



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

RECENT RECORDS OF THE RARE MOUNTAIN TORTOISESHELL *AGLAIS RIZANA* (MOORE, 1872) (LEPIDOPTERA: NYMPHALIDAE) IN THE UPPER GARHWAL, WESTERN HIMALAYA, INDIA, AFTER 100 YEARS

Arun Pratap Singh & Tribhuwan Singh

26 December 2019 | Vol. 11 | No. 15 | Pages: 15068–15071

DOI: 10.11609/jott.5276.11.15.15068-15071



For Focus, Scope, Aims, Policies, and Guidelines visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>

For Policies against Scientific Misconduct, visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>

For reprints, contact <ravi@threatenedtaxa.org>

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Partner



صندوق محمد بن زايد
للمحافظة على
الكائنات الحية

The Mohamed bin Zayed
Species Conservation Fund

Member



Publisher & Host





ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

PLATINUM
OPEN ACCESS



The Mountain Tortoiseshell *Aglaia rizana* (Moore, 1872) has a distribution extending from Safed Koh (Pakistan), from Chitralup to Sikkim (inner ranges in India), where it is believed to be 'rare' and found in the 'alpine' region of 2,400–4,500 m during May–August' (Evans 1932; Wynter-Blyth 1957; Haribal 1992; Kehimkar 2016). Its distribution range outside India extends up to the Pamirs–Altai mountains through Afghanistan and adjoining Pakistan (<https://www.nic.funet.fi/>). The species is absent in Nepal (Smith 1989, 2006; van Gasse 2017). Specimens of *A. rizana* have been collected from "Cheeni ('Chini' or Kalpa in Himachal Pradesh) at 2,759m, middle Kunawur (upper Kinnaur District in Himachal Pradesh), N.W. Himalayas" (Moore 1872); "Gulmarg (Kashmir), Kunawur (Himachal Pradesh) and Thibet" (Tibet) (3,000m) where "it appears to be rare" (DeNiceville 1886). While Wynter-Blyth (1940) reported it as a "rare butterfly of the high inner hills" with specimens collected from Shipki Pass in Kinnaur District in Himachal Pradesh along the Indo-China border, at 4,500m in July. The species has only been reported once from the Kumaon region of Uttarakhand by Hannington (1910) from the "inner ranges above 3,000m in July–August". Four specimens from Hari-Ki-Dun (Uttarkashi District) in northern Garhwal were collected by P.W. Mackinnon in June, 1907 (pers. obs.), while two more specimens were collected by S.N. Chatterjee in October, 1912 from the same area (pers. obs.). A male and a female were later collected from Kashmir (3,000m), India by O.C. Ollenbach on 07.viii.1915 that are all kept at National Forest Insect Collection (NFIC) at Forest Research Institute, Dehradun

RECENT RECORDS OF THE RARE MOUNTAIN TORTOISESHELL *AGLAIS RIZANA* (MOORE, 1872) (LEPIDOPTERA: NYMPHALIDAE) IN THE UPPER GARHWAL, WESTERN HIMALAYA, INDIA, AFTER 100 YEARS

Arun Pratap Singh¹ & Tribhuvan Singh²

^{1,2} Entomology Branch, Forest Protection Division, Forest Research Institute, P.O. New Forest, Dehradun, Uttarakhand 248006, India.

¹ ranoteaps@gmail.com (corresponding author),

² treebhooovana@gmail.com

(Images 1–4). There are also recent reports of the occurrence of this species from the upper reaches of Kumaon in Uttarakhand bordering Nepal by Trilok Singh Rana and Emmanuel Theophilus (Sondhi & Kunte 2018). There are, however, no recent occurrences of this species from the Garhwal Himalaya (Bhardwaj et al. 2012; Uniyal et al. 2013; Singh & Sondhi 2016) (Fig. 1). The species is currently protected and is listed in Schedule II, Part II, of the Indian Wildlife Protection Act, 1972 (Anonymous 2006).

