

Mediterranean Marine Science

Vol 20, No 1 (2019)



Species composition of ichthyoplankton assemblages: a response to seasonal temperature changes

ÇETIN KESKIN, DANIEL PAULY

doi: [10.12681/mms.18263](https://doi.org/10.12681/mms.18263)

To cite this article:

KESKIN, ÇETIN, & PAULY, D. (2019). Species composition of ichthyoplankton assemblages: a response to seasonal temperature changes. *Mediterranean Marine Science*, 20(1), 222–226. <https://doi.org/10.12681/mms.18263>

Supplementary Data

Species composition of ichthyoplankton assemblages: a response to seasonal temperature changes

Çetin KESKIN and Daniel PAULY

*Mediterranean Marine Science, 2019, 20 (1)***Table S1.** Species encountered in the surveys documented in Table 1 and preferred temperature (PTs).

Species	PT ₅₀	Species	PT ₅₀	Species	PT ₅₀
<i>Aidablennius sphynx</i>	18.8	<i>Gadiculus argenteus</i>	7.9	<i>Parablennius tentacularis</i>	19.2
<i>Anthias anthias</i>	18.3	<i>Gaidropsarus biscayensis</i>	13.9	<i>Parablennius zvonimiri</i>	18.8
<i>Aphia minuta</i>	10.8	<i>Gaidropsarus vulgaris</i>	9.6	<i>Parophidion vassali</i>	14.6
<i>Apogon imberbis</i>	16.3	<i>Gaidropsaurus mediterraneus</i>	10.1	<i>Pegusa lascaris</i>	18.1
<i>Arctozenus risso</i>	4.1	<i>Glossanodon leioglossus</i>	13	<i>Pegusa nasuta</i>	18.0
<i>Argyrolepecus hemigymnus</i>	11.3	<i>Gnathophis mystax</i>	14.2	<i>Pelates quadrilineatus</i>	28.0
<i>Ariosoma balearicum</i>	26.6	<i>Gobius geniporus</i>	17	<i>Pempheris vanicolensis</i>	28.6
<i>Arnoglossus laterna</i>	10.8	<i>Gobius niger</i>	10.8	<i>Phycis phycis</i>	14.9
<i>Arnoglossus thori</i>	15.4	<i>Gobius paganellus</i>	17.7	<i>Pomatomus saltatrix</i>	21.1
<i>Atherina boyeri</i>	18.3	<i>Gymnamodytes cicereus</i>	14.3	<i>Pomatoschistus marmoratus</i>	15.1
<i>Auxis rochei</i>	26	<i>Hippocampus guttulatus</i>	18.6	<i>Pomatoschistus minutus</i>	9.4
<i>Benthosea glaciale</i>	5.1	<i>Hygophum benoiti</i>	14	<i>Remora remora</i>	24.8
<i>Blennius ocellaris</i>	13.9	<i>Hygophum hygomii</i>	11.8	<i>Sarda sarda</i>	10.7
<i>Boops boops</i>	17.8	<i>Hyporhamphus picarti</i>	21.9	<i>Sardina pilchardus</i>	10.3
<i>Bothus podas</i>	17.8	<i>Ichthyococcus ovatus</i>	12.8	<i>Sardinella aurita</i>	18.8
<i>Brama brama</i>	11.8	<i>Katsuwonus pelamis</i>	26.2	<i>Sardinella maderensis</i>	21.0
<i>Buglossidium luteum</i>	10.6	<i>Lampanyctus crocodilus</i>	7.9	<i>Saurida undosquamis</i>	26.0
<i>Callanthias ruber</i>	14.6	<i>Lampanyctus pusillus</i>	12.3	<i>Sciaena umbra</i>	15.3
<i>Callionymus lyra</i>	13.3	<i>Lepadogaster candolii</i>	18.2	<i>Scomber colias</i>	19.0
<i>Callionymus maculatus</i>	8.6	<i>Lepadogaster lepadogaster</i>	19	<i>Scomber scombrus</i>	17.0
<i>Callionymus pusillus</i>	17.1	<i>Lepidopus caudatus</i>	12.2	<i>Scophthalmus maeoticus</i>	9.4
<i>Callionymus risso</i>	14.8	<i>Lepidotrigla cavillone</i>	15	<i>Scophthalmus maximus</i>	9.4
<i>Capros aper</i>	10.7	<i>Lestidiops jayakari</i>	9.9	<i>Scorpaena porcus</i>	13.9
<i>Caranx rhonchus</i>	19.2	<i>Lestidiops sphyrenoides</i>	14.2	<i>Scorpaena scrofa</i>	14.4
<i>Carapus acus</i>	19.4	<i>Lesueurigobius friesii</i>	10.4	<i>Serranus cabrilla</i>	14.4
<i>Centracanthidae</i>	27	<i>Lithognathus mormyrus</i>	24.4	<i>Serranus hepatus</i>	18.3
<i>Centracanthus cirrus</i>	14.9	<i>Chelon auratus</i>	11.9	<i>Serranus scriba</i>	18.4
<i>Cepola macrophthalma</i>	11.9	<i>Planiliza haematocheila</i>	22.4	<i>Sillago sihama</i>	28.5
<i>Ceratoscopelus maderensis</i>	8.6	<i>Chelon saliens</i>	18.4	<i>Solea solea</i>	11.4
<i>Chelidonichthys lucerna</i>	9.8	<i>Lobianchia dofleini</i>	4.4	<i>Sparus aurata</i>	17.8
<i>Chromis chromis</i>	20.1	<i>Lophius budegassa</i>	11.1	<i>Sphyraena sphyraena</i>	18.3
<i>Citharus linguatula</i>	15.2	<i>Lophius piscatorius</i>	7.7	<i>Spicara maena</i>	14.5
<i>Conger conger</i>	8.7	<i>Macroramphosus scolopax</i>	13.6	<i>Sprattus sprattus</i>	9.5
<i>Coris julis</i>	19	<i>Maurolucus muelleri</i>	7.1	<i>Stomias boa</i>	6.8
<i>Crystalllogobius linearis</i>	9.8	<i>Merlangius merlangus</i>	9.2	<i>Symbolophorus veranyi</i>	13.2
<i>Ctenolabrus rupestris</i>	10.4	<i>Merluccius merluccius</i>	10.2	<i>Symphodus tinca</i>	18.9
<i>Cyclothone braueri</i>	9.3	<i>Microchirus ocellatus</i>	17.1	<i>Symphodus cinereus</i>	18.9
<i>Cyclothone microdon</i>	3.2	<i>Mugil cephalus</i>	23.2	<i>Symphodus ocellatus</i>	18.9
<i>Cynoglossus sinusarabici</i>	27	<i>Upeneus pori</i>	26.4	<i>Symphodus roissali</i>	18.7
<i>Dentex dentex</i>	18.1	<i>Mullus barbatus</i>	14.2	<i>Symphurus nigrescens</i>	13.9
<i>Dentex gibbosus</i>	15.5	<i>Mullus surmuletus</i>	10.2	<i>Syngnathus acus</i>	17.7
<i>Diaphus holti</i>	14.1	<i>Muraena helena</i>	14.4	<i>Syngnathus phlegon</i>	19.3
<i>Diaphus rafinesquei</i>	10.8	<i>Myctophidae</i>	7.9	<i>Syngnathus schmidti</i>	16.1
<i>Dicentrarchus labrax</i>	10.7	<i>Myctophum punctatum</i>	7.9	<i>Synodus saurus</i>	19.8

