

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.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

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

SHORT COMMUNICATION

FIRST REPORT OF THE FLESHY MUSHROOM *TRICHALEURINA JAVANICA* (REHM) M. CARBONE ET AL. (ASCOMYCOTA: PEZIZALES: CHORIOACTIDACEAE) FROM SOUTHERN INDIA

Munuswamy Kumar, Sekar Nithya & Antony Agnes Kayalvizhi

26 April 2021 | Vol. 13 | No. 5 | Pages: 18398–18402

DOI: 10.11609/jott.6552.13.5.18398-18402



For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope

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

For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

For reprints, contact [<ravi@threatenedtaxa.org>](mailto: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.

Member



Publisher & Host





First report of the fleshy mushroom *Trichaleurina javanica* (Rehm) M. Carbone et al. (Ascomycota: Pezizales: Chorioactidaceae) from southern India

Munuswamy Kumar¹ , Sekar Nithya² & Antony Agnes Kayalvizhi³

^{1,2,3} Department of Botany, Madras Christian College, Tambaram, Chennai, Tamil Nadu 600059, India.

¹ kumarmccbotany@gmail.com (corresponding author), ² nithyasekar19@gmail.com, ³ agnescruz4@gmail.com

Abstract: *Trichaleurina javanica* was collected from tropical dry evergreen forests, located in the southeastern coastal belt of India. This is the first report of the species from southern India. *Trichaleurina javanica* is a fleshy and rubbery cup-like mushroom, brownish-grey in colour with a brilliant yellowish-orange disc. The identification is supported using morphological and microscopical characters. It is one of the less known wild edible mushrooms belonging to Ascomycota.

Keywords: Ascomycetous mushroom, Ice Apple Mushroom, rubbery cup, tropical dry evergreen forests, wild edible mushroom.

Trichaleurina javanica, an ascomycetous mushroom, called Ice Apple Mushroom is a fleshy and rubbery cup like mushroom which is brownish-grey in colour with a brilliant yellowish-orange disc. *Trichaleurina* is a tropical and subtropical species which is complex and was not well resolved for its identity using well supported classical data until recently. It was separated recently from its allies *Sarcosoma* and *Galiella* and re-established as a separate genus recently (Carbone et al. 2013a,b) based on the phylogenetic evidence.

The most close allies *Galiella* with type *Galiella rufa* (Schwein.) Nannf. & Korf., is an American species (Carbone et al. 2015) but also reported from China (Cao

et al. 1992), Malaysia (Chong et al. 2007; Abdullah & Rusea 2009) but poorly known from India (Pant & Prasad 2008). Sharma and Rawla (1982) reported *G. rufa* from India but due to unavailability of the specimen, identity remained doubtful and it is later mentioned as not recorded in India (Pant & Prasad 2008). Whereas, other species of *Galiella* namely *G. celebica* is reported from India (Pant & Prasad 2008) and was later mentioned as *Trichaleurina javanica* by Patel et al. (2019).

The genera *Galiella* is considered a synonym of *Sarcosoma* Casp. by Le Gal (1958, 1960) and Boedijn (1959) while many other mycologists from Korf (1957) to Pant & Prasad (2008) considered it as a separate genus. Recently, Carbone et al. (2013a,b, 2015) proved *Galiella* is an independent genus in the family Sarcosomataceae Kobayasi with at least two species *G. javanica* and *G. celebica* which were formerly included in the same genus.

Later, the phylogenetic studies on Sarcosomataceae revealed that *G. javanica* and *G. celebica* cannot be grouped under the genera and were therefore shifted to the genera *Trichaleurina* (Carbone et al. 2013a). Although, the name *Trichaleurina* was first used by Rehm

Editor: Anonymity requested.

Date of publication: 26 April 2021 (online & print)

Citation: Kumar, M., S. Nithya & A.A. Kayalvizhi (2021). First report of the fleshy mushroom *Trichaleurina javanica* (Rehm) M. Carbone et al. (Ascomycota: Pezizales: Chorioactidaceae) from southern India. *Journal of Threatened Taxa* 13(5): 18398–18402. <https://doi.org/10.11609/jott.6552.13.5.18398-18402>

Copyright: © Kumar et al. 2021. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

Funding: None.

