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**Journal of
Threatened
Taxa**

10.11609/jott.2026.18.2.28262-28454
www.threatenedtaxa.org

26 February 2026 (Online & Print)
18(2): 28262-28454
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)



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

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
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Cover: Digital illustration of *Impatiens chamchumroonii* in Krita by Dupati Poojitha.



Checklist of moths (Lepidoptera: Heterocera) from the campus of University of North Bengal, Siliguri, India

Abhirup Saha¹ , Ratnadeep Sarkar² , Rujas Yonle³ , Subhajit Das⁴ , Prapti Das⁵ & Dhiraj Saha⁶

^{1,2,4,5,6} Insect Biochemistry and Molecular Biology Laboratory, Department of Zoology, University of North Bengal, Raja Rammohanpur, Darjeeling, West Bengal 734013, India.

³ Environmental Biology Laboratory, Department of Zoology, Darjeeling Government College, 15, Leborg Cart Road, Darjeeling, West Bengal 734101, India.

¹rs_abhirup@nbu.ac.in, ²ratnadeepsarkar37@gmail.com, ³rujasyonle@gmail.com, ⁴dsubhajit644@gmail.com, ⁵rs_prapti@nbu.ac.in, ⁶dhirajsaha@nbu.ac.in (corresponding author)

^{1,2} Both authors contributed equally and share the first authorship.

Abstract: A year-long light-trap study recorded the moth faunal diversity from the University of North Bengal campus, which is situated in the Himalayan foothills or Terai region of West Bengal, from September 2023 to August 2024. A total of 125 species of moths representing 104 genera belonging to 14 families were recorded during this study. Among them, the families Erebidae (36 spp.), Crambidae (32 spp.), and Geometridae (28 spp.) contributed the maximum species records. Their presence in this area highlights the need for regular monitoring throughout the district.

Keywords: Crambidae, Darjeeling, diversity, Erebidae, Geometridae, NBU, sub-Himalaya.

পশ্চিমবঙ্গের হিমালয়-পাদদেশ বা 'তরাই' অঞ্চলে অবস্থিত উত্তরবঙ্গ বিশ্ববিদ্যালয় চত্বর জুড়ে ২০২৩ সালের সেপ্টেম্বর থেকে ২০২৪-এর আগস্ট মাস পর্যন্ত আলোর-ফাঁদের সাহায্যে মথ সন্ধান চালানো হয়। একবর্ষব্যাপী এই সন্ধানের মাধ্যমে মোট ১০৪টি পরিবারের অন্তর্গত ১০৪টি গণের ১২৫টি প্রজাতির মথকে নথিভুক্ত করা হয়েছে। এদের মধ্যে এরিবিডিই (৩৬টি প্রজাতি), কামবিডিই (৩২টি প্রজাতি) এবং জিওমেট্রিডিই (২৮টি প্রজাতি) —এই তিনটি মথ পরিবারের প্রজাতি সংখ্যাই সর্বাধিক। এ অঞ্চলে মথদের এমন উপস্থিতি, সমগ্র জেলাজুড়ে নিয়মিত মথ পর্যবেক্ষণের প্রয়োজনকে জুলে ধরে।

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

Date of publication: 26 February 2026 (online & print)

Citation: Saha, A., R. Sarkar, R. Yonle, S. Das, P. Das & D. Saha (2026). Checklist of moths (Lepidoptera: Heterocera) from the campus of University of North Bengal, Siliguri, India. *Journal of Threatened Taxa* 18(2): 28358–28369. <https://doi.org/10.11609/jott.9872.18.2.28358-28369>

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Funding: Authors received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Competing interests: The authors declare no competing interests.

Author details: SAHA, A., DAS, S. AND DAS, P. are researchers under supervision of SAHA, D., professor in Zoology, University of North Bengal. Their work primarily focuses on studying mosquito-vectors, while also exploring the insect diversity of the area. SARKAR, R. worked as a researcher at NBU, ATREE and WWF, cherishes his close interest in insects. YONLE, R. is an associate professor in Zoology, Darjeeling Government College and experienced in moth diversity and taxonomy.

Author contributions: Conceptualization: DS and AS; Data curation: AS and RS; Formal analysis: RS and AS; Investigation: DS, RY; Methodology: AS and RS; Resources: RS and AS; Software: SD and PD; Supervision: DS; Validation: RY and DS; Visualization: SD and PD; Writing original draft: RS and AS; Writing review and editing: AS and RS. All authors read and approved the final manuscript.

Acknowledgements: Authors are grateful to the officer-in-charge, Watch and Ward Department, University of North Bengal for required permissions to conduct fieldworks inside of the university campus. The head, Department of Zoology, University of North Bengal is duly acknowledged for the required permission and extending laboratory facilities all along. Dr. Rujas Yonle, associate professor at Department of Zoology, Darjeeling Government College are also thanked for supplying the equipment for the light trap studies during the field and identification of moth species.



INTRODUCTION

Moths, an integral subgroup (Heterocera) of the order Lepidoptera, with over 1,60,000 species worldwide, display remarkable morphological diversity in forms (Nayak & Ghosh 2020). Their crucial roles as pollinators, nutrient recyclers and environmental indicators make them an essential focus for studying their diversity (Shubhalaxmi 2018). The study of diversity not only identifies the pattern of biodiversity but also sheds some light on the impact of potential environmental changes. Being mostly nocturnal, moths are less studied compared to other insects, such as butterflies (Shubhalaxmi 2018).

Over the last 100 years, around 13,500 moth species have been documented in India and among them, more than 1,000 species belonging to 36 families have been reported from West Bengal (Shah et al. 2018; Dar & Jamal 2021; Joshi et al. 2021, 2025). In a recent study, Chandra et al. (2019) reported 1,274 moth species belonging to 704 genera under 25 families from the central Himalayan region of India. Similar studies have been carried out from different universities, such as Banaras Hindu University (BHU, Varanasi, Uttar Pradesh) and M.K. Bhavnagar University (Bhavnagar, Gujarat) (Nayak & Ghosh 2020).

