0	1	2.9	2	2.8	3	17.6	3	3.3
<i>Anseropoda placenta</i>	Asteroidea	120.0	130.5	150.0	1	2.9	1	1.4	8	47.1	15	16.3
<i>Anthias anthias</i>	Osteichthyes	53.4	101.3	164.7	-	-	-	-	4	23.5	9	9.8
<i>Aphrodita aculeata</i>	Polychaeta	120.0	362.7	660.0	7	20.0	9	12.5	9	52.9	16	17.4
<i>Argentina sphyraena</i>	Osteichthyes	58.6	149.6	230.0	2	5.7	4	5.6	-	-	-	-
<i>Argyropelecus aculeatus</i>	Osteichthyes	560.0	591.2	649.7	1	2.9	1	1.4	-	-	-	-
<i>Aristeus antennatus</i>	Malacostraca	300.0	476.5	680.0	10	28.6	12	16.7	1	5.9	1	1.1
<i>Arnoglossus imperialis</i>	Osteichthyes	120.0	438.2	640.0	3	8.6	3	4.2	15	88.2	33	35.9
<i>Arnoglossus laterna</i>	Osteichthyes	120.0	273.6	435.5	3	8.6	3	4.2	12	70.6	30	32.6
<i>Arnoglossus rueppeli</i>	Osteichthyes	120.0	210.4	390.0	4	11.4	5	6.9	3	17.6	4	4.3
<i>Arnoglossus spp.</i>	Osteichthyes	63.5	85.7	115.0	-	-	-	-	1	5.9	3	3.3
<i>Arnoglossus thori</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	10	58.8	27	29.3
<i>Astropecten aranciacus</i>	Asteroidea	120.0	331.4	650.0	11	31.4	14	19.4	12	70.6	36	39.1
<i>Astrospartus mediterraneus</i>	Ophiuroidea	48.0	102.3	185.0	-	-	-	-	4	23.5	6	6.5
<i>Atherina presbyter</i>	Osteichthyes	108.2	153.4	213.6	1	2.9	1	1.4	-	-	-	-
<i>Atrina fragilis</i>	Bivalvia	120.0	271.8	485.0	5	14.3	6	8.3	7	41.2	17	18.5

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		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Atrina pectinata</i>	Bivalvia	439.2	467.8	485.0	1	2.9	1	1.4	1	5.9	1	1.1
<i>Balistes capriscus</i>	Osteichthyes	94.6	159.4	230.0	-	-	-	-	2	11.8	3	3.3
<i>Bathynectes longipes</i>	Malacostraca	300.0	510.6	754.0	7	20.0	14	19.4	-	-	-	-
<i>Bathynectes maravigna</i>	Malacostraca	300.0	522.4	754.0	7	20.0	13	18.1	-	-	-	-
<i>Belone belone</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	-	-	-	-
<i>Benthodesmus elongatus</i>	Osteichthyes	320.0	546.7	754.0	15	42.9	18	25.0	-	-	-	-
<i>Beryx decadactylus</i>	Osteichthyes	558.2	601.3	669.8	1	2.9	1	1.4	-	-	-	-
<i>Beryx splendens</i>	Osteichthyes	430.0	513.6	565.0	1	2.9	1	1.4	-	-	-	-
<i>Blennius ocellaris</i>	Osteichthyes	52.7	113.1	180.0	1	2.9	1	1.4	5	29.4	6	6.5
<i>Boops boops</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	17	100.0	72	78.3
<i>Buccinum humphreysianum</i>	Gastropoda	563.6	589.7	633.2	1	2.9	1	1.4	-	-	-	-
<i>Calappa granulata</i>	Malacostraca	300.0	530.4	754.0	10	28.6	13	18.1	4	23.5	4	4.3
<i>Callanthias ruber</i>	Osteichthyes	120.0	133.4	220.0	1	2.9	1	1.4	-	-	-	-
<i>Calliactis parasitica</i>	Anthozoa	120.0	384.5	669.8	5	14.3	7	9.7	6	35.3	14	15.2
<i>Callionymus lyra</i>	Osteichthyes	120.0	277.2	595.0	3	8.6	4	5.6	13	76.5	38	41.3