Two individuals of *A. rizana* were recorded (Image 6) from a "sub-alpine" patch of vegetation along the Badrinath–Mana road, Chamoli District on 06.vii.2019 (3,151m; 30.760°N & 79.499°E) in the company of *Aglaia caschmirensis* from 11.00h to 12.00h (temperature: 24.7°C & relative humidity: 52%). The vegetation here was composed mainly of *Rosa sericea* Lindl., *Tanacetum mubigenum* Wall.ex. DC, *Urtica* sp. along with herbs and grasses on rocky slopes by the side of the River Alakananda.

DOI: <https://doi.org/10.11609/jott.5276.11.15.15068-15071> | ZooBank: urn:lsid:zoobank.org:pub:E55CAFC5-7F2F-4A43-9450-DEAA1C8D7B06

Editor: Sanjay Sondhi, Titli Trust, Dehradun, India.

Date of publication: 26 December 2019 (online & print)

Manuscript details: #5276 | Received 26 July 2019 | Final received 06 December 2019 | Finally accepted 10 December 2019

Citation: Singh, A.P. & T. Singh (2019). Recent records of the rare Mountain Tortoiseshell *Aglaia rizana* (Moore, 1872) (Lepidoptera: Nymphalidae) in the upper Garhwal, western Himalaya, India, after 100 years. *Journal of Threatened Taxa* 11(15): 15068–15071. <https://doi.org/10.11609/jott.5276.11.15.15068-15071>

Copyright: © Singh & Singh 2019. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by adequate credit to the author(s) and the source of publication.

Funding: Indian Council of Forest Research and Education, Dehradun, India.

Competing interests: The authors declare no competing interests.

Acknowledgements: The current findings are part of a research project entitled "Butterflies associated with different forest types/sub-types in Uttarakhand (2017–2021)" being carried out at the Forest Research Institute, Dehradun. The authors are thankful to Director, FRI and Head, Forest Protection Division, FRI for providing all the necessary facilities and the assistance received from Rohit Kumar in the field is duly acknowledged.





Images 1 & 2. Male (left) and female (right) Mountain Tortoiseshell, *Aglais rizana* (Moore, 1872) collected from Kashmir, India by O.C. Ollenbach (07.viii.1915; National Forest Insect Collection (NFIC), Forest Research Institute, Dehradun, India).

