



## Checklist of butterflies of Nehru Memorial College and Puthanampatti Village, Tiruchirappalli District, Tamil Nadu

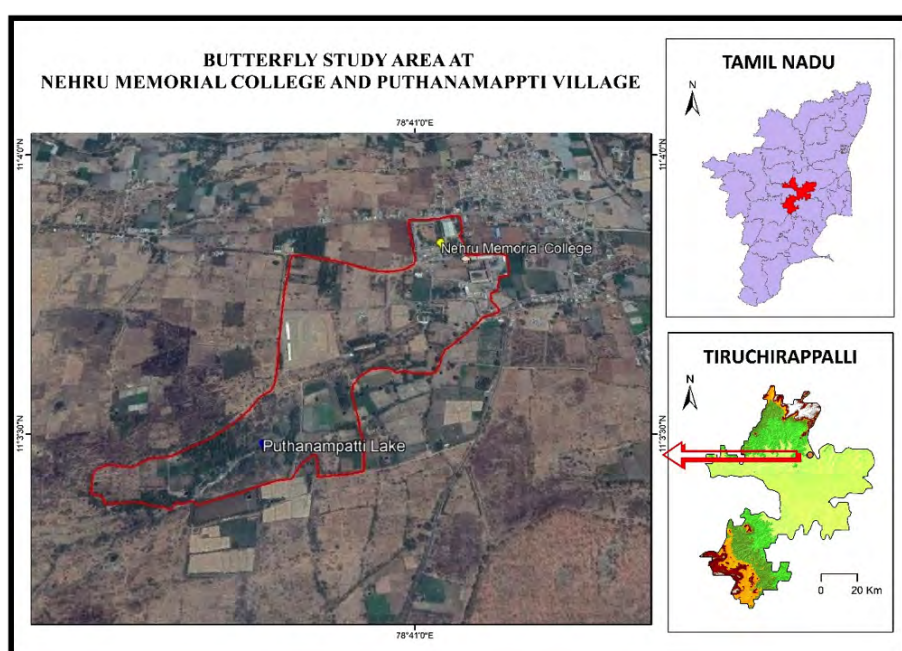
The butterflies are notable insects, playing important ecological roles such as bioindicators, pollinators, prey, defoliators, and herbivores to provide economic and ecological benefits to human society. Pollination is a key ecological process in natural sustainability throughout the world (Bhuyan et al 1999; Gupta et al 2012). The butterflies can indirectly change the plant diversity in our environment, especially herbs and shrubs diversity are changed due to the pollination process aided by the butterflies (Sheela et al., 2015). Butterflies are good indicators of environmental changes, the larvae and adult butterflies depend on various host plants for foliage, nectar and pollen for their food. Butterflies are a visual treat and are thus considered as the “fluttering jewels of nature” (Jose and Senthilkumar 2016). They play a major key role in the food chain, being prey for birds, reptiles, spiders and predatory insects (Thangapandian et al 2014).

Butterflies are classified into two superfamilies Papilionoidea and Hesperioidea. Papilionoidea is composed of five families: Lycaenidae (Blues), Nymphalidae (Brush-footed Butterflies), Papilionidae (Swallowtails), Pieridae (White and Yellows), and Riodinidae (Judies and Punches), all are found in the Indian Subcontinent (Kehimkar 2016). There are more than 18,000 species of butterflies in the world. There are 334 species of butterflies reported from the Western Ghats (Tiple 2009) and 150 from the Eastern Ghats (Gunathilagaraj et al 1998). Butterfly diversity in India varies from place to place (Table 1 and Table 2), According to Gaonkar (1996) the butterfly diversity decreases from south to north along the Western Ghats and the butterfly species reported from the southern states are Kerala (314 species), Karnataka (316 species), Tamil Nadu (316 species), Goa (249 species), Maharashtra (208 species) and Gujarat (158 species). The objective of the present study was to conduct preliminary observations to identify the butterflies in the study area.



