

BIJU HARIDAS

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Technical Officer
Microbiology Division,
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“Kaleeswaram”
NSS Karayogam Road,
Anayara P.O.,
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Kerala, India

Date of Birth 10th April 1971
Sex Male
Passport No. Y8501309
Marital Status Married
Area of Research Lichen systematics and chemistry
Study of Leaf Infecting Micro fungi
Molecular microbiology
Languages known English, Hindi, Malayalam, Tamil

QUALIFICATIONS

Course	Name of University	Year of Passing	Topic	Class
Ph.D Botany	Mumbai University	2009	Lichens in the montane forests of Kerala State	Not Applicable
M.Sc. Botany (By Research)	Mumbai University	2002	Foliicolous Microfungi in the campus of Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram.	Not Applicable
B.Sc. Botany	Kerala University	1991		1 st Class

Computing skills

Operating Systems: Windows

Applications: Microsoft Office Tools, Photoshop and
Troubleshooting

Other skills

- Knowledge of Research methodologies using traditional and molecular techniques.
- Experimental hands of Lichen mycobiont culture, Lichen identification, Microbiological techniques (pure culture, serial dilution, Antibiotic sensitivity testing, Staining techniques, Sterilization techniques), SDS – PAGE and PCR.
- Conducting lectures on lichen biology and biodiversity.
- Preparation and presentation of reports, projects etc.
- Conducting field exploration trips to various forest places.
- Collection of data and information.
- Administrative leadership with regard to inter departmental activities.
- Coordinating research programs.
- Conducting evaluation for CSIR & DST projects, Govt. of India.

Training programme Attended

1. MOLECULAR BIOLOGY TECHNIQUES IN MICROBIOLOGY at CFTRI (CSIR), Mysore, India from 08.10.2012 to 19.10.2012

The training programme include

Plasmid DNA Isolation

Total DNA Isolation and gel analysis

Restriction digestion and analysis

RAPD and RFLP analysis

RNA Isolation and analysis

Molecular Cloning of PCR product in T-tail vector

Real time PCR

Competent cell preparation and transformation

Site directed mutagenesis

SDS-PAGE analysis and Zymogram analysis

Heterologous Expression for recombinant protein production

Probe preparation and Southern & Western blotting

Isolation, purification, restriction digestion and analysis of nucleic acids.

2. FIELD BASED HANDS-ON TRAINING ON LICHEN SYSTEMATICS organized by Indian Lichenological Society & CSIR-NBRI at Strabo Pixel Club, Sattal, Uttarakhand, India from 28.09.2019 to 05.10.2019

The training programme include

Systematics of Lichens

Identification of Lichens

Preservation and herbarium preparation

Identification of Parmelioid, Physcioid and other foliose lichens

Utilization of lichens in biomonitoring studies

DNA-barcoding based identification of lichens

Role of chemistry in lichen taxonomy

Identification of Teloschistaceae, Arthoniales and Pyrenocarpous lichens

Guidelines for research proposal and scientific paper writing

Identification of fruticose, Graphidaceous and Thelotrema lichens

Utilization of lichens in biodeterioration study

Competencies

- Excellent written, oral communication and interpersonal skills.
- Knowledge of Research methodologies using traditional and molecular techniques.
- Sound knowledge and practice of active learning methods.
- Expertise in developing, planning and evaluating scientific research programs.

EMPLOYMENT/POSITION HELD

From May 1998 – continuing: Technical Officer at Microbiology Division, KSCSTE - Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Palode, Trivandrum, Kerala, India

From February 1993 – May 1998: Lab. Assistant in a Project on “Survey, Inventory and Sustainable Utilization of lesser known, edible and medicinal mushrooms of Western Ghats” Funded by WGDP, Govt. of Kerala, at Microbiology Division, Tropical Botanic Garden and Research Institute (TBGRI), Palode, Trivandrum, Kerala, India

PROJECTS PURSUED

ON-GOING

1. Co. Investigator

In - house project on “**Survey, Inventory, Bioprospecting and Sustainable Utilization of Microbial & Lichen Diversity of Western Ghats**” funded by KSCSTE, Govt. of Kerala.