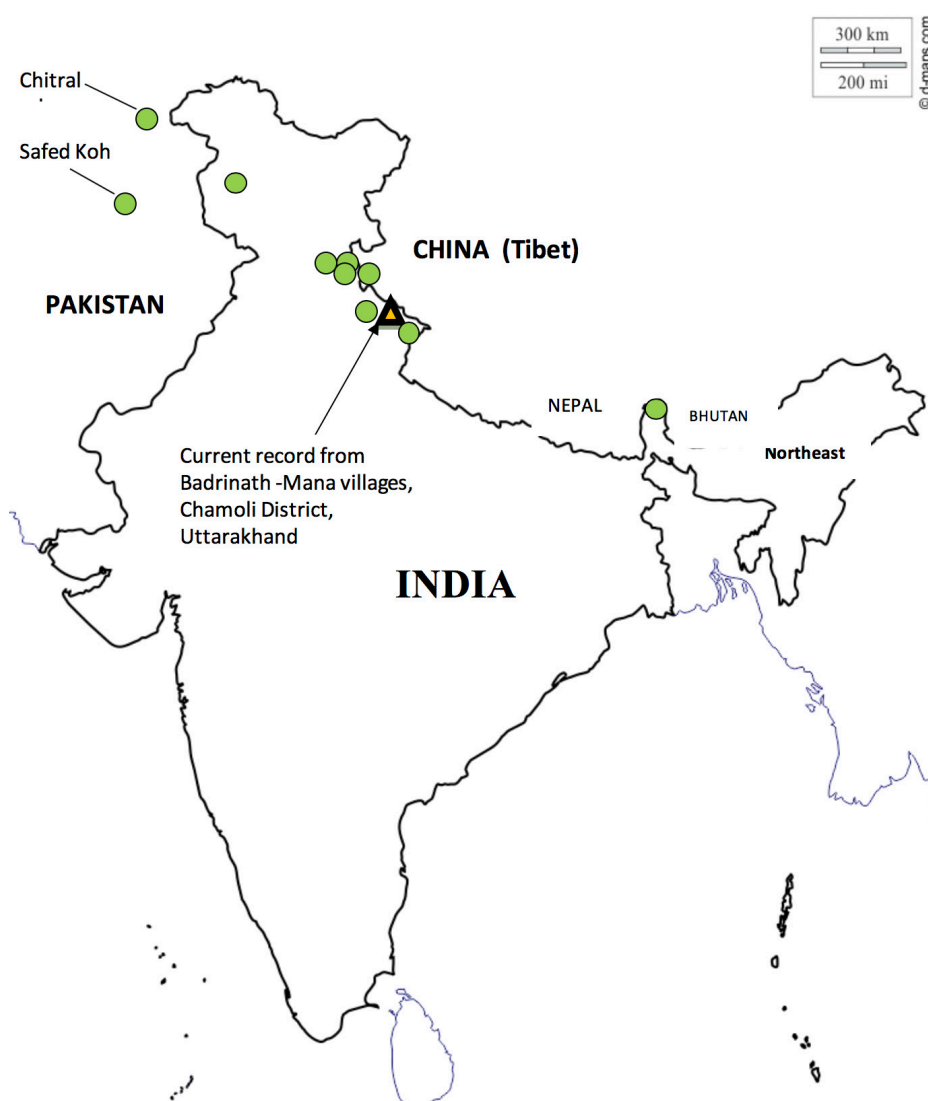


Figure 1. Map depicting the present record of Mountain Tortoiseshell *Aglais rizana* (Moore, 1872) in Badrinath-Mana area, Chamoli District, Uttarakhand (Garhwal Himalaya) in relation to past confirmed records of the species across other areas in the Himalaya in India and Pakistan.



Images 3 & 4. Mountain Tortoiseshell, *Aglais rizana* (Moore, 1872) collected from Hari-ki-Dun, northern Garhwal, India by Mackinnon (vi.1907; kept at National Forest Insect Collection (NFIC), Forest Research Institute, Dehradun, India).



Image 5. Indian Tortoiseshell *Aglais caschmirensis* (Kollar, [1844]) (Badrinath-Mana road, Chamoli District, Uttarakhand, India (6.vii.2019)), for comparison with *A. rizana*.

A. rizana is similar in appearance to the Indian Tortoiseshell *Aglais caschmirensis* (Kollar, [1844]), as the former is characterized by wings being broad and squarish, forewing cut off at the tip and not produced to apex but produced at v6 as compared to the latter where the forewing is narrow and more produced and the hind wings are quite prominently toothed at v4 (Image 5). The upper hind wing blue spots are not inwardly brown

in *A. rizana* as in the *A. caschmirensis* (Evans 1932; Wynter-Blyth 1957; Kehimkar 2016). It is to be noted, however, that the “black discal spots in space 2 and 3” on the upper forewing of the specimens examined from northern Garhwal (Images 3–5) are much bigger in size than that of specimens collected from Kashmir Valley (Images 1,2).

The current sightings confirm the occurrence of this



Image 6. Mountain Tortoiseshell *Aglais rizana* (Moore, 1872) photographed between Badrinath-Mana Village (3,151m), Chamoli District, Uttarakhand, India (6.vii.2019).

rare species in the Garhwal Himalaya, after a gap of more than a 100 years.

