



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)

COMMUNICATION

DIVERSITY OF POLYPORES IN KERALA AGRICULTURAL UNIVERSITY MAIN CAMPUS, VELLANIKKARA, KERALA, INDIA

M. Kiran, C.K. Adarsh, K. Vidyasagran & P.N. Ganesh

26 May 2020 | Vol. 12 | No. 8 | Pages: 15889–15904

DOI: [10.11609/jott.4471.12.8.15889-15904](https://doi.org/10.11609/jott.4471.12.8.15889-15904)



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>](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





Diversity of polypores in Kerala Agricultural University main campus, Vellanikkara, Kerala, India

M. Kiran¹ , C.K. Adarsh² , K. Vidyasagaran³ & P.N. Ganesh⁴

^{1,2,3} College of Forestry, Kerala Agricultural University, Vellanikkara, Thrissur, Kerala 680656, India.

⁴ Sree Krishna College, Calicut University, Guruvayur, Thrissur, Kerala 680602, India.

¹ mohan.kiran959@gmail.com (corresponding author), ² adarshckcoof09@gmail.com, ³ vidyasagaran.k@kau.in,

⁴ pnganeshskc@rediffmail.com

Abstract: A survey of polypores was conducted from January 2013 to December 2015 in the Kerala Agricultural University (KAU) main campus garden lands, botanical gardens, and plantations visited during pre-monsoon, monsoon, and post monsoon periods. A total of 43 polypore species in 28 genera belonging to seven families were recorded during the study. Their distributions were analyzed by family, rot, and habit. Polyporaceae dominated with 29 species, followed by Hymenochaetaceae with nine, Meruliaceae with five, Ganodermataceae with three, and Meripilaceae & Fomitopsidaceae represented by two species each. Forty species were white rot polypores and three were brown rotters; annuals and perennials were represented by 28 and 15 species, respectively. This survey emphasizes the importance of university campuses in biodiversity conservation.

Keywords: Basidiomycota, biodiversity, brown rotters, decomposition, mushrooms, Polyporaceae, Polyporales, Thrissur, wood-rotting.

Editor: B. Shivaraju, Bengaluru, India.

Date of publication: 26 May 2020 (online & print)

Citation: Kiran, M., C.K. Adarsh, K. Vidyasagaran & P.N. Ganesh (2020). Diversity of polypores In Kerala Agricultural University main campus, Vellanikkara, Kerala, India. *Journal of Threatened Taxa* 12(8): 15889–15904. <https://doi.org/10.11609/jott.4471.12.8.15889-15904>

Copyright: © Kiran et al. 2020. 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: Research was held at College of Forestry with the financial support of Kerala Agricultural University.

Competing interests: The authors declare no competing interests.

Author details: MR. KIRAN MOHAN PhD scholar in the department of Natural Resource Management, College of Forestry, Kerala Agricultural University, Vellanikkara, Thrissur, Kerala. DR. C.K. ADARSH, Assistant Professor (C) in the department of Natural Resource Management, College of Forestry, Kerala Agricultural University, Vellanikkara, Thrissur, Kerala. DR. K. VIDYASAGARAN, Professor and Dean i/c of College of Forestry, Kerala Agricultural University, Vellanikkara, Thrissur, Kerala. DR. P.N. GANESH, Retd. Professor, Department of Botany, Sree Krishna College, Calicut University, Guruvayur, Kerala.

Author contribution: This communication is a collaborative effort of four main authors.

Acknowledgements: We thank KAU student community and R Sreehari for providing the study area map. We also acknowledge the Dean, College of Forestry for the encouragement and support. Help offered by Mr. Jeffin Koshy and Mr. Ashik M Sajeev during the field survey was also greatly acknowledged.



INTRODUCTION

The Polyporales are a large and taxonomically complex order of mushrooms in the division Basidiomycota. Polypores are among the most efficient decomposers of lignin and cellulose, the main components of wood. These wood-rotters assist in the decomposition of dead wood and act as pathogens on living wood. Polypores play an important role in decomposition and nutrient cycling in forest ecosystems, where they dominate other communities of wood-rotting organisms.

Bakshi (1971) gave an account of 355 species of polypores belonging to 15 genera in his outstanding work *Indian Polyporaceae* (on trees and timber). Roy & De (1996) listed 114 species in Polyporaceae of India based on exhaustive studies of fungi collected from different parts of the country. Florence (2004) reported 555 species of basidiomycetes under 179 genera from Kerala State. Bhosale et al. (2005) gave a tabulated account of 251 species of order Aphyllophorales from the Western Ghats. Leelavathy & Ganesh (2000) reported 78 species belonging to 26 genera under families Ganodermataceae, Hymenochaetaceae, and Polyporaceae in their classical work 'Polypores of Kerala'. Florence & Yesodharan (2000) reported 35 polypores from Peechi-Vazhani Wildlife Sanctuary. Florence (2004) recorded 93 species of polypores from the state. Lately, Mohanan (2011) identified and described a total of 89 species of polypores belonging

to 32 genera from different forest ecosystems of Kerala. Recently, Iqbal et al. (2016) reported 36 polypores under 21 genera belonging to six families from Peechi- Vazhani wildlife sanctuary. In Kerala, polypore studies have been less exhaustive compared to those of mushrooms (Agaricales). While the polypores of Kerala were studied in detail by Bakshi (1971), Leelavathy & Ganesh (2000) and Mohanan (2011), much of the forest area remains unexplored. A total of 148 polypore species under eight families belonging to 68 genera were recorded from Kerala State till now (Adarsh et al. 2018).

In the present study, an attempt was made to document the richness of polypores in Kerala Agricultural University (KAU) main campus, southern India.