COMPLETED

1. Co. Investigator

In - house project on “**Collection, Identification and Documentation of Lichens in the Shendurney Wildlife sanctuary, Kollam, Kerala state**” funded by KSCSTE, Govt. of Kerala.

2. Co. Principal Investigator

External Project on “**Database on Foliicolous fungal flora of Andaman Islands**” funded by Department of Science & Technology (DST), Govt. of India, New Delhi.

3. Co. Principal Investigator

In - house project on “**A Preliminary Survey of Lichens in the Western Ghats region of Kerala State**” funded by KSCSTE, Govt. of Kerala.

4. Co. Principal Investigator

In - house project on “**Survey and Inventory of Micro fungi in Western Ghats**” funded by KSCSTE, Govt. of Kerala.

ONGOING

1. Co. Investigator

In - house project on “**Survey, Inventory, Bioprospecting and Sustainable Utilization of Microbial and Lichen Diversity of Western Ghats**”, Funded by KSCSTE, Govt. of Kerala.

PUBLICATIONS

Books

1. Mathew Dan, Rasiya Beegam A., **Biju H.** & V. Sujatha 2016. Scientific Contributions of JNTBGRI - A Bibliography of Publications 1980-2015. Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala. P. 229.

Chapters in Books

1. **H. Biju**, 2009. Lichens. In: C. Sathish kumar and K.C. Koshy (Eds.). *Refresher course in Plant Taxonomy*. Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala. pp.162-175.
2. **H. Biju**, 2010. Taxonomy of Lichens. In: A.G. Pandurangan and N. Mohanan (Eds.). *New Vistas in Plant Taxonomy*. Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala. pp.56-60.
3. **H. Biju**, 2010. Diversity, Conservation and sustainable utilization of Lichens in Kerala. In: Stephen Joseph and Salvy Thomas (Eds.) *Conservation and Sustainable utilization of redlisted medicinal plants of Western Ghats of India*. Department of Botany, Newman College, Thodupuzha, Kerala. pp. 12-13.
4. **H. Biju**, 2013. Taxonomy of Lichens. In: A.G. Pandurangan, K.B. Vrinda and Mathew Dan (Eds.). *Frontiers in Plant Taxonomy*. Jawaharlal Nehru Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala. pp.68-73.
5. Sabeena Aliyarukunju, **Biju Haridas** and Shiburaj Sugathan 2020. Evaluation of phylloplane fungal flora and host plants in the Southern Western Ghats. In: Sharma, V. K., Shah, M. P., Parmar, S., & Kumar, A. (Eds.) *Fungi Bio-Prospect in Sustainable Agriculture, Environment and Nano-Technology Volume 1: Fungal Diversity of Sustainable Agriculture*. Elsevier, Academic Press pp 17 – 81.
6. Nayaka S. and **Haridas B.** 2020 Bioactive Secondary Metabolites from Lichens. In: Sukumaran S.T., Sugathan S., Abdulhameed S. (eds) *Plant Metabolites: Methods, Applications and Prospects*. Springer, Singapore. https://doi.org/10.1007/978-981-15-5136-9_12
7. Nayaka S. and **Haridas B.** 2021. Lichen-forming and lichenicolous fungi of Western Ghats, India– An updated checklist. In:
8. **Haridas, B.**, Aliyarukunju, S., Sugathan, S. (2023). Lichen Flora in Western Ghats of Kerala, India: A Source of Innovation. In: Aguilar, C.N., Abdulhameed, S., Rodriguez-Herrera, R., Sugathan, S. (eds) *Microbial Biodiversity, Biotechnology and Ecosystem Sustainability*. Springer, Singapore. https://doi.org/10.1007/978-981-19-4336-2_7

- Aliyarukunju, S., **Haridas, B.**, Sugathan, S. (2023). Current Insights into Phylloplane Fungal Species Diversity in the Western Ghats and Its Perspective. In: Aguilar, C.N., Abdulhameed, S., Rodriguez-Herrera, R., Sugathan, S. (eds) Microbial Biodiversity, Biotechnology and Ecosystem Sustainability. Springer, Singapore. https://doi.org/10.1007/978-981-19-4336-2_14

Booklet Published

- T.K. Abraham, K. B. Vrinda, N.S. Pradeep and **H. Biju**, 1999. *Koon – Krishi, Samskaranam, Vibhavangal*. Tropical Botanic Garden & Research Institute, Palode, Thiruvananthapuram, Kerala. P 16.

