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ASSESSMENT OF DIVERSITY OF BUTTERFLY SPECIES AT JHALAWAR, (RAJASTHAN) INDIA

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ABSTRACT

Jhalawar is located in the south east corner of Rajasthan at the edge of the Malwa plateau. The study of diversity and richness of butterflies was carried out mainly in three areas of Jhalawar: College Campus, Shree Jairaj Park and Jhiri area. The butterflies were collected by using nets and hand picking. Collection was done in the months of February-March and September-October, between 11:00 to 02:00 hours. A total of 20 species of butterflies belonging to 4 families (Pieridae, Papilionidae, Lycaenidae and Nymphalidae) were captured and identified. The most dominant family was Pieridae (7 species) and Nymphalidae (7 species) followed by Papilionidae (3 species) and Lycaenidae (3 species). The abundance of species collected was also recorded.

Figure : 00 References : 08 Table : 01

KEY WORDS :Abundance, Butterfly, Diversity, Jhalawar

Introduction

Jhalawar is located in South-east Rajasthan, India, has an average elevation of 317 metres (1040 feet). It is watered by several rivers, giving it a verdant look. The largest river flowing through the area is Kali Sindh. Other rivers include Ujaad, Ahu, Parvan, Chavli, *etc.* Jhalawar district has the highest rainfall in the Rajasthan state.

Biodiversity is the bandwagon of this century and a lot of discussions are going on throughout the world on the conservation and sustainable use of natural resource. Species diversity can be measured in a number of ways, but is usually calculated as a function of both the number of species (species richness) and the proportional number of individuals within each species (abundance or evenness).

Insects comprise more than half of earth's diversity of species. Butterflies (Lepidoptera) the lovely and graceful insects provide economic and ecological benefits to the human society[2]. Butterflies are one of the unique groups of insects, which grasp the attention of nature lovers worldwide[5]. They are known for their pollination services and as key indicators of environmental health[6]. The main objective of this study was to collect, identify and calculate diversity and abundance in three different areas (College Campus, Shree Jairaj Park and Jhiri area) of Jhalawar.

Material and Methods

Butterflies were collected from three areas

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TABLE- 1 : List Of Identified Butterflies (Lepidoptera)

S. NO.	FAMILY	NAME	COMMON NAME	ABUNDANCE (Approx. no. of insects)
1.	Pieridae	*Ixias marianne (Linnaeus)*	White orange tip	22
2.	Pieridae	*Catopsilia pyranthe*	Mottled emigrant	14
3.	Pieridae	*Terias hecabe (Linnaeus)*	Common grass yellow	152
4.	Pieridae	*Catopsilia pomona*	Common emigrant	27
5.	Pieridae	*Anaphaeis aurota (Febricius)*	Pioneer	12
6.	Pieridae	*Eurema laeta (Boisduval)*	Spotless grass yellow	16
7.	Pieridae	*Appias albina (Boisduval)*	Common Albatross	22
8.	Nymphalidae	*Junonia lemonias*	Lemon pansy	25-30
9.	Nymphalidae	*Junonia (Precis) atlites (Linnaeus)*	Grey pansy	28
10.	Nymphalidae	*Junonia almona*	Peacock pansy	18
11.	Nymphalidae	*Junonia orithya*	Glass blue tiger	37
12.	Nymphalidae	*Danaus chrysippus (Linnaeus)*	Plain tiger	45
13.	Nymphalidae	*Telchinia violae (Febricius)*	Tawny coster	4
14.	Nymphalidae	*Parantica aglea*	Glassy tiger	12
15.	Papilionidae	*Pachliopta aristolochiae*	Common rose (Hubn.)	7-8
16.	Papilionidae	*Papilio demoleus*	Lime butterfly	11
17.	Papilionidae	*Zetides agamemnon*	Tailed jay (Linnaeus)	12
18.	Lycaenidae	*Lampides boeticus*	Pea blue	250
19.	Lycaenidae	*Catochrysops enjus*	Gram blue (Febricius)	68
20.	Lycaenidae	*Castalius rosimon*	Common pierrot	5-6

of Jhalawar : College Campus, Shree Jairaj Park and Jhiri area.The observations were made regularly from 11:00hr to 02:00hr, which is the peak time for butterfly activity.

During the survey, butterflies were caught using a sweep net and hand picking; then transferred to killing jars. The captured butterflies were spread and these butterflies were stored in

insect box by pinning them. Identification of butterflies was done at IARI, New Delhi and MPUAT, Udaipur.

Result and Discussion

A total number of 20 species of butterflies belonging to 4 families (Pieridae, Papilionidae, Lycaenidae, Nymphalidae) were collected from the selected areas during the study period (February-March and September-October, 2012). The major number of butterflies collected were from college campus and Jai raj Park followed by Jhiri area. The number of species identified under family Pieridae and Nymphalidae were seven respectively, while that of Papilionidae and Lycaenidae were three species each.

Terias hecabe (L.) and *Lampide boeticus* species of butterfly were found in abundance in college campus while *Telchinia violae* species was found in 2-3 numbers.

It was seen that the species found in college campus and Jairaj park were almost same. As both the areas are very close to each other and have similar type of vegetation, trees and ornamental plants.

Similar butterflies studies were also conducted earlier[1,3,4,7,8].

References

1. GHORPADÉ, K. (2010) Butterflies (Lepidoptera—Rhopalocera) of the Palni Hills, Southern Western Ghats in peninsular India. *Colemania,* **23**:1-19.
2. GUPTHA, M. B., RAO, P.V.C., REDDY, D. S., MADDALA, S.R.S.C. S. AND BABU, P.M. (2012) A Preliminary Observation on Butterflies of Seshachalam Biosphere Reserve, Eastern Ghats Andhra Pradesh, India. *World Journal of Zoology* **7** (1): 83-89.
3. KUMAR, A. (2012) A report on the Butterflies in Jhansi (U.P.) India. *Journal of Applied and Natural Science,* **4** (1): 51-55.
4. KURVE, P., SHENAI, D., JOSHI, A. AND PEJAVER, M. (2013) Recent study on butterfly diversity at Jnandweepa, V.P.M. campus, Thane, Maharashtra. *National Conference on Biodiversity : Status and Challenges in Conservation - 'FAVEO' 2013.* **1**(6): 978-81.
5. KUMAR, NANDA, M. K., SIVAN, V.V., JOSEPH, J. P., JITHIN, M. M., NARAYANAN, M. K.R. AND KUMAR, A.N. (2015) Butterfly Species Diversity and Abundance in Manikkunnumala Forest of Western Ghats, India. *International Journal of Advanced Research,* **3**(1): 206-211.
6. OOSTERMEIJER, J. G. B. AND VAN SWAAY, C. A. M. (1998) The relationship between butterflies and environmental indicator values: a tool for conservation in a changing landscape. *Biological conservation,* **86** (3): 271-280.
7. SHARMA, G. (2011) Studies on Lepidopterous Insects Associated with Vegetables in Aravali Range, Rajasthan, India. *An International Journal,* **3**(1): 21-26.
8. TIPLE, A.D. AND KHURAD, A.K. (2009) Butterfly Species Diversity, Habitats and Seasonal Distribution in and Around Nagpur City, Central India. *World Journal of Zoology,* **4** (3): 153-162.