## Materials and Methods

**Study area:** The present study was carried out in 50 acres of the Nehru Memorial College campus and 69 acres of *Puthanampatti* village of Tiruchirappalli District, Tamil Nadu (Lat 11°3'50.87"N, Long 78°41'2.93"E). The Elevation ranges from 106 to 116 meters above the mean sea level. Tiruchirappalli District receives the northeast monsoon and some showers during the southwest monsoon. The study area is open with dry habitat comprising of



**Study area**

shrub (*Cassia auriculata*, *Flueggea leucopyrus*, *Lantana camara*, *Dodonaea viscosa*, *Tecoma stans*), herb (*Tridax procumbens*, *Tephrosia purpurea*, *Sida cordata*, *Boerhavia diffusa*, *Tribulus terrestris*, *Parthenium hysterophorus*) and trees (*Azhardiracta indica*, *Prosopis juliflora*, *Millettia pinnata*) in and around the college

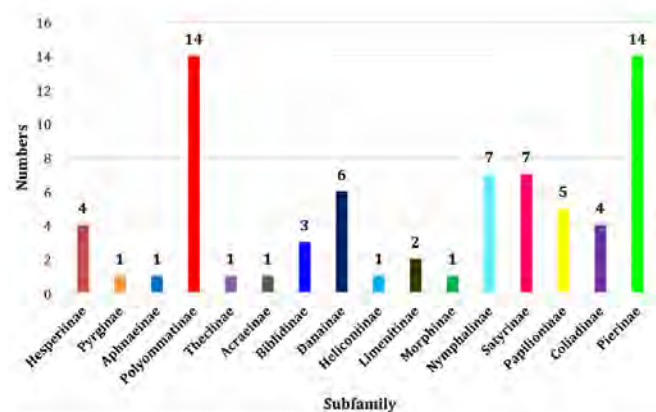
campus. During the study period, paddy was in cultivation and lemon plantations were present.

**Methods:** Butterflies were observed opportunistically throughout the year from January to December 2017. The species of butterflies were identified with the help of the field guide by Kehimkar (2016). Photographs were taken using DSLR camera D3300 Nikon attached with 18-55mm and 70-300mm lens. No specimen was collected during the study period.

## Results and Discussion

In the study area, 72 species of butterflies were recorded belonging to 5 families and 16 sub families. The family Nymphalidae and Pieridae were found dominant with 28



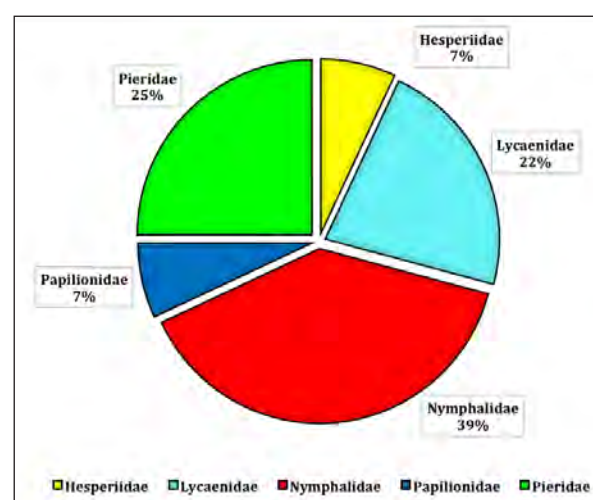


**Number of Butterfly species recorded under different subfamilies**

and 18 species respectively, followed by Lycaenidae (16 species), Papilionidae and Hesperidae (5 species). The subfamilies comprised of 14 species each of Polyommatae and Pierinae, followed by 7 species each of Nymphalinae and Satyrinae, 6 species of Danaeinae, 5 species of Papilioninae, 4 species each of Hesperinae and Coliadinae, followed by 3 species of Biblidinae, 2 species of Limenitinae, and 1 species each belonging to Aphnaeinae, Acraeinae, Heliconiinae, Limenitinae, Morphinae, Pyrginae and Theclinae. The butterflies were categorized as Common and Uncommon based on the field guide for butterflies by Kehimkar (2016). Among the 72 butterflies recorded, 9 species come under Indian Wildlife (protection) Act 1972, Among the nine species *Pachliopta hector*, *Hypolimnias bolina*, *Castalius rosomon* come under Schedule I *Euchrysops cnejus*, *Hypolimnias missipus*, *Lampides boeticus*, *Cepora nerissa*, *Charaxes solon* come under Schedule II while *Euploea core* comes under the Schedule IV of the Wildlife protection act 1972 (Kunte 2000; Gupta and Mondal 2005; Sharma et al 2017). Species belonging to the family Nymphalidae were the most dominant (38.88%) followed by Pieridae (25%), Lycaenidae (22.22%), Papilionidae and Hesperidae (6.94%).