STUDY AREA

The Kerala Agricultural University (KAU) main campus is located at Vellanikkara, Thrissur District, Kerala (Figure 1). The area lies between 10.032–10.033 °N and 76.016–76.017 °E and is located 5km from the Peechi-Vazhani Wildlife Sanctuary, Western Ghats. The campus has a total area of 391.44ha. Major habitats include garden lands, botanical garden, plantations of rubber, coconut, plantain & cocoa, and orchards of mango, jackfruit, sapota & guava. KAU campus enjoys a moderate climate. The 10-year mean minimum temperature is 23.3°C and 10-year mean maximum of 31.8°C. The area receives

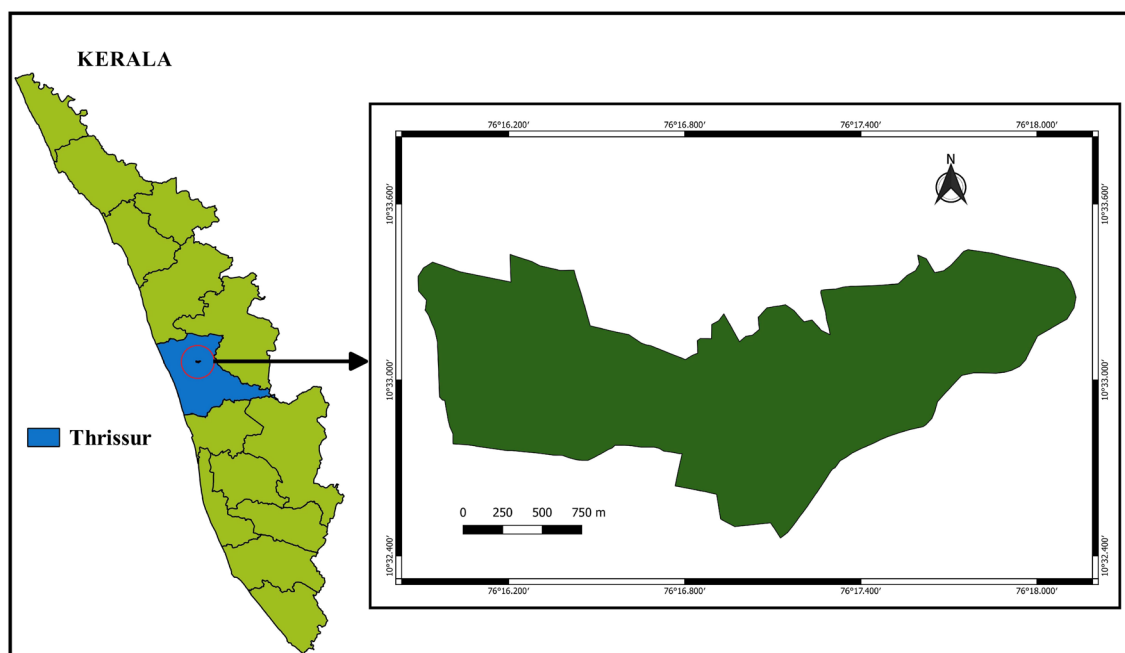


Figure 1. Location map of Kerala Agricultural University main campus, Vellanikkara, Thrissur, Kerala.

both south-west and north-east monsoons, with the greatest portion of the rainfall received from the south-west monsoon between June and September. The mean annual rainfall is 2,763mm. The mean number of rainy days per year is 110 (KAU weather station 2010).

Methods: Survey, Collection and Identification of fungi

The survey was conducted from January 2013 to December 2015 in the Kerala Agricultural University (KAU) main campus for collection of polypores. The garden lands, botanical gardens and plantations were visited during pre-monsoon, monsoon and post monsoon periods for the documentation of polypores. The observations were done by collection of sporocarps, labelling with specimen number, rot character identification, details of host, taking photographs & recording macro morphological characters, and details of substratum in the illustrated data sheet. Collection of polypores was made by opportunistic survey in the study area for maximizing the documentation of polypore diversity and distribution.

The polypore specimens were properly air dried or oven dried and stored in polythene zip-cover under low humid conditions. The specimens were identified by analyzing macro and micro morphological features based on the identification key provided by Bakshi (1971), Leelavathy & Ganesh (2000), and Ryvarden (1976). Some of the specimens were compared with those in the herbaria at Forest Research Institute, Dehradun and Kerala Forest Research Institute, Peechi. All the specimens collected during the study period were catalogued and stored in the Department of Natural Resource Management, College of Forestry at Kerala Agricultural University. The taxonomy and nomenclature are as per indexfungorum (<http://www.indexfungorum.org/Names/Names.asp>), and the authors of scientific

names are according to the 'Authors of Fungal Names' (<http://www.indexfungorum.org/AuthorsofFungalNames.htm>).

RESULTS AND DISCUSSION

A total of 43 polypore species in 28 genera belonging to seven families were recorded during the study (Images 1–43), which accounts for 29% of the polypores recorded from Kerala (Adarsh et al. 2018). Their distribution was analyzed family-wise, rot-wise, and habit-wise (Table 1, Figures 2–4). The family Polyporaceae dominated with 29 species followed by Hymenochaetaceae with nine species, Meruliaceae with five species, and Ganodermataceae with three species. The families Meripilaceae and Fomitopsidaceae were represented by two species each (Figure 2). Out of the total species recorded 40 species were white rot polypores and only three were brown rotters (Figure 3). Among the 43 polypores identified, annuals and perennials were represented by 28 and 15 species, respectively (Figure 4).

The white rot polypores shows significant dominance over brown fungi with 40 number of species (Figure 3). Among these species, *Junghunia nitida* and *Oxyporus pellicula* were found to be new records from the southern Western Ghats.

The polypore-host analysis revealed that the trees in the family Leguminosae provided habitats for 25 polypore species (Figure 5). The family Anacardiaceae hosted 17 polypore species followed by Euphorbiaceae (11) and Combretaceae (5). Host specificity is a relationship in which a particular fungus is restricted to a single host or a group of related species but does not occur in association with other unrelated plants in the same

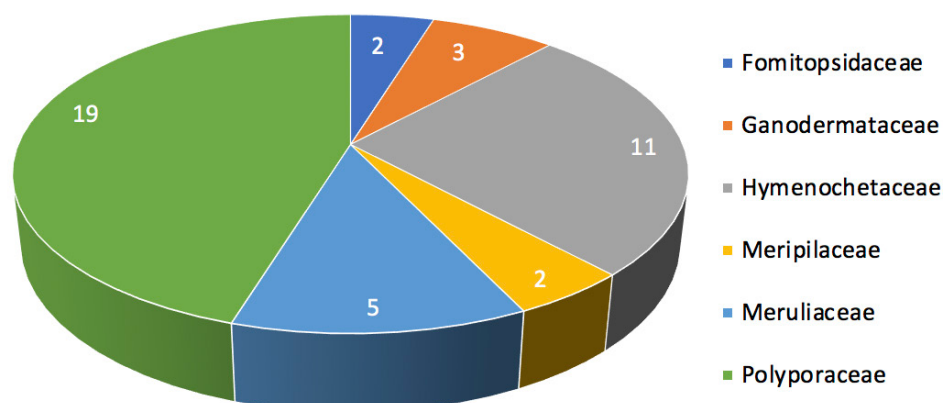


Figure 2. Family-wise distribution of polypores in KAU main campus.

