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Diversity of wood-decaying fungi from Latur District, (M.S.) India

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Abstract
Present communication deals with the wood-decaying fungi, collected from various region of Latur District belongs to ten tehsil, Ahmedpur, Ausa, Chakur, Deoni, Jalkot, Latur, Nilanga, Renapur, Shirur Anantpal, and Udgir. Study was carried out during year 2021-2023. 109 Specimens were collected and identified according to morphological and microscopic feature, from that 26 species were newly recorded for Latur District, belongs to 19 genera and 11 families. Most dominating family was observed Polyporaceae (5 genera) and genus were observed *Auricularia* and *Xylaria* (3 species each).

Keywords: *Auricularia*, Latur, morphological, microscopic, *Xylaria*

Introduction
Latur district is part Marathwada region of Maharashtra state. Located between 17°52' to 18°50' N and 76°18' to 79°12' E, belongs to ten tehsil Ahmedpur, Ausa, Chakur, Deoni, Jalkot, Latur, Nilanga, Renapur, Shirur Anantpal, and Udgir. Wood-decaying fungi are important component and play a major role in decomposition of wood and as a nutrient recycler in ecosystem. These type fungi having ability to degrade lignin, cellulose and hemicellulose of wood and breakdown wood component and changes in its physical and chemical components are term as wood rot. There are known two types of wood rot, one which degrade lignin and cellulose where wood is bleached is called as white rot, while other cellulose is degraded leaving lignin more or less intact as a brown residue called as brown rot. White rot in which lignin and polysaccharides are metabolized (Cowling 1961) [1], and in brown rot lignin is modified (Kirk and Highley, 1973; Kirk, 1975) [7, 8]. Checklist of Aphyllophorales from the western ghat of Maharashtra state reported 256 species, included 170 species from 10 poroid families and 86 species from 20 non-poriod families (Ranadive *et al*, 2011) [9]. 14 species of wood-decaying fungi were reported from Mantha (Kakde and Gaikwad, 2014) [6]. 5 species of genus *Xylaria* reported from Aurangabad District of Maharashtra (Gore and Mali, 2022) [2]. 27 species were reported followed by 22 genera and 14 families from Soygaon Tehsil Aurangabad district (M.S.) India (Gore and Mali, 2023) [3]. 18 genera, 20 species, and 15 families were reported from Sillod tehsil of Chhatrapati Sambhajinagar (Aurangabad) District, Maharashtra (Gore & Mali, 2024) [4]. Recently from collected 107 specimens 25 species were identified followed by 24 genera and 12 families were reported from Dharashiv (Osmanabad) District, Maharashtra (Gore & Mali, 2024) [4].

Materials and Methods
Collection of wood-decaying fungi were done during year 2021-2023, month of July to November from various region of Latur District. The basidiocarps of macro-fungi were first photographed at site in natural condition then noted down macro-morphological features by using a hand lens (20 X) color, shape, dimension, consistency, sterile surface, fertile surface, pore per mm. Microscopic feature were observed under 40X and 100X Magnification (Olympus CX 41) in laboratory.

Results and Discussion
In present study 26 species of wood-decaying fungi were identified from various regions of Latur District, Maharashtra state. Followed by 19 genera and 11 families. Have been summarized (Table 1).

Table 1: Wood-decaying Fungi with host susceptible from different localities of Latur District

Sr.no	Scientific name	Family	Host	Basidiocarp Dimension	Spore Dimension	Locality	Latitude & Longitude
01	*Auricularia auricula-judae* (Bull.) Quél.	Auriculariaceae	*Acacia nilotica* (L.) Delile	Annual, Pileus, 1–4.4 × 0.5–3.1 × 0.2–0.4 cm, ear like, fertile surface smooth, sulcate to vein like.	Spores 15–21 × 5–6.5 µm, allantoid.	Tandulja, Tq Latur	18°31'48"N 76°18'26"E
02	*Auricularia mesenterica* (Dicks.) Pers.	Auriculariaceae	*Azadirachta indica* A.Juss	Annual, resupinate to effuse-reflexed, 0.5–7.2 × 0.5–6.1 cm, 0.2 –0.3 cm thick, moist dependent, fertile surface smooth to slightly wrinkled.	Spores 8–12.5 × 5–6.5 µm, ovoid to reniform.	Bhagya nagar, Tq Ahmedpur	18°42'47"N 76°56'19"E
03	*Auricularia nigricans*	Auriculariaceae	*Ficus benghalensis* L	Annual, Pileus, 0.9–	Spores 14–	Kadmuli, Tq	18°31'41"N

	(Sw.) Birkebak, Looney & Sánchez-García			4.1 × 0.5–3.1 cm, 0.2–0.3 cm thick, ear like moist dependent, fertile surface smooth.	16 × 5.5–7 µm, allantoid.	Chakur	76°50'26"E
04	*Crepidotus variabilis* (Pers.) P. Kumm.	Crepidotaceae	*Bambusa vulgaris* Schrad	Annual, Pileus, 0.5–2.5 cm in diameter, flabelliform, fertile surface gilled croweded.	Spores 5.5–6.5 × 3–3.5 µm, ellipsoid.	Tandulja, Tq Latur	18°31'54"N 76°17'56"E
05	*Cyathus striatus* (Huds) Willd.	Incertae sedis,	*Acacia nilotica* (L.) Delile	Annual, egg nest like, 0.5–1.5 × 0.3–0.8 cm, eggs 8–14 in number.	Spores 9–13 × 8.5–11 µm, ellipsoid.	Nanand, Tq Nilanga	18°06'15"N 76°43'08"E
06	*Daldinia concentrica* (Bolton) Ces. & De Not.	Hypoxylaceae	*Albizia lebbeck* (L.) Benth.	Annual, globose or hemispherical, 1.9–6.4 × 1.1–5.1 × 1.1–2.4 cm, Perithecia 800–1100 × 300–500 µm,	Spores 12–17 × 5–7 µm, elliptic-fusiform	Nagewadi, Tq Shirur Anantpal	18°19'10"N 76°50'59"E
07	*Datronia mollis* (Sommerf.) Donk	Polyporaceae	*Senna siamea* (Lam.) H.S. Irwin & Barne by	Annual, Pileus, 5–7 × 1.5–6× 0.5–0.7 cm, fertile surface poroid, pores 1-2 per mm.	Spores 8.5–13 × 3–4 µm, cylindrical	Jawala, Tq Latur	18°30'06"N 76°22'59"E
08	*Exidia recisa* (Ditmar) Fr.	Auriculariaceae	*Acacia nilotica* (L.) Delile	Annual, glubose, 0.6–3.6 × 0.4–2.5 × 0.5–2.1 cm, annual, moist dependent, lobed mass irregularly folded to form brain like structure, fertile surface smooth.	Spores 13.5–14.5 × 3.5–4 µm, allantoid	Mubarakpur, Tq Nilanga	18°08'44"N 76°44'34"E
09	*Favolus grammocephalus* (Berk.) Imazeki	Polyporaceae	*Ficus amplissima* Sm.	Annual, Pileus, 2.5–7.2 × 1.9–5.7 cm and 0.2–1 cm thick, fertile surface poroid 3–4 per mm pores, round to angular,	Spores 4.5–6 × 2–3 µm, oblong ellipsoid.	Borphal, Tq Ausa	18°12'40"N 76°27'48"E
10	*Gloeoporus sp*	Polyporaceae	*Mangifera indica* L.	Annual, resupinate, 0.5–17.3 × 0.5–8 × 0.2–0.8 cm thick, fertile surface pores round to angular, 4–6 per mm	Spores 4–5.5 × 2–3 µm, ellipsoid	Kadmuli, Tq Chakur	18°31'39"N 76°50'23"E
11	*Gymnopilus pampeanus* (Speg.) Singer	Hymenogastraceae	*Eucalyptus oblique* L'Hér	Annual, Pileus 2–5.1 cm in diameter, convex to planoconvex, Gills free, 13–16 per cm, sinuate to adanate, Annulus present	Spores 6.5–9 × 4.5–6 µm, ellipsoid	Jawala, Tq Latur	18°29'37"N 76°23'52"E
12	*Gymnopilus purpureosquamulosus* Høil	Hymenogastraceae	*Zizyphus mauritiana* Lam.	Annual, Pileus 2.5–6.2 cm in diameter, convex to planoconvex, Gills free, 16–18 per cm, Annulus present	Spores 7.5–9.5 × 4–6 µm, ellipsoid	Ghansargaon, Tq Latur	18°33'16"N 76°35'57"E
13	*Hypoxylon haematostroma* Mont.	Hypoxylaceae	*Ficus benghalensis* L.	Annual, resupinate, 12.2 × 5.1 × 0.1–0.3 cm, Fertile surface minutely papillate, cinnabar to blood red, Perithecia long tubular 900–2300 × 200–600 µm.	Spore 15.5–18 × 5.5–8.5 µm, elliptic-fusiform	Jau, Tq Nilanga	18°08'01"N 76°43'04"E
14	*Hypoxylon*	Hypoxylaceae	*Peltophorum pterocarpum*	Annual to perennial,	Spore 11–	Borphal, Tq	18°12'43"N

	rubiginosum (Pers.) Fr.		(DC.) K.Heyne	resupinate, 14.3 × 5.6 × 0.1–0.4 cm, Fertile surface papillate, rusty brown to purpulish black, peritheca 200–400 × 1500–4000 µm, spherical to obovoid,	15 × 5–6 µm, ellipsoid	Ausa	76°27'32"E
15	*Lentinus squarrosulus* Mont.	Polyporaceae	*Senna siamea* (Lam.) H.S. Irwin & Barne by	Annual, Pileus 4 –7 cm in diameter, infundibuliform Gills 9–12 per cm, deeply decurrent	Spores 5–7.5 × 1.7–2.5 µm, cylindrical	Banshelk, Tq. Udgir	18°22'24"N 77°05'42"E
16	*Leucocoprinus fragilissimus* (Ravenel ex Berk. & M.A. Curtis) Pat.	Agaricaceae	*Ficus benghalensis* L.	Annual, Pileus –3.8 cm in diameter, flat to planoconvex, Gills free 7– 10 per cm, Annulus present	Spores 8.5–13.5 × 5.5–7.5 µm, ellipsoid	Hali Kh, Tq Chakur	18°31'53"N 76°49'49"E
17	*Microporus xanthopus* (Fr.) Kuntze	Polyporaceae	*Bougainvillea spectabilis* Willd	Annual, Pileus 4–6 × 3.5–5 × 0.1–0.5 cm thick at the base, infundibuliform, Fertile surface poroid, pores angular, 8–10 per mm, pores	Spores 6–7 × 2–2.5 µm, cylindrical	Jau, Tq Nilanga	18°08'08"N 76°43'01"E
18	*Phlebiopsis flavidoalba* (Cooke) Hjortstam	Phanerochaetaceae	*Melia azedarach* L.	Annual, resupinate, 4.5 × 1.5× 0.1–0.2 cm thick, Fertile surface smooth to sparsely tuberculate	Spores 6–7.5 × 4–5 µm, broadly ellipsoid	Hali Kh, Tq Chakur	18°31'58"N 76°50'01"E
19	*Pleurocybella porrigens* (Pers.) Singer,	Incertae sedis,	*Jatropha curcas* L.	Annual, Pileus1.8–8.4 × 1.4–6.6cm, Gills decurrent, 9–12 per cm	Spores 6.5–9 × 4.5–6 µm, ellipsoid	Gopalpur, Tq Ausa	18°14'48"N 76°29'37"E
20	*Pleurotus cystidiosus* O.K. Mill	Pleurotaceae	*Mangifera indica* L.	Annual, Pileus 3–7.1 × 3.4–6.4 cm, pleurotoid, Gills decurrent, 9–10 per cm	Spores 8.5–14.5 × 4.5–6.5 µm, cylindrical	Madlapur, Tq. Udgir	18°21'47"N 77°06'22"E
21	*Pleurotus djamor* (Rumph. ex Fr.) Boedijn	Pleurotaceae	*Mangifera indica* L.	Annual, Pileus 2–5.1 × 1.6–4.2 cm, pleurotoid, spathulate to flabelliform. Gills decurrent, 9–10 per cm,	Spores 8.5–11 × 3.5–5.5 µm, cylindrical	Gadwad, Tq Latur	18°31'01"N 76°19'42"E
22	*Pluteus cervinus* (Schaeff.) P. Kumm.	Pluteaceae	*Mangifera indica* L.	Annual, Pileus 4.5–5.5 cm in diameter, campanulate to broadly convex. Gills 8–12 per cm, free, crowded	Spores 6–7.5 × 5.5–6.5 µm, ovoid to ellipsoid	Sambhaji Nagar, Tq Ausa	18°14'27"N 76°29'50"E
23	*Psathyrella candolleana* (Fr.) Maire,	Psathyrellaceae	*Acacia nilotica* (L.) Delile	Annual, Pileus 1.7–4.7 cm in diameter, rounded, conical then convex. Gills free, 13–15 per cm, close to rather crowded	Spores 6.5–7.5 × 3–5 µm, ellipsoid	Madlapur, Tq. Udgir	18°21'44"N 77°06'15"E
24	*Xylaria multiplex* (Kunze) Fr.	Xylariaceae	*Acacia nilotica* (L.) Delile	Annual, fertile surface 1.4–3.9 × 0.1– 0.3 cm, clavate, elongated, cylindrical, undulated Perithecia 1750– 4400	Spores 9–10.5 × 4–6 µm, ellipsoid-equilateral	Deoni, Tq Deoni	18°16'06"N 77°04'52"E

