

Survey of the moth fauna (Lepidoptera, Heterocera) in Christian College, Chengannur campus, Kerala, India

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ABSTRACT: In a survey on the moth fauna of the Christian College, Chengannur campus, 84 species belonging to 15 families were recorded from diverse habitats ranging from planted forest, butterfly garden, botanical garden and rubber plantations. The family Erebidae showed maximum dominance, followed by Crambidae, Geometridae and Pyralidae. © 2026 Association for Advancement of Entomology

KEY WORDS: Lepidoptera, biodiversity, Erebidae, Crambidae, fauna, suburban

Kerala, located in the heart of the Western Ghats, is a focal point for moth diversity due to its varied ecosystems. Numerous surveys highlight this richness. Alex *et al.* (2021) recorded 503 moth species under 42 families in Kavvai River basin; Mathew (1994) reported 245 species of moths from the Silent valley national park; Mahesh *et al.* (2024) recorded 483 moth species across 44 families in central Kerala; Sondhi *et al.* (2021) added new records from Shendurney and Ponmudi; Mathew (2018) reported 675 moth species from Vagamon; and Swafvan and Sureshan (2022) reported 34 new records agroecosystems of Kerala (2022). Campus-based studies have widely documented moth diversity, providing excellent opportunities for biodiversity research while serving educational and conservation purposes (Metilda and Livingstone, 2022; Nayak and Ghosh, 2020). The present study investigates the moth diversity of Christian College, Chengannur campus, aiming to contribute to the

lepidopteran fauna of Alappuzha district and to enhance understanding of moth communities in educational landscapes of central Kerala.

The study area, Christian College Chengannur, is a suburban campus covering six hectares and located on a hilltop at 9°18'23.3"N; 76°37'34.0"E, in the extreme eastern part of Alappuzha district, Kerala, India, on the banks of the Pamba river. The region experiences a tropical monsoon climate characterised by high humidity, abundant rainfall, and relatively stable temperatures year-round. The survey was conducted from February to July 2023 (pre-monsoon to monsoon), when the temperature ranged from 23 to 35 °C. The semi-urban campus (50-60% vegetated) comprises diverse habitats: a planted mini-forest (Shanthisthal, 15-16 cents) with around 200 trees and 116 species of plants, including rare, endangered, and threatened species; Miyawaki forest (Vidyavanam); botanical garden

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Table 1. List of moth fauna recorded in Christian College, Chengannur campus

No.	Family/ Species
	Bombycidae
1	<i>Trilocha varians</i> (Walker, 1855)
	Crambidae
2	<i>Agrioglypta itysalis</i> (Walker, 1859)
3	<i>Bocchoris inspersalis</i> (Zeller, 1852)
4	<i>Bradina</i> sp.
5	<i>Cnaphalocrocis patnalis</i> (Bradley, 1981)
6	<i>Diaphania indica</i> (Saunders, 1851)
7	<i>Eurrhyarodes bracteolalis</i> (Zeller, 1852)
8	<i>Filodes fulvidorsalis</i> (Hübner, 1832)
9	<i>Glyphodes bicolor</i> (Swainson, 1821)
10	<i>Haritalodes derogate</i> (Fabricius, 1775)
11	<i>Herpetogramma</i> sp.
12	<i>Nistra coelatalis</i> (Walker, 1859)
13	<i>Notarcha aurolinalis</i> (Walker, 1859)
14	<i>Omiodes</i> sp.
15	<i>Omiodes diemenalis</i> (Guenée, 1854)
16	<i>Paliga</i> sp.
17	<i>Palpita annunifer complex</i> (Inoue, 1996)
18	<i>Parotis</i> sp.
19	<i>Parapoynx stagnalis</i> (Zeller, 1852)
20	<i>Patania</i> sp..
21	<i>Pycnarmon cribata</i> (Fabricius, 1794)
22	<i>Ravanoa xiphialis</i> (Walker, 1859)
23	<i>Sameodes cancellalis</i> (Zeller, 1852)
24	<i>Spoladea recurvalis</i> (Fabricius, 1775)
25	<i>Sufetula</i> sp.
26	<i>Tatobotys biannualis</i> (Walker, 1866)
	Erebidae
27	<i>Aemene cf spotoptera</i>
28	<i>Arctornis</i> sp.
29	<i>Artaxa</i> sp.
30	<i>Ammatho cf cuneonotatus</i>
31	<i>Bertula abjudicalis</i> (Walker, 1859)
32	<i>Bastilla crameri</i> (Moore, 1885)
33	<i>Bastilla joviana</i> (Stoll, 1782)
34	<i>Cretonotos gangis interrupta complex</i> (Linnaeus, 1763)
35	<i>Cretonotos transiens</i> (Walker, 1855)
36	<i>Cyclosiella dulcicula</i> (Swinhoe, 1890)
37	<i>Enispa elataria</i> (Walker, 1861)
38	<i>Erebus ephesperis</i> (Hübner, 1823)
39	<i>Erebus hieroglyphica</i> (Drury, 1773)
40	<i>Ericeia</i> sp.
41	<i>Eressa</i> sp.
42	<i>Erygia spissa</i> (Guenée, 1852)
43	<i>Eublemma</i> sp.
44	<i>Hipoepa biasalis</i> (Walker, 1859)
45	<i>Lygniodes vampyrus</i> (Fabricius, 1794)

