

Contents

REVIEW ARTICLES

1-15	Novel Insights into the Antimicrobial Resistance and Strategies to Curb the Menace Bibhuti Panda, Prasana Kumar Rath, Bidyut Prava Mishra, Jyotiprabha Mishra, Biswadeep Jena, Pragnya Smita Mishra, Ankita Chakraborty, Debasish Hota and Manoj Kumar Jena	
16-28	Antimicrobial Resistance: Techniques to Fight AMR in Bacteria – A Review Ernessto Mahizhchi, Diveyaa Sivakumar and Megala Jayaraman	
29-45	Biochar: A Comprehensive Review on a Natural Approach to Plant Disease Management Lham Dorjee, K. Nishmitha, Sudeepta Pattanayak, Tsedar Wangmu, Shweta Meshram, Sushma Chongtham and Robin Gogoi	
46-63	Pathogenic Factors of Shiga Toxigenic Escherichia coli Tharakupeedikayil Abdul Majeed Sajeena and Sudha Kalyanikutty	
64-79	An Insight into the Role of Phenolics in Abiotic Stress Tolerance in Plants: Current Perspective for Sustainable Environment Anuprita Ray, Somashree Kundu, Shuvendu Shekhar Mohapatra, Somya Sinha, Bahman Khoshru, Chetan Keswani and Debasis Mitra	
80-99	Probiotics as a Sustainable Approach in Health Enrichment Ashwin Rajeev, Aiswarya Sudheer and Indranil Chattopadhyay	
100-117	Bioprospecting and Exploration of Phytochemicals as Quorum Sensing Inhibitors against Cariogenic Dental Biofilm S. Arya and R. Usha	
118-143	Actinomycetes: Isolation, Cultivation and its Active Biomolecules S. Meenakshi, Jyothi Hiremath, M.H. Meenakshi and S. Shivaveerakumar	
144-167	Prominent Classes of Antibiotics and their Mechanism of Resistance against Methicillin-Resistant Staphylococcus aureus Shweta Sharma, Manik Sharma, Ajay Kumar, Amit Vashisht, Moyad Shahwan and Hardeep Singh Tuli	
MINI-REVIEW	/ ARTICLES	
168-176	Role of Human Oral Microbiome in Diseases Mansi Upadhyay, Anushika Swaroop, Vijay Kumar Sinhal, Alok Srivastava, Sanjay Kumar Garg, Vijay Pal Singh and Pankaj Kumar Arora	
177-184	How Phage Therapy Works, Its Advantages and Disadvantages: Mini Review Vaishnavi Mishra, Nandkishor Bankar, Yugeshwari Tiwade and Sarita Ugemuge	
CASE SERIES ARTICLE		
185-192	Case Series of Melioidosis in a Tertiary Health Care Centre in Puducherry, India Joshy M. Easow, Namrata K. Bhosale, S. Pramodhini and Ramya Priyadarshini	
RESEARCH ARTICLES		
193-199	Screening of Group B Streptococcal and Candida Infections in Antenatal Women Visiting a Tertiary Care Hospital and the Neonatal Outcome Abraham Faby, M. Anuradha, R. Rachel, Saswati Tripathy and Sajeetha Kumari Raveendran	

