



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Diversity of butterfly of Azmat abad Village and Thanna Mandi District Rajouri of Jammu and Kashmir Himalaya

JOURNAL OF WILDLIFE RESEARCH

New record of butterflies (Lepidoptera : Insecta) from Azmat Abad village and Thanna mandi Districts Rajouri of Jammu and Kashmir Himalaya

Sajid Ali

Department of Life Science .Rabindranath Tagore university M.P. Bhopal 464993 Under The Guidance of Pragma Shrivastava HOD of life science

Abstract

Main aim and objective of paper was to documented the new record of Butterflies in the Azmat Abad village and Thanna mandi District Rajouri Jammu and Kashmir, based on the field survey. The butterflies recorded the first time in the Azmat Abad village and Thanna mandi, The Altitude is 1668 meters above the sea level supports sub-tropical to temperate vegetation and offers congenial climatic condition favourable for growth of vegetation including fauna. Altitude distribution of butterflies From higher to lower altitudes. With and altitudes range number of species present in lower altitudes and keeps decreasing toward higher Altitude. The present study added valuable information on diversity of Butterfly fauna and will contribute in developing effective conservation in Azmat Abad village and Thana Mandi District Rajouri of Jammu and Kashmir Himalaya.

Keywords ----- Butterfly, Azmat Abad village ,key Nymphalidae ,Papilionidae, Pieridae.

1. GENERAL-INTRODUCTION

Butterflies are belonging to a long group of insects, belonging to the order 'Lepidoptera.' Linnaeus 1758 are holometabolous group of living organism as they complete metamorphosis cycle in four stage viz. egg or embryo, larva or caterpillar, pupa or chrysalis, imago or adult (Gullan and Cranston, 2004, Capinera 2008). The seasonal variation groups were useful in the natural ecosystem as pollinator and as a food in the ecological food chain. Taxonomists often disagree about whether any particular taxon of butterfly were a full species or just a sub-species or form. Therefore, published estimate of the total number of species of describe taxa in the world range from 17000, -20,000 (Shields 1989, Robins 1982.) Hoskin (2017) has a recently reported total 17,698 of butterflies Afrotropical, Oriental, Australian regions, and not reported from Antarctica region.

1.2 Study areas:

The study on butterfly was conducted between March 2020 to May 2020. A total 55 days' observation was done during the study period. Field observation were done to bright sunny periods of the day when butterfly is most active.

The study area includes : Thanna Mandi, Azmat Abad, lower D.K.G, Ratan peer, and Baba Ghulam shah shrine.

1.3 Species identification

During survey for butterflies, the species were recorded in note book. The species identification was done by consulting the pictorial field guide, Catalogues and Key (Evan, 1972; Varshney, 1983; Kunte, 2006; Panji et al, 2006; Singh, 2010; Varsheney and Smetacek 2015, Kehimkar 2016.

1.4 Lycaenidae

Balkan pierrot *Tarucus Balkanicus*

Description

Underside: Tailed. White with a prominent black streak from the base of both wings. Markings normally black. Continuous sub marginal bands of connected black streaks.

Upperside: Male always with discal spots and spot at cell-end on forewing. Mostly dark blue with a narrow border.

Female: Brownish grey with dark marking

Distribution

It is found in Mauritania, Niger (the Air region), Sudan (Khartoum), Uganda, Saudi Arabia, the United Arab Emirates, Oman, North Africa, the Balkans, western Asia, parts of central Asia and in India. The habitat consists of very arid savanna. In India (Himachal Pradesh, North of Maharashtra to West Bengal)

Remarks

The species (Fig 2a) was first recorded from Azmat abad village and Thanna mandi of District Rajouri at an elevation of 1668m in March 2020. The butterfly mostly dominated the plantation like Ziziphus sp. Bauhinia sp., Tecoma sp. Etc

1.5 Papilionidae Byasa Polyecutes (common windmill)

Description

.Length 110to 140 mm

.Sexes alike

.Black and white above with prominent swallowtail

.Red bodied - tail has a red tip

.Forewings completely black above and below

.Hindwings crenulated deeply twice on each side of swallowtail. Large oblong white discal spot in 5 (both upperside and underside) and sometimes in 4. Upperside hindwing has irregular marginal red crescents in 1a, 2 and 3 and a small white Range.