Competing interests: The authors declare no competing interests.

Acknowledgements: The authors thank the principal R.W. Alexander Jesudasan for constant support and encouragement; former head Dr. M. Baluswami; Dr. D. Narasimhan; and the present head Dr. G.A.I. Ebenezer, Department of Botany, MCC for providing laboratory facility. We wish to acknowledge DST-FIST for financial support to the department.



(1903) as an infrageneric rank within *Aleurina* Masee., it was later raised to the genus level (Rehm 1914) by validating it with the new (and only) species *Trichaleurina polytricha* collected from the Philippines. But much later (Carbone et al. 2013b), the genus *Trichaleurina* was established with well supported morphological and molecular evidence with at least two clearly defined species—*T. javanica* and *T. tenuispora*. Moreover, Carbone et al. (2015) also clearly distinguished *G. rufa* by giving a detailed description of the micro-morphological characters for clear identification in future.

This *Galiella* complex (until recently) mushroom which is mustard yellow to light tan in colour is known as ‘Mata Rusa’ (deer eyes) in Sabah, by Dusuns and ‘Mata Kerbau’ (buffalo eyes) in Sarawak, Malaysia (Abdullah & Rusea 2009) was consumed and prized in the market. In India, we found the same mushroom is consumed raw by the Oorali tribe of Sathyamangalam forest (not reported earlier). This is not reported as an edible fungi from any other part of India.

Mushroom diversity of tropical dry evergreen forests (TDEF) vegetation is poorly reported (Kumar 2020). The actual diversity of these regions is much more than what is known, because TDEFs are among the highly neglected region for mushroom biodiversity studies. The species reported in this study was collected during mushroom biodiversity studies in the TDEF region of southern India being done for the past seven years (2012–2019).

MATERIALS & METHODS

The specimens were found on dead and decaying wood (*Delonix*) and collected from Madras Christian College campus, Chennai, India. The campus is a green, extended over 365 acres with TDEF vegetation. The specimens were cut from the stump in all stages starting from initial fruiting to mature stage. Specimens from the field were wrapped in paper covers. They were dried at 70°C for 24 hours and sealed in polythene covers along with their label and naphthalene balls for further examination (Kaviyarasan et al. 2009). The microscopic structures were examined in the dried specimens which were as revived in 5% KOH. Stains such as phloxine and Melzer’s reagent were used to study other details (Largent 1986). The specimens were deposited in the Madras Christian College Herbarium (MCCH) with accession MCCHF1601, MCCHF1920 for future reference. They were identified with proper keys and manuals (Cao et al. 1992; Pant & Prasad 2008; Carbone et al. 2013a,b, 2015; Patel et al. 2019).

RESULTS & DISCUSSION

In the present study the fruit bodies of *Trichaleurina javanica* were collected throughout the Madras Christian College Campus. They were always collected on dead and decaying wood.

Trichaleurina javanica (Rehm)

M. Carbone, Agnello & P. Alvarado (2013)

(Image 1; Figure 1)

≡ *Sarcosoma javanicum* Rehm, Hedwigia 32: 226 (1893)

≡ *Galiella javanica* (Rehm) Nannf. & Korf, Mycologia 49 (1): 108 (1957)

= *Urnula philippinarum* Rehm, Leaflets of Philippine Botany 6: 2281 (1914)

= *Trichaleurina polytricha* Rehm, Leaflets of Philippine Botany 6: 2234 (1914)

= *Sarcosoma novoguineense* Ramsb.: 186 (1917), fide Boedijn (1932) and Le Gal (1959)

= *Sarcosoma decaryi* Pat., Mémoires de l’Académie Malgache 6: 37 (1928), fide Le Gal (1953)

Macroscopic features

Sporocarps occur in troops, clusters, or singly. Fruiting body cup-shaped, cup curved inwards during initial stage, leathery. Inner tissue gelatinous, jelly like, translucent and rubbery, smooth, outer surface blackish-brown to grey brown in colour, rough, velvety, smooth or wrinkled, 5.2–7.8 cm wide and 5.5–6.5 cm high, cylindric or tapering downwards, hairs sparse throughout the surface, more hirsute hairs along the rim of the cup, at maturity the hairs not significant, hymenial portion reddish-orange to yellowish-orange, concave when young, at maturity the hymenial region prominent, plane, convex and slightly decurving. Margin entire, at maturity sparsely folded. Inside the cup below the hymenial region cavity present, cavity may be partitioned with two locule, gelatinous tissue getting reduced towards the base. Cavity filled with mild gelatinous fluid, fluid colourless and odourless. As much as 20ml of fluid accumulate in the cavity. At initial stage and also at maturity the fluid may not be present.