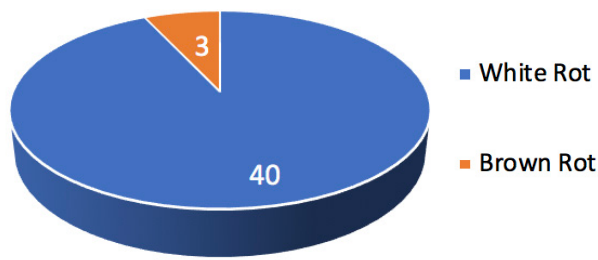


Figure 3. Rot-wise distribution of polypores.

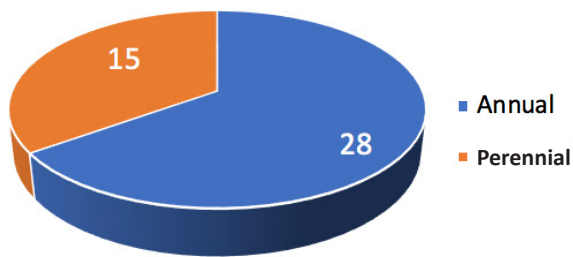


Figure 4. Habit-wise distribution of polypores.

habitat (Holliday 1998). The causes of host selectivity of wood-decay species are complex and include wood chemistry, wood microclimate, gaseous regime and the ways in which fungi become established (Boddy 2001). The host specificity of polypores and other wood-inhabiting basidiomycetes is widely considered to be

low in tropical areas because of high host plant species richness (Schmit 2005)

Among the substrate type log harbored the maximum occurrence of polypores (89) followed by snag (23), stump (16), twig (17), and living tree (10) (Figure 6). Logs, especially the larger ones are more prone to harbour high species richness which is partially due to greater surface area and volume (Bader et al. 1995; Kruys & Jonsson 1999). Additionally, the decay rate varies even on the same log, resulting in heterogeneous microhabitats (Crites & Dale 1998). Logs with a high degree of soil contact are likely to be buffered against fluctuations in temperature and especially water content compared to logs with little soil contact (Heilmann-Clausen & Christensen 2003). All these factors are responsible for the high species richness and occurrence of polypores on logs during the present study. Among the substrata, living tree harboured the least number of polypores. This may be due to the different species adaptations to the defense mechanisms present in the living trees.

Thirty-five polypore species were recorded from substrate under diameter class 31–40 cm followed by 11–20 cm, and 21–30 cm diameter classes (Figure 7). The substrate size was found to be influencing the hymenial surface area per log as well as the density of polypores. A large log can support a greater mycelial biomass simply because of the larger volume, corresponding to a greater

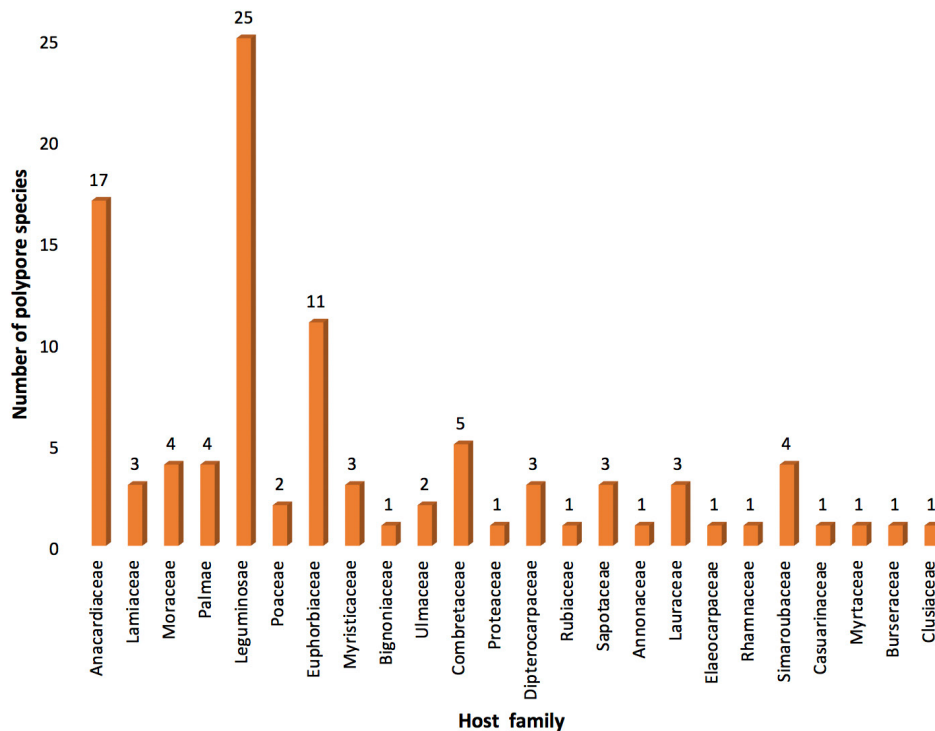


Figure 5. Diversity of polypores on different tree host family

Table 1. Distribution of polypores in Kerala Agricultural University campus.

