

MORPHOMETRIC AND MERISTIC STUDIES ON THE YELLOW SEA BREAM (*Dentex tumifrons*) FROM THE SOUTH AND THE EAST CHINA SEAS¹

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ABSTRACT

Four samples were collected from the northern part of the South China Sea to the southern part of the East China Sea from November 1970 to March 1971. Comparative morphometric and meristic studies were made in order to realize the population structure in these regions. Comparison was first made by covariance analysis and then by canonical variates analysis for multiple characters comparison.

The results obtained reveal that (1) the groups of yellow sea bream in the South China Sea regions are quite different from those in the southern part of the East China Sea and the Taiwan Strait; (2) the group of the Gulf of Tonkin is different from that of the waters southeast of Hongkong; (3) the fish in the Taiwan Strait and in the southern part of the East China Sea probably belong to the same group.

INTRODUCTION

The yellow sea bream is one of the economically important demersal fishes in the East and the South China Seas. The distribution of this species extends north from the Goto Islands of Japan through the Taiwan Strait to the Gulf of Tonkin (Shindo and Aoyama, 1954). According to the annual reports of the effort and catch statistics by area on Japan trawl fisheries and Taiwan pair trawl fishery, the fish are concentrated in the waters adjacent to the Goto Islands, the southern area of the East China Sea, the waters southeast of Hongkong, the waters south of Hainan Island and the Gulf of Tonkin (Shindo and Aoyama, 1954; Shindo, 1960; Liu *et al.*, 1971).

Through morphometric studies by various scientists (Otsuru, 1949; Oka, 1953; Shindo and Aoyama, 1954; Shindo, 1960; etc.), it is established that the yellow sea bream in the East China Sea are divided into three groups: one group distributed in the water adjacent to the Goto Islands; the second group distributed in the waters adjacent to the Ryukyu Archipelago; and the third group distributed in the waters north of Taiwan. Based on morphometric study, Shindo and Aoyama (1954) stated that the heterogeneity between the yellow sea bream of the South China Sea and those of the East China Sea was apparent. However, up to now a more detailed understanding of the population structure of the fish in the South China Sea has not yet been reached. Hence, it is the purpose of this paper to present the results of morphometric and meristic comparisons of yellow sea bream samples drawn from the various fishing grounds in the East and the South China Seas and try to throw some light on the population structure of the fish in the waters mentioned above.

MATERIALS AND METHODS

I. Materials

Four samples of yellow sea bream caught by commercial pair trawlers in the various fishing grounds, viz., the waters north of Taiwan, the Taiwan Strait, the waters southeast of Hongkong and the Gulf of Tonkin, were used in this study. The specimens were collected at the Keelung

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