References

- Anonymous (2006).** *The Wildlife (Protection) Act 1972*. Natraj Publishers, Dehradun, 235pp.
- Bingham, C.T. (1905).** *Fauna of British India. Butterflies Vol. I*. Taylor and Francis, London, 511pp.
- de Niceville, L. (1886).** *The Butterflies of India, Burma and Ceylon. Vol-II. Nymphalidae, Lemoniidae, Libytheinae, Nemeobinae*. The Calcutta Central press Co. Ltd., 332pp.
- Evans, W.H. (1932).** *The Identification of Indian Butterflies. 2nd Edition*. Bombay Natural History Society, Bombay, x+454pp+32pl.
- Gasse, P.V. (2013).** *Annotated checklist of Butterflies of the Indo-Burmese region*. http://flutters.org/home/docs/Butterflies_of_India_Paul_Van_Gasse.pdf
- Hannington, F. (1910).** The butterflies of Kumaon. Part I & Part II. *Journal of the Bombay Natural History Society* 20: 130–142; 361–372.
- Kehimkar, I. (2008).** *The Book of Indian Butterflies*. BNHS, Oxford University, Delhi Press. Mackinnon & De Niceville, 497pp.
- Moore, F. (1872).** Descriptions of new Indian Lepidoptera, pp 555–583. *Proceedings of the Zoological Society of London* 11.
- Smith, C. (1989).** *Butterflies of Nepal (Central Himalaya)*. Tecpress Service L.P., Bangkok, 352pp.
- Smith, C. (2006).** *Illustrated Checklist of Nepal's Butterflies*. Craftman Press, Bangkok, 129pp.
- Haribal, M. (1992).** *The Butterflies of Sikkim Himalaya and their Natural History*. Sikkim Nature Conservation Foundation (SNCF), Gangtok, Sikkim, 217pp.
- Bhardwaj, M., V.P.Uniyal, A.K. Sanyal & A.P. Singh (2012).** Butterfly communities along an elevation gradient in the Tons valley, Western Himalayas: Implications of rapid assessment of insect conservation. *Journal of Asia-Pacific Entomology* 15(1): 207–217.
- Singh, A.P. & S. Sondhi (2016).** Butterflies of Garhwal, Uttarakhand, western Himalaya, India. *Journal of Threatened Taxa* 8(4): 8666–8697. <https://doi.org/10.11609/jott.2254.8.4.8666-8697>
- Sondhi, S. & K. Kunte (2018).** *Butterflies of Uttarakhand - A Field Guide*. Bishen Singh Mahendra Pal Singh (Dehradun), Titli Trust (Dehradun), National Centre for Biological Sciences (Bengaluru), and Indian Foundation for Butterflies (Bengaluru), x+310pp,
- Wynter-Blyth, M.A. (1940).** A list of Butterflies of the Shimla Hills. *Journal of the Bombay Natural History Society*. 41: 716–741.
- Wynter-Blyth, M.A. (1957).** *Butterflies of the Indian Region*. Bombay Natural History Society, Bombay, xx+523pp+72pls.





PLATINUM
OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

December 2019 | Vol. 11 | No. 15 | Pages: 14927–15090

Date of Publication: 26 December 2019 (Online & Print)

DOI: 10.11609/jott.2019.11.15.14927-15090

www.threatenedtaxa.org

Peer Commentary

Observations on the ex situ management of the Sumatran Rhinoceros *Dicerorhinus sumatrensis* (Mammalia: Perissodactyla: Rhinocerotidae): present status and desiderata for conservation

– Francesco Nardelli, Pp. 14927–14941

Communications

Revisiting genetic structure of Wild Buffaloes *Bubalus arnee* Kerr, 1792 (Mammalia: Artiodactyla: Bovidae) in Koshi Tappu Wildlife Reserve, Nepal: an assessment for translocation programs

– Ram C. Kandel, Ram C. Poudel, Amir Sadaula, Prakriti Kandel, Kamal P. Gairhe, Chiranjibi P. Pokheral, Siddhartha B. Bajracharya, Mukesh K. Chalise & Ghan Shyam Solanki, Pp. 14942–14954

A review on status of mammals in Meghalaya, India

– Adrian Wansaindor Lyngdoh, Honnavalli Nagaraj Kumara, P.V. Karunakaran & Santhanakrishnan Babu, Pp. 14955–14970

A comparative analysis of hair morphology of wild and domestic ungulate prey species of Leopard *Panthera pardus fusca* (Mammalia: Carnivora: Felidae) from Goa, India

– Bipin S. Phal Desai, Avelyno H. D'Costa & S.K. Shyama, Pp. 14971–14978

Understanding people's perception and attitudes towards mammalian fauna using qualitative data: a case study in Barail Wildlife Sanctuary, India

