

## Addition of some Wood Rotting Polypores from Satara District (M.S)

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The goal of the current study was to catalogue the diversity and distribution of polypores in Satara District Maharashtra located in the Western Ghats of India. Throughout the duration of the investigation, the study was conducted between Jan 2019 to Aug 2022. From the different location 7 polypore species from 6 genera were identified. Out of 7 there were 5 annual species and 2 perennial species. White rot was found to be much more prevalent than brown rot polypores when reviewing the reported rot features.

**Keywords:** Polypore, Satara, White rot.

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### INTRODUCTION

The polypores are fascinating and specialized wood rotting macrofungi that play a major role in decomposition and biomass turnover in forest ecosystems (Adarsh *et. al.* 2019). These fungi have unilateral hymenium organized inside tubes which open through pores that can be circular, angular, daedaleoid, lamellate or irregular. (Bala 2020). They provide habitat for many other organisms and enable the regeneration of forests throughout the world. Wood decomposition is a decisive process in nutrient recycling, soil formation and nutrient recycling of forest ecosystems (Lonsdale *et. al.* 2008; Kwon *et. al.* 2018). Earlier workers i.e. Ranadive *et. al.* (2013); Bhosale *et. al.* (2019); Yemul (2019); Sharma (2000) reported some wood rotting polypores from different regions of India.

### MATERIALS AND METHODS

The specimens were collected from different localities of Satara district Maharashtra. The basidiocarps were photographed and kept in paper bags. The specimens were brought to the laboratory and examined under microscope.

Free hand sections of the basidiocarp were carefully mounted in 5% KOH and primary observations were taken with important elements of the section. The section was then stained with Phloxine and Congo red for 2 -3 min. mounted in 5% KOH and microscopic observations were recorded. The collected specimens were identified following Ryvarden and Melo (2014); Yemul (2019).

### RESULTS AND DISCUSSION

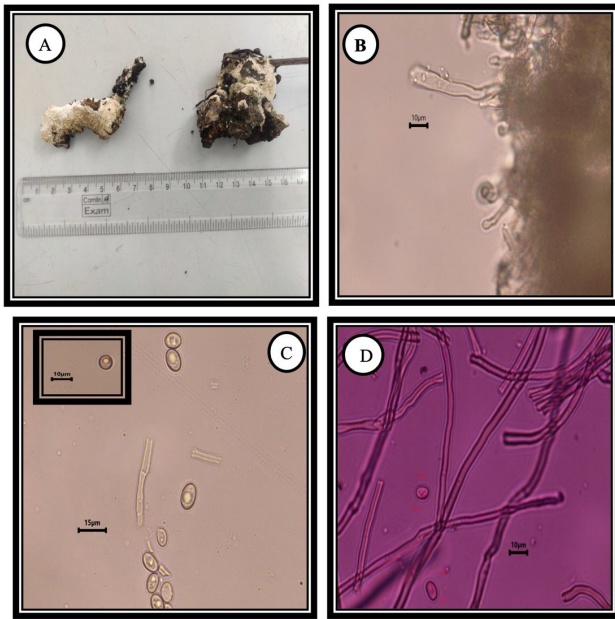
Seven polypore species from 6 genera were identified. When the recorded polypores rot characteristics were examined, it was discovered that white rot polypores significantly dominated brown rot polypores. During the present study seven species were found from the Satara district Western Ghats of India. These are *Antrodia heteromorpha*, *Daedaleopsis confragosa*, *Favolus spathulatus*, *Perenniporia fraxinea*, *Perenniporia fraxinophila*, *Polyporus umbellatus*, and *Trametes cubensis*. All of them were white rot polypores. Detailed morphological features of all species are as follows.