	Family & Species	Habit (A/P)	Rot (W/B)	Host species	Host family	Substrate type	GBH (cm)
I	Fomitopsidaceae						
1.	<i>Fomitopsis feei</i> (Fr.) Kreisel 1971	A	B	<i>Tectona grandis</i> L. f.	Lamiaceae	Log	39
2	<i>Fomitopsis palustris</i> (Berk. & M.A. Curtis) Gilb. & Ryvarden, 1985	A	B	<i>Cassia fistula</i> L.	Leguminosae	Snag	31
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Snag	56
				<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Log	65
II	Ganodermataceae						
3	<i>Ganoderma australe</i> (Fr.) Pat. 1889	P	W	<i>Albizia odoratissima</i> (L.f.) Benth. <i>Manilkara zapota</i> (L.) P. Royen <i>Cocos nucifera</i> L. <i>Cocos nucifera</i> L. <i>Cocos nucifera</i> L. <i>Annona reticulata</i> L.	Leguminosae	Snag	215
					Sapotaceae	Log	40
					Palmae	Snag	89
					Palmae	Snag	72
					Palmae	Snag	68
					Annonaceae	Living tree	32
4	<i>Ganoderma lucidum</i> (Curtis) P. Karst. 1881	A	W	<i>Briedelia retusa</i> (L.) A. Juss. (L.) A.Juss	Euphorbiaceae	Living tree	22
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	35
				<i>Vateria indica</i> L.	Dipterocarpaceae	Log	63
				<i>Cocos nucifera</i> L.	Palmae	Tree stump	68
				<i>Caesalpinia coriaria</i> Willd.	Leguminosae	Snag	30
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Tree stump	450
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	54
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Tree stump	215
5	<i>Ganoderma subresinosum</i> (Murrill) C.J. Humphrey 1938	P	W	<i>Myristica fragrans</i> Houtt.	Myristicaceae	Log	31
III	Hymenochetaceae						
6	<i>Inonotus</i> sp.	P	W	<i>Vateria indica</i> L.	Dipterocarpaceae	Tree stump	48
7	<i>Phellinus caryophylli</i> (Racib.) G. Cunn. 1965 Fisch	P	W	<i>Leucaena leucocephala</i> (Lamk.) de Wit	Leguminosae	Living Tree	32
8	<i>Phellinus nilgheriensis</i> (Mont.) G. Cunn. 1965	P	W	<i>Leucaena leucocephala</i> (Lamk.) de Wit	Leguminosae	Log	50
9	<i>Phellinus adamantinus</i> (Berk.) Ryvarden, 1972	P	W	<i>Ailanthus triphysa</i> (Dennst.) Alston	Simauorubaceae	Log	38
10	<i>Phellinus ferrugineovelutinus</i> (Henn.) Ryvarden 1972	P	W	<i>Anacardium occidentale</i> L.	Anacrdiaceae	Tree stump	56
11	<i>Phellinus rimosus</i> (Berk.) Pilát 1940	P	W	<i>Artocarpus heterophyllus</i> Lamk.	Moraceae	Log	22
12	<i>Phellinus</i> sp. 1	P	W	<i>Anacardium occidentale</i> L.	Anacrdiaceae	Log	40
13	<i>Phellinus</i> sp. 2	P	W	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	46
14	<i>Tropicoporus dependens</i> (Murrill) L.W. Zhou, Y.C. Dai &Vlasák 2015	P	W	<i>Mangifera indica</i> L.	Anacardiaceae	Log	35
				<i>Manilkara zapota</i> (L.) P. Royen	Sapotaceae	Snag	43
15	<i>Phellinus fastuosus</i> (Lév.) S. Ahmad 1972	P	W	<i>Mangifera indica</i> L.	Anacardiaceae	Tree stump	40
				<i>Pongamia pinnata</i> (L.) Pierre	Leguminosae	Living tree	125

	Family & Species	Habit (A/P)	Rot (W/B)	Host species	Host family	Substrate type	GBH (cm)
16	<i>Phellinus gilvus</i> (Schwein.) Pat. 1900 =	A	W	<i>Terminalia catappa</i> L.	Combretaceae	Snag	48
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Log	92
				<i>Grevillea robusta</i> A. Cunn.	Proteaceae	Log	68
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Snag	22
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Tree stump	56
				<i>Mangifera indica</i> L.	Anacardiaceae	Living tree	25
				<i>Mangifera indica</i> L.	Anacardiaceae	Stump	38
				<i>Vateria indica</i> L.	Dipterocarpaceae	Log	49
				<i>Mitragyna parvifolia</i> (Roxb.) Kunth	Rubiaceae	Log	41
				<i>Racosperma auriculiformae</i> (Benth.) Pedley	Leguminosae	Log	38
				<i>Terminalia catappa</i> L.	Combretaceae	Stump	48
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Log	92
IV	Meripilaceae						
17	<i>Rigidoporus crocatus</i> (Pat.) Ryvarden 1983	P	W	<i>Cinnamomum malabattrum</i> (Burm.f.) Blume	Lauraceae	Snag	41
18	<i>Rigidoporus lineatus</i> (Pers.) Ryvarden 1972	A	W	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Snag	206
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	88
				<i>Cocos nucifera</i> L.	Palmae	Log	90
				<i>Ailanthus triphysa</i> (Dennst.) Alston	Simorubaceae	Log	38
				<i>Terminalia paniculata</i> Roth	Combretaceae	Living tree	28
				<i>Hevea brasiliensis</i> (H.B.K.) Muell.- Arg.	Euphorbiaceae	Log	>100
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	85
				<i>Bambusa gigantea</i> Wall.	Poaceae	Log	38
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Snag	56
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	128
V	Meruliaceae						
19	<i>Flavodon flavus</i> (Klotzsch) Ryvarden 1973	A	W	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Twig	10
				<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Log	64
				<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Log	16
				<i>Trema orientalis</i> (L.) Blume	Ulmaceae	Log	68
				<i>Cassia nodosa</i> Ham. ex Roxb.	Leguminosae	Log	16
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Twigs	10
20	<i>Irpex lacteus</i> (Fr.) Fr. 1828	A	W	<i>Anacardium occidentale</i> L.	Anacardiaceae	Log	18
				<i>Trema orientalis</i> (L.) Blume	Ulmaceae	Log	98
21	<i>Junghuhnia crustacea</i> (Jungh.) Ryvarden 1972	A	W	<i>Macaranga peltata</i> (Roxb.) Muell.- Arg.	Euphorbiaceae	Twig	8
22	<i>Junghuhnia nitida</i> (Pers.) Ryvarden 1972	A	W	<i>Mangifera indica</i> L.	Anacardiaceae	Twig	8
				<i>Macaranga peltata</i> (Roxb.) Muell.- Arg.	Euphorbiaceae	Twig	5
23	<i>Poria</i> sp.	A	W	<i>Anacardium occidentale</i> L.	Anacrdiaceae	Log	55
VI	Polyporaceae						
24	<i>Cerrena</i> sp.	A	W	<i>Mangifera indica</i> L.	Anacardiaceae	Log	15
25	<i>Trametella telfairii</i> (Klotzsch) M. Pieri& B. Rivoire 2008	A	W	<i>Tectona grandis</i> L. f.	Lamiaceae	Snag	30