It is, therefore, essential to conduct local surveys and identify the moth species to build up a preliminary checklist. The 'Terai' region of West Bengal has profound ecological significance, supporting the need to conduct such studies. This area covers a vast range of habitats, including open grass fields, dense natural forests, and wetlands that support a wide variety of both fauna and flora. Situated at the Mechi-Balason interfluves, the University of North Bengal (NBU) (26.709° N, 88.404° E, elevation: approx. 130 m) represents the unique undulating Terai landscape. It covers approx. 335 acres of land in the lap of the extremely biodiverse eastern Himalaya (Image 1; NBU, official website). Small semi-perennial (rain-fed) rivers, 'Magurmari' divides the campus into two halves and 'Lachka' on the west, are the main drainage of the campus, which remain almost dry in summer and winter. Additionally, 10 small seasonal ponds are present in the Magurmari River basin. The campus has over 700 plant species (flowering and non-flowering plants, ferns, mosses, and fungal species), 100 species of birds, 69 species of odonates, and more than 50 species of butterflies (Green Audit Report of University of North Bengal 2021–2022; Saha et al. 2023). The diverse deciduous and evergreen trees make some natural forest patches inside the campus. Besides its natural topography, the campus includes

(mixed-deciduous) social forests dominated by Litsea, Jarul, Sisso, Teak, Palash, Sirish, rubber plantations, tea gardens, medicinal plant parks, native fruit plants, and Sal plantations. A number of native trees, shrubs, climbers, and grass fields create a favourable environment for insects, such as moths.

This study aims to fill the knowledge gap on the diversity of moths by preparing a preliminary checklist from NBU as a significant eco-geographic zone. Supported by photographs, this manuscript may be useful for the identification of local moth species from the area. The study results will additionally highlight the diversity status of moths from this district and will help to protect different moth species effectively in the face of rapid urbanization in Siliguri development area.

MATERIALS AND METHODS

An exploratory moth survey was conducted throughout a year, from September 2023 to August 2024 in the NBU campus (Image 1). It was primarily involved 'light-trap study' using mercury vapor bulb (160 Watt) which was carried out twice a month during two consecutive nights (one new moon night and the next night; in total: 24 trap nights) in the evening from 2000 h to 0200 h. The light traps were conducted alongside of the forest patches inside the campus. Along with light-trap study, moths were randomly photographed from the street lamps, lights from the different departments at night and by visual records during diurnal field visits. The documentation of the species was solely based on the photographic records which was carried out using a DSLR and a cell-phone camera (Google Pixel 6a). The photographed moth species were identified using previously published literature (Bell 1937), standard identification keys (Hampson 1893, 1894, 1895, 1896), relevant websites (iNaturalist 2025; Sondhi et al. 2025) and proper consultation with lepidopteran specialists for a conclusive identification. The number of species as well genera were counted for the abundance study. Genus and species-level identification were done according to Shubhalaxmi (2018). Images 2–5 were prepared in Microsoft Office-PowerPoint-2019.

RESULTS

A total of 125 species of moths belonging to 104 genera of 14 families were recorded from the NBU campus from September 2023 to August 2024 (Table 1;

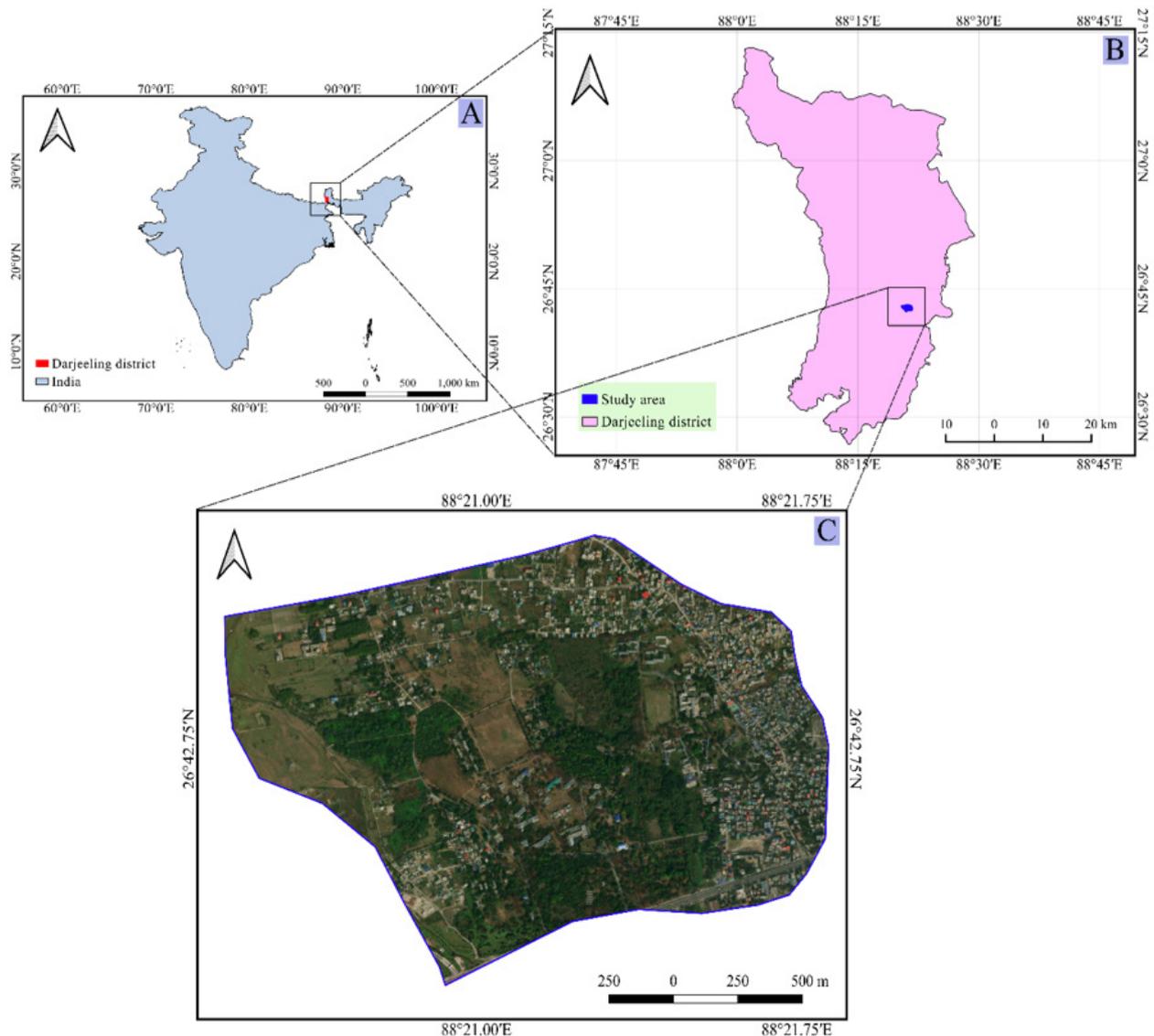


Image 1. Map depicting the location of the study area: A—Darjeeling District in respect to India | B—Location of study area within the Darjeeling District | C—University of North Bengal campus. (QGIS software (version 3.22) was used to create this map)