#### *Antrodia heteromorpha* (Fr.) Donk

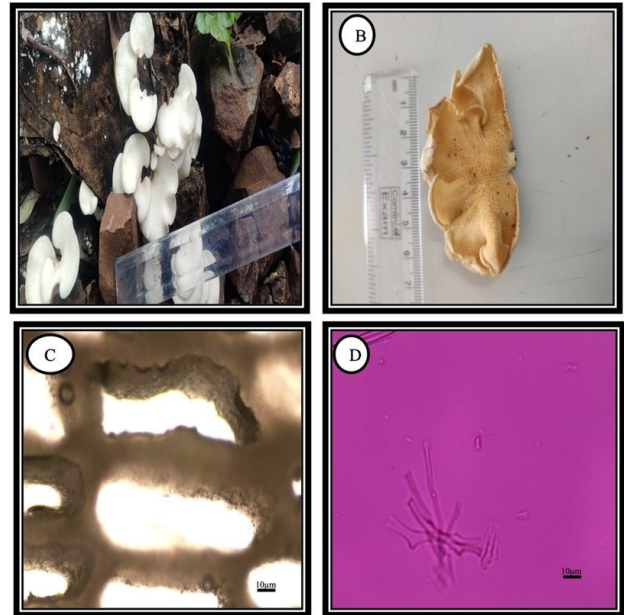
Basidiocarps annual, sessile, effused-reflexed, 4.5x4.5cm, corky and tough, margin white,

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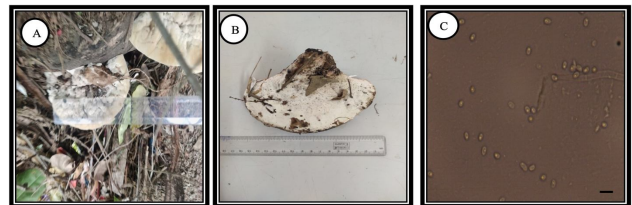
**Fig.1 A-D:** *Antrodia heteromorpha* (Fr.) Donk; A) Basidiocarp with host B) Basidia, C) Basidiospores D) Skeletal Hypha and spores;



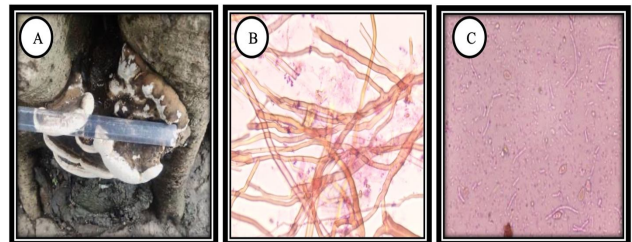
**Fig. 3 A-D:** *Favolus spathulatus* (Jungh.) A) Basidiocarp upper surface B) Lower surface C) T.S of Pores D) Basidiospores



**Fig.2 A-C:** *Daedaleopsis confragosa* (Bolt.Fr) Schroet. A)Basidiocarp Upper, B) Lower C) Basidiospores (Scale Bars = 10 µm)



**Fig.4 A-C:** *Perrinoporia fraxinea* (Bull.) Ryvarden A)Basidiocarp upper surface B)Lower surface C)Basidiospores (Scale bars = 10 µm)



**Fig. 5 A-C:***Perenniporia fraxinophila* (Peck) Ryvarden, A) Basidiocarp with host B) Generative and Skeletal Hypha C) Basidiospores (Scale bars = 10 µm)

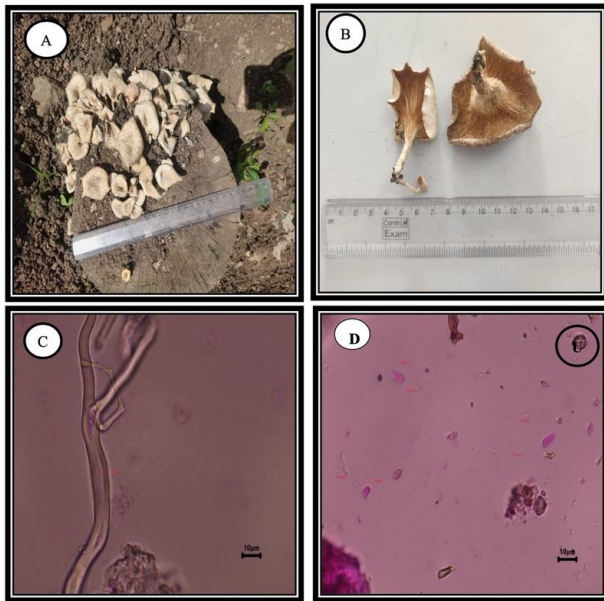
pore surface cream, angular, 1-2 per mm, Hyphal system dimitic, generative hypha with clamps, hyaline, thin, skeletal hyphae, thick walled, dichotomous branched, Basidia 53.33X8.06 µm, Basidiospores 6.40-12.18x4.60x9.05 µm ( Fig. 1 A-D).