	Family & Species	Habit (A/P)	Rot (W/B)	Host species	Host family	Substrate type	GBH (cm)
26	<i>Trametes flavida</i> (Lév.) Zmitr., Wasser & Ezhov 2012	A	W	<i>Cocos nucifera</i> L.	Palmae	Log	88
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Log	55
				<i>Bambusa bamboos</i>	Poaceae	Log	34
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Log	46
				<i>Racosperma auriculiformae</i> (Benth.) Pedley	Leguminosae	Snag	73
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Snag	56
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	38
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Living tree	29
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	105
				<i>Racosperma auriculiformae</i> (Benth.) Pedley	Leguminosae	Snag	65
				<i>Mangifera indica</i> L.	Anacardiaceae	Log	35
27	<i>Earliella scabrosa</i> (Pers.) Gilb. & Ryvarden 1985	A	W	<i>Mangifera indica</i> L.	Anacardiaceae	Log	128
				<i>Macaranga peltata</i> (Roxb.) Muell.-Arg.	Euphorbiaceae	Twig	9
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Twig	33
				<i>Myristica fragrans</i> Houtt.	Myristicaceae	Tree stump	32
				<i>Spathodea companulata</i> Beauv.	Bignoniaceae	Snag	203
				<i>Hevea braziliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Log	34
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	49
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	36
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Tree stump	68
				<i>Hevea braziliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Log	72
28	<i>Favolus tenuiculus</i> P. Beauv. 1806	A	W	<i>Hevea braziliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Log	51
29	<i>Neofomitella rhodophaea</i> (Lév.) Y.C. Dai, Hai J. Li & Vlasák 2015	A	B	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	117
30	<i>Hexagonia tenuis</i> (Fr.) Fr. 1838	A	W	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Twig	36
				<i>Mangifera indica</i> L.	Anacardiaceae	Snag	85
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Living tree	22
				<i>Racosperm amangium</i> (Wild.) Pedley	Leguminosae	Snag	15
				<i>Hevea braziliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Log	32
				<i>Litsea glutinosa</i> (Lour.) C. Robs.	Lauraceae	Log	32
				<i>Elaeocarpus serratus</i> L. var. <i>serratus</i>	Elaeocarpaceae	Log	56
				<i>Albizia lebbeck</i> (L.) Wild.	Leguminosae	Log	16
				<i>Mangifera indica</i> L.	Anacardiaceae	Twig	6
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	37
31	<i>Lenzites</i> sp.	A	W	<i>Cinnamomum malabattrum</i> (Burm.f.) Blume	Lauraceae	Tree stump	48
32	<i>Loweoporus tephroporus</i> (Mont.) Ryvarden 1980	P	W	<i>Mangifera indica</i> L.	Anacardiaceae	Log	39

	Family & Species	Habit (A/P)	Rot (W/B)	Host species	Host family	Substrate type	GBH (cm)
33	<i>Microporus affinis</i> (Blume & T. Nees) Kuntze 1898	A	W	Unidentified		Log	82
				<i>Terminalia cuneata</i> Roth	Combretaceae	Tree stump	6
				<i>Terminalia elliptica</i> Willd.	Combretaceae	Twig	18
				<i>Bauhinia purpurea</i> L.	Leguminosae	Log	16
34	<i>Microporus xanthopus</i> (Fr.) Kuntze 1898	A	W	<i>Terminalia paniculata</i> Roth	Combretaceae	Twig	34
				<i>Terminalia elliptica</i> Willd.	Combretaceae	Twig	8
				<i>Butea parviflora</i>	Leguminosae	Log	26
				<i>Zizyphus mauritiana</i> Lamk.	Rhamnaceae	Log	34
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Living tree	19
35	<i>Nigroporus vinosus</i> (Berk.) Murrill 1905	A	W	<i>Racospermangium</i> (Wild.) Pedley	Leguminosae	Log	60
				<i>Albizia lebeck</i> (L.) Wild.	Leguminosae	Log	13
36	<i>Lentinus arcularius</i> (Batsch) Zmitr. 2010	A	W	<i>Casuarina litorea</i> L.	Casuarinaceae	Log	18
				<i>Artocarpus heterophyllus</i> Lamk.	Moraceae	Log	130
				<i>Xylia xylocarpa</i> (Roxb.) Taub.	Leguminosae	Twig	10
37	<i>Favolus grammacephalus</i> Lloyd 1924	A	W	<i>Garuga pinnata</i> Roxb.	Burseraceae	Log	42
				<i>Macaranga peltata</i> (Roxb.) Muell.-Arg.	Euphorbiaceae	Twig	5
				<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Log	15
				<i>Ailanthus triphysa</i> (Dennst.) Alston	Simaroubaceae	Twig	11
38	<i>Pyrofomes albomarginatus</i> (Zipp. ex Lév.) Ryvarden 1972	P	W	<i>Pterocarpus santalinus</i> L.f.	Leguminosae	Log	45
39	<i>Trametes cotonea</i> (Pat. & Har.) Ryvarden 1972	A	W	<i>Myristica fragrans</i> Houtt.	Myristicaceae	Log	31
				<i>Phyllanthus emblica</i> L.	Euphorbiaceae	stump	12
				<i>Anacardium occidentale</i> L.	Anacardiaceae	Log	30
				<i>Senna siamea</i> (Lamk.) Irwin & Barneby	Leguminosae	Living tree	34
				<i>Macaranga peltata</i> (Roxb.) Muell.-Arg.	Euphorbiaceae	Log	58
				<i>Racosperma mangium</i> (Wild.) Pedley	Leguminosae	Snag	40
				<i>Racosperma mangium</i> (Wild.) Pedley	Leguminosae	Tree stump	36
40	<i>Trametes hirsuta</i> (Wulfen) Lloyd 1924.	A	W	<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Snag	88
				<i>Mangifera indica</i> L.	Anacardiaceae	Log	12
				<i>Artocarpus heterophyllus</i> Lamk.	Moraceae	Log	116
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Snag	68
				<i>Samanea saman</i> (Jacq.) Merr.	Leguminosae	Log	48
				<i>Hevea brasiliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Log	21
				<i>Hevea brasiliensis</i> (H.B.K.) Muell.-Arg.	Euphorbiaceae	Twig	10
41	<i>Trametes</i> sp.	A	W	<i>Bauhinia purpurea</i> L.	Leguminosae	Log	48

