# Composition of Fish Larvae from the Gulf of Kisamos (Crete, Greece) in the periods of May and July 1989

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The data of the present paper concerns with the composition of fish larvae collected in May and July 1989 from the Gulf of Kisamos (NW Crete, Greece). Zooplankton samples have been collected from five stations by using WP-2 (mouth diameter 57 cm and mesh size 200 µm) and Bongo (mouth diameter of each net 61 cm and mesh size 500µm) nets, in order to cover a wide range of larvae sizes. Double oblique hauls were applied at a speed of 2-2.5 knots. Flowmeters were attached to both nets. The average water volumes filtered through nets were 98 $m^3$ for each Bongo net and 87 $m^3$ for WP-2 net.

Identification of fish larvae was based on various sources (ABOUSSOUAN, 1964; BERTOLINI ET AL, 1931-1956; DEKHNIK and SINYUKOVA, 1966). In samples collected in May 23rd and July 29th 1989, the fish larvae of the Table 1 were identified.

TABLE 1. Larvae per fish family identified in samples collected in May and July 1989 from the Gulf of Kisamos. The collection period for each larval species and the net type are indicated in parenthesis: M = May, J = July, B = Bongo and WP = WP-2 net

| FAMILY | SPECIES |
|---|---|
| Blenniidae | Blennius gattorugine (M:B,WP), B. ocellaris (M:B-J:B) B. tentacularis (M:B), Blennius sp. (J:B) |
| Bothidae | Arnoglossus sp (M:B-J:B,WP) |
| Callionymidae | Callionymus lyra (M:B) |
| Carangidae | Trachurus mediterraneus(M:B), T. trachurus (M:B) |
| Cepolidae | Cepola rubencens (M:B-J:B) |
| Clupeidae | Clupea sprattus (J:B) |
| Gobiidae | Gobius niger(M:B,WP-J:B,WP), G. minutus(M:B), Crystallogobius linearis (M:B,WP), Gobius sp (M:B-J:B,WP), G. paganellus (J:B) |
| Labridae | Coris julis (M:B-J:B,WP), Crenilabrus melops (M:B,WP) Labrus bergylta (M:B), Crenilabrus sp (J:B,WP) |
| Mullidae | Mullus surmuletus (M:B) |
| Myctophidae | Ceratoscopelus maderensis (M:B-J:B,WP), Diaphus holti (M:B-J:B), Lampanyctus pusillus (M:B,WP-J:B) |
| Ophiididae | Ophidion barbatum (J:WP) |
| Paralepididae | Lestidium sphyraenoides (M:B), Lestidium sp (J:B) |
| Pomacentridae | Chromis chromis (J:B,WP) |
| Serranidae | Dicentrachus labrax (M:B), Hepatus hepatus (M:B-J:B), Serranus cabrilla (M:B,WP-J:B,WP), S. Scriba (J:B) |
| Soleidae | Pegusa lascaris (J:B) |
| Sparidae | Pagrus pagrus (M:B-J:B), Sargus sargus (M:B,WP) |
| Sternoptychidae | Cyclothone braueri (M:B,WP-J:B), Maurolicus pennanti (M:B-J:B) |
| Syngnathidae | Hippocampus guttulatus (M:B,WP), Nerophis ophidion (M:B,WP-J:B) |
| Synodidae | Synodus saurus (J:B) |
| Triglidae | Lepidotrigla aspera (M:B,WP) |

In samples collected in May using Bongo net 30 larval species were identified and 11 ones in WP-2 samples.

The densities of fish larvae collected with WP-2 and Bongo net show differences in all sampling sites of the Gulf of Kisamos (Table 2). Higher densities were recorded in station 1 and 5 (45 and 35 m in depth), and followed by densities in station 2 (300 m in depth).

TABLE 2. Densities of fish larvae in samples of May 1989, in respect to plankton net and station depth

| STATION | DEPTH (m) | BONGO-NET (DENSITY n $10m^{-3}$) IDENTIFIED | BONGO-NET (DENSITY n $10m^{-3}$) UNIDENTIFIED | WP2-NET (DENSITY n $10m^{-3}$) IDENTIFIED | WP2-NET (DENSITY n $10m^{-3}$) UNIDENTIFIED |
|---|---|---|---|---|---|
| S1 | 45 | 5.13 | 0.06 | 2.57 | 0.09 |
| S2 | 300 | 9.66 | 0.05 | 1.82 | 0.08 |
| S3 | 250 | 2.03 | 0.11 | 1.08 | - |
| S4 | 230 | 1.88 | - | 0.52 | - |
| S5 | 35 | 13.28 | - | 3.57 | - |

TABLE 3. Densities (n $10m^{-3}$) of dominant fish larvae in samples collected in May 1989. The numbers in parenthesis show percentages corresponding to the total densities of fish larvae

| | BONGO-NET | | | WP2-NET | |
|---|---|---|---|---|---|
| STATION | Sargus sargus | Gobius niger | Ceratoscopelus maderensis | Sargus sargus | Gobius niger |
| S1 | 1.55(15.4) | 0.7(6.8) | 0.35 | 1.85(36.0) | 0.39(7.5) |
| S2 | 2.55(13.2) | 1.8(9.3) | 0.44 | 0.79(21.7) | - |
| S3 | 0.16(4.0) | 0.05(1.3) | 0.11 | 0.82(37.5) | - |
| S4 | 0.72(19.1) | 0.05(1.3) | 0.11 | 0.40(4.2) | - |
| S5 | 0.91(3.4) | 10.3(38.9) | 0.05 | 1.06(14.9) | 1.13(15.5) |

The sizes of fish larvae collected with Bongo net vary between 4.5 to 7.0 mm and those with the WP-2 net between 3.0 to 6.0 mm.

The large number of fish larval species and their low densities in the Gulf of Kisamos suggest an oligotrophic character of this ecosystem. Larvae of Myctophidae are encountered in all sampling sites, indicating an oceanic influence on the entire gulf. Abundant larvae of many fish species of commercial importance (Sargus sargus, Oblada melanura etc.) have been sampled from the gulf.

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