Database developed



Developed a database, “**Follicolous Fungi of TBGRI**” which offers taxonomic information of 219 species of Leaf infecting micro fungi (Follicolous fungi) of Tropical Botanic Garden and Research Institute(TBGRI). The database can be accessed from the url. [www. tbagri.in/tbgrifungi](http://www.tbagri.in/tbgrifungi)

RESEARCH PAPERS PUBLISHED

- Hosagoudar, V.B., **Biju, H.** 2001. *Meliola caesalpiniae* Hansf. & Deight. var. *indica* var. nov. In: Hosagoudar *et al.* Meliolaceae of Kerala, India – IX. *J. Econ. Taxon. Bot.* 25: 555-556.
- Hosagoudar, V.B., **Biju, H.** 2001. *Meliola invisiae* sp. nov. In: Hosagoudar *et al.* Meliolaceae of Kerala, India – IX. *J. Econ. Taxon. Bot.* 25: 557-558.
- H. Biju**, R.G. Bagool and V.B. Hosagoudar 2002. Additions to Meliolaceae from Kerala- *Kavaka* 30: 77-80.
- Hosagoudar, V.B., **H. Biju** , Abraham, T.K. and Bagool, R.G. 2002. Diversity and Distribution of the genus *Meliolina* in India. *Nat. Conf. on Fungal Diversity and Biotechn.*, Dombivli, Mumbai, p. 39.
- Hosagoudar, V.B, and **H. Biju** 2003. Host range of *Meliola jasmini* Hansf. & Stev. *New Botanist* 30: 153-162.

6. Hosagoudar, V.B., **Biju, H.** and A. Manojkumar 2003. *Meliola capensis* (Kalch & Cooke) Theiss. var. *indica* var. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XVII, New species, New variety and new records. *Zoos' Print Journal* 18: 1061-1064.
7. Hosagoudar, V.B., **Biju, H.** and A. Manojkumar 2003. *Asteridiella strebli* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XIX, Two new species and three new records. *Zoos' Print Journal* 19: 1390-1393.
8. Hosagoudar, V.B., **Biju, H.** and A. Manojkumar 2003. *Meliola bauhiniae-phoeniceae* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XIX, Two new species and three new records. *Zoos' Print Journal* : 1390-1393.
9. **H. Biju** and R. G. Bagool. 2004. - Meliolaceous Fungi from Kerala State, India. *Journal of Mycology and Plant Pathology* 34(3):801-804.
10. Hosagoudar, V.B, and **Biju. H.** 2004. *Sarcinella catharanthi* sp. nov. In : Hosagoudar, Studies on Foliicolous fungi – VIII. *J. Econ. Taxon. Bot.* 28: 196-201.
11. V.B. Hosagoudar, and **H. Biju** 2005 – *Asteridiella pygei* Hansf. var. *microspora* Hosag., a new record to Southern India. *Zoo's Print Journal* 20(6): 1898-1899.
12. **H. Biju**, R.G. Bagool and V.B. Hosagoudar 2005. Meliolaceous fungi in the campus of Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram, Kerala.- *J. Econ. Taxon. Bot.* 29(2): 338-345.
13. V.B. Hosagoudar, **H. Biju** and K.A. Anu Appaiah, 2005 – Studies on Foliicolous Fungi – XXI; Microfungi of Subramanya, Karnataka. *J. Mycopath. Research.* 43(2): 203-209.
14. Hosagoudar, V.B., A. Manojkumar and **H. Biju** 2005. *Asterina plectranthi* sp. nov. In: Hosagoudar, Studies on Foliicolous Fungi - XIX. *Indian Phytopathol.* 58: 194-204.
15. Hosagoudar, V.B., A. Manojkumar and **H. Biju** 2005. *Questieriella sarcococcae* sp. nov. In: Hosagoudar, Studies on Foliicolous Fungi - XIX. *Indian Phytopathol.* 58: 194-204.
16. Hosagoudar, V.B., **H. Biju** and A. Manojkumar 2005. *Asteridiella diotacanthi* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XXI, New species and new records. *J. Mycopathol Res.* 43: 17-32.
17. Hosagoudar, V.B., **H. Biju** and A. Manojkumar 2005. *Asteridiella strobilanthicola* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XXI, New species and new records. *J. Mycopathol Res.* 43: 17-32.