Journal of Pure and Applied Microbiology



Contents

200-210	Grasshopper (Oxya chinensis) Gut Bacteria and their Cellulolytic Activity Erman Munir, Irma Vanessa Sitinjak and Ahmad Faisal Nasution
211-218	Standardisation of an In-house Multiplex PCR Assay for Identifying Diffusely Adherent <i>E. coli</i> and ESBL Producing Resistant Isolates Radhika Kishor Madalgi, Sughosh Kulkarni, Ganavalli Subramanya Ajantha, Shylaja Ramlal, Shruthi Aradhya and R.D. Kulkarni
219-228	Synergistic Interactions between Pseudomonas aeruginosa and Candida albicans, Candida glabrata, Candida krusei, Candida parapsilosis as well as Candida tropicalis in the Formation of Polymicrobial Biofilms Yenni Andriana, Agung Dwi Wahyu Widodo and Muhammad Vitanata Arfijanto
229-242	<i>Fusarium</i> Induced Anatomical and Biochemical Alterations in Wild Type and DPA-treated Wheat Seedlings Abhaya Kumar Sahu, Punam Kumari and Bhabatosh Mittra
243-256	Characterization and Identification of Thermophilic Bacteria Isolated from Different Sites Located in Al-Jouf Region, Saudi Arabia Sherifa A. Saidan, Raja Jarboui, Salam S. Alsharari and Mona S. Azab
257-268	Microbial Profile and Antibiotic Susceptibility Pattern of Frozen Food in India Bi Bi Zainab Mazhari, Fehaid Alanazi, Khalid Abosalif, Tagwa Salah Ahmed Mohammed Ali, Sanaa Elfaith Hussein and Dayanand Agsar
269-279	Extraction and Profiling of Antifungal Compounds Produced by Azotobacter Species Ameena Tarana, A.D. Bhavishya, S.M. Lekhana, Vishaka Prabhu, K.N. Hanumantharaju, M.B. Anusha and Chennappa Gurikar
280-296	Assessment of The Bioremediation Potential of Selected Bacterial Species Isolated from the Textile Printing Wastewater Inoculated with Cow Dung K.B. Dhameliya, Chetan Ambasana and Gaurav Agrawal
297-310	Effectiveness of the Drought-tolerant Plant Growth Promoting Rhizobacteria (PGPR) that Supports Paddy Growth in Drought Condition Emmyrafedziawati Aida Kamal Rafedzi, Izwan Bharudin, Shazilah Kamaruddin, Farah Diba Abu Bakar and Abdul Munir Abdul Murad
311-316	Truenat: Can it be A Game Changer in Extrapulmonary Tuberculosis? Deepali Sharma, Sonia Khatter and Sanjay Singhal
317-322	Diagnosis of Rickettsial infection by Multiplex Real-time PCR in Febrile Pediatric Patients Admitted in a Tertiary Care Hospital at Chennai, South India Rajagopal Murali, Sivasambo Kalpana, Karthick Shanmugam and Prabu Dhandapani
323-331	Bioethanol Production from Water Hyacinth (<i>Eichhornia crassipes</i>) using Different Microbial Inoculants M. ShakilaBegam, E. Anusha Boorani, P. Akilandeswari and B.V. Pradeep
332-346	Plant Growth Promoting Activity of <i>Colletotrichum</i> sp., an Endophyte of <i>Helicteres isora</i> L. and its Growth Optimization using Response Surface Methodology Riya Dutta and Debdulal Banerjee
347-366	Sustainable Synthesis of Biopolymer Polyhydroxybutyrate (PHB) from Agro-residue by <i>Brevibacterium casei</i> with Emphasis on Degradation Analysis R. Preethi Rathna and M. Kulandhaivel

Journal of Pure and Applied Microbiology

www.microbiologyjournal.org



Contents

367-380	A QuEChERS Cyanin based Chromogenic Method for the Sensitive Identification of MRSA from Various Food Sources and its Molecular Characterization Mariya Tomy, Shylaja Ramlal, M.M. Parida and Joseph Kingston
381-388	Biofilm Formation and Antifungal Susceptibility Profile of <i>Candida</i> Species Responsible for Vulvovaginal Candidiasis in Pregnant and Non-Pregnant Women visiting a Tertiary Care Hospital in Southern India R. Rachel, M. Anuradha and K.V. Leela
389-400	Impacts of Agricultural Practices (Pesticides and Fertilizers) and Amalnala Stream on Amalnala Lake in Gadchandur, India Utkarsh Ravindra Moon, Arpana Ashokrao Durge and Vijay S. Wadhai
401-409	Comparative Study of Antibacterial Activity between Selected International and Indian Essential Oils against Selected Pathogenic Bacteria Shweta Sagar Naik, W. Richard Thilagaraj, Pooja Gangadharan and K.V. Leela
410-418	Molecular Detection of Carbapenemase-producing Uropathogens Isolated from Pregnant Women Bi Bi Zainab Mazhari and Mohammed H. Saiemaldahr
419-429	Leveraging Neurospora crassa Fungus and Carboxypeptidase A1 Enzyme to Illuminate Microscale Biodiversity Changes in Response to Global Shifts Supajit Sraphet, Chaisri Tharasawatdipipat, Sivapan Choo-in, Pantip Kayee and Bagher Javadi
430-437	Molecular Identification of <i>Chlamydia trachomatis</i> among Infertile Females Gopi Dhivya, K.S. Sridharan, N. Sanjeeva Reddy, P. Kennedy Kumar, Arunagiri Ramesh and Divya Katta
438-450	Retrospective Analysis of the Spread of SARS-CoV-2 in the Mediterranean Part of Bulgaria, During the First Wave of the Pandemic Ivo Sirakov, Petya Stankova, Dimitar Bakalov, Yeshaa Mirani, Lyudmila Bardarska, Gergana Paraskova, Ivan Popov, Alexandra Alexandrova, Georgi Dimitrov, Gergana Mizgova, Nikolay Kalvatchev and Raina Gergova
451-459	Antibacterial Activity of Cell-Free Supernatants of Probiotic Lactobacillus against Bacterial Pathogens Associated with Vaginal Infections Gift Nzubechi Elughi, Margaret Ikiwili Oniha, Yemisi Dorcas Obafemi, Abimbola David Akinyosoye, Eze Frank Ahuekwe and Paul Akinniyi Akinduti
460-466	Analyzing Breakthrough Infections in a Tertiary Care Hospital: A Retrospective Study Utilizing RAT-Based Screening K. Vanathy, Raji Ramachandran Pillai, Malarvizhi Ramalingam, Agiesh Kumar Balakrishna Pillai, G. Ezhumalai and Joshy Maducolil Easow
467-475	<i>Panchagavya</i> -Derived <i>Brevibacillus brevis</i> S1-3: Insights from the Draft Genome on its Antimicrobial and Plant Growth-Promoting Ability Sowmiya Sattanathan, Vidya Sriraman, J. Jemina, M. Ranjani, Anwesha Anurupa, Mohandass Ramya and Pasupathi Rathinasabapathi
476-482	Assessment of the Antibacterial Activity of Spilanthes acmella Against Bacteria Associated with Dental Caries and Periodontal Disease: An In-vitro Microbiological Study S. Shivananda, Vidya G. Doddawad, Lipsa Bhuyan, Akhil Shetty and V.H. Pushpa
483-499	Identification of Cellulose Producing Bacterial Strains: An Eco-friendly and Cost-effective Approach Haseena Muhammad, Najla Ali Alburae, Mohamed Abdel Salam, Munair Badshah, Taous Khan and Salah E.M. Abo-Aba



