

Contents

MINI REVIEWS

- 1719-1726 Biosensors for Fungal Detection**
Hamdi Nsairat, Areej M. Jaber and Mazen Al-Sulaibi
- 1727-1734 Endometrial Microbiome and Women's Reproductive Health – Review of the Problem Endometrial Microbiome and Reproductive Health**
Tatyana Bodurska, Emiliana Konova, Svetlana Pachkova and Angel Yordanov

REVIEW ARTICLES

- 1735-1744 The Potential Role of Vitamin B12 in the Prevention of COVID-19 Complications: A Narrative Review**
Srinidhi Rai, Sindhu, Prajna, B. Shamantha Rai and P. Rithesh Pakkala
- 1745-1758 Biosynthesis and Modulation of Terpenoid Indole Alkaloids in *Catharanthus roseus*: A Review of Targeting Genes and Secondary Metabolites**
Mukesh Kumar Sharma, Mohan Kumar and Renu
- 1759-1780 Global Pandemic as a Result of Severe Acute Respiratory Syndrome Coronavirus 2 Outbreak: A Biomedical Perspective**
Charles Arvind Sethuraman Vairavan, Devarani Rameshnathan, Nagaraja Suryadevara and Gnanendra Shanmugam
- 1781-1797 Prospects of *Aloe vera* and its Bioactive Compounds in Diabetes: Critical Review**
Mukesh Kumar Sharma, Jagat Chauhan, Mohan Kumar, Chetan Kumar Joshi, Sandeep Sharma and Chhagan Lal
- 1798-1808 Coronavirus Diseases (COVID-19): Features, Epidemiology, Mutational Variations and Treatments Across India**
Sayani Jati, Kanthesh M. Basalingappa, B. Geethanjali, R. Parthiban, S. Prathibha Rajashekara and T.S. Gopenath
- 1809-1815 Nanoparticles as Antimicrobial Agents and Drug Delivery Systems - A Review**
Jagadish Kumar Suluvoy, P. Levin Anbu Gomez, T. Jesse Joel, Neha Toppo, Dhanu P. Karthikeyan and Ritu Shepherd
- 1816-1832 Microbial Production of Value-added Products from Cashew Apples - An Economical Boost to Cashew Farmers**
Vinoth Kannan, Vivek Rangarajan, Sampatrao D. Manjare and Pramod V. Pathak
- 1833-1845 Microbial Fuel Cells: An Alternate Approach for Bioelectricity Generation and Waste Management**
Chennappa Gurikar, H.B. Vandana, B.P. Netravati, B.P. Chaitra Kumari, N.A. Nanje Gowda, K.N. Hanumantharaju and Lokesh AC

RESEARCH ARTICLES

- 1846-1854 Antimicrobial Potential of Rhizospheric Bacteria *Streptobacillus* sp.**
Jay Kishor Prasad, Riddha Dey and Richa Raghuwanshi
- 1855-1863 Computational Approach for Predicting Common Epitopes in the VP1 Structural Protein of Enterovirus Serotypes EV-D68, EV-D70, and EV-A71**
Rihabe Boussettine, Yassine Kasmi, Najwa Hassou, Hlima Bessi and Moulay Mustapha Ennaji

