INDEX VOLUME 15

International Microbiology (2012)

www.im.microbios.org



Contents Volume 15 · 2012

Abreu F → Martins JL Arias E → Mendoza G Ascaso C → Wierzchos J

Bañeras L → The role of plant type and salinity in the selection for the denitrifying community structure in the rhizosphere of wetland vegetation, 89

DOI: 10.2436/20.1501.01.162

Bebout BM → García-Maldonado JO

Beier RC → Sheffield CL

Berlanga M → Enhanced polyhydroxyalkanoates accumulation by *Halomonas* spp. in artificial biofilms of alginate beads, 189 DOI: 10.2436/20.1501.01.172

Bengoechea JA → Infection systems biology: from reactive to proactive (P4) medicine, 55 DOI: 10.2436/20.1501.01.158

Bengoechea JA → Garmendia J

Bitrian M → Identification of virulence markers in clinically relevant strains of *Acinetobacter* genospecies, 79
DOI: 10.2436/20.1501.01.161

Bonete MJ → Nájera-Fernández C

Celis LB → García-Maldonado JQ

Chen P → Surface alteration of realgar (As₄S₄)
by Acidithiobacillus ferrooxidans, 9

DOI: 10.2436/20.1501.01.154

Crippen TL → Sheffield CL

de Almeida FP → Martins JL de los Ríos → Wierzchos J de Oliveira MVV → Intorne AC de Souza Filho GA → Intorne AC Domènech O → Berlanga M

Escudero JA → González-Zorn B

Fari K → Moskot M

Fujii K → Isolation and characterization of aerobic microorganisms with cellulolytic activity in the gut of endogeic earthworms, 121

DOI: 10.2436/20.1501.01.165

Gabig-Cimińska M → Moskot M

García-Maldonado JQ → Phylogenetic diversity of methyl-coenzyme M reductase (*mcrA*) gene and methanogenesis from trymethylamine in hypersaline environments, 33 DOI: 10.2436/20.1501.01.155

Garmendia J → Genotypic and phenotypic diversity of the noncapsulated *Haemophilus influenzae*: adaptation and pathogenesis in the human airways, 157

DOI: 10.2436/20.1501.01.170

Germani JC → Schinke C González RH → Bitrian M

González-Zorn B → Ecology of antimicrobial resistance: humans, animals, food and environment, 101

DOI: 10.2436/20.1501.01.163

Guerrero R → Berlanga M

Hallin S → Bañeras L

Heindl H → Bacterial isolates from the bryozoan Membraniphora membranacea: influence of culture media on isolation and antimicrobial activity, 17

DOI: 10.2436/20.1501.01.155

Hu C → Luo P

Ikeda K → Fujii K
Imhoff JF → Heindl H

Intorne AC → Essential role of the *czc* determinant for cadmium, cobalt and zinc resistance in *Gluconacetobacter diazotrophicus* PAI 5, 69

DOI: 10.2436/20.1501.01.160

Jakóbkiewicz-Banecka J → Moskot M Jiang H → Luo P Jiang X → Luo P

Kotlarska E → Moskot M

Li H → Chen P Li Y → Chen P Lins U → Martins JL López-Cortés A → García-Maldonado JQ López-Flores R → Bañeras L

Luo P → Prevalence of mobile genetic elements and transposase genes in *Vibrio alginolyticus* from the southern coastal region of China and their role in horizontal gene transfer, 199

DOI: 10.2436/20.1501.01.173

Mariscotti JF → Contribution of sortase A to the regulation of *Listeria monocytogenes*LPXTG surface proteins, 43

DOI: 10.2436/20.1501.01.157

Markova N → Unique biological properties of Mycobacterium tuberculosis L-form variants: impact for survival under stress, 61. DOI: 10.2436/20.1501.01.159

Martí-Lliteras P → Garmendia J

Martínez-Espinosa RM → Nájera-Fernández C
Martins JL → Spatiotemporal distribution of
the magnetotactic multicellular prokaryote
Candidatus Magnetoglobus multicellularis
in a Brazilian hypersaline lagoon and in

