

## Two Months Catch of Butterflies (Lepidoptera) from District Ludhiana, Punjab

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Lepidoptera (scaly wings) is highly specialized order of insects, which includes the butterflies, skippers and moths which are further divided into two suborders i.e., Heterocera and Rhopalocera. Butterflies can be classified into two superfamilies, Hesperioidea and Papilionoidea. Whereas former consists of a single family viz., Hesperidae (Skippers), and the latter includes four families: *Papilionidae* (Swallowtails), *Pieridae* (Whites and Yellows), *Nymphalidae* (Brush-footed butterflies) and *Lycaenidae* (Blues) (Kehimkar, 2008).

Butterflies always remain a fascination to the mankind. From the ecological view point butterflies also play an important role in food web. Some of them, like Monarch butterflies viz., *Danaus plexippus*, *D. erippus*, *D. cleophile*, *D. chrysippus*, due to their palatability act as dispensable food of many birds and reptiles present in grassland and forest ecosystems. Different stages of butterflies are fed upon by various higher groups of animals. Butterflies also act as pests of various agricultural and forestry crops, which poses a serious damage to both quality and quantity due to their phytophagous feeding habit. The present study aims to check the species diversity from their conservation point of view.

During pre-monsoon period from March to April in year 2017, a study was carried out to check the butterfly fauna of district Ludhiana, Punjab. A total of 19 species belonging to five families were recorded during the aforesaid period. Out of five families, Pieridae, represented by 8 species was the most dominant, followed by Nymphalidae (7 species), Papilionidae (3 species) and Lycaenidae (1 species). *Pieris brassicae* Linnaeus was the most dominant species of butterfly in terms of number of individuals collected, followed by *Danaus chrysippus chrysippus* Linnaeus and least by *Tirumala limniace* Cramer.

### Material and Methods

The butterfly collection was made with the help of insect net swept over the bushes. The collected butterflies thus transferred very carefully to the killing jar which contains a killing agent ethyl acetate. After killing, spreading was done on a spreading board (250-300 mm in length) which was a long, flat board with central adjustable groove. After 3-

4 days, the paper strips were removed and the specimen along with the central insect pin was shifted to an insect storage box. These boxes were properly fumigated with naphthalene balls. Then the specimens were labelled properly with geographical data slips carrying information about the collected specimen.

In the present paper, classification given by Van Nieukerken et al. (2011) is followed. All collections were made by Gurmeet Kaur.

### Order: LEPIDOPTERA

#### Clade: Obtectomera Minet, 1986

#### Superfamily: Papilionoidea Latreille, 1802

#### Family: Pieridae

Genus: *Catopsilia* Hübner, 1816

#### 1. *Catopsilia pomona* Fabricius (Lemon Emigrant)

Material examined: Punjab: Dist. Ludhiana; PAU, 244m, 27.iii.2017, 2♂♂.

#### 2. *Catopsilia pyranthe* Linnaeus (Mottled Emigrant)

Material examined: Punjab: Dist. Ludhiana; Alamgir, 251m, 26.iii.2017, 2♂♂, 2♀♀.

Genus: *Colias* Fabricius, 1807

#### 3. *Colias fieldi* Menetries (Dark Clouded Yellow)

Material examined: Punjab: Dist. Ludhiana; Kohara, 251m, 5.iii.2017, 1♂, 1♀.

Genus: *Eurema* Hübner, 1819

#### 4. *Eurema hecabe* Linnaeus

Material examined: Punjab: Dist. Ludhiana; Sahnewal, 251m, 20.iii.2017, 3♀♀; Pohir, 262m, 26.iii.2017, 1♀; Pakhowal, 252m, 2.iv.2017, 1♂, 1♀; Raikot, 239m, 2.iv.2017, 1♀; Jagraon, 234m, 9.iv.2017, 2♀♀; Ladhowal, 229m, 11.iv.2017, 2♂♂.

Genus: *Belenois* Hübner, 1819

#### 5. *Belenois aurota* Fabricius (Pioneer)

Material examined: Punjab: Dist. Ludhiana; PAU, 244m, 27.iii.2017, 2♂♂.

Genus: *Cepora* Billberg, 1820

#### 6. *Cepora nerissa* Fabricius (Common Gull)

Material examined: Punjab: Dist. Ludhiana; Machhiwara, 262m, 12.iii.2017, 2♂♂; Machhiwara, 262m,

12.iii.2017, 1♀.

Genus: *Ixias* Hübner, 1816

7. *Ixias pyrene* Linnaeus (Yellow Orange Tip)

Material examined: Punjab: Dist. Ludhiana; Mundian Kalan, 251m, 12.iii.2017, 3♂♂.