<i>Callionymus maculatus</i>	Osteichthyes	120.0	408.7	649.7	4	11.4	4	5.6	12	70.6	29	31.5
<i>Callionymus spp.</i>	Osteichthyes	110.5	139.2	150.0	-	-	-	-	1	5.9	1	1.1
<i>Calliostoma granulatum</i>	Gastropoda	150.0	262.6	390.0	1	2.9	1	1.4	8	47.1	10	10.9
<i>Callumbonella suturalis</i>	Gastropoda	439.2	483.7	590.0	2	5.7	2	2.8	-	-	-	-
<i>Calyptraea chinensis</i>	Gastropoda	41.2	68.7	110.0	-	-	-	-	3	17.6	4	4.3
<i>Capros aper</i>	Osteichthyes	117.1	341.1	633.2	19	54.3	30	41.7	17	100.0	56	60.9
<i>Capulus ungaricus</i>	Gastropoda	60.0	90.6	110.0	-	-	-	-	1	5.9	2	2.2
<i>Caryophyllia (C.) smithii</i>	Anthozoa	150.0	486.5	754.0	15	42.9	22	30.6	3	17.6	4	4.3
<i>Centrocardita aculeata</i>	Bivalvia	583.8	615.7	649.7	1	2.9	1	1.4	-	-	-	-
<i>Centrophorus granulosus</i>	Chondrichthyes	390.0	549.2	665.0	3	8.6	3	4.2	-	-	-	-
<i>Centrostephanus longispinus</i>	Echinoidea	582.0	684.3	754.0	1	2.9	1	1.4	1	5.9	2	2.2

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		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Cepola macrophthalma</i>	Osteichthyes	47.0	92.1	164.7	-	-	-	-	15	88.2	35	38.0
<i>Cerastoderma edule</i>	Bivalvia	150.0	262.6	390.0	1	2.9	1	1.4	-	-	-	-
<i>Chaunax pictus</i>	Osteichthyes	356.9	537.0	680.0	5	14.3	6	8.3	-	-	-	-
<i>Chelidonichthys cuculus</i>	Osteichthyes	48.9	88.4	145.0	-	-	-	-	5	29.4	12	13.0
<i>Chelidonichthys lucerna</i>	Osteichthyes	315.0	529.5	690.0	1	2.9	1	1.4	4	23.5	5	5.4
<i>Chelidonichthys obscurus</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	11	64.7	24	26.1
<i>Chimaera monstrosa</i>	Chondrichthyes	192.2	550.0	680.0	15	42.9	19	26.4	-	-	-	-
<i>Chlorophthalmus agassizi</i>	Osteichthyes	208.6	534.4	754.0	17	48.6	26	36.1	-	-	-	-
<i>Chlorotocus crassicornis</i>	Malacostraca	150.0	289.8	420.0	4	11.4	5	6.9	-	-	-	-
<i>Cidaris cidaris</i>	Echinoidea	561.8	591.9	649.7	1	2.9	1	1.4	-	-	-	-
<i>Citharus linguatula</i>	Osteichthyes	120.0	348.0	649.7	4	11.4	5	6.9	14	82.4	53	57.6
<i>Codium decorticatum</i>	Bryopsidophyceae	555.0	583.7	616.7	1	2.9	1	1.4	1	5.9	1	1.1
<i>Coelorinchus caelorinchus</i>	Osteichthyes	315.0	470.8	690.0	12	34.3	12	16.7	-	-	-	-
<i>Coelorinchus occa</i>	Osteichthyes	305.0	561.8	650.0	6	17.1	7	9.7	-	-	-	-
<i>Conger conger</i>	Osteichthyes	117.1	448.3	754.0	30	85.7	51	70.8	16	94.1	32	34.8
<i>Cymbium olla</i>	Gastropoda	60.0	75.7	103.0	-	-	-	-	2	11.8	2	2.2
<i>Cystoseira nodicaulis</i>	Phaeophyceae	120.0	203.4	390.0	3	8.6	3	4.2	3	17.6	4	4.3
<i>Cystoseira spinosa</i>	Phaeophyceae	120.0	409.2	669.8	4	11.4	4	5.6	4	23.5	4	4.3
<i>Cystoseira spp.</i>	Phaeophyceae	72.0	75.5	80.0	-	-	-	-	1	5.9	1	1.1
<i>Cyttopsis rosea</i>	Phaeophyceae	390.0	495.9	616.7	2	5.7	2	2.8	-	-	-	-
