

# AGE AND GROWTH OF GOLDEN THREAD, *NEMIPTERUS VIRGATUS* (HOULTUYN), FROM THE EAST AND THE SOUTH CHINA SEAS<sup>1</sup>

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## ABSTRACT

This paper presents the results of the studies of age and growth of the Golden Thread, *Nemipterus virgatus* (Houttuyn), in the southern area of the East China Sea (S2) and the northern area of the South China Sea (S4). 1721 specimens were collected monthly from the catches of the pair trawlers from January 1970 to December 1970. The age determination was done by otolith reading. The relationship between otolith radius and fork length was estimated and the average fork length when each opaque zone of otolith was formed was estimated by back-calculation. The results indicate that the opaque zone is formed once a year, hence each zone indicates an annual ring. The ring formation time is June for S2 and May for S4 respectively. The parameters of the von Bertalanffy growth equation in S2 are: Female,  $L_{\infty}=31.26$  cm,  $k=0.3216$ ,  $t_0=-0.8998$ ; Male,  $L_{\infty}=41.37$  cm,  $k=0.3026$ ,  $t_0=-0.2663$ ; and those of the S4 are: Female,  $L_{\infty}=27.98$  cm,  $k=0.4404$ ,  $t_0=-0.8135$ ; Male,  $L_{\infty}=34.18$  cm,  $k=0.4474$ ,  $t_0=-0.2016$ . The male fish grow faster and larger than the female fish.

## INTRODUCTION

Golden thread is one of the most important commercial fish caught by Taiwan trawl fishery. In the west Pacific Ocean, it is mainly distributed in the continental shelf of East China Sea, South China Sea and the northern area of the Australia. It is comprised of about 14% in the catch of trawlers of the East and South China Seas. In these areas, the golden thread consists of *Nemipterus virgatus*, *N. marginatus*, *N. flaviventris*, *N. nemurus*, etc., among which the catch of *N. virgatus* occupies about 41% of the total golden thread.

Li (1954, 1960) worked out the biological studies of the golden thread around Hong Kong, but he did not treat the fish separately by sex. Eggleston (1968) revealed that males grow more quickly and largely than the females. Liu and Su (1972), Kao and Liu (1974) studied the maturity and spawning of golden thread in the East China Sea, the Taiwan Strait and the South China Sea. In this paper, the authors use the samples taken from the southern area of the East China Sea and the northern area of the South China Sea to study the age and growth of golden thread. And also, compare the growth between different areas and sexes.

## MATERIALS AND METHODS

The specimens used in this study were collected monthly from January to December 1970 at Keelung and Kaohsiung fish markets from the commercial trawlers which operated in the southern area of the East China Sea (S2) and the northern area of the South China Sea (S4) (Fig. 1).

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