

Notice for the PhD Viva Voce Examination

Ms Aratrika Bhadra, Registration Number: 2270116, PhD Scholar at the Department of Life Sciences, School of Sciences, CHRIST (Deemed to be University), Bangalore will defend her PhD thesis at the public viva-voce examination on Wednesday, 30 July 2025 at 11.00 am in Room No. 044, Ground Floor, R & D Block, CHRIST (Deemed to be University), Bengaluru - 560029, Karnataka, India.

- Title of the Thesis** : **Study of Traditional Healing Practices and Folk Medicines of Sonamukhi Block, Bankura District, West Bengal, India and Assessing the Antioxidant Properties of Selected Medicinal Plants**
- Discipline** : **Botany**
- External Examiner - I** : **Dr K Jagamohan Reddy**
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- External Examiner - II** : **Dr Rajkumar H**
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The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Place: Bengaluru
Date: 26 July 2025



Registrar(Academics)

ABSTRACT

The current research mainly focused on the documentations, analysis and validation of traditional healing practices, ethno medical knowledge particularly for management of various ailments through medicinal plant based therapies as administered by the traditional healers of Sonamukhi Block, Bankura District, West Bengal, India. The aim of the research was to fill this gap between native knowledge on medical practices and the modern-day scientific comprehension and survey the healing properties of the plant species existing in the region used in the traditional healing arts. To do this, patient observations were combined with ethnographic fieldwork, involving focused interviews, participatory discussions and participant observations with 14 experienced traditional healers who are based in 21 villages. These healers gave insight into treatment strategies used in various common health conditions like jaundice, hypertension, stomach pain, indigestion, fever, bone fractures, diabetes, diarrhea, albuminuria, and respiratory disorders. The documented knowledge didn't only show the multitude of ethnomedicinal practices in the region but also emphasized the critical role played by these healers as the first line of healthcare providers in the rural areas. A total of 50 species of plants used in medicine have been identified, collected and taxonomically verified by botanical experts. Such plants reflected a variety of therapeutic uses and had high biodiversity and cultural value in the study area. The ethnomedicinal data collected was quantitatively taken systematically using standardized data sheets filled by the healers. Various parameters including the frequency of citation, use value (UV), and fidelity level (FL), five plant species including *Ipomoea obscura*, *Tylophora indica*, *Aristolochia indica*, *Glinus oppositifolius* and *Abroma augustum* – emerged as the most frequently and consistently used in the local healing practice. These plants were then consequently chosen for further phytochemical and pharmacological analysis. Biochemical preliminary screening of these five species has identified the presence of major secondary metabolites especially phenolic and flavonoids compounds considerably known for their treatment significance.

These compounds are usually characterized by anti-oxidative, anti-inflammatory, and antimicrobial properties. Assays for antioxidant potential were measured using three known assays as DPPH (2,2-diphenyl-1-picrylhydrazyl), FRAP (Ferric Reducing Antioxidant Power) and ABTS (2,2'-azino-bis (3-ethylbenzothiazoline- All the five plant extracts showed significant free radicals scavenging activity and hence showed a strong potential of reversing oxidative stress which is progressively involved in the pathology of various chronic illnesses. Apart from that, the antimicrobial efficiency of the selected extracts was performed against some bacterial and fungal pathogens that cause gastrointestinal, respiratory, and dermatological infections. The outcomes supported the broad-spectrum antimicrobial property of these plants, thus, justifying their traditional usage. This interdisciplinary study does not simply confirm the ethnomedical assertions for these plants, but also explains the scientific grounds for which they may be integrated into modern healthcare chains. Integrating the traditional knowledge and pharmacological science, the study emphasizes the necessity of maintaining the indigenous medical wisdom and encouraging the entailment of the indigenous wisdom into evidence-based therapeutic frameworks.

Keywords: *Ethnomedicine, Sonamukhi Block, Traditional Healers, Medicinal Plants, Antioxidant Activity, Phytochemical Screening*

Publications:

1. **A. Bhadra** and M. B.T., "Herbal Healing Traditions: A Study of Folk Medicines Used by Traditional Healers of Sonamukhi Block, Bankura District, West Bengal, India," *Plant Science Today*, vol. 11, no. spl, 2024.
2. **A. Bhadra** and M. B.T., "In-vitro Antioxidant Analysis of *Aristolochia indica*, *Ipomoea obscura*, *Tylophora indica*, *Glinus oppositifolius* and *Abroma augustum* from Bankura District, West Bengal," *Journal of Integrated Science and Technology*, vol. 13, no. 4, 2025.
3. **A. Bhadra** and M. B.T., "Ethnobotanical Analysis of Antibacterial and Antifungal Activity in Five Medicinal Plants from Sonamukhi Block, Bankura District," *African Journal of Biological Research*, vol. 6, no. 14, 2024.