<i>Dalatias licha</i>	Chondrichthyes	351.4	580.9	680.0	7	20.0	8	11.1	-	-	-	-
<i>Dardanus arrosor</i>	Malacostraca	120.0	356.5	754.0	6	17.1	8	11.1	10	58.8	22	23.9
<i>Deania calcea</i>	Chondrichthyes	300.0	558.2	754.0	14	40.0	23	31.9	-	-	-	-
<i>Deltentosteus quadrimaculatus</i>	Osteichthyes	45.0	61.6	103.0	-	-	-	-	4	23.5	6	6.5
<i>Dentex macrophthalmus</i>	Osteichthyes	45.0	49.6	60.0	-	-	-	-	2	11.8	2	2.2
<i>Dicologlossa cuneata</i>	Osteichthyes	305.0	458.4	580.0	2	5.7	2	2.8	6	35.3	9	9.8

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<i>Dictyota dichotoma</i>	Phaeophyceae	558.2	601.3	669.8	1	2.9	1	1.4	-	-	-	-
<i>Diplodus vulgaris</i>	Osteichthyes	47.0	72.2	145.0	-	-	-	-	7	41.2	7	7.6
<i>Dipturus batis</i>	Chondrichthyes	475.0	544.5	650.0	1	2.9	1	1.4	-	-	-	-
<i>Dipturus oxyrinchus</i>	Chondrichthyes	300.0	563.3	754.0	11	31.4	16	22.2	-	-	-	-
<i>Dirtemus argenteus</i>	Osteichthyes	594.8	634.9	680.0	1	2.9	1	1.4	-	-	-	-
<i>Echelus myrus</i>	Osteichthyes	300.0	330.3	390.0	1	2.9	1	1.4	-	-	-	-
<i>Echinus melo</i>	Echinoidea	120.0	417.3	649.7	5	14.3	5	6.9	1	5.9	1	1.1
<i>Echiodon dentatus</i>	Osteichthyes	300.0	330.3	390.0	1	2.9	1	1.4	-	-	-	-
<i>Eledone cirrhosa</i>	Cephalopoda	120.0	460.0	657.0	12	34.3	14	19.4	3	17.6	3	3.3
<i>Eledone moschata</i>	Cephalopoda	117.1	302.2	635.0	6	17.1	7	9.7	15	88.2	39	42.4
<i>Engraulis encrasicolus</i>	Osteichthyes	120.0	354.8	595.0	2	5.7	2	2.8	9	52.9	20	21.7
<i>Epigonus denticulatus</i>	Osteichthyes	390.0	459.5	669.8	4	11.4	6	8.3	-	-	-	-
<i>Epigonus telescopus</i>	Osteichthyes	448.4	555.2	650.0	3	8.6	5	6.9	-	-	-	-
<i>Etmopterus pusillus</i>	Chondrichthyes	300.0	513.1	754.0	21	60.0	34	47.2	-	-	-	-
<i>Etmopterus spinax</i>	Chondrichthyes	300.0	524.9	754.0	24	68.6	42	58.3	-	-	-	-
<i>Eutrigla gurnardus</i>	Osteichthyes	48.9	90.9	145.0	-	-	-	-	2	11.8	3	3.3
<i>Facciolella oxyrhyncha</i>	Osteichthyes	405.0	485.7	650.0	3	8.6	4	5.6	-	-	-	-
<i>Gadella maraldi</i>	Osteichthyes	420.0	438.8	480.0	1	2.9	1	1.4	-	-	-	-
<i>Gadiculus a. argenteus</i>	Osteichthyes	117.1	421.5	680.0	23	65.7	37	51.4	3	17.6	5	5.4
<i>Gaidropsaurus biscayensis</i>	Osteichthyes	208.6	530.1	754.0	15	42.9	23	31.9	-	-	-	-
<i>Gaidropsaurus vulgaris</i>	Osteichthyes	439.2	549.5	660.0	2	5.7	2	2.8	-	-	-	-
<i>Galeodea echinophora</i>	Gastropoda	120.0	515.4	754.0	10	28.6	14	19.4	4	23.5	4	4.3
<i>Galeodea rugosa</i>	Gastropoda	300.0	470.1	657.0	11	31.4	12	16.7	4	23.5	8	8.7
<i>Galeus melastomus</i>	Chondrichthyes	208.6	520.5	754.0	26	74.3	46	63.9	-	-	-	-
<i>Geryon longipes</i>	Malacostraca	501.4	559.1	595.0	2	5.7	2	2.8	-	-	-	-
<i>Goneplax rhomboides</i>	Malacostraca	439.2	533.6	650.0	4	11.4	6	8.3	-	-	-	-

