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Checklist and Species Habitat of Butterfly Fauna in Union Council Koaz Bahram Dheri Khyber Pakhtunkhwa Pakistan

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ABSTRACT

Butterflies are sensitive to changes in microclimate, temperature, solar radiation, and the availability of host plants for ovipositing and larval development. The present study was conducted in Union Council Koaz Bahram Dheri during July to October 2012. A total of 232 specimens were collected from 12 villages belong to 13 species, 11 genera and 3 families. Family Nymphalidae species are *Junonia orithya*, *Cynthia cardui*, *Danaus chrysippus*, *Catopsilia pyranthe*, *Phalanta phalantha*, *Junonia almana* and *Cercyonis sthenele*. Family Pieridae species are *Eurema hecabe*, *Colias croceus*, *Catopsilia ponoma*, *Colotis amata*, *Pieris canidia* and Family Papilionidae only one species *Papilio demoleus* were recorded. From the present study it was concluded that the *Danaus chrysippus*, *Eurema hecabe* and *Papilio demoleus* is the most common species. The area has rich fauna of butterflies and recommended for further studies.

Keywords: Butterflies, Nymphalidae, Pieridae, Papilionidae.

1. Introduction

Butterflies are one of the most traditional insects present in wonderful patterns of coloration, metamorphic birth, remarkable reproduction, nutritional behavior and death. They are potentially useful indicators of an ecosystem, ready surveyed and sensitive to changes in microclimate, temperature, solar radiation, and the availability of host plants for ovipositing and larval development ^[1]. Butterflies and their larva (caterpillars) are dependent on specific host plants for foliage, nectar and pollen as their food. Thus butterfly diversity reflects overall plant diversity, especially, that of herbs and shrubs in the given area ^[2], they interact with plants as pollinators and herbivores ^[3]. Adult butterflies are normally divided into two major groups nectar feeding and fruit-feeding, butterflies gain most of their nutritional requirements from rotting fruits, plant sap and decaying material ^[4].

2. Material and Methods**2.1 Study area**

Aim of the present study was to explore the butterfly fauna and species habitat of Union Council Koaz Bahram Dheri, District Charsadda, Khyber Pakhtunkhwa, Pakistan. This study was conducted in Union Council Koaz Bahram Dheri during July 2012 to October 2012.

2.2 Materials

The material used in the collection of the butterflies are Arial net, chloroform bottle, digital camera, insect's pins, setting boards, insect boxes, naphthalene balls, ruler, graph paper and field book.

2.3 Collection and Preservation of butterflies

The butterflies were collected during day time from July 2012 to October 2012. The collection of butterflies was done randomly by using Arial net and naked hands. The collected specimens were killed used cotton soaked chloroform and then placed them in chloroform bottle. They were pinned and their body parts were set on thermopile setting board in laboratory. Specimens were tagged with scientific name and area of collection along with date. On drying these were properly labeled and mounted in the collection boxes. Naphthalene balls were placed in the boxes to keep them safe from the pests.

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2.4 Identification of butterflies

The identification of butterflies was done with the help of keys, and available literature. The help was also taken from the available identified specimens placed in National Insect Museum, (NARC) Islamabad Pakistan. After the identification all the collected specimens were kept in the museum of Department of Zoology Hazara University Mansehra Pakistan.

2.5 Morphological study

The total body length and wing span of the specimens were measured with the help of graph paper and ruler.

2.6 Photography

The photograph of the identified specimen was taken placed one by one on top of a light blue paper. Photographs were taken on ventral side as well as by dorsal side by using digital camera, Yashica (14.2 megapixels), made in China.

3. Results

This was the first study of butterfly diversity and species habitat report of the said area. In the present study a total of 232 specimens were collected belong to 13 species 11 genera and 3 families. Family Nymphalidae comprises largest number of specimens i.e. 114 (49.14%) followed by 86 (37.01%) specimens of Pieridae and 32 (13.79%) of Papilionidae. The checklist of Union Council Koaz Bahram Dheri, Pakistan followed by systematic position of each species is provided below.

Systematic classification

Phylum: Arthropoda

Class: Insecta

Order: Lepidoptera

Family: Nymphalidae

Reported species: 1 Blue pansy, *Junonia orithya* (Linnaeus 1758)

Reported species: 2 Painted lady, *Cynthia cardui* (Linnaeus, 1758)

Reported species: 3 Plain tiger, *Danaus chrysippus* (Linnaeus, 1758)

Reported species: 4 Mottled emigrant, *Catopsilia pyranthe* (Linnaeus, 1758)

Reported species: 5 Common leopard, *Phalanta phalantha* (Drury, 1773)

Reported species: 6 Peacock pansy, *Junonia almana* (Linnaeus, 1758)

Reported species: 7 Great basin wood-nymph, *Cercyonis sthenele* (Boisduval, 1852)

Family: Pieridae

Reported species: 8 Common grass yellow, *Eurema hecabe* (Linnaeus, 1758)

Reported species: 9 Dark clouded yellow, *Colias croceus* (Geoffroy, 1758)

Reported species: 10 Lemon emigrant, *Catopsilia ponoma* (Fabricius, 1775)

Reported species: 11 Small salmon arab, *Colotis amata* (Fabricius, 1775)

Reported species: 12 Indian cabbage white, *Pieris canidia* (Linnaeus, 1768)

Family: Papilionidae

Reported species: 13 Lime butterfly, *Papilio demoleus* (Linnaeus, 1758)

Table 1: Species wise Abundance, Distribution, Occurrence, Status: (VC: Very Common >30; C: Common >15; NR: Not Rare >8; R: Rare >5; VR: Very Rare >1) and Biotope: (S: Scrub; G: Grassland; P: Plantation; B: Botanical and Nursery Garden).

S. No	Common Name	Scientific Name	Occurrence	Status	Biotope
1	Plain tiger	<i>D. chrysippus</i>	August, July, September	V.C	S, P, G, B
2	Common grass yellow	<i>E. hecabe</i>	August, September	V.C	S, P, G
3	Lime butterfly	<i>P. demoleus</i>	September, July	V.C	S, P, G, B
4	Mottled emigrant	<i>C. pyranthe</i>	August, July, September	C	S, P, G
5	Blue pansy	<i>J. orithya</i>	August, September	C	S, P, G
6	Lemon emigrant	<i>C. ponoma</i>	October	C	S, P, G, B
7	Indian cabbage white	<i>P. canidia</i>	August	C	S, P, G
8	Painted lady	<i>C. cardui</i>	August	C	S, P, G
9	Great basin wood-nymph	<i>C. sthenele</i>	July	N.R	S, P, G
10	Peacock pansy	<i>J. almana</i>	July	R	S, P
11	Dark clouded yellow	<i>C. croceus</i>	October	R	S
12	Common leopard	<i>P. phalantha</i>	September	R	S, P
13	Small salmon Arab	<i>C. amata</i>	October	R	S

4. Conclusions

From the present study it was concluded that the *Danaus chrysippus*, *Eurema hecabe* and *Papilio demoleus* is the most common species in Union Council Koaz Bahram Dheri.

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6. Competing interest and Financial support

Declare None

7. Reference

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