



Annual Research & Review in Biology

Volume 39, Issue 9, Page 178-183, 2024; Article no.ARRB.122734

ISSN: 2347-565X, NLM ID: 101632869

(Past name: Annual Review & Research in Biology, Past ISSN: 2231-4776)

Common Tinsel [*Catapaecilma major* (Druce, 1895)]: A New Record for Butterflies in Chhattisgarh, India

H. N. Tandan ^{a,b,c*}, P. Vishwanathan ^a, C. Shrimali ^b,
R. Sultana ^d, G. Chand ^{e,f,c}, R. Naidu ^{g,c}, S. K. Patel ^{e,c},
S. D. Bervanshi ^d, P. K. Bhardwaj ^d, L. B. Lama ^c
and V. Rajan ^h

^a ISBM University, Chhura, District - Gariaband, Chhattisgarh, 493996, India.

^b S.G.G. Govt. P.G. College, Kurud, Chhattisgarh, India.

^c Biodiversity Conservation Society, Chhattisgarh, India.

^d Govt. K. M. College Tarri, Nawapara, Raipur, Chhattisgarh, India.

^e Govt. Danteshwari Girls P.G. College, Jagdalpur, Chhattisgarh, India.

^f Govt. Nagarjuna P.G. College of Science Raipur, Chhattisgarh, India.

^g C.R.O.W. Foundation, Jagdalpur, Chhattisgarh, India.

^h College of Remote and Offshore Medicine, Birzebbuga, Malta.

Authors' contributions

This work was carried out in collaboration among all authors. Author HNT designed the study, wrote the protocol, led the survey and wrote the first draft of the manuscript. Author PV and RS, have helped to write the first draft of the manuscript. Author HNT and SKP have photographed the butterfly in Kanger Valley National Park, Bastar, Chhattisgarh. Authors CS, GC, RN, SDB, PKB, LBL and VR assisted with the field survey. All authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/arrb/2024/v39i92132>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/122734>

Original Research Article

Received: 04/07/2024

Accepted: 07/09/2024

Published: 14/09/2024

*Corresponding author: E-mail: tandanhn79@gmail.com;

Cite as: Tandan, H. N., P. Vishwanathan, C. Shrimali, R. Sultana, G. Chand, R. Naidu, S. K. Patel, S. D. Bervanshi, P. K. Bhardwaj, L. B. Lama, and V. Rajan. 2024. "Common Tinsel [*Catapaecilma Major* (Druce, 1895)]: A New Record for Butterflies in Chhattisgarh, India". *Annual Research & Review in Biology* 39 (9):178-83. <https://doi.org/10.9734/arrb/2024/v39i92132>.

ABSTRACT

During a field visit to Kanger Valley National Park (KVNP), we had the opportunity to capture photographs of the Common Tinsel - *Catapaecilma major* Druce, 1895. The species was spotted along the forest trail that leads to Kotumsar cave from Kotumsar Bariar (NH30), the entrance of the Kanger Valley National Park in Bastar. This area is characterized by dense forest habitat dominated by *Shorea robusta* trees. Notably, the presence of the Common Tinsel butterfly had never been documented in the Chhattisgarh state prior to this sighting, thus marking its inclusion as a new record for the butterfly fauna of Chhattisgarh.

Keywords: *Biodiversity; Bastar; Kanger Valley National Park; Kotumsar Cave; Lepidoptera; Rhopalocera; faunal diversity.*

1. INTRODUCTION

Butterflies, classified under the order Lepidoptera, boast a global presence, with approximately 19,238 documented species [1]. In the Indian region, there are approximately 1500 species documented [2,3,4] of which nearly 1300 species of butterflies reported in India alone [5]. The butterfly diversity was reported earlier in Central India [6,7,8,9,10,11,12,13,14]. The recent past studies on butterflies of Central India including Vidarbha, Madhya Pradesh and Chhattisgarh, were published [15,16,17,18,19,20, 21,22,23,24]. The prior studies provide an extensive analysis of the Central India and the first area-specific checklist of butterflies of Chhattisgarh [21]. Recent additions butterfly fauna of Chhattisgarh state were made in last decade [3,20,25,26,27,28,29,30,31,32,33,34]. The state of Chhattisgarh with two recent addition, exhibits significant butterfly diversity, with a total of 180 species documented [35]. The previous report on butterfly fauna in Chhattisgarh shows that the Common Tinsel butterfly was observed for the first time in Chhattisgarh here in the present report opportunistically observed from KVNP.

