

Egg-Case of the Dogfish *Scyliorhinus canicula* (L., 1758) from Sicilian Channel (Mediterranean Sea). I.- Test of the intraspecific size diversity

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The smallspotted catchshark, *Scyliorhinus canicula*, has a wide-spread distribution in the Sicilian Channel, where it constitutes an important by-catch species for local fisheries (probably most of the 1833 t catch of *Scyliorhinus* spp. landed in 1982; Cingolani et al. 1986) and is commonly commercialized fresh and peeled (actual price ca. 4\$/Kg). Nevertheless, no information is available on the situation of this resource in the area of the Sicilian Channel investigated by the I.T.P.P.-C.N.R. of Mazara during two years (May. 85-Feb. 87) of experimental trawl surveys (Levi, 1988).

Using data collected in this occasion and during an "ad hoc" elaborated research program (SCYCAN), a random stratified sample (see the companion paper, Ragonese & Jereb, 1990) of 147 females of *S. canicula* with egg-cases in the oviducts was selected. For each specimen intra-oviducal egg-cases differences in length (median length = ML; 0.1 mm), width (maximum width = MW; 0.1 mm) and "virtual surface" ($Sf = ML \cdot MW$; mm²; Fig.1) were tested by using a paired t-test (Bokal & Rohlf, 1969).

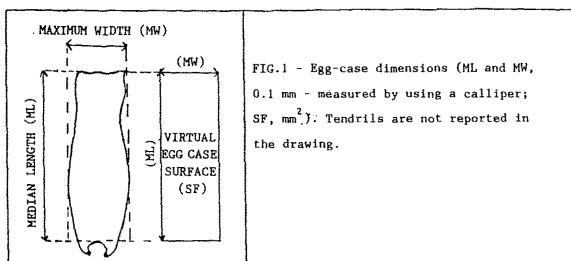


FIG.1 - Egg-case dimensions (ML and MW, 0.1 mm - measured by using a calliper; SF, mm²): Tendrils are not reported in the drawing.

The null hypothesis (no difference) was always not disproved (Tab.1) but the test on the virtual surface fitted better the assumption "... left and right egg-cases are equivalent...", containing more information than the other two variables. Further, the basic assumption of the paired t-test (normal distribution of paired differences) was met for SFdif ($p = 0.236$) and not for MLdif ($p = 0.019$) neither for MWdif ($p = 0.010$) according to the Kolmogorov-Smirnov one sample test using standard normal distribution (Lilliefors, 1967). The correspondence of rectangular approximation (virtual surface, fig.1) with the actual surface (computed by using a digital planimeter PLANIX 7, TAMAYA) covered by egg-case was evaluated on 18 egg-cases (3 for 6 dimensional classes); virtual surfaces are high significantly correlated to the actual ones (Pearson correlation coefficient = 0.975; $p < 0.01$), the slight overestimation (virtual/actual > 1) being compensated by the easier computation.

	ML dif	MW dif	SF dif	
MINIMUM	-1.9	-0.9	-40.1	TAB.1 - Paired t-test on left-right differences (dif): degree of freedom = 146; level of confidence = 0.05 (two sided); critical t value = 1.97; H ₀ : μ dif = 0; ND = not disproved.
MAXIMUM	2.1	1.1	45.2	
MEAN	0.061	-0.008	0.638	
STANDARD ERROR	0.054	0.025	1.252	
t	1.20	0.32	0.51	
H ₀	ND	ND	ND	

These results confirm, also on statistical bases, for *S. canicula* trawled in the Sicilian waters the "twin" nature of egg-cases (i.e. they are practically equivalent; Mellinger, 1983) but indicate in the virtual surface a more useful statistic than length or width individually considered.

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