	Family & Species	Habit (A/P)	Rot (W/B)	Host species	Host family	Substrate type	GBH (cm)
42	<i>Trichaptum byssogenum</i> (Jungh.) Ryvarden 1972	A	W	<i>Mangifera indica</i> L.	Anacardiaceae	Log	20
				<i>Tectona grandis</i> L. f.	Lamiaceae	Log	18
				<i>Artocarpus heterophyllus</i> Lamk.	Moraceae	Log	80
				<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Log	85
				<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	14
				<i>Garcinia gummi-gutta</i> (L.) Robs.	Clusiaceae	Twig	6
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	18
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Log	60
				<i>Gliricidia sepium</i> (Jack.) Kunth ex Walp.	Leguminosae	Tree stump	28
				<i>Manilkara zapota</i> (L.) P. Royen	Sapotaceae	Log	36
				<i>Mangifera indica</i> L.	Anacardiaceae	Log	22
				<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Log	25
				<i>Peltophorum pterocarpum</i> (DC.) Baker ex Heyne	Leguminosae	Log	20
				<i>Albizia odoratissima</i> (L.f.) Benth.	Leguminosae	Log	35
				<i>Macaranga peltata</i> (Roxb.) Muell.-Arg.	Euphorbiaceae	Log	10
				<i>Ailanthus triphysa</i> (Dennst.) Alston	Simauorubaceae	Log	45
	<i>Mangifera indica</i> L.	Anacardiaceae	Log	18			
VII	Schizoporaceae						
43	<i>Oxyporu spellicula</i> (Jungh.) Rvarden 1980	A	W	<i>Delonix regia</i> (Boj.) Rafin.	Leguminosae	Log	12

A—Annual | P—Perennial | W—White rot | B—Brown rot.

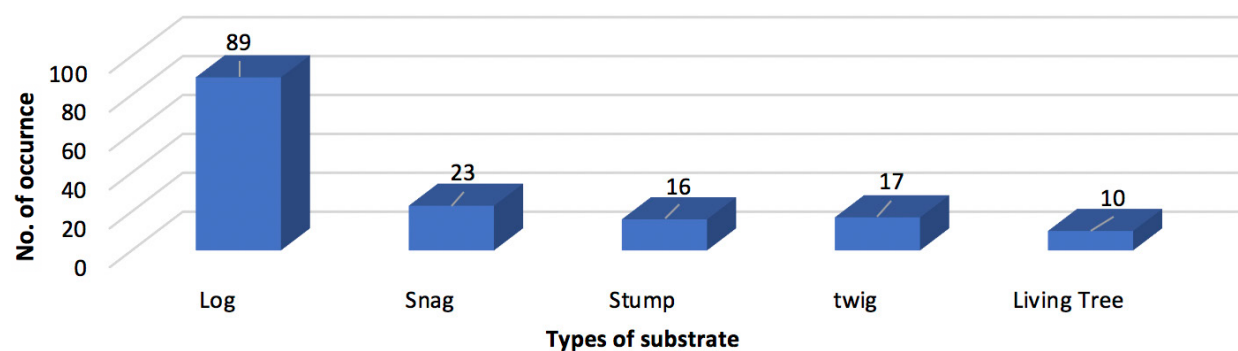


Figure 6. Polypores on different substrate types.

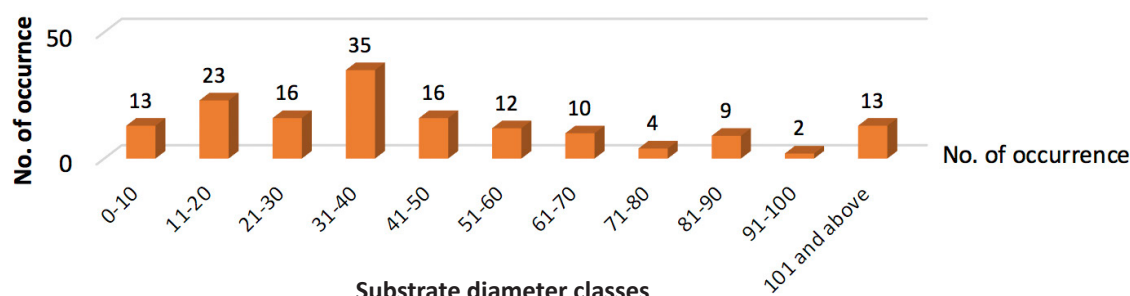


Figure 7. Polypores on different substrate diameter classes

amount of resources (Bader et al. 1995), however, in the present study the abundance of substrate under diameter class 31–40 cm is much higher than others. Understanding local host selectivity is important since it affects patterns of spread, density-dependent population dynamics, and in turn the maintenance of biological diversity and aspects of ecosystem function (Gilbert et al. 2008).

There are only few studies done on the diversity of polypores in Kerala. The present study attempts to document the diversity of polypores in KAU main campus. The present study reiterates the significance of KAU main campus in conserving the biodiversity of the region. Earlier studies on the fauna of KAU main campus have reported 139 species of birds (Nameer et al. 2000), 139 species of butterflies (Aneesh et al. 2013), 48 species of odonates (Adarsh et al. 2014), and 86 species of spiders (Adarsh & Nameer 2015). This is quite significant and thus emphasizes the importance of university campuses in biodiversity conservation.

