

Table 4

Ranked frequency of occurrence (FO) of larval fish taxa collected in bongo nets from Recruitment Processes Task survey cruises 1972-1996. Average catch (number per 10m²) at positive hauls is included. Total number of 60 cm bongo tows = 8368 (includes 312 Tucker trawls). Bolded taxa are covered in Matarese et al. (2003). Gray taxa are combined at a higher taxonomic level.

Taxon	No. Positive Hauls	% FO	Sum of Catch/10m ²	Avg. Catch/10m ²
<i>Gadus chalcogrammus</i>	4773	57.04	4984654.103	595.680
<i>Ammodytes hexapterus</i>	4542	54.28	358528.691	42.845
<i>Stenobranchius leucopsarus</i>	2581	30.84	111925.502	13.375
<i>Lepidopsetta polyxystra</i>	2093	25.01	72725.350	8.691
<i>Hippoglossoides elassodon</i>	1867	22.31	108951.468	13.020
<i>Gadus macrocephalus</i>	1823	21.79	98380.316	11.757
<i>Bathymaster</i> spp.	1457	17.41	151675.355	18.126
<i>Sebastes</i> spp. ¹	1309	15.64	59128.424	7.066
<i>Hexagrammos decagrammus</i>	1063	12.70	16103.647	1.924
Gadidae	1043	12.46	174694.365	20.876
<i>Atheresthes stomias</i>	932	11.14	40228.857	4.807
<i>Icelinus</i> spp.	774	9.25	13974.818	1.670
Cyclopteridae	718	8.58	8550.829	1.022
<i>Leuroglossus schmidti</i>	690	8.25	7606.181	0.909
<i>Hippoglossus stenolepis</i>	643	7.68	7203.780	0.861
<i>Bathyagonus alascanus</i>	583	6.97	4888.797	0.584
<i>Bathylagus pacificus</i>	523	6.25	5284.756	0.632
<i>Lumpenus maculatus</i>	481	5.75	4597.007	0.549
Disintegrated	475	5.68	7990.944	0.955
<i>Mallotus villosus</i>	475	5.68	11348.954	1.356
<i>Cryptacanthodes aleutensis</i>	453	5.41	3823.550	0.457
<i>Platichthys stellatus</i>	448	5.35	8004.080	0.957
<i>Protomyctophum thompsoni</i>	446	5.33	3850.982	0.460
<i>Hemilepidotus hemilepidotus</i>	433	5.17	4625.840	0.553
Cottidae	417	4.98	5315.520	0.635
<i>Tarletonbeania crenularis</i>	389	4.65	8875.654	1.061
<i>Lepidopsetta bilineata</i>	385	4.60	4424.407	0.529
<i>Atheresthes</i> spp.	382	4.57	9245.819	1.105
<i>Lumpenus</i> spp.	376	4.49	3302.633	0.395
<i>Bathylagus ochotensis</i>	373	4.46	14590.430	1.744
<i>Anoplarchus</i> spp.	330	3.94	6140.290	0.734
<i>Hemilepidotus</i> spp.	311	3.72	14138.913	1.690
<i>Glyptocephalus zachirus</i>	288	3.44	3328.929	0.398
<i>Protomyctophum crockeri</i>	274	3.27	3467.119	0.414