continued

Table S1. (continued)

<i>Diplecogaster bimaculata</i>	10.6	<i>Notoscopelus bolini</i>	14.3	<i>Thalassoma pavo</i>	18.7
<i>Diplodus annularis</i>	18.3	<i>Notoscopelus elongatus</i>	13.6	<i>Thunnus thynnus</i>	12.6
<i>Diplodus sargus</i>	18.8	<i>Oblada melanura</i>	19.6	<i>Trachinus draco</i>	10.9
<i>Diplodus vulgaris</i>	18.8	<i>Ophidion rochei</i>	16.5	<i>Trachurus mediterraneus</i>	17.4
<i>Echelus myrus</i>	14.8	<i>Pagellus acarne</i>	14.8	<i>Trachurus picturatus</i>	13.1
<i>Echiichthys vipera</i>	10.9	<i>Pagellus bogaraveo</i>	11.2	<i>Trachurus trachurus</i>	13.4
<i>Engraulis encrasicolus</i>	10.8	<i>Pagellus erythrinus</i>	17.2	<i>Tripterygion sp</i>	19.0
<i>Etrumeus golanii</i>	20.3	<i>Pagrus pagrus</i>	24.1	<i>Umbrina cirrosa</i>	18.0
<i>Euthynnus alletteratus</i>	23.3	<i>Parablennius gattorugine</i>	17.4	<i>Uranoscobus scaber</i>	14.2
<i>Eutrigla gurnardus</i>	10.1	<i>Parablennius sanguinolentus</i>	18.6	<i>Zeus faber</i>	13.6

Table S2. Summary statistics for Equation (1).

<i>Anova</i>	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	3	262.770	87.59	55.12
Residual	55	87.398	1.59	--
Total	58	350.168	--	--
<i>Parameter</i>	<i>Coefficients</i>	<i>St. error</i>	<i>t-stat.</i>	<i>P-value</i>
Intercept	9.000	0.737	12.211	2.7E-17
SST	0.188	0.036	5.251	2.5E-06
AS	1.669	0.375	4.448	4.3E-05
LS	5.027	0.485	10.361	1.5E-14

Table S3. Correlation coefficients between the variables of Table 1. Lower left: Zero-order coefficients; upper right (bold): Second-order partial correlation coefficients; *: p<0.05.

	MTC	SST	LS	AS
MTC	1	0.578*	0.813*	0.514*
SST	0.507*	1	-0.385	-0.153
LS	0.693*	0.066	1	-0.577*
AS	0.161	0.159	0.309*	1