46	<i>Mocis undata</i> (Fabricius, 1775)
47	<i>Naarda</i> sp.
48	<i>Neochera inops</i> (Walker, 1854)
49	<i>Nygmii</i> tribe
50	<i>Olepa ricinni complex</i> (Fabricius, 1775)
51	<i>Progonia kurosawaii</i> (Owada, 1987)
52	<i>Thyas coronata</i> (Fabricius, 1775)
	Eutellidae
53	<i>Chlumetia transversa</i> (Walker, 1863)
	Geometridae
54	<i>Agathia</i> sp.
55	<i>Antimimistis</i> sp.
56	<i>Aporandria specularia</i> (Guenée, 1858)
57	<i>Comibaena</i> sp.
58	<i>Comostola laesaria</i> (Walker, 1861)
59	<i>Eumelia ludovicata</i> (Guenée, 1858)
60	<i>Gymnoscelis</i> sp.
61	<i>Idaea costiguttata</i> (Warren, 1896)
62	<i>Idaea</i> sp.
63	<i>Scopula</i> sp.
	Hyblaeidae
64	<i>Hyblaea puera</i> (Cramer, 1777)
	Limacodidae
65	<i>Miresa argentifera</i> (Walker, 1855)
66	<i>Parasa lepida</i> (Cramer, 1799)
	Noctuidae
67	<i>Callopstria</i> sp.
68	<i>Condica</i> sp.
69	<i>Mythimna</i> sp.
70	<i>Spodoptera litura</i> (Fabricius, 1775)
	Nolidae
71	<i>Dyrzela plagiata</i> (Walker, 1858)
	Notodontidae
72	<i>Antheua servula</i> (Drury, 1773)
73	<i>Clostera</i> sp.
	Pyalidae
74	<i>Arippara</i> sp.
75	<i>Doloessa viridis</i> (Zeller, 1848)
76	<i>Endotricha</i> sp.
77	<i>Epicrocis</i> sp.
78	<i>Pyralis manihotalis</i> (Guenée, 1854)
	Psychidae
79	<i>Degia</i> sp.
	Sphingidae
80	<i>Pergesa acteus</i> (Cramer, 1779)
81	<i>Theretra silhetensis</i> (Walker, 1856)
	Thyrididae
82	<i>Banisia</i> sp.
83	<i>Epaena</i> sp.
	Uraniidae
84	<i>Micronia aculeata</i> (Guenée, 1857)

comprising 21 species of trees, 96 medicinal plants, 40 other species, and a few exotics; butterfly garden enriched with nectar and larval host plants, including *Citrus* sp., *Murraya koenigii*, *Glycosmis arborea*, *Crotalaria*, *Morus*, *Nerium indicum*, and *Clerodendron*; rubber plantations; patches of dense vegetation comprising several shrubs, herbs, climbers, bushes and trees like Mahagony, Acacia and Asoka and grasslands. These vegetated areas are protected from trespassing and human disturbances. Moth survey was carried out using light traps (Muirhead-Thomson, 1991), deployed in the evenings from 7 to 10 pm, twice weekly. Light traps consisted of a mercury vapour lamp suspended 1.5 meters above a white banner spread on the ground, with locations changed periodically. Moths were also recorded by direct observation, opportunistic late-evening visits to campus and hostel light sources (Prajapat *et al.*, 2024) and casual sightings near LED and tube lights (Nayak and Ghosh, 2020). Photographs were captured using smart phone (Vivo v21) or DSLR camera (Canon 200D). Some were captured using net, collected in jar, photographed and released unharmed. The moths were identified based on their physical features from relevant literature (Hampson, 1892, 1894, 1895, 1896; Gurule *et al.*, 2013; Sondhi *et al.*, 2022), Moths of India (<https://www.mothsofindia.org>) and iNaturalist (<https://www.inaturalist.org>).

A total of 84 species of moths belonging to 79 genera and 15 families were documented. Erebiidae was the dominant family with 26 species. Crambidae also had a high species richness with 25 species followed by Geometridae with 10 species, Pyralidae with 5 species, Noctuidae with 4 species, Limacodidae, Notodontidae, Sphingidae, and Thyrididae with 2 species each. The least observed moth families were Bombycidae, Eutellidae, Hyblaeidae, Nolidae, Psychidae, and Uranidae, each with one species. *Parapoynx stagnalis* and *Cnaphalocrocis patnalis* of the Crambidae family and *Endotricha* sp. of the Pyralidae family were the frequently observed species. The dominance of Erebiidae in the present study aligns with findings from numerous regions across India, including the Aravalli hill range of Rajasthan (Dar *et al.*, 2021);

Western Ghats region of Karnataka (Ravindrakumar, 2021); Madras Christian College campus, Chennai (Metilda and Livingstone, 2022); south Goa (Rao *et al.*, 2022); Bengaluru urban district (Ravishankar *et al.*, 2026); Nandhaur Wildlife Sanctuary, Uttarakhand (Arya *et al.*, 2021) and Chemancheri panchayath, Calicut, Kerala (Samynathan *et al.*, 2023). This widespread dominance reflects the adaptability of Erebiidae to diverse environmental conditions and ecological niches. Kuniyil and Peter (2022) compiled a list of about 250 Erebiinae moth species in India highlighting the extensive diversity within Erebiidae. Similar patterns of family dominance of Erebiidae, Crambidae and Geometridae have also been reported from Ranjit Sagar Conservation Reserve, Punjab (Paunekar *et al.*, 2022).

The present survey conducted during the summer recorded reasonably high moth diversity despite the limited duration. Seasonal trends reported by Praveen (2017) in paddy fields of Palakkad, indicated higher moth abundance during summer and post-monsoon. Besides temperature and humidity, vegetation structure also influences the moth species richness (Vanlalnghaka and Beihrosa, 2025). Better diversity of moth families observed indicates a stable, healthy and well-functioning ecosystem. As a preliminary checklist, for the first time, the moth diversity at the Christian College, Chengannur campus provides insights into the species composition of the moth fauna contributing to Alappuzha's biodiversity records.

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