***Daedaleopsis confragosa* (Bolt.Fr) Schroet.**

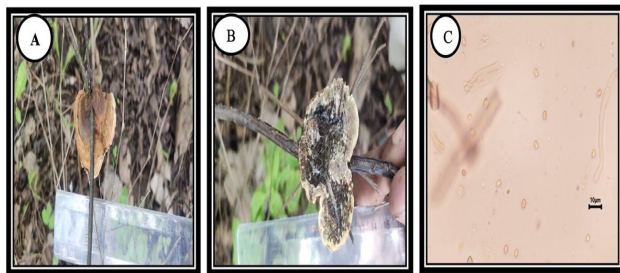
Basidiocarps annual, dimidiate, tough, up to 9.5cm wide, thick at base, upper surface light brown, pores radially elongated, hyphal System trimatic, generative hyphae thin, branched, skeletal hypha thick, binding hyphae thick walled, spores 9.2 x 2.6 µm ( Fig. 2 A-C ).

***Favolus spathulatus* (Jungh.) Lev.**

Basidiocarp, annual, several pilei together same point attachment, 4x6.5 cm, 1-2mm thick, coriaceous and tough when fresh, spathulate, stipe short, pores radially elongated, 1-3 per mm, Hyphal system dimitic Generative hypha hyaline, simple branched, dominant skeletal hypha, thick walled, basidiospores cylindrical, 6.79 x 2.59 µm., hyaline, thin walled ( Fig. 3 A-D).



**Fig. 6: A-D:** *Polyporus umbellatus* (Pers.) A) Basidiocarp with host B) Lower surface C) Generative hyphae D) Basidiospores



**Fig. 7 A-C :** *Trametes cubensis* (Mont.) Sacc ) A) Basidiocarp Upper Surface B) Lower surface C) Basidiospores; Scale bars fig. G, N, P, Q= 10 µm.

### ***Perenniporia fraxinea* (Bull.) Ryvarden**

Basidiocarps perennial, pileate, single 14x 7 cm, whitish yellow colour, Hyphal system dimitic; generative hyphae hyaline, skeletal hyphae dominating in the context, thin-walled Basidiospores, subglobose, 2.43-4.89 x 1.79-3.35 µm, thick-walled with distinct germ pore, Cystidia absent, Basidia 35.27 x 8.88 µm ( Fig. 4 A-C).

### ***Perenniporia fraxinophila* (Peck) Ryvarden**

Basidiocarps perennial, pileate forming groups, Upper surface Black, hard on drying, hymenial surface poroid, grey to white, Basidiospores Elongated drop shaped, 5.44 -6.79 x 3.49- 4.42 µm. ( Fig. 5 A-C).

### ***Polyporus umbellatus* (Pers.) Fr.**

Basidiocarp annual, 5.5 x 5.5 cm, Infundibulate or funnel shaped, hard and brittle when dry, margin

thin, entire, stipe 2cm, strongly branched, pore surface white, pores elongated towards the stipe, Hyphal System dimitic, generative hyphae thin, binding hypha scattered, hyaline, spores cylindrical, hyaline, smooth 5.19-8.21 x 2.76-3.81µm. ( Fig. 6 A-D).

### ***Trametes cubensis* (Mont.) Sacc.**

Basidiocarp annual, sessile, Broadly attached thick base reddish, 5x5 cm, upper surface yellow brown, pore small regular, yellow, Hyphal system trimatic, Basidiospore cylindrical, 1.46-3.48 x 1.65-3.06 µm., Brown in KOH ( Fig. 7 A-C).

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