Images 2–5). During this study, the maximum number of species was recorded from the family Erebidae (30 genera, 36 species), followed by Crambidae (28 genera, 32 species), Geometridae (21 genera, 28 species), Noctuidae (six genera, seven species), Pyralidae (five genera, six species), and Nolidae (four genera, five species) (Table 1; Figure 1). Three families—Sphingidae, Uraniidae, & Zygaenidae—recorded two species in each family, and a single species was recorded from five families—Ethmiidae, Euterotidae, Lasiocampidae, Notodontidae, & Tortricidae (Table 1). In this study, 26 moth species, including *Arthroschista hilaralis* (Walker, 1859), *Cnaphalocrocis medinalis* (Guenée, 1854), *Conogethes punctiferalis* (Guenée, 1854), *Haritalodes*

derogata (Fabricius, 1775), *Parapoynx stagnalis* (Zeller, 1852), *Scirpophaga incertulas* (Walker, 1863), *Spoladea recurvalis* (Fabricius, 1775), *Anomis flava* (Fabricius, 1775), *Artaxa guttata* (Walker, 1855), *Chiasmia eleonora* (Cramer, 1780), *Hipoepa biasalis* (Walker, 1859), *Mocis frugalis* (Fabricius, 1775), *Mocis undata* (Guenée, 1852), *Orygia postica* (Walker, 1855), *Orvasca subnotata* (Walker, 1865), *Rivula bioculalis* (Moore, 1877), *Somena scintillans* (Walker, 1856), *Spilarctia obliqua* (Walker, 1855), *Ectropis crepuscularia* (Denis & Schiffermüller, 1775), *Hyposidra talaca* (Walker, 1860), *Trabala vishnou* (Lefebvre, 1827), *Amyna axis* (Guenée, 1852), *Chrysodeixis eriosoma* (Walker, 1858), *Spodoptera ciliium* (Guenée, 1852), *S. litura* (Fabricius, 1775), and *Eterusia*

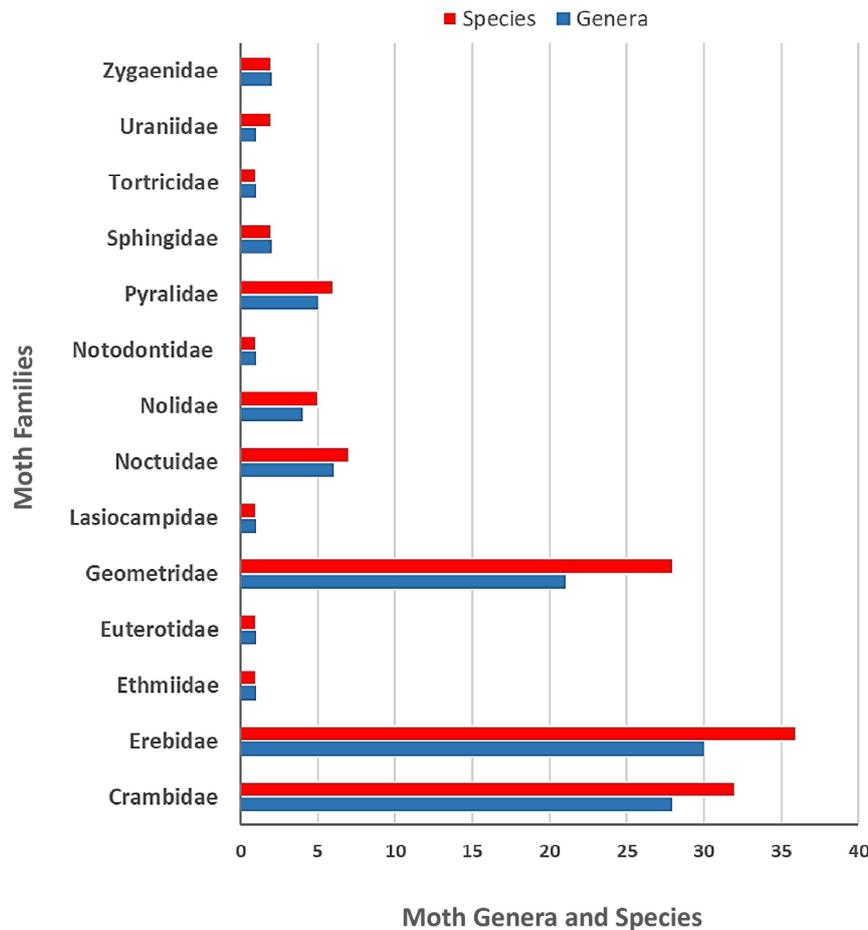


Figure 1. Family-wise record of lepidopteran moth genera and species from the University of North Bengal campus.

aedeae (Linnaeus, 1763) have been recorded as potential predators of agricultural crops (Sondhi et al. 2025) in the study area (Table 1).