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<i>Gracilechinus acutus</i>	Echinoidea	150.0	417.2	616.7	3	8.6	4	5.6	2	11.8	2	2.2
<i>Halobatrachus didactylus</i>	Osteichthyes	512.4	581.4	616.7	2	5.7	2	2.8	-	-	-	-
<i>Helicolenus dactylopterus</i>	Osteichthyes	120.0	490.9	680.0	23	65.7	33	45.8	9	52.9	12	13.0
<i>Heterocarpus ensifer</i>	Malacostraca	356.9	433.5	485.0	3	8.6	5	6.9	-	-	-	-
<i>Hexanchus griseus</i>	Chondrichthyes	594.8	626.9	640.0	1	2.9	1	1.4	-	-	-	-
<i>Holothuria (P.) forskali</i>	Holoturoidea	80.0	101.4	160.0	-	-	-	-	1	5.9	2	2.2
<i>Homola barbata</i>	Malacostraca	300.0	464.4	655.0	3	8.6	3	4.2	1	5.9	1	1.1
<i>Hoplostethus m. mediterraneus</i>	Osteichthyes	208.6	517.5	750.0	24	68.6	40	55.6	-	-	-	-
<i>Hymenocephalus gracilis</i>	Osteichthyes	300.0	482.6	680.0	2	5.7	2	2.8	-	-	-	-
<i>Hymenocephalus italicus</i>	Osteichthyes	320.0	357.0	420.0	1	2.9	1	1.4	-	-	-	-
<i>Hymenopenaeus debilis</i>	Malacostraca	555.0	586.4	655.0	1	2.9	1	1.4	-	-	-	-
<i>Illex coindetii</i>	Cephalopoda	120.0	476.3	754.0	18	51.4	31	43.1	9	52.9	20	21.7
<i>Jolya martorelli</i>	Bivalvia	60.0	74.4	103.0	-	-	-	-	1	5.9	1	1.1
<i>Laevicardium crassum</i>	Bivalvia	47.6	57.5	76.3	-	-	-	-	3	17.6	3	3.3
<i>Lepidopus caudatus</i>	Osteichthyes	150.0	423.7	750.0	21	60.0	29	40.3	10	58.8	26	28.3
<i>Lepidorhombus boscii</i>	Osteichthyes	430.0	513.5	565.0	1	2.9	1	1.4	-	-	-	-
<i>Lepidorhombus whiffiagonis</i>	Osteichthyes	520.0	575.7	649.7	2	5.7	2	2.8	-	-	-	-
<i>Lepidotrigla cavillone</i>	Osteichthyes	150.0	262.6	390.0	1	2.9	1	1.4	12	70.6	35	38.0
<i>Lepidotrigla dieuzeidei</i>	Osteichthyes	45.0	94.4	230.0	-	-	-	-	11	64.7	25	27.2
<i>Leptometra phalangium</i>	Crinoidea	120.0	286.4	450.0	5	14.3	6	8.3	10	58.8	21	22.8
<i>Lesueurigobius sanzi</i>	Osteichthyes	45.0	82.8	147.1	-	-	-	-	11	64.7	25	27.2
<i>Leucoraja naevus</i>	Chondrichthyes	305.0	357.0	435.5	1	2.9	1	1.4	3	17.6	4	4.3
<i>Liocarcinus depurator</i>	Malacostraca	120.0	198.9	395.0	2	5.7	3	4.2	8	47.1	16	17.4
<i>Loligo vulgaris</i>	Cephalopoda	512.4	579.1	595.0	1	2.9	1	1.4	8	47.1	14	15.2
<i>Lophius budegassa</i>	Osteichthyes	528.9	593.1	680.0	4	11.4	5	6.9	5	29.4	6	6.5
<i>Lophius piscatorius</i>	Osteichthyes	390.0	410.4	430.0	1	2.9	1	1.4	7	41.2	12	13.0

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<i>Luida ciliaris</i>	Asteroidea	63.5	67.2	70.8	-	-	-	-	1	5.9	1	1.1
<i>Lunatia fusca</i>	Gastropoda	583.8	615.7	649.7	1	2.9	1	1.4	1	5.9	3	3.3
<i>Macropipus tuberculatus</i>	Malacostraca	300.0	521.9	754.0	9	25.7	13	18.1	-	-	-	-
<i>Macropodia longipes</i>	Malacostraca	405.0	508.2	660.0	3	8.6	3	4.2	1	5.9	4	4.3
<i>Macroramphosus gracilis</i>	Osteichthyes	120.0	331.6	649.7	8	22.9	11	15.3	12	70.6	36	39.1