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Taxon	No. Positive Hauls	% FO	Sum of Catch/10m ²	Avg. Catch/10m ²
<i>Poroclinus rothrocki</i>	264	3.15	3224.067	0.385
<i>Diaphus theta</i>	256	3.06	21918.638	2.619
Unidentified	220	2.63	3384.227	0.404
<i>Artedius harringtoni</i>	210	2.51	1619.195	0.193
<i>Zaprora silenus</i>	196	2.34	1411.285	0.169
<i>Reinhardtius hippoglossoides</i>	192	2.29	2372.440	0.284
<i>Lyopsetta exilis</i>	184	2.20	3475.021	0.415
<i>Pleuronectes quadrituberculatus</i>	179	2.14	1408.827	0.168
<i>Anoplopoma fimbria</i>	176	2.10	1777.740	0.212
<i>Radulinus asprellus</i>	175	2.09	1269.537	0.152
Osmeridae²	173	2.07	44895.193	5.365
<i>Lumpenus sagitta</i>	164	1.96	1321.844	0.158
<i>Chauliodus macouni</i>	162	1.94	1365.560	0.163
Agonidae	125	1.49	987.317	0.118
<i>Microstomus pacificus</i>	125	1.49	1163.814	0.139
Stichaeidae	123	1.47	1197.698	0.143
<i>Lumpenella longirostris</i>	120	1.43	1660.305	0.198
<i>Isopsetta isolepis</i>	112	1.34	1774.415	0.212
<i>Ruscarius meanyi</i>	107	1.28	756.404	0.090
Liparidae	103	1.23	1169.191	0.140
<i>Lestidiops ringens</i>	102	1.22	1015.174	0.121
<i>Pleurogrammus monopterygius</i>	96	1.15	1109.763	0.133
<i>Parophrys vetulus</i>	88	1.05	2481.143	0.297
<i>Sebastolobus spp.</i>	88	1.05	1351.225	0.161
<i>Nannobrachium ritteri</i>	86	1.03	1049.816	0.125
<i>Pholis spp.</i>	83	0.99	1020.082	0.122
<i>Myoxocephalus B³</i>	82	0.98	1172.842	0.140
Bathylagidae	80	0.96	1008.448	0.121
<i>Bathyagonus infraspinatus</i>	78	0.93	419.048	0.050
<i>Hexagrammos lagocephalus</i>	78	0.93	2435.621	0.291
<i>Myoxocephalus spp.³</i>	78	0.93	588.522	0.070
Macrouridae⁴	74	0.88	462.768	0.055
<i>Citharichthys stigmaeus</i>	73	0.87	638.370	0.076
<i>Citharichthys sordidus</i>	72	0.86	778.503	0.093

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Taxon	No. Positive Hauls	% FO	Sum of Catch/10m ²	Avg. Catch/10m ²
<i>Nansenia candida</i>	67	0.80	905.344	0.108
<i>Liparis</i> spp⁵	66	0.79	903.933	0.108
<i>Myoxocephalus</i> G ³	63	0.75	529.201	0.063
<i>Engraulis mordax</i>	61	0.73	13876.181	1.658
<i>Hexagrammos stelleri</i>	59	0.71	524.865	0.063
Myctophidae	59	0.71	1800.924	0.215
<i>Psettichthys melanostictus</i>	59	0.71	728.765	0.087
<i>Gymnocanthus</i> A	58	0.69	416.647	0.050
<i>Hemilepidotus spinosus</i>	57	0.68	493.171	0.059
<i>Nannobranchium</i> spp.	57	0.68	841.834	0.101
Melamphaeidae⁶	53	0.63	526.923	0.063
<i>Ophiodon elongatus</i>	53	0.63	316.392	0.038
<i>Ronquilus jordani</i>	53	0.63	546.780	0.065
<i>Stenobranchius</i> spp.	52	0.62	877.596	0.105
<i>Bryozoichthys lysimus</i>	51	0.61	325.180	0.039
<i>Podothecus acipenserinus</i>	51	0.61	394.838	0.047
Pleuronectidae	49	0.59	493.858	0.059
<i>Malacocottus zonurus</i> 1	48	0.57	314.704	0.038
<i>Icichthys lockingtoni</i>	47	0.56	423.619	0.051
<i>Citharichthys</i> spp.	45	0.54	2026.624	0.242
<i>Chirolophis</i> spp.	44	0.53	361.609	0.043
<i>Hemilepidotus jordani</i>	41	0.49	224.907	0.027
<i>Dasycottus setiger</i>	40	0.48	274.199	0.033
<i>Bathylagus milleri</i>	39	0.47	293.025	0.035
<i>Hexagrammos octogrammus</i>	37	0.44	714.789	0.085
<i>Malacocottus zonurus</i>	37	0.44	265.162	0.032
<i>Cryptacanthodes gigantea</i>	36	0.43	276.190	0.033
<i>Microgadus proximus</i>	35	0.42	722.255	0.086
<i>Stichaeus punctatus</i>	35	0.42	224.049	0.027
<i>Nannobranchium regalis</i>	33	0.39	337.580	0.040
<i>Tactostoma macropus</i>	28	0.33	220.875	0.026
<i>Clupea pallasii</i>	26	0.31	604.672	0.072
<i>Gymnocanthus</i> spp.	26	0.31	254.121	0.030
<i>Nectoliparis pelagicus</i>	25	0.30	155.864	0.019