In Tamil Nadu, butterfly diversity is studied in many places and mostly from the Western Ghats in the Nilgiri Mountains. Cyril and Sabarinathan (2007) listed 85 butterfly species from Thengumarahada in the Nilgiris. Gunathilagaraj et al (1997) reported 174 species of butterflies from Palani Hills, Maruthamalai Hills of Southern Western Ghats 27 species were recorded by Jothimani et al (2014). Gideon et al (2016) reported 71 species

and 18 species respectively, followed by Lycaenidae (16 species), Papilionidae and Hesperidae (5 species). The subfamilies comprised of 14 species each of Polyommatae and Pierinae, followed by 7 species each of Nymphalinae and Satyrinae, 6 species of Danaeinae, 5 species of Papilioninae, 4 species each of Hesperinae and Coliadinae, followed by 3 species of Biblidinae, 2 species of Limenitinae, and 1 species each



**Number of Butterfly species recorded under different subfamilies**

**Table 1. Literatures on Butterfly diversity studies from India**

	Place	Number of Species	Author
1	Pune	103	Kunte (1997)
2	Delhi (Metropolitan)	86	Larsen (2002)
3	Visakhapatnam	68	Solman Raju (2004)
4	Nagarjunasagar Tiger Reserve	89	Rao et al. (2004)
5	Tamhini (Northern Western Ghats)	69	Padhye et al (2006)
6	Amaravati	52	Tiple (2007)
7	Maharashtra Nature Park	53	Raut and Pendharkar (2010)
8	Bagalkot (Karnataka)	56	Jyoti et al. (2011)
9	Western Ghats	334	Padhye et al. (2012)
10	Mumbai	153	Rodrigues (2012)
11	Seshachalam Biosphere Reserve	50	Guptha et al. (2012)
12	Sanjay Gandhi National Park	172	Kasambe (2012)
13	Kerwa Reservoir (Bhopal)	18	Mishra et al. (2014)
14	Idukki (Kerala)	52	Jose & Senthilkumar (2016)
15	Dakshina Kannada	86	Naik & Mustak (2016)
16	Gir Protected Area (Gujarat)	67	Sharma et al. (2017)
17	Tatapani (Chhattisgarh)	22	Ekkal et al. (2017)

**Table 2. Literature on Butterfly studies from Tamil Nadu**

	Place	Number of Species	Author
1	Palani Hills	174	Gunathilagaraj et al (1997)
2	Siruvani	75	Arun (2003)
3	Thengumarahada (The Nilgiris)	85	Cyril and Sabarinathan (2007)
4	Kalpakkam	55	Ramesh et al (2010)
5	Maruthamalai Hills	27	Jothimani et al (2014)
6	Chennai	47	Thangapandian et al (2014)
7	Tiruvallur	97	Prabakaran et al (2014)
8	SACON (Anaikatty)	106	Ramesh Kumar and Arun (2014)
9	Kalakad Mundanthurai Tiger Reserve	141	Sathis Narayanan (2015)
10	Pachamalai Hills	71	Gideon et al (2016)
11	Kanchipuram	56	Pavithra and Ananthi Rachel (2017)

for Pachamalai hills of the Eastern Ghats in Tamil Nadu. From the other parts of Tamil Nadu, Pavithra and Ananthi Rachel (2017) recorded 56 species for Kanchipuram District while Prabakaran et al (2014) listed 97 species for Tiruvallur District. The present study adds to the butterfly documentation for the Tiruchirappalli District.