DISCUSSION

In the present study, Erebidae was the most dominant moth family, followed by Crambidae and Geometridae. Dominance of the Erebidae (e.g., tiger moths, tussock moths) and Crambidae (e.g., grass moths) families in the study area might be because of the abundant larval host plants grown in grass fields of the campus which includes *Senegalia catechu* L.f., *Albizia lebbeck* Benth, *Bombax ceiba* Burm.f., *Camellia sinensis* Kuntze, *Chrysopogon aciculatus* Trin., *Cinchona* sp., *Cinnamomum verum* J.Presl, *Erythrina variegata* Merr., *Eleusine indica* Gaertn., *Ficus benghalensis* L., *Lagerstroemia speciosa* Pers., *Lantana camara* L., *Mangifera indica* L., *Santalum album* L., *Sesamum indicum* L., *Shorea robusta* Gaertn., *Tectona grandis* L.f., *Ricinus communis* L., *Ziziphus jujuba*

Miller, *Ziziphus oenopolia* Mill, etc., essential for growth, survival and flourishing of moths (Nayak & Ghosh 2020; Green Audit Report of University of North Bengal 2021–2022). These natural and mixed forests, fruit plants, shrubs, climbers, and grasses serve as larval hosts to the Erebidae moths. Local agricultural fields adjacent to the NBU campus additionally contribute several grass moths (crop pests) fauna and tea plantations are one of the potential hosts of some Geometrids, such as *Hyposidra talaca* (Green Audit Report of University of North Bengal 2021–2022; Sondhi et al. 2025). Similar dominance was also found from the BHU and M.K. Bhavnagar University campuses (Nayak & Ghosh 2020). From these studies, it can be concluded that the presence of grass fields and rich diversity of larval host plants play crucial roles in shaping moth communities among different University campuses throughout the country.

Presence of pest (moth) species in this area (Table 1) also highlights the need for regular monitoring which will ultimately assist in evaluating their population dynamics and potential outbreaks in future. Anthropogenic

Table 1. Checklist of moths recorded during the survey in University of North Bengal campus (September 2023–August 2024).

	Scientific name	Common name	Predatory status
I. Family Crambidae (28 genera, 32 species)			
01.	<i>Arthroschista hilaralis</i> (Walker, 1859)	Kadam defoliator	Defoliator
02.	<i>Cnaphalocrocis trebiusalis</i> (Walker, 1859)	-	-
03.	<i>Cnaphalocrocis medinalis</i> (Guenée, 1854)	Rice leafroller	Predator of crops
04.	<i>Conogethes punctiferalis</i> (Guenée, 1854)	Durian fruit borer	Predator on fruit trees
05.	<i>Crambidae</i> sp.	-	-
06.	<i>Culladia</i> sp. (Moore, 1886)	Grass-veneer	-
07.	<i>Diasemia</i> sp.	-	-
08.	<i>Elophila</i> sp. (Hübner, 1822)	-	-
09.	<i>Eoophyla</i> sp. (Swinhoe, 1900)	-	-
10.	<i>Eurrhparodes tricoloralis</i> (Zeller, 1852)	-	-
11.	<i>Glyphodes actorionalis</i> (Walker, 1859)	-	-
12.	<i>Glyphodes bivitalis</i> (Guenée, 1854)	-	-
13.	<i>Haritalodes derogata</i> (Fabricius, 1775)	Cotton leaf roller	Predator
14.	<i>Herpetogramma rudis</i> (Warren, 1892)	-	-
15.	<i>Lamprosema tampiusalis</i> (Walker, 1859)	-	-
16.	<i>Mabra eryxalis</i> (Walker, 1859)	-	-
17.	<i>Marasmia poeyalis</i> (Boisduval, 1833)	-	-
18.	<i>Metoeca foedalis</i> (Guenée, 1854)	-	-
19.	<i>Nosophora semitritalis</i> (Lederer, 1863)	-	-
20.	<i>Omiodes diemenalis</i> (Guenée, 1854)	Bean Leaf Roller	-
21.	<i>Omiodes milvinalis</i> (Swinhoe, 1886)	-	-
22.	<i>Paliga</i> sp. (Moore, 1886)	Teak Leaf Skeletonizer	-
23.	<i>Parapoynx bilinealis</i> (Snellen, 1876)	-	-
24.	<i>Parapoynx stagnalis</i> (Zeller, 1852)	Rice Case Bearer	Major predator of rice
25.	<i>Parotis</i> sp. (Hampson, 1893)	-	-
26.	<i>Pycnarmon virgatalis</i> (Moore, 1867)	-	-
27.	<i>Pygospila tyres</i> (Cramer, 1780)	-	-
28.	<i>Sameodes cancellalis</i> (Zeller, 1852)	-	-
29.	<i>Scirpophaga incertulas</i> (Walker, 1863)	Yellow Stem Borer	Predator of rice
30.	<i>Spinosuncus contractalis</i> (Warren, 1896)	-	-
31.	<i>Spoladea recurvalis</i> (Fabricius, 1775)	Beet Webworm Moth	Major predator in the tropics
32.	<i>Synclera traducalis</i> (Zeller, 1852)	Variegated Pearl	-
II. Family Erebidae (30 genera, 36 species)			
33.	<i>Anomis flava</i> (Fabricius, 1775)	Cotton Looper	Defoliator
34.	<i>Arctornis</i> sp. (Germar, 1810)	-	-
35.	<i>Artaxa guttata</i> (Walker, 1855)	-	Minor predator
36.	<i>Asota caricae</i> (Fabricius, 1775)	Tropical Tiger Moth	-
37.	<i>Ataboruza divisa</i> (Walker, 1862)	-	-
38.	<i>Attonda</i> sp.	-	-
39.	<i>Collita griseola</i> (Hubner, 1803)	Dingy Footman	-
40.	<i>Cretonotos transiens</i> (Walker, 1855)	-	-
41.	<i>Dichromia cognata</i> (Guenée, 1854)	-	-
42.	<i>Donda</i> sp. (Moore, 1882)	-	-
43.	<i>Eublemma</i> sp.	-	-
44.	<i>Eublemma versicolor</i> (Walker, 1864)	-	-