<i>Macroramphosus scolopax</i>	Osteichthyes	117.12	348.06	750	14	40.0	20	27.8	14	82.4	57	62.0
<i>Malacocephalus laevis</i>	Osteichthyes	117.1	469.3	754.0	26	74.3	39	54.2	1	5.9	2	2.2
<i>Medorippe lanata</i>	Malacostraca	150.0	262.6	390.0	1	2.9	1	1.4	-	-	-	-
<i>Merluccius merluccius</i>	Osteichthyes	120.0	349.2	649.7	16	45.7	25	34.7	17	100.0	68	73.9
<i>Microchirus azevia</i>	Osteichthyes	315.0	530.0	690.0	10	28.6	12	16.7	-	-	-	-
<i>Microchirus boscanion</i>	Osteichthyes	45.0	89.6	192.0	-	-	-	-	11	64.7	33	35.9
<i>Microchirus ocellatus</i>	Osteichthyes	47.0	62.1	103.0	-	-	-	-	3	17.6	4	4.3
<i>Microchirus variegatus</i>	Osteichthyes	120.0	377.5	635.0	2	5.7	2	2.8	13	76.5	39	42.4
<i>Micromesistius poutassou</i>	Osteichthyes	117.1	440.6	754.0	34	97.1	66	91.7	11	64.7	26	28.3
<i>Mola mola</i>	Osteichthyes	47.0	51.7	55.0	-	-	-	-	1	5.9	1	1.1
<i>Molva molva</i>	Osteichthyes	520.0	559.5	640.0	1	2.9	1	1.4	-	-	-	-
<i>Monodaeus couchii</i>	Malacostraca	300.0	531.3	660.0	7	20.0	9	12.5	-	-	-	-
<i>Monoplex corrugatus</i>	Gastropoda	75.0	106.5	150.0	-	-	-	-	2	11.8	2	2.2
<i>Monoplex parthenopeus</i>	Gastropoda	71.7	107.5	150.0	-	-	-	-	3	17.6	4	4.3
<i>Mora moro</i>	Osteichthyes	300.0	535.9	754.0	15	42.9	23	31.9	1	5.9	1	1.1
<i>Mullus surmuletus</i>	Osteichthyes	390.0	410.4	430.0	1	2.9	1	1.4	2	11.8	3	3.3
<i>Munida intermedia</i>	Malacostraca	305.0	555.2	669.8	9	25.7	14	19.4	2	11.8	2	2.2
<i>Munida rutilanti</i>	Malacostraca	585.6	631.2	660.0	1	2.9	1	1.4	-	-	-	-
<i>Myctophidae n.i.</i>	Osteichthyes	300.0	469.9	680.0	12	34.3	17	23.6	2	11.8	2	2.2
<i>Mytilus spp.</i>	Bivalvia	583.8	615.7	649.7	1	2.9	1	1.4	-	-	-	-
<i>Nemichthys scolopaceus</i>	Osteichthyes	583.8	621.3	649.7	2	5.7	2	2.8	-	-	-	-

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

Species	Class	Depth (m)			Crustacean trawl				Fish trawl			
					35 trips		72 tows		17 trips		92 tows	
		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Neopycnodonte cochlear</i>	Bivalvia	117.1	358.7	649.7	2	5.7	2	2.8	5	29.4	7	7.6
<i>Neoraja iberica n.sp.</i>	Chondrichthyes	520.0	590.2	670.0	2	5.7	3	4.2	-	-	-	-
<i>Neorossia caroli</i>	Cephalopoda	465.0	606.7	754.0	11	31.4	16	22.2	-	-	-	-
<i>Nephrops norvegicus</i>	Malacostraca	305.0	506.4	649.7	5	14.3	8	11.1	-	-	-	-
<i>Nezumia sclerorhynchus</i>	Osteichthyes	208.6	508.8	754.0	26	74.3	48	66.7	-	-	-	-
<i>Notacanthus chemnitzii</i>	Osteichthyes	420.0	562.0	680.0	8	22.9	11	15.3	-	-	-	-
<i>Nucula sulcata</i>	Bivalvia	439.2	467.8	485.0	1	2.9	1	1.4	-	-	-	-
<i>Octopus salutii</i>	Cephalopoda	320.0	526.8	754.0	7	20.0	9	12.5	1	5.9	2	2.2
<i>Octopus vulgaris</i>	Cephalopoda	45.0	90.7	230.0	-	-	-	-	9	52.9	13	14.1