18. Hosagoudar, V.B., **H. Biju** and A. Manojkumar 2005. *Meliola devikulamensis* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XXI, New species and new records. *J. Mycopathol Res.* 43: 17-32.
19. Hosagoudar, V.B., P.A. Jose and **H. Biju** 2005. *Meliola flemingicola* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XXI, New species and new records. *J. Mycopathol Res.* 43: 17-32.
20. Hosagoudar, V.B., **H. Biju** and A. Manojkumar 2005. *Meliola spatholobii* sp. nov. In: Hosagoudar, Meliolaceae of Kerala, India – XXI, New species and new records. *J. Mycopathol Res.* 43: 17-32.
21. Hosagoudar, V.B., **Biju .H.**, and Anu Appaiah, K.A., 2006. Studies on Foliicolous Fungi – XX; Microfungi of Coorg, Karnataka. *J. Mycopath. Research.* 44(1): 1-25.
22. Hosagoudar, V.B., **Biju .H.**, and Anu Appaiah, K.A., 2006. Studies on Foliicolous Fungi – XXII. Microfungi of Silent Valley National Park, Palghat District in Kerala State. *J. Mycopath. Research.* 44(1): 39-48.
23. Hosagoudar, V.B., Agarwal, D.K., **Biju H.** and Archana, G. R. 2006 – Additions to Meliolaceae from India. *Indian Phytopathol.* 59(3): 345-350.
24. Hosagoudar, V.B., Agarwal, D.K., **Biju H.** and Archana, G. R. 2006 – Studies on Foliicolous Fungi – XXIII. *Indian Phytopathol.* 59(4): 525-528.
25. Hosagoudar, V.B., D.K. Agarwal, **H. Biju** and G. R. Archana 2007 – Meliolaceae of Kerala, India - XXIV. *Indian Phytopathol.* 60(1): 82-87.
26. **H. Biju** and R.G. Bagool, 2009. A Preliminary Survey of Lichens in the Western Ghats of Kerala State. *Proc. 21 Kerala Sci. Congr.* Kollam, Kerala pp. 672-673.
27. **H. Biju**, R.G. Bagool and S. Nayaka 2010. Additions to the Lichen Flora of Kerala State 1: Parmelioid Macro Lichens. *J. Econ. Taxon. Bot.* 34(4): 890-897.
28. **H. Biju** and R.G. Bagool, 2010. Diversity and distribution of Lichens in the Western Ghats of Kerala state, India. *Proc. Nat. Seminar on Fungal Biotechn., Mithibai College, Mumbai*, pp. 18-19.
29. Upreti, D.K., S. Nayaka and **B. Haridas.** 2010. Medicinally important Lichens of Western Ghats of India, their conservation and sustainable utilization. *Proc. Nat. Seminar on Conservation and Sustainable Utilization of red listed Medicinal Plants of Western Ghats of India, Newman College, Thodupuzha, Kerala*, P. 29.
30. **H. Biju**, 2010. Biodiversity of Lichens. *Proc. State level Seminar on Applied Aspects of Plant Sciences, Changu Kana Thakur ACS College, New Panvel* pp. 11-18.

