

Vol 6 Issue 3 Dec 2016

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

Chief Editors

Ashok Yakkaldevi
A R Burla College, India

Ecaterina Patrascu
Spiru Haret University, Bucharest

Kamani Perera
Regional Centre For Strategic Studies,
Sri Lanka

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Regional Editor

Dr. T. Manichander

Advisory Board

Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Ruth Wolf University Walla, Israel
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Jie Hao University of Sydney, Australia
Anna Maria Constantinovici AL. I. Cuza University, Romania	May Hongmei Gao Kennesaw State University, USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Romona Mihaila Spiru Haret University, Romania	Marc Fetscherin Rollins College, USA	Loredana Bosca Spiru Haret University, Romania
	Liu Chen Beijing Foreign Studies University, China	Ilie Pinte Spiru Haret University, Romania
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [M.S.]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMARALAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V.MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S.KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept.English, Government Postgraduate College , solan

More.....



STUDY ON DIVERSITY OF BUTTERFLY IN WASHIM REGION (MH).

Pund D. A., Patil P. S. and M. R. Tandale

Post Graduate and Research Department of zoology,

R.A. Arts, M.K. Commerce and Shri S.R. Rathi Science Mahavidhyalay, Washim .

ABSTRACT :

Insects are the most diverse group of animals on the planet, including more than a million described species and representing more than half of all known living organisms. Butterflies are one of the major insect orders Lepidoptera meaning “scaly winged” from the fact that all members in this group have their wings coated with tiny feather like scales that are attached to the wings in rows like tiles on a roof. And this order considerable as ecological, scientifically importance for humans. Butterflies are important pollinators. Butterflies are classified among a large group of insects these are distributed worldwide, which has profound impacts on ecosystem. The present study provides a consolidated account of the Butterfly fauna. The present study reveals that, the total 9 species of butterfly belonging to 3 families and 7



subfamilies were recorded.

KEY WORDS: Butterfly, Diversity, Washim.

INTRODUCTION:

Insect biodiversity accounts for a large proportion of all biodiversity on the planet, with over 1,000,000 insect species described. Over 1 million species of insects have been described, but current estimates of total insect diversity vary from 2.6-7.8 million species with a mean of 5.5 million. Beetles (Coleoptera) make up 40% of described insect species, but some entomologists suggest that flies (Diptera) and Hymenoptera (wasps, bees and ants) could be

as diverse or more so. Five orders of insects stand out in their levels of species richness that is Hymenoptera, Diptera, Coleoptera, Lepidoptera and the Hemiptera. The Indian region is recognized as one of the major centres of biodiversity in the world. The diversity is equally rich at the ecosystem level as well as species level has been well documented by field work carried out by naturalists and professional field biologists during the past 200 years. The habitat diversity offered by alpine ecosystem to mangrove ecosystem through a wide range of tropical forest ecosystem, freshwater and marine ecosystem,

desert and island ecosystem found expression in richness of faunal elements in all groups. According to (Gaonkar 1996). In India hosts about 1,501 butterfly species. About 1500 species of butterflies are found in India (Haribal 1992). Butterflies are classified among a large group of insects known as the Lepidoptera meaning “scaly winged” from the fact that all members in this group have their wings coated with tiny feather like scales that are attached to the wings in rows like tiles on a roof. Lepidoptera are regarded as one of the important component of biodiversity. Butterflies are part of our natural heritage and have been studied for over 300 years. In Northern Western Ghats (India), four tropical habitats with different disturbance levels were monitored by (Kunte 1997), for the diversity and seasonal patterns in butterfly communities.

(Saarinen 1998), conducted the survey of butterfly communities in relation to changes in the management environments. (Lemas 1981), compared the butterfly faunas of Pakitza and Tambopata.

The present study has been undertaken because of Butterflies are indicators of a healthy environment and healthy ecosystems. They indicate a wide range of other invertebrates, which comprise over two-thirds of all species. The main objective of the present study is to provide a check list of butterflies with their scientific classification and photographic collection.

MATERIALS AND METHODS

The present study carried out In Washim region of Maharashtra. Washim is also known as Basim, Arabic name that means the 'one that smile. It is especially famous for its ancient Balaji temple. For present study five different sampling sites were selected those are Pandit Neharu Vidhyalay and Junior college Kawatha garden, Near farm of water dam, Balkhandeshwar Temple garden, Garden of R. A. college Washim. During the month of Sept. 2016 to Dec. 2016. the time period undertaken for observation was throughout day from morning 8:30 am to evening 5:00 pm. observations were made by direct visually and collection done by sweep net. Lenovo k6 note mobile phone was used for capturing photos of butterflies.

RESULT AND DISCUSSION:

One of the major features of the animal communities is their diversity i.e. the no. species present and their numerical composition. The present study is undoubtedly the first comprehensive effort to investigate the butterfly diversity in Washim district of Maharashtra in general and the area under investigation. In the present study, a total 9 species of butterfly belonging to 3 families and 7 subfamilies were reported over a period of 4 months from Sept. 2016 to Dec 2016. The total butterfly species observed are tabulated in table I and Photoplate I.

Table No. 1. Butterfly species observed in Washim Region

Sr. no.	Family	Subfamily	Genus	Species	Sites	Season
1	Pailoinidae	Papilioninae	<i>Graphium</i>	<i>agamemnon</i>	RAC	Sept 2016
2	Nymphalidae	Biblidinae	<i>Byblia</i>	<i>ilithya</i>	NFWD	Sept2016
3	Pailoinidae	<i>Papilioninae</i>	<i>Papilio</i>	<i>demoleus</i>	RAC	Sept2016
4	Pieridae	Coliadinae	<i>Catopsilia</i>	<i>pomona</i>	NFWD	Oct2016
5	Nymphalida	Nymphalinae	<i>Cynthia</i>	<i>cardui</i>	NFWD,	Sept2016
6	Nymphalida	Nymphalinae	<i>Junonia</i>	<i>lemonias</i>	NFWD,	Sept2016
7	Nymphalidae	Limenitidinae	<i>Moduza</i>	<i>procris</i>	BTG,	Sept2016
8	Pailoinidae	Papilioninae	<i>Papilio</i>	<i>polytes</i>	PNVHJC	Dec2016
9	Pieridae	Pierinae	<i>Appias</i>	<i>libythea</i>	RAC	Oct2016

Photo Plate No. 1. Butterfly species



During short study period that is 4 month in which total 9 species from washim region were recorded those are i.e. *Graphium*, *Byblia ilithyia*, *Papilio demoleus*, *Catopsilia Pomona*, *Cynthia cardui*, *Junonia lemonias*, *Modusa procris*, *Papilio polytes*, *Appias libythea*. Butterflies are used by advertisers and illustrators the world over as way of indicating that something is environmentally friendly. Butterflies are indicators of a healthy environment and healthy ecosystems. Butterflies have been widely used by ecologists as model organisms to study the impact of habitat loss and fragmentation, and climate change (BCE, 2008). Butterflies are widely recognized as potentially valuable ecological indicators (Erhardt 1855; Brown 1991; Kremen 1992). Butterflies are sensitive to and directly affected by any alteration to their habitats, atmosphere, local weather and climate (Watt et al. 1968; Heath 1981; Rosenberg et al. 1986; Dennis 1993). Butterfly diversity of Washim region. In particular was investigated over a period of 4 months i.e. from Sept 2016 to Dec 2016. The specimen was collected by sweep net from Washim region a total of 9 species of 3 families and 7 subfamilies were identified. The occurrence of butterfly species shows variation in relation to season and habitat. The longer study is needed to identify significant changes in butterfly diversity.

ACKNOWLEDGEMENT

The authors are grateful to the Principal Dr. M. M. Sancheti R. A. College Washim and Dr. D. S. Dabhade Professor & Head P. G. and Research Department of Zoology, R. A. College Washim for providing necessary facilities and Guide line for this Research Project.

REFERENCES

- 1.**BEC, (2008)**: Butterfly Conservation Europe “Why butterflies matter”.
- 2.**Dennis, R.H.L.(1993)**.: Butterflies and Climate Change. University Press, Manchester, xv+302pp.
- 3.**Erhardt, A. (1985)**: Diurnal Lepidoptera: Sensitive indicators of cultivated and abandoned grassland. Journal of Applied Ecology 22: 849-861
- 4.**Gaonkar H. (1996)**: Butterflies of Western Ghats with notes on those of Sri Lanka. Areport of the Center of Ecological Sciences, Indian Institute of Science, Bangalore, and the Zoological Museum, Copenhagen and Natural History Museum, London.
- 5.**Haribal, M. (1992)**: The butterflies of Sikkim Himalaya and their Natural History.Natraj publisher, Dehra Dun: 217.
- 6.**Heath, J. (1981)**: Threatened Rhopalacera (Butterflies) of Europe. Council of Europe, Strasbourg, 157pp.
- 7.**Kunte, K. J.(1997)**: Seasonal patterns in butterfly abundance and species diversity in four tropical habitats Northern Western Ghats.J.Biosci, 22(5).
- 8.**Lamas, G. (1981)**: Comparing the butterfly faunas of Pakitza and Tambopata, Madre de Dios , Peru such a mega diverse country ? Rev.Soc.mexLepid 6:23-40.
- 9.**Saarinen,K.(1998)**: species richness and distribution of butterflies in agricultural environment in SE Finland.Entomological Fennica 9:9-18.

**Pund D. A.**

**Post Graduate and Research Department of zoology,
R.A. Arts, M.K. Commerce and Shri S.R. Rathi Science Mahavidhyalay, Washim .**

Publish Research Article

International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Books Review for publication, you will be pleased to know that our journals are

Associated and Indexed, India

- ★ Directory Of Research Journal Indexing
- ★ International Scientific Journal Consortium Scientific
- ★ OPEN J-GATE

Associated and Indexed, USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal
258/34 Raviwar Peth Solapur-
413005, Maharashtra
Contact-9595359435

E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com