

Contents

REVIEW ARTICLES

- 747-761** **Role of Rickettsial Outer Membrane Protein A in the Pathogenesis of Rickettsial Diseases**
Noor Hanisa Harun, Muhamad Yazli Yuhana, Ang-Lim Chua and Seok Mui Wang
- 762-771** **Exploring the Potential of *Bacillus* Species Secondary Metabolites as SARS-CoV-2 Protease Inhibitors**
Yuniar Mulyani, Yeni Mulyani, Mochamad Untung K. Agung and Dian Yuni Pratiwi
- 772-796** **Pathogenesis, Diagnosis and Therapeutic Strategies for Ventilator-associated Pneumonia**
Harendra Kumar Thakur, Bansidhar Tarai, Aradhana Bhargava, Pankaj Soni, Prasana Kumar Rath, Bidyut Prava Mishra and Manoj Kumar Jena
- 797-807** **Microbial Engineering for a Greener Ecosystem and Agriculture: Recent Advances and Challenges**
Pankaj Singh, Ranjan Singh, Sangram Singh, Rajveer Singh Chauhan, Saroj Bala, Neelam Pathak, Pradeep Kumar Singh and Manikant Tripathi
- 808-822** **Revolutionizing Antimicrobial Solutions Nanotechnology, CRISPR-Cas9 and Innovative Approaches to Combat Drug Resistance in ESKAPE Pathogens**
J. Sabarish Sachithanandan, M. Deepalakshmi, H. Rajamohamed, Priscilla Mary, M. Mohankumar and S. Vikashini
- 823-836** **Microbial and Phytoremediation of Heavy Metals from Aquatic Ecosystem: An Initiative for Sustainable Environment**
Nilesh Yadav, Vanshika Dabas and Jai Gopal Sharma
- 837-852** **Insights on MDR Mechanism of *Pseudomonas aeruginosa* with Emphasis on Diabetic Foot Ulcer in the Indian Subcontinent**
Debolina Chatterjee and Karthikeyan Sivashanmugam
- 853-866** **Salt Tolerant Microbes (Active Metabolites) Mediated Nanoparticle: Drug Delivery and Future Prospects**
Priya, Poonam Joshi, Jaya Rautela, Pallavi Pandey, Srishti Morris and Pallavi Ghildiyal

CASE REPORTS

- 867-872** ***Streptococcus mitis* and *Klebsiella pneumoniae* Mixed Infection in Severe Burn Injury Patient**
Yelvi Levani and Eddy Bagus Wasito
- 873-877** **Chancroid: A Tenacious Old Foe of Mankind – Two Cases from the Foothills of the Himalayas**
Arpana Singh, Mohit Bhatia, Neelam Kaistha and Naveen K. Kansal

RESEARCH ARTICLES

- 878-885** **Galactomannan Antigen Assay for the Diagnosis of Invasive Aspergillosis: A Study from a Tertiary Care Hospital of Central India**
Archana Keche, Girish Patil, Ranganath T. Ganga and Dibakar Sahu
- 886-899** **Prevalence of Extensively and Pan-drug-resistant *Acinetobacter* spp. in Nosocomial Infections in Western Saudi Arabia**
Hanan S. Al-Ghamdi, Hesham A. Malak, Leena A. Neyaz, Najla A. Obaid, Shmoukh Alghuraibi, Mawadah M.S. AlKashkary, Khaled Elbanna, Iqbal Ahmad and Hussein H. Abulreesh
- 900-906** **Evaluation of the White Garden Snail (*Theba pisana*) Mucus Slime for its Efficacy as an Antimicrobial Agent**
Khuzama Alarfaj, Ahmad Almatroudi, Faris Alrumaihi, Arshad Hussain Rahmani, Amjad Ali Khan, Hamid G. Mohamed, Masood Alam Khan, Shaden Abdullah Alalawi, Nada Alkhorayef and Khaled Allemailem

