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Wild Edible Mushrooms of Rourkela Forest Division, Odisha, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

12 wild edible mushrooms (WEM) are collected from Rourkela Forest Division, Odisha, India, and presented here along with the local name, availability, and economic values. Out of 12 enumerated WEM, nine have economic values. The presented data could be useful to enhance the livelihood of local communities.

Keywords: Food problems; livelihood; sustainability; mushrooms; Odisha.

1. INTRODUCTION

Surveys of ethnic knowledge on foods and medicines always surprise with several unexplored bio-wealth of forest areas used by the local communities. They give a sound platform for the research and conservation activities. They teach us about sustainability. Whole world facing to fulfill the stomach of increasing population. Researchers are

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searching the new and derivative foods, but somehow, we all have forgotten the food wealth of forests. Forest gives all life stuffs, and among them, one stuff is wild edible mushrooms. There are several wild mushrooms reported [1] that have food, medicinal, economic, and ecological significances [2]. Wild edible mushrooms are seasonal and abundantly available between July and November. Tribal people use them as a source of supplementary food, medicines, and livelihood, but still, they are unexplored and we need to address them in a proper way for sustainable utilization [3]. Keeping this in view, an attempt has been made to document the wild edible mushrooms of Rourkela Forest Division, Odisha, India, through field survey and interactions with local communities.

2. METHODOLOGY

A field survey was conducted in Rourkela Forest Division, Odisha, India, during 2022-2024, and wild edible mushrooms were enumerated with local names(s) with the help of local tribal forest watchers, forest field staffs, and local communities. Photographs were taken, and using the published literature [4,5,6,7,8], twelve wild edible mushrooms were identified and presented in this communication. Rourkela Forest Division is one of the three forest divisions in Sundargarh District of Odisha State, India (Fig. 1). Other divisions are the Sundargarh Forest Division and the Bonai Forest Division. Rourkela Forest Division is bounded by longitudes 84 0 46’ E to 85 0 14' E and latitudes 210 83' N to 220 48' N. The division has reserved forests, proposed reserved forests, demarcated protected forests, village forests, protected forests, and DLC forests. The total forest area was computed to be 1100.43 sq. km, which is about 36.73% of the geographical area of the division [9,10,11,12]. The area is rich with forests and tribal communities with abundant traditional knowledge.

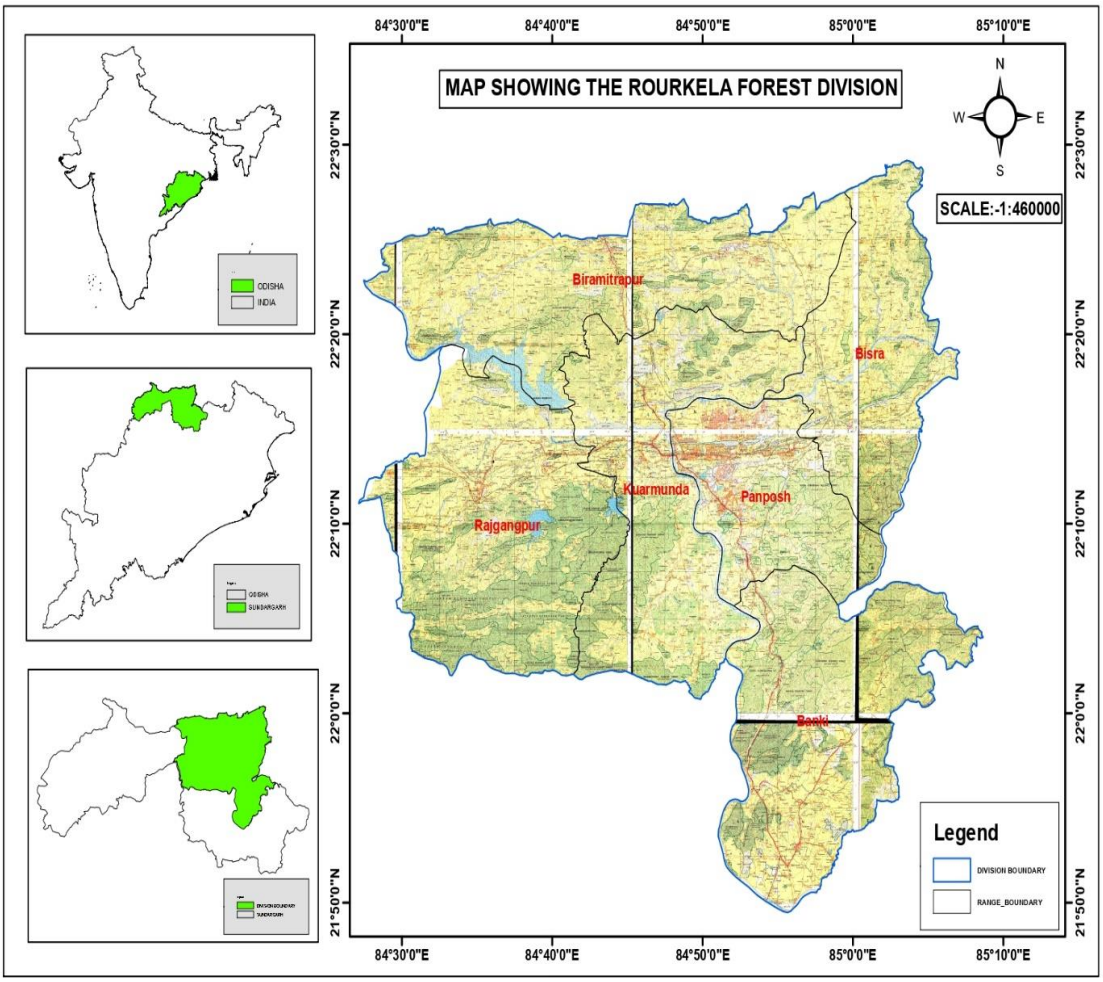

Fig. 1. Geographical location of study areas

3. RESULTS AND DISCUSSION

Wild edible mushrooms play an important role in providing seasonal food and livelihood in Rourkela Forest Division (RFD), Odisha, India. After the survey, it was noticed that about 12 wild edible mushrooms are commonly used by the tribals of RFD (Table 1). It was observed that *Termitomyces microcarpus, Termitomyces medius, Termitomyces heimii, Amanita caesarea, Boletus edulis, Amanita egregia, Volvariella volvacea, Russula rosea,* and *Astraeus hygrometricus* have not only food values but also have economic values. These wild mushrooms are collected by locals and used to sell in the local weekly markets of RFD. *Russula nigricans, Cantharellus lateritius,* and *Dacryopinax spathularia* are collected for only consumption purposes (Table 1).

Plate 1. Some common wild edible mushrooms of RFD, A) *Amanita egregia*, B) *Astraeus hygrometricus*, C) *Amanita caesarea*, D) *Dacryopinax spathularia*, E) *Termitomyces heimii*, F) *Termitomyces microcarpus*

Table 1. Wild edible mushrooms of Rourkela Forest Division, Odisha, India

Local name	Scientific name	Availability	Economic values
Angar chatu	*Russula nigricans*	July to August	No
Bali chatu	*Termitomyces microcarpus* (Plate 1F)	July to August	Yes
Bali chatu	*Termitomyces medius*	July to November	Yes
Benua/ Bhanda chatu	*Termitomyces heimii* (Plate 1E)	July to November	Yes
Bhanu chatu	*Amanita caesarea* (Plate 1C)	July to September	Yes
Gendaphul chatu	*Cantharellus lateritius*	July to September	No
Jamu chatu	*Boletus edulis*	July to September	Yes
Manda chatu	*Amanita egregia* (Plate 1A)	July to September	Yes
Pala chatu	*Volvariella volvacea*	July to August	Yes
Patra chatu	*Russula rosea*	July to September	Yes
Rasala chatu	*Dacryopinax spathularia* (Plate 1D)	July to September	No
Rugda chatu	*Astraeus hygrometricus* (Plate 1B)	May-June	Yes

It came to light during the market research that tribal communities gather WEM from adjacent forest areas and sell it in local markets for between Rs. 10 and Rs. 100 per leaf pocket, depending on the species and demand. Other researchers have also reported the wild edible mushrooms from other parts of Odisha state, India. Kumar et al. [13] documented 15 wild edible mushrooms having economic values from Bonai Forest Division, Odisha, India. Kanhar et al. [14] reported 20 wild edible mushrooms of Odisha state. Less documentation is available; therefore, there is a need to do more exploration work in this aspect.

4. CONCLUSION

Present study presented 12 wild edible mushrooms with local names. They have food as well as economic values. Study recommends that the enumerated wild edible mushrooms can be used for value addition to improve the livelihood of local communities.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kulkarni S, Joshi S, Kumar S, Thatoi H. *Tremella fuciformis* (Tremellaceae): A new record to mushroom diversity of Odisha state, India. Indian Journal of Forestry. 2023;46(4):231-232.
2. Kumar SN, Biswal SK, Kumar S. Indigenous practices by tribal communities of Bonai Forest Division, Odisha, India. A cause of Forest Fire, Experts' opinions and impacts on bio-wealth. In: 2024. Kumar S. Indigenous People- Traditional Practices and Modern Development, IntechOpen, London; 2024.
DOI: 10.5772/intechopen.1004022
3. Manjula BL, Kumar S. Wild mushrooms: a source of livelihood and future urban food. Eco., Env., & Cons. 2024;30:S187-191.
4. Rout Y, Behera F, Kumar S, Sahoo MP, Devi RS. Mushroom diversity of Dhenkanal District, Odisha, India: source of alternative foods and medicines. European Journal of Medicinal Plants. 2020;31(7):33-41.
5. Mishra AK, Mishra S, Rathore S, Naik V, Patil U, Kumar S. Wild mushroom diversity of Rairangpur Forest Division, Odisha, India & its medicinal uses. European Journal of Medicinal Plants. 2021;32(9):19-27.
6. Kumar S, Mishra S, Mishra AK, Marndi S. Economic importance of wild mushrooms in Mayurbhanj District, Odisha, India. Asian Journal of Biology. 2022b;15(4):20-25.
7. Kumar S, Mishra S, Mishra AK, Kumar SN. Wild mushrooms of Bonai Forest Division.

Bonai Forest Division & Ambika Prasad Research Foundation, Odisha. 2022c; 1-67.
8. Kumar S. Wild mushrooms of Bonai Forest Division, Odisha. Journal of Biodiversity and Conservation. 2023;7(4):E1-E2.
9. Sethi J, Marndi S, Kumar S. Climbers of Rourkela Forest Division, Odisha, India: food, medicinal, ecological, and economical aspects. Asian Journal of Biology. 2023a;18(4):31-39.
10. Sethi J, Mishra S, Kumar S. *Termitomyces heimii* (Bharnda): A wild edible mushroom of Rourkela Forest Division for value addition & sustainability. Journal of Biodiversity and Conservation. 2023b;7(3):5-9.
11. Sethi J, Devi RS, Jena N, Kumar S. New distributional record of *Alysicarpus rugosus* (Willd.) DC. From the state Odisha, India. Asian Plant Research Journal. 2024;12(1):8-12.
12. Pradhan I, Sethi J, Rout S, Kumar S. Common moths and their ecological importance in Bisra range, Rourkela Forest Division, Odisha, India. Asian Journal of Biology. 2024;20(1):1-6.
13. Kumar S, Mishra AK, Kumar SN, Mishra S. Economically Important Wild Edible Mushrooms of Bonai Forest Division, Odisha, India. Asian Journal of Biology. 2022a;16(1): 31–40.
14. Kanhar S, Mishra S, Kumar S. Wild edible mushrooms of Odisha, India. In: Edible and medicinal mushrooms of India, Volume I. APRF Publishers, India; 2024.

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