Table 3. List of Butterflies observed in during the study period

	Family	Sub Family	Common Name	Scientific Name	Status	Wildlife Protection Act Schedule
1	Hesperiidae	Hesperiinae	Rice Swift	<i>Borbo cinnara</i>	Common	-
2			Plain Palm Dart	<i>Cephrenes acalle</i>	Common	-
3			Indian Dart	<i>Potanthus pseudomaesa</i>	Common	-
4			Indian Palm Bob	<i>Suastus gremius</i>	Common	-
5		Pyrginae	Indian Skipper	<i>Spialia galba</i>	Common	-
6	Lycaenidae	Aphnaeinae	Common Silverline	<i>Spindasis vulcanus</i>	Common	-
7		Polyommatainae	Common Cerulean	<i>Jamides celeno</i>	Common	-
8			Forget-Me-Not	<i>Catochrysops strabo</i>	Common	-
9			Pea Blue	<i>Lampides boeticus</i>	Common	II
10			Zebra Blue	<i>Leptotes plinius</i>	Common	-
11			Common Pierrot	<i>Castalius rosimon</i>	Common	I
12			Rounded Pierrot	<i>Tarucus nara</i>	Common	-
13			Dark Grass Blue	<i>Zizeeria karsandra</i>	Common	-
14			Lesser Grass Blue	<i>Zizina otis</i>	Common	-
15			Pale Grass Blue	<i>Pseudozizeeria maha</i>	Common	-
16			Gram Blue	<i>Euchrysops cnejus</i>	Common	II
17			Indian Cupid	<i>Everes lacturnus</i>	Common	-
18			Small Grass Jewel	<i>Freyeria putli</i>	Common	-
19			Grass Jewel	<i>Freyeria trochylus</i>	Common	-
20			Lime Blue	<i>Chilades lajus</i>	Common	-
21		Theclinae	Guava Blue	<i>Virachola isocrates</i>	Common	-
22	Nymphalidae	Acraeinae	Tawny Coster	<i>Acraea violae</i>	Common	-
23		Biblidinae	Angled Castor	<i>Ariadne ariadne</i>	Uncommon	-
24			Common Castor	<i>Ariadne merione</i>	Common	-
25			Joker	<i>Byblia ilithyia</i>	Common	-
26		Danainae	Blue Tiger	<i>Tirumala limniace</i>	Common	-
27			Plain Tiger	<i>Danaus chrysippus</i>	Common	-
28			Striped Tiger	<i>Danaus genutia</i>	Common	-
29			Double-Branded Crow	<i>Euploea sylvester coreta</i>	Common	-
30			Common Crow	<i>Euploea core</i>	Common	IV
31			Common Nawab	<i>Polyura athamas</i>	Common	-
32		Heliconiinae	Common Leopard	<i>Phalanta phalantha</i>	Common	-
33		Limenitinae	Common Baron	<i>Euthalia aconthea</i>	Common	-
34			Common Sailer	<i>Neptis hylas</i>	Common	-
35		Morphinae	Black Rajah	<i>Charaxes solon</i>	Uncommon	II
36		Nymphalinae	Great Eggfly	<i>Hypolimnias bolina</i>	Common	I



# Bugs R' ALL

Newsletter of the  
Invertebrate Conservation & Information Network of South Asia (ICINSA)

	Family	Sub Family	Common Name	Scientific Name	Status	Wildlife Protection Act Schedule
37			Danaid Eggfly	<i>Hypolimnas misippus</i>	Common	II
38			Blue Pansy	<i>Junonia orithiya</i>	Common	-
39			Chocolate Pansy	<i>Junonia iphita</i>	Common	-
40			Lemon Pansy	<i>Junonia lemonias</i>	Common	-
41			Peacock Pansy	<i>Junonia almana</i>	Common	-
42			Yellow Pansy	<i>Junonia hierta</i>	Common	-
43		Satyrinae	Southern Palmfly	<i>Elymnias caudata</i>	Common	-
44			Common Evening Brown	<i>Melanitis leda</i>	Common	-
45			Dark Evening Brown	<i>Melanitis phedima</i>	Uncommon	-
46			Common Bushbrown	<i>Mycalesis perseus</i>	Common	-
47			Dark-Brand Bushbrown	<i>Mycalesis mineus</i>	Common	-
48			Common Three-Ring	<i>Ypthima asterope</i>	Common	-
49			White Four-Ring	<i>Ypthima ceylonica</i>	Common	-
50	Papilionidae	Papilioninae	Common Rose	<i>Pachliopta aristolochiae</i>	Common	-
51			Crimson Rose	<i>Pachliopta hector</i>	Common	I
52			Lime Butterfly	<i>Papilio demoleus</i>	Common	-
53			Common Mormon	<i>Papilio polytes</i>	Common	-
54			Blue Mormon	<i>Papilio polymnestor</i>	Uncommon	-
55	Pieridae	Coliadinae	Common Emigrant	<i>Catopsilia pomona</i>	Common	-
56			Mottled Emigrant	<i>Catopsilia pyranthe</i>	Common	-
57			Small Grass Yellow	<i>Eurema brigitta</i>	Common	-
58			Common Grass Yellow	<i>Eurema hecabe</i>	Common	-
59		Pierinae	Common Gull	<i>Cepora nerissa</i>	Common	II
60			Small Salmon Arab	<i>Colotis amata</i>	Common	-
61			Crimson Tip	<i>Colotis danae</i>	Uncommon	-
62			Plain Orange Tip	<i>Colotis aurora</i>	Common	-
63			Small Orange Tip	<i>Colotis etrida</i>	Common	-
64			White Orange Tip	<i>Ixias marianne</i>	Common	-
65			Yellow Orange Tip	<i>Ixias pyrene</i>	Common	-
66			Great Orange Tip	<i>Hebomoia glaucippe</i>	Common	-
67			Common Wanderer	<i>Pareronia hippia</i>	Common	-
68			Indian Cabbage White	<i>Pieris canidia</i>	Common	-
69			Small Cabbage White	<i>Pieris rapae</i>	Common	-
70			Common Jezebel	<i>Delias eucharis</i>	Common	-
71			Psyche	<i>Leptosia nina</i>	Common	-
72			Pioneer	<i>Belenois aurota</i>	Common	-

