

The Diversity of Butterfly in Ancient Volcano Mount of Nglanggeran Yogyakarta

Muhammad Anand Ardhiasnsyah¹⁺

¹Faculty of Mathematics and Science, Yogyakarta State University, Indonesia

Abstract. Research about diversity of butterflies was conducted in ancient volcano mount of Nglanggeran, Yogyakarta. The objective of this research is to get data about diversity of butterflies in ancient volcano mount of Nglanggeran, Yogyakarta. This research is using observation method and “*Literature review*”. The results of this research show that in ancient volcano mount of Nglanggeran has high diversity of butterflies. In this area found 14 species that dominate by family Nymphalidae.

Keywords: Diversity, Butterfly, Ancient volcano mount, Nglanggeran

1. Introduction

1.1. Background

Ancient volcano mount of Nglanggeran located at district Patuk, Gunungkidul Yogyakarta Indonesia. Surrounded by Batubarang region with height of between 200-700 meters above the sea with have air temperature between 23⁰ C – 27⁰ C. This area is an area that lit logy complied by older volcanic is unique and of high scientific value.

Butterflies are insect that have perfect metamorphosis. The life cycle of butterfly start from egg, larva, pupa, and adult butterfly. These colorful insects frequent open, sunny wildflower gardens, grassy fields and orchards, feeding on nectar from flowering plants. The order contains over 19,000 species of butterflies and 100,000 species of moths worldwide (Jane Austin. 2000).

The butterfly is one of the biological wealth owned by Indonesia. The butterflies are included in the order Lepidoptera, the insect whose wings covered in scales. The butterfly is a small part (about 10%) of the 170,000 species of Lepidoptera in the world and the number of butterfly species known worldwide is estimated there are about 13,000 species, and perhaps a few thousand more species that have not been determined (Peggie 2004)

Butterflies (insects: Lepidoptera) is the nation's scales winged insects, butterflies belonging to the order Lepidoptera, meaning insects that have wings covered with sheets of scales that give the style and color of butterfly wings. The term comes from the Greek Lepidoptera (Lepidos 'scales' and ptera 'wings'). (Mohammad Amir, 2003: 1.2 & 123).

Some types even have to be included in the protection of CITES (Convention of International Trades in Endangered Species) are not allowed to be traded. According Kiswari Simbolon and one of them is only 20 species (19 species of Papilionidae and a kind of nymphalidae) declared endangered and protected by the Act (Based on the Decree of the Minister of Agriculture: 576/kpts/1980 and 716/kpts/1980). In 1990 the IUCN (International Union Conservation of Nature) recorded as many as 51 butterfly species in the Indonesia that need to be protected (Mohammad Amir, 1999)

⁺ Corresponding author. Tel.: +6285 727 596519.
Email: ardhiansyahanand@gmail.com.

2. Method

2.1. Location and Time

This research was conducted in the Ancient Volcano climbing trip Nglanggeran on 5-6 May 2012. The area has a topography which is generally a little hill and mountain areas are mostly sloping ravine area with a fairly steep and dangerous. Altitude ranging about 200-700 meters above the sea and have temperature between 23⁰ C – 27⁰ C and have high diversity of plants

2.2. Materials and Tools

Materials that used in this research are 74% of formalin, ether and tools are insect net, disposable syringes, insect envelopes, scissors, tweezers, glue, needles, and digital camera.

2.3. Gathering Data

- **Decision Butterflies**

Capture the butterfly was conducted on route Nglanggeran Ancient Volcano. The butterfly was taken by using Insect Net and then put into a jar / insect cage injected by 2cc 70% alcohol

- **Collecting and drying the Butterfly**

The butterflies that had been captured collected and killed. Then the butterfly injected with formalin. And inserted into the frame so that its wings are not damaged / broken and then give a description

- **Identification**

Identification process was doing in Lab. Of *Zoology* Yogyakarta State University and use *Cites* Identification Guide-Butterflies guide book and *Butterfly* collection of LIPI book to identify them.

3. Results and Discussion

Table result of observation

No.	<i>Butterfly species</i>	<i>Family</i>
1	<i>Delias hyparete</i>	Pieridae
2	<i>Delias pasithoe</i>	Pieridae
3	<i>Euploea eunice</i>	Nymphalidae
4	<i>Eurema alitha</i>	Pieridae
5	<i>Graphium Agamemnon</i>	Papilionidae
6	<i>Ideopsis juvena</i>	Nymphalidae
7	<i>Junonia hedonia</i>	Nymphalidae
8	<i>Pachliopta aristolochiae</i>	Papilionidae
9	<i>Euploea mulciber</i>	Nymphalidae
10	<i>Euploea algeo</i>	Nymphalidae
11	<i>Neptis hylas</i>	Nymphalidae
12	<i>Doleschallia bisaltidae</i>	Nymphalidae
14	<i>Eurema hecabe</i>	Pieridae

From this table found three families from this area. There are founded 3 families: Pieridae, Nymphalidae, and Papilionidae.

- **Pieridae**

These butterflies have medium size, white wing color, yellow or orange, sometimes with opaque color on the bottom of the rear wing, veins black, the larvae are usually light green, long, cylindrical, no tail, sometimes less hairy. Pieridae types encountered are *Delias pasithoe*, *Delias hyparete*, *Eurema alitha*, *Eurema hecabe* that have 26 % abundance from ancient volcano mount of Nglanggeran.

- **Nymphalidae**

Butterfly species are most often found in ancient volcano mount of Nglanggeran with variations in size, shape and color with the percentage abundance of 60% as much. This butterfly has a front leg and is not used to walking. That pupa depends on the object where pupation with anal hook is also called "kremaster". Species that can be found from family Nymphalidae are *Euploea eunice*, *Ideopsis juvenata*, *Junonia hedonia*, *Euploea mulciber*, *Euploea algeo*, *Neptis hylas*, *Doleschallia bisaltidae* that have 60 % abundance from ancient volcano mount of Nglanggeran

- **Papilionidae**

Papilionidae butterflies is largely a type size large with a beautiful color pattern. Both pairs of wings have lines (streaks) form a closed cell. In some types of pairs of elongated rear wing form a building like tail. Some kind of slow flying bird-like kites. It is therefore often referred to as butterfly wings Bird wing or swallow tails (Haugun and Low, 1978-1980).

In addition there are several types of male butterflies have wings folded back to the edge of the anal, which is equipped with a secondary sex organ, with dense fur. In general, the form of a butterfly male and female alike, but some species do not have the same form (dimorphism). Some species of butterflies such as *Papilio memnon*, female butterflies have the forma variety of colors and patterns. Species that can be found from family Papilionidae are *Graphium Agamemnon* and *Pachliopta aristolochiae* that have 13, 3 % abundance from ancient volcano mount of Nglanggeran

4. Conclution

From this research, can e concluded that ancient volcano mount of Nglanggeran has high diversity of butterfly because found 14 species that from family Pieridae, Nymphalidae, Papilionidae. It is dominate by family Nymphalidae that can be found 60 % from all species that found in ancient volcano mount of Nglanggeran.

5. References

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