DOI: 10.2436/20.1501.01.167

Mendoza G → New combinations of *cry* genes from *Bacillus thuringiensis* strains isolated from northwestern Mexico, 209

DOI: 10.2436/20.1501.01.174

Michailova L → Markova N

microcosms, 141

Miñana-Galbis D \rightarrow Berlanga M

Moleres J → Garmendia J

Moskot M → Metal and antibiotic resistance of bacteria isolated from the Baltic Sea, 131 DOI: 10.2436/20.1501.01.166

Najera-Fernández C → Role of the denitrifying Haloarchaea in the treatment of nitritebrines, 111

DOI: 10.2436/20.1501.01.164

Nudel CB → Bitrian M

Olmos J → Mendoza G

Pereira LM → Intorne AC
Poole TL → Sheffield CL

INTERNATIONAL MICROBIOLOGY

Portillo A → Mendoza G Pucciarelli MG → Mariscotti JF Puig C → Garmendia J

Quereda JJ → Mariscotti JF Ouintana XD → Bañeras L

Ren C → Luo P Ribas RM → Mendoza G Rosado AS → Martins JL Ruiz-Rueda O → Bañeras L

Schinke C → Screening Brazilian *Macrophomina phaesolina* isolates for alkaline and other extracellular hydrolases, 1 DOI: 10.2436/20.1501.01.153

Sheffield CL → Destruction of single-species biofilms of *Escherichia coli* or *Klebsiella pneumoniae* subsp. *pneumoniae* by dextranase, lactoferrin, and lysozime, 183 DOI: 10.2436/20.1501.01.171

Silveira TS → Martins JL

Skinner N → Year's comments for 2012, 153

DOI: 10.2436/20.1501.01.168Slavchev G \rightarrow Markova N Solari CM \rightarrow Bitrian M Su T \rightarrow Luo P

Thiel V → Heindl H

Wang Q → Chen P
Wang Y → Luo P
Wiese J → Heindl H
Wegrzyn G → Moskot M
Wierzchos J → Microorganisms in desert rocks:
the edge of life on Earth, 171
DOI: 10.2436/20.1501.01.160

Yan L → Chen P Yoshida S → Fujii K

Wróbel B → Moskot M

Zafrilla B → Nájera-Fernández C



Author Index · 2012

Abreu F \rightarrow 141 Arias E \rightarrow 209 Ascaso C \rightarrow 171

Bañeras L → 89 Bebout BM → 33 Beier RC → 183 Berlanga M → 189 Bengoechea JA → 55, 157 Bitrian M → 79 Bonete MJ → 111

Celis LB \rightarrow 33 Chen P \rightarrow 9 Crippen TL \rightarrow 183

de Almeida FP → 141 de los Ríos → 171 de Oliveira MVV → 69 de Souza Filho GA → 69 Domènech O → 189

Escudero JA → 101

Fari K → 131 Fujii K → 121

Gabig-Cimińska M → 131 García-Maldonado JQ → 33 Garmendia J → 157 Germani JC → 1 González RH → 79 González-Zorn B → 101 Guerrero R → 189

Hallin S \rightarrow 89 Heindl H \rightarrow 17 Hu C \rightarrow 199 Ikeda K → 121 Imhoff JF → 17 Intorne AC → 69

Jakóbkiewicz-Banecka J → 131 Jiang H → 199 Jiang X → 199

Kotlarska E \rightarrow Li H \rightarrow Li Y \rightarrow Lins U \rightarrow López-Cortés A \rightarrow López-Flores R \rightarrow Luo P \rightarrow

Mariscotti JF → 43 Markova N → 61 Martí-Lliteras P → 157 Martínez-Espinosa RM → 111 Martins JL → 141 Mendoza G → 209 Michailova L → 61 Miñana-Galbis D → 189 Moleres J → 157 Moskot M → 131