Contents

- 907-920** **The Virulence Genes of Sensitive Strain *Pseudomonas aeruginosa* Causing Nosocomial Outbreaks**
Nabila Farina Rosli, Aziyah Abdul-Aziz, Ariza Adnan and Siti Farah Alwani Mohd. Nawil
- 921-928** **A Baseline Study of Bacterial Pathogens in Greywater Samples in Jordan using Ribotyping**
Zeinab Arabeyyat
- 929-940** **Comparison of Elva Diagnostic SARS-CoV-2 Saliva Nucleic Acid Test Kit with RT-qPCR and Rapid Antigen Tests in COVID-19 Patients**
Yudi Agustinus Allositandi, Hartono Kahar and Fauqa Arinil Aulia
- 941-950** **Utilization of Agricultural Waste for the Cultivation of *Pleurotus* Mushrooms in Thailand**
Nattawut Rungjindamai, Kittipong Trakunjarunkit, Thanutchai Posalee and Duangkamol Limpanya
- 951-960** **A PCR-RFLP Analysis for the Diagnosis of DAS and T-2 Genotypes in *Fusarium goulgardi***
Mengyuan Zhang, Haoyu Wang, Junhua Yang, Xianli Yang, Shanhai Lin and Jianhua Wang
- 961-979** **Optimization of Sterilization Parameters for Isolation of Endophytes from *Allium sativum* and Exploring its Antibacterial Activity**
Pratima Srivastava, Shree Prakash Tiwari, Alok Kumar Srivastava and Rajesh Sharma
- 980-986** **Identification and Speciation of Non-diphtheritic *Corynebacteria* (NDC) and their Antimicrobial Susceptibility Pattern by Broth Microdilution**
Pratibha Chandra, G.S. Ravi, S.A. Rahil Pasha and Rakesh Kumar
- 987-994** **Microbiological Profile and Susceptibility Pattern of Bacterial Blood Culture Isolates in COVID-19 Patients with Septicemia from a Designated COVID Hospital in Pune**
Ketaki Pathak and Shital Ghogale
- 995-1003** **Endophytic Microbial Diversity, Heavy Metal Accumulation, and Antimicrobial Properties of *Avicennia marina* from Saudi Arabia**
Muaz Magzob Abdellatif and Hussam H. Arafat
- 1004-1012** **A Study of Genotypic Characterization of ESBL and MBL Genes of β -Lactamase Producing *Pseudomonas aeruginosa* in Various Clinical Samples**
Ramya Rengaraj, Natarajan Muninathan, Sivaranjini Alagiri and Arumugam Suresh
- 1013-1024** **Biofabrication, Characterisation and Antimicrobial Activity of CuO/Ag-based Material**
Taru Saklani, Naveen Chandra Joshi and Vikash Jakhmola
- 1025-1031** **Comparative Study of Biofilm and Non-Biofilm Producing *Klebsiella pneumoniae* with Special Reference to Metallo-Beta-Lactamase Production**
Prajakta S. Pawar, Satyajeet K. Pawar, Satish R. Patil, Harsha V. Patil and Priyanka M. Mane
- 1032-1042** **Characterization and Performance Evaluation of Anaerobic Night Soil Biodegrading Inoculum**
Brijendra Kumar Kashyap and Jose Mathew
- 1043-1050** **Essential Oil of *Lippia multiflora* Moldenke Flowers Quenches *Pseudomonas aeruginosa* PAO1 Biofilm Formation and Motilities**
Ablassé Rouamba, Eli Compaoré, Macoeur Kontogom, Yahaya Zoungrana, Vincent Ouedraogo and Martin Kiendrebeogo
- 1051-1056** **Prevalence of Intestinal Parasites among Diabetes Mellitus Patients in Tertiary Care Hospital**
Dhruva Hari Chandi and Sucheta J. Lakhani
- 1057-1063** **Characterization of Circulating HCV Genotypes: A Cohort Study in Uttar Pradesh, India**
Nuzhat Maqbool Peer, Vinod Joshi, Annette Angel, Bennet Angel, Vikram Singh Chauhan, Shareef Mohammed Buvvaji, Poorna Khaneja, Ambreen Shafaat Khan, Shilpa Barthwal, Neha Singh, Bhawna Sharma, Ramesh Joshi, Monika Dheer, Khushbu Kumari, Aarya Chitransh and Reshu Chauhan