	Scientific name	Common name	Predatory status
45.	<i>Euproctis</i> sp.	-	-
46.	<i>Gesonia</i> sp. 1	-	-
47.	<i>Gesonia</i> sp. 2	-	-
48.	<i>Hamodes propitia</i> (Guerin-Meneville, 1831)	-	-
49.	<i>Herminiinae</i> sp. (Leach, 1815)	-	-
50.	<i>Hipoepa biasalis</i> (Walker, 1859)	-	Defoliator
51.	<i>Hipoepa fractalis</i> (Guenée, 1854)	-	-
52.	<i>Hydrillodes</i> sp.	-	-
53.	<i>Lithosiini</i> sp. (Billberg, 1820)	Lichen Moths	-
54.	<i>Lymantria marginata</i> (Moore, 1883)	Dark Mango Tussock Moth	-
55.	<i>Miltochrista undulosa</i> (Swinhoe, 1903)	-	-
56.	<i>Mocis frugalis</i> (Fabricius, 1775)	Sugarcane Looper	Major predator of crops
57.	<i>Mocis undata</i> (Fabricius, 1775)	Brown-striped Semi-looper	Predator
58.	<i>Nodaria</i> sp. (Moore, 1885)	-	-
59.	<i>Olene inclusa</i> (Walker, 1856)	-	-
60.	<i>Orygia postica</i> (Walker, 1855)	Cocoa Tussock Moth	Defoliator
61.	<i>Orvasca subnotata</i> (Walker, 1865)	Nygmieine Tussock Moth	Predator of millets
62.	<i>Rivula</i> sp. (Guenée, 1845)	-	Predator on crops
63.	<i>Somena scintillans</i> (Walker, 1856)	Yellow-tail Tussock Moth	Minor predator
64.	<i>Somena</i> sp.	-	-
65.	<i>Spilarctia obliqua</i> (Walker, 1855)	Jute Hairy Caterpillar	Polyphagous predator
66.	<i>Spilarctia</i> sp.	-	-
67.	<i>Syntomoides imaan</i> (Cramer, 1779)	Handmaiden Moth	-
68.	<i>Trigonodes hyppasia</i> (Cramer, 1779)	-	-
III. Family Ethmiidae (1 genus, 1 species)			
69.	<i>Ethmia</i> sp.	-	-
IV. Family Euterotidae (1 genus, 1 species)			
70.	<i>Eupterote gardneri</i> (Bryk, 1950)	-	-
V. Family Geometridae (21 genera, 28 species)			
71.	<i>Agathia lycaenaria</i> (Kollar, 1848)	-	-
72.	<i>Celenna festivararia</i> (Fabricius, 1794)	-	-
73.	<i>Chiasmia eleonora</i> (Cramer, 1780)	-	Predator
74.	<i>Chiasmia emersaria</i> (Walker, 1861)	-	-
75.	<i>Chiasmia</i> sp. 1	-	-
76.	<i>Chiasmia</i> sp. 2	-	-
77.	<i>Cleora</i> sp. (Curtis, 1825)	-	-
78.	<i>Comibaena fuscidorsata</i> (Prout, 1912)	-	-
79.	<i>Comostola laesaria</i> (Walker, 1861)	-	-
80.	<i>Dindica</i> sp.	-	-
81.	<i>Ectropis crepuscularia</i> (Denis & Schiffermüller, 1775)	Small Engrailed	Polyphagous predator on woody plants
82.	<i>Ectropis</i> sp. (Swinhoe, 1889)	-	-
83.	<i>Eois grataria</i> (Walker, 1861)	-	-
84.	<i>Eois</i> sp.	-	-
85.	<i>Fascellina chromataria</i> (Walker, 1860)	-	-
86.	<i>Herochroma cristata</i> (Warren, 1905)	-	-
87.	<i>Hyperythra lutea</i> (Stoll, 1781)	-	-
88.	<i>Hypomecis transcissa</i> (Walker, 1860)	-	-

	Scientific name	Common name	Predatory status
89.	<i>Hyposidra infixaria</i> (Walker, 1860)	-	-
90.	<i>Hyposidra talaca</i> (Walker, 1860)	Black Looper	Major tea predator
91.	<i>Iridopsis</i> sp.	-	-
92.	<i>Pelagodes</i> sp. (Galsworthy, 1997)	-	-
93.	<i>Petelia</i> sp.	-	-
94.	<i>Pingasa ruginaria</i> (Guenée, 1858)	Bordered Duster	-
95.	<i>Psilalcis</i> sp. (Warren, 1893)	-	-
96.	<i>Scopula emissaria</i> (Walker, 1861)	-	-
97.	<i>Traminda aventiaria</i> (Guenée, 1858)	Cross-line Wave Moth	-
98.	<i>Traminda mundissima</i> (Walker, 1861)	-	-
VI. Family Lasiocampidae (1 genus, 1 species)			
99.	<i>Trabala vishnou</i> (Lefebvre, 1827)	Rose-myrtle Lappet Moth	Predator
VII. Family Noctuidae (6 genera, 7 species)			
100.	<i>Amyna axis</i> (Guenée, 1852)	The Eight-spot	Minor predator
101.	<i>Chrysodeixis eriosoma</i> (Walker, 1858)	Soybean Looper	Severe predator of bean crops
102.	<i>Fodina pallula</i> (Guenée, 1852)	-	-
103.	<i>Maliattha separata</i> (Walker, 1863)	-	-
104.	<i>Spodoptera</i> sp. (Guenée, 1852)	Dark Mottled Willow	Occasional predator
105.	<i>Spodoptera litura</i> (Fabricius, 1775)	Cotton Leafworm, Tobacco Cutworm	Serious polyphagous predator
106.	<i>Zonoplusia ochreata</i> (Walker, 1865)	-	-
VIII. Family Nolidae (4 genera, 5 species)			
107.	<i>Alcanola tympanistis</i> (Hampson, 1900)	-	-
108.	<i>Alcanola</i> sp.	-	-
109.	<i>Meganola major</i> cf. (Hampson, 1891)	-	-
110.	<i>Nola</i> sp.	-	-
111.	<i>Risoba</i> sp.	-	-
IX. Family Notodontidae (1 genus, 1 species)			
112.	<i>Spatialia</i> sp.	-	-
X. Family Pyralidae (5 genera, 6 species)			
113.	<i>Aripanna indicator</i> (Walker, 1864)	-	-
114.	<i>Endotricha mesenterialis</i> (Walker, 1859)	-	-
115.	<i>Endotricha</i> sp.	-	-
116.	<i>Epicrocis oegnusalis</i> (Walker, 1859)	-	-
117.	<i>Sacada</i> sp.	-	-
118.	<i>Termioptycha</i> sp. (Meyrick, 1889)	-	-
XI. Family Sphingidae (2 genera, 2 species)			
119.	<i>Hippotion</i> sp.	Swinhoe's Striated Hawkmoth	-
120.	<i>Theretra silhetensis</i> (Walker, 1856)	Brown-banded Hunter Hawkmoth	-
XII. Family Tortricidae (1 genus, 1 species)			
121.	<i>Archips</i> sp.	-	-
XIII. Family Uraniidae (1 genus, 2 species)			
122.	<i>Phazaca theclata</i> (Guenée, 1857)	Cotton Leaf Roller	-
123.	<i>Phazaca</i> sp.	-	-
XIV. Family Zygaenidae (2 genera, 2 species)			
124.	<i>Eterusia aedea</i> (Linnaeus, 1763)	Red slug caterpillar	Predator on tea
125.	<i>Gynautocera papilionaria</i> (Guérin-Ménéville, 1831)	-	-



