

## Contents

- 01-12**      **Katarzyna Skrzypczak, Ewa Jabłońska- Ryś, Klaudia Gustaw, Aneta Sławińska, Adam Waško, Wojciech Radzki, Monika Michalak-Majewska and Waldemar Gustaw**  
Reinforcement of the Antioxidative Properties of Chickpea Beverages Through Fermentation Carried Out by Probiotic Strain *Lactobacillus plantarum* 299v
- 13-26**      **Gamal E.H. Osman, Hussein H. Abulreesh, Khaled Elbanna, Mohammed R. Shaaban, Samreen and Iqbal Ahmad**  
Recent Progress in Metal-Microbe Interactions: Prospects in Bioremediation
- 27-44**      **Mohd. Iqbal Yatoo, Oveas Raffiq Parray, Riyaz Ahmed Bhat, Muheet, Arumugam Gopalakrishnan, Archana Saxena, Sandip Chakraborty, Ruchi Tiwari, Sandip Kumar Khurana, Shoor Vir Singh and Kuldeep Dhama**  
Emerging Antibiotic Resistance in Mycoplasma Microorganisms, Designing Effective and Novel Drugs / Therapeutic Targets: Current Knowledge and Futuristic Prospects
- 45-49**      **Reynoso Vázquez Josefina, Ruvalcaba Ledezma Jesús Carlos, Chavarría Miranda Alejandra, Jiménez Sánchez Reyna Cristina, Guzmán Meneses Karla Patricia and Alamilla Pérez Karina**  
Zika; A Threat to Making Important Decisions on Maternal and Perinatal Health
- 51-59**      **Daniel Gyamfi Amoako, Anou Moise Somboro, John Osei Sekyere, Krishnee Moodley, Linda Antoinette Bester and Sabiha Yusuf Essack**  
Tet(M) Mediates Tetracycline Resistance in Methicillin-Resistant *Staphylococcus aureus* (MRSA) Clinical Isolates from the Private Hospital Sector in KwaZulu-Natal (KZN), South Africa
- 61-68**      **Malik I.A. and Elhag K.M.**  
Characterisation of Extended-Spectrum  $\beta$ -Lactamases among Multidrug Resistant Enterobacteriaceae from Sudan
- 69-76**      **Elizabeth Bosede Famewo and Anthony Jide Afolayan**  
Identification and Phylogenetic Profiling of Bacterial Populations in *Perna perna* L.
- 77-83**      **Natalia Rojas, Ana Martinez, Patricia Acuña, Fatima Rodriguez, Nora Lia Padola and Rosa Guillen**  
Detection of Shiga Toxin-producing *Escherichia coli* in Ground Beef: Evaluation of Contamination Levels in Butcheries of The Metropolitan Zone in Asuncion, Paraguay
- 85-96**      **Fifi M. Reda, Rasha M. El-Mekkawy and Noha S. Hassan**  
Detoxification and Bioremediation of Sulfa Drugs and Synthetic Dyes by *Streptomyces mutabilis* A17 Laccase Produced in Solid State Fermentation
- 97-106**      **Moustafa Y. El-Naggar, Amira M. Hamdan, Ehab A. Beltagy, Hassan A.H. Ibrahim, and Mahetab M. M. Moustafa**  
Endotoxin Production by *Pseudomonas aeruginosa* ATCC 9027 with Potential Medical Applications
- 107-116**      **Mu'ad Al-zuabe, Yazan Ismail, Diya Hasan, Hussein Alhrouf, Safaa Al-Zeidaneen, Yanal Albawarshi and Eman Abu-Hamra**  
Antimicrobial Effect of *Cyclamen persicum* Tuber Extracts Against Bacteria and *Candida* Species
- 117-125**      **Kitti Wirunpan, Sakesan Chinwang, Nareerat Chaikong and Charida Pukahuta**  
Increasing Nutritional Contents of Cassava Starch Wastes Using *Pleurotus ostreatus* (Jacq.) P.Kumm. and *Lentinus squarrosulus* Mont.
- 127-132**      **Calderón Rodríguez Nelly Patricia, Jerez Pacheco Yary Zulay, Ruvalcaba Ledezma Jesús Carlos, Chavarría Miranda Alejandra, Jiménez Sánchez Reyna Cristina and Reynoso Vázquez Josefina**  
The Influence of Antivaccination Movements on the Re-emergence of Measles

## Contents

- 133-140**      **Shailza Shreshtha, Pradeep Kumar, Preeti Sharma and Rachna Sharma**  
Cytokine Release Syndrome: An Overview on its Features and Management
- 141-159**      **Harsh Kumar, Nassim Kamar and Dinesh Kumar**  
Hepatitis E: Current Status in India and Other Asian Countries
- 161-165**      **Ramalingam Suganya, Narasimhan Malathi, Vinithra Karthikeyan and Vyshnavi Devi Janagaraj**  
Mucormycosis: A Brief Review
- 167-178**      **Amad A. El Marghani, Khaled A. Algariri and P.M. Ridzuan**  
Prospective Influence of Phytotherapy on Resistant Bacterial Tonsillitis
- 179-182**      **Jureka Mankotia, Sunil Sethi and Mohammad Azhar Khan**  
Cartridge Based Nucleic Acid Amplification Test: The Sherlock of Tuberculosis
- 183-191**      **Preeti Sharma, Shailza Shreshtha, Pradeep Kumar and Rachna Sharma and T.K. Mahapatra**  
A Review on Macrophage Activation Syndrome
- 193-200**      **Tasnapa Wongsansilp, Kittisak Yokthongwattana, Sittiruk Roytrakul and Niran Juntawong**  
 $\beta$ -carotene Production of UV-C Induced *Dunaliella salina* Under Salt Stress
- 201-208**      **Nahla Shazli Abdel Azim, Maha Abdullah Al-Harbi, Mayasar Ibrahim Al-Zaban, Marwa Youssef Nofal and Ali Mohammed Somily**  
Prevalence and Antibiotic Susceptibility among Gram Negative Bacteria Isolated from Intensive Care Units at a Tertiary Care Hospital in Riyadh, Saudi Arabia
- 209-223**      **Tanaporn Chalearmsrimuang, Siti Izera Ismail, Norida Mazlan, Supaporn Suasaard and Tida Dethoup**  
Marine-Derived Fungi: A Promising Source of Halo Tolerant Biological Control Agents against Plant Pathogenic Fungi
- 225-232**      **Rasha Khalid Abbas**  
Chemical Constituents of the Goat Margarine and Antibacterial Activity against Bacterial Pathogens in Sudan
- 233-240**      **Shaima Mohamed Nabil Moustafa**  
Influence of *Pythium oligandrum* on Mycelia and Production of Zoo-and Oo-spores of Two Phytopathogenic *Pythium* spp.
- 241-245**      **Valentina Y. and Umadevi S.**  
Phenotypic Detection and Quality Assessment of Indoor Air-Borne Microorganisms Using Passive Air Sampling Technique (Settle Plate) at A Tertiary Care Teaching Hospital in Puducherry
- 247-255**      **Halima Berrada, Jamal Ibjibijen and Kawtar Fikri-Benbrahim**  
Determination of Symbiotic Effectiveness of *Rhizobium* Strains Isolated from Food Legumes (Bean) Collected from Fez, Morocco
- 257-263**      **Ebaa M. Felemban, Daifellah A.M. Al Juaid, Walaa F. Alsanie, Mohamed M. Hassan and Ahmed Gaber**  
Correlation Between Strain Distribution and Antibiotic Resistance Genes Pattern of *Streptococcus agalactiae* Group B from Patients in Taif, Saudi Arabia
- 265-269**      **Mohammed S. Al-Mogbel, Fauwaz Al-Rashid, Mamdoh Meqdam, Hisham Al-Ajlan and Mushtaq A. Khan**  
Molecular Characterization of *Staphylococcus aureus* Isolated from Renal Hemodialysis (HD) Patients from Saudi Arabia

## Contents

- 271-280**      **Varalakshmi Surendra Raje Urs, Shylaja Ramlal, Harsh Vardhan Batra, Mahadeva Naika and Joseph Kingston Jeyabalaji**  
An *In-vitro* Screening for Biogenic Amines Producing Microorganisms from Fermented Foods and its Degradation by Bacteria from Canine Saliva
- 281-288**      **Arshad Naji Alhasnawi, Amar Mousa Mandal and Haider Mahmooed Jasim**  
Using DNA Fingerprinting to Detect the Genetic Relationships in Acacia by Inter-Simple Sequence Repeat Markers
- 289-296**      **Somrudee Silarudee, Saowanit Tongpim, Nicha Charoensri and Sompong Doolgindachbaporn**  
Effect of a Probiotic *Lactobacillus plantarum* CR1T5 Dietary Supplements on Non-specific Immunity in Black Eared Catfish (*Pangasius larnaudii*)
- 297-305**      **Ayu Sibagariang, Dwi Suryanto and Kiki Nurtjahja**  
A Possibility of using Antagonistic Bacterial Isolates in Controlling Fusarium Wilt of Chrysanth (*Chrysanthemum* sp.)
- 307-312**      **Ruslan Maratbekovich Iskakov, Assel Maratbekovna Iskakova, Sultanbek Sansyzbaevich Issenov, Dinara Maratbekovna Beisebekova and Altyngul Kumashevna Khaimuldinova**  
Technology of Multi-stage Sterilization of Raw Materials with the Production of Feed Meal of High Biological Value
- 313-317**      **Selvaraj Stephen, Jothimani Pradeep, Balakrishnan Sangeetha and Shanmugam Jayaraman**  
Seroprevalence of Human Brucellosis in and Around Puducherry: Application of an Immunocapture Agglutination Technique (Brucellacapt)
- 319-328**      **Vaishnawi Gupta and Aditi Buch**  
*Pseudomonas aeruginosa* Predominates as Multifaceted Rhizospheric Bacteria with Combined Abilities of P-solubilization and Biocontrol
- 329-338**      **Antony V. Samrot, Silky, Vijay Ignatious C., Raji P., SaiPriya C. and Jenifer Selvarani A.**  
Bioactivity Studies of *Datura metel*, *Aegle marmelos*, *Annona reticulata* and *Saraca indica* and their Green Synthesized Silver Nanoparticle
- 339-348**      **Mingma Thundu Sherpa, Ishfaq Nabi Najar, Sayak Das and Nagendra Thakur**  
The Diversity of *Pseudomonas* species from the Accumulation Zone of Kanchengayao Glacier, North Sikkim, India
- 349-354**      **Huda Sahib Abdul-Mohammed Al-Rawazq, Asifa Ali Hussein and Ali Kamal Mohammed**  
Antibiotic Resistance of Isolated Gram Negative Bacilli from Different Clinical Sample in a Central Teaching Hospital of Pediatric in Baghdad
- 355-360**      **Shilpa G.S. and Jibu Thomas**  
Screening Growth Promoting Traits in Maize Using Native Rhizobacteria through Multiple Approaches
- 361-370**      **Nagaraju Jalli, Santhi Sri K.V., Sairengpuii Hnamte, Subhaswaraj Pattnaik, Parasuraman Paramanatham and Busi Siddhardha**  
Antioxidant and Anti-infective Potential of Ethanolic Extract of *Eriobotrya bengalensis* (Roxb.) Hook. f.: Phytochemicals Investigation and Molecular Docking Studies
- 371-383**      **Tithi Mehrotra, Abhinav Srivastava, R. Pragadeeshwara Rao and Rachana Singh**  
A Novel Immobilized Bacterial Consortium Bioaugmented in a Bioreactor for Sustainable Wastewater Treatment