Microscopic features

Hymenium thick, ascospores large, thin walled, with prominent oil guttules, spores hyaline, inamyloid, elliptical, 30.9–35.8, 12.7–15.2 mm, tilted towards right with two to three large prominent oil guttules and few smaller guttules, ascospores at the tip are smaller than those at the bottom. Asci narrow, long, cylindrical, operculate, unitunicate, wall thick up to

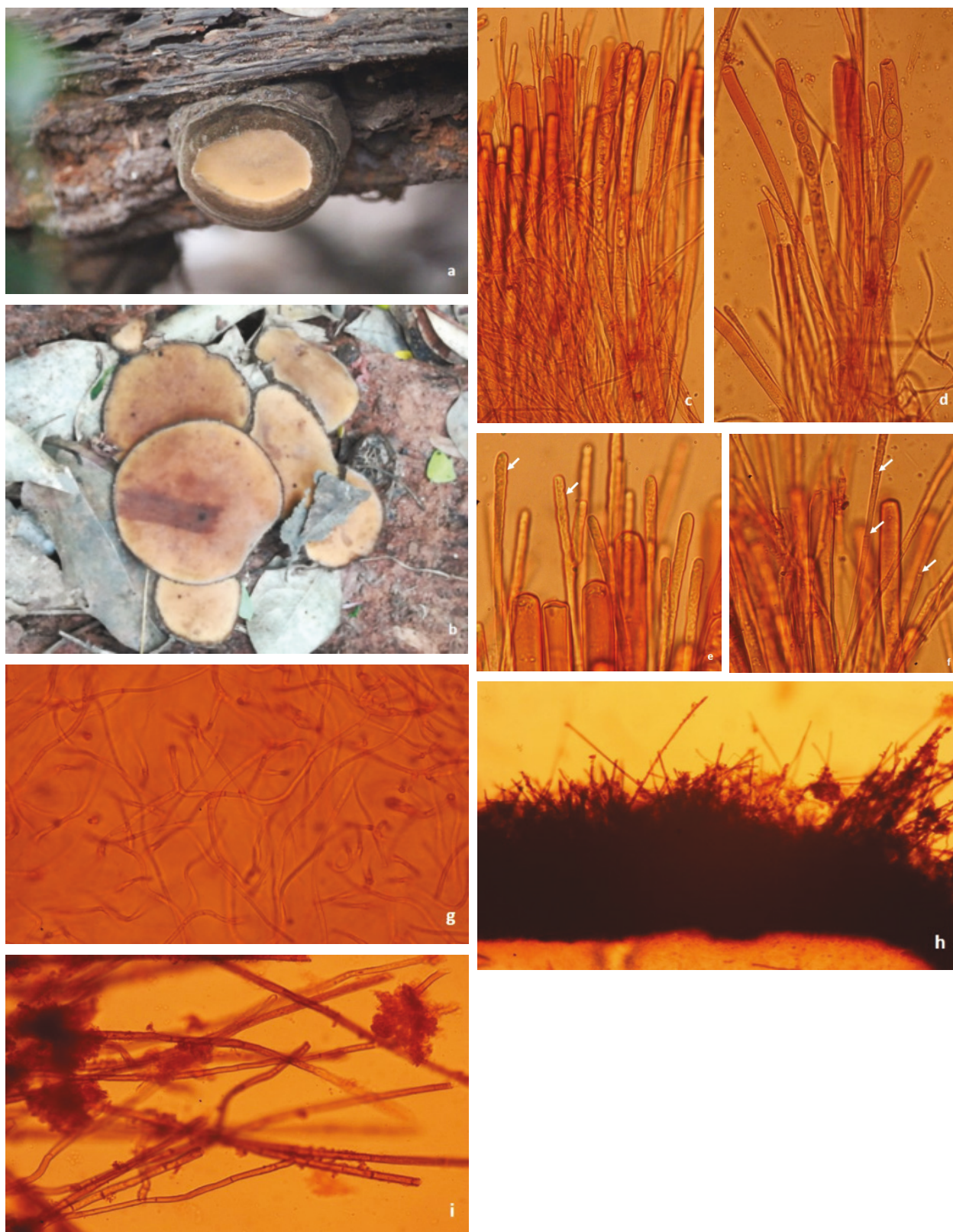


Image 1. *Trichaleurina javanica*: a—habit – young | b—habit – mature | c—v.s. of apothecium showing the hymenium | d—ascus with ascospore and showing operculum | e—paraphyses showing uneven wall layer | f—paraphyses showing septum | g—gelatinized hyphae of hypothecium | h—excipulum region of ascocarp | i—septate hyphae of the excipulum. © M. Kumar.

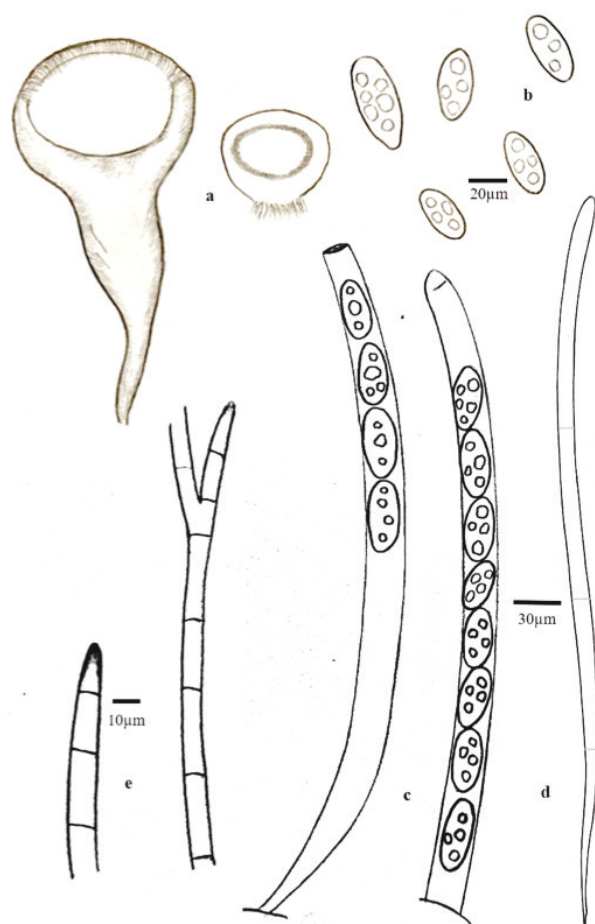


Figure 1. *Trichaleurina javanica*: a—habit | b—spores | c—asci with operculum | d—paraphyses | e—gelatinized hyphae.

1.5mm, spores vertically arranged to the length of the asci, 374–388 × 8.1–8.3 µm, callose depositions found on the wall. Paraphyses filiform, extending beyond asci, 4–8 mm diameter, gradually tapering downwards, septate, septum not prominent, septal wall thin, depositions present on the tip portion, wall not smooth, uneven. Subhymenium, pale or creamy, appears pseudoparachymatous and partially with gelatinized hyphae.

Hypothecium with gelatinized hyphae with watery cavity, all hyphae septate with visibly dark septum, thin, 3–6 mm diameter, sparsely branched, wall layer are hyaline and has some warty ornamentation. Hypothecium and excipulum separated with cavity. Excipulum rubbery with gelatinized hyphae and towards outer dark brown hyphal aggregation present, some dark deposition on the walls, wall layer dark, hyphae erect and septate with prominent dark septum, tip blunt.

Specimen examined: MCCHF1601, MCCHF1920, 19.viii.2016 and 29.x.2019, India, Tamil Nadu, Chennai,

Madras Christian College Campus, in troops (15–20 sporocarps), around MacPhail art center (12°55′10.96″N 80°7′18.91″E), coll. M. Kumar.

