

Peer-Reviewed
Journal

ISSN 0971-9393 Print

ISSN 0975-4180 Online

Journal of Mycology and Plant Pathology

Volume 53

Number 4 (337–430)

December 2023



Indian Society of Mycology and Plant Pathology

Maharana Pratap University of Agriculture and Technology

Rajasthan College of Agriculture, Post Box 154

Department of Plant Pathology, Udaipur–313 001

Rajasthan, India. www.ismpp.org.in

Executive Council 2023

President	:	Lalit Mahatma NAU, Navsari, GJ; <i>mahatmalalit@yahoo.co.in</i> ; <i>lalitmahatma@gmail.com</i> +91 99980 02503
Vice Presidents	:	R G Parmar AAU, Anand, Guj.; <i>rgparmarars@gmail.com</i> ; +91 9638034617 : NM Gohel AAU, Anand, Guj.; <i>nareshgohel@aau.in</i> ; +91 9428657137
Secretary	:	Pokhar Rawal MPUAT, Udaipur, Rajasthan; <i>secretaryismpp@gmail.com</i> ; <i>dr.p.rawal@gmail.com</i> ; +91-94600 30583
Treasurer	:	S K Bhatnagar MPUAT, Udaipur, Rajasthan; <i>bhatnagardrsk@gmail.com</i> ; +91 98292 45858

Zonal President

Eastern Zone	:	J N Srivastava , BAU, Sabour, Bihar; <i>j.n.srivastava1971@gmail.com</i> ; +91 79922 09538
Western Zone	:	R S Jaiman , SDAU, Sardarkrushinagar, Guj. <i>jaimanrs74@gmail.com</i> ; +91 96870 59719
Northern Zone	:	Mohd Yaqub , UoK, Pulwama, Jammu; <i>myaqub35@gmail.com</i> ; +91 70069 39476
Southern Zone	:	Sajeena A , KAU, Karamana, Kerala; <i>sajeenamanjima@gmail.com</i> ; +91 94461 04347

Editorial Board 2023

Editor-in-Chief	:	Jameel Akhtar , ICAR-NBPGR, New Delhi; <i>jameel.akhtar@icar.gov.in</i> ; +91 9013718834
Managing Editor	:	Pokhar Rawal , MPUAT, Udaipur, RJ; <i>managingeditorjmpp@gmail.com</i>
Senior Editor	:	Arup Kumar Mukherjee , ICAR-NRRI; <i>arupmukherjee@yahoo.com</i> : Suresh LM , Maize Pathology Lead-Sub Saharan Africa, CIMMYT, World Agroforestry Centre (ICRAF); <i>lmsuresh@rediffmail.com</i>

Editors

Ashish Kumar , College of Agriculture Jabalpur, <i>ashishkumar@jnkvv.org</i>	P P Thirumalaisamy , KAU, Thrissur; <i>thirumalaisamyp@ yahoo.co.in</i>
B F Rodrigues , Goa University, Goa; <i>felinov@gmail.com</i>	Pranab Dutta , Central Agricultural University (Imphal), Umam, Meghalaya; <i>pranabdutta74@gmail.com</i>
Basav Raj , IARI-Regional Station Baner Phata, Pune; <i>rajayb@gmail.com</i>	R Sriram , IIHR, Bangaluru, KN; <i>sriram1702@gmail.com</i>
Devendra Jain , MPUAT, Udaipur, RJ; <i>devendrajain@mpuat.ac.in</i>	Rashid Pervez , ICAR-IARI New Delhi; <i>rashidpervez2003@gmail.com</i>
Geetha Nagaraja , University of Mysore, Mysore; <i>prasantheethanag@rediffmail.com</i>	Ritu Mawar , ICAR-Central Arid Zone Research Institute, Jodhpur, RJ; <i>ritumawar1976@gmail.com</i>
Krishna Kant Mishra , ICAR-VPKAS, Almora; <i>mishrakkpatho@gmail.com</i>	S J Kolte , Ex-GBPUAT, Pantnagar, UK; <i>koltesj@gmail.com</i>
Lekha , AUJ, Jodhpur, RJ; <i>lekha.rca@gmail.com</i>	S K Gupta , Dr YSPUH & F, Nauri, Solan, HP; <i>skguptampp@rediffmail.com</i>
M K Prasanna Kumar , UAS Bangalore, KN; <i>prasanna@rediffmail.com</i>	S Nakkeeran , TNAU, Coimbatore, TN; <i>nakkeeranayya@gmail.com</i>
Mohammad Ansar , BAU, Sabour, Bhagalpur; <i>ansar.patversity@gmail.com</i>	Sajeena A , Kerala Agricultural University, Kerala, KL; <i>sajeenamanjima@gmail.com</i>
P D Meena , ICAR-DRMR, Bharatpur, RJ; <i>pdmeena@gmail.com</i>	Sandeep Jain , PAU, Ludhiana, HR; <i>sandeepjain@pau.edu</i>
P Nallathambi , IARI-WRS, Wellington, Ooty, KN; <i>scientist_thambi@yahoo.co.in</i>	VB Nargund , <i>nargund56@gmail.com</i>
	Vinodkumar S , Dalhousie University, Truro Campus, Nova Scotia, B2N 53E, Canada; <i>vinodytopathologos@gmail.com</i>