Image 2. Moths of University of North Bengal: 1—*Arthroschista hilaralis* | 2—*Cnaphalocrocis trebiusalis* | 3—*Cnaphalocrocis medinalis* | 4—*Conogethes punctiferalis* | 5—*Crambidae* sp. | 6—*Culladia* sp. | 7—*Diasemia* sp. | 8—*Elophila* sp. | 9—*Eoophyla* sp. | 10—*Eurrhyarodes tricoloralis* | 11—*Glyphodes actorionalis* | 12—*Glyphodes bivitalis* | 13—*Haritalodes derogata* | 14—*Herpetogramma rudis* | 15—*Lamprosema tampiusalis* | 16—*Mabra eryxalis* | 17—*Marasmia poeyalis* | 18—*Metoeca foedalis* | 19—*Nosophora semitritalis* | 20—*Omiodes diemenalis* | 21—*Omiodes milvinalis* | 22—*Paliga* sp. | 23—*Parapoynx bilinealis* | 24—*Parapoynx stagnalis* | 25—*Parotis* sp. | 26—*Pycnarmon virgatalis* | 27—*Pygospila tyres* | 28—*Sameodes cancellalis* | 29—*Scirpophaga incertulas* | 30—*Spinosuncus contractalis* | 31—*Spoladea recurvalis* | 32—*Synclera traducalis*. © Abhirup Saha & Ratnadeep Sarkar.



Image 3. Moths of University of North Bengal: 33—*Anomis flava* | 34—*Arctornis* sp. | 35—*Artaxa guttata* | 36—*Asota caricae* | 37—*Ataboruza divisa* | 38—*Attonda adpersa* | 39—*Collita griseola* | 40—*Cretonotos transiens* | 41—*Dichromia cognata* | 42—*Donda* sp. | 43—*Eublemma* sp. | 44—*Eublemma versicolor* | 45—*Euproctis* sp. | 46—*Gesonina* sp. 1 | 47—*Gesonina* sp. 2 | 48—*Hamodes propitia* | 49—*Herminiinae* sp. | 50—*Hipoepa biasalis* | 51—*Hipoepa fractalis* | 52—*Hydrillodes* sp. | 53—*Lithosiini* sp. | 54—*Lymantria marginata* | 55—*Miltochrista undulosa* | 56—*Mocis frugalis* | 57—*Mocis undata* | 58—*Nodaria* sp. | 59—*Olene inclusa* | 60—*Orygia postica* | 61—*Orvasca subnotata* | 62—*Rivula* sp. | 63—*Somena scintillans* | 64—*Somena* sp. © Abhirup Saha & Ratnadeep Sarkar.



Image 4. Moths of University of North Bengal: 65—*Spilarctia obliqua* | 66—*Spilarctia* sp. | 67—*Syntomoides imaon* | 68—*Trigonodes hyppasia* | 69—*Ethmia* sp. | 70—*Eupterote gardneri* | 71—*Agathia lycanaria* | 72—*Celenna festivariorum* | 73—*Chiasmia eleonora* | 74—*Chiasmia emersaria* | 75—*Chiasmia* sp. 1 | 76—*Chiasmia* sp. 2 | 77—*Cleora* sp. | 78—*Comibaena fuscidorsata* | 79—*Comostola laesaria* | 80—*Dindica* sp. | 81—*Ectropis crepuscularia* | 82—*Ectropis* sp. | 83—*Eois grataria* | 84—*Eois* sp. | 85—*Fascellina chromataria* | 86—*Herichroma cristata* | 87—*Hyperythra lutea* | 88—*Hypomecis transmissa* | 89—*Hyposidra infixaria* | 90—*Hyposidra talaca* | 91—*Iridopsis* sp. | 92—*Pelagodes* sp. | 93—*Petelia* sp. | 94—*Pingasa ruginaria* | 95—*Psilalcis* sp. | 96—*Scopula emissaria*. © Abhirup Saha & Ratnadeep Sarkar.



Image 5. Moths of University of North Bengal: 97—*Traminda aventiaria* | 98—*Traminda mundissima* | 99—*Trabala vishnou* | 100—*Amyna axis* | 101—*Chrysodeixis eriosoma* | 102—*Fodina pallula* | 103—*Maliattha separata* | 104—*Spodoptera* sp. | 105—*Spodoptera litura* | 106—*Zonoplusia ochreata* | 107—*Alcanola tympanistis* | 108—*Alcanola* sp. | 109—*Meganola major* | 110—*Nola* sp. | 111—*Risoba* sp. | 112—*Spatalia* sp. | 113—*Arippara indicator* | 114—*Endotricha mesenterialis* | 115—*Endotricha* sp. | 116—*Epicrocis oegnusalis* | 117—*Sacada* sp. | 118—*Termioptycha* sp. | 119—*Hippotion* sp. | 120—*Theretra silhetensis* | 121—*Archips* sp. | 122—*Phazaca theclata* | 123—*Phazaca* sp. | 124—*Eterusia aedea* | 125—*Gynautocera papilionaria*. © Abhirup Saha & Ratnadeep Sarkar.

activities, such as pollution, habitat disturbances, artificial lighting, collection of green leafy vegetables, and cattle grazing, are quite high inside the campus area and may disrupt moth diversity as well as their abundance. Sustainable campus management through addressing these threats can protect biodiversity in urban or semi-urban university campuses, such as NBU.