REFERENCES

- Adarsh, C.K. & P.O. Nameer (2015). Spiders of Kerala Agricultural University (KAU) Campus, Thrissur, Kerala, India. *Journal of Threatened Taxa* 7(15): 8288–8295. <https://doi.org/10.11609/jott.2468.7.15.8288-8295>
- Aneesh, K.S., C.K. Adarsh & P.O. Nameer (2013). Butterflies of Kerala Agricultural University (KAU) campus, Thrissur, Kerala, India. *Journal of Threatened Taxa* 5(9): 4422–4440. <https://doi.org/10.11609/JoTT.o2870.4422-40>
- Adarsh, C.K., K.S. Aneesh & P.O. Nameer (2014). A preliminary checklist of odonates in Kerala Agricultural University (KAU) campus. *Journal of Threatened Taxa* 6(8): 6127–6137. <https://doi.org/10.11609/JoTT.o3491.6127-37>
- Adarsh, C.K., K. Vidyasagran & P.N. Ganesh (2018). A checklist of polypores of Keralastate, India. *Studies in Fungi* 3(1): 202–226.
- Bader, P., S. Jansson & B.G. Jonsson (1995). Wood-inhabiting fungi and substratum decline in selectively logged boreal spruce forests. *Biological Conservation* 72: 355–362.
- Bakshi, B.K. (1971). *Indian Polyporaceae (on trees and timber)*. ICAR, New Delhi, 246pp.
- Boddy, L. (2001). Fungal community ecology and wood decomposition processes in angiosperms: From standing tree to complete decay of coarse woody debris. *Ecological Bulletin* 49: 43–56.
- Crites, S. & M.R.T. Dale (1998). Diversity and abundance of bryophytes, lichens, and fungi in relation to woody substrate and successional stage in aspen mixed wood boreal forests. *Canadian Journal of Botany* 76: 641–651.
- Florence, E.J.M. (2004). Biodiversity documentation of Kerala, part-2; Microorganisms (Fungi). KFRI handbook No. 17, Kerala Forest Research Institute, Peechi, Kerala, India, 292pp.
- Florence, E.J.M. & K. Yesodharan (2000). Macrofungi flora of Peechi-Vazhani Wildlife Sanctuary. Research Report 191. Kerala Forest Research Institute, Peechi, Kerala, India, 43pp.
- Gilbert, G.S., J. Gorospe & L. Ryvarden (2008). Host and habitat preferences of polypore fungi in Micronesian tropical flooded forests. *Mycological Research* 112:674–680.
- Heilmann-Clausen, J. & M. Christensen (2003). Fungal diversity on decaying beech logs-implications for sustainable forestry. *Biodiversity and Conservation* 12: 953–973.
- Holliday, P. (1998). *A Dictionary of Plant Pathology*. Cambridge University Press, Cambridge, UK, 562pp.
- Iqbal, A.M., K. Vidyasagaran & P.N. Ganesh (2016). New records of polypores (Basidiomycota: Aphyllophorales) from the southern Western Ghats with an identification key for polypores in Peechi-Vazhani Wildlife Sanctuary, Kerala, India. *Journal of Threatened Taxa* 8(9): 9198–9207. <https://doi.org/10.11609/jott.2553.8.9.9198-9207>
- Kruys, N. & B.G. Jonsson (1999). Fine woody debris is important for species richness on logs in managed boreal spruce forests of northern Sweden. *Canadian Journal of Forest Research* 29: 1295–1299.
- Leelavathy, K.M. & P.N. Ganesh (2000). *Polypores of Kerala*. Daya Publishing House, Delhi, 165pp.
- Mohanani, C. (2011). *Macrofungi of Kerala*. KFRI Handbook No. 27. Kerala Forest Research Institute, Peechi, Kerala, India, 597pp.
- Nameer, P.O., R.R. Nair, K.R. Anoop, S.G. Nair, R. Lekshmi & P. Radhakrishnan (2000). Birds of Kerala Agricultural University Campus, Thrissur. *Zoo's Print Journal* 15(4): 243–246. <https://doi.org/10.11609/JoTT.ZPJ.15.4.243-6>
- Roy, A. & A.B. De (1996). *Polyporaceae of India*. International Book Distributor. Dehradun, India, 287pp.
- Ryvarden, L. (1976). *The Polyporaceae of North Europe*. Vol. I. Albatrellus- Incrustoporia. Fungiflora, Oslo, Norway, 214p.
- Schmit, J.P. (2005). Species richness of tropical wood-inhabiting macrofungi provides support for species-energy theory. *Mycologia* 97: 751–761.

Image 1. *Fomitopsis feei*Image 2. *Fomitopsis palustris*Image 3. *Ganoderma australe*Image 4. *Ganoderma lucidum*Image 5. *Ganoderma subresinosum*Image 6. *Inonotus* sp.Image 7. *Phellinus caryophylli*Image 8. *Phellinus nilgheriensis*



Image 9. *Phellinus adamantinus*



Image 10. *Phellinus ferrugineovelutinus*



Image 11. *Phellinus rimosus*



Image 12. *Phellinus* sp. 1



Image 13. *Phellinus* sp. 2



Image 14. *Tropicoporus dependens*



Image 15. *Phellinus fastuosus*



Image 16. *Phellinus gilvus*

Image 17. *Rigidoporus crocatus*Image 18. *Rigidoporus lineatus*Image 19. *Flavodon flavus*Image 20. *Irpex lacteus*Image 21. *Junghuhnia crustacea*Image 22. *Junghuhnia nitida*Image 23. *Poria* sp.Image 24. *Cerrena* sp.



Image 25. *Trametella telfairii*



Image 26. *Trametes flavidula*



Image 27. *Earliella scabrosa*



Image 28. *Favolus tenuiculus*



Image 29. *Neofomitella rhodophaea*



Image 30. *Hexagonia tenuis*



Image 31. *Lenzites* sp.



Image 32. *Loweporus tephroporus*

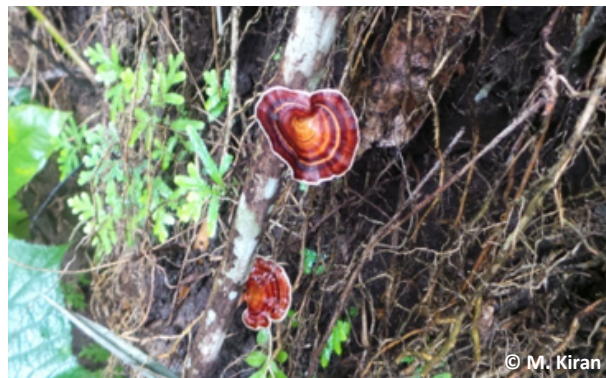
Image 33. *Microporus affinis*Image 34. *Microporus xanthopus*Image 35. *Nigroporus vinosus*Image 36. *Lentinus arcularius*Image 37. *Favolus grammocephalus*Image 38. *Pyrofomes albomarginatus*Image 39. *Trametes cotonea*Image 40. *Trametes hirsuta*



Image 41. *Trametes* sp.



