

Dr. Shahid Hussain

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Research interest

Mycology and Plant Pathology, with a focus on Fungal Taxonomy, and Biotechnology. My scientific work includes using both traditional and modern research methods to investigate fungal taxonomy, diversity, ecology, biotechnological applications, and pathogenicity.

Education

- **Ph.D. in Botany (Specialization in Mycology)**, 2024– University of Malakand, Pakistan, Thesis: *Ecological distribution, DNA barcoding and lignocellulytic potential of wood rotting mushrooms in district, Swat, Pakistan* (visiting researcher to the Lab of School of Biological Sciences and Institute of Microbiology, Seoul National University, Seoul, Korea, under IRSIP program, HEC, Pakistan)

Professional education

- Bachelor in Education/ B.Ed. 2009– University of Peshawar
- Participated in two months training workshop on Master Trainers Faculty Professional Development Program (17th MT-FPDP) organized by LID, Higher Education Commission, Islamabad

Work experience

- Lecturer in Botany, Center for Plant Sciences & Biodiversity, University of Swat, KP Pakistan.
- Lecturer in Botany, Govt. Degree College Mingora, Swat, KP Pakistan.

Teaching courses

- Mycology and Plant Pathology (Bot-503), Plant Biochemistry-I (Bot-508), Plant Biochemistry-II (Bot-602), Plant Pathology (Bot-608), Applied Mycology (Bot-616)

Research supervision

- Total students supervised: 13 (12 undergraduate projects, 1 M.Phil. project)

Publications

1. **Hussain, S.,** Nisar, M., Lim, Y. W., Sher, H., Ahmad, W., & Lee, W. **(2025)** Two new species of Polyporales from Swat, Pakistan: a phylogenetic and morphological study. *Mycological Progress*, 24(1), 1 – 12.
2. **Hussain, S.,** Nisar, M., Lim, Y. W., Sher, H., & Ahmad, W. **(2024)** Phylogenetic and morphological study reveal a novel species in *Heterobasidion annosum* complex from Swat, Pakistan. *Nova Hedwigia*, 199 – 220.
3. **Hussain, S.,** Nisar, M., Lim, Y. W., Cho, Y., Sher, H., Jan, T., & Ahmad, W. **(2024)** Morphology and multigene phylogeny reveal two novel species and three new records of Polypores in Swat, Pakistan. *Studies in Fungi*, 9(1).
4. **Hussain, S.,** Nisar, M., Hassan S., H. A., & Nazir, N. **(2024)** Phylogenetic study of two unreported edible polypores from Pakistan: *Sparassis latifolia* and *Grifola frondosa*. *Pakistan Journal of Botany*, 56(3), 1151 – 1162.
5. **Hussain, S.,** Nisar, M., & Sher, H. **(2024)** Taxonomic study and diversity of *Postia* s. lat. in Swat, Pakistan: addition of five brown rot Polypores to the country. *Archives of Microbiology*, 206(2), 66.
6. **Hussain, S.,** Sher, H., Ullah, Z., Elshikh, M. S., Al Farraj, D. A., Ali, A., & Abbasi, A. M. **(2023)** Traditional Uses of Wild Edible Mushrooms among the Local Communities of Swat, Pakistan. *Foods*, 12(8), 1705.
7. **Hussain, S.,** Nisar, M., Sher, H., Zahoor, M., & Nazir, N. **(2023)**. *Laetiporus zonatus*: an addition to edible polypore fungi in Pakistan. *Italian Journal of Mycology*, 52, 126 – 143.
8. Cho, Y., Kim, D., Lee, Y., Jeong, J., **Hussain, S.,** Lim Y. W. **(2023)** Validation of *Fuscoporia* (Hymenochaetales, Basidiomycota) ITS sequences and five new species based on multi-marker phylogenetic and morphological analyses. *IMA Fungus*, 14, 12.
9. **Hussain, S., & Sher, H. (2022)** Indigenous ecological knowledge and wild harvesting of morel mushrooms: the resource productivity and marketing in Swat, Pakistan. *Environment, Development and Sustainability*, 1 – 19.
10. Ali, I., Sher, H., Ali, A., **Hussain, S., & Ullah, Z. (2022)** Simplified floral dip transformation method of *Arabidopsis thaliana*. *Journal of Microbiological Methods*, 197, 106492.
11. **Hussain, S., & Sher, H. (2021)** Ecological characterization of Morel (*Morchella* spp.) habitats: A multivariate comparison from three forest types of district Swat, Pakistan. *Acta Ecologica Sinica*, 41(1), 1 – 9.

12. **Hussain, S.,** Ahmad, W., & Bibi, S. **(2025)** *Entoloma lilacinum* sp. nov. Fungal Planet description sheets: 1781–1866. *Persoonia – Molecular Phylogeny and Evolution of Fungi*, 54(1), 471–473.
13. **Hussain, S.,** Ahmad, W., & Bibi, S. **(2025)** *Laccaria decolorans* sp. nov. Fungal Planet description sheets: 1781–1866. *Persoonia – Molecular Phylogeny and Evolution of Fungi*, 54(1), 518–520.
14. **Hussain, S.,** Ahmad, W. and Bibi, S. **(2025)**, *Hohenbuehelia longicolla* sp. nov. (Pleurotaceae) from Swat, Pakistan, and two new country records. *Nordic Journal of Botany* e04862.
15. Ahmad, W., **Hussain, S.,** Mushtaq Ahmad¹, Usman Ali. **(2025)** New report of *Aspergillus niger* causing necrotic leaf spot disease in money plant (*Epipremnum aureum*) in Pakistan. *Indian Phytopathology* (<https://doi.org/10.1007/s42360-025-00890-x>).
16. **Hussain, S.,** Nisar, M., Lim, Y. W., Sher, H., Ahmad, W. & Bashir, H. (2024). Eight unrecorded species of Cerrenaceae and Meripilaceae from Swat, Pakistan: A phylogenetic and morphological study. *Current Research in Environmental & Applied Mycology* (under review).
17. Bibi, S., **Hussain, S.,** Waqas A., Usman A., Kainat B. **(2025)** *In vitro* evaluation and optimization of cellulase productivity by soil-borne fungi under varied submerged fermentation conditions. *Waste & Biomass Valorization* (under review).
18. Bibi, S., **Hussain, S.,** Waqas A., Usman A., **(2025)** Evaluation of soil microfungi for cellulase productivity and development of synergistic enzyme blends to optimize cellulosic biomass saccharification. *Biotechnology letters* (under review).