Contents

500-508	Screening of Microorganisms Capable of Biotransforming Certain Monoterpenes Using Substrate Toxicity Test Ruchika Mittal, Gauri Srivastava and Deepak Ganjewala
509-521	Comparison of Blast, Bacterial Leaf Blight and Brown Plant Hopper Introgressed Lines for Yield and Morphological Traits Over Original Line Priyanka Manne, Raghavendra Rao Sanagala, Sai Murali Raj Menon, Venkata Ramana Rao Gantla and Srinivas Naik Kethavath
522-527	Antimicrobial Resistance in <i>Escherichia coli</i> Causing Urinary Tract Infection: A Four-Year Study Anushka V. Devnikar, Shivakumar S. Solabannavar, Suresh B. Sonth, Anand B. Janagond, Shilpa Gokale and Arati Bhurle
528-541	Prevalence of Extended-spectrum Beta-lactamase (ESBL), Metallo Beta-lactamase (MBL) and Carbapenemase Producing Acinetobacter Species Isolated from Various Clinical Samples in Tertiary Care Hospital Manasi Vikas Yadav, Geeta S. Karande, S.N. Karande, S.R. Patil and Shanu Sharma
542-548	The Effect of Red Ginger Essential Oil on Adherence of <i>Streptococcus mutans</i> Prawati Nuraini, Dimas Prasetianto Wicaksono, Kittipon Laosuwan and Alvionita Adzani Putri
549-554	Role of HBsAg Neutralisation Test in Low Positive and Indeterminate HBsAg Results by Electrochemiluminescence Mridula Madiyal, Shashidhar Vishwanath and Shiran Shetty
555-567	Exploitation of Selected Fungal Endophytes of Andrographis paniculata (Burm. f.) Wall. ex Nees for the Production and Optimisation of Tannase and Screening for their Associated Hydrolysing Enzymes; Amylase, Protease, Lipase, and Laccase Bibartan Mishra, Hiran Kanti Santra and Debdulal Banerjee
568-583	Candidate Blood MicroRNAs as Potential Biomarkers in Patients with Active and Latent Pulmonary Tuberculosis Infection Eman A. El-Masry, Mohamed Samir and Ahmed E. Taha
584-592	Formulation of Fruit Seed-based Bioactive Compounds from Zanthoxylum armatum for Determining their Antioxidant and Antimicrobial Activity Kunal Sharma, Amit Gupta, Arundhati Thapliyal and Neha Pandey
593-604	Production and Optimization of L-glutaminase from Halophilic Fusarium solani-melongenae Strain CRI 24 under Submerged and Solid State Fermentation M.S. Vineetha, Nayef Abdulaziz Aldabaan, Sunil S. More, Mater H. Mahnashi, Ibrahim Ahmed Shaikh, Mohammad Shahzad Samdani, Rashmi Swami, Anirudh Yadav, N. Rohith, J. Bhavya, Basheerahmed Abdulaziz Mannasaheb, Mamdouh Saleh Alharbi, Aejaz Abdullatif Khan, Salah Eldeen Dafalla and S.M. Shakeel Iqubal
605-613	Detection of Multidrug-Resistant Integrons Associated with Acinetobacter baumannii Isolated from Clinical and Environmental Samples Varsha Prakash Shetty, Carol Rodrigues and Vijaya Kumar Deekshit
614-625	Antimicrobial and Antioxidant Activities of Ethanolic Extract of Fermented Black Sesame (<i>Sesamum indicum</i> L.) Seed Dregs Nur Kamariah Rosni, Maimunah Sanny and Yaya Rukayadi
626-637	Effect of New Bio-component of Cytoplasmic Polyhedrosis Virus (Cypovirus1) with Silver Nanoparticles against Four Pests in Stored Food Products Abdullah Abdulhafith AL-Jaddawi, Naser Ahmed Hamad Alkenani, Khalid Mohammed Alghamdi and Esam Kamal Fahmy Elbeshehy