Nájera-Fernández C → 111 Nudel CB → 79

Olmos J \rightarrow 209

Pereira LM \rightarrow Poole TL \rightarrow Pucciarelli MG \rightarrow Puig C \rightarrow Quereda JJ \rightarrow 43 Quintana XD \rightarrow 89

Ren C →199 Ribas RM →209 Rosado AS → 141 Ruiz-Rueda O → 89

Schinke C \rightarrow Sheffield CL \rightarrow Silveira TS \rightarrow Skinner N \rightarrow Slavchev G \rightarrow Solari CM \rightarrow Su T \rightarrow

Thiel V → 17

Wang Q → 9 Wang Y → 199 Wiese J → 17 Węgrzyn G → 131 Wierzchos J → 171 Wróbel B → 131

Yan L \rightarrow 9 Yoshida S \rightarrow 121

Zafrilla B → 111

INTERNATIONAL MICROBIOLOGY

Keyword Index · 2012

Acidithiobacillus ferrooxidans 9
Acinetobacter 79
Alginate beads 189
Amylases 1
Antibiotic resistance 131
Antibiotics 101
Antimicrobial activity 17
Araruama Lagoon 141
Arid environments 171
Artificial biofilm 189
Assimilatory nitrite pathway 111

Bacillus thuringiensis 209
Bacterial communities 89
Bacterial regulation 43
Bacterial survival 61
Baltic Sea 17, 131
Biofilm 183
Bioleaching 9
Bioremediation 111
Brines 111
Burkholderia 121

Cadmium 69
Candidatus Magnetoglobus multicellularis 141
Cellulases 121
Chaetomium earthworms 121
Coastal lagoons 89
Cobalt 69
Covalent anchoring 43
Cry proteins 209
Cultivation media 17
Cyt proteins 209

Denitrification 89, 111 Desert rocks 171 Dextranase 183

czc determinant 69

Eco-evo drugs 101

Ecology of antimicrobial resistance 101

Endoliths 171

Escherichia coli 183

EU antimicrobial policy 101

Eutrophication gradient 89

Food safety 183

Gene analysis 17
Gene mcrA 33
Genetic diversity 157
Gluconacetobacter diazotrophicus PAI 5 69
Gradial growth rate 1

Haemophilus influenzae 157
Haloarchaea 111
Haloferax mediterranei 111
Halomonas spp. 189
Horizontal gene transfer 199
Hyper-arid deserts 171
Hypersaline environments 33

Immobilized cells 189
Infection biology 55
Insecticidal activity 209
Insertion sequences 199
Integrating conjugative elements (ICE) 199

Klebsiella pneumoniae subsp. pneumoniae 183

Lactoferrin 183
L-form conversion 61
Light 79
Lignocellulose digestion 121
Listeria monocytogenes 43
Lithobiontic microorganisms 171
Lypolytic activity 1
Lysozyme 183

Macrophomina phaseolina 1
Magnetotactic prokaryotes 141
Marine bacteria 131
Membranipora membranacea 17
Metal resistance 69, 131
Methanosarcinaceae 33
Microbial mats 33
Microbial systems biology 55
Mycobacterium tuberculosis 61

Noncapsulated/nontypable *Haemophilus* influenzae (NTHi) 157

OMICs 55

P4 medicine 55
Pathogen-host interplay 157
Pectinases 1
Peptidoglycan 43
Polyhydroxyalkanoates (PHA) 189
Phylogeny 79
Pigmentation 131
Plasmids 131
Proteases 1
Public health 101

Quorum sensing 79

Raman spectroscopy 9
Realgar (arsenic sulfide) 9
Resistance units 101
Respiratory nitrite pathway 111
Rhizosphere ecology 89

Salinity gradient 89
Sortases 43
Spatiotemporal bacterial distribution 141
Starvation stress 61
Superintegrons 199
Surface proteins 43

Transposases 199 Trimethylamine 33

Vibrio alginolyticus 199 Virulence markers 79 Virulence phenotype 157

Wetlands 89

X-ray diffraction 9 Xylanases 121

Zinc 69



List of reviewers · 2012

The editorial staff of International Microbiology thanks the following persons for their invaluable assistance in reviewing manuscripts from January 2012 through December 2012. The names of several reviewers have been omitted at their request.