## Contents

- 385-392**      **Shanu Hoda, Harshita Agarwal, Simran K. Ahluwalia, Maansi Vermani and Pooja Vijayaraghavan**  
Antifungal Resistance Analysis of Environmental Isolates of *Aspergillus* in North India
- 393-402**      **Sri Lakshmi Balakrishnan and P.V.V. Prasada Rao**  
Monocrotophos Degradation Potential of Bacterial Isolates Isolated from Agricultural Soils of Visakhapatnam Dist.
- 403-411**      **E.S. Challaraj Emmanuel, S. Sree Priya and Sona George**  
Isolation of Biosurfactant from *Lactobacillus* sp. and Study of Its Inhibitory Properties Against *E.coli* Biofilm
- 413-418**      **Omar A. Nafi and Bashar Ramadan**  
Sabin Vaccine in Poliomyelitis Eradication: Achievements and Risks
- 419-432**      **Rania M. Makki, Ola I.M. El-Hamshary and Zainah M. Almarhabi**  
Isolation and Molecular Identification of Bacterial Strains to Study Biofilm Formation and Heavy Metals Resistance in Saudi Arabia
- 433-439**      **Zainab Dakhil Degaim, Esraa Dhafer Taher and Mohammed Jasim M. Shallal**  
Molecular Study of *spy1258* and *smeZ* genes in Group A Streptococcal Tonsillitis
- 441-446**      **Hiba Sabah Jasim**  
DNA Methylation Pattern of Early Genes of Epstein Barr Virus Associated with Gastric Carcinoma in Group of Iraqi Patients
- 447-453**      **Anwar M. Lazm, Mohammed S. Jebur, Hussein O.M. Al-Dahmoshi and Noor S. Al-khafaji**  
The Sequencing of *hpmB* Gene in *Proteus mirabilis* Among UTIs Patients
- 455-458**      **Amin A.S. Al Rawi, Hajir Sh.H. Al Dulaimi and Marwa A.A. Al Rawi**  
Antiviral Activity of Mangifera Extract on Influenza Virus Cultivated in Different Cell Cultures
- 459-463**      **Rabab Majeed Abed, Gassan Radam Idan, Roqia Ahmed Abbas and Nagham Thayir Salman**  
Isolation and Identification of Fungi Caused Date Palms Inflorescence Rot Disease in Some Area of Diyala- Iraq and Control of Disease by Sodium Chloride Salt
- 465-473**      **Nora Abdulaziz Aljalaud**  
Ameliorative and Preventive Effects of Metformin, *Nigella sativa*, *Punica granatum* and *Zingiber officinale* on Bone Damage and Infections Caused by *Diabetes mellitus* in Animal Model
- 475-479**      **Batool Hassan Al-Ghurabi, Abeer Khalid Yaseen and Mohammed Imran Hamzah**  
Serum Levels of Lactate Dehydrogenase and Alkaline Phosphatase Enzymes in Colorectal Cancer
- 481-489**      **Ahmad ALbeloushi, Ayman Elbehiry, Eman Marzouk, Rasha Zahran and Husam Edrees**  
Highlight on Multidrug Resistance of *Enterococcus faecalis* Recovered from Diabetic Foot Patients
- 491-498**      **Gaurav Jaiswal, Rajni Singh, Nahar Singh and Shalini Porwal**  
Bioconversion of Hg and Molecular Characterization of *merA* and *merB* Gene in a Clone Constructed by Culture Independent Technique
- 499-503**      **Jabbar S. Hassan, Montaha A. Al-Safar and Thanaa Rasheed Abdul Rhman**  
The Role of DNA Gyrase (*gyrA*) in Ciprofloxacin-Resistant Locally Isolates *Pseudomonas aeruginosa* in Al-Khadhmiya Teaching Hospital Baghdad, Iraq
- 505-515**      **Duaa Abd Al-azem, Karim H. Al-Derawi and Sahar A.A. Malik Al-Saadi**  
The Protective Effects of *Syzygium aromaticum* Essential Oil Extract against Methotrexate Induced Hepatic and Renal Toxicity in Rats