Distribution

This butterfly lives in Pakistan, northern ranges of India, Nepal, Bhutan, Myanmar, northern Thailand, Laos, Vietnam, southern China (including Yunnan) and Taiwan.

Remarks

The species (Fig 2b) was first recorded from Azmat Abad village and Thanna mandi of district Rajouri at the elevation of 1668m in April 2020. The Species are mostly dominated on plantation.

1.6 Family lycaenidae lycaena phlaeas small copper

Description

The upperside forewings are a bright orange with a dark outside edge border and with eight or nine black spots. The hindwings are dark with an orange border. Some females also have a row of blue spots inside the orange border and are known as form caeruleopunctata.

Distribution

It is a Holarctic species, widespread and common across Europe, Asia, North America, and also found in North Africa south through to Ethiopia.

Remarks

The species (Fig 2c) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.7 Family Nymphalidae *Vanessa indica* Asian admiral

Description

This species resembles *Vanessa cardui* but the ground colour is darker both on the uppersides and undersides, and the orange markings are deeper and richer in tint. It also differs as follows: underside forewing

Distribution

V. indica is found in the higher altitude regions (above 2,000 feet (610 m))[4] of India including the Nilgiri Hills in southern India. It also occurs on smaller hill ranges in Peninsular India such as the Nandi Hills near Bangalore.

Remarks

The species (Fig 2d) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation

1.8 Family Pieridae *Belenois aurota* pioneer white

Description

The upperside of males is white with the forewing having the costa from base to base of vein 11 dusky black and then jet black continuing into a widened and curving short streak along the discocellulars to the lower apex of the cell; apical area diagonally with the termen black, the former with six elongate outwardly pointed spots of the ground colour enclosed one in each of the interspaces 3, 4, 5, 6, 8, and 9. Hindwing: uniform, the black along the venation on the underside seen through by transparency.

Distribution

The species lives in Sri Lanka, the Himalayas from Kashmir to Sikkim at elevations below 6,000 feet (1,800 m), and through the plains to southern India. In the Nilgiris observed up to 8,000 feet (2,400 m) (George Hampson). To the west it spreads through Persia and Arabia to East Africa. The species occurs over the greater part of Sub-Saharan Af

Remarks

The species (Fig 2e) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.9 Family nymphalidae athyma opaline Himalayan sergeant

Description

Upperside: Male velvety black, female very dark brown, suffused with bluish in certain lights.

Forewing: A medial anterior and a preapical larger whitish spot in cell; posteriorly in the cell, beyond its apex and below it at base of interspace 1, some dull obscure blue spots; a discal series of white spots, three elongate placed obliquely from just beyond middle of costa, two more inwards in interspaces 2 and 3, one in middle of interspaces 1 a and 1; the spot in interspace 2 very large truncate exteriorly, the spot in interspace 3 elongate. Beyond these spots an inner and an outer subterminal line of transverse white marks irrorated more or less with blackish scales.

Distribution

Sikkim; Bhutan; hills of Assam, Burma and Tenasserim. Found also in southern India, Western Ghats and the Nilgiris.

Remarks

The species (Fig 2f) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.10 Family nymphalidae aglaiscaschmirensis Indian tortoiseshell

Description

Upperside of forewings with the basal half of costa and termen pale brown, the former flecked with pale yellow, the latter bordered inwardly by a narrow darker brown band bearing a series of black lunules; outwardly traversed by sinuous slender subterminal and more slender terminal black lines: base of wing and the greater part of interspace 1a and of 1 posteriorly brown, irrorated with golden scales, the rest of the wing anteriorly yellow, posteriorly and at base of cell red, with the following black markings.