Contents

- 1064-1073 A Cross-sectional Study on Knowledge of Monkeypox Disease (MPOX) Among Young Adults**
Deepak Subedi, Alok Dhakal, Sumit Jyoti, Sanju Subedi, Deepak Chandran, Vinodhini Duraisamy, Mohammed S. Almuhayawi, Mohammed K. Nagshabandi, Muyassar K. Tarabulsi, Soad K. Al Jaouni and Samy Selim
- 1074-1084 Screening and Characterization of Biosurfactant-producing Strains in Contaminated Soil**
Huria Rizvi, Vikram Singh and Ashish
- 1085-1092 Occurrence of Multidrug Resistant *Pseudomonas aeruginosa* Isolated from Waste Water Samples of Dhaka, Bangladesh**
Nourin Tarannum, Sahana Parveen, Meher Nigad Nipa and Suvra Das
- 1093-1102 Identification and Antibacterial Activity of *Streptomyces mediolani* CF51DZ Isolated from the Beetle (*Protaetia morio*), Collected from Souk Ahras, North-East of Algeria**
Sabrine Raffa, Adel Ayari and Ines Guehria
- 1103-1109 Coagulase-negative Staphylococci – A True Pathogen in Bloodstream Infections and their Resistance Patterns in a Tertiary Care Hospital**
S. Anitha, S. Sijimol, K. Akila, M. Kamal Raj, Sekhar Ambuja, S. Senthamarai, S. Sivasankari and V.J. Subha
- 1110-1120 Antimicrobial Activities of Symbiotic and Non-symbiotic Bacteria Associated with the Entomopathogenic Nematode, *Steinernema feltiae***
Mohammed Alorabi
- 1121-1125 Phytotoxicity of Pendimethalin on the Emergence of Seedlings and Microbial Count in Direct-seeded Rice Across Different Concentrations**
Burra Shyamsunder, Ujagar Singh Walia, Thulisekari Prasanna, Sandeep Menon, Prudhvi Nawabpet, Guntimadugu Santhosh Kumar Raju and Pavana Kumara
- 1126-1136 *In vitro* Biomedical Application of Endophytic *Aspergillus melleus* Isolated from Leaves of *Premna serratifolia* L.**
S.L. Varsha, Arun K. Shettar, Joy H. Hoskeri and A.B. Vedamurthy
- 1137-1150 Biodiesel Production from Rice-Wash Water with *Streptomyces fradiae* Fermentation: Improved Free Fatty Acid Concentration**
Janice Ravi Kumar, Dayanandan Anandan and Viswanathan Kaliyaperumal
- 1151-1166 Molecular Characterization of Copper Resistance Bacterial Strains and its Optimization Using Statistical Methods**
Jayeshkumar R. Ruparelia, Rishit A. Soni and Hiren K. Patel
- 1167-1176 Novel Drug Repurposing Strategy as an Alternative Therapeutic Concept for Scrub Typhus Using Computational Studies**
S. Mohamed Akram Ali, N. Helina, S. Vinoth Kumar, E. Varshini, K.MF. Thawfeeq Ahmad and H. Rajamohamed
- 1177-1182 An Analogy between Gold Standard SARS-CoV-2 RT-qPCR with the SARS-CoV-2 Rapid Antigen Test in a Tertiary Care Setting in Central State of India**
Neha Singh, Nikita Sherwani, Jyoti Jaiswal, Tripti Nagaria, Onkar Khandwal, Arvind Neral and Arti Sahu
- 1183-1195 Statistical Optimization of Salmonella Survival in Different Protein Hydrolysates**
Kumud Ashish Singh, Santhini S. Nair, Rohit Rai, Satyen Kumar Panda and Elavarasan K
- 1196-1208 Lichenysin Produced by *Bacillus licheniformis* RG1002 Inhibit the Biofilm Formation of *Pseudomonas aeruginosa* on Various Surfaces**
Abhishek Kumar, Ruchi Sankhwar, Shilpi Yadav and Ravi Kr. Gupta