## Contents

- 517-530**     **Martina O. Chukwu, Akebe Luther King Abia, Eunice Ubomba-Jaswa, Larry C. Obi and John Barr Dewar**  
Antibiotic Resistance Profile and Clonality of *E. coli* Isolated from Water and Paediatric Stool Samples in the North-West, Province South Africa
- 531-536**     **Hussein O.M. Al-Dahmoshi, Hussein W.S. Rabeea, Ali Saleem Abdulridha Aridhee, Noor S. K. Al-Khafaji, Mohammed H. Al-Allak, Anwar M. Lazm and Mohammed Sh. Jebur**  
Phenotypic Investigation of Vancomycin, Teicoplanin and Linezolid Resistance Among *Enterococcus* spp. Isolated from Children Diarrhea
- 537-544**     **Abbas Razzaq Abed, Aleem Mardas Khudhair and Ibtisam Mohammed Hussein**  
*In vitro* Study of Topical Antiseptics Used to Treat Mycological Gill Rot Disease in *Cyprinus carpio*
- 545-551**     **Muhammad Jamal Yawuz, Muhammad Qais Fadhil Ahmed and Sarmad Abdulrasool Mohammed**  
Determination of Level of 25-Hydroxy Vitamin D3 in Patients with Multiple Sclerosis and Its Effect on Disease Activity
- 553-560**     **Gaurav Jaiswal, Rajni Singh and Shalini Porwal**  
Bioremediation of Mercury through Encapsulation of the Clone Carrying *meroperon*
- 561-565**     **Pragya Lakshmi, Ranjan Kumar Srivastava and Alok Bharadwaj**  
Urinary Tract Infection During Pregnancy: Prevalence, Associated Risk Factors and Treatment Outcome Based on Antimicrobial Sensitivity Pattern
- 567-571**     **Nidhi Tayal, Priyansh Srivastava and Nidhi Srivastava**  
Anti Angiogenic Activity of *Carica papaya* Leaf Extract
- 573-579**     **T. Jayasree and Mustafa Afzal**  
Infection Control Programme to Reduce the Number of Nosocomial Organism Causing Infection
- 581-584**     **Vidyavathi B. Chitharagi, Kavana B.S., Morubagal Raghavendra Rao, Ranjitha S. Gowda, Rashmi P. Mahale, Sowmya G.S. and Anitha T.K.**  
Clinical and Seroprevalence of Beta Haemolytic Streptococci in South India
- 585-590**     **Manoj Kumar, Divya Bhatia, Sunita Khatak, Rajesh Kumar, Archit Sharma and Deepak Kumar Malik**  
Optimization and Purification of Keratinase from *Bacillus anthracis* with Dehairing Application
- 591-597**     **T. Jayasree and Mustafa Afzal**  
Implementation of Infection Control Practices to Manage Hospital Acquired Infections
- 599-607**     **Payal Aghera and Nikhil Bhatt**  
Biosynthesis of Citric Acid using Distillery Spent Wash as a Novel Substrate
- 609-617**     **Mohamed G. Shehata, Hagar S. Abd-Rabou and Sobhy A. El-Sohaimy**  
Plant Extracts in Probiotic Encapsulation: Evaluation of their Effects on Strains Survivability in Juice and Drinkable Yogurt During Storage and an *in-vitro* Gastrointestinal Model
- 619-628**     **Ali Imad Al-Khassaki and Jamal Noori Ahmed**  
Clinical Assessment of Anti-inflammatory Activity of 940 Nanometer Low Level laser Therapy on Carrageenan Induced Arthritis in Temporomandibular Joint in Wistar Albino Rats
- 629-636**     **Ksanbok Makdoh and Highland Kayang**  
Diversity of Arbuscular Mycorrhizal Fungi in Trap Cultures Prepared from Abandoned Coalmine Overburden Spoils
- 637-641**     **Syarifa Fitria, Zolkafle Buntat, Zainuddin Nawawi, M. Abu Bakar Sidik, M.I. Jambak and Dwirina Yuniarti**  
Antibacterial Potency of Ozonated Water against *Escherichia coli*