

# SEROPREVALENCE OF AVIAN INFLUENZA SUBTYPE H5N1 IN *NYCTICORAX* *NYCTICORAX*, PULAU DUA SANCTUARY, BANTEN

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**Abstract** - Wild waterfowl is known as natural reservoir of Avian Influenza subtype H5N1. Pulau Dua Sanctuary, Banten is a place for waterfowl resident. This study aimed to determine the prevalence of H5N1 in Night Herons (*Nycticorax nycticorax*) through Serology Test. Observation on the habitat and behavior of Night Herons was done to analyze the interactions that occurred in that area. A total of 56 serum samples consisted of 51 samples of juvenile and 5 sample of adult birds were examined through Haemagglutination Inhibition in order to identify antigen of H5N1. Result showed that 10.7% tested positive for H5N1 antibodies where 20% for adult and 9.8% for juvenile. Geometric Mean Titer is  $2^{0.28}$  which is relatively very low. The result proved that *Nycticorax nycticorax* in Pulau Dua Sanctuary has antibody of AI virus subtype H5N1.

**Keywords** - H5N1, Waterfowl, Haemagglutination Inhibition, *Nycticorax nycticorax*

## I. INTRODUCTION

In recent decades Avian Influenza has become one disease that has spread world wide and once endemic in several countries, including Indonesia<sup>1</sup>. The epidemic has negative impact in terms of social and economic development, such as in the livestock sector, and tourism. Another aspect that should be noticed is the impact on the conservation area status of wild birds, especially waterfowl which is considered as a natural reservoir of avian influenza

viruses.

Previous research in 2008 proved that some species was positive with antibody of H5N1. The following research was conducted to complement data in other species. It aims to determine seroprevalence of Avian Influenza subtype H5N1 in species namely *Nycticorax nycticorax* or Night Herons Night Herons which belongs to waterfowl species in Pulau Dua Sanctuary Bantenis potentially infected by H5N1. Finally, it is expected to obtain some other proposes including biosafety and biosecurity information.

## II. BASIC THEORY

Indonesia belongs to migratory bird path. It leads to the interaction between wild bird migratory, resident and domestic poultry. Cases of Avian Influenza in Indonesia is quite high. One of the suspects that emerged was a correlation between the status of Indonesia as the path of migratory birds with avian influenza expansion<sup>2</sup>.

Pulau Dua Sanctuary, Banten is a ecosystem that holds hundreds of wild birds, precisely the type of resident waterfowl which belongs to line and migratory birds. Also, there are poultry farms around the sanctuary. Previous research in 2009 where 13 % of 57 samples of *Bubulcus ibis* showed positive results to H5N1 antigen after tested by serology method<sup>3</sup>.

Serology is diagnosis method to analyse antibody. In this case, serology can be implemented through

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