Distribution

The Himalayas from Kashmir to Sikkim at elevations of 600 to 5,500 metres (2,000 to 18,000 ft) and as subspecies nixa (Grum-Grshimailo, 1890) Gissar Range- to Darvaz, Pamirs to Alay Mountains, Afghanistan, Pakistan, West China

Remark

The species (Fig 2g) was first reported from Azmat Abad village and Thanna mandi District Rajouri at the elevation of 1668metre in April 2020

1.11 Family Papilionidae *Papilio machaon* oldworld swallowtail

Description

The imago typically has yellow wings with black vein markings, and a wingspan of 65–86 millimetres (2.6–3.4 in).[6] The hindwings of both sexes have a pair of protruding tails which give the butterfly its common name from the resemblance to the birds of the same name. Just below each tail is one red and six blue eye spots.

Distribution:

This butterfly is widespread in Europe. In the United Kingdom, it is limited to a few areas in the Norfolk Broads of East Anglia.[4] It is the UK's largest resident butterfly. The monarch (*Danaus plexippus*) is slightly larger, but is only a rare vagrant

Remarks

The species (Fig 2h) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation

1.13 Family pieridae *Gonepteryx rhamni* common Brimstone

Description

The common brimstone has sexual dichromism, with males having a sulphur yellow wing colouration and females having a greenish-white wing colouration. Additionally, males have iridescent dorsal wings that change in colour and appearance under ultraviolet light, while females do not. Both males and females have orange spots in the discoidal cell of each wing, pink head and antennae, and a thorax covered in white hair.

Distribution

Brimstone can be commonly found throughout the Palearctic. Individuals have been seen from western Europe to east Asia. The high mobility of this butterfly allows it to search widely for new host plant locations and expand its range

Remarks

The species (Fig 2i) was first recorded from Azmat Abad village and Thanna mandi of District Rajouri at the elevation of 1668meter. The butterfly mostly dominated the plantation.

1.14 Family pieridae *Colias croceus* Clouded yellow

Description

Colias croceus has a wingspan of 46–54 millimetres (1.8–2.1 in). The upper side of the wings is golden to orange yellow with a broad black margin on all four wings and a black spot near the centre forewing. Usually these butterflies settle with its wings closed, consequently the black margin of the upper sides of the wings is difficultly visible

Distribution

Colias croceus is one of the most-widespread species in Europe. The common clouded yellow's breeding range is North Africa and southern Europe and eastwards through Turkey into the Middle East but it occurs throughout much of Europe as a summer migrant, in good years individuals reaching Scandinavia.

Remarks

The species (Fig 2j) was first recorded from Azmat Abad village and Thanna mandi of district Rajouri at the elevation of 1668m in April 2020. The Species are mostly dominated on plantation.

1.15 Family nymphalidae *vanessa cardui* Painted lady

Description

Male and female. Upperside. Ground-colour reddish-ochreous, basal areas olivescens-ochreous-brown; cilia black, alternated with white, Forewing with an outwardly-oblique black irregular-shaped broken band crossing from middle of the cell to the disc above the submedian vein.

Distribution

V. cardui is one of the most widespread of all butterflies, found on every continent except Antarctica and South America. In Australia, *V. cardui* has a limited range around Bunbury,

Remarks

The species (Fig 2k) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.16 Family Nymphalidae *junonia orithya* Blue Pansy

Description

The butterfly has a wingspan of 3 to 3.5 cm. The upper side of its wings are black except for a large orange portion of the lower edge of the hindwing.

On the underside, the forewing is white with black spots more toward the margin. The hindwing is very striking, it is white with black spots toward the base and the margin has a wide band of orange with white spots. There is a lot of variation found in the black spots on the hindwings.

Distribution

Himalayan foothills, North India, South India, Meghalaya, Assam, North Myanmar.

Remarks

The species (Fig 2l) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.17 Family Lycaenidae Lycaena phlaeas small copper

Description

The upperside forewings are a bright orange with a dark outside edge border and with eight or nine black spots. The hindwings are dark with an orange border. Some females also have a row of blue spots inside the orange border and are known as form caeruleopunctata.