Contents

- 1864-1872 Molecular Analysis and Genome Sequencing of SARS-CoV-2 during Second Wave 2021 Revealed Variant Diversity in India**
Rupinder Bakshi, Satinder Kaur, Karashdeep Kaur, Ramanpreet Kaur, Jaspreet Kaur Boparai, Ritika Ghai, Tanveer Kaur, Amritpal Kaur, Jaspreet Kaur, Kajal Verma, Palika Sharma, Gagandeep Singh, Sweety, Vikram Thakur, Kuljeet Kaur, Kulwinder Singh, Savita Rani, Paramjeet Kaur, Sukhvir Kaur, Suman, Navdeep Kaur, Naina Rai, Dhavni Singla, Akshdeep Singh, Balwant Singh, Sukhpal Singh and Harbhajan Singh
- 1873-1881 Growth Modeling Kinetics of *Aspergillus flavus* in Dried Jujube at Different Temperatures**
Yiming Guo and Hua Ji
- 1882-1891 Drug-resistant Tuberculosis: First Line Drug Resistance Pattern among *Mycobacterium tuberculosis* Strains Isolated from a Reference Laboratory in Kerala State, India**
Neetha S. Murthy, Sanjeev Nair, P.K. Ramya, Renu Susan George, B. Ravikrishnan, M. Sunil Kumar, Sairu Philip, P.S. Rakesh and Shibu Balakrishnan
- 1892-1897 Magnitude, Seasonal-variation, Serological and Hematological Profile of Dengue in a Tertiary Teaching Hospital, Karwar, India**
F. Sneha Kukanur, G. Naveen, N. Ashwin Chitrabanu, B.M. Prashant, R. Meghana and V.N. Venkatesh
- 1898-1906 The De-marketing Strategies as a Vital Resolve of Antibiotics Misuse Dilemma**
Ali Al-Samydai, Mahmood Jasim AL-Samydai, Maha N. Abu Hajleh, Ihab Ali Qrimea, Abdul Azez Badir Alindawy, Lidia Kamal Al-Halaseh and Rudaina Othman Yousif
- 1907-1914 Antibacterial Potential of Zinc Oxide Nanoparticles Synthesized using *Aloe vera* (L.) Burm.f.: A Green Approach to Combat Drug Resistance**
Chainika Khatana, Ashwani Kumar, Mashael W. Alruways, Nazam Khan, Naveen Thakur, Dinesh Kumar and Amita Kumari
- 1915-1930 Plant-microbe Interactions in Rhizospheric Soil Treated with Different Quality Organic Residues**
Saowalak Somboon, Bhanudacha Kamolmanit and Phruaksa Lawongsa
- 1931-1939 Study on Prescription Audit from a Rural Tertiary Care Hospital in North India**
Mukesh Sharma, Nikhil Payal, Leimapokpam Sumitra Devi, Divya Gautam, Manisha Khandait, Kapil Hazarika and Moumita Sardar
- 1940-1946 Overview of Pathogens causing Nosocomial Infections in Various Wards of a Tertiary Health Care Hospital and their Antimicrobial Susceptibility Pattern - A Prospective Surveillance Study**
D. Saikeerthana, P. Prabha, V. Vijayashree and Gogula N.M. Krishna
- 1947-1956 Lytic Enzymes of *Aspergillus piperis* as a Tool for Attacking Some Phytopathogenic Fungi *In vitro* with Special Reference to its Cytotoxicity**
Samah Abd El-Kader El-Debaiky and Anwer S.M. El-Badry
- 1957-1962 Detection of Inducible Resistance to Clindamycin among Methicillin Resistant and Sensitive Strains of *Staphylococcus aureus* from India**
Rosy Bala, Narinder Kaur, Nitin Gupta, Jyoti Chauhan, Ritu Garg, Harit Kumar and Adesh K Saini
- 1963-1975 Production of Endoglucanases by *Streptomyces thermocophilus* CP1 using Rice Straw as a Substrate**
Suriya Tingthong, Pitchayaporn Suwanakood, Pongsak Rattanachaikunsopon and Jidapa Sangswan

Contents

- 1976-1986** **Ethnobotanical Study of Underutilized Wild Edible Fruits and their Antibacterial Activity against Human Pathogens**
Suresh Ch. Biswas, Pranab Dutta, Purnima Barua, Tarun Kr. Misra and Subrata Das
- 1987-1994** **Prevalence and Genetic Diversity of Coagulase Negative *Staphylococcus* in Food Products Collected from Riyadh Region**
Ayman Mubarak
- 1995-2002** **Utility of Minimum Inhibitory Concentration Values and Antibiotyping for Epidemiological Study of Vancomycin Resistant Enterococci in a Tertiary Care Hospital**
Deepa Devhare
- 2003-2018** **Enriching Lactobacilli from Fermented Pulse Dal Flour-Analyzing its Efficacy in Utilizing Carbohydrates and Production of α -galactosidase Enzyme During Pigeon Pea Fermentation**
Prachi R. Gandhi
- 2019-2026** **Phenotypic Methods for the Detection of Metallo-Beta-Lactamase Production by Gram-negative Bacterial Isolates from Hospitalized Patients in A Tertiary Care Hospital in India**
K. Sreeja Vamsi, S. Rama Moorthy, T.S. Murali, Mary Hemilamma, Y. Raja Rathna Reddy, B. Rama Chandra Reddy and J. Sunil Kumar
- 2027-2033** **A Comparative Study of Ziehl Neelson Stain and Fluorescent Stain Microscopy in the Diagnosis of Pulmonary Tuberculosis**
Hajra Tasneem Masali, Aparna Takpere and Praveen Shahapur
- 2034-2040** **Bacteriological Profile in Septicaemic Patients with Elevated C-reactive Protein in Intensive Care Units at A Tertiary Care Hospital**
S.R. Hariharan, K.V. Leela, S.R. Manjula, A. Gomathi Chitra and A. Karthik
- 2041-2049** **Biofilm Formation and its Association with Antibiotic Susceptibility Pattern in Methicillin-resistant *Staphylococcus aureus* Isolates**
Bajarangi Lal Chaudhary, Dakshina Bisht and Sameer Singh Faujdar
- 2050-2058** **Impact of Nisin in Combination with Sodium Benzoate and Calcium Carbonate on the Bacterial and Yeast Population of Coconut Neera (Coconut Inflorescence sap)**
Latha Sukumaran and Mahendran Radhakrishnan
- 2059-2064** **Mupirocin Resistance in *Staphylococcus aureus* Isolated from Nasal Swabs of ICU and OT Staff - A Study from A Tertiary Care Hospital**
Sapna Chauhan, Surender and Tony J Rappai
- 2065-2072** **A Study on Prevalence and Characterization of *Candida* Species in Immunocompromised Patients**
Dhanapal Nandini, J. Manonmoney, J. Lavanya, K.V. Leela and Sujith
- 2073-2084** **Bioactivity and Plant Growth Stimulation Studies using *Mangifera indica* L. Gum**
Antony V. Samrot, Lee Si Jie, S. Abirami, R. Emilin Renitta, S. Dhiva, P. Prakash, S. Saigeetha and N. Shobana
- 2085-2097** **Predisposition of Blood Group Non-secretors to Urinary Tract Infection with *Escherichia coli* Antimicrobial Resistance and Acute Kidney Injury**
Shanmugapriya Thiagarajan, Selvaraj Stephen, Sarangapani Kanagamuthu, Stanley Ambrose, Pragasaam Viswanathan, Palanivel Chinnakali and Rajesh Nachiappa Ganesh