Contents

638-652	Outdoor Assessment of Airborne Microorganisms During the COVID-19 Outbreak in Madinah City, KSA Hibah M. Albasri and Sultan M. Alsharif
653-661	Isolation and Characterization of Bacterial Contaminants from Bone Marrow-Derived Mesenchymal Stem Cell Cultures S. Amitha Banu, Shubham Saini, Khan Sharun, Merlin Mamachan, Sonu S. Nair, Abhijit M. Pawde, Kuldeep Dhama, Laith Abualigah and Swapan Kumar Maiti
662-671	Association of RT-qPCR Ct Values and Disease Severity among COVID-19 Patients Visiting a Tertiary Care Hospital in Nepal Jagadish Joshi, Om Prakash Joshi, Sher Bahadur Kamar, Guna Raj Awasthi, Yogendra Shah, Ramesh Shahi, Sandip Khadka, Hem Raj Joshi, Pushpa Raj Padhaya, Chet Raj Joshi, Ram Prashad Ojha, Sunil Bahadur Singh, Lok Raj Bhatt, Ram Singh Dhami, Kishor Pandey, Sudip Regmi, Sita Ram Sapkota, Dhan Kumar Pant, Kamal Singh Khadka, Shyam Prakash Dumre and Basu Dev Pandey
672-681	Psychological Impact of COVID-19 Pandemic among Healthcare Personnel in United Arab Emirates Ananya Srivastava, Godfred A. Menezes, Jewel Mary Kenneth, Jennifer John, Sahina Saif, Taniqsha Bambani, Zyna Ayesha Fayaz, Carol Avil Mathias, Mohamedanas Mohamedfaruk Patni, Shukri Adam, Tarig Hakim, Mariam Al Nuaimi and Muna Obaid Alayyan
682-695	Characterization and Distribution of SARS-CoV-2 Omicron Variant and its Sub-lineages in Uttarakhand using Next Generation Sequencing: A Retrospective Study Shekhar Pal, Geetika Rana, Shweta Singhal, Minakshi Singh, Manish Kumar and Shweta Thaledi
696-702	Molecular Identification of Carbapenem Resistance Acinetobacter baumannii causing Ventilator-Associated Pneumonia Isolated from Intensive Care Unit of Tertiary Care Hospital Vijeta Sharma, Rajni Sharma and Aruna Vyas
703-710	The Attitude Regarding the Uptake of Influenza Vaccine in the COVID-19 Era in Jeddah City, Saudi Arabia Mujallad Alaa, Hala Mohammed Yasin, Hotaf Abdullah Alharbi, Mazin Barry and Mohammed Qashqary
711-721	Effectiveness of Medicinal Plant Extract against Pathogenic Bacteria in the Prevention and Treatment of Urinary Tract Infections Suad Abdulhadi Al-Hilu and Wisam Hamzah Al-Shujairi
722-738	Antimicrobial Activity against Antibiotic-resistant Pathogens and Antioxidant Activity and LCMS/MS Phytochemical Content Analysis of Selected Medicinal Plants Mony Thakur, Khushboo, Ankita Yadav, Kashyap Kumar Dubey, Tikam Chand Dakal and Vinod Yadav