<i>Ophiothrix fragilis</i>	Ophiuroidea	120.0	133.4	220.0	1	2.9	1	1.4	7	41.2	20	21.7
<i>Ophiura ophiura</i>	Ophiuroidea	120.0	235.5	390.0	5	14.3	6	8.3	14	82.4	38	41.3
<i>Pagellus acarne</i>	Osteichthyes	512.4	619.4	754.0	6	17.1	7	9.7	10	58.8	19	20.7
<i>Pagellus bogaraveo</i>	Osteichthyes	47.0	51.7	55.0	-	-	-	-	1	5.9	1	1.1
<i>Pagellus erythrinus</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	-	-	-	-
<i>Pagurus alatus</i>	Malacostraca	405.0	567.2	669.8	9	25.7	13	18.1	6	35.3	10	10.9
<i>Pagurus excavatus</i>	Malacostraca	101.4	114.6	147.1	-	-	-	-	1	5.9	1	1.1
<i>Pagurus prideaux</i>	Malacostraca	101.4	114.6	147.1	-	-	-	-	1	5.9	1	1.1
<i>Paracentrotus lividus</i>	Echinoidea	120.0	175.5	390.0	2	5.7	3	4.2	7	41.2	16	17.4
<i>Parapenaeus longirostris</i>	Malacostraca	150.0	403.6	660.0	17	48.6	22	30.6	11	64.7	26	28.3
<i>Parastichopus regalis</i>	Holoturoidea	405.0	446.7	485.0	2	5.7	2	2.8	2	11.8	2	2.2
<i>Pasiphaea sivado</i>	Malacostraca	150.0	430.7	650.0	13	37.1	19	26.4	-	-	-	-
<i>Penaeopsis serrata</i>	Malacostraca	220.0	405.6	660.0	5	14.3	5	6.9	-	-	-	-
<i>Pennatula phosphorea</i>	Anthozoa	120.0	133.4	220.0	1	2.9	1	1.4	10	58.8	13	14.1
<i>Peristedion cataphractum</i>	Osteichthyes	104.9	143.7	185.0	-	-	-	-	1	5.9	1	1.1
<i>Philine aperta</i>	Gastropoda	315.0	351.3	371.5	2	5.7	2	2.8	-	-	-	-
<i>Phycis blennoides</i>	Osteichthyes	183.0	495.2	754.0	20	57.1	31	43.1	-	-	-	-

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

Species	Class	Depth (m)			Crustacean trawl				Fish trawl			
					35 trips		72 tows		17 trips		92 tows	
		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Phycis phycis</i>	Osteichthyes	378.8	416.9	480.0	3	8.6	3	4.2	-	-	-	-
<i>Plesionika edwardsii</i>	Malacostraca	378.8	446.8	520.0	2	5.7	2	2.8	-	-	-	-
<i>Plesionika ensis</i>	Malacostraca	501.4	539.0	572.8	1	2.9	1	1.4	-	-	-	-
<i>Plesionika heterocarpus</i>	Malacostraca	120.0	312.9	669.8	7	20.0	11	15.3	4	23.5	7	7.6
<i>Plesionika martia</i>	Malacostraca	120.0	472.0	649.7	7	20.0	9	12.5	1	5.9	1	1.1
<i>Pleurobranchaea meckelii</i>	Gastropoda	45.0	60.1	80.0	-	-	-	-	1	5.9	1	1.1
<i>Polybius henslowi</i>	Malacostraca	120.0	426.0	754.0	19	54.3	31	43.1	6	35.3	7	7.6
<i>Polycheles typhlops</i>	Malacostraca	561.8	591.9	649.7	1	2.9	1	1.4	-	-	-	-
<i>Polymetme corythaeola</i>	Osteichthyes	390.0	531.8	660.0	9	25.7	12	16.7	-	-	-	-
<i>Pontinus kuhlii</i>	Osteichthyes	168.4	180.2	192.0	-	-	-	-	1	5.9	1	1.1
<i>Processa nouveli nouveli</i>	Malacostraca	315.0	471.2	650.0	3	8.6	3	4.2	-	-	-	-
<i>Pseudamussium clavatum</i>	Bivalvia	440.0	547.0	660.0	2	5.7	2	2.8	-	-	-	-
<i>Pteria hirundo</i>	Bivalvia	117.1	195.6	358.7	1	2.9	2	2.8	5	29.4	6	6.5