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<i>Cyclothone</i> spp.	23	0.27	173.651	0.021
<i>Triglops forficata</i>	23	0.27	146.538	0.018
<i>Triglops macellus</i>	23	0.27	127.087	0.015
<i>Ptilichthys goodei</i>	22	0.26	127.541	0.015
<i>Trachipterus altivelis</i>	22	0.26	159.338	0.019
<i>Leptagonus frenatus</i>	21	0.25	143.917	0.017
<i>Artedius fenestralis</i>	18	0.22	147.778	0.018
<i>Bryozoichthys marjorius</i>	18	0.22	104.854	0.013
<i>Hemilepidotus zapus</i>	17	0.20	233.058	0.028
<i>Icelinus borealis</i>	17	0.20	146.731	0.018
<i>Bathyagonus</i> spp.	16	0.19	146.158	0.017
<i>Anoplagonus inermis</i>	14	0.17	88.207	0.011
<i>Leptocottus armatus</i>	14	0.17	87.974	0.011
<i>Bathyagonus nigripinnis</i>	13	0.16	83.579	0.010
<i>Chirolophis decoratus</i>	13	0.16	89.825	0.011
<i>Hemitripterus bolini</i>	13	0.16	73.340	0.009
Hexagrammidae	12	0.14	67.882	0.008
<i>Limanda aspera</i>	12	0.14	82.503	0.010
<i>Melamphaes</i> spp.	12	0.14	94.387	0.011
<i>Icosteus aenigmaticus</i>	11	0.13	97.372	0.012
<i>Paraliparis</i> spp.	11	0.13	108.125	0.013
<i>Psychrolutes paradoxus</i>	11	0.13	55.906	0.007
<i>Scorpaenichthys marmoratus</i>	11	0.13	60.297	0.007
Scorpaenidae	11	0.13	99.762	0.012
Zoarcidae⁷	11	0.13	189.707	0.023
<i>Chirolophis nugator</i>	10	0.12	72.875	0.009
<i>Psychrolutes sigalutes</i>	10	0.12	75.648	0.009
<i>Artedius</i> spp.	9	0.11	112.285	0.013
<i>Aptocyclus ventricosus</i>	8	0.10	29.985	0.004
<i>Aspidophoroides monopterygius</i>	8	0.10	42.123	0.005
<i>Danaphos oculatus</i>	8	0.10	52.603	0.006
Ophidiidae	8	0.10	80.564	0.010
<i>Argyropelecus lychnus</i>	7	0.08	44.087	0.005
<i>Argyropelecus</i> spp.	7	0.08	56.018	0.007

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<i>Bathyagonus pentacanthus</i>	7	0.08	32.764	0.004
<i>Bathylagus</i> spp.	7	0.08	97.328	0.012
<i>Bryozoichthys</i> spp.	7	0.08	66.791	0.008
<i>Embassichthys bathybius</i>	7	0.08	41.140	0.005
<i>Hexagrammos</i> spp.	7	0.08	426.851	0.051
<i>Stenobranchius nannochir</i>	7	0.08	79.892	0.010
<i>Triglops pingeli</i>	7	0.08	32.262	0.004
<i>Triglops</i> spp.	7	0.08	45.628	0.005
<i>Cololabis saira</i>	6	0.07	44.147	0.005
<i>Hypsagonus quadricornis</i>	6	0.07	34.101	0.004
<i>Melamphaes lugubris</i>	6	0.07	54.892	0.007
<i>Radulinus</i> spp.	6	0.07	36.126	0.004
<i>Symbolophorus californiensis</i>	6	0.07	44.149	0.005
<i>Anoplarchus insignis</i>	5	0.06	73.497	0.009
<i>Blepsias bilobus</i>	5	0.06	41.478	0.005
<i>Merluccius productus</i>	5	0.06	278.533	0.033
<i>Argyropelecus affinis</i>	4	0.05	8.297	0.001
<i>Hypsagonus mozinoi</i>	4	0.05	26.157	0.003
<i>Sebastes paucispinis</i>	4	0.05	32.029	0.004
<i>Xeneretmus latifrons</i>	4	0.05	34.464	0.004
<i>Brosmophycis marginata</i>	3	0.04	21.210	0.003
<i>Ceratoscopelus townsendi</i>	3	0.04	20.486	0.002
<i>Leuroglossus stilbius</i>	3	0.04	48.511	0.006
Myctophidae B	3	0.04	20.000	0.002
<i>Nautichthys oculo-fasciatus</i>	3	0.04	16.737	0.002
<i>Paricelinus hopliticus</i>	3	0.04	55.382	0.007
Pholidae	3	0.04	19.138	0.002
<i>Bathymaster</i> 2	2	0.02	20.344	0.002
<i>Bathymaster signatus</i>	2	0.02	8.707	0.001
Bathymasteridae	2	0.02	7.718	0.001
<i>Bothragonus swani</i>	2	0.02	24.587	0.003
<i>Clinocottus</i> spp.	2	0.02	13.229	0.002
Cottoid type A	2	0.02	4.460	0.001
<i>Cottus asper</i>	2	0.02	13.562	0.002