Distribution

It is a Holarctic species, widespread and common across Europe, Asia, North America, and also found in North Africa south through to Ethiopia.

Remarks

The species (Fig 2m) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.18 Family Nymphalidae Lasiommata megera Wall brown

Description

P. megera. Above reddish yellow, with a black mark which traverses the distal band from the cell of the forewing to the abdominal margin of the hindwing, short black stripes crossing the disc and the cell of the forewing.

Distribution

The species lives in North Africa, Europe, the Caucasus, Asia Minor, the Middle East, western Siberia, northern Tian Shan, Dzungarian Alatau, Kazakhstan and Dzungaria.

Remarks

The species (Fig 2n) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in march 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.

1.19 Family Nymphalidae Danaus chrysippus plain tiger

Description

D. chrysippus is a medium-sized butterfly with a wingspan of about 7–8 cm (2.8–3.1 in). The body is black with many white spots. The wings are orange, the upperside brighter and richer than the underside. The apical half of the forewing is black with a white band. The hindwing has three black spots in the center. The wings are bordered in black and outlined with semicircular white spots.

Distribution

The plain tiger is found across the entirety of Africa, where the predominant subspecies is *D. c. alcippus*. Its range extends across the majority of Asia throughout Indian subcontinent, as well as many south Pacific islands.

Remarks:

The species first recorded from Azmat Abad village and Thanna mandi Dist Rajouri at the Altitude at the 1668 metre. The species are mostly dominated in plantation like Rumex.

1.20 Family Lycaenidae *Talica nyses* red pierrot

Description

The butterfly has a wingspan of 3 to 3.5 cm. The upperside of its wings are black except for a large orange portion of the lower edge of the hindwing.

On the underside, the forewing is white with black spots more toward the margin. The hindwing is very striking, it is white with black spots toward the base and the margin has a wide band of orange with white spots. There is a lot of variation found in the black spots on the hindwings.

Distribution

Himalayan foothills, North India, South India, Meghalaya, Assam, North Myanmar.

Remarks

The species (Fig 2p) was first recorded from Azmat abad Village and Thanna Mandi of Rajouri district at an elevation of 1668m in March 2020. Same species are found in adjoining area also. The butterfly mostly dominated the plantation.



Tarucus balkanicus



common wildmill



Small copp



Asian Admiral



Pioneer white



Himalayan sergeant



Large Tortoiseshell



old world swallowtail



Brimstones



Dark clouded yellow



Painted lady



Blue pansy



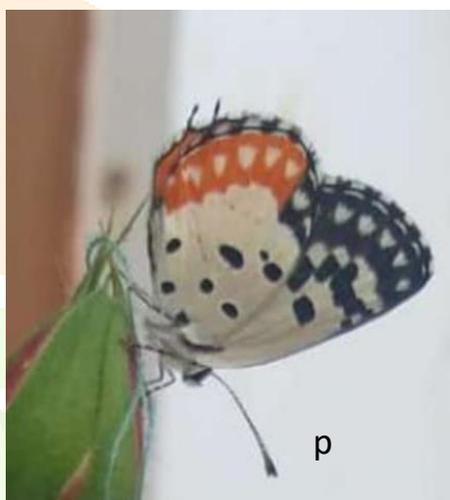
Small copper



wall browns



plain Tiger



Red Pierrot

Fig2

Conclusion

The first record of these species clearly depicts the rich diversity of butterfly in Azmat Abad village and thanna mandi of district Rajouri jammu and Kashmir Himalaya.

Rajouri being the border District, there are many chances of finding butterfly species

ACKNOWLEDGMENT

All praise be to Allah- The Almighty, only with whose divine mercy and blessing it became possible for me to climb the ladder of education to this level.

At this juncture of time, where I am given an opportunity to convey my gratefulness to all those have helped me to sail through the sea of education. I would first like to convey a deep sense of gratitude, to my parents (Mohd Rashid and Razia Begum), whose tale of lengthy struggle, sacrifice, trust, and dedication has made it a reality for me to see the doorstep of a higher learning institution.

