

CONTENTS

Volume 172 January 2013

- 1 Gonadal abnormalities in frogs (*Lithobates* spp.) collected from managed wetlands in an agricultural region of Nebraska, USA**
D.M. Papoulias, M.S. Schwarz, L. Mena
Frogs from wetlands in agricultural areas had reproductive anomalies however no statistical relationship existed between biomarkers and measured concentrations of pesticides.
- 9 Chemical stabilization of metals and arsenic in contaminated soils using oxides – A review**
M. Komárek, