

Review Article

Host range of *Phellinus sensu lato* in India: An overview

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Abstract

Phellinus Quel. is a member of family Hymenochaetaceae of the order Hymenochaetales. This genus comprises wood-inhabiting, saprophytic and parasitic species. Species of *Phellinus sensu lato* are known to have large host range and cause white rot of various types to live standing or dead trees from all over the world. The current study is based on a thorough study of literature to document the host range of *Phellinus* species from India. The study indicated that one hundred and seventy four plant species from 51 families are found to be infected by *Phellinus* species. The families found to be the most affected are Fabaceae, Combretaceae, Meliaceae, Dipterocarpaceae, Anacardiaceae, Myrtaceae, Meliaceae, Lauraceae, Fagaceae, Rosaceae. Many plant (tree) species are affected by *Phellinus*; this establishes it as a potential pathogen and wood decay fungi. The present study also reports *Phellinus* from almost all over India and every climatic zones. This indicated the high tolerance and acclimatization of *Phellinus* towards diverse climatic conditions. The most affected host is *Artocarpus* followed by *Terminalia* and *Acacia*. Although the study reports *Phellinus* from diverse climatic zones of India, the most affected families and genera are from moist tropical conditions. This indicates that *Phellinus* has vigorous activity in warm and moist areas and affects diverse plant/tree species in these areas like Maharashtra and Kerala. The states like Uttar Pradesh, Bihar, Jharkhand, Odisha, Rajasthan, Karnataka, Andhra Pradesh, Telangana, Union Territories, Manipur, Mizoram and Nagaland are still left to be explored. The present study has key significance in biodiversity, medicinal as well as the pathogenic study of *Phellinus*. It provides an overall host range of genus *Phellinus*, confirming its vast host diversity. The information could further be used in disease, biodiversity and plant pathological assessments.

Keywords: Hymenochaetaceae, Host range, Indian species, Plant families, Wood inhabiting fungi

INTRODUCTION

Phellinus s. l. is one of the largest of genera of basidiomycetes belonging to the Hymenochaetaceae, Hymenochaetales. This comprises wood-inhabiting, saprophytic and parasitic species which are characterized by xanthochoric reaction, presence of parenthosome in dolipore septa, frequent occurrence of setae, absence of clamps and production of white rotted wood in angiosperm and gymnosperm (Wanger and Fischer, 2001, 2002; Saha *et al.*, 2018; Bala *et al.*, 2019).

Fruiting bodies of *Phellinus* s.l. are mostly perennial,

rarely annual or biennial, brown to black, resupinate, pileate, corky to woody hard, with a crustose or tomentose pileal surface. Pores are mostly small, shining in some species. Hyphal system is dimitic, monomitc in a few species, and generative hyphae are hyaline to pale yellowish, thin-to thick-walled, encrusted by crystals or not; skeletal hyphae are brown, thick-walled. Setae or cystidioles are present or absent. Spores are subglobose, ellipsoid or cylindrical, hyaline to yellowish or brown, thin-to thick-walled, mostly IKI-negative, CB negative or positive (Larsen and Cobb-Pouille, 1990; Saha *et al.*, 2018; Mohan *et al.*, 2020).

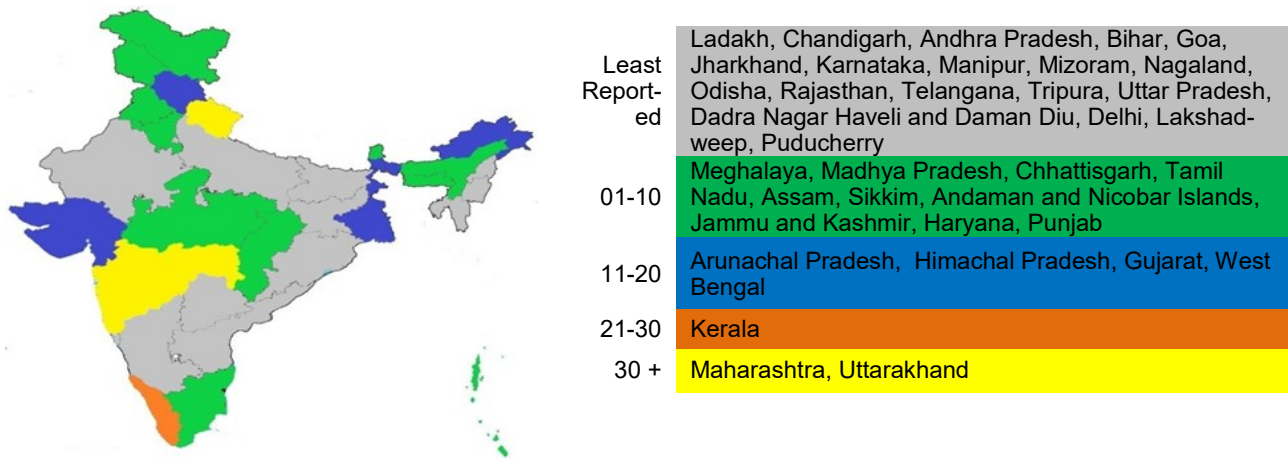


Fig. 1. Map of India showing state-wise abundance on the basis of the number of *Phellinus* species in India (Source: Based on present study).

Species of *Phellinus* s. l. are lignicolous, causing white rot by degrading mainly the lignin and cellulose living of trees and dead wood, fallen trunks, stumps, and rotten wood. Species of *Phellinus* decay heartwood and cause root rot and cankers of live standing trees, destroy slash and other woody residues. No other class of forest diseases cause more timber damage than root rot and heart rot. Genus *Phellinus* is probably responsible for more timber loss than any other genus of wood-decaying fungi (Larsen and Cobb-Pouille, 1990; Saha et al., 2018; Chander and Pathania, 2019; Mohan et al., 2020). Although species of *Phellinus* are notorious for causing white rot of wood and destroying timber but in natural forest ecosystem, they play important role as primary decomposers and help to mobilize lignin as well as the complex polysaccharides of wood and prove useful in terms of forest productivity and stabilization particularly in those forests where organic matter is produced at higher rate that can be recycled by natural process of decomposition (Adaskaveg and Ogawa, 1990). These species of *Phellinus* s. l. are reported and studied for their medicinal properties (Dai, 2010; Yan et al., 2017; Azeem et al., 2020; He et al., 2021).

The species are present from temperate to tropical zones. This is a large cosmopolitan group among polypores with 479 records of known species including forms and varieties (Anonymous, 2020) with host specific species and non specific saprotrophs (Larsen and Cobb-Pouille, 1990). 101 species of *Phellinus* s. l. are reported from India by various workers (Bagchee, 1953, 1961; Bakshi, 1955, 1971; Ganesh and Leelavathy, 1986, 2000; Vaidya, 1987; Hakimi, 2008; Mohanan, 2011; Sharma, 2012; Azeem and Dhingra, 2017; Saha et al., 2018; Mohan et al., 2020). Indian *Phellinus* s. l. species are reported to be found on different host species. In this study thorough study of Indian literature was done to assess wide range of host species of *Phellinus* s. l.

Host range of *Phellinus sensu lato*

A thorough study of Indian literature from the year 1955 (Bakshi, 1955) to year 2020 (Mohan et al., 2020) was made. Taxonomic studies and reports of different workers on Indian *Phellinus* species for past 75 years were thoroughly studied to generate detailed and pertinent list of host range of *Phellinus sensu lato* in India.

Table 1 shows that *Phellinus sensu lato* has a broad host range having 174 host species (Angiosperm and Gymnosperm). The Data establishes *Phellinus* species as vigorous and potential pathogens. This also shows the adaptation strategies of *Phellinus*, as this genus is found in every climatic zone of India and to survive and thrive in these climatic conditions. The *Phellinus* species are reported from all over India.

Most affected genera amongst host range are *Artocarpus*, *Terminalia*, *Acacia*, *shorea*, *Dalbergia*, *Albizzia*, *Quercus*, *Gliricidia*, *Anogiessus*, *Betula* and *Mangifera* are given in Table 2. From the data, it is clear that most affected genera are from moist and warm tropical climatic conditions. This finding supports the fact that *Phellinus* species are growing vigorously in moist and warm climates and affect tropical plant species. In tropical conditions, *Phellinus* species grow vigorously on different hosts and show less host specificity than temperate climatic conditions where *Phellinus* species show more host specificity and grow vigorously on specific hosts.

Fabaceae has the maximum numbers of genera infected by *Phellinus sensu lato*, followed by Meliaceae, Myrtaceae, Pinaceae, sapindaceae, moraceae, dipterocarpaceae, Lauraceae, Euphorbiaceae and Malvaceae (Table 3). Fabaceae family got severely affected by *Phellinus* attack. Twenty two species of family got infections from different species of *Phellinus*. As genus *Phellinus* is wood decaying fungus, it completely destroys the tree's mechanical strength and makes it hollow from inside. The species of family Fabaceae might

Table 1: Showing host range of *Phellinus sensu lato*.

Sr. no.	Species Name	Host Range	Locality	Reported by
1.	<i>Phellinus acontextus</i> Ryvarden	<i>Rhododendron sp.</i> <i>Gliricidia sepium</i>	Tehri, Chakrata; Uttarakhand Pune;Maharashtra	Sharma(1991, 1992); Foroutan and Vaidya(2007); Bapat(2009).
2.	<i>Phellinus adamantinus</i> (Berk.) Ryvarden	<i>Casuarinas spp.</i> , <i>Acacia sp.</i> , <i>Plam tree</i> , <i>Dalbergia melanoxylon</i> , <i>Casuarina equisetifolia</i> , <i>Delonix regia</i>	Meghalaya, Assam, Kolkata, Darjeeling, Pune;Maharashtra Malappuram,Wayanad; Kerela Gujarat	Bakshi, (1971); Sharma and Ghosh (1989); Leelavathy and Ganesh (2000); Lamrood(2000,2001); Nagadeshi and Arya (2003); Foroutan and Vaidya(2007); Mohan(2011); Saha <i>et al.</i> (2018);Mohan and Kattany, Adarsh (2020)
3.	<i>Phellinus albomarginatus</i> (Zipp. ex Lév.) G. Cunn. Current Name: <i>Skeletocutis albomarginata</i> (Zipp. ex Lév.) Rui Du & Y.C. Dai	<i>Shorea robusta</i> , <i>Dipterocarpus turbinatus</i> , <i>Dipterocarpus macrocarpus</i> , <i>Elaeocarpus sp.</i>	Assam, West Bengal Andamans	Bakshi(1971); Saha <i>et al.</i> (2018)
4.	<i>Phellinus allardii</i> (Bres.) S. Ahmad	<i>Eugenia indica</i> , <i>Swetenia mahogany</i> , <i>Quercus sp.</i> , <i>Acacia catechu</i> , <i>Cedrus deodara</i> , <i>Dalbergia sissoo</i> , <i>Rhododendron arbo-retum</i> , <i>Syzygium cumini</i> , <i>Shorea robusta</i> , <i>Pyrus puddum</i> , <i>Pyrus pashia</i> , <i>Aesculus indica</i> , <i>Terminalia alata</i> , <i>Erythrina variegata</i> , <i>Euginea jambolana</i>	Mussoorie, Dehradun, Chakrata, Chamoli; Uttarakhand; Kullu Himachal Pradesh Pune;Mharashtra Palghat; Kerela Achankmar; Madhya Pradesh	Bakshi(1971); Harsh(1982); Sharma(1993); Leelavathy and Ganesh (2000); Foroutan and Vaidya (2007); Parihar (2009); Azeem(2012); Kumar(2014);
5.	<i>Phellinus aureobrunneus</i> J.E. Wright andBlumenf	<i>Albizzia lebbeck</i> , <i>Pterocarpus spp.</i> , <i>Pterospermum sp.</i>	Pune, Maharashtra	Rabba(1994); Lamrood(2000,2001); Foroutan and Vaidya(2007)
6.	<i>Phellinus badius</i> (Berk. : Cke.) Cunn.	<i>Acacia catechu</i> , <i>Albizziaamara</i> , <i>Vachellia nilotica</i> , <i>Senegalia chundra</i> , <i>Acacia nilotica</i> , <i>Dalbergia melanoxylon</i> , <i>Delonix regia</i>	Pune, Maharashtra Dehradun, Pithoragarh, Uttarakhand Haryana Durg; Madhya Pradesh	Bakshi(1971); Rabba(1994); Harsh (2002); Sharma (2002); Nagadeshi and Arya(2003); Ranadive (2007,2008); Bapat (2009); Parihar (2011)
7.	<i>Phellinus bakeri</i> (Murrill) A.Ames Current Name: <i>Fomitiporia bakeri</i> (Murrill) VlasákandKout	<i>Dalbergia melanoxylon</i> , <i>Tectona grandis</i> , <i>Artocarpus heterophyllus</i>	Pune, Maharashtra	Bapat (2009)
8.	<i>Phellinus baumii</i> Pilát Current Name: <i>Sanghuangporus baumii</i> (Pilát) L.W. Zhou and Y.C. Dai	<i>Cassia sp.</i>	Pune, Maharashtra	Foroutan and Vaidya (2007)
9.	<i>Phellinus calcitratus</i> (Berkeley,M.A.Curtis) Ryv Current Name: <i>Inonotus calcitratus</i> (Berk. and M.A. Curtis) Gomes-Silva andGibertoni	<i>Anthocephalus sp.</i> , <i>Areca catechu</i> , <i>Artocarpus sp.</i> , <i>Butea sp.</i> , <i>Derris sp.</i> , <i>Desmodium sp.</i> , <i>Diospyros sp.</i> , <i>Eucalyptus sp.</i> , <i>Garuga sp.</i> , <i>Grewia sp.</i> , <i>Heterophragma sp.</i> , <i>Mangifera indica</i> , <i>Saraca sp.</i> , <i>Tamarindus sp.</i> , <i>Tectona sp.</i>	Pune, Maharashtra	Vaidya and Arvind (1993); Foroutan and Vaidya(2007)

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10.	<i>Phellinus callimorphus</i> (Leveille) Ryvar den Current Name: <i>Fuscoporia Callimorpha</i> (Lév.) Groposo, Log.-Leite and Góes-Neto	<i>Dimorphocalyx lawianus</i>	Pune, Maharashtra	Vaidya and Arvind (1993)
11.	<i>Phellinus carteri</i> (Berk. ex Cooke) Ryvar den	<i>Artocarpus heterophyllus</i> , <i>Cassine glauca</i> , <i>Euphorbia antiquorum</i> , <i>Mangifera indica</i> , <i>Petrophorum ferrugineum</i> , <i>Syzygium cumini</i> , <i>Thespesia populneooides</i>	Pune, Maharashtra Meghalaya West Bengal	Vaidya and Arvind (1993); Sharma (1984); Kumar (2015)
12.	<i>Phellinus caryophylli</i> (Racib.) G. Cunn.	<i>Shorea robusta</i> , <i>Anogeisus latifolia</i> , <i>Desmodium moogeinese</i> , <i>Drynoglossum piloselloides</i> , <i>Cleistanthus collinus</i> , <i>Syzygium cumini</i> , <i>Terminalia bellarica</i> , <i>Terminalia chebula</i> , <i>Mallotus philipensis</i> , <i>Cordia dichotoma</i> , <i>Quercus incana</i>	Meghalaya Uttarakhand Piprodh; Madhya Pradesh	Thind (1970); Bakshi (1971); Rabba (1994); Sharma (2002); Nagadeshi and Arya (2003); Parihar (2011); Kumar (2015); Bala, Singh, Dhingra (2019); Mohan et al., (2020) Sharma (1989)
13.	<i>Phellinus cereus</i> (Berk.) Ryv. Current Name: <i>Hymenochaetex erantica</i> (Berk.) S.H. He and Y.C. Dai	<i>Polyalthia longifolia</i>	Assam Ramnagar; Uttarakhand	
14.	<i>Phellinus cesatii</i> (Bres.) Ryvar den Current Name: <i>Fulvifomes cesatii</i> (Bres.) Y.C. Dai	<i>Artocarpus integrifolia</i> , <i>Cassia</i> spp.	Pune, Maharashtra	Vaidya and Hakimi (2008)
15.	<i>Phellinus chequensis</i> (Iaconis and J.E. Wright) J.E. Wright and Blumenf. Current Name: <i>Fomes chequensis</i> Iaconis and J.E. Wright	<i>Pongamia pinnata</i>	Pune; Maharashtra	Foroutan, Vaidya (2007)
16.	<i>Phellinus chryseus</i> (Lév.) Ryvar den Current Name: <i>Fuscoporia chrysea</i> (Lév.) Baltazar and Gibertoni	<i>Garuga pinnata</i> , <i>Mangifera indica</i> , <i>Memecylon umbellatum</i> , <i>Swietenia mahogany</i>	Pune, Maharashtra	Rabba (1994); Vaidya and Hakimi (2008)
17.	<i>Phellinus cinchonensis</i> (Murrill) Ryvar den	<i>Quercus leucotrichophora</i> , <i>Quercus floribunda</i> , <i>Quercus semecarpifolia</i> , <i>Cinchona</i> sp.	West Bengal Meghalaya Uttarakhand	Bakshi (1971); Sharma (1986); Kumar (2015)
18.	<i>Phellinus coffeatorporia</i> Kotl. and Pouzar	<i>Dalbergia melanoxydon</i> , <i>Acacia nilotica</i>	Pune, Maharashtra	Foroutan, Vaidya (2007)
19.	<i>Phellinus conchatus</i> (Pers.) Qué Current Name: <i>Phellinopsis conchata</i> (Pers.) Y.C. Dai	<i>Actinidaphne</i> spp., <i>Artocarpus</i> spp., <i>Cassia</i> spp., <i>Casuarina</i> spp., <i>Cinamomum</i> spp., <i>Delonix</i> spp., <i>Mangifera indica</i> , <i>Mammea</i> spp., <i>Memecylon</i> spp., <i>Prosopis</i> spp., <i>Syzygium</i> spp., <i>Thespesia</i> spp., <i>Salix</i> spp., <i>Pyrus pashia</i> , <i>Cotoneaster</i> spp., <i>Mallotus philipensis</i> , <i>Quercus leucotrichophora</i> , <i>Quercus semecarpifolia</i> , <i>Rhus parviflora</i> , <i>Rhus punjabensis</i> , <i>Lyonia ovalifolia</i> , <i>Toona ciliata</i> , <i>Viburnum</i> spp., <i>Populus</i> spp., <i>Betula</i> spp.	Tehri, Rudraprayag; Uttarakhand Pune, Maharashtra Kerala Gujarat	Bagchee (1954); Bakshi (1971); Sharma (1993); Rabba (1994); Leelavathy and Ganesh (2000); Nagadeshi, Arya (2003); Ranadive (2010); Kumar (2015).

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20.	<i>Phellinus contiguus</i> (Pers.) Pat. Current Name: <i>Fuscoporia contigua</i> (Pers.) G. Cunn.	<i>Quercus semecarpifolia</i> <i>Pinus roxburghii</i> <i>Terminalia arjuna</i>	Kullu; Himachal Pradesh Badarwah; Jammu and Kashmir Uttarakhand Wayanad; Kerela Maharashtra	Bakshi(1971); Sharma(1996); Leelavathy and Ganesh (2000); Kumar(2015); Bala et al.(2019)
21.	<i>Phellinus crocatus</i> (Fr.) Ryvar- den	<i>Albizia lebbeck</i> <i>Artocarpus heterophyllus</i>		Rabba(1994); Vaidya and Arvind(1993); Bapat (2009)
22.	<i>Phellinus dependens</i> (Murrill) Ryvarden Current Name: <i>Tropicoporus dependens</i> (Murrill) L.W. Zhou, Y.C. Dai and Vlasák	<i>Mallotus philipensis</i> , <i>Schleiraoleosa</i> , <i>Terminalia paniculata</i>	Arunachal Pradesh West Bengal Malakkapara, Wayanad ;Kerela	Bakshi(1971); Sharma (1986); Leelavathy and Ganesh (2000); Mohan et al. (2020)
23.	<i>Phellinus discipes</i> (Berk.)Ryv. Current Name: <i>Fuscoporia discipes</i> (Berk.) Y.C. Dai and Ghob.-Nejh.	<i>Artocarpus heterophyllus</i>	Tamil Nadu Arunachal Pradesh, Pithoragarh; Uttarakhand Maharashtra	Bakshi(1971); Sharma (2002); Bapat (2009)
24.	<i>Phellinus durissimus</i> (Lloyd) A. Roy Current Name: <i>Fulvifomes durissimus</i> (Lloyd) Bondartseva and S. Herrera	<i>Laurus nobilis</i> , <i>Manilkara bidenatata</i> , <i>Ougeiniadelbergoides</i> , <i>Swietenia mahogany</i> , <i>Casuarina equisetifolia</i> , <i>shorea robusta</i> , <i>Polyalthia longifolia</i>	West Bengal Arunachal Pradesh Maharashtra Thiruvananthapuram; Kerela	Bakshi(1971); Sharma (1986); Bapat (2009); Mohan (2011).
25.	<i>Phellinus extensus</i> (Lév.) Pat. Current Name: <i>Fomes extensus</i> (Lév.) Cooke	<i>Prunus spp.</i>	Uttarakhand Meghalaya Gujarat	Sharma (1986); Nagadeshi and Arya (2003)
26.	<i>Phellinus fastuosus</i> (Lév.) S. Ahmad	<i>Acacia leucophloea</i> , <i>Acacia nilotica</i> , <i>Albizia lebbeck</i> , <i>Artocarpus heterophyllus</i> , <i>Azadirachta indica</i> , <i>Gliciridia sepium</i> , <i>Mangifera indica</i> , <i>Tamirindus indica</i> , <i>Shorea robusta</i> , <i>Swietenia mahogany</i> , <i>Swietenia macrophylla</i> , <i>Ficus sp.</i> , <i>Schleichera oleosa</i> , <i>Xylia xylocarpa</i> , <i>Grewia tiliifolia</i>	Dehradun; Uttarakhand Kangra; Himachal Pradesh Pune; Maharashtra Nilambur, Palghat; Kerela Gujarat	Bakshi (1971); Rabba (1994); Vaidya and Arvind (1993); Leelavathy and Ganesh (2000); Nagadeshi and Arya (2003); Sharma (2004); Foroutan and Vaidya (2007); Bapat (2009); Mohanan (2011); Kumar (2015); Mohan et al. (2020)
27.	<i>Phellinus ferreus</i> (Pers.) Bour- dot and Galzin Current Name: <i>Fuscoporia ferrea</i> (Pers.) G. Cunn.	<i>Quercus sp.</i> <i>Vateria indica</i>	Chopta, Chamoli, Uttarkashi; Uttarakhand Palakkad, Kottayam; Kerela	Sharma (1990); Leelavathy and Ganesh (2000); Mohan et al... (2011); Chander and Pathania (2019)
28.	<i>Phellinus ferrugineo-velutinus</i> (Henn.) Ryvar- den	<i>Anacardium occidentale</i>	Meghalaya Uttarakhand Wayanad; Kerela	Leelavathy and Ganesh (2000); Sharma(2002); Mohan, Kattany, Adarsh (2020)
29.	<i>Phellinus ferruginosus</i> (Schr.) Pat. Current Name: <i>Fuscoporia ferruginosa</i> (Schr.) Murrill	<i>Alnus spp.</i> , <i>Shorea spp.</i> , <i>Prunus spp.</i> , <i>Bamboo spp.</i> , <i>Cedrus deodara</i> , <i>Pinus spp.</i> , <i>Quercus sp.</i>	Meghalaya Uttarakhand	Sharma (2002)
30.	<i>Phellinus gilvoides</i> (Petch) Ryvarden Current Name: <i>Fulvifomescesatii</i> (Bres.) Y.C. Dai	Unidentified host	Wayanad; Kerela	Bakshi (1971)

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31.	<i>Phellinus gilvus</i> (Schwein.) Pat.	<i>Dalbergia sissoo</i> , <i>Shorea robusta</i> , <i>Dalbergia nigra</i> , <i>Acacia nilotica</i> , <i>Acacia catechu</i> , <i>Petrocarpus marsupium</i> , <i>Albizia lebbbeck</i> , <i>Cassia javanica</i> , <i>Quercus spp.</i> , <i>Eucalyptus spp.</i> , <i>Cornus spp.</i> , <i>Coriarianepalensis</i> , <i>Pyrus pashia</i> , <i>Myrica nagi</i> , <i>Rhododendron arboretum Terminalia bellerica</i> , <i>Dendrocalamus strictus</i> , <i>Vateria indica</i> , <i>Toona ciliata</i> , <i>Tectona grandis</i> ,	Uttarakhand Jammu and Kashmir Kerala Gujarat West Bengal	Bose (1937); Thind and Chatrath(1957); Bakshi (1971); Sharma (1996); Leelavathy and Ganesh (2000); Nagadeshi and Arya (2003); Mohanan(2011); Kumar (2015); Chander and Pathania (2019); Panda and Satapathy(2020); Mohan, Kattany, Adarsh (2020)
32.	<i>Phellinus glaucescens</i> (Petch) Ryvardeen Current Name: <i>Fulvifomes glaucescens</i> (Petch) Y.C. Dai	<i>Terminalia spp.</i> , <i>Memecylon spp.</i>	West Bengal Uttarakhand Maharashtra	Sharma and Ghosh (1989); Vaidya and Arvind (1993); Sharma (1986,2002).
33.	<i>Phellinus grenadensis</i> (Murrill) Ryvardeen	<i>Terminalia spp.</i> , <i>Memecylon spp.</i>	Uttarakhand Maharashtra Kerala	Natarajan and Raman (1980); Thind and Dhanda (1980); Vaidya and Arvind (1993); Sharma (2002, 2003); Foroutan and Vaidya (2007); Bapat (2009); Mohanan(2011); Kumar (2015) Lamrood(2000)
34.	<i>Phellinus griseoporus</i> D.A. Reid	<i>Albizia lebbbeck</i> , <i>Dalbergia melanoxydon</i>	Maharashtra	
35.	<i>Phellinus hippophaeicola</i> Current Name: <i>Fomitiporia hippophaeicola</i> (H. Jahn) FiassonandNiemelä	<i>Artocarpus heterophyllus</i>	Pune;Maharashtra	Foroutan and Vaidya(2007); Bapat (2009)
36.	<i>Phellinus hoehnelii</i> (Bres.) Ryvardeen	<i>Terminalia spp.</i>	Arunachal Pradesh Palakkad;Kerala Gujarat	Sharma(1991,1992,1993); Leelavathy and Ganesh (2000); Nagadeshi and Arya (2003) Sharma (1992,1993); Panda and Satapathy(2020)
37.	<i>Phellinus igniarius</i> (L.) Quéf.	<i>Viburnum sp.</i> , <i>Salix sp.</i> , <i>Alnus sp.</i> , <i>Populus sp.</i> , <i>Acer sp.</i> , <i>Quercus spp.</i> , <i>Abies spp.</i> , <i>Ulmus spp.</i> , <i>Betula spp.</i>	Uttarakhand	
38.	<i>Phellinus inermis</i> (Ellis andEverh.) G. Cunn. Current Name: <i>Fulvifomesinermis</i> (Ellis andEverh.) Y.C. Dai	<i>Peltophorumpterocarpus</i> <i>Tectona grandis</i>	Uttarakhand Himachal Pradesh Maharashtra	Thind andDhanda(1980); Vaidya and Hakimi (2008); Rabba(1994); Sharma (2005)
39.	<i>Phellinus incrusticeps</i> Corner	<i>Artocarpus heterophyllus</i>	Maharashtra	Bapat (2009)
40.	<i>Phellinus inamaenus</i> (Mont.) Ryvardeen Current Name: <i>Phellinus gilvus</i> (Schwein.) Pat	<i>Unidentified Host</i>	Uttarakhand Arunachal Pradesh	Sharma (1986,2002)
41.	<i>Phellinus johnsonianus</i> (Murrill) J. Lowe Current Name: <i>Fulvifomes johnsonianus</i> (Murrill) Y.C. Dai	<i>Prosopis cineraria</i>	Maharashtra Himachal Pradesh	Thindet al....(1970); Rabba(1994); Sharma (2005)
42.	<i>Phellinus laevigatus</i> BourdotandGalzin	<i>Betula utilis</i>	Uttarakhand Sikkim Maharashtra	Vaidya andArvind(1993); Sharma (1986,2008)
43.	<i>Phellinus lamaoensis</i> (Murrill) Pat. Current Name: <i>Pyrrhoderma lamaoense</i> (Murrill) L.W. Zhou and Y.C. Dai	<i>Acacia sp.</i> , <i>Olea dioica</i> <i>Artocarpus heterophyllus</i> , <i>Artocarpus altilis</i> , <i>Eriodendron anfructuosum</i> , <i>Garcinia mangastana</i> , <i>Mesua ferrea</i> , <i>Dipterocarpus turbinatus</i> , <i>Shorea robusta</i> , <i>Pterocarpus marsupium</i>	Meghalaya Himachal Pradesh Uttarakhand Madhya Pradesh	Bakshi (1971); Vaidya and Hakimi (2008); Sharma (2004,2005); Verma (2008); Kumar (2015)

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44.	<i>Phellinus linteus</i> (Berk. and M.A. Curtis) Teng Current Name: <i>Tropicoporus linteus</i> (Berk. and M.A. Curtis) L.W. Zhou and Y.C. Dai	<i>Mangifera indica</i> , <i>Acacia catechu</i> , <i>calophyllum</i> spp., <i>Caryotaurens</i> , <i>Cassia</i> spp., <i>Eugenia jambolana</i> , <i>Ficus benjamina</i> , <i>Gracina indica</i> , <i>Lagerstromia</i> spp., <i>Olea dioica</i> , <i>Pongamia glabra</i> , <i>Quercus</i> spp., <i>Tamarindus indica</i> , <i>Lonicera</i> sp., <i>Rhus punjabensis</i> , <i>Corylus colurna</i> , <i>Terminalia tomentosa</i>	Himachal Pradesh Arunachal Pradesh Maharashtra Gujarat Chhatisgarh	Bagchee(1959); Bakshi (1971); Rabba(1994); Sharma (1986,2004); Nagadeshi and Arya(2003); Foroutan and Vaidya(2007); Tiwari et al.(2008); Kumar (2015);Bala, Singh, Dhingra (2019)
45.	<i>Phellinus lloydii</i> (Cleland) G. Cunn. Current Name: <i>Inonotus lloydii</i> (Cleland) P.K. Buchanan and Ryvardeen	<i>Artocarpus integrifolia</i> <i>Caesalpinia</i> spp.	Maharashtra	Bapat (2009)
46.	<i>Phellinus luctuosus</i> (Ces.) Ryvardeen	<i>Caesalpinia</i> sp <i>Morus indica</i>	Maharashtra Jabalpur;Madhya Pradesh	Vaidya and Hakimi (2008); Verma (2005)
47.	<i>Phellinus mcgregorii</i> (Bres.) Ryvardeen Current Name: <i>Fulvifomes mcgregorii</i> (Bres.) Y.C. Dai	<i>Acacia</i> sp. <i>Artocarpus heterophyllus</i>	Maharashtra	Rabba(1994); Vaidya and Arvind (1993); Bapat (2009).
48.	<i>Phellinus mangrovicus</i> (Imazeki) Imazeki Current Name: <i>Fulvifomes mangrovicus</i> (Imazeki) T. Hatt.	<i>Peltorum ferruginosum</i> <i>Glyricidia sepium</i>	Pune,Maharashtra	Bapat (2009)
49.	<i>Phellinus melanodermus</i> (Pat.) M. Fidalgo	<i>Schleichera oleosa</i> <i>Casuarina equisetifolia</i> <i>Anogeissus latifolia</i>	Uttarakhand West Bengal Maharashtra	Vaidya and Arvind(1993); Sharma and Ghosh (1989); Sharma (1984,2007);
50.	<i>Phellinus melleoporus</i> (Murrill) Ryvardeen Current Name: <i>Fulvifomes melleoporus</i> (Murrill) Baltazar and Gibertoni	<i>Acer</i> sp. <i>Quercus</i> sp.	Uttarakhand Himachal Pradesh	Sharma (1992,1994)
51.	<i>Phellinus membranaceus</i> J.E. Wright and Blumenf. Current Name: <i>Fulvifomes membranaceus</i> (J.E. Wright and Blumenf.) Baltazar and Gibertoni	<i>Memecylon umbellatum</i>	Maharashtra	Vaidya and Arvind(1993)
52.	<i>Phellinus merrillii</i> (Murrill) Ryvardeen Current Name: <i>Fulvifomes merrillii</i> (Murrill) Baltazar and Gibertoni	<i>Acacia nilotica</i> , <i>Artocarpus integrifolia</i> <i>Azadirachata indica</i> <i>Caesalpinia</i> spp. <i>Gliricidia</i> spp. <i>Lagerstromia</i> spp. <i>Peltophorum</i> spp.	Uttarakhand Arunachal Pradesh Maharashtra Chhatisgarh	Bakshi(1971) Rabba(1994); Sharma (1986,2002); Foroutan and Vaidya(2007); Bapat (2009); Parihar (2010); Kumar (2015); Azeem (2017)
53.	<i>Phellinus minimus</i> N. Walters	<i>Artocarpus heterophyllus</i>	Maharashtra	Bapat (2009)
54.	<i>Phellinus minutiporus</i> Bondartseva and S. Herrera	<i>Albizia lebbeck</i>	Maharashtra	Bapat (2009)
55.	<i>Phellinus nigricans</i> (Fr.) P. Karst.	<i>Betula utilis</i>	Arunachal Pradesh Sikkim Uttarakhand	Sharma (1987); Azeem (2017)

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56.	<i>Phellinus nilgheriensis</i> (Mont.) G. Cunn.	<i>Bauhinia purpurea</i> <i>Artocarpus heterophyllus</i>	Arunachal Pradesh Uttarakhand West Bengal Tamil Nadu Maharashtra Kerela Gujarat	Sharma (1986,2002); Leelavathy and Ganesh (2000); Nagadeshi and Arya(2003); Foroutan and Vaidya(2007); Bapat (2009); Kumar (2015); Mohan et al..., (2020)
57.	<i>Phellinus noxius</i> (Corner) G. Cunn Current Name: <i>Pyrrhoderma noxium</i> (Corner) L.W. Zhou and Y.C. Dai	<i>Poinciana spp.</i> <i>Cinchona spp.</i> <i>Acacia spp.</i> <i>Coffea spp.</i> <i>Thea spp.</i>	Arunachal Pradesh Gujarat	Sharma (1987); Nagadeshi,Arya(2003)
58.	<i>Phellinus orientalis</i> Bondartsevaand S. Herrera Current Name: <i>Phellinidium orientale</i> (Bondartsevaand S. Herrera) Bondartsevaand S. Herrera	<i>Thespesia populnea</i>	Maharashtra	Lamrood (2000)
59.	<i>Phellinus ostricolor</i> Parmasto Current Name: <i>Fomes ostricolor</i> Lloyd	<i>Rhus wallichii</i> <i>Shorea robusta</i>	Kardagaon; Chhatisgarh Kullu,Himachal Pradesh	Bakshi(1971); Tiwari et al..., (2008)
60.	<i>Phellinus pachyphloeus</i> (Pat.) Pat. Current Name: <i>Inonotus pachyphloeus</i> (Pat.) T. Wagner and M. Fisch.	<i>Mangifera indica</i> <i>Ficus carica</i> <i>Ficus benjamina</i> <i>Anogeissus latifolia</i>	Uttarakhand Kerela Gujarat Chhatisgarh.	Sharma (1986); Nagadeshi and Arya(2003); Parihar(2010); Mohan(2011); Kumar (2015)
61.	<i>Phellinus pappianus</i> (Bres.) Ryvarde Current Name: <i>Phellinus rimosus</i> (Berk.) Pilát	<i>Caesalpinia coriuria</i>	Maharashtra	Forutan and Vaidya (2007)
62.	<i>Phellinus pectinatus</i> (Klotzsch) Qué Current Name: <i>Phylloporia pectinata</i> (Klotzsch) Ryvarde	<i>Tamarindus indica</i> <i>Dalbergia melanoxydon</i> <i>Dalbergia sp.</i> <i>Eugenia sp.</i> <i>Prunus sp.</i> <i>Pyrus sp.</i>	Arunachal Pradesh Uttarakhand	Thind andChatrath(1957); Bakshi (1971); Vaidya and Arvind (1993) Sharma (1987,1992); Foroutan and Vaidya(2007); Kuamr(2015)
63.	<i>Phellinus pini</i> (Brot.) Pilát	<i>Pinus wallichiana</i> <i>Cedrus deodara</i> <i>Larix spp.</i>	Himachal Pradesh Uttarakhnad	Bakshi(1971); Sharma(1994, 2002) Kumar (2015); Bala et al., (2019)
64.	<i>Phellinus portoricensis</i> (Overh.) M. Fidalgo Current Name: <i>Inonotus portoricensis</i> (Overh.) Baltazar andGiberton	<i>Schima wallichii</i> , <i>Shorea robusta</i> , <i>Lagerstromia parviflora</i>	Meghalaya Arunachal Pradesh Gariyaband; Chhatisgarh	Sharma (1984); Tiwari et al..., (2008)
65.	<i>Phellinus pseudosenex</i> (Murrill) Bondartsevaand S. Herrera Current Name: <i>Fomes pseudosenex</i> (Murrill) Sacc. andTrotter	<i>Elaeocarpus serratus</i> , <i>Aglaia elaeagnoidea</i> <i>Dillenia pentagyna</i>	Thris-sur,Palghat;Kerela	Bagchee(1947); Leelavathy and Ganesh (1986)
66.	<i>Phellinus pullus</i> (Mont. and Berk.) Ryvarde Current Name: <i>Phylloporia pulla</i> (Mont. and Berk.) DecockandYombiy.	<i>Shorea robusta</i> , <i>Quercus leucotrichophora</i> , <i>Acacia catechu</i> , <i>Betula sp.</i> , <i>Azadirachata indica</i> , <i>Dalbergia sissoo</i> , <i>Rhododendron arborium</i> , <i>Syzygium-cumini</i>	Uttarakhand	Azeem (2017); Kumar (2018)
67.	<i>Phellinus punctatus</i> (P. Karst.) Pilát Current Name: <i>Fomitiporia punctata</i> (P. Karst.) Murrill	<i>Unidentified host</i> <i>Santalum album</i>	Uttarakhnad Himachal Pradesh Kozhikode;Kerela	Vaidya andHakmi(2008); Leelavathyand Ganesh (1984); Sharma(2002, 2004)
68.	<i>Phellinus punctatiformis</i> (Murrill) Ryvarde	<i>Azadirachta indica</i>	Idukki; Kerela	Mohan(2011)

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69.	<i>Phellinus purpureogilvus</i> (Petch) Ryvarden	<i>Pithocellabium saman</i>	Uttarakhand West Bengal Maharashtra Punjab	Vaidya and Hakimi (2008); Sharma (1990); Singh,Dhingra (2003)
70.	<i>Phellinus ranulensis</i> Adask., Gilb. and Blanchette	<i>Artocarpus heterophyllus</i> ,	Maharashtra	Bapat (2009)
71.	<i>Phellinus reichingiri</i> (Bres.) Ryvarden	<i>Gliricidia sepium</i>	Maharashtra	Foroutan, Vaidya (2007)
72.	<i>Phellinus resinaceus</i> Kotl. andPouzar	<i>Mangifera indica</i> <i>Artocarpus heterophyllus</i>	Maharashtra	Foroutan, Vaidya(2007); Bapat (2009)
73.	<i>Phellinus rhabarbarinus</i> (Berk.) G. Cunn Current Name: <i>Fuscoporia rhabarbarina</i> (Berk.) Groposo, Log.- LeiteandGóes-Neto	<i>Rhus wallichii</i>	Uttarakhand Arunachal Pra- desh	Sharma (2002)
74.	<i>Phellinus rhytiphloeus</i> (Mont.) Ryvarden Current Name: <i>Fulvifomes rhytiphloeus</i> (Mont.) Camp.-Sant. and Robledo	<i>Artocarpus heterophyllus</i> <i>Azadirachta indica</i>	Maharashtra	Foroutan, Vaidya (2007)
75.	<i>Phellinus ribis</i> (Schumach.) Quél. Current Name: <i>Phylloporia ribis</i> (Schumach.) Ryvarden	<i>Murraya exotica</i> , <i>Mur- rayakoenigii</i> , <i>Desmodi- umoojeinensis</i> , <i>Mallo- tusphilippinensis</i> , <i>Bhau- hinia spp.</i> , <i>Syzygium- cumini</i>	Maharashtra	Bakshi(1971); Thindand Rattan (1971); Vaidya and Arvind (1993)
76.	<i>Phellinus rickii</i> Teixeira	<i>Swietenia mahogany</i>	Maharashtra	Ranadive (2007)
77.	<i>Phellinus rimosus</i> (Berk.) Pilát	<i>Dalbergia sisso</i> , <i>Anogeis- sus latifolia</i> , <i>Eugenia spp.</i> , <i>Terminalia spp.</i> , <i>Quercus spp.</i> , <i>Mallotus philippensis</i> , <i>Elaeoden- dron spp.</i> , <i>Shorea ro- busta</i> , <i>Laurus nobilis</i> , <i>Terminalia bellirica</i> , <i>Sen- egalia modesta</i> , <i>Acacia nolotica</i> , <i>Caesalpinia cariaria</i> , <i>Gliricidia sepium</i> , <i>Artocarpus heterophyllus</i> , <i>Ficus bengha- lensis</i> , <i>Terminalia cremu- lata</i> , <i>Acacia catechu</i>	Uttarakhnad Arunachal Pra- desh Pune; Maharash- tra Nilambur;Kerela Ambika- pur,Chhatisgarh	Bagchee(1946); LeelavathyandGanesh (1985,1986); Sharma (1992); Vaidya andArvind(1993); Tiwari,Parhar,Verma (2008); Bapat (2009); Mohan(2011); Kumar (2015); Mohan et al. Kattany, Adarsh (2020)
78.	<i>Phellinus robiniae</i> (Murrill) A. Ames	<i>Anogeissus latifolia</i> , <i>Ter- minalia spp.</i> , <i>Terminalia bellirica</i> , <i>Acacia modesta</i> , <i>Anogeissus pendula</i> , <i>Laurus nobilis</i> , <i>Piper longum</i>	Uttarakhand Kerela	Sharma (2002); Mohan(2011)
79.	<i>Phellinus robustus</i> (P. Karst.) BourdotandGalzin Current Name: <i>Fomitiporia robusta</i> (P. Karst.) FiassonandNiemelä	<i>Abies pindrow</i> , <i>Picea sp.</i>	Uttarakhand Sikkim Himachal Pradesh	Sharma (2002) Bala, Singh, Dhingra (2019)
80.	<i>Phellinus ruffitinctus</i> (Berk. and M.A. Curtis ex Cooke) Pat. Current Name: <i>Phellinidium ruffitinctum</i> (Berk. and M.A. Curtis ex Cooke) Bondartsevaand S. Herrera	<i>Unidentified host</i>	Maharashtra	Vaidya andArvind(1993)

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81.	<i>Phellinus sancti-georgii</i> (Pat.) Ryvarden	<i>Acacia tomentosa</i>	Maharashtra	Rabba(1994); Vaidya and Arvind(1993); Bapat (2009)
82.	<i>Phellinus sanfordii</i> (Lloyd) Ryvarden	<i>Rhus punjabensis, Quercus spp., Betula utilis</i>	Uttarakhand	Sharma(2003); Bala and Dhingra (2019)
83.	<i>Phellinus sanjani</i> (Lloyd) Ryvarden Current Name: <i>Phellinus rimosus</i> (Berk.) Pilát	<i>Artocarpus heterophyllus, Gliricidia sp. Tamarindus sp.</i>	Uttarakhand Maharashtra	Rabba(1994); Sharma (2002); Bapat(2009)
84.	<i>Phellinus scruposus</i> (Fr.) Pat. Current Name: <i>Phellinus gilvus</i> (Schwein.) Pat.	<i>Prunus padus Cedrus deodara</i>	Uttarakhand Jammu and Kashmir	Bakshi(1971); Bala et al. (2019)
85.	<i>Phellinus senex</i> (Neesand Mont.) Imazeki Current Name: <i>Fuscoporia senex</i> (Neesand Mont.) Ghob.-Nejh.	<i>Melia azadirach, Morus alba, Chukrasia tabularis, Aesculus hippocastanum, Mimusops elengi, Prunus persia, Pyrus domestica, Artocarpus heterophyllus, Dendrocalamus strictus</i>	Thrissur;Kerela Pune;Maharashtra Chakra- ta;Uttarakhand Bori, Madhya Pra- desh	Leelavathyand Ganesh (1984); Verma (2004); Bapat (2009); Kumar (2015)
86.	<i>Phellinus setulosus</i> (Lloyd) Imazeki	<i>Peltophorum spp., Petrocarpus spp. Grevillea pteridifolia</i>	Arunachal Pra- desh Maharashtra Thrissur;Kerela Gujarat Chandan Bagh;Madhya Pradesh	Sharma(1986); Harsh and Tiwari(1990); Leelavathy and Ganesh (2000); Nagadeshi and Arya(2003); Foroutan and Vaidya (2007)
87.	<i>Phellinus shaferi</i> (Murrill) Ryvarden	<i>Mangifera indica Syzygium cumini</i>	Maharashtra Gujarat	Vaidya and Arvind(1993); Nagadeshi and Arya (2003)
88.	<i>Phellinus sonora</i> Gilb.	<i>Azadirachta indica</i>	Maharashtra	Vaidya and Hakimi (2008)
89.	<i>Phellinus stratosus</i> Pat.	<i>Gliricidia sepium Tamarindus indica</i>	Maharashtra	Rabba(1994); Bapat (2009)
90.	<i>Phellinus sublinteus</i> (Murrill) Ryvarden Current Name: <i>Inonotus luteoumbrius</i> (Romell) Ryvarden	<i>Agalaia spp., Gliricidiasepium, Azadirachata indica, Peltophorum ferrugineum, Mangifera indica, Anogeissus latifolia</i>	Meghalaya andaman South Coimbatore Maharashtra Kerela	Bakshi(1971); Sharma and Ghosh (1989); Rabba(1994); Leelavathy and Ganesh (2000); Bapat (2009); Kumar (2015)
91.	<i>Phellinus swieteniae</i> (Murrill) S. Herrera and Bondartseva	<i>Avicennia officinalis</i>	Maharashtra	Rabba(1994); Vaidya and Arvind (1993); Bapat (2009)
92.	<i>Phellinus syringaeus</i> X.L. Zeng	<i>Artocarpus heterophyllus</i>	Maharashtra	Bapat(2009)
93.	<i>Phellinus torulosus</i> Current Name: <i>Fuscoporia torulosa</i> (Pers.) T. Wagner and M. Fisch.	<i>Albezzia lebbeck, Cassia fistula, Memecylon umbellatum</i>	Uttarakhand Arunachal Pra- desh Maharashtra	Thind et al. (1970); Rabba(1994); Sharma (1986,2002); Kumar(2015); Bala, Singh, Dhingra (2019)
94.	<i>Phellinus tricolor</i> (Bres.) Kotl Current Name: <i>Inonotus tricolor</i> (Bres.) Y.C. Dai	<i>Shorea robusta</i>	Uttarakhand	Bakshi(1971); Kumar (2015)
95.	<i>Phellinus tropicalis</i> M.J. Larsen and Lombard Current Name: <i>Tropicoporus tropicalis</i> (M.J. Larsen and Lombard) L.W. Zhou and Y.C. Dai	<i>Derris indica, Mangifera indica, Dimocarpus longan</i>	Maharashtra	Rabba(1994)
96.	<i>Phellinus troyanus</i> Current Name <i>Fomes extensus</i> (Lév.) Cooke	<i>Derris sp., Dimocarpus logan</i>	Palghat, Thrissur; Kerela	Leelavathy and Ganesh (1985)

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97.	<i>Phellinus umbrinellus</i> (Bres.) S. Herrera and Bondartseva Current Name: <i>Fulvifomes umbrinellus</i> (Bres.) Y.C. Dai	<i>Mangifera indica</i> , <i>Psidium guajava</i>	Maharashtra Tamil Nadu	Natarajan and Kolandavelu (1985); Rabba (1994); Vaidya and Arvind (1993)
98.	<i>Phellinus viticola</i> (Schwein.) Donk	<i>Quercus semecarpifolia</i>	Uttarakhand	Kumar (2014)
99.	<i>Phellinus wahlbergii</i> (Fr.) D.A. Reid Current Name: <i>Fuscoporia wahlbergii</i> (Fr.) T. Wagner and M. Fisch.	<i>Quercus sp.</i> , <i>Syzygium sp.</i> ,	Uttarakhand Kerala	Sharma(1995); Leelavathy and Ganesh (1984); Mohanan (2011)
100.	<i>Phellinus xeranticus</i> (Berk.) Pegler Current Name: <i>Hymenochaete xerantica</i> (Berk.) S.H. He and Y.C. Dai	<i>Quercus sp.</i> <i>Tectona grandis</i>	West Bengal Arunachal Pradesh Uttarakhand Himachal Pradesh	Bakshi(1971); Harsh (1982); Sharma (1994); Tiwari et al. (2009); Kumar (2015)
101.	<i>Phellinus zealandicus</i> (Cooke) Teng	<i>Grevillea spp.</i>	Arunachal Pradesh	Bakshi (1971)

Table 2. Showing dominantly infected genera amongst the host range of *Phellinus* (Source: Analysis based on Table-1.)

Sr. No.	Genus	Family	No. of <i>Phellinus</i> species inducing infection
1.	<i>Artocarpus</i>	Moraceae	21
2.	<i>Acacia</i>	Combretaceae	18
3.	<i>Terminalia</i>	Fabaceae	18
4.	<i>Shorea</i>	Dipterocarpaceae	14
5.	<i>Dalbergia</i>	Fabaceae	10
6.	<i>Albizia</i>	Fabaceae	9
7.	<i>Quercus</i>	Fagaceae	9
8.	<i>Gliricidia</i>	Fabaceae	8
9.	<i>Anogiessus</i>	Combretaceae	8
10.	<i>Betula</i>	Betulaceae	7

have very poor resistance towards *Phellinus* attack and contain some nutrients that attract this fungus towards the species of this family. Wood decaying fungi affects plant species when they get external injuries and spores of these pathogenic fungi enter the tree system through injured sites. Most plants from Fabaceae are urban avenue trees that are often subjected to stress and external injuries, making them vulnerable for fungal attacks.

Species wise abundance in states like Uttarakhand, Maharashtra and Kerala (Fig. 1) indicated that various workers had done the taxonomic work in these areas. The areas like Uttar Pradesh, Bihar, Jharkhand, Odisha, Rajasthan, Karnataka, Andhra Pradesh, Telangana, Union Territories and North Eastern states like Manipur, Mizoram and Nagaland are the areas where least number of species are reported and are least explored. Extensive work of taxonomy and species reporting requires to be done in these areas. Areas like Maharashtra, Uttarakhand, Kerala, Himachal Pradesh, Arunachal Pradesh, Gujarat and West Bengal with the highest availability of *Phellinus* species are properly explored and show perfect environment conditioned to have maximum diversity of *Phellinus* species.

Conclusion

The present study concluded that *Phellinus* as a potential pathogen affects many species of plants belonging to different families. The Most affected genus is *Artocarpus* followed by *Acacia*, *Terminalia*, *Shorea*, *Dalbergia*, *Albizia*, *Quercus*, *Gliricidia*, *Anogiessus* and *Betula*. The most affected families are Fabaceae with twenty-two genera followed by Meliaceae, Myrtaceae, Pinaceae, Sapindaceae, Moraceae, Dipterocarpaceae, Lauraceae, Euphobiaceae and Malvaceae. It

Table 3. Showing family wise susceptibility assessment of infection (Source: Analysis based on Table-1).

Sr. No.	Family	No. of infected genera
1.	Fabaceae	22
2.	Meliaceae	5
3.	Myrtaceae	4
4.	Pinaceae	4
5.	Sapindaceae	4
6.	Moraceae	3
7.	Dipterocarpaceae	3
8.	Lauraceae	3
9.	Euphorbiaceae	3
10.	Malvaceae	3

can affect hosts in different climatic conditions. Tropical moist climatic conditions make this fungus more vigorous and is most apt for its growth. Some species like *Artocarpus heterophyllus*, species of *Acacia*, *Terminalia*, *Shorea robusta*, *Dalbergia sissoo*, *Albizia lebbbeck*, and *Quercus species*, *Gliricidia sepium* with weak system and low resistant subjected to stress and external injuries are more prone to genus *Phellinus* attack. Availability of *Phellinus* species to particular regions indicates that the work done in areas like Maharashtra, Uttarakhand, Kerala, Himachal Pradesh, Arunachal Pradesh, Gujarat and West Bengal pertains to the taxonomy of *Phellinus*. The states like Uttar Pradesh, Bihar, Jharkhand, Odisha, Rajasthan, Karnataka, Andhra Pradesh, Telangana, Union Territories, Manipur, Mizoram and Nagaland which are still left to be explored yet. This study could be the base-line data to explore these areas by taxonomists regarding the availability of *Phellinus* species. It could be helpful in the future to study *Phellinus sensu lato* and its hosts for its biodiversity, medicinal and pathological findings.

Conflict of interest

The authors declare that they have no conflict of interest.

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