The specimen examined shows similarity with the previously reported species mentioned from China, Taiwan, Thailand, and Seychelles (Cao et al. 1992; Carbone et al. 2013b) with slight variation in the morphological and microscopical dimensions. It was unable to compare with the Indian species (Patel et al. 2019) because the report from Gujarat was not described using micromorphological characters rather identified only by molecular analysis.

The morpho-microscopic examination in the present study includes the notable characters such as gelatinous liquid: its presence and absence, quantity and taste, presence of two locules in the fluid cavity, septate hyphae of gelatinous excipulum, which were not recorded in the previous reports (Cao et al. 1992; Pant & Prasad 2008; Carbone et al. 2013a,b, 2015).

Trichaleurina javanica contains a mild salty sweet liquid which is similar to that of the liquid found in palmyra palm fruit. During our collection it was also observed that the sporocarp is vigorously fed by few larvae and common snail of this region.

Since the species was already reported by Pant & Prasad (2008) from the Kumoun hills, Uttarakhand as *Galiella celebica* and by Patel et al. (2019) from Gujarat as *Trichaleurina javanica*, this will be the first report for southern India.

REFERENCES

- Abdullah, F. & G. Rusea (2009). Documentation of inherited knowledge on wild edible fungi from Malaysia. *Blumea* 54: 35–38. <http://doi.org/10.3767/000651909X475996>
- Boedijn, K.B. (1959). Notes on the genus *Sarcosoma*. *Persoonia* 1(1): 7–9.
- Cao, J.Z., L. Fan & B. Liu (1992). Notes on the genus *Galiella* in China. *Mycologia* 84(2): 261–263. <http://doi.org/10.2307/3760260>
- Carbone, M., C. Agnello & P. Alvarado (2013a). Phylogenetic studies in the family Sarcosomataceae (Ascomycota, Pezizales). *Ascomycete.org* 5(1): 1–12. <http://doi.org/10.25664/art-0075>
- Carbone, M., Y.Z. Wang & C. H. Huang (2013b). Studies in *Trichaleurina* (Pezizales). Type studies of *Trichaleurina polytricha* and *Urnula philippinarum*. The status of *Sarcosoma javanicum*, *Bulgaria celebica*, and *Trichaleurina tenuispora* sp. nov., with notes on the anamorphic genus *Kumanasamuha*. *Ascomycete.org* 5(5): 137–153. <http://doi.org/10.25664/art-0088>
- Carbone, M., C. Agnello & B. Bomanz (2015). Studies in *Galiella* (Ascomycota, Pezizales). I. Notes on *Galiella rufa*. *Ascomycete.org* 7(2): 55–60. <http://doi.org/10.25664/art-0128>
- Chong K.S., C.F. Yee, L.J. Shya, & M. Atong (2007). Nutritional properties of some edible wild mushrooms in Sabah. *Journal of Applied Sciences* 7(15): 22216–2221. <https://doi.org/10.3923/jas.2007.2216.2221>
- Kaviyarasan, V., C. Ravindran, G. Senthilarasu, K. Narayanan, V. Kumerasan & M. Kumar (2009). A field guide to South India Agaricales (Collection, Preservation and Identification). ISEE

- publication, iii & ivpp.
- Korf, R.P. (1957).** Two bulgarioid genera: *Galiella* and *Plectania*. *Mycologia* 49(1): 107–111. <http://doi.org/10.2307/3755734>
- Kumar, M. (2020).** A field guide to mushrooms and other fungi of tropical dry evergreen forests of peninsular India. Digital Age Publishers, India, 7pp.
- Largent, D.L. (1986).** How to Identify Mushrooms to Genus III: Microscopic Features. Arcata CA: Mad Rivers Press, Eureka, USA, 25–26pp.
- Le Gal, M. (1953).** Les discomycetes de Madagascar. Prodr. Flore Mycol. *Madagascar* 4: 1–465.
- Le Gal M. (1958).** Discomycètes du Maroc. I. Un *Urnula* nouveau, *Urnula megalocrater* Malençon et Le Gal sp. nov. Étude de l'espèce suivie d'une révision des caractères des genres *Urnula* et *Sarcosoma*. *Bulletin de la Société Mycologique de France* 74: 155–177.
- Le Gal M. (1960).** Discomycetes. Flore iconographique des Champignons du Congo 9: 166–183.
- Pant, D.C. & V. Prasad (2008).** *Indian Sarcoscyphaceous Fungi*. Scientific Publishers, India.
- Patel, R.S., A.M. Vasava & K.S. Rajput (2019).** Distribution of *Trichaleurina javanica* (Rehm) M. Carbone, Agnello & P. Alvarado (Chorioactidaceae) in India. *Plant Biosystems* 153(2): 231–234. <https://doi.org/10.1080/11263504.2018.1461704>
- Rehm, H. (1903).** Die Discomyceten-Gattung *Aleurina* Sacc. *Annales Mycologici* 1(1): 514–516.
- Rehm, H. (1914).** Ascomycetes Philippinenses VI. *Leaflets of Philippine Botany* 6(105): 2257–2281.
- Sharma, M.P. & G.S. Rawla (1982).** Ascomycetes new to India. *Indian Phytopathology* 35: 120–123.





