

AGE COMPOSITION AND TOTAL MORTALITY COEFFICIENT OF *NEMIPTERUS VIRGATUS* (HOULTUYN), IN THE NORTHERN PART OF THE SOUTH CHINA SEA¹

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ABSTRACT

Based on the data of catch statistics and length frequency distribution of golden thread, *Nemipterus virgatus* (HOULTUYN) caught by Taiwanese bottom trawlers operating in the northern part of the South China Sea, the age composition and total mortality coefficient of the fish in this area was estimated.

The duration of the data processed in this study is from 1970 to 1980. The results show that the sex ratio of *N. virgatus* is not evenly distributed within the whole range of body length. The mode of relative size composition of the fish has been shifted from size class of 12-13 cm in 1970 to the size class of 16-17 cm in 1980. Within year the total mortality coefficient of male is larger than that of female. In the case of 1980 the estimated total mortality coefficient of male and female were 1.62 and 0.89 respectively.

INTRODUCTION

Golden thread (*Nemipterus spp.*) is an important fish caught by Taiwanese trawlers in the South China Sea. It constitutes 11.6% of total landings from this area in 1980. It consists of *Nemipterus virgatus*, *N. marginatus*, *N. flaviventris*, *N. nemuru*, etc.; among them the catch of *N. virgatus* dominates the catch of other species of golden thread.

The fishing campaign to catch golden thread and other demersal fishes in the northern part of the South China Sea were mainly engaged by Taiwan, Hong Kong, and Mainland China fisherman. In Taiwan almost all of the catch harvested from the South China Sea were contributed by pair trawlers. The fishing ground of golden thread was mainly in the vicinity of Hong Kong but was dispersed toward the Taiwan Strait and the southern waters of Hainan island.

The biological characteristics of the golden thread in the neighbouring waters of Hong Kong had been studied by Li (1954, 1960). Liu and Su (1972), Kao and Liu (1974) studied the maturity and spawning of *N. virgatus* in the East China Sea, the Taiwan Strait, and the South China Sea; and reported that the main spawning ground of the South China Sea group was located about 90-150 miles southwest and 35 miles south of Hong Kong, and the spawning season was quite different between the East China Sea group and the Sunda shelf group. Hsu and Liu (1977) investigated the external morphometric characters of golden thread from the East and South China Seas; and found that (1) there were significant differences between male and female fish, and (2) the groups from the northern area of the South China Sea and the Gulf of Tokin were possibly the same group, (3) the northern

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