				× 300–600 µm, embedded in fertile head			
25	*Xylaria polymorpha* (Pers.) Grev	Xylariaceae	*Butea monosperma* (Lam.) Taub.	Annual, fertile surface 2.1–6.3 × 1.5–3.2 cm papillate with black dots, irregularly sulcate Perithecia 300–1100 × 300–600 µm, embedded in fertile head	Spores 10.5–15 × 4–5 µm, uniseriate, fusiform	Tandulwadi, Tq Latur	18°27'59"N 76°26'07"E
26	*Xylaria symplocii* A. Pande, Waing., Punekar & Ranadive	Xylariaceae	*Acacia nilotica* (L.) Delile	Annual, fertile surface 5.9–14.8 × 1.1–2.1 cm, minutely papillate as black dots, irregularly sulcate. Perithecia 600–800 × 300–600 µm, embedded in fertile head	Spores 12.5–15.5 × 4.5–6 µm, fusiform	Turukwadi,Tq Shirur Anantpal	18°21'09"N 76°48'42"E

Conclusion

109 fruiting bodies were collected from various area of Latur District, belongs to ten tehsil Ahmedpur, Ausa, Chakur, Deoni, Jalkot, Latur, Nilanga, Renapur, Shirur Anantpal, and Udgir. In present study, wood-decaying fungi is categories into two Phyla Ascomycota and Basidiomycota. Ascomycota belongs to 2 families, 2 genera and 6 species and Basidiomycota belongs to 9 families, 17 genera and 20 species, from above observation it is concluded that Phyla Ascomycota is poorly known from study area. Most dominant genus were observed *Auricularia* and *Xylaria* (3 species each). All these 26 species wood decaying fungi first time reported from study area.

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