Alonso, Amanda. Autonomous Univ. of Barcelona, Bellaterra, Spain Amils, Ricardo. Autonomous Univ. of Madrid, Cantoblanco, Spain Antón, Josefa. University Miguel Hernández, Alicante, Spain Ayala, Juan Alfonso. CBM-AUM, Cantoblanco, Spain Aymerich, Teresa. IRTA, Monells, Girona, Spain Badosa, Esther. University of Girona, Girona, Spain Bañeras, Lluís. University of Girona, Girona, Spain Barja, Juan Luis. Univ. of Santiago de Compostela, Santiago de C., Spain Bécares, Eloy. University of Leon, Leon, Spain Berenguer, José. CBM, CSIC-UAM, Cantoblanco, Spain Berlanga, Mercedes. University of Barcelona, Barcelona, Spain Bonaterra, Anna. University of Girona, Girona, Spain Borrego, Carlos. University of Girona, Girona, Spain Bosch, Rafael. Univ. of the Balearic Islands, Palma de Mallorca, Spain Cabanes, Didier. Institute for Molecular & Cell Biology, Porto, Portugal Campoy, Susana. Autonomous Univ of Barcelona, Bellaterra, Spain Cardona, Pere-Joan. Germans Trias Pujol Hospital, Badalona, Spain Casadesús, Josep. University of Sevilla, Sevilla, Spain Coci, Manuela. Institute for Ecosystem Study, CNR, Verbania, Italy Collado, M. Carmen. IATA-CSIC, Valencia, Spain de Vicente, Antonio. University of Malaga, Malaga, Spain del Valle, Jaione. Public University of Navarra, Pamplona, Spain Díaz-Orejas, Ramón. CBM, CSIC-UAM, Cantoblanco, Spain Domínguez, Ángel. University of Salamanca, Salamanca, Spain Estévez-Toranzo, Alicia. Univ. of Santiago de C., Santiago de C., Spain Ferré, Juan. University of Valencia, Valencia, Spain Gálvez, Antonio. University of Jaen, Jaen, Spain García del Portillo, Francisco. CNB, CSIC-UAM, Cantoblanco, Spain García-Gil, Jesús. University of Girona, Girona, Spain Gil, José Antonio. University of Leon, Leon, Spain Gram, Lone. Technical Univ. of Denmark, Lyngby, Denmark Guarro, Josep. University Rovira Virgili, Reus, Spain Gueimonde, Miguel. Inst. for Dairy Products, CSIC, Villaviciosa, Spain Hernández, Pablo. Complutense University of Madrid, Madrid, Spain Herrero, Enric. University of Lleida, Lleida, Spain Hjarvard de Fine Licht, Henrik. Lund University, Lund, Sweden Hood, Derek W. University of Oxford, Oxford, UK Hugas, Marta. European Food Safety Authority, Parma, Italy Imhoff, Johannes. University of Kiel, Kiel, Germany Janssen, Paul JD. Belgian Nuclear Research Center, Boeretang, Belgium Jiang, Xiaoxu. University of California, Los Angeles, CA, USA Kelley, Cheryl A. University of Missouri, Columbia, MO, USA Kolter, Roberto. Harvard University, Cambridge, MA, USA Lalucat, Jordi. Univ. of the Balearic Islands, Palma de Mallorca, Spain Lasa, Iñigo. Public University of Navarra, Pamplona, Spain Latorre, Amparo. University of Valencia, Valencia, Spain

