

HISTOMORPHOLOGICAL STUDY OF THE GONADS OF
Pholas orientalis

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ABSTRACT

A total of five "diwal", Pholas orientalis, two of which were obtained from Hinigaran, Neg. Occ. on January 1993 and three from Lanas, Barotac Nuevo on February 1994, were examined for the histomorphological study of the gonads of the species. Among the five samples, two were males and three were females. No hermaphrodites were encountered. Macroscopical examination showed that the gonads were diffused in the visceral mass extending from the anterior to the posterior part of the animal. The gonads were arborescent in form and creamy in color. No external sexual differences were observed. Histological examination showed that male and female gonads were scattered in the visceral mass and concentrate most around the stomach. Male and female gonads consist of follicles which were lobular and embedded in the connective tissues. Three sexual maturity stages were observed among the five specimens, which are the late active, ripe, and partially spent stages. During the late active stages in both male and female gonads, developing gametes (spermatocytes and young oocytes, respectively) are attached to the follicular wall with maturing gametes lying free in the follicular lumen. At the ripe stage, male gonads showed mature sperms free in the follicle lumen with sperm tails radiating into the center of the lumen. In females, ripe oocytes are free in the follicle lumen with some maturing oocytes still attached to the follicular wall by a slender stalk. Partially spent stage was observed only in females. Spent gonads showed spaces in ovarian follicles due to loss of ova through spawning.

1938).

Since there is a growing demand for "diwal", interest on this species had picked up lately. One of the earliest studies on P. orientalis was the study on the "diwal" fishery in Neg. Occ. conducted by Ablan (1938). The larval biology and mariculture of the angelwing clam, Cyrtopleura costata, were studied by Gustafson, et al. (1991) and investigations into spawning and hatchery technique for P. orientalis are underway (Gustafson, et al., 1991).

Studies on the biology of P. orientalis are few and in fact no literature regarding reproductive biology of the species was obtained. Thus, this study was carried out with the following objectives: (1) to determine the location of the gonads in the visceral mass of P. orientalis, (2) to describe the histomorphology of the gonads, and (3) to differentiate the gonadal conditions histologically.