

TEACHER'S ACTIVITY REPORT 2016 - 2021

FACULTY: Science	DEPARTMENT/ COMMITTEE Environmental Sciences	IQAC ACTIVITY No: SVC/2017-18/EVS/AC/1	
NAME OF THE ACTIVITY: Workshop on "Incredible Journey of Butterflies"			
DATE	FACULTY	DEPARTMENT/COMMITTEE	COORDINATOR NAME
15 September 2017	Science	Environmental Sciences	Dr. Abhishek Chandra Dr. Kameshwar Sharma Y V R
TIME	VENUE	NUMBER OF PARTICIPANTS	NATURE: Outdoor/Indoor
14:00 to 17:00	Sri Venkateswara College	95	Outdoor
SUPPORT/ASSISTANCE:	Organized by Sri Venkateswara College University of Delhi (DBT-STAR STATUS, NAAC 'A' GRADE) In Association with Conservation Education Centre – Bombay Natural History Society (BNHS)		

BRIEF INFORMATION ABOUT THE ACTIVITY (CRITERION NO. - 3 and 7):

TOPIC/SUBJECT OF THE ACTIVITY	Workshop on "Incredible Journey of Butterflies"
OBJECTIVES	To understand about Indicators of Climate Change
METHODOLOGY	Lecture and Field Visit
OUTCOMES	Students understand about Indicators of Climate Change

PROOFS & DOCUMENTS ATTACHED (Tick mark the proofs attached):

Notice & Letters	Student list of participation	Activity report	Photos	Feedback form
Feedback analysis	News clip with details	Certificate	Any other	

IQAC Document No:	Criterion No:	Metric No:
Departmental file no	IQAC file No;	

NAME OF TEACHER & SIGNATURE	NAME OF HEAD/ COMMITTEE INCHARGE & SIGNATURE	IQAC COORDINATOR (SEAL & SIGNATURE)

For Reference

Criterion I	Curricular Aspects (planning & Implementation)	Criterion V	Student Support & Progression
Criterion II	Teaching Learning & Evaluation	Criterion VI	Governance
Criterion III	Research, Innovations & Extension	Criterion VII	Institutional Values & Best Practices
Criterion IV	Learning Resources and Infrastructure		

DBT-STAR sponsored Workshop on

“Incredible Journey of Butterflies”

REPORT of WORKSHOP



Organized by

Sri Venkateswara College University of Delhi
(DBT-STAR STATUS, NAAC 'A' Grade)

In Association with

**Conservation Education Centre- Bombay Natural
History Society**

on

15th September, 2017

Organizing Committee

Dr P. Hemalatha Reddy

Patron & Principal

Dr. Abhishek Chandra

Convener

Dr. Kameshwar Sharma Y V R

Organizing Secretary

Dr. Pooja Gokhale Sinha

Member

Students volunteers

Dasyam Pranay

Rhea arya

Rashween singh

Jayant karwadiya

Manpreet Kaur

Saadon husain

Ankit Yadav

Vinay Kumar Reddy

Program Details

Timings	Activities
10:00 AM	Lighting of Lamp
10:00 – 10:10 AM	Introduction to the workshop
10:10 -10:20 AM	Address by the Principal
10:20 -11:20 AM	Invited Lecture by Chief Guest Dr. Krishan Kumar, Head South Asia, Biodiversity International, CGIAR Institute, New Delhi
11:20 – 11:50 AM	Group Photo and refreshment Break
11:50 – 12:20 PM	Demonstration and Hands on Activities by CEC- BNHS • Butterfly Count in College Campus
12:20 – 1:00 PM	Movie Screening
1:00 – 1:30 PM	Discussion and Talk
1:30 PM	Vote of Thanks

TABLE OF CONTENTS

- 1. BACKGROUND**
- 2. LIFE CYCLE OF BUTTERFLY**
- 3. ABOUT THE WORKSHOP**
- 4. CONCLUDING REMARKS**

APPENDIX A: LIST OF THE PARTICIPANTS

APPENDIX B: PHOTOGRAPHS OF THE WORKSHOP

APPENDIX C: ABSTRACT PUBLICATION

1. BACKGROUND

The presence of a butterfly around us, urges the desire to have a closer and magnified look of the butterfly, in order to understand what is it that makes it look so beautiful. However not many are aware about the life of a butterfly and the hurdles it needs to cross to have a better and longer lifespan. Thus, in today's world, when the humans understand the importance of every species in our lives and in the survival of mother Earth, it becomes important to determine the life and importance of the largest population of pollinators the butterflies. There are many reasons why butterflies and moths are important, both in their own right but also as quality of life indicators. The following are the main reasons for conserving butterflies and moths.