# Bugs R All

Newsletter of the  
Invertebrate Conservation & Information Network of South Asia (ICINSA)



Some of the Butterfly species recorded during the study: A - *Ariadne ariadne*, B - *Junonia orithiya*, C - *Jamides celeno*, D - *Melanitis leda*, E - *Spindasis vulcanus*, F - *Colotis danae*, G - *Hypolimnas misippus*, H - *Catochrysops Strabo*, I - *Potanthus pseudomaesa*, J - *Junonia lemonias*, K - *Pseudozizeeria maha*, L - *Catopsilia pyranthe*, M - *Colotis aurora*, N - *Belenois aurota*, O - *Acraea violae*, P - *Junonia hierta*

## Conclusion

The presence of butterflies is an indication of habitat suitability and any disturbance or change to the landscape would result in the loss of species that play a significant role in ecosystem services.

72 species including WPA 1972 Schedule species were recorded through

opportunistic surveys during the study, which forms the baseline data for future studies. The dominance of Nymphalidae and Pieridae indicates the presence of open vegetated areas, which can change with urbanization. The landscape around the study area is continuously undergoing changes that are impacting the biodiversity.



# BugsRAll

Newsletter of the  
Invertebrate Conservation & Information Network of South Asia (ICINSA)

## References

- Arun, P.R. (2003).** Butterflies of Siruvani Forests of Western Ghats, with notes on their seasonality. *Zoos' Print Journal*. 18(2): 1003-1006.
- Bhuyan, M., D. Katakai, M. Deka & P.R. Bhattacharyya (1999).** Nectar host plant selection and floral probing by the Indian butterfly *Danaus genutia* (Nymphalidae). *Journal of Research Lepidoptera*. 38: 79-84.
- Cyril, K. & S.P. Sabarinathan (2007).** A Checklist of Butterflies of Thengumarahada in the Nilgiris, Southern India. *Zoo's Print Journal*. 22(9): 2837-2818.
- Ekkal, J., A.J. Andrews & S.J. William (2017).** Diversity of Butterflies at Tatapani Village, Balrampur District, Chhattisgarh, India. *Journal of Pharmacy and Biological Sciences*. Vol. 12(5): 72-75.
- Gaonkar, H. (1996).** Butterflies of Western Ghats, India (including Sri Lanka): A biodiversity Assessment of a Threatened Mountain System. Centre for Ecological Sciences, Indian Institute of Science, Bangalore. Zoological Museum, Denmark. The Natural History Museum, London. Pp.82.
- Gideon, V.A., K. Cyril Rufus & P. Vivekraj (2016).** A Study on nectar host plants of Butterflies of Pachamalai Hills of Eastern Ghats in Tamilnadu, India. *Annals of Biological Research*. 7 (9):9-12.
- Gunathilagaraj, K., M.C. Kumar & P.T. Ramesh (1997).** Butterflies of Coimbatore. *Zoo's Print Journal*. 12(1):26-27.
- Gunathilagaraj, K., T.N.A. Perumal, K. Jayaram & M. Ganesh Kumar (1998).** Some South Indian Butterflies. Published under Project Life scape, Indian Academy of Sciences, Bangalore, Pp. 270.
- Gupta, I.J. & D.K. Mondal (2005).** Red Data Book, Part II: Butterflies of India. Zoological Survey of India, Kolkata. XV + 1 – 535 pp.
- Guptha, M.B., P.V. Chalapathi Rao, D. Srinivas Reddy, S.R.S.C. Sekhar Maddala & P. Madhu Babu (2012).** A Preliminary Observation on Butterflies of Seshachalam Biosphere Reserve, Eastern Ghats Andhra Pradesh, India. *World Journal of Zoology*. 7 (1): 83-89. DOI: 10.5829/idosi.wjz.2012.7.1.61323.
