

Executive summary of the report

UGC Major Research Project: “Monitoring Arbuscular Mycorrhizal fungal biodiversity in Northern India with computational databases and platforms” (MRP-MAJOR-BOTA-2013-21235)

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Objectives - The present on building the database on distribution of Arbuscular Mycorrhizal fungi (AMF) could meet all three objectives listed in the proposal during the tenure 1st July 2015 to June 30th 2018.

1. The complete database of AMF distribution is available on line at subdomain of Delhi University with a link (<http://www.amfungi.aurobindo.du.ac.in>) available at college web site.
2. Calculation of percentage occurrence of AMF at 111 sites of reserve forests, protected forests and city forests in 8 north Indian states across 8 including JK, Punjab, Rajasthan, Haryana, UP, Delhi, Uttarakhand and Himachal. Map depicting the various studied sites and AMF species occurrence is given in the detailed report.
3. Preparing multi-spore cultures of all the isolates and raising a single spore culture for selected isolates. Multi-spore cultures could be raised for many species. However single spore cultures could only be raised for *Glomus macrocarpum* and *Rhizophagus intraradices*.

Project output

1. Copyrighted database of international acclaim with >18800 hits on date.
2. Publications
 - (i) Gupta, M.M., Aggarwal, A. and Asha (2018). Giri, B., Prasad, R., Verma, Ajit (eds) Root Biology, Springer.
 - (ii) Manju M. Gupta (2017) Differential response of arbuscular mycorrhizal sporocarps in long-term trap culturing. *Phytomorphology* 67:27-34 ISSN 0031 - 9449.
 - (iii) Manju M. Gupta, Nikhat S Naqvi and Prabhat Kumar (2017) *i AMF – Centralized database of arbuscular mycorrhizal distribution, phylogeny and taxonomy*. *J recent advances in applied sciences* 30(1):1-5
 - (iv) Invited chapter in “Microbial Diversity in Human Welfare” Springer verlag (under preparation).
 - (v) Research paper communicated to *Journal Revista de Biología Tropical*.
 - (vi) Manuscript prepared for *Journal Symbiosis*.

Full manuscripts of above publications are attached with the detailed report.

Other merits

1. Work presented at ICOM 9 Prague czech Republic in Oct 2017

2. Work to be presented at ISS 9 at Oregon State University July 2018
3. Work shop to be conducted at Oregon State University in July 2018.
4. Project fellow of the project funded and invited to present at Oregon State University in July 2018.