Intrinsic value

- Butterflies and moths are intrinsically valuable and are worthy of conservation in their own right.
- Butterflies and moths are part of Life on Earth and an important component of its rich biodiversity.
- They have been around for at least 50 million years and probably first evolved some 150 million years ago.
- These are a highly diverse group comprising over 250,000 species and make up around one quarter of all named species.
- Butterflies are flagship species for conservation in general, and in particular for invertebrates.

Aesthetic value

- Butterflies and moths are part of our natural heritage and have been studied for over 300 years.
- These are beautiful. Many are iconic and popular.
- People like butterflies.
- There are many references to butterflies and moths in literature, from the Bible through Shakespeare to modern day literature, and from poetry to musical lyrics.
- Butterflies are used by advertisers and illustrators the world over as way of indicating that something is environmentally friendly.

- Butterflies are often portrayed as the essence of nature or as representing freedom, beauty or peace.

Educational value

- Butterflies and moths have fascinating life-cycles that are used in many countries to teach children about the natural world. The transformation from egg to caterpillar to chrysalis is one of the wonders of nature.
- Other educational aspects include the intricate wing patterns and iridescence, and as examples of insect migration.

Ecosystem value

- Butterflies and moths 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.
- Areas rich in butterflies and moths are rich in other invertebrates. These collectively provide a wide range of environmental benefits, including pollination and natural pest control.
- Moths and butterflies are an important element of the food chain and are prey for birds, bats and other insectivorous animals (for example, in Britain and Ireland, Blue Tits eat an estimated 50 billion moth caterpillars each year).
- They support a range of other predators and parasites, many of which are specific to individual species, or groups of species

2 Life Cycle of Butterfly

Stage 1: The egg

It all starts when a female butterfly lays her eggs, usually on leaves or stems of plants. Inside these tiny eggs, caterpillars grow. Depending on the species, the eggs can vary in shape and texture – they can be round, oval or cylindrical, and smooth, bumpy or wrinkled (Fig.1A). The time it takes for the eggs to hatch can also vary – in some species, they will hatch within a few weeks and in others they will only hatch once the weather is warm enough.

Stage 2: The caterpillar

Once ready, the caterpillar leaves its egg home and enters the big outside world! And these little critters have one serious appetite – they actually eat their way out of the egg and immediately start chomping on the leaves of the host plant (Fig.1B). During this stage, they shed their skin four or five times – as the caterpillar grows, its skin becomes too tight and splits open, revealing a new, larger skin underneath. A fully grown caterpillar can be over 100 times larger than when it emerged from its egg. Wow!

Stage 3: The pupa

Once fully grown, the caterpillar forms itself into a “pupa” (or chrysalis) – a kind of vessel in which the caterpillar changes into a butterfly. They usually do this on twigs or safe, hidden areas around the host plant. The “pupa” stage may last a few weeks to several months depending on the species. During this time, a hardened case forms around the pupa to protect it from predators and extreme weather conditions(Fig.1C). And inside, the tissue, limbs and organs of the caterpillar transform. The result? A wonderful winged butterfly!

Stage 4: The butterfly

Once the butterfly is ready to emerge, the case around the pupa splits open. But it’s not time for takeoff just yet, as the wings are at first wet, soft and wrinkled against its body. The butterfly waits for its wings to dry, and pumps a liquid called hemolymph into them so that they become big and strong. Once fit for flight, this brilliant bug then takes to the air in search for flowers to feed on and for other butterflies to mate with. And that’s the cycle complete – and ready to start all over again! (Fig. 1D)