31. Gaurav K. Mishra, Dalip K. Upreti, Sanjeeva Nayaka, and **Biju Haridas** 2011. New taxa and new reports of *Phyllopsora* (lichenized ascomycotina) from India. *Mycotaxon* 115, 29-44.
32. Santosh Joshi, Dalip K. Upreti and **Biju Haridas** 2012. Nomenclatural notes on lichen genera *Leucodecton* and *Myriotrema* (*Graphidaceae*) in India. *Mycotaxon* 122, 467-482.
33. **H. Biju**, R.G. Bagool and S. Nayaka 2012. Additions to the Lichen Flora of Kerala State 2: *Graphidaceae*. *J. Econ. Taxon. Bot.* 36 (4): 867-873.
34. P. Salin Raj, A. Prathapan, Jomon Sebastian, Antony K Antu, Riya Mariam Philip, M. R. Preetha Rani, **H. Biju**, S. Priya, K. G. Raghu 2014. *Parmotrema tinctorum* exhibits antioxidant, antiglycation and inhibitory activities against aldose reductase and carbohydrate digestive enzymes- An in vitro study. *Natural Product Research* 28 (18): 1480 – 1484.
35. **H. Biju**, R.G. Bagool and S. Nayaka 2014. Diversity of Lichens in Idukki district with new records to flora of Kerala. *Indian J. For.* 37(3): 333 - 340.
36. **H. Biju**, R.G. Bagool and S. Nayaka 2014. New records of *Graphidaceae* Lichens from Western Ghats, India. *Indian J. For.* 37(4): 477 - 481.
37. **H. Biju**, R.G. Bagool and S. Nayaka 2015. Rediscovery of two *Pyxine* (*Physciaceae*) species of from the Western Ghats. *Taprobanica* 7 (2), 91-93.
38. Sam P. Mathew, C. K. Biju and **H. Biju** 2015. Phytogeography of lesser known *Mimusops andamanensis* King & Gamble (*Sapotaceae*) with special reference to its occurrence in Little Andaman Islands. *International Journal of Advanced Research* 3(6): 1127-1131.
39. **Biju Haridas** and A. Sabeena 2015. A Digest of Lichens and foliar mycobionts from the Western Ghats of Kerala *Proc. Nat. Conference on Cryptogam research in India: Progress and Prospects*, Lucknow, UP, Pp. 27-28.
40. Sabeena A., **H. Biju**, Jacob Thomas, C. K. Biju and Sam P. Mathew 2017. Three new foliicolous ascomycetes from Andaman Islands, India. *Bio Bulletin* 3(1): 74-79.
41. Sam P. Mathew, C. K. Biju, A. Sabeena, and **H. Biju** 2017. Fungal Infections on Plantation Crops of the Andaman Islands. *Bio Bulletin* 3(2): 1-7.
42. **H. Biju** and **R.G. Bagool** 2017. Floristic assessment of Lichen Diversity in the Agasthyamala Biosphere Reserve of Kerala, India. *Proc. Nat. Conference on Fungal Biology: Recent Trends and Future Prospects*, Jammu University, Jammu, pp 47.
43. **H. Biju** 2017. Digest of Lichens. Two Day Seminar on Cryptogams of Western Ghats: A Botanical Perspective, Mar Thoma College, Thiruvalla

