

TABLE OF CONTENTS

SPOTLIGHT

Articles of Significant Interest Selected from This Issue by the Editors		1637
--	--	------

MINIREVIEW

Ancient Evolution and Recent Evolution Converge for the Biodegradation of Cyanuric Acid and Related Triazines	Jennifer L. Seffernick, Lawrence P. Wackett	1638–1645
---	---	-----------

BIODEGRADATION

An Outer Membrane Protein Involved in the Uptake of Glucose Is Essential for <i>Cytophaga hutchinsonii</i> Cellulose Utilization	Hong Zhou, Xia Wang, Tengting Yang, Weixin Zhang, Guanjun Chen, Weifeng Liu	1933–1944
--	---	-----------

BIOTECHNOLOGY

Enantioselective Synthesis of Vicinal (<i>R,R</i>)-Diols by <i>Saccharomyces cerevisiae</i> Butanediol Dehydrogenase	Eduard Calam, Eva González-Roca, M. Rosario Fernández, Sylvie Dequin, Xavier Parés, Albert Virgili, Josep A. Biosca	1706–1721
--	---	-----------

Temperature Sensitivity Conferred by <i>ligA</i> Alleles from Psychrophilic Bacteria upon Substitution in Mesophilic Bacteria and a Yeast Species	Jarosław A. Pankowski, Stephanie M. Puckett, Francis E. Nano	1924–1932
---	--	-----------

Discovery of Novel Haloalkane Dehalogenase Inhibitors	Tomas Buryska, Lukas Daniel, Antonin Kunka, Jan Brezovsky, Jiri Damborsky, Zbynek Prokop	1958–1965
---	--	-----------

ENVIRONMENTAL MICROBIOLOGY

Flocculation-Related Gene Identification by Whole-Genome Sequencing of <i>Thauera aminoaromatica</i> MZ1T Floc-Defective Mutants	P. Prombutara, M. S. Allen	1646–1652
--	----------------------------	-----------

Survival Strategies of the Plant-Associated Bacterium <i>Enterobacter</i> sp. Strain EG16 under Cadmium Stress	Yanmei Chen, Yuanqing Chao, Yaying Li, Qingqi Lin, Jun Bai, Lu Tang, Shizhong Wang, Rongrong Ying, Rongliang Qiu	1734–1744
--	--	-----------

Relative Abundance of <i>Nitrotoga</i> spp. in a Biofilter of a Cold-Freshwater Aquaculture Plant Appears To Be Stimulated by Slightly Acidic pH	Jennifer Hüpeden, Simone Wegen, Sandra Off, Sebastian Lücker, Yvonne Bedarf, Holger Daims, Carsten Kühn, Eva Spieck	1838–1845
--	---	-----------

Prokaryotic Community Structure Driven by Salinity and Ionic Concentrations in Plateau Lakes of the Tibetan Plateau	Zhi-Ping Zhong, Ying Liu, Li-Li Miao, Fang Wang, Li-Min Chu, Jia-Li Wang, Zhi-Pei Liu	1846–1858
---	---	-----------

Characteristics of CTX-M Extended-Spectrum β -Lactamase-Producing <i>Escherichia coli</i> Strains Isolated from Multiple Rivers in Southern Taiwan	Po-An Chen, Chih-Hsin Hung, Ping-Chih Huang, Jung-Ren Chen, I-Fei Huang, Wan-Ling Chen, Yee-Hsuan Chiou, Wan-Yu Hung, Jiun-Ling Wang, Ming-Fang Cheng	1889–1897
--	---	-----------

Responses of <i>Saccharomyces cerevisiae</i> Strains from Different Origins to Elevated Iron Concentrations	Carlos Andrés Martínez-Garay, Rosa de Llanos, Antonia María Romero, María Teresa Martínez-Pastor, Sergi Puig	1906–1916
---	--	-----------