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<i>Gasterosteus aculeatus</i>	2	0.02	8.222	0.001
<i>Icelus</i> spp.	2	0.02	18.800	0.002
<i>Lepidogobius lepidus</i>	2	0.02	12.833	0.002
<i>Liparis florum</i>	2	0.02	10.477	0.001
<i>Macropinna microstoma</i>	2	0.02	12.351	0.001
<i>Malacocottus zonurus</i> 2	2	0.02	14.415	0.002
<i>Microstoma</i> sp.	2	0.02	14.318	0.002
<i>Nautichthys robustus</i>	2	0.02	10.006	0.001
<i>Radulinus boleoides</i>	2	0.02	15.379	0.002
<i>Rhinoliparis barbulifer</i>	2	0.02	16.629	0.002
<i>Scopelosaurus</i> spp.	2	0.02	14.583	0.002
<i>Stellerina xyosterna</i>	2	0.02	11.333	0.001
<i>Tetragonurus cuvieri</i>	2	0.02	20.072	0.002
<i>Trachurus symmetricus</i>	2	0.02	179.402	0.021
<i>Triglops scepticus</i>	2	0.02	12.652	0.002
<i>Allosmerus elongatus</i>	1	0.01	5.579	0.001
<i>Anarhichas orientalis</i>	1	0.01	9.051	0.001
<i>Anoplarchus purpureus</i>	1	0.01	16.782	0.002
<i>Argentina sialis</i>	1	0.01	8.213	0.001
<i>Argyrolepecus sladeni</i>	1	0.01	8.735	0.001
<i>Aristostomias scintillans</i>	1	0.01	5.744	0.001
<i>Benthalbella dentata</i>	1	0.01	7.041	0.001
<i>Blepsias cirrhosus</i>	1	0.01	13.313	0.002
<i>Careproctus</i> spp.	1	0.01	9.635	0.001
<i>Chitonotus pugetensis</i>	1	0.01	6.848	0.001
<i>Clevelandia ios</i>	1	0.01	3.996	0.000
<i>Clinocottus acuticeps</i>	1	0.01	39.428	0.005
Clupeiformes	1	0.01	7.759	0.001
<i>Diogenichthys atlanticus</i>	1	0.01	8.483	0.001
<i>Diogenichthys</i> spp.	1	0.01	5.303	0.001
<i>Enophrys</i> spp.	1	0.01	6.584	0.001
<i>Eopsetta jordani</i>	1	0.01	8.536	0.001
<i>Eurypharynx</i> spp.	1	0.01	6.539	0.001
<i>Idiacanthus</i> spp.	1	0.01	6.272	0.001

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<i>Leptagonus leptorhynchus</i>	1	0.01	2.018	0.000
<i>Liparis pulchellus</i>	1	0.01	6.368	0.001
<i>Loweina rara</i>	1	0.01	15.761	0.002
<i>Lycodapus</i> spp.	1	0.01	7.059	0.001
<i>Lycodes brevipes</i>	1	0.01	7.626	0.001
<i>Lycodes diapterus</i>	1	0.01	8.758	0.001
<i>Myoxocephalus polyacanthocephalus</i>	1	0.01	8.047	0.001
<i>Notolepis rissoi</i>	1	0.01	8.415	0.001
<i>Osmerus mordax</i>	1	0.01	6.500	0.001
<i>Oxylebius pictus</i>	1	0.01	5.060	0.001
<i>Pallisina barbata</i>	1	0.01	6.571	0.001
<i>Paraliparis holomelas</i>	1	0.01	8.874	0.001
<i>Parvilux ingens</i>	1	0.01	8.347	0.001
<i>Pholis laeta</i>	1	0.01	4.129	0.000
<i>Plectobranchnus evides</i>	1	0.01	6.232	0.001
<i>Pleuronichthys coenosus</i>	1	0.01	6.580	0.001
<i>Rhamphocottus richardsoni</i>	1	0.01	2.764	0.000
<i>Thaleichthys pacificus</i>	1	0.01	8.689	0.001
Trachipteridae	1	0.01	7.894	0.001
<i>Trichodon trichodon</i>	1	0.01	3.457	0.000
<i>Xiphister</i> spp.	1	0.01	5.505	0.001