Contents

- 1209-1213** **Antibacterial Properties of *Lubeg (Syzygium lineatum (DC.) Merr. & L.M. Perry)* Leaf Extracts**
Maria Christina Z. Manicad and Agustina G. Pattung
- 1214-1220** **Evaluation of Abbott ID-NOW Rapid Assay with Real-Time Reverse Transcription PCR Assay for Detection of SARS-CoV-2**
Ozhiparambil Anilkumar Jagan, Mohammed Muhsin Paraparambil Vellamkott, Anzil Bava, Jayalakshmi Anish, Vinaya Acharya, Muhammed Shakir and Seema Oommen
- 1221-1234** **Botanical Control of Multiple Drug Resistant *Pseudomonas aeruginosa* infection in *Clarias gariepinus***
Chika Bright Ikele, Onyeka Michael Ikele, Nkiruka Francisca Oparaku, Rose Nduka Obiezue, Ikem Chris Okoye, George Promise, Nnadi Uche and Adaeze Arinze
- 1235-1245** **Assessment of Healthcare Workers' Adherence to Infection Prevention and Control Measures in Najran City, Saudi Arabia, in the Post-COVID-19 Pandemic Era**
Nasser Saeed Alqahtani, Randah Abd Allah Elmahboub, Faisal Saeed Al-Qahtani, Saleh Saeed Al Jathnan Al Qahtani, Seham Mahmoud Eldeeb, Albatoul M. Al Margan, Fatimah Ahmad Albaghrh, Anwar Mana Al Sharyan and Aljawharh Salem M. Alyami
- 1246-1252** **Cytokine levels in Type-2 Diabetes Mellitus (T2DM) Patients with Asymptomatic Bacteriuria (ASB) in Northern Andhra Pradesh**
K.V.S.B. Vidya Sagar, P. Sarat Jyotsna, K. Sethumadhavan and Narasinga Rao Bandaru
- 1253-1264** **Regulating Cotton Growth via Rhizobium Species**
Tasleem Sultana and Pavan Kumar Pindi
- 1265-1278** **Incidence of Bacterial Uropathogens and their Antibiotic Susceptibility Pattern Isolated from Urinary Tract Infection in Female Patients**
Nivedita R Bashetti, Ritesh Vernekar, Shishir Devaraju and M.B. Hiremath
- 1279-1289** **Expression of Recombinant OmpA (rOmpA) and *In vitro* Validation of Antibody Mediated Cross Reactivity among the *Enterobacteriaceae* Pathogens**
Harish Babu Kolla, S. Sai Latha, Prakash Narayana Reddy, Shivakiran Satyanarayan Makam and Devika Veluvolu
- 1290-1296** **Pattern of Mutations in Rifampicin Resistance (*rpoB*) Gene and Analysis of Rifampicin Indeterminate Result in Tuberculosis Detected by Xpert MTB/RIF Assay in Kalaburagi, India**
M. Ravish Kumar, Praveen Kumar Doddamani, Lavanya S. Peter, Prashant Parandekar and Shrinivas Reddy
- 1297-1304** **Antibacterial Activity of the *Allium sativum* Crude Extract against Methicillin-resistant *Staphylococcus aureus***
M. Indira, G. Bhuvaneshwari, L. Premkumar and P. Neelusree
- 1305-1318** **Parasporins of *Bacillus thuringiensis* Strain Exhibit Apoptosis-Mediated Selective Cytotoxicity to MDA-MB-231 Cells through Oxidative Stress**
Mohammed M. Aljeldah, Talat A. El-kersh and Mourad A.M. Aboul-Soud
- 1319-1325** **Nasal Carriage and Antimicrobial Susceptibility Pattern of *Staphylococcus aureus* among Breastfeeding Mothers and their Infants**
Rike Syahniar, Adinta Anandani, Aning Subiyatin and Hanif Ahmad Mubarak
- 1326-1335** **Cloning and Production of Protease Enzyme from *Aeribacillus pallidus* P18 Strain**
Mahdiyeh Saadati, Mustafa Ozkan Baltaci, Ahmet Adiguzel and Orhan Erdogan
- 1336-1346** **Screening, Production and Characterization of Potential Lignocellulolytic Actinomycetes from Agricultural Field**
Mrunal K. Bhatt and Mousumi B. Das

Contents

- 1347-1357 Palmitic Acid Synthesis from Coconut Oil Cake Waste using Probiotic Bacteria of Marine Fishes**
Kannan Visali, Anandan Rubavathi, Sembulingam Jayasri, Elamathi Vimali and Athiappan Murugan
- 1358-1371 Bacterial Diversity in Al-Asfar Lake, Al Ahsa Oasis, Saudi Arabia**
Abeer Al Mousa, Munirah Aldayel, Marwa A.M. Genena, Zeinab A. El-Moaty and Ashraf Khalifa
- 1372-1385 Polyphenol Contents, Antibacterial and Antioxidant Effects of Four Palestinian Honey Samples, and their Anticancer Effects on Human Breast Cancer Cells**
Basheer Abu-Farich, Hadeel Hamarshi, Mahmud Masalha, Abderrazak Aboulghazi, Abdalsalam Kmail, Mohammed El Ouassete, Hamada Imtara, Badiaa Lyoussi and Bashar Saad