ENZYMOLGY AND PROTEIN ENGINEERING

- Polarity Alteration of a Calcium Site Induces a Hydrophobic Interaction Network and Enhances Cel9A Endoglucanase Thermostability** Hsiu-Jung Wang, Yu-Yuan Hsiao, Yu-Pei Chen, Tien-Yang Ma, Ching-Ping Tseng 1662–1674
- Dividing the Large Glycoside Hydrolase Family 43 into Subfamilies: a Motivation for Detailed Enzyme Characterization** Keith Mewis, Nicolas Lenfant, Vincent Lombard, Bernard Henrissat 1686–1692
- Nicotine Dehydrogenase Complexed with 6-Hydroxypseudoxytine Oxidase Involved in the Hybrid Nicotine-Degrading Pathway in *Agrobacterium tumefaciens* S33** Huili Li, Kebo Xie, Wenjun Yu, Liejie Hu, Haiyan Huang, Huijun Xie, Shuning Wang 1745–1755

EVOLUTIONARY AND GENOMIC MICROBIOLOGY

- Genome Analysis of the Fruiting Body-Forming Myxobacterium *Chondromyces crocatus* Reveals High Potential for Natural Product Biosynthesis** Nestor Zaburanyi, Boyke Bunk, Josef Maier, Jörg Overmann, Rolf Müller 1945–1957

FOOD MICROBIOLOGY

- Quantification of Nonproteolytic *Clostridium botulinum* Spore Loads in Food Materials** Gary C. Barker, Pradeep K. Malakar, June Plowman, Michael W. Peck 1675–1685
- Evaluation of Ultrasound-Induced Damage to *Escherichia coli* and *Staphylococcus aureus* by Flow Cytometry and Transmission Electron Microscopy** Jiao Li, Juhee Ahn, Donghong Liu, Shiguo Chen, Xingqian Ye, Tian Ding 1828–1837

GENETICS AND MOLECULAR BIOLOGY

- A 1,3-1,4- β -Glucan Utilization Regulon in *Paenibacillus* sp. Strain JDR-2** Virginia Chow, Young Sik Kim, Mun Su Rhee, Neha Sawhney, Franz J. St. John, Guang Nong, John D. Rice, James F. Preston 1789–1798
- DepR1, a TetR Family Transcriptional Regulator, Positively Regulates Daptomycin Production in an Industrial Producer, *Streptomyces roseosporus* SW0702** Peng-Hui Yuan, Ri-Cheng Zhou, Xuepeng Chen, Shuai Luo, Feng Wang, Xu-Ming Mao, Yong-Quan Li 1898–1905
- A TonB-Dependent Transporter Is Responsible for Methanobactin Uptake by *Methylosinus trichosporium* OB3b** Wenyu Gu, Muhammad Farhan Ul Haque, Bipin S. Baral, Erick A. Turpin, Nathan L. Bandow, Elisabeth Kremmer, Andrew Flatley, Hans Zischka, Alan A. DiSpirito, Jeremy D. Semrau 1917–1923

INVERTEBRATE MICROBIOLOGY

- The Bacteriome of Bat Flies (Nycteribiidae) from the Malagasy Region: a Community Shaped by Host Ecology, Bacterial Transmission Mode, and Host-Vector Specificity** David A. Wilkinson, Olivier Duron, Colette Cordonin, Yann Gomard, Beza Ramasindrazana, Patrick Mavingui, Steven M. Goodman, Pablo Tortosa 1778–1788

METHODS

- Visualizing *Bdellovibrio bacteriovorus* by Using the tdTomato Fluorescent Protein** Somdatta Mukherjee, Kimberly M. Brothers, Robert M. Q. Shanks, Daniel E. Kadouri 1653–1661
- Loop-Mediated Isothermal Amplification (LAMP) for Rapid Detection and Quantification of *Dehalococcoides* Biomarker Genes in Commercial Reductive Dechlorinating Cultures KB-1 and SDC-9** Yogendra H. Kanitkar, Robert D. Stedtfeld, Robert J. Steffan, Syed A. Hashsham, Alison M. Cupples 1799–1806
- Methodological Guidelines for Accurate Detection of Viruses in Wild Plant Species** Christelle Lacroix, Kurra Renner, Ellen Cole, Eric W. Seabloom, Elizabeth T. Borer, Carolyn M. Malmstrom 1966–1975