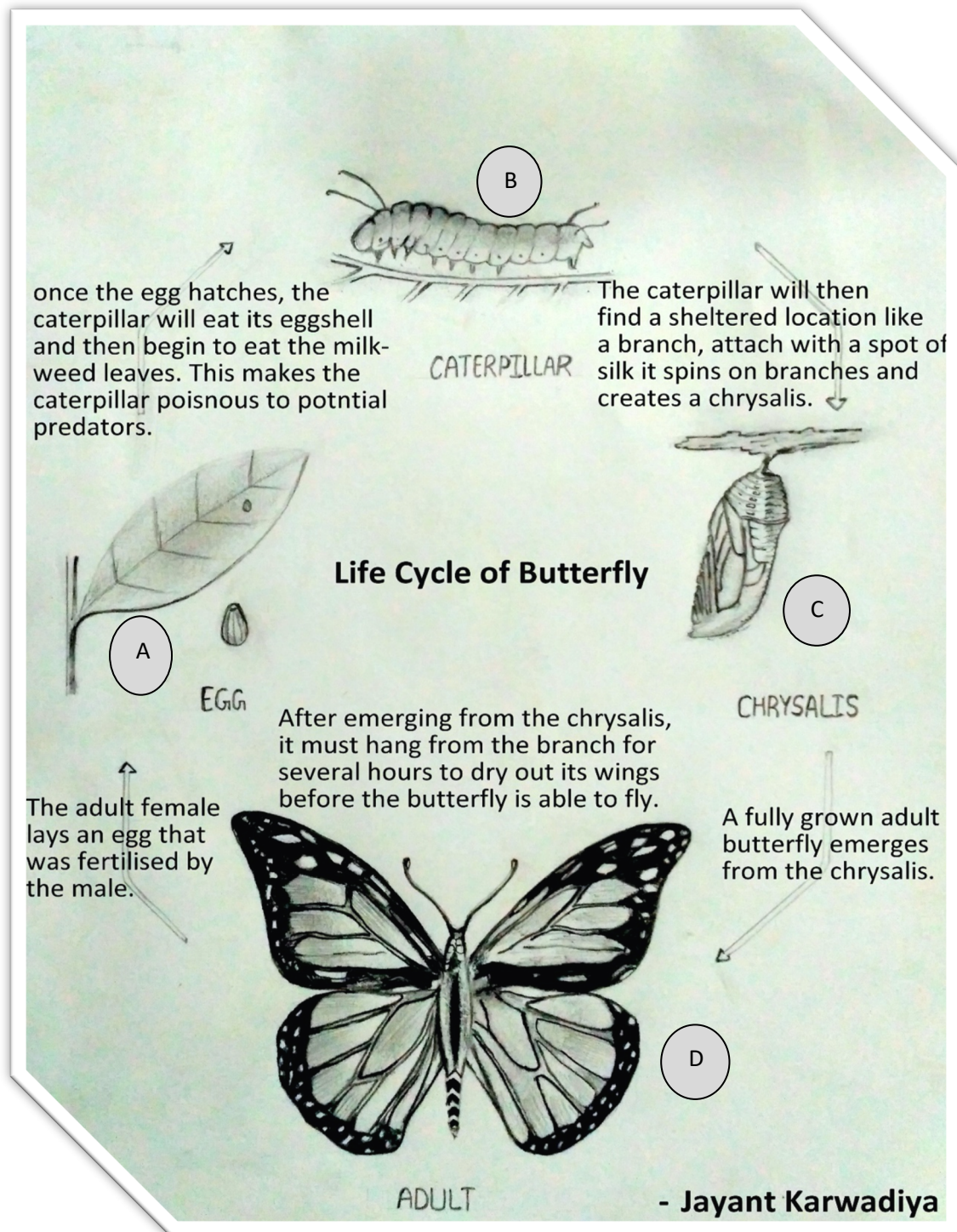


Fig 1.Events in the Life cycle of a Butterfly (Figure Drawn by Jayant Karwadiya II year Biological Sciences)

ABOUT THE WORKSHOP

The month of September embarks the closing of monsoon season. It is during this period that there are several unassuming butterflies and moths are found in different developmental stages in and around Delhi-NCR. This was the right time to let the students of Sri Venkateswara College be exposed to the relevance of butterflies and how the human activities have affected their survival and wellbeing. To reinforce the belief that all life forms are equally important and significant contributors towards ecosystem functioning, a hands-on training workshop was organized in the college on 15th September 2017 **"Incredible Journey of Butterfly"**, held under the initiative, **"Delhi Butterfly Month 2017"** an enterprise of Department of Forest and Wildlife Government of NCT of Delhi. The esteemed guest, to address the students, was a well-known Indian entomologist and researcher, Dr. Krishna Kumar Nallur, who is also the head of South and Central Asia, Biodiversity International CGIAR Institute in New Delhi.

The Bombay Natural History Society played an important role in helping the students to understand more about butterflies. The Bombay Natural History Society, founded on 15 September 1883 and is one of the largest non-governmental organizations in India engaged in conservation and biodiversity research. BNHS is the partner of Birdlife International in India. It has been designated as a 'Scientific and Industrial Research Organization' by the Department of Science and Technology (DST), Govt. of India.