- Jose, D. & P. Senthilkumaar (2016).** Preliminary Report on the Butterfly Diversity of Muttom Panchayath, Idukki District, Kerala, India. *International Research Journal of Biological Sciences*. Vol. 5(6), 23-30.
- Jothimani, K., V.S. Ramachandran & A. Rajendran (2014).** Role of Butterflies as Pollinators in Maruthamalai Hills of Southern Western Ghats. *Academic Journal of Entomology*. 7 (1): 07-16.
- Jyoti, B., Y. Menasagi & K. Kotikal (2011).** Studies on butterfly fauna of Bagalkot district, (Karnataka-India). *Karnataka Journal of Agricultural Science*. 24 (4): 538-539.
- Kasambe, R. (2012).** Butterfly fauna of the Sanjay Gandhi National Park and Mumbai. *Bionotes*. 14 (3): 76-80.
- Kehimkar, I. (2016).** Butterflies of India. Bombay Natural History Society, Mumbai. Pp xii + 528.
- Kunte, K. (1997).** Seasonal patterns in butterfly abundance and species diversity in four tropical habitats in northern Western Ghats. *Journal of Bioscience*. 22: 593-603.
- Kunte, K (2000).** Butterflies of Peninsular India. Universities Press (Hyderabad) and Indian Academy of Sciences (Bangalore). Pp xviii + 254.
- Larsen, T.B. (2002).** The butterflies of Delhi, India-an annotated checklist. *Esperiana*. 9: 459-479.
- Mishra, A., N. Shrivastava & P. Tamot (2014).** Study of Butterfly Diversity around a Protected Reservoir (Kerwa) at Bhopal, India. *Biological Forum-An International Journal*. 6(1): 139-143.
- Naik, D. & M.S. Mustak (2016).** A checklist of butterflies of Dakshina Kannada District, Karnataka, India. *Journal of Threatened Taxa*. 8(12): 9491-9504; <http://dx.doi.org/10.11609/jott.3066.8.12.9491-9504>
- Padhye, A.D., N. Dahanukar, M. Paingankar, M. Deshpande & D. Deshpande (2006).** Season and Landscape wise distribution of butterflies in Tamhini, Northern Western Ghats, India. *Zoos' Print Journal*. 21(3): 2175 – 2181.
- Padhye, A., S. Shelke & N. Dahanukar (2012).** Distribution and Composition of Butterfly species along the latitudinal and habitat gradients of the Western Ghats of India. *Checklist*. 8(6): 1196-1215.
- Pavithra, S. & L. Ananthi Rachel (2017).** Climate Change and Its Impacts on Butterfly in and around Kanchipuram District, Tamil Nadu. *International Journal of Recent Science and Research*. 8(9), pp. 20311-20314. DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0809.0870>.
- Prabakaran, S., Y. Chezian, G. Evangelin & S. John William (2014).** Diversity of Butterflies (Lepidoptera: Rhopalocera) in Tiruvallur District, Tamil Nadu, India. *Bioline*. 2(3):769-778.
- Ramesh, T., K.J. Hussain, M. Selvanayagam, K.K. Satpathy & M.V.R. Prasad (2010).** Patterns of diversity, abundance and habitat associations of butterfly communities in heterogeneous landscapes of the department of atomic energy (DAE) campus in Kalpakkam, South India. *International Journal of Biodiversity and Conservation*. Vol. 2(4), Pp. 75-85.
- Ramesh Kumar, S. & P.R. Arun (2014).** Butterflies of SACON (Salim Ali Centre for Ornithology and Natural History) Campus, Anaikatti, Coimbatore. *SACON NEWS*. Vol.11 (2&3). Pp. 9-13.
- Raut, N.B. & A. Pendharkar (2010).** Butterfly (Rhopalocera) fauna of Maharashtra Nature Park, Mumbai, Maharashtra, India. *Checklist*. Volume 6 (1): 022-025.
- Rao, K.T., M. Prudhvi Raju, S.M. Maqood Javed & I. Siva Rama Krishna (2004).** A Checklist of Butterflies of Nagarjunasagar Tiger Reserve Andhra Pradesh. *Zoos' Print Journal*. 19(12): 1713-1715.





