

AGE DETERMINATION BY USING SCALE RING-READING FOR THE LIZARD FISH, *SAURIDA UNDOSQUAMIS*, FROM THE SOUTHERN TAIWAN STRAIT

YING-CHOU LEE¹ and SHEAN-YA YEH¹

ABSTRACT

This paper studies the age and growth by scale ring-reading of lizard fish, *Saurida undosquamis*, in the southern part of the Taiwan Strait. The results indicate that (1) there is significant difference in the linearity relationship of scale-radius versus fork length between sexes; (2) one annulus is formed per year and the ring forming period is from June to September; (3) the scale character appears Lee-phenomenon for both of the male and the female fishes; (4) parameters of von Bertalanffy's growth equations for the male and the female are as follows:

$$\text{Male: } \ell_t = 39.10 (1 - e^{-0.266t(t+0.5998)})$$

$$\text{Female: } \ell_t = 71.95 (1 - e^{-0.1058(t+1.1616)})$$

and (5) there is no significant difference in determining age of the fish by using either the scale or the vertebra age character.

INTRODUCTION

To obtain the age and growth curve of any fisheries resource is one of the most important tasks to be investigated in the study of its dynamics. There are many ways to age a fish. Some of the most commonly used techniques are: tag-recapture survey, length composition survey and ring-reading methods on age characters. However, caution should be taken in chosen an age character because that a minor vibration in age curve parameters may substantially affect the results of the stock assessment (Lai and Gunderson 1987).

Mills and Beamish (1980) dealt with 15 populations of lake whitefish using fin-ray and scale ageing techniques. The results indicated that there was good agreement of the number of ring read between fin-ray and scale in fast-growing populations, however, fin-ray ages were usually more than scale in slow-growing populations. Lee *et al.* (1986) have dealt with the age and growth by vertebra ring-reading of the lizard fish (*Saurida undosquamis*) in the southern part of the Taiwan Strait. The purpose of this paper is thus not only to determine the age of the fish by using scale but also to compare this study with the previous study of using vertebra as the age character.

MATERIAL AND METHODS

The specimen used in this study were sampled by month, dating from April 1984 to March 1985, at Kaohsiung Gusan Fish Market from the landings of those baby trawlers (small otter trawler with gross registered tonnage less than 50 mt)

1. Institute of Oceanography, National Taiwan University, Taipei, Taiwan, Republic of China.