I also thank all other family members especially My uncle for their immaculate love, affection, inspiration, and constant encouragement that provided me an incentive for the completion of this work.

I owe immense admiration and indebtedness to my Research Supervisor, Dr.Pragy shrivastava, Post Graduate Department of Zoology, University of RNTU M.P Bhopal, for providing unwavering guidance, persistent encouragement and priceless suggestion to complete the present work.

I feel highly elated to express my sense of gratitude to Prof.Saleem Ayaz Rather , Head , Department of Zoology Govt Degree college Thanna mandi , for providing incalculable help and unswerving encouragement during the course of present work.

My sincere Thanks to My Brother Shoket Ali for his blessing support and encouragement throughout the education of my life.

Special Thanks to Mis.Shazia Koser for helping me in collection , financial support and encouragement throughout the course of study,

I shall be doing injustice if I forget to mention the name of My sisters, Dill john, Mukhtar koser, Shazia koser, for his blessing, support, and encouragement it became possible for me to climb the ladder of education to this leve

BIBLIOGRAPHY

1. Abbas, M., Rafi, M. A., Inayatullah, M., Khan, M. R. and Pavulaan, H. 2002. Taxonomy and distribution of butterflies (Papilionoidea) of the Skardu region, Pakistan. Tax. Rept., 3(9):1-15.
2. Abdulali, S. 1980. More butterflies from Bombay. J. Bombay Nat. Hist. Soc. 77(3):531-532.
3. Aitken, E. H. and Comber, E. 1903. A list of the butterflies of the Konkan. J. Bombay Nat. Hist. Soc., 15(1):42-55.
4. Ambrose, D.P. and Raj, D. S. 2005. Fauna of Protected areas-25: Butterflies of Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu. Zoos' Print J., 20 (12):2100- 2107.
5. Anonymous. 2008. Economic Survey 2007-08. Directorate of Economics and Statistics, Planning and Development Department, Government of Jammu and Kashmir. pp. 378.
6. Anonymous. 2009. Indicators of Regional Development 2007-08. Directorate of Economics and Statistics, Planning and Development Department, Government of Jammu and Kashmir. pp. 109.
7. Arora, G. S. and Mandal, D. K. 1981. On the Papilioninae (Papilionidae: Lepidoptera) from Arunachal Pradesh and adjoining areas of Assam in NorthEastern India. Occ. Pap. No. 29. Rec. Zool. Surv. India. pp 65.

