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## A Checklist of Butterflies (Order: Lepidoptera) in South-Western Sarawak

### \*Wong Siew Fui<sup>1</sup> and Tan Siew Hwa<sup>2</sup>

<sup>1</sup>Sarawak Museum Department, Annex Building, P. Ramlee Road, 93400 Kuching, Sarawak, Malaysia.

<sup>2</sup>International Department of Dipterology Kuala Lumpur Laboratory, A-21-7, Gembira Residen Condo., No.2 Jalan Sengang Ria, Taman Gembira, 58200, Kuala Lumpur, Malaysia. \*corresponding author wongsf2@sarawak.gov.my

### ABSTRACT

A total of 268 butterfly specimens, 46 species belonging to 27 genera of butterflies in three families, namely Papilionidae, Pieridae and Nymphalidae were recorded from March to October, 2018 in the study. The butterfly species were collected from eight villages in Lundu and Sematan, Sarawak. Aerial nets were used to collect the butterfly species in the residential areas. Nymphalidae with 23 species (50%) under 16 genera represented the most diverse butterfly family from the survey area. The present study was undertaken to create a baseline database of butterfly species in south western Sarawak. Hence, these butterflies were identified and documented as a first guide for future management and conservation of Insecta in this region.

Keywords: Lepidoptera, butterfly, diversity, Lundu, Sematan

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# A CHECKLIST OF BUTTERFLIES (ORDER: LEPIDOPTERA) IN SOUTH-WESTERN SARAWAK

#### \*Wong Siew Fui<sup>1</sup> and Tan Siew Hwa<sup>2</sup>

<sup>1</sup>Sarawak Museum Department, Annex Building, P. Ramlee Road, 93400 Kuching, Sarawak, Malaysia. <sup>2</sup>International Department of Dipterology Kuala Lumpur Laboratory, A-21-7, Gembira Residen Condo., No. 2 Jalan Sengang Ria, Taman Gembira, 58200, Kuala Lumpur, Malaysia. \*corresponding author wongsf2@sarawak.gov.my

### ABSTRACT

A total of 268 butterfly specimens, 46 species belonging to 27 genera of butterflies in three families, namely Papilionidae, Pieridae and Nymphalidae were recorded from March to October, 2018 in the study. The butterfly species were collected from eight villages in Lundu and Sematan, Sarawak. Aerial nets were used to collect the butterfly species in the residential areas. Nymphalidae with 23 species (50%) under 16 genera represented the most diverse butterfly family from the survey area. The present study was undertaken to create a baseline database of butterfly species in south western Sarawak. Hence, these butterflies were identified and documented as a first guide for future management and conservation of Insecta in this region.

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## INTRODUCTION

Butterflies are classified in the order Lepidoptera and divided into five families, namely Papilionidae, Pieridae, Nymphalidae, Lycaenidae and Hesperiidae (Corbet and Pendlebury, 1992). Studies by Eliot and Kirton (2000) showed that 1,038 species of butterflies were recorded in Peninsular Malaysia. To date, 944 species of butterflies have been collected in Borneo (Otsuka, 2001).

Butterflies are day-flying insects and are easy observed by their bright colours and patterns on their wings. Butterflies are cold-blooded (Kamrunnahar *et al.*, 2018) and undergo a complete life cycle which consists of egg, larva, pupa and adult (Abang, 2006). They live in all kinds of habitats and vegetation types such as tropical rainforest, coastal, farmland, garden, grassland, mountains, wetlands, urban areas, woodland, scrubs and others (Fileccia *et al.*, 2015; Tam and Bonebrake, 2016). Occurrences of butterflies are associated with sunshine, flowers and moist habitats in warmer countries (Hill and Abang, 2005).

Butterflies are abundant and found throughout the tropical world. Various studies on the diversity of butterflies were conducted locally and overseas. Arya *et al.* (2014) have collected a total of 897 specimens belonging to eight families of the Lepidoptera in Kumaun University in India. Perveen and Haroon (2015) recorded three Lepidopteran families and 23 species, with a total of 506 specimens at agricultural land in Pakistan. A study by Widhiono (2015) who captured 99 species, showed that Nymphalidae is the dominant species at Mount Slament, Indonesia.

Studies on butterflies have been conducted in a variety of tropical rainforest habitats in Malaysia. In the survey by Aris *et al.* (2017) at a rehabilitated forest in Cameron Highlands found 11 species under four families of butterflies. A survey done by Rahman *et al.* (2018) showed that 88 specimens from 43 species were found at Bukit Sago Perdana Recreational Forest, Batu Pahat. A total of 491 specimens under five families were observed, with Nymphalidae as the most commonly collected species in Endau-Rompin National Park, Johor (Ismail *et al.*, 2018). Hauser *et al.* (1997) reported 625 butterfly species at Kinabalu Park in Sabah, Malaysia. In Kubah National Park Sarawak, 49 species from the family Nymphalidae with a total of 665 individuals were recorded (Christharina and Abang, 2014).

The species diversity and distribution of butterflies in the residential areas is less studied. It is necessary to study butterflies in the residential areas because butterflies are sensitive insects that are easily affected by environmental changes. The present study was conducted to identify the butterfly species which were found in lowland residential areas in south-western Sarawak. An initial survey was conducted to collect specimens for taxonomic identification, and was later expanded to several villages in the study area of Lundu and Sematan in Kuching Division.