

A NOTE ON THE SIZE DIFFERENCE BETWEEN MALES AND
FEMALES OF *NEMIPTERUS JAPONICUS* (BLOCH)

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ABSTRACT

The statistical study, made separately on the length-weight relationships of the two sexes, has shown that size differences occur among the males and females of *Nemipterus japonicus* and the females are generally smaller than the males.

During the course of investigation on the distribution and abundance (Krishnamoorthi 1968) and a few aspects of the biology (Krishnamoorthi 1971) of *Nemipterus japonicus* (Bloch), it became increasingly clear that the males differ in size from the females. This became apparent when length-weight relationships of the males and the females were studied separately, when it was found statistically that an equation common to both could not be recommended (Krishnamoorthi 1971).

Therefore, the length-frequency data collected during the years 1964-65, 1965-66 and 1966-67 were reanalysed in respect of males and females (Table 1). In order to gauge the extent of significance of the differences between the

TABLE 1. *Sexwise analysis of length frequency of N. japonicus for the 3 years.*

Particulars	1964-1965		1965-1966		1966-1967	
	Males	Females	Males	Females	Males	Females
Number of fish in the sample	435	290	252	168	318	216
Range of length in mm	95.5- 295.5	135.5- 245.5	105.5- 285.5	85.5- 215.5	125.5- 265.5	115.5- 245.5
Mean length in mm	200.83	183.71	183.12	168.42	189.65	169.44
Sex Ratio	1.5 : 1		1.5 : 1		1.5 : 1	
Standard deviation	32.70	22.70	31.30	27.01	30.80	21.90

mean values of males and females, a 't' test was carried out separately for each year. Since the 't' values of 8.31, 5.12 and 8.86 obtained respectively for the years 1964-65, 1965-66 and 1966-67 were greater than 1.96, the differences in the mean sizes between the males and the females, irrespective of the year, were significant.

This did not give any indication whether or not differences between years were significant. In order to test this hypothesis, an analysis of variance was carried out and the results are as follows:

Source	d.f.	S.S.	M.S.S.	Test
Due to Year	2	298.96	149.98	F _{2,2} = 39.23
Due to Sex	1	451.19	451.19	F _{1,2} = 118.42
Error	5	757.76		
Total	2	7.61	3.81	

Since the F_{2, 2} value i.e., 39.23 was greater than the table value of 19 at the 5% level of significance, the differences between years was also significant.

It seems reasonable, therefore, to comment that size differences between males and females among *N. japonicus* are real and the females are generally smaller in size than the males. This is in accordance with that reported for *N. virgatus* of the South China Sea where males grow quicker and larger than the females (Eggleston 1970).

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