8. Arora, G. S. and Nandi, D. N. 1980. On the butterfly fauna of Andaman and Nicobar Islands (India). I. Papilionidae. Rec. Zool. Surv. India. 77:141-151.
9. Arora, G. S. and Nandi, D. N. 1982. On the butterfly fauna of Andaman and Nicobar Islands (India). II. Pieridae. Rec. Zool. Surv. India. 80:1-15.
10. Arun, P. R. 2003. Butterflies of Siruvani forests of Western Ghats, with notes on their seasonality. Zoo's Print J. 18(2):1003-1006.
11. Atwal, A. S. and Dhaliwal, G. S. 1999. Agricultural pests of South Asia and their management. Kalyani Publishers, New Delhi, India. pp. 487.
12. Austin, G. T. 1994. Hesperiidae of Central Rondonia, Brazil: Comments on *Haemactis*, with description of a new species (Lepidoptera: Hesperiidae: Pyrginae). Trop. Lepid. 5 (2):97-100. 2
13. Austin, G. T. 1995. Hesperiidae of Rondonia, Brazil: *Drephalys*, with descriptions of two new species (Lepidoptera: Hesperiidae: Pyrginae). Trop. Lepid. 6(2):123-128.
14. Austin, G. T. 1997. Two new *Entheus* from Ecuador and Peru (Lepidoptera: Hesperiidae: Pyrginae). Trop. Lepid. 8(1):19-21.
15. Austin, G. T. 1997a. Hesperiidae of Rondonia, Brazil: *Eracon* and a new related genus, with descriptions of two new species (Lepidoptera: Hesperiidae: Pyrginae). Trop. Lepid. 8(1):22-28
16. Austin, G. T., Haddad, N. M., Mendez, C., Sisk, T. D., Murphy, D. D., Launer, A. E. and Ehrlich, P. R. 1996. Annotated checklist of the butterflies of the Tikal National Park area of Guatemala. Trop. Lepid. 7(1):21-37.
17. Austin, G. T. and Johnson, K. 1995. Theclinae of Rondonia, Brazil: *Arcas*, with descriptions of three new species (Lepidoptera: Lycaenidae). Trop. Lepid. 6(1):31- 39.
18. Austin, G. T. and Riley, T. J. 1995. Portable bait traps for the study of butterflies. Trop. Lepid. 6(1):5-9.
19. Austin, G. T., Mielke, O. H. H. and Steinhauser, S. R. 1997. Hesperiidae of Rondonia, Brazil: *Entheus Huebner*, with descriptions of new species (Lepidoptera: Hesperiidae: Pyrginae). Trop. Lepid. 8(1):5-18.
20. Babjan, B. and Archana. 1999. Butterflies of Krishnapuram Grama Panchayat, Alappuzha district Kerala. Zoo's Print J. 14 (6):42.
21. Bailey, F. M. 1951. Notes on butterflies from Nepal. Part-I. J. Bombay Nat. Hist. Soc. 50(1):64-87.
22. Bailey, F. M. 1951a. Notes on butterflies from Nepal. Part-II. J. Bombay Nat. Hist. Soc. 50:281-298.
23. Balcazar, M. A. 1993. Butterflies of Pedernales, Michoacan, Mexico, with notes on seasonality and faunistic affinities (Lepidoptera: Papilionoidea and Hesperioidea). Trop. Lepid. 4(2):93-105.
24. Barua, K. K., Kakati, D and Kalita, J. 2004. Present status of Swallowtail butterflies in Garbhanga Reserve Forest, Assam, India. Zoo's Print J. 19(4):1439- 1441.

25. Baskaran, S. and Solaiappan, A. 2002. Butterflies of Madurai city, Tamil Nadu. Zoo's Print J. 17 (10): 913-914. 3
26. Basistha, S. T., Ahmad, F. and Deka, P. 1999. Butterflies of Orang Wildlife Sanctuary, Assam. Zoo's Print J. 14(4):9.
27. Bean, A. E. 1964. Notes on the Life History of *Nacaduba pactolas continentalis* Fruh. (Lepidoptera: Lycaenidae) from Poona district, Western Ghats. J. Bombay Nat. Hist. Soc. 61(3):614-626.
28. Beccaloni, G. W. and Gaston, K. J. 1995. Predicting the species richness of Neotropical forest butterflies: Ithomiinae (Lepidoptera: Nymphalidae) as indicators. Bio. Conserv. 71:77-86.
29. Beccaloni, G. W. 1997. Ecology, natural history and behaviour of Ithomine butterflies and their mimics in Ecuador (Lepidoptera: Nymphalidae: Ithomiinae). Trop. Lepid.. 8(2):103-124.
30. Bell, T. R. 1910. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency. Part VII. J. Bombay Nat. Hist. Soc. 20(4):846-879.
31. Bell, T. R. 1913. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency. Part-XIV. J. Bombay Nat. Hist. Soc. 22(2):320-344.
32. Bell, T. R. 1913 a. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency. Part-XV. J. Bombay Nat. Hist. Soc. 22:517-531
33. Bell, T. R. 1914. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency. J. Bombay Nat. Hist. Soc.23:481-497.
34. Bell, T. R. 1916. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency). Part-XVIII. J. Bombay Nat. Hist. Soc. 24:656-672.
35. Bell, T. R. 1918. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency). Part-XXII. J. Bombay Nat. Hist. Soc. 26:438-487.
36. Bell, T. R. 1918a. The common butterflies of the plains of India (including those met with in the hill stations of the Bombay Presidency). Part-XXIII. J. Bombay Nat. Hist. Soc.26:750-779. 4