Study area: Kanger Valley National Park is situated approximately 24 kilometers Southeast of Jagdalpur (Fig. 1). Positioned along the Jagdalpur-Sukma Road, the park was officially established on July 22, 1982. Encompassing the Kotumsar and Koleng ranges, it extends from coordinates "18°45'00" to 18°56'30" N Latitude to 81°51'30" E to 82°10'00 E Longitudes [36]". Covering an area of 200 square kilometers. From the captivating Tirathgarh waterfall to the Kolab River, the park's boundaries embrace diverse landscapes, including low flatlands, gentle slopes, steep inclines, plateaus, valleys, and streams, resulting in an undulating terrain. Home

to many subterranean limestone caves, notable attractions include the Kutumsar, Kailash, and Dandak caves. The park's topography is characterized by hilly terrain, with the eastern section being particularly rugged and interspersed with small plateaus. Altitudes within the park range from 338 to 781 meters above mean sea level, while the soils display a variety of hues, from yellowish and brownish-red to reddish and brown [36].

Kanger Valley National Park is situated in the southeastern part of Chhattisgarh State, which itself came into existence following its separation from Madhya Pradesh on November 1, 2000. Initially comprising 16 districts, the state has now expanded to a total of 33 revenue districts. Covering an area of 135,192 square kilometers, Chhattisgarh ranks as the ninth-largest state in India. Notably, it boasts a substantial forest cover, with over 44% of its total area enveloped by woodlands. These forests are classified into Reserve forests (43.13%), protected forests (40.21%), and Un-classed forests (16.65%), hosting three National Parks and eleven Wildlife Sanctuaries. The state exhibits diverse forest types, including evergreen, dry-deciduous, grasslands, and bamboo [25].

2. MATERIALS AND METHODS

The present observation occurred opportunistically while taken photographs of some floral diversity at the forest trail between Entrance of Kanger Valley National Park at NH 30, Kotamsar bariar Kamanar (Nichenaka) to Kotamsar Cave at Jagdalpur District of Chhattisgarh, India. The butterflies were identified by examining key traits, including color patterns and wing spots, in accordance with standard literature [37,38] and online help by Butterflies of India website [39].

3. RESULTS AND DISCUSSION

The Common Tinsel butterfly had not been documented in Chhattisgarh before this observation. The distribution records of the Common Tinsel in India include Manipur, Meghalaya, Nagaland; Maharashtra to Kerala; and Uttarakhand to Sikkim [5]. Studies on butterflies in Central India, including Vidarbha, Madhya Pradesh, and Chhattisgarh, have no previous records of the Common Tinsel. Some observations from Kanha Tiger Reserve, Madhya Pradesh, were made and uploaded to the iFoundButterflies website [39].

This observation marks the first report of the Common Tinsel from Chhattisgarh. It marks a significant addition to the region's documented butterfly diversity.

Family: Lycaenidae

***Catapaecilma major* Druce, 1895 - The Common Tinsel (Figs. – 2 & 3)**

Individual Photographed: 24.ii.2024.

Host plant: *Terminalia arujuna*, *Terminalia paniculata*, *Mallotus nudiflorus*, *Lagerstromia parviflora*, *Ziziphus rugosa* [31].

During a workshop on safe caving organized by the National Cave Research and Protection Organization, our team was en route to Kotumsar Cave when we took a break for rest. As we photographed some plants at the resting spot, one of our team members had the species land on their hand and begins feeding on sweat. We managed to capture a small video and some photographs of this encounter. After consulting the field guide [2,5] we identified the species as Common Tinsel.