Finally, the study also includes a few limitations that nocturnal insects, such as moths got trapped in the artificial lights from street lamps as well as lights from different departments of the campus. As a result, the number of moths in each light trap was limited. Further studies with a more systematic way in forested edges or areas near dark places from the adjacent areas may report more species. Moths were identified based on their morphological characters rather than genetic analysis, such as DNA sequencing or genitalia dissections. Despite these limitations, this study gives a comprehensive checklist of moths as a base-line data from the university campus and adjacent areas.

CONCLUSION

For the first-time, the study provides a preliminary checklist of 125 moth species with the photo-plates from NBU campus. Among the recorded species, families Erebidae and Crambidae are dominant. These results straightly depicting the importance of conservation management throughout the campus, particularly its vegetation. To improve the conservation strategies in this region, future research should further investigate the seasonal variations and ecological interactions of these species.

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Mr. Jatishwor Singh Irungbam, Biology Centre CAS, Branišovská, Czech Republic.
Dr. Ian J. Kitching, Natural History Museum, Cromwell Road, UK
Dr. George Mathew, Kerala Forest Research Institute, Peechi, India
Dr. John Noyes, Natural History Museum, London, UK
Dr. Albert G. Orr, Griffith University, Nathan, Australia
Dr. Sameer Padhye, Katholieke Universiteit Leuven, Belgium
Dr. Nancy van der Poorten, Toronto, Canada
Dr. Kareen Schnabel, NIWA, Wellington, New Zealand
Dr. R.M. Sharma, (Retd.) Scientist, Zoological Survey of India, Pune, India
Dr. Manju Siliwal, WILD, Coimbatore, Tamil Nadu, India
Dr. G.P. Sinha, Botanical Survey of India, Allahabad, India
Dr. K.A. Subramanian, Zoological Survey of India, New Alipore, Kolkata, India
Dr. P.M. Sureshan, Zoological Survey of India, Kozhikode, Kerala, India
Dr. R. Varatharajan, Manipur University, Imphal, Manipur, India
Dr. Eduard Vives, Museu de Ciències Naturals de Barcelona, Terrassa, Spain
Dr. James Young, Hong Kong Lepidopterists' Society, Hong Kong
Dr. R. Sundararaj, Institute of Wood Science & Technology, Bengaluru, India
Dr. M. Nithyanandan, Environmental Department, La Ala Al Kuwait Real Estate. Co. K.S.C., Kuwait
Dr. Himender Bharti, Punjabi University, Punjab, India
Mr. Purnendu Roy, London, UK
Mr. Saito Motoki, The Butterfly Society of Japan, Tokyo, Japan
Dr. Sanjay Sondhi, TITLI TRUST, Kalpavriksh, Dehradun, India
Dr. Nguyen Thi Phuong Lien, Vietnam Academy of Science and Technology, Hanoi, Vietnam
Dr. Nitin Kulkarni, Tropical Research Institute, Jabalpur, India
Dr. Robin Wen Jiang Ngiam, National Parks Board, Singapore
Dr. Lionel Monod, Natural History Museum of Geneva, Genève, Switzerland.
Dr. Asheesh Shivam, Nehru Gram Bharti University, Allahabad, India
Dr. Rosana Moreira da Rocha, Universidade Federal do Paraná, Curitiba, Brasil
Dr. Kurt R. Arnold, North Dakota State University, Saxony, Germany
Dr. James M. Carpenter, American Museum of Natural History, New York, USA
Dr. David M. Claborn, Missouri State University, Springfield, USA
Dr. Kareen Schnabel, Marine Biologist, Wellington, New Zealand
Dr. Amazonas Chagas Júnior, Universidade Federal de Mato Grosso, Cuiabá, Brasil
Mr. Monsoon Jyoti Gogoi, Assam University, Silchar, Assam, India
Dr. Heo Chong Chin, Universiti Teknologi MARA (UiTM), Selangor, Malaysia
Dr. R.J. Shiel, University of Adelaide, SA 5005, Australia
Dr. Siddharth Kulkarni, The George Washington University, Washington, USA
Dr. Priyadarsanan Dharma Rajan, ATREE, Bengaluru, India
Dr. Phil Alderslade, CSIRO Marine And Atmospheric Research, Hobart, Australia
Dr. John E.N. Veron, Coral Reef Research, Townsville, Australia
Dr. Daniel Whitmore, State Museum of Natural History Stuttgart, Rosenstein, Germany.
Dr. Yu-Feng Hsu, National Taiwan Normal University, Taipei City, Taiwan
Dr. Keith V. Wolfe, Antioch, California, USA
Dr. Siddharth Kulkarni, The Hormiga Lab, The George Washington University, Washington, D.C., USA
Dr. Tomas Ditrich, Faculty of Education, University of South Bohemia in Ceske Budejovice, Czech Republic
Dr. Mihaly Foldvari, Natural History Museum, University of Oslo, Norway
Dr. V.P. Uniyal, Wildlife Institute of India, Dehradun, Uttarakhand 248001, India
Dr. John T.D. Caleb, Zoological Survey of India, Kolkata, West Bengal, India
Dr. Priyadarsanan Dharma Rajan, Ashoka Trust for Research in Ecology and the Environment (ATREE), Royal Enclave, Bangalore, Karnataka, India

Fishes

Dr. Topiltzin Contreras MacBeath, Universidad Autónoma del estado de Morelos, México
Dr. Heok Hee Ng, National University of Singapore, Science Drive, Singapore
Dr. Rajeesh Raghavan, St. Albert's College, Kochi, Kerala, India
Dr. Robert D. Sluka, Chiltern Gateway Project, A Rocha UK, Southall, Middlesex, UK
Dr. E. Vivekanandan, Central Marine Fisheries Research Institute, Chennai, India
Dr. Davor Zanella, University of Zagreb, Zagreb, Croatia
Dr. A. Biju Kumar, University of Kerala, Thiruvananthapuram, Kerala, India
Dr. Akhilesh K.V., ICAR-Central Marine Fisheries Research Institute, Mumbai Research Centre, Mumbai, Maharashtra, India
Dr. J.A. Johnson, Wildlife Institute of India, Dehradun, Uttarakhand, India
Dr. R. Ravinesh, Gujarat Institute of Desert Ecology, Gujarat, India