Image 42. *Trichaptum byssogenum*

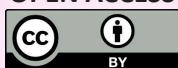


Image 43. *Oxyporus pellicula*





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)

May 2020 | Vol. 12 | No. 8 | Pages: 15767–15966

Date of Publication: 26 May 2020 (Online & Print)

DOI: 10.11609/jott.2020.12.8.15767-15966

www.threatenedtaxa.org

Communications

Mammalian fauna in an urban influenced zone of Chandaka-Dampara Wildlife Sanctuary in Odisha, India

– Subrat Debata & Kedar Kumar Swain, Pp. 15767–15775

Species in peril: assessing the status of the trade in pangolins in Nepal

– Prayash Ghimire, Nirjala Raut, Pragya Khanal, Suman Acharya & Suraj Upadhyaya, Pp. 15776–15783

Diversity and synanthropy of flies (Diptera: Calypttratae) from Ecuador, with new records for the country

– Karen Blacio, Jonathan Liria & Ana Soto-Vivas, Pp. 15784–15793

Butterfly diversity in Gidakom Forest Management Unit, Thimphu, Bhutan

– Thal Prasad Koirala, Bal Krishna Koirala & Jaganath Koirala, Pp. 15794–15803

Butterfly diversity in heterogeneous habitat of Bankura, West Bengal, India

– Kalyan Mukherjee & Ayan Mondal, Pp. 15804–15816

A second report on butterflies (Lepidoptera) from Ladakh Union Territory and Lahaul, Himachal Pradesh, India

– Sanjay Sondhi, Balakrishnan Valappil & Vidya Venkatesh, Pp. 15817–15827

Collecting parasitic Aculeata (Hymenoptera) from rice ecosystems of Tamil Nadu, India

– J. Alfred Daniel & K. Ramaraju, Pp. 15828–15834

An annotated checklist of sea slug fauna of Gujarat coast, India

– Piyush Vadher, Hitesh Kardani & Imtiyaz Beleem, Pp. 15835–15851

Additional description of the Algae Hydroid *Thyroscyphus ramosus* (Hydrozoa: Leptothecata: Thyroscyphidae) from Palk Bay, India with insights into its ecology and genetic structure

– G. Arun, R. Rajaram & K. Kaleshkumar, Pp. 15852–15863

Floristic composition and distribution pattern of herbaceous plant diversity in fallow lands of the central districts of Punjab, India

– Jashanpreet Kaur, Rajni Sharma & Pushp Sharma, Pp. 15864–15880

Morphological and molecular phylogenetic studies on *Battarrea phalloides* (Agaricales): a new report to Indian mycobiota

– R. Kantharaja & M. Krishnappa, Pp. 15881–15888

Diversity of polypores in Kerala Agricultural University main campus, Vellanikkara, Kerala, India

– M. Kiran, C.K. Adarsh, K. Vidyasagran & P.N. Ganesh, Pp. 15889–15904

Short Communications

On the evidence of the Irrawaddy Dolphin *Orcaella brevirostris* (Owen, 1866) (Mammalia: Cetartiodactyla: Delphinidae) in the Hooghly River, West Bengal, India

– Gargi Roy Chowdhury, Kanad Roy, Naman Goyal, Ashwin Warudkar, Rashid Hasnain Raza & Qamar Qureshi, Pp. 15905–15908

Avifaunal diversity of Tilyar Lake, Rohtak, Haryana, India

– Jagjeet Singh, Sandeep Antil, Vivek Goyal & Vinay Malik, Pp. 15909–15915

Life-history traits and courtship behaviour of four poorly known endemic bush frogs (Amphibia: Anura: Rhacophoridae) from the Western Ghats of India

– A.V. Abhijith & Shomen Mukherjee, Pp. 15916–15921

A first record of *Camacinia harterti* Karsch, 1890 (Odonata: Libellulidae) from Arunachal Pradesh, India

– Arajush Payra, K.A. Subramanian, Kailash Chandra & Basudev Tripathy, Pp. 15922–15926

Occurrence of *Fulgoraacia* (= *Epiricania*) *melanoleuca* (Lepidoptera: Epipyropidae) as a parasitoid of sugarcane loophopid planthopper *Pyrilla perpusilla* in Tamil Nadu (India) with brief notes on its life stages

– H. Sankararaman, G. Naveenadevi & S. Manickavasagam, Pp. 15927–15931

A preliminary survey of soil nemafuna of Bhagwan Mahaveer Wildlife Sanctuary, Goa, India

– Kiran Gaude & I.K. Pai, Pp. 15932–15935

Thirty-nine newly documented plant species of Great Nicobar, India

– Kanakasabapathi Pradheep, Kattukkunnel Joseph John, Iyyappan Jaisankar & Sudhir Pal Ahlawat, Pp. 15936–15944

Notes

An observation of homosexual fellatio in the Indian Flying Fox

Pteropus medius (Temminck, 1825) (Mammalia: Chiroptera: Pteropodidae)
– K.S. Gopi Sundar & Swati Kittur, Pp. 15945–15946

Diurnal observation of a Malayan Krait *Bungarus candidus* (Reptilia: Elapidae) feeding inside a building in Thailand

– Cameron Wesley Hodges, Anji D'souza & Sira Jintapirom, Pp. 15947–15950

An additional record of the Tamdil Leaf-litter Frog *Leptobrachella tamdil* (Sengupta et al., 2010) (Amphibia: Megophryidae) from Dampa Tiger Reserve, Mizoram, India

– Vanlalsiammawii, Remruatpuii, V.L. Malsawmhriatuali, Lalmuansanga, Gospel Zothanmawia Hmar, Saisangpuia Sailo, Ht. Decemson, Lal Biakzuala & H.T. Lalremsanga, Pp. 15951–15954

Records of dragonflies and damselflies (Insecta: Odonata) of Dipang Lake, with two new records to Nepal

– K.C. Sajjan & Juddha Bahadur Gurung, Pp. 15955–15961

Henry's Rattan *Calamus henryanus* Becc. (Arecaceae), a new record to India

– Selim Mehmud & Himu Roy, Pp. 15962–15966

Member



Publisher & Host