Contents

- 2098-2102 An Investigation Profile in Pediatric Patients Suspected of Acute Hepatitis A**
Geetika Rana and Owias Yousef Lone
- 2103-2116 Molecular Docking of Anti *Helicobacter pylori* Antibiotics and Proton Pump Inhibitor: A Single Center Survey**
Kanishka Uthansingh, Ratna Kumari, Girish Kumar Pati, Manas Kumar Behera, Mahesh Chandra Sahu, Jimmy Narayan, Swarup Kumar Patnaik, Pradeep Mallick and Manoj Kumar Sahu
- 2117-2124 Antibiotic Resistance Pattern of *Pseudomonas aeruginosa* Isolated from Clinical Specimens from a Tertiary Care Centre in Central Kerala with Special Reference to Carbapenemase Detection**
P.M. Anooja and Anu P. John
- 2125-2135 The Attractant Bioactivity Test of Semi-Polar Fraction of the Datuan Stem Bark (*Ficus vasculosa* Wall. Ex Miq) against Warehouse Pest (*Sitophilus oryzae* L.)**
Syaiful Bahri, Yuli Ambarwati, Lina Marlina, Vera Fitriani and Sutopo Hadi
- 2136-2141 Relationship between Radiological Findings with Bacterial Etiology of Community Acquired Pneumonia in Pediatric Population**
Nidhi Pandey, Garima Mittal, Nitika Agarwal, Barnali Kakati and R.K. Agarwal
- 2142-2151 Assessment of Awareness and Practices of Biomedical Waste Management among Health Care Professionals at a Teaching Hospital in Uttar Pradesh**
Monika Rajani
- 2152-2162 Bacteriological Analysis of Household Water at the Source and Point of Consumption at Karwar, India**
F. Sneha Kukanur, N.S. Sriprada, Sheetal Gouda, R. Meghana, G. Naveen and Swapna Kotian
- 2163-2169 Clinical Spectrum and Resistance Profile of *Staphylococcus* Infections in a Peri Urban Tertiary Care Hospital**
Madhuri, Sweta Jangra and Manisha Khandait
- 2170-2176 Importance of Antimicrobial Stewardship in the Treatment of Urinary Tract Infection**
Rupinder Bakshi, Sarjiwan Kaur and Vikram Jeet Singh Gill
- 2177-2182 Antimicrobial Efficacy of Titanium Dioxide Coating in Operating Theaters at a Tertiary Care Hospital in Arunachal Pradesh**
Mika Umpo, Tumbi Lollen, Moji Jini and Jyothinath Kothapalli
- 2183-2194 Antibacterial Activity and Phytochemical Screening of *Garcinia pedunculata* Roxb. ex Buch. - Ham. fruit extract by HPLC-ESI-MS**
Zoliansanga and R. Lalfakzuala
- 2195-2208 Isolation of Taxol and Flavin-like fluorochrome from Endophytic Fungi of *Mangifera indica***
Enthai Ganeshan Jagan, Parth Sharma, Senthuran Sureshkumar and Mohan Pandi
- 2209-2228 Behavior of Native Food Isolates of *Listeria monocytogenes* and *Listeria innocua* under the Influence of Selected Cultural Attributes and Heat and Cold Treatments**
Jayanth Sunderraj Hampapura and Varadaraj Mandyam Chakravarathy

Contents

- 2229-2243 Antimicrobial Potential and Chemical Profiling of Leaves Essential Oil of *Mentha* Species Growing under North-West Himalaya Conditions**
Sonam, Amita Kumari, Vikas Kumar, Ishita Guleria, Mamta Sharma, Ashwani Kumar, Mashaal W. Alruways, Nazam Khan and Ravinder Raina
- 2244-2251 Antibiotic Resistance in *Salmonella* Isolated from Ho Chi Minh City (Vietnam) and Difference of Sulfonamide Resistance Gene Existence in Serovars**
Truong Huynh Anh Vu, Chu Van Hai, Huynh Yen Ha and Nguyen Hoang Khue Tu
- 2252-2262 Postharvest Treatment of Chinese Kale (*Brassica oleracea* var. *alboglabra*) by Pulse Light to Removal of Microbial Load, Pesticide Residue and Integrity of Physicochemical Quality and Phytochemical Constituent**
Nguyen Phuoc Minh
- 2263-2269 Structural Diversity and Role of Phytochemicals against P38- α Mitogen-activated Protein Kinase and Epidermal Growth Factor Receptor Kinase Domain: A Privileged Computational Approach**
Amar Shankar, S.M. Gopinath, Shiva Prasad Kollur, P. Sushma, Anisha S. Jain, Sharanagouda S. Patil, Chandrashekar Srinivasa, Shivalingaiah and Chandan Shivamallu
- 2270-2279 Antibacterial Resistance Pattern in Clinical and Non-clinical Bacteria by Phenotypic and Genotypic Assessment**
Mohamed Shawky, Waleed B. Suleiman and Ayman A. Farrag
- 2280-2287 Synergistic Effect of Methyl Cellulose and Carvacrol Coating on Physicochemical and Microbial Attributes of Mango (*Mangifera indica*) Fruit in Postharvest Storage**
Nguyen Phuoc Minh
- 2288-2294 Influence of Endophytic Bacterium, *Cellulosimicrobium* sp. FRR2 on Plant Growth of *Amaranthus campestris* L. and Bacterial Survival at Adverse Environmental Conditions**
S. Sandhya, Ramalingam Radhakrishnan, Ramaraj Sathasivam, Muthukrishnan Arun, Gurusaravanan Packiaraj and Sang Un Park
- 2295-2301 Molecular Diversity of *Bacillus thuringiensis* and Bioinformatics Analysis of Local Isolate of Auky Island, Padaido District in Biak Numfor Papua as a Control of Anopheles Mosquito Larvae**
Daniel Lantang and Arsyam Mawardi
- 2302-2316 Possibility of Pulsed Electric Field and Essential Oil Pre-treatment, Microwave-air Dehydration to the Quality of the Dehydrated Sesban (*Sesbania sesban*) Flower**
Nguyen Phuoc Minh
- 2317-2328 Production of Extracellular Enzymes, Antimicrobial and other Agriculturally Important Metabolites by Fungal Endophytes of *Litsea glutinosa* (Lour.) C.B.Rob. a Medicinal Plant**
Abhinesh Madasi, Aruna Ajmeera, Gudepu Renuka, Bhavani Vemireddy and Krishna Reddy Vanteru
- 2329-2335 Response of Indian gooseberry (*Embllica officinalis* Gaertn.) to Different Sources of Plant Nutrients**
Ankur Sharma, Shreya Tiwari, Raj Kumar Chaurasiya and K.N. Nagaich