<i>Pteroctopus tetracirrhus</i>	Cephalopoda	528.9	559.7	580.0	1	2.9	1	1.4	-	-	-	-
<i>Raja asterias</i>	Chondrichthyes	53.0	85.5	130.0	-	-	-	-	2	11.8	2	2.2
<i>Raja clavata</i>	Chondrichthyes	150.0	527.6	670.0	9	25.7	12	16.7	11	64.7	19	20.7
<i>Raja miraletus</i>	Chondrichthyes	48.9	93.6	164.7	-	-	-	-	6	35.3	7	7.6
<i>Raja montagui</i>	Chondrichthyes	543.5	602.4	650.0	3	8.6	3	4.2	1	5.9	2	2.2
<i>Raja undulata</i>	Chondrichthyes	555.0	583.7	616.7	1	2.9	1	1.4	1	5.9	1	1.1
<i>Ranella olearium</i>	Gastropoda	300.0	529.1	754.0	17	48.6	24	33.3	8	47.1	14	15.2
<i>Rissoides desmaresti</i>	Malacostraca	55.0	58.3	65.0	-	-	-	-	1	5.9	1	1.1
<i>Rossia macrosoma</i>	Cephalopoda	208.6	492.3	754.0	10	28.6	11	15.3	3	17.6	3	3.3
<i>Ruvettus pretiosus</i>	Osteichthyes	448.4	595.0	754.0	3	8.6	3	4.2	-	-	-	-
<i>Sardina pilchardus</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	15	88.2	51	55.4
<i>Sargassum vulgare</i>	Phaeophyceae	558.2	596.2	669.8	2	5.7	2	2.8	-	-	-	-
<i>Scaevargus unicolorrhus</i>	Cephalopoda	150.0	296.5	390.0	2	5.7	2	2.8	3	17.6	5	5.4

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

Species	Class	Depth (m)			Crustacean trawl				Fish trawl			
					35 trips		72 tows		17 trips		92 tows	
		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Scaphander lignarius</i>	Gastropoda	315,0	335,4	350,0	1	2,9	1	1,4	5	29,4	10	10,9
<i>Scomber colias</i>	Osteichthyes	512,4	579,1	595,0	1	2,9	1	1,4	15	88,2	48	52,2
<i>Scomber scombrus</i>	Osteichthyes	120,0	133,4	220,0	1	2,9	1	1,4	15	88,2	43	46,7
<i>Scophthalmus rhombus</i>	Osteichthyes	527,0	591,1	657,0	1	2,9	1	1,4	-	-	-	-
<i>Scorpaena elongata</i>	Osteichthyes	120,0	133,4	220,0	1	2,9	1	1,4	4	23,5	5	5,4
<i>Scorpaena notata</i>	Osteichthyes	120,0	322,3	620,0	3	8,6	3	4,2	16	94,1	62	67,4
<i>Scyliorhinus canicula</i>	Chondrichthyes	150,0	457,4	665,0	16	45,7	22	30,6	12	70,6	33	35,9
<i>Scymnodon ringens</i>	Chondrichthyes	563,6	615,1	670,0	3	8,6	3	4,2	-	-	-	-
<i>Semicassis saburon</i>	Gastropoda	85,0	94,7	105,0	-	-	-	-	1	5,9	1	1,1
<i>Sepia elegans</i>	Cephalopoda	120,0	282,8	635,0	4	11,4	5	6,9	15	88,2	37	40,2
<i>Sepia officinalis</i>	Cephalopoda	45,0	87,8	145,0	-	-	-	-	4	23,5	4	4,3
<i>Sepia orbignyana</i>	Cephalopoda	117,1	236,5	424,6	4	11,4	7	9,7	8	47,1	17	18,5
<i>Sepietta obscura</i>	Cephalopoda	55,0	58,3	65,0	-	-	-	-	1	5,9	3	3,3
<i>Sepietta oweniana</i>	Cephalopoda	150,0	474,2	650,0	8	22,9	10	13,9	5	29,4	7	7,6
<i>Sepiola atlantica</i>	Cephalopoda	55,0	58,3	65,0	-	-	-	-	1	5,9	1	1,1
<i>Serranus cabrilla</i>	Osteichthyes	47,0	98,4	150,0	-	-	-	-	6	35,3	8	8,7
<i>Serranus hepatus</i>	Osteichthyes	120,0	483,0	680,0	8	22,9	9	12,5	16	94,1	75	81,5