– Amir Sohail Choudhury, Rofik Ahmed Barbhuiya & Parthakar Choudhury, Pp. 14979–14988

An assessment of bird communities across Ujjani and its five satellite wetlands in Solapur District of Maharashtra, India

– Shraddha Prabhakar Karikar, Subhash Vitthal Mali, Kulkarni Prasad & Aphale Priti, Pp. 14989–14997

Growth rate of captive Gharials *Gavialis gangeticus* (Gmelin, 1789) (Reptilia: Crocodylia: Gavialidae) in Chitwan National Park, Nepal

– Bed Bahadur Khadka & Ashish Bashyal, Pp. 14998–15003

Amphibian abnormalities and threats in pristine ecosystems in Sri Lanka

– G.K.V.P.T. Silva, W.A.D. Mahaulpatha & Ansem de Silva, Pp. 15004–15014

Diversity and distribution of orchids of Goa, Western Ghats, India

– Jeewan Singh Jalal, Pp. 15015–15042

Short Communications

Efficacy of oxytetracycline and levamisole treatment on the gastrointestinal parasites in captive Lions *Panthera leo*

– Dhareppa Ganager, Gotakanapura Sanjeevamurthy Mamatha, Asoor Muralidhara, Nagappa Lakkundi Jaya & Beechagondahalli Papanna Shivashankar, Pp. 15043–15046

First record in 129 years of the Tamil Treebrown *Lethe drypetis todara* Moore, 1881 (Lepidoptera: Nymphalidae: Satyrinae) from Odisha, India by fruit-baiting

– Anirban Mahata, Sudheer Kumar Jena & Sharat Kumar Palita, Pp. 15047–15052

A review of the leafhopper tribe Agalliini (Hemiptera: Cicadellidae: Megophthalminae) with a revised key to the known Pakistani genera and species

– Hassan Naveed, Kamran Sohail, Waqar Islam & Yalin Zhang, Pp. 15053–15060

The windowpane oyster family Placunidae Rafinesque, 1815 with additional description of *Placuna quadrangula* (Philipsson, 1788) from India

– Rocktim Ramen Das, Vijay Kumar Deepak Samuel, Goutham Sambath, Pandian Krishnan, Purvaja Ramachandran & Ramesh Ramachandran, Pp. 15061–15067

Notes

Recent records of the rare Mountain Tortoiseshell *Aglaia rizana* (Moore, 1872) (Lepidoptera: Nymphalidae) in the upper Garhwal, western Himalaya, India, after 100 years

– Arun Pratap Singh & Tribhuwan Singh, Pp. 15068–15071

First report of *Dicranocentroides indica* (Handschin, 1929) (Collembola: Paronellidae) from Odisha, India

– Ashirwad Tripathy, Pp. 15072–15073

Additions to the knowledge of darkling beetles (Coleoptera: Tenebrionidae) from the Indo-Burma Biodiversity Hotspot, Meghalaya, India

– Vishwanath Dattatray Hegde, Pp. 15074–15078

Bhutan Asiabell *Codonopsis bhutanica* Ludlow (Asterales: campanulaceae): a new addition to the Indian flora

– Samiran Panday, Vikas Kumar, Sudhansu Sekhar Dash, Bipin Kumar Sinha & Paramjit Singh, Pp. 15079–15082

***Gentiana urnula* Harry Sm. (Gentianaceae), a new record for the flora of Arunachal Pradesh, India**

– Khilendra Singh Kanwal, Umeshkumar Lalchand Tiwari, Lod Yama & Mahendra Singh Lodhi, Pp. 15083–15086

***Carex phacota*, Spreng. (Cyperaceae): a new record for the central Western Ghats of Karnataka, India**

– E.S.K. Udupa, H.U. Abhijit & K.G. Bhat, Pp. 15087–15088

Book review

Compendium of Traded Indian Medicinal Plants

– Reviewed by A. Rajasekaran, Pp. 15089–15090

Partner



صندوق محمد بن زايد
للمحافظة على
الحيوانات المهددة
The Mohamed bin Zayed
SPECIES CONSERVATION FUND

Member



Publisher & Host

