

Fecundity performance of nilem (*Osteochilus vittatus*) from Cianjur, Tasikmalaya and Kuningan Districts, West Java, Indonesia

RITA ROSTIKA[♥], YULI ANDRIANI, JUNIANTO^{♥♥}

Faculty of Fisheries and Marine Science, Universitas Padjadjaran, Jatinangor, Sumedang 45363, West Java, Indonesia. Tel.: +62-22-87701519, Fax.: +62-22-87701518, ♥email: ritarostika_unpad@yahoo.com, ♥♥anto_lisc@yahoo.com

Manuscript received: 15 May 2017. Revision accepted: 15 June 2017.

Abstract. Rostika R, Andriani Y, Junianto. 2017. Fecundity performance of nilem (*Osteochilus vittatus*) from Cianjur, Tasikmalaya and Kuningan Districts, West Java, Indonesia. *Asian J Agric* 1: 17-21. The aim of this study was to know the reproduction aspects of nilem (*Osteochilus vittatus* Valenciennes, 1842; syn. *Osteochilus hasseltii* Valenciennes, 1842). The study was conducted from October 2015 to March 2016 that includes elements of body length, weight, gonad maturity level (GML) and fecundity. There were 27 samples collected from farming activities in Cianjur, Tasikmalaya and Kuningan West Java, Indonesia. The parameters observed were the correlation between weight and fecundity, correlation between body length and fecundity and GML. The method used was explorative approach and the data were analyzed by descriptive approach. The results showed that the correlation between weight and fecundity in Cianjur District was $y = e^{0.024x}$, while the body length and fecundity was $y = e^{0.413x}$. In Tasikmalaya District was $y = e^{0.0728x}$, while the body length and fecundity was $y = e^{0.4903x}$. In Kuningan District was $y = e^{0.2902x}$, while the correlation between the length of the fish and fecundity was $y = e^{0.6859x}$. The dominant gonad maturity level of Nilem in Cianjur was GML IV (50%), Tasikmalaya was GMLVI (100%), and Kuningan was GML V (55,56%) respectively. The relationship between length and body weight of *Osteochillus vittatus* from Cianjur, Tasikmalaya and Kuningan District were $W = 0.03L^{2.95}$, $W = 0.04L^{2.89}$ and $W = 0.04L^{2.79}$ respectively. The implication of this research is to know the proper size of nilem fish that can be harvested in conditions of optimum egg volume.

Keywords: Fecundity, GML, LW relationship, *Osteochilus vittatus*, West Java

INTRODUCTION

Nilem or *Osteochilus vittatus* (Valenciennes, 1842), syn. *Osteochilus hasseltii* (Valenciennes, 1842) is a fresh water fish that has been known as one of the prominent fish farming commodities in Java Island, particularly in the areas of Priangan, West Java. However, in the recent years, the activities related to the industry has been gradually changed by the other similar emerging industries (Subagia et al. 2006) whereas the fish possesses propitious characteristics suitable for business as the egg performance has shown good aspects of fecundity. Nilem is also potentials for superior reproduction and fecundity. A pair of fish with weighted 100-150 g may produce 15,000-30,000 eggs (Yudhistira 2013). Their fecundity also may increase in logarithmic patterns as the fish grows both in length and weight. The eggs have been consumed widely for the taste and exported to several countries as an alternative for caviar.

Measurement of length-weight fish correlation shows standardized size of the fish at various locations related to the length and weight. This measurement is used to perform the character of the species. This correlation is important information to identify the growth rate (Isa et al. 2010). It is also one of the factors considered in determining fishery management strategies (Mansor et al. 2015).

Farming and industrial activities of nilem in West Java are mainly centralized in the District of Ciamis and

Tasikmalaya (Department of Fisheries and Marines, West Java 2010). The objective of this research was to recognize the reproduction growth pattern of Nilem that includes length-weight correlation, gonad maturity level (GML), fecundity, as well as the management strategies for preparing maximum egg for the "egg crispy cookies".

Fecundity related to the total length and body weight of fish. The environment, especially the availability of food in the habitat, is an important factor influencing the quality of eggs and the timing of reproduction. Lack of food can cause a delay in the maturation of the gonad resulting in low fecundity. Fish nutrition and diet can be a determinant factor controlling population density, growth and fish condition. The feeding behavior of a species usually depends on the age, place/habitat, time and digestive tract of the fish itself (Syandri et al. 2015).

MATERIALS AND METHODS

This research was conducted from October 2015 to March 2016. Fish samples were taken from 3 different farming locations (Muchlisin et al. 2015) i.e. Cianjur, Kuningan, and Tasikmalaya in the West Java Province (Figure 1). Sample was observed and identified in the Laboratory of Aquaculture, Faculty of Fisheries and Marines, Universitas Padjadjaran, Sumedang, West Java, Indonesia.