Patrons of the Indian Society of Mycology and Plant Pathology

Messers	Pesticides India Limited, Udaipur
Messers	Bharat Pulverising Mills Private Limited, New Delhi
Messers	Jay Dee Chemicals, New Delhi
Messers	Rallis India Limited, Chandigarh
Messers	Indofil Chemicals Limited, Mumabi
Messers	Kapson Agrochem Private Limited, New Delhi
Messers	M M House, Karnal
Messers	American Spring & Pressing Works Private Limited, Mumbai
Messers	National Organic Chemical Industries Limited, Mumbai
Messers	Montari Industries Limited, New Delhi
Messers	Bayer (India) Limited, Mumbai
Messers	Northern Minerals Limited, New Delhi
Messers	Gharda Chemicals Limited, Mumbai
Messers	Hindustan Antibiotics Limited, Pimpri, Pune
Messers	Hoechst India Limited, Mumbai
Messers	Micro Chemicals, Mandasaur
Messers	Maharashtra Hybrid Seed Company Limited, Jalna
Messers	Shaili Polymers Private Limited, Ahmedabad

Membership fee and manuscript processing charges for peer reviewed Journal of Mycology and Plant Pathology effective from January 2023 to December 2023

(Published 4 issues / volume / year)

Particulars	India, SAARC Countries & other Developing Countries (₹)	Developed Countries (U S \$)
Annual Membership#		
– Scientist	1,500*	200*
– Student	1,000*	120*
Limited Life Membership#		
– For 10 yrs	10,000*	500*
– For 20 yrs	15,000*	750*
– For 30 yrs	25,000*	1250*
Annual Subscription (Institutions/Libraries)	14,000	700
Processing-publication Charges		
– Full length paper/mini review	1,500	350
– Short communication/New records	1,000	200
– Colour plate (per page)	1,000	200
– PDF file (Single paper)	250	50

*Add ₹ 100 or US \$ 10 for first time member admission fee. # Institute Certificate(s) required.

Application form for membership can be obtained from the Society Office at Udaipur or download from www.ismpp.org.in

Copyright : Indian Society of Mycology and Plant Pathology (ISMPP) has copyright of its peer reviewed publication- *Journal of Mycology and Plant Pathology (JMPP)*. The contents, both text and images of *JMPP* may not be copied, republished, redistributed, modified, edited or extracted for any other use without a written permission of ISMPP. ISMPP has sole authority to grant permission for use of its copyrighted materials to any parties other than the authors and their institutions. However, *JMPP* subscribers have privilege to print and save contents for their professional and teaching use, but not for any commercial purpose.

Edited by Jameel Akhtar and Pokhar Rawal for the Indian Society of Mycology and Plant Pathology, Rajasthan College of Agriculture, Post Box 154, Maharana Pratap University of Agriculture and Technology, Udaipur-313 001, Rajasthan. Printed by Apex Publishing House, B-1 Shiv Park Colony, Durga Nursery Road, Udaipur-313 001, Rajasthan, India.



For online version of JMPP contact
e-publishers and distributors
www.connectjournals.com/jmpp
email: contact@connectjournals.com