UNIVERSITI PUTRA MALAYSIA

SPECIES COMPOSITION OF BIRDS IN MENCHALI FOREST RESERVE AND BUKIT RIDAN FOREST RESERVE AT ROMPIN, PAHANG

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By

SHARIFAH NUR AIN BINTI MAHIYUDDIN

A Project Report Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Forestry Science in the Faculty of Forestry Universiti Putra Malaysia

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DEDICATION

Specially dedicated to my:

Mum and Dad

Brothers and sisters

Dato' Sri Maznah Mazlan

PERHILITAN Rompin

Rompin District Forest Department

ABSTRACT

Forest condition would affect the species composition of birds. Little info on bird's population is available in the forest. The objectives of this study were to compare the species composition, species diversity, species richness, species evenness of birds in lowland forest of Menchali Forest Reserve and hill forest of Bukit Ridan Forest Reserve. The methods used were transect survey in Menchali Forest Reserve and bird netting in Bukit Ridan Forest Reserve. The results of the study showed that Menchali Forest Reserve has higher species composition than Bukit Ridan Forest Reserve. Similar results were observed for species diversity and species richness. In term of species evenness, the species were distributed more evenly in Bukit Ridan Forest Reserve than Menchali Forest Reserve. Overall the species that have been recorded were 38 species of birds from 28 falimies which is 30 species from 20 families in Menchali Forest Reserve and eight species which represented by six families in Bukit Ridan Forest Reserve. In Menchali Forest Reserve, two near threatened species,*Treron fulvicollis* and *Eurylaimus ochromalus* have been recorded.The study showed that Menchali Forest Reserve can be classified as a good forest condition.

ABSTRAK

Keadaan hutan akan menjejaskan komposisi spesies burung. Maklumat mengenai populasi burung dikawasan hutan tersebut adalah sedikit. Objektif kajian ini adalah untuk membandingkan komposisi spesies, kepelbagaian spesies, kekayaan spesis, keserataan spesies burung di hutan tanah rendah Hutan Simpan Menchali dan hutan bukit Hutan Simpan Bukit Ridan. Kaedah-kaedah yang digunakan adalah kajian transek di Hutan Simpan Menchali dan jaring burung di Hutan Simpan Bukit Ridan. Keputusan kajian menunjukkan bahawa Hutan Simpan Menchali mempunyai komposisi spesies lebih tinggi daripada Hutan Simpan Bukit Ridan. Begitu juga dengan kepelbagaian spesies dan kekayaan spesies. Untuk keserataan spesis, Hutan Simpan Bukit Ridan mempunyai nilai keserataan lebih tinggi daripada Hutan Simpan Menchali. Secara keseluruhannya, spesies yang telah direkodkan adalah 38 spesies burung dari 28 famili iaitu 30 spesies daripada 20 famili di Hutan Simpan Menchali dan lapan spesies yang diwakili oleh enam famili di Hutan Simpan Bukit Ridan. Di Hutan Simpan Menchali, mempunyai dua spesies burung yang hampir terancam iaitu *Treron fulvicollis* dan *Eurylaimus ochromalus* telah direkodkan. Ia menunjukkan bahawa Hutan Simpan Menchali boleh diklasifikasikan sebagai keadaan hutan yang baik.

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APPROVAL SHEET

I certify that this research project report entitled “Species Composition of Birds in Menchali Forest Reserve and Bukit Ridan Forest Reserve at Rompin, Pahang” by Sharifah Nur Ain Binti Mahiyuddin has been examined and approved as a partial fulfillment of the requirements for the Degree of Bachelor of Forestry Science in the Faculty of Forestry, Universiti Putra Malaysia.

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Date: 21 June 2016

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LIST OF ABBREVATIONS

FAO	The Food and Agriculture Organization of the United Nations
FRA	Global Forest Resources Assessments
GPS	Global Positioning System
IUCN	The World Conservation Union
WWF	World Wildlife Fund

CHAPTER 1

INTRODUCTION

1.1 Bird

Birds (class Aves) are a group of endothermic vertebrates which they have their own characteristic like to have feathers, a beak with no teeth, the laying of hard-shelled eggs, a high metabolic rate, a four-chambered heart, and a lightweight but strong skeleton. Birds live worldwide and range in size from the 5 cm (2 in) until to the 2.75 m (9 ft.). Zulhadzelan (1998) clarified that, tropical birds are active in the morning and evening. On the heat day, it will rest. According to Teong (2010), she stated that more than 10,000 species of birds around the world and about 50% from the bird species around the world were located in the tropical rainforest. The largest families of birds at tropical rainforest are Timaliidae because it has 282 species of birds. Strange & Jeyarajasingam (1993) reported that about 638 species of birds in 78 families have been recorded in Peninsular Malaysia (cited in Zakaria et al., 2013).