44. **Biju Haridas** 2018. Lichenological Studies in the Spice Garden of India. *Proc. Nat. Conference on Current Developments and Next generation Lichenology*, Lucknow, UP, pp 19.
45. Sabeena A., **Biju H.**, Biju C. K. and Sam P. Mathew 2018. New Parasitic Micro Fungi from Andaman Islands in the Bay of Bengal. *Species* 19: 48-54.
46. **Biju Haridas** 2019. Lichens in the Shendurney Wildlife Sanctuary, Kollam, Kerala. *Proc. Intl. Conference on Microbial Interventions for the Welfare of Human beings*, Mannargudi, Tamil Nadu, pp 37.
47. Dhanusha S. S, Sabeena A., Shiburaj S. and **H. Biju** 2019. Molecular identification of foliicolous fungi infecting tropical forest plants - A study on Western Ghats region of Thiruvananthapuram district. *Proc. Intl. Conference on Microbial Interventions for the Welfare of Human beings*, Mannargudi, Tamil Nadu, pp 56-57.
48. Aliyarukunju Sabeena, **Haridas Biju**, Sudhakaran Sujatha Dhanusha and Sugathan Shiburaj 2020. *Asterina gordoniae* sp. nov. (Asterinaceae) , a new foliar mycobiont from Kerala, India. *Phytotaxa* 441(2): 211-216.
<https://doi.org/10.11646/phytotaxa.441.2.8>
49. Aliyarukunju Sabeena, **Haridas Biju** and Sudhakaran Sujatha Dhanusha 2021. A new species of asterinaceous fungi, *Asterina imbertiae* sp. nov. from Kerala, India. *Phytotaxa* 505(1): 114-119. <https://doi.org/10.11646/phytotaxa.505.1.9>
50. **Biju H.**, Sabeena A and Nayaka S 2021. New records of Graphidaceae (lichenized fungi) from the Western Ghats of Kerala state, India. *Studies in Fungi* 6(1): 213-223. Doi 10.5943/sif/6/1/14
51. **Biju Haridas**, Sabeena Aliyarukunju & Sanjeeva Nayaka 2021. Additions to the lichen biota of Kerala state, India. *NeBio* 12(3): 1-5.
52. Balu, G., A.R. Rasmi, S. Sequeira & **B. Haridas** (2021). Diversity and distribution of macro lichens from Kalpetta Municipality of Wayanad District, Kerala, India. *Journal of Threatened Taxa* 13(14): 20253-20257.
<https://doi.org/10.11609/jott.6706.13.14.20253-20257>.
53. Aliyarukunju Sabeena and **Haridas Biju** 2022. A new species and a new variety of Meliolaceae fungi from India. *Phytotaxa* 541(1): 057-065.
<https://doi.org/10.11646/phytotaxa.541.1.5>
54. Sreelekshmi S. M., **Biju H.**, Sabeena A. & A. K. Anilkumar 2022. Biodiversity Documentation of Lichens. *Proc. National Seminar / Workshop on Ecosystem – Monitoring, Assessment and Conservation (Environment Management Training 2022)*, Department of Botany, Govt. College for Women, Thiruvananthapuram 9th - 11th March, 2022 pp

55. **Haridas, B.**, & Aliyarukunju, S. (2022). New records of lichen taxa from the state of Kerala, India. *Cryptogam Biodiversity and Assessment*, 5(02), 06-14. <https://doi.org/10.21756/cba.v5i02.214>
56. **Biju Haridas** 2022. Diversity of Lichens in Kerala – An Overview. *Proc. Intl. Conference on Multidisciplinary approaches in Lichenology*, CSIR – National Botanical Research Institute, Lucknow, UP, September 28-30, 2022, pp 32.
57. Sabeena A & **Biju H** 2023. *Bheemamyces uvariae* sp. nov., a New Foliar Mycobiont from Andaman Archipelago, India. *Kavaka* 59(1): 7-15. DOI: 10.36460/Kavaka/59/1/2023/7-15

Manuscripts accepted for Publication

Biju Haridas* and Sabeena Aliyarukunju 2022. A Preliminary checklist on the lichen flora of Agasthyamalai Biosphere Reserve, Kerala, India. *Cryptogam Biodiversity and Assessment*

Sabeena Aliyarukunju and **Biju Haridas*** 2022. Black Mildew fungi of Andaman Islands, India. *Cryptogam Biodiversity and Assessment*

Manuscripts Communicated for Publication

A. Sabeena and **H. Biju** 2023. Validation of Two Sordariomycetes - *Asteridiella diotacanthi* and *Meliola spatholobi*. *Journal of Mycopathological research*

Research guideship

- ❖ Recognized **Ph.D. guide** (in *Botany*) at University of Kerala, Kerala.

Membership in Scientific Societies

- ❖ Life member of **Indian Lichenological Society**, National Botanical Research Institute (NBRI), Lucknow, Uttar Pradesh.
- ❖ Life member of **Mycological Society of India**, Centre for Advanced Studies in Botany, Chennai.
- ❖ Life member of **Association of Fungal Biologists**, Mumbai.
- ❖ Life member of **Kerala Academy of Sciences**, Kariavattom, Thiruvananthapuram, Kerala.

Other Services

- Serves as Reviewer for **Natural Product Research, Mycotaxon, Tropical Ecology** and **Bio Info Publication** journals.
- Serves as a Reviewer for Externally funded projects (DST, CSIR & KSCSTE).
- Provides lichen and other plant Identification services.

References

Dr. Raveendra G. Bagool (Ph.D. Supervisor)

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