<i>Setarches guentheri</i>	Osteichthyes	475,0	557,9	665,0	2	5,7	2	2,8	-	-	-	-
<i>Solecurtus scopula</i>	Bivalvia	60,0	76,7	102,1	-	-	-	-	1	5,9	1	1,1
<i>Solenocera membranacea</i>	Malacostraca	150,0	379,3	660,0	16	45,7	21	29,2	1	5,9	1	1,1
<i>Spatangus purpureus</i>	Echinoidea	100,0	116,5	164,7	-	-	-	-	1	5,9	1	1,1
<i>Sphoeroides pachygaster</i>	Osteichthyes	315,0	529,5	690,0	1	2,9	1	1,4	-	-	-	-
<i>Spicara maena</i>	Osteichthyes	512,4	579,1	595,0	1	2,9	1	1,4	-	-	-	-
<i>Spinolambrus macrochelos</i>	Malacostraca	104,9	143,7	185,0	-	-	-	-	1	5,9	1	1,1
<i>Spondyliosoma cantharus</i>	Osteichthyes	512,4	579,1	595,0	1	2,9	1	1,4	11	64,7	22	23,9
<i>Stomias boa boa</i>	Osteichthyes	561,8	603,8	649,7	2	5,7	2	2,8	-	-	-	-

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

Species	Class	Depth (m)			Crustacean trawl				Fish trawl			
					35 trips		72 tows		17 trips		92 tows	
		Min.	Mean	Max.	No.	%	No.	%	No.	%	No.	%
<i>Symphurus ligulatus</i>	Osteichthyes	150.0	405.2	650.0	12	34.3	17	23.6	2	11.8	2	2.2
<i>Symphurus nigrescens</i>	Osteichthyes	305.0	355.3	435.5	1	2.9	2	2.8	-	-	-	-
<i>Synphobranchus kaupii</i>	Osteichthyes	150.0	487.8	754.0	19	54.3	27	37.5	-	-	-	-
<i>Synchiropus phaeton</i>	Osteichthyes	150.0	389.7	620.0	3	8.6	3	4.2	1	5.9	1	1.1
<i>Todarodes sagittatus</i>	Cephalopoda	448.4	474.0	570.0	1	2.9	1	1.4	-	-	-	-
<i>Todaropsis eblanae</i>	Cephalopoda	150.0	429.2	660.0	9	25.7	14	19.4	7	41.2	10	10.9
<i>Tonna galea</i>	Gastropoda	90.0	118.0	150.0	-	-	-	-	1	5.9	1	1.1
<i>Torpedo marmorata</i>	Chondrichthyes	305.0	357.0	435.5	1	2.9	1	1.4	3	17.6	3	3.3
<i>Torpedo nobiliana</i>	Chondrichthyes	192.2	492.2	640.0	6	17.1	6	8.3	-	-	-	-
<i>Trachinus draco</i>	Osteichthyes	512.4	579.1	595.0	1	2.9	1	1.4	3	17.6	4	4.3
<i>Trachurus mediterraneus</i>	Osteichthyes	47.6	89.5	180.0	-	-	-	-	4	11.4	7	9.7
<i>Trachurus picturatus</i>	Osteichthyes	335.0	383.0	460.0	2	5.7	2	2.8	5	29.4	14	15.2
<i>Trachurus trachurus</i>	Osteichthyes	150.0	378.0	595.0	5	14.3	7	9.7	14	82.4	34	37.0
<i>Trachyrincus scabrus</i>	Osteichthyes	594.8	634.9	680.0	1	2.9	1	1.4	-	-	-	-
<i>Trigla lyra</i>	Osteichthyes	120.0	131.9	220.0	1	2.9	2	2.8	3	17.6	3	3.3
<i>Trigloporus lastoviza</i>	Osteichthyes	120.0	414.0	690.0	3	8.6	3	4.2	11	64.7	15	16.3
<i>Troschelia berniciensis</i>	Gastropoda	356.9	367.3	371.5	1	2.9	1	1.4	-	-	-	-
<i>Venefica proboscidea</i>	Osteichthyes	150.0	421.2	750.0	22	62.9	34	47.2	-	-	-	-
<i>Venus nux</i>	Bivalvia	120.0	377.5	635.0	2	5.7	2	2.8	13	76.5	38	41.3
<i>Zenopsis conchifera</i>	Osteichthyes	52.7	74.0	97.5	-	-	-	-	1	5.9	3	3.3
<i>Zeus faber</i>	Osteichthyes	47.6	96.6	192.0	-	-	-	-	11	64.7	19	20.7