The Common Tinsel - *Catapaecilma major* Druce, 1895, is a medium sized, blue butterfly of Lycaenidae family described by Hamilton Herbert Druce in 1895. The striking yellow wings of this species are patterned with fine black lines that resemble beautiful filigree. It is a medium-sized butterfly, with wingspan typically measuring between 28 to 32 millimeters, three tails of varying size and irregular silvery-edged yellowish bands and spots on under-wings [38]. There are three subspecies of the *Catapaecilma major* in India, are: *C. m. anais* Fruhstorfer, 1915; *C. m. callone* Fruhstorfer, 1915; and *C. m. major* Druce, 1895. The distribution of *C. m. anais* are found in Manipur; Meghalaya; Nagaland; *C. m. callone* distributed in Maharashtra to Kerala; and subspecies *C. m. major* Uttarakhand to Sikkim [5].

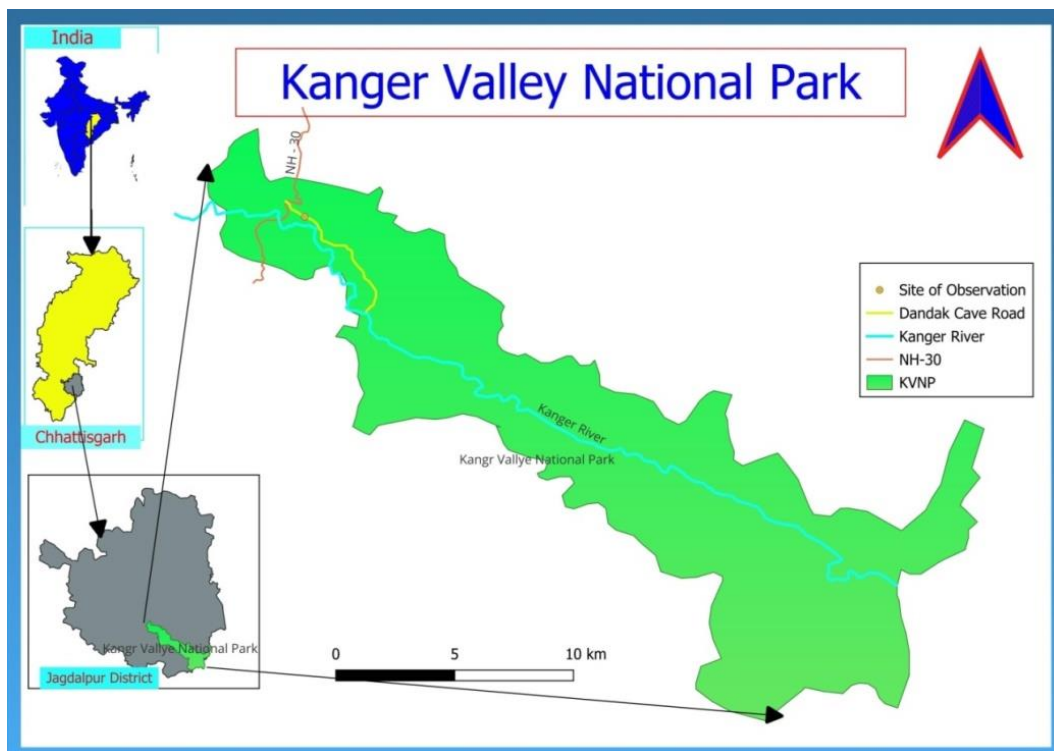


Fig. 1. Study area – Kanger Valley National Park



Fig. 2. *Catapaecilma major* Druce, 1895 - Common Tinsel © H. N. Tandan



Fig. 3. *Catapaecilma major* Druce, 1895 - Common Tinsel © S. K. Patel

4. CONCLUSION

The present study highlights the significant butterfly diversity within Chhattisgarh, particularly with the first documented sighting of the Common Tinsel (*Catapaecilma major*) in the region. This discovery not only adds to the existing knowledge of butterfly species in Chhattisgarh but also underscores the importance of continued research and documentation in the area. The Kanger Valley National Park, with its rich and varied ecosystems, proves to be a vital habitat supporting a diverse range of butterfly species. The findings emphasize the need for conservation efforts and further exploration to fully understand and protect the region's biodiversity. The involvement of local experts and enthusiasts in the identification process underscores the collaborative nature of such ecological studies, reinforcing the importance of community participation in conservation initiatives.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that generative AI technologies such as Large Language Models, have been used during editing of this manuscript.

Details of the AI usage are given below:

Name: OpenAI ChatGPT

Version: GPT-4

Model: ChatGPT

Source: OpenAI

Input Prompts: Assistance with clarifying text passages.