www.threatenedtaxa.org

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)

April 2021 | Vol. 13 | No. 5 | Pages: 18099–18410

Date of Publication: 26 April 2021 (Online & Print)

DOI: 10.11609/jott.2021.13.5.18099-18410

Articles

Spatiotemporal movement pattern of Asian Elephants *Elephas maximus* Linnaeus, 1758 in Sindhudurg District, Maharashtra, India

– Milind Digambar Patil, Vinayak Krishna Patil & Ninad Avinash Mungi, Pp. 18099–18109

Conservation ecology of birds in Mt. Hilong-hilong, a Key Biodiversity Area on Mindanao Island, the Philippines

– Arturo G. Gracia Jr., Alma B. Mohagan, Janezel C. Burlat, Welfredo L. Yu Jr., Janine Mondalo, Florfe M. Acma, Hannah P. Lumista, Riah Calising & Krizler Cejuela Tanalgo, Pp. 18110–18121

Nesting and hatching behaviour of Olive Ridley Turtles *Lepidochelys olivacea* (Eschscholtz, 1829) (Reptilia: Cryptodira: Cheloniidae) on Dr. Abdul Kalam Island, Odisha, India

– P. Poornima, Pp. 18122–18131

Communications

Feeding ecology of Walia Ibex *Capra walie* (Mammalia: Artiodactyla: Bovidae) in Simien Mountains National Park, Ethiopia

– D. Ejigu, A. Bekele & L. Powell, Pp. 18132–18140

Assessment of crop and property damage caused by *Semnopithecus vetulus nestor* (Bennett, 1833) (Mammalia: Primates: Cercopithecidae) in Gampaha District, Sri Lanka

– Sunil Wijethilaka, Lakshani S. Weerasekara, Saumya Bandara & Kithsiri B. Ranawana, Pp. 18141–18147

Habitat preference of the Indian Pangolin *Manis crassicaudata* inhabiting Margalla Hills National Park, Islamabad, Pakistan

– Tariq Mahmood, Shaista Andleeb & Faraz Akrim, Pp. 18148–18155

The endangered Himalayan Red Panda: first photographic evidence from its westernmost distribution range

– Saroj Shrestha, Sony Lama, Ang Phuri Sherpa, Sonam Tashi Lama & Dinesh Ghale, Pp. 18156–18163

Ecological niche modelling predicts significant impacts of future climate change on two endemic rodents in eastern Africa

– Aditya Srinivasulu, Alembrhan Assefa & Chelmala Srinivasulu, Pp. 18164–18176

Avian diversity in a fragmented landscape of central Indian forests (Bhopal Forest Circle)

– Amit Kumar, Yogesh Dubey & Advait Edgaonkar, Pp. 18177–18188

Nest tree preference shown by Ring-necked Parakeet *Psittacula krameri* (Scopoli, 1769) in northern districts of Tamil Nadu, India

– M. Pandian, Pp. 18189–18199

Two new species of *Euphaea* Selys, 1840 (Odonata: Zygoptera: Euphaeidae) from northern Western Ghats, India

– Shriram Dinkar Bhakare, Vinayan P Nair, Pratima Ashok Pawar, Sunil Hanmant Bhoite & Karesh Sadasivan, Pp. 18200–18214

Two new light attracted rove beetle species of *Astenus* Dejean, 1833 (Coleoptera: Staphylinidae: Paederinae) from Kerala, India

– P. Sreevidhya, S.V. Akhil & C.D. Sebastian, Pp. 18215–18226

A new distribution record of mason wasp *Pison punctifrons* Shuckard, 1838 (Hymenoptera: Sphecidae: Larrinae) from Noida, Uttar Pradesh, India

– Rajiv K. Singh Bais & Aakash Singh Bais, Pp. 18227–18236

Diversity of freshwater molluscs from the upper Brahmaputra Basin, Assam, India

– Jyotish Sonowal, Munmi Puzari & Devid Kardong, Pp. 18237–18246

Diversity of understory flowering plants in the forest patches of Marilog District, Philippines

– Florfe M. Acma, Noe P. Mendez, Noel E. Lagunday & Victor B. Amoroso, Pp. 18247–18256

Legumes of Kerala, India: a checklist

– Anoop P. Balan & S.V. Predeep, Pp. 18257–18282

Legumes (Angiosperms: Fabaceae) of Bagalkot District, Karnataka, India

– Jagdish Dalavi, Ramesh Pujar, Sharad Kambale, Varsha Jadhav-Rathod & Shrirang Yadav, Pp. 18283–18296

Indigenous knowledge of ethnomedicinal plants by the Assamese community in Dibrugarh District, Assam, India

– Pranati Gogoi & Namita Nath, Pp. 18297–18312

Short Communications

Marine mammal strandings in the northern Palk Bay from 2009 to 2020

– Vedharajan Balaji & Veeramuthu Sekar, Pp. 18313–18318

First distribution record of the Asiatic Toad *Bufo gargarizans* Cantor, 1842 from India – Dibang Valley in Arunachal Pradesh

– Sahil Nijhawan, Jayanta Kumar Roy, Iho Mitapo, Gata Miwu, Jibi Pulu & M. Firoz Ahmed, Pp. 18319–18323

A checklist of fishes of Telangana State, India

– Kante Krishna Prasad & Chelmala Srinivasulu, Pp. 18324–18343

Report on the stingless bees of Bhutan (Hymenoptera: Apidae: Meliponini)

– Tshering Nidup, Pp. 18344–18348

New records of six termite (Blattodea: Termitidae) species from Kerala, India

– Poovoli Amina & K. Rajmohana, Pp. 18349–18354

Status, abundance, and seasonality of butterfly fauna at Kuvempu University Campus, Karnataka, India

– M.N. Harisha & B.B. Hosetti, Pp. 18355–18363

Observations on butterflies of non-protected areas of Titabar, Assam, India

– Abhijit Konwar & Manashi Bortamuly, Pp. 18364–18377

Three new distribution records of Conidae (Gastropoda: Neogastropoda: Conoidea) from the Andaman Islands, India

– Jayaseelan Benjamin Franklin & Deepak Arun Apte, Pp. 18378–18384

A new record of an endangered and endemic rare Rein Orchid *Habenaria rariflora* from Gujarat, India

– Mital R. Bhatt, Pp. 18385–18389

Glimpse of climber diversity in Saharanpur District, Uttar Pradesh, India

– Lalita Saini, Archasvi Tyagi, Inam Mohammad & Vijai Malik, Pp. 18390–18397

First report of the fleshy mushroom *Trichaleurina javanica* (Rehm) M. Carbone et al. (Ascomycota: Pezizales: Chorioactidaceae) from southern India

– Munuswamy Kumar, Sekar Nithya & Antony Agnes Kayalvizhi, Pp. 18398–18402

Notes

Photographic record of Temminck's Tragopan *Tragopan temminckii* (Gray, 1831) (Aves: Galliformes: Phasianidae) from eastern Bhutan: an evidence of its westward range expansion

– Tshering Dorji, Kinley Kinley, Letro Letro, Dawa Tshering & Prem Nanda Maidali, Pp. 18403–18405

The Malay Cardamom *Meistera aculeata* (Roxb.) Škorničk. & M.F. Newman (Zingiberaceae: Alpinioideae) from the Palghat gap: a new record to Kerala, India

– Vadakkevedu Jagadesh Aswani, Manjakulam Khadhera Jabeena & Maya Chandrashekar Nair, Pp. 18406–18410

Member



Publisher & Host