Birds have many trophies levels, such as insectivorous, carnivorous, frugivorous, omnivorous and nectarivorous. Nordin & Zakaria (1997) clarified majority of bird species in Peninsular Malaysia classified as insectivores (cited in Zamri & Zakaria (2013). Only some of birds species are carnivorous and nectarivorous (Lee, 2010). Birds can be classified as residents, endemic species, migratory species and winter vagrants. Resident species means the species that can be found in a particular area for a long period. Endemic

species are some species of birds that can be found at certain area while migratory species means that birds need to migrate from one place to another place for certain purposes like for breeding, shelter from the winter season and another. Migratory have two types like first is migratory forest, which the birds migrate to the forest and second is migratory shove which means the birds migrate to the ocean or beach. About 426 of 638 species of birds are residents (Zulhadzelan, 1998).

Birds also play various roles in the ecosystem like flower pollinator, seed dispersal, and pest control. It is also important in maintaining the energy flow and balancing the ecosystem. With beautiful color of their feathers, it can be used for recreation activities like bird watching activities. Indirectly, it can increase income for many countries (Zakaria et al., 2008).

1.2 Forest

Forest is an ecosystem dominated by trees, together with all the animals and other plants associated with trees including microorganism. But, for certain scientists, forest has different definitions that depend on requirement of purposes and at different scales. A definition based on physical characteristics, such as the canopy cover, will most likely be used for an assessment. The Food and Agriculture Organization of the United Nations (FAO) has been assessing the world's forest resources at regular intervals. Its Global Forest Resources Assessments (FRA) are based on data provided by individual countries, using an agreed global definition of forest which

includes a minimum threshold for the height of trees (5 m), at least 10 % crown cover (canopy density determined by estimating the area of ground shaded by the crown of the trees) and a minimum forest area size (0.5 hectares).

Based on Lee (2010), she claimed that tropical rainforests are the most complex ecosystem in the world. Forested land for Peninsular Malaysia is an area of 5.79 mil ha, which is 44 % of Peninsular with 4.89 mil ha of Permanent Reserved Forests and others still maintain 80 % forest with an area of permanent forests of 6 mil ha and 1 mil ha of permanent protection. While in the Sabah area of 4.7 mil ha or 63 % of the total area is forested with permanent reserved forest area of more than 3.6 mil ha or about 49 % of the total area of the state. Most of the forest in Malaysia can be classified into the lowland dipterocarp forests, hill dipterocarp forest, dipterocarp forest, the oak forest hills and mountains ericaceous forest.

Since Malaysian rain forest hot and humid weather all year round and average daily temperature in Malaysia is between 21 to 32°C, its be home to the biodiversity of flora and fauna of the smallest microscopic organisms and bacteria to species such as mammals, fish and birds. Until now approximately 17,631 plant species include 377 algae, bryophytes 1,387, 1,600 ferns and allies, 61 gymnosperms, 4,180 monocots and dicots 10,026 have been found. While for fauna species recorded, including 480 mammals,

742 birds, 242 amphibians, 567 reptiles, 590 freshwater fish, 1,967 of butterflies and 1,073 beetle leaves.

Malaysia was recognized as one of the twelve mega biodiversity countries of the world have outlined the direction in preserving and conserving biodiversity nation through the National Biodiversity Policy in 1998. Forests are very important to the wildlife because these prove the basic requirement like food, shelter, cover and breeding habitat. Romeo (2003) declared that the forest is the safe place for wildlife to protect them from enemies, predator, disaster and other harmful condition. But, now days, the forests have been converted to development, agriculture, logging area and another. Those activities, gave impact to the wildlife.

1.3 Problem Statement

The bird composition which includes species diversity, species richness, and species evenness of bird species is affected by the forest types. So, this study is carried out to determine how the forest types affected the composition of bird in forested area. This study was also carried out to find out whether this study site could become a bird watching area.

1.4 Aim

The aim of this study was to determine species composition of bird in Menchali Forest Reserve and Bukit Ridan Forest Reserve.

1.5 Objectives

The objectives of this study were:

I. To compare the species composition of bird in lowland forest (Menchali Forest Reserve) and hill forest (Bukit Ridan Forest Reserve).

II. To determine the diversity, species richness, and species evenness of birds in lowland forest (Menchali Forest Reserve) and hill forest (Bukit Ridan Forest Reserve).

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