ACKNOWLEDGEMENTS

The authors express their gratitude to Dr. Krushnamegh Kunte, Chief Editor of the Butterflies of India Website, and Mr. Ashok Sengupta, a Butterfly enthusiast from Bangalore, for their assistance in confirming the identification of the species. We also extend our thanks to Dr. Jayant Bishwas, National Cave Research and Protection Organization for facilitating the opportunity to visit Kanger Valley National Park for a workshop on safe caving in Chhattisgarh. We are thank-full to the participants of the workshop.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Heppner JB. Faunal regions and the diversity of Lepidoptera; 1991.
2. Kehimkar I. Butterflies of India. Bombay Natural History Society, Mumbai; 2016.
3. Dubey S, Agarwal RK, Mondal S. New Records of butterflies (Lepidoptera: Hesperiiidae) in Bastar District (C.G), India. Biolife. 2015;3(2):528-532. DOI: 10.17812/blj2015.32.26
4. Tiple AD. Butterflies of Vidarbha region, Maharashtra State, central India. J Threat Taxa. 2011;3(1):1469-1477.
5. Varshney RK, Smetacek P. A synoptic catalogue of the butterflies of India. Butterfly Research Centre, Bhimtal and Indinov Publishing, New Delhi; 2015.
6. Forsayeth RW. Life history of sixty species of Lepidoptera observed in Mhow, Central India. Trans Entomol Soc Lond. 1984;3:377-419.

7. Swinhoe C. On the Lepidoptera of Mhow. Proc Zool Soc Lond. 1886;4:21-465.
8. Betham JA. The butterflies of the central provinces. J Bombay Nat Hist Soc. 1890;19-28; 151-161; 279-286.
9. Betham JA. The butterflies of the central provinces. J Bombay Nat Hist Soc. 1891;6:175-183; 318-331.
10. Witt DO. The butterflies (Rhopalocera) of the Nimar District, Central Provinces. J Bombay Nat Hist Soc. 1909;19(3):564-571.
11. Singh RK. On A Collection of butterflies (Insecta) from Bastar District, Madhya Pradesh, India. Newslett Zool Surv India. 1977;3(5):323-326.
12. Gupta IJ, Shukla JPN. Butterflies from Bastar district (Madhya Pradesh, India). Rec Zool Surv India Occas Pap. 1987;106:1-74.
13. Pandharipande TN. Butterflies from Nagpur City, Central India (Lepidoptera: Rhopalocera). J Res Lepidoptera. 1990;29(1/2):157-160.
14. Chaudhury M. Insecta: Lepidoptera, fauna of conservation area: Fauna of indravati tiger reserve. Zool Surv India. 1995;6:45-52.
15. Chandra K, Singh RK, Koshta ML. On a collection of butterflies (Lepidoptera: Rhopalocera) from Sidhi District, Madhya Pradesh, India. Rec Zool Surv India. 2000;98(4):11-23.
16. Chandra K, Chaudhary LK, Singh RK, Koshta ML. Butterflies of Pench Tiger Reserve, Madhya Pradesh. Zoos' Print J. 2002;17(10):908-909.
17. Singh RK, Chandra K. An inventory of butterflies of Chhattisgarh. J Trop For. 2002;18(1):67-74.
18. Singh J. Status of tiger conservation in The Pench National Park And Tiger Reserve, Maharashtra. Proc Symp Three Decades Project Tiger Melghat. 2004;119-133.
19. Chandra K. The butterflies (Lepidoptera: Rhopalocera) of Kangerghati National Park (Chhattisgarh). Adv Indian Entomol Prod Health. 2006;1:83-88.
20. Sharma RM, Chandra K. First report of the occurrence of some rare butterflies (Lepidoptera: Rhopalocera) From Chhattisgarh, Central India. Rec Zool Surv India. 2009;109(3):33-36.
21. Chandra K, Sharma RM, Singh A, Singh RK. A checklist of butterflies of Madhya Pradesh and Chhattisgarh states, India. Zoos' Print J. 2007;22(8):2790-2798.
22. Sharma RM. Insecta: Lepidoptera (Rhopalocera And Grypocera). Fauna Of Lonar Wildlife Sanctuary, Zool Surv India Conservation Area Ser. 2008;37:181-190.
23. Sharma RM. Insecta: Lepidoptera: Rhopalocera and grypocera. Fauna Of Bhimashankar Wildlife Sanctuary, Zool Surv India Conservation Area Ser. 2009;42:257-262.
24. Kumar A. A report on the butterflies in Jhansi (U.P.) India. J Appl Nat Sci. 2012;4(1):51-55.
25. Chandra K, Raha A, Majumder A, Gupta R. New records and updated list of butterflies (Lepidoptera: Rhopalocera) from Chhattisgarh, Central India. Rec Zool Surv India. 2014;114:233-250.
26. Sisodia A. Butterflies (Lepidoptera: Papilionoidea) of Chhattisgarh, India. Bionotes. 2019;21(4):116-141.
27. Tandan HN, Chand G, Naidu R, Tandan S. Butterflies of Government Nursery, Bhatagaon, Chhattisgarh with Two additions to the state fauna. Bionotes. 2020;22(3):195-201.
28. Tandan HN, Chand G, Naidu R, Sampat GD. Butterflies of Tatamari Eco Centre, Chhattisgarh, India. Zoos' Print. 2021a;36(9):01-06.
29. Tandan HN, Chand G, Naidu R, Sahu GK, Agrawal R, Tanuja. Checklist of Butterflies (Insecta: Lepidoptera) from four districts of Chhattisgarh, India with three additions to the state fauna of Butterflies of Chhattisgarh. Bionotes. 2021b;23(2&3):96-106.
30. Nihlani G, Faiz B, Bharos A. First record of Spotted Angle butterfly *Caprona agama agama* (Moore, 1858) (Lepidoptera: Papilionoidea: Hesperiiidae) from Borhamdev Wildlife Sanctuary, Chhattisgarh, India. Rev Chil Entomol. 2021;47:259-264. doi: 10.35249/rche.47.2.21.13.
31. Nitin R, Balakrishnan VC, Churi PV, Kalesh S, Prakash S, Kunte K. Larval host plants of the butterflies of the Western Ghats, India. J Threat Taxa. 2018;10(4):11495-11550. DOI: 10.11609/jott.3104.10.4.11495-11550
32. Chand G, Tandan HN, Naidu R. Black-spotted Pierrot, addition to the butterfly fauna of Chhattisgarh, India. Bugs R All. Zoo's Print. 2022;37(3):33-36.