Contents

- 2336-2346** **Production of Cocktail Enzymes by Three *Cladosporium* Isolates and Bioconversion of Orange Peel Wastes into Valuable Enzymes**
Ahmad Mohamed Moharram, Abdel-Naser Ahmed Zohri, Abd El-Latif Hesham, Mohamed Al-Ameen Maher and Osama Abdel-Hafeez Mohamed Shaban Al-Bedak
- 2347-2357** **Characterization of N4-like Pseudomonas Phage vB_Pae-PA14 Isolated from Seawater Sampled in Thailand**
Akkaraphol Srichaisupakit, Peechanika Chopjitt and Anusak Kerdsin
- 2358-2366** **Molecular Detection of Rotavirus in Mollusks from the Oued El Maleh Estuary of Mohammedia, Morocco**
Abderrahim Hatib, Najwa Hassou, Abdelouahab Benani, Jamal Eddine Hafid and Moulay Mustapha Ennaji
- 2367-2381** **Optimization and Characterization of Antimicrobial Agents Produced by Marine *Aspergillus terreus* She05 against *Aeromonas hydrophila* and other Applications**
Hala H. Abd El-latif, Sahar W.M. Hassan and Ehab A. Beltagy
- 2382-2393** **Effect of Physico-chemical Parameters on the Population Diversity of Potentially Harmful Micro-algae during Post-monsoon Season along the Malabar Coast**
A. Sankaranarayanan, Muhammad Musthafa Poyil, Ponnurugan Karuppiah and Abubucker Peer Mohideen
- 2394-2402** **The Effect of Triclosan Adaptation on Antimicrobial Resistance among Clinical *Escherichia coli* Isolates from Egyptian Patients**
Eman A. El-Masry, Ahmed E. Taha and Soma E. Aylan
- 2403-2408** **Detection and Real-time PCR Assay for the Quantification of Carbapenemase Gene bla_{NDM-1} in Hospital Effluent**
M. Divyashree, Madhu K. Mani and Shama Prakash K
- 2409-2419** **A Prospective Study on Neonatal Sepsis in a Tertiary Hospital, Nepal**
Ranjit Sah, Suraj Bhattarai, Srijana Basnet, Bharat Mani Pokhrel, Niranjan Prasad Shah, Sanjit Sah, Ranjana Sah, Kuldeep Dhama and Basista Rijal
- 2420-2430** **Characterization of Aminoglycoside Modifying Enzymes Producing *E. coli* and *Klebsiella pneumoniae* Clinical Isolates**
Eman El-Gebaly, Mohammed Farrag, Tarek Dishisha and Walid Bakeer
- 2431-2438** **COVID-19 and the Challenges in World's Largest Vaccination Drive in India**
Archana Yadav
- 2439-2447** **Microbiological and Radiological Perspective of Fungal Rhinosinusitis during the COVID-19 Pandemic: A Prospective Observational Study in A Tertiary Care Centre in Northern India**
Pavneet Kaur, Mehak Arora, Arvinder Singh Sood and Amandeep Singh
- 2448-2461** **Differential Analysis and Putative Roles of Genes, Cytokines and Apoptotic Proteins in Blood Samples of Patients with Respiratory Viral Infections: A Single Center Study**
Rishya Manikam, Wang Seok Mui, Yong Yean Kong, Chandramathi Samudi Raju and Shamala Devi Sekaran

Contents

- 2462-2472 Evaluation of Antidiabetic Activity of *Sargassum tenerrimum* in Streptozotocin-Induced Diabetic Mice**
A. Philomena Joy Lindsey, Reya Issac, M. Lakshmi Prabha, R. Emilin Renitta, Angelina Catherine, Antony V. Samrot, S. Abirami, P. Prakash and S. Dhiva
- 2473-2485 Circulating MicroRNA-21 as a Novel Noninvasive Biomarker for Hepatocellular Carcinoma Compared with Alpha Fetoprotein Gold Test**
Asmaa Gamal Osman, Khalid Shaaban Hashem, Laila Mohamed Youssef and Ahmed Nabil
- 2486-2497 Endophytic Bacteria *Pseudomonas aeruginosa* PM389 Subsists Host's (*Triticum aestivum*) Immune Response for Gaining Entry Inside the Host**
Garima Gupta, Abhijit Das, Prameela Jha and Prabhat N. Jha
- 2498-2506 Dental Students in Egypt: To What Extent Do They Perceive and Comply with Infection Control Measures?**
Basma A. Elawady, Mona S. Mohamed, Eman H. Elsebaie, Essraa A. Hegazy and Lamiaa A. Madkour
- 2507-2519 Quorum Sensing Regulation of Virulence Gene Expression in *Vibrio harveyi* during its Interaction with Marine Diatom *Skeletonema marinoi***
Gurpreet Kaur-Kahlon, Ballamoole Krishna Kumar, H.A. Darshanee Ruwandepika, Tom Defoirdt and Indrani Karunasagar
- 2520-2528 Antimicrobial Resistance in *Pseudomonas aeruginosa* Biofilms**
Dhara Patel, Palash Sen, Yin Hlaing, Michael Boadu, Bassam Saadeh and Paramita Basu