MICROBIAL ECOLOGY

- Abundance and Biogeography of Picoprasinophyte Ecotypes and Other Phytoplankton in the Eastern North Pacific Ocean** Melinda P. Simmons, Sebastian Sudek, Adam Monier, Alexander J. Limardo, Valeria Jimenez, Christopher R. Perle, Virginia A. Elrod, J. Timothy Pennington, Alexandra Z. Worden 1693–1705
- Involvement of the Type IX Secretion System in *Capnocytophaga ochracea* Gliding Motility and Biofilm Formation** Daichi Kita, Satoshi Shibata, Yuichiro Kikuchi, Eitoyo Kokubu, Koji Nakayama, Atsushi Saito, Kazuyuki Ishihara 1756–1766
- Microbial and Functional Diversity within the Phyllosphere of *Espeletia* Species in an Andean High-Mountain Ecosystem** Carlos A. Ruiz-Pérez, Silvia Restrepo, María Mercedes Zambrano 1807–1817
- Strong Seasonality of Marine Microbial Eukaryotes in a High-Arctic Fjord (Isfjorden, in West Spitsbergen, Norway)** Miriam Marquardt, Anna Vader, Eike I. Stübner, Marit Reigstad, Tove M. Gabrielsen 1868–1880
- Microbial Diversity in the Early *In Vivo*-Formed Dental Biofilm** D. Heller, E. J. Helmerhorst, A. C. Gower, W. L. Siqueira, B. J. Paster, F. G. Oppenheim 1881–1888

PHYSIOLOGY

- Functions of VPA1418 and VPA0305 Catalase Genes in Growth of *Vibrio parahaemolyticus* under Oxidative Stress** Ching-Lian Chen, Shin-yuan Fen, Chun-Hui Chung, Shu-Chuan Yu, Cheng-Lun Chien, Hin-chung Wong 1859–1867

PUBLIC AND ENVIRONMENTAL HEALTH
MICROBIOLOGY

- Three Novel Candidate Probiotic Strains with Prophylactic Properties in a Murine Model of Cow's Milk Allergy** Elodie Neu, Johanne Delannoy, Candice Marion, Charles-Henry Cottart, Chantal Labellie, Sophie Holowacz, Marie-José Butel, Nathalie Kapel, Anne-Judith Waligora-Dupriet 1722–1733
- Effects of Cover Crop Species and Season on Population Dynamics of *Escherichia coli* and *Listeria innocua* in Soil** Neiunna L. Reed-Jones, Sasha Cahn Marine, Kathryn L. Everts, Shirley A. Micallef 1767–1777
- Long-Term Colonization by *bla*_{CTX-M}-Harboring *Escherichia coli* in Healthy Japanese People Engaged in Food Handling** Kunihiro Nakane, Kumiko Kawamura, Kensuke Goto, Yoshichika Arakawa 1818–1827

ERRATUM

- Erratum for Itoh et al., Efficient PCR-Based Amplification of Diverse Alcohol Dehydrogenase Genes from Metagenomes for Improving Biocatalysis: Screening of Gene-Specific Amplicons from Metagenomes** Nobuya Itoh, Satomi Kariya, Junji Kurokawa 1976

Cover photograph (Copyright © 2016, American Society for Microbiology. All Rights Reserved): *Espeletia* sp. plants are endemic to high-mountain Paramo ecosystems of the Andes. The study of *Espeletia* plant-associated microbial communities, which are important for plant growth and health, can also uncover novel interactions and colonization strategies, as well as microbial adaptations to the harsh environmental conditions present in this habitat. (Photo by César Osorio.) (See related article on p. 1807.)