The workshop began with the identification and count of butterflies within the campus, in the morning 9:00 AM. Morning hours are usually considered to be the best time for spotting butterflies as they can be found sunbathing with their wings spread out the students-enabled by BNHS designed catalogue that described all the species that call Delhi their home were successful in identifying 15 species of butterflies. This was an interesting start, as it helped the students to know the scientific names of most often seen butterflies. Mr. Ishtiyak Ahmed of BNHS led the walk.

This was then followed by a knowledgeable seminar session with Dr. Krishna Kumar Nallur (Head, South and Central Asia, Bioersivity International, New Delhi) who focused on what are the factors that have actually reduced the life expectancies of the butterflies in the recent decades, be it in terms of ecologically governed natural factors or anthropogenic causes. He added how these effects have severely introduced a character displacement in many of the

butterfly species, at relatively frequent intervals, a phenomenon that was seen rarely in the past when conditions were favorable for species survival. In his address, he also discussed the solutions and preventives that could be taken, and should be taken by the students especially, in order to avoid further destruction and degradation of an ever-giving environment. He drew attention to the problems that plague the farmers of South Asia, namely poverty and food deficiency. He then appraised the gathering at the Seminar Hall of the recent Fungus (*Fusarium* wilt) epidemic that has had the most popular banana variety Cavendish Banana's yield belaboured. Furthermore, he detailed that the reason for the banana variety nearing its extinction is because of it being monoculture every banana is an identical clone. Dr. Nallur also expounded on how increasing biodiversity will reduce pest outbreaks.

Impartment suggestion given by him was to have more flowering plants, at least within the campus to support a wider variety of butterfly species, so that they can be protected in a supportive environment, provided in this area of the Delhi region.

Following this, Mr. Ishtiyak Ahmed screened a documentary on the life of butterflies. The narration done in wonderment was chuckle some to watch and did the job of engaging the audience who supposedly wouldn't have wanted to skip a drawl of a lecture in class to attend another in the Hall. The only criticism that one could muster was that it was slightly catered more to school students albeit it remains doubtful—as surmised above as to how a scholarly documentary sans the initial bit about schoolboy's bewilderment about how to write his project on butterflies would have been received.

Lastly, Mr. Ahmed led a different batch of students on a Butterfly-count walk in the late afternoon. As it was late in the day, the little insects of joy were fluttering about in the same locations where they sat solemnly in the morning. Consequentially, the students could observe only about 5 species but it was a productive session nonetheless as not all students (mostly the ones who live further away from campus) were able to attend the early morning walk.

The seminar concluded with another butterfly count in the campus around 2:00 PM). This proved to be an eye opener for all of us, as we realized that the species count reduced as the anthropogenic activities increased within the college, with the day passing by. The

workshop was indeed a necessary and enlightening interaction, which enhanced our understanding of the butterflies as not only being the largest pollinator species, but also being one of the greatly affected species because of mass degradation we have caused till date. It has evoked a sense of responsibility in our minds to improve the environment conditions, if we really want to contribute towards development and betterment of the world.

Overall, this workshop was well, indeed a workshop in the true sense of the word as the students were familiarized with Relevance of Biodiversity to agriculture, the diversity of Butterflies and how they are at risk plus provided with a little butterfly counting escapade that some may in the future in their academic lives let blossom into long, arduous and fruitful field work that would contribute to Science indelibly.

Appendix B: photographs of the workshop



From right to left: Mr. Ishtiyak Ahamad (BHNS), Dr. Krishna Kumar Nallur, Head of South and Central Asia, Biodiversity International CGIAR Institute in New Delhi., Dr. E. Muralidhara Rao (Acting Principal), Dr. Abhishek Chandra (Convener) in the inaugural ceremony



Dr. Krishna Kumar Nallur felicitated by Dr. E. Muralidhara Rao, Acting Principal



Mr. Ishtiyak Ahmad (BHNS), felicitated by Dr. Abhishek Chandra (Convener)



Keynote Address by Dr. Krishna Kumar Nallur, Head of South and Central Asia, Biodiversity International CGIAR Institute in New Delhi



[Address by Mr. Ishtiyak Ahamad \(BHNS\)](#)



[Group photograph with guests and students](#)



BUTTERFLY IDENTIFICATION INSIDE SVC CAMPUS



Workshop on

Incredible Journey of Butterflies

(IJB-2017): September 15, 2017

Organized by

Sri Venkateswara College, University of Delhi, New Delhi, India

Sponsored by: DBT- STAR College Status

Certificate

This is to certify that Mr./Ms. _____
_____ has participated/volunteered
in workshop and hands-on training on Butterfly Count in Sri Venkateswara College,
University of Delhi, New Delhi, India.