33. Jangde KK, Kumar A, Tandan HN, Prasad SK. Biodiversity of butterflies (Lepidoptera) in Janjgir-Champa, with one addition to the state fauna of butterflies of Chhattisgarh. *J Exp Zool India*. 2023;26:1279-1284. DOI: 10.51470/jez.2023.26.1.1279
34. Singh S, Chand G, Naidu R, Kumar G, Agrawal R, Tandan HN. Addition of the red pierrot butterfly *Talicauda nyseus nyseus* to the butterfly fauna of Chhattisgarh, India. *Bionotes*. 2023;25(1&2):36.
35. Tandan HN, Chand G, Naidu R, Agrawal R, Biswas J. Butterflies of Rhishijharan Waterfall, Gariaband, with three additions to the state fauna of Chhattisgarh, India. *Zoos' Print*. 2023;38(4):9-16.
36. Naik ML, Mishra RP, Tiwari AP, Pandey AK, Mishra P. Biodiversity of Kanger Valley National Park, Vol. I (Floral Diversity). Chhattisgarh State Biodiversity Board, India; 2024. ISBN: 978-81-953898-6-5.
37. Smetacek P. Synoptic Catalogue of the Butterflies of India. Bhimtal and Indinav Publishing, New Delhi; 2016.
38. Kehimkar ID. The Book of Indian Butterflies. Bombay Natural History Society, Bombay; 2016.
39. Anonymous. *Catapaecilma major* Druce, 1895 – Common Tinsel. In: Kunte K, Sondhi S, Roy P, editors. *Butter*.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the publisher and/or the editor(s). This publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.

© Copyright (2024): Author(s). The licensee is the journal publisher. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:

<https://www.sdiarticle5.com/review-history/122734>