¹Species in the study area are *Sebastes aleutianus*, *S. alutus*, *S. auriculatus*, *S. aurora*, *S. babcocki*, *S. borealis*, *S. brevispinis*, *S. caurinus*, *S. chlorostictus*, *S. ciliatus*, *S. crameri*, *S. diploproa*, *S. elongatus*, *S. emphaeus*, *S. entomelas*, *S. flavidus*, *S. glaucus*, *S. goodei*, *S. helvomaculatus*, *S. jordani*, *S. maliger*, *S. melanops*, *S. melanostictus*, *S. miniatus*, *S. mystinus*, *S. nebulosus*, *S. nigrocinctus*, *S. paucispinis*, *S. pinniger*, *S. polyspinis*, *S. proriger*, *S. rastrelliger*, *S. reedi*, *S. ruberrimus*, *S. rufus*, *S. saxicola*, *S. variegatus*, *S. wilsoni*, and *S. zacentrus*.

²Species in the study area are *Allosmerus elongatus*, *Hypomesus pretiosus*, *Mallotus villosus*, *Osmerus mordax*, *Spirinchus starksi*, *S. thaleichthys*, and *Thaleichthys pacificus*.

³Species in the study area are *Myoxocephalus axillaris*, *M. brandti*, *M. jaok*, *M. niger*, *M. polyacanthocephalus*, *M. quadricornis*, *M. scorpius*, *M. stelleri*, and *M. verrucosus*.

⁴Species in the study area are *Albatrossia pectoralis*, *Coryphaenoides acrolepis*, *C. armatus*, *C. cinereus*, *C. filifer*, *C. leptolepis*, *C. liocephalus*, *C. longifilis*, *C. yaquinae*, and *Nezumia*

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Taxon	No. Positive Hauls	% FO	Sum of Catch/10m ²	Avg. Catch/10m ²
<i>stelgidolepis</i> .				
⁵ Species found in the study area are <i>Liparis bristolensis</i> , <i>L. callyodon</i> , <i>L. catharus</i> , <i>L. cyclopus</i> , <i>L. dennyi</i> , <i>L. floriae</i> , <i>L. fucensis</i> , <i>L. gibbus</i> , <i>L. grebnitzki</i> , <i>L. marmoratus</i> , <i>L. mednius</i> , <i>L. megacephalus</i> , <i>L. micraspidophorus</i> , <i>L. mucosus</i> , <i>L. ochotensis</i> , <i>L. pulchellus</i> , <i>L. rutteri</i> , and <i>L.tunicatus</i> .				
⁶ Species found in the study area are <i>Melamphaes lugubris</i> , <i>Poromitra crassiceps</i> , and <i>Scopeloberyx robustus</i> .				
⁷ Species in the study area are <i>Bothocara brunneum</i> , <i>B. hollandi</i> , <i>B. molle</i> , <i>B. pusillum</i> , <i>B. remigerum</i> , <i>Derepodichthys alepidotus</i> , <i>Gymnelis hemifasciatus</i> , <i>G. popovi</i> , <i>G. viridis</i> , <i>Krusensterniella pavlovskii</i> , <i>Lycenchelys altus</i> , <i>L. camchaticus</i> , <i>L. crotalinus</i> , <i>L. hippopotamus</i> , <i>L. jordani</i> , <i>L. longirostris</i> , <i>L. microporus</i> , <i>L. pliciferus</i> , <i>L. rassi</i> , <i>L. ratmanovi</i> , <i>L. roseus</i> , <i>L. volki</i> , <i>Lycodapus derjugini</i> , <i>L. dermatinus</i> , <i>L. endemoscotus</i> , <i>L. fierasfer</i> , <i>L. leptus</i> , <i>L. mandibularis</i> , <i>L. pachysoma</i> , <i>L. parviceps</i> , <i>L. poecilis</i> , <i>L. psarosomatus</i> , <i>Lycodes brevipes</i> , <i>L.concolor</i> , <i>L. cortezianus</i> , <i>L. diapterus</i> , <i>L. mucosus</i> , <i>L. pacifica</i> , <i>L. palearis</i> , <i>L. raridens</i> , <i>L. turneri</i> , <i>Lycinema barbatum</i> , <i>Melanostigma pammelas</i> , <i>Nalbantichtys elongatus</i> , <i>Opaeophacus acrogeneius</i> , <i>Pachycara bulbiceps</i> , <i>Puzanovia rubra</i> , and <i>Taranetzella lycoderma</i> .				