**Rodrigues, N. (2012).** Butterflies of Mumbai. Anitha Art Printers. 199 Pp.

**Sathis Narayanan, S. (2015).** Checklist of Butterflies in Tiger Land – Kalakad Mundanthurai Tiger Reserve, Tamil Nadu, India. *Journal of Bioscience Research*. Vol. 5(1): 138-143.

**Sharma, A., S.I. Ahmed & S. Kumar (2017).** Conservation of Biodiversity with particular reference of Butterfly fauna of Gir Protected Area, Gujarat. *International Journal of Advanced Research*. 5(2), 233 – 237.

**Sheela, D., R.K. Agarwal & S. Mondal (2015).** New records of butterflies (Lepidoptera: Hesperidae) in baster District (C.G), India. *An International Quarterly Journal of Biology & Life Sciences*. 3(2):528-532.

**Solman Raju, A.J. (2004).** Nectar host plants of some butterfly species at Visakhapatnam. *Science and Culture*. 70: 187-190.

**Thangapandian, M.A., P. Ganesh, C. Ramaraj, Selvakumar & S. Janarthan (2014).** Diversity and Status of Butterflies in the city Chennai, Tamil Nadu. *Hexapoda Insecta indica*. 21:1-9.

**Tiple, A.D., A.M. Khurad & R.L.H. Dennis (2007).** Butterfly diversity in relation to a human-impact gradient on an Indian university campus. *Nota Lepid.* 30(1): 179-188.

**Tiple, A.D & A.M. Khurad (2009).** Butterfly Species Diversity, Habitats and Seasonal Distribution in and Around Nagpur City, Central India. *World Journal of Zoology*. 4(3): 153-162.

**Acknowledgements:** I am thankful to Dr. Goldin Quadros, Principal Scientist, Wetland Ecology Division, Sálim Ali Centre for Ornithology and Natural History (SACON), for his advice in improving this manuscript and constant encouragement. We thank Mr. G. Lakshmanan UG student of Zoology department of Nehru Memorial College for their help during many of our field visits.

### T. Siva<sup>1</sup> & P. Neelananarayanan<sup>2</sup>

<sup>1&2</sup> Research Department of Zoology, Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli District, Tamil Nadu - 621007, India. Emails: <sup>1</sup>sivanaturewild@gmail.com (Corresponding author); <sup>2</sup>dr.pnn31@gmail.com

<sup>1</sup>Present Address: Wetland Ecology Division, Salim Ali Centre for Ornithology and Natural History (SACON), Anaikatty, Coimbatore, Tamil Nadu - 641108, India

Citation: Siva, T. & P. Neelananarayanan (2018). Checklist of Butterflies of Nehru Memorial College and Puthanampatti Village, Tiruchirappalli District, Tamil Nadu. *Bugs R All* #169. In: *Zoo's Print* 34(1): 21-29

Newsletter of the Invertebrate Conservation and Information Network of South Asia (ICINSA) and Invertebrate Specialist Group (ISIG) of Conservation Planning Specialist Group, South Asia. ICINSA and ISIG are coordinated by Dr. B.A. Daniel, Scientist, Zoo Outreach Organization

Editor: B.A. Daniel

Editorial Advisor: Sally Walker and Sanjay Molur

Bugs 'R' All is published by ZOO and CPSG South Asia as a service to invertebrate Conservation community. This issue is published with the financial support of Zoological Society of London

For communication contact:

The Editor, ZOO/CPSG South Asia office

12, Thiruvannamalai Nagar, Saravanampatti PO, Coimbatore 641035 TN India

Phone: +91 9385339862; Email: daniel@zooreach.org