Amphibians

Dr. Sushil K. Dutta, Indian Institute of Science, Bengaluru, Karnataka, India
Dr. Annemarie Ohler, Muséum national d'Histoire naturelle, Paris, France

Reptiles

Dr. Gernot Vogel, Heidelberg, Germany
Dr. Raju Vyasa, Vadodara, Gujarat, India
Dr. Pritpal S. Soorae, Environment Agency, Abu Dhabi, UAE.
Prof. Dr. Wayne J. Fuller, Near East University, Mersin, Turkey
Prof. Chandrashekhar U. Rivonker, Goa University, Taleigao Plateau, Goa, India
Dr. S.R. Ganesh, Kalinga Foundation, Agumbe, India.
Dr. Himansu Sekhar Das, Terrestrial & Marine Biodiversity, Abu Dhabi, UAE

Birds

Dr. Hem Sagar Baral, Charles Sturt University, NSW Australia
Mr. H. Byju, Coimbatore, Tamil Nadu, India
Dr. Chris Bowden, Royal Society for the Protection of Birds, Sandy, UK
Dr. Priya Davidar, Pondicherry University, Kalapet, Puducherry, India
Dr. J.W. Duckworth, IUCN SSC, Bath, UK
Dr. Rajah Jayapal, SACON, Coimbatore, Tamil Nadu, India
Dr. Rajiv S. Kalsi, M.L.N. College, Yamuna Nagar, Haryana, India
Dr. V. Santharam, Rishi Valley Education Centre, Chittoor Dt., Andhra Pradesh, India
Dr. S. Balachandran, Bombay Natural History Society, Mumbai, India
Mr. J. Praveen, Bengaluru, India
Dr. C. Srinivasulu, Osmania University, Hyderabad, India
Dr. K.S. Gopi Sundar, International Crane Foundation, Baraboo, USA
Dr. Gombobaatar Sunde, Professor of Ornithology, Ulaanbaatar, Mongolia
Prof. Reuven Yosef, International Birding & Research Centre, Eilat, Israel
Dr. Taej Mundkur, Wetlands International, Wageningen, The Netherlands
Dr. Carol Inskipp, Bishop Auckland Co., Durham, UK
Dr. Tim Inskipp, Bishop Auckland Co., Durham, UK
Dr. V. Gokula, National College, Tiruchirappalli, Tamil Nadu, India
Dr. Arkady Lelej, Russian Academy of Sciences, Vladivostok, Russia
Dr. Simon Dowell, Science Director, Chester Zoo, UK
Dr. Mário Gabriel Santiago dos Santos, Universidade de Trás-os-Montes e Alto Douro, Quinta de Prados, Vila Real, Portugal
Dr. Grant Connette, Smithsonian Institution, Royal, VA, USA
Dr. P.A. Azeez, Coimbatore, Tamil Nadu, India

Mammals

Dr. Giovanni Amori, CNR - Institute of Ecosystem Studies, Rome, Italy
Dr. Anwaruddin Chowdhury, Guwahati, India
Dr. David Mallon, Zoological Society of London, UK
Dr. Shomita Mukherjee, SACON, Coimbatore, Tamil Nadu, India
Dr. Angie Appel, Wild Cat Network, Germany
Dr. P.O. Nameer, Kerala Agricultural University, Thrissur, Kerala, India
Dr. Ian Redmond, UNEP Convention on Migratory Species, Lansdown, UK
Dr. Heidi S. Riddle, Riddle's Elephant and Wildlife Sanctuary, Arkansas, USA
Dr. Karin Schwartz, George Mason University, Fairfax, Virginia.
Dr. Lala A.K. Singh, Bhubaneswar, Orissa, India
Dr. Mewa Singh, Mysore University, Mysore, India
Dr. Paul Racey, University of Exeter, Devon, UK
Dr. Honnavalli N. Kumara, SACON, Anaikatty P.O., Coimbatore, Tamil Nadu, India
Dr. Nishith Dharaiya, HNG University, Patan, Gujarat, India
Dr. Spartaco Gippoliti, Socio Onorario Società Italiana per la Storia della Fauna "Giuseppe Altobello", Rome, Italy
Dr. Justus Joshua, Green Future Foundation, Tiruchirappalli, Tamil Nadu, India
Dr. H. Raghuram, Sri S. Ramasamy Naidu Memorial College, Virudhunagar, Tamil Nadu, India
Dr. Paul Bates, Harison Institute, Kent, UK
Dr. Jim Sanderson, Small Wild Cat Conservation Foundation, Hartford, USA
Dr. Dan Challender, University of Kent, Canterbury, UK
Dr. David Mallon, Manchester Metropolitan University, Derbyshire, UK
Dr. Brian L. Cypher, California State University-Stanislaus, Bakersfield, CA
Dr. S.S. Talmale, Zoological Survey of India, Pune, Maharashtra, India
Prof. Karan Bahadur Shah, Budhanilakantha Municipality, Kathmandu, Nepal
Dr. Susan Cheyne, Borneo Nature Foundation International, Palangkaraja, Indonesia
Dr. Hemanta Kafley, Wildlife Sciences, Tarleton State University, Texas, USA

Other Disciplines

Dr. Aniruddha Belsare, Columbia MO 65203, USA (Veterinary)
Dr. Mandar S. Paingankar, University of Pune, Pune, Maharashtra, India (Molecular)
Dr. Jack Tordoff, Critical Ecosystem Partnership Fund, Arlington, USA (Communities)
Dr. Ulrike Streicher, University of Oregon, Eugene, USA (Veterinary)
Dr. Hari Balasubramanian, EcoAdvisors, Nova Scotia, Canada (Communities)
Dr. Rayanna Hellem Santos Bezerra, Universidade Federal de Sergipe, São Cristóvão, Brazil
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Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
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3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
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ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

February 2026 | Vol. 18 | No. 2 | Pages: 28262–28454

Date of Publication: 26 February 2026 (Online & Print)

DOI: 10.11609/jott.2026.18.2.28262-28454

www.threatenedtaxa.org

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