

Suitability of Minimum Legal Fishing Size of Lobsters in Taiwan

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ABSTRACT

In this study two species of spiny lobster caught along the coast of Taitung Taiwan were reared in the experimental ponds to examine the suitability of current minimum legal fishing size of lobsters living off the coast of Taiwan. During the experiment, *Panulirus ornatus* grew faster than *P. homarus*. A dramatical decrease of growth rate occurred between 61-65 and 66-70 mmCL size class of *P. homarus* (about 17.4 cm body length), and between 101-105 and 106-110 mmCL size class of *P. ornatus* (about 25.4 cm body length) respectively. Changes in growth rate signified a shift in energy use at onset of maturation. For allowing a greater proportion of lobsters to mature prior to harvest, it is apparent that current minimum legal size (20 cm body length) is not suitable to some spiny lobster species. For resource reservation, it is suggested allowing to collect young juveniles for culture and to harvest aged populations, and prohibiting to catch adult population of active reproduction.

Key words: Spiny lobster, Minimum legal fishing size.

INTRODUCTION

The minimum legal harvest size of *P. argus* in Florida was 76 mm carapace length. However, several investigators proposed that minimum legal size of *P. argus* should be increased to sizes ranging from 79 to 90 mmCL (Dawson and Idyll, 1951; Robinson and Dimitriou, 1963; Lyons *et al.*, 1981; Gregory *et al.*, 1982; Hunt and Lyons, 1986) to allow a greater proportion of lobsters to mature prior to harvest. Many reports showed that the minimum size of maturity were different among various species of lobster (Davis, 1975; Grey, 1979; Jayakody, 1989; MacDiarmid, 1989). Even there are nine native species of Palinuridae lobster in Taiwan (Ho and Yu, 1979). The minimum legal fishing size is 20 cm body length for all lobsters living around the coast of Taiwan (Taiwan Provincial Government, 1987). However, It is unknown whether there are differences of growth

and of size at onset of maturation among the different species of lobster. For fishery management and reservation of resource, it is important to understand the growth and the size at onset of sexual maturity of lobsters (Hunt and Lyons, 1986; Jayakody, 1989). No report concerned in Taiwan was found. In this study, two species of *Panulirus* usually caught along the coast of Taitung Taiwan were reared in captive to judge whether the current law of minimum catching size is suitable for all the species. And a tactics is suggested for reservation of resource of lobsters.

MATERIALS AND METHODS

Juveniles of *P. homarus* and *P. ornatus* were all caught off the coast of Chengkung Taitung. Experiment begun with 30 females and 30 males for each species. There were all put in the outdoor ponds (5 × 2 m, depth in 0.7 m). Both species were reared separately. A tag was tied on the