Llorca, Jordi. Technical University of Catalonia, Barcelona, Spain Margolles, Abelardo. Inst. for Dairy Products, CSIC, Villaviciosa, Spain Martínez, Beatriz. Inst. for Dairy Products, CSIC, Villaviciosa, Spain Mas, Jordi. International Microbiology, Barcelona, Spain Mateos, Luis M. University of Leon, Leon, Spain Mayo, Baltasar. Inst. for Dairy Products, CSIC, Villaviciosa, Spain McKay, Chris. NASA Ames, Moffet Field, CA, USA Méndez, Beatriz. University of Buenos Aires, Buenos Aires, Argentina Monte, Enrique. University of Salamanca, Salamanca, Spain Montesinos, Emili. University of Girona, Girona, Spain Moreno, Conrado. University of Cordoba, Cordoba, Spain Nogales, Balbina. Univ. of the Balearic Islands, Palma de Mallorca, Spain Penadés, José R. Valencian Inst. of Agriculture Research, Segorbe, Spain Peleg, Anton. Alfred Hospital, Melbourne, Australia Pérez Diaz, José Claudio. Ramón y Cajal Hospital, Madrid, Spain Pérez-Moreno, Mar Olga. Hospital of Tortosa, IISPV, Tortosa, Spain Pilloni, Giovanni. Institute of Groundwater Ecology, Munich, Germany Piqueras, Mercè. International Microbiology, Barcelona, Spain Pisabarro, Gerardo. Public University of Navarra, Pamplona, Spain Requena, Teresa. Inst. of Food Science, CSIC-UAM, Cantoblanco, Spain Sanz, José Luis. Autonomous Univ of Madrid, Cantoblanco, Spain Segura, Ana. Zaidin Experimental Station, Granada, Spain Slifko, Terri. Sanitation District LA County, Los Angeles, CA, USA Suárez, Evaristo. University of Oviedo, Oviedo, Spain Toranzos, Gary. University of Puerto Rico, Rio Piedras, Puerto Rico Tudó, Griselda. University of Barcelona, Barcelona, Spain Uriz, Iosune. Center for Advanced Studies, CSIC, Blanes, Spain Urmeneta, Jordi. University of Barcelona, Barcelona, Spain Valle, Jaione. Public University of Navarra, Mutilva (Pamplona), Spain Ventosa, Antonio. University of Sevilla, Sevilla, Spain Vila, Jordi. University of Barcelona, Barcelona, Spain Villa, Tomás G. Univ. of Santiago de Compostela, Santiago de C., Spain



Instructions for authors

Preparation of manuscripts

General information

Research articles and research reviews should not exceed 12 pages, including tables and figures. The text should be typed in 12-point, Times New Roman font, with one and a half line spacing, left justification, and no line numbering. All pages must be numbered consecutively, starting with the tile page.

The **Title page** should comprise: title of the manuscript, first name and surname and affiliation (department, university, city, state/province, and country) for all authors. The address, telephone and fax numbers, and e-mail address of the corresponding author should also be included.

The **Summary** should be informative and completely comprehensible, briefly present the topic, state the scope of the experiments, indicate significant data, and point out major findings and conclusions. It should not exceed 200 words. Standard nomenclature should be used and abbreviations should be avoided or defined. No references should be cited. Immediately following the Summary, up to five Keywords should be provided; these will be used for indexing purposes.

The **Introduction** should be concise and define the objectives of the work in relation to other work done in the same field. It should not give an exhaustive review of the literature.

Materials and methods should provide sufficient detail to allow the experiments to be reproduced. However, only truly new procedures should be described in detail; previously published procedures should be cited, and important modifications of published procedures should be mentioned briefly. The suppliers of chemicals and equipment should be indicated if this might affect the results. Subheadings may be used. Statistical techniques used must be specified.

Results should be presented with clarity and precision. The results should be written in the past tense when describing findings in the author's experiments. Previously published findings should be written in the present tense. Results should be explained, but largely without referring to the literature.

The **Discussion** should be confined to interpretation of the results (not to recapitulating them), also in light of the pertinent literature on the subject. When appropriate, the Results and Discussion sections can be combined. This will be the case in research notes.

Acknowledgements should be presented after the Discussion section. Personal acknowledgements should only be made with the permission of the person(s) named.