Genus: *Pieris* Schrank, 1801

8. *Pieris brassicae* Linnaeus (Large Cabbage White)

Material examined: Punjab: Dist. Ludhiana; Kohara, 251m, 5.iii.2017, 1♂; Pohir, 262m, 26.iii.2017, 1♂; Mullanpur, 251m, 9.iv.2017, 2♂♂; Ladhawal, 229m, 11.iv.2017, 1♂; Katani kalan, 252m, 5.iii.2017, 1♂.

9. *Pieris canidia* Sparrman (Indian Cabbage White)

Material examined: Punjab: Dist. Ludhiana; PAU, 244m, 2.iii.2017, 2♂♂, 1♀; Kohara, 251m, 5.iii.2017, 1♀; Neelon, 261m, 5.iii.2017, 2♂♂; Mundian Kalan, 251m, 12.iii.2017, 1♀; Machhiwara, 262m, 12.iii.2017, 2♂♂; Payal, 252m, 20.iii.2017, 1♂, 2♀♀; Jassowal, 252m, 26.iii.2017, 1♂; Pohir, 262m, 26.iii.2017, 1♂; Ladhawal, 229m, 11.iv.2017, 1♂.

#### Family: Papilionidae

Genus: *Graphium* Scopoli, 1777

10. *Graphium doson* Felder, C. & R. (Common Jay)

Material examined: Punjab: Dist. Ludhiana; Dehlon, 262m, 26.iii.2017, 2♀♀.

Genus: *Papilio* Linnaeus, 1758

11. *Papilio demoleus* Linnaeus (Lime Butterfly)

Material examined: Punjab: Dist. Ludhiana; Sidhwan Khurd, 237m, 9.iv.2017, 3♂♂.

12. *Papilio polytes* Linnaeus (Common Mormon)

Material examined: Punjab: Dist. Ludhiana; Khanna, 269m, 19.iii.2017, 2♂♂.

#### Family: Nymphalidae

Genus: *Danaus* Kluk, 1807

13. *Danaus chrysippus* Linnaeus (Plain Tiger)

Material examined: Punjab: Dist. Ludhiana; PAU, 244m, 2.iii.2017, 1♂; Katani Kalan, 252m, 5.iii.2017, 1♀; Neelon, 261m, 5.iii.2017, 1♀; Mundian Kalan, 251m, 12.iii.2017, 1♂; Khanna, 269m, 19.iii.2017, 2♂♂; Payal, 252m, 20.iii.2017, 1♂; Jassowal, 252m, 23.iii.2017, 1♂; Pakhowal, 252m, 2.iv.2017, 1♂; Sidhwan Khurd, 237m, 9.iv.2017, 2♂♂; Hambran, 239m, 11.iv.2017, 1♂, 1♀.

Genus: *Tirumala* Moore, 1880

14. *Tirumala limniace* Cramer (Blue Tiger)

Material examined: Punjab: Dist. Ludhiana; Dehlon, 262m, 26.iii.2017, 1♀.

Genus: *Phalanta* Horsfield, 1829

15. *Phalanta phalantha* Drury (Common Leopard)

Material examined: Punjab: Dist. Ludhiana; Mullanpur, 251m, 9.iv.2017, 2♀♀.

Genus: *Cynthia* Fabricius, 1807

16. *Cynthia cardui* Linnaeus (Painted Lady)

Material examined: Punjab: Dist. Ludhiana; Katani Kalan, 252m, 5.iii.2017, 1♀; Raikot, 239m, 2.iv.2017, 1♂, 1♀; Jagraon, 234m, 9.iv.2017, 3♀♀.

Genus: *Hypolimnas* Hübner, 1816

17. *Hypolimnas misippus* Linnaeus (Danaid Eggfly)

Material examined: Punjab: Dist. Ludhiana; Hambran, 239m, 11.iii.2017, 1♂.

Genus: *Junonia* Hübner, 1816

18. *Junonia orithya* Linnaeus (Blue Pansy)

Material examined: Punjab: Dist. Ludhiana; Neelon, 261m, 5.iii.2017, 1♂; Raikot, 239m, 2.iv.2017, 1♂.

Genus: *Ariadne* Horsfield, 1829

19. *Ariadne merione* Cramer (Common Castor)

Material examined: Punjab: Dist. Ludhiana; Doraha, 252m, 19.iii.2017, 1♂; Jassowal, 252m, 26.iii.2017, 1♂.

#### Family: Lycaenidae

20. *Pseudozizeeria maha* Kollar (Pale Grass Blue)

Material examined: Punjab: Dist. Ludhiana; Doraha, 252m, 19.iii.2017, 2♀♀.

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