Dr. Kameshwar Sharma
Convener

Dr. Abhishek Chandra
Convener

Dr. P. Hemalatha Reddy
Principal & Patron

APPENDIX C: ABSTRACT PUBLICATION

National Conference on

Emerging Environmental Challenges and Sustainable Development

21-23 March, 2018

Programme & Abstracts



Organized by
*Society for Environment and Development
(SED India), New Delhi
and
Swami Shraddhanand College,
University of Delhi, Delhi*

Ecological Studies on Butterfly Fauna (Insecta: Lepidoptera) of Delhi Ridge

Dasyam Pranay¹, Rashween Singh¹, Rhea Arya¹, Jayant Karwadiya¹,
Manpreet Kaur¹, Saadan Husain¹, Ankit Yadav¹, Vinay Kumar Reddy¹,
YVR Kameshwar Sharma², Pooja Gokhale Sinha² and Abhishek Chandra^{2*}

¹Student & ²Faculty, Sri Venkateswara College,
University of Delhi, Delhi- 110 021.

*Email: ac.india@gmail.com; ac@svc.ac.in

The presence of a butterfly around us, urges the desire to have a closer and magnified look of the butterfly, these insights in understanding the beauty in it. In order to understand this, one has to understand the life history of butterfly, where it undergoes crests of troughs to have a better and longer lifespan. Therefore, in today's world, the humans understand the importance of every species in our lives and in the survival of mother Earth and it becomes important to determine the life and importance of the largest population of pollinators- the butterflies. Butterflies have great economic, cultural and aesthetic value and are sensitive to fractional variation in climatic factors. In this study 15 species of butterflies belonging to 4 families were identified during the survey and counting of butterflies within the study area of Delhi Ridge. Mornings are considered to be the best time for spotting butterflies as they can be found sunbathing with their wings spread out. Present study revealed that 3 species of butterflies belonging to family Papilionidae, 5 species from family Pieridae, 5 species from Lycaenidae and 2 species belonging to family Nymphalidae were identified. Percentage composition of family Pieridae and Lycaenidae are found similar and most dominating. Families of Pieridae and Lycaenidae contribute about 33.33% followed by Papilionidae and Nymphalidae 20% and 13.33% respectively. Species diversity, evenness and species richness was calculated by Shannon-Weiner Diversity index, Evenness index and Margalef's index. Butterfly identification and host plant checklist were prepared during this survey analysis. This is the pilot study in its case in understudy the diversity of butterfly from the selected study area of Delhi Ridge.





SRI VENKATESWARA COLLEGE
(University of Delhi)

Internal Quality Assurance Cell

Chairperson

Prof C. Sheela Reddy
Principal
Sri Venkateswara College

IQAC Coordinator
Dr. N. Latha
Department of Biochemistry

External Members
Prof Debi P Sarkar
Department of Biochemistry
University of Delhi South
Campus

Prof Alo Nag
University of Delhi South
Campus

Dr. Gitanjali Yadav
NIPGR, Delhi

Internal Members
Dr. Meenakshi Bharat
Department of English

Dr. Lalitha Josyula
Department of Electronics

Dr. Namita Pandey
Department of Political
Science

Dr. A. K. Chaudhary
Department of Physics

Dr. K.C. Singh
Department of Physics

Dr. Swarn Singh
Department of Mathematics

Dr. Neeraj Sahay
Department of History

Dr. Vartika Mathur
Department of Zoology

Dr. Shruti Mathur
Department of Commerce

Dr. Padma Priyadarshini
Department of Sociology

Dr. Nimisha Sinha
Department of Biochemistry

Shri D. Venkat Ramana
A.O(I/C)

This is to certify that the Activity report (Teacher/Department /Society/Association) has been submitted for documentation to IQAC, Sri Venkateswara College, University of Delhi.

N. Latha

IQAC Coordinator
Sri Venkateswara College
Coordinator, IQAC
Sri Venkateswara College
(University of Delhi)
Dhaura Kuan, New Delhi-110021

C. Sheela Reddy

PRINCIPAL
Sri Venkateswara College
PRINCIPAL
Sri Venkateswara College
(University of Delhi)
Dhaura Kuan, New Delhi-110021

Website : www.svc.ac.in

E-mail : iqac@svc.ac.in