Competing interests should be declared by authors at submission indicating whether they have any financial, personal, or professional interests that could be construed to have influenced their paper.

References should be listed and numbered in alphabetical order. In the text, citations should be indicated by the reference number in square brackets. The list of references should include only works that are cited in the text and that have been published or accepted for publication. Unpublished work in preparation, Ph.D. and Masters theses, etc., should be mentioned in the text only, in parentheses. The author(s) must obtain written permission for the citation of a personal communication or other's researchers' unpublished results. References cited in the text should be numbered and placed within square brackets, referring to an alphabetized list at the end of the paper.

References should be in the following style: *Published papers*

Venugopalan VP, Kuehn A, Hausner M, Springael D, Wilderer PA, Wuertz

S (2005) Architecture of a nascent Sphingomonas sp. biofilm under varied hydrodynamic conditions. Appl Environ Microbiol 71:2677-2686 *Books*

Miller JH (1972) Experiments in molecular genetics. 2nd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, USA Book chapters

Lo N, Eggleton P (2011) Termite phylogenetics and co-cladogenesis with symbionts. In: Bignell DE, Yves R, Nathan L (eds) Biology of termites: a modern synthesis, 2nd ed. Springer, Heidelberg, Germany, pp.27-50

Please list the first eight authors and then add "et al." if there are additional authors. Citation of articles that have appeared in electronic journals is allowed if access to them is unlimited and their URL or DOI number to the full-text article is supplied.

Tables and Figures should be restricted to the minimum needed to clarify the text; a total number (F+T) of five is recommended. Neither tables nor figures should be used to present results that can be described with a short statement in the text. They also must not be integrated into the text. Figure legends must be typed double-spaced on a separate page and appended to the text. Photographs should be well contrasted and not exceed the printing area $(17.6 \times 23.6 \text{ cm})$. Magnification of micrographs should be shown by a bar marker. For color illustrations, the authors will be expected to pay the extra costs of $600.00 \in \text{per article}$. Color figures may be accepted for use on the cover of the issue in which the paper will appear. Tables must be numbered consecutively with Arabic numerals and submitted separately from the text at the end of the paper. Tables may be edited to permit more compact typesetting. The publisher reserves the right to reduce or enlarge figures and tables.

Electronic Supporting Information (SI) such as supplemental figures, tables, videos, micrographs, etc. may be published as additional materials, when details are too voluminous to appear in the printed version. SI is referred to in the article's text and is ported on the journal's website (www.im.microbios.org) at the time of publication.

Abbreviations and units should follow the recommendations of the IUPAC-IUB Commission. Information can be obtained at: http://www.chem.gmw.ac.uk/iupac/.

Common abbreviations such as cDNA, NADH and PCR need not to be defined. Non-standard abbreviation should be defined at first mention in the Summary and again in the main body of the text and used consistently thereafter.SI units should be used throughout.

For **Nomenclature of organisms** genus and species names must be in italics. Each genus should be written out in full in the title and at first mention in the text. Thereafter, the genus may be abbreviated, provided there is no danger of confusion with other genera discussed in the paper. Bacterial names should follow the instructions to authors of the International Journal of Systematic and Evolutionary Microbiology. Nomenclature of protists should follow the Handbook of Protoctista (Jones and Bartlett, Boston).

Outline of the Editorial Process

Peer-Review Process

All submitted manuscripts judged potentially suitable for the journal are formally peer reviewed. Manuscripts are evaluated by a minimum of two and a maximum of five external reviewers working in the paper's specific area. Reviewers submit their reports on the manuscripts along with their recommendation and the journal's editors will then make a decision based on the reviewers.

Acceptance, article preparation, and proofs

Once an article has been accepted for publication, manuscripts are thoroughly revised, formatted, copy-edited, and typeset. PDF proofs are generated so that the authors can approve the final article. Only typesetting errors should be corrected at this stage. Corrections of errors that were present in the original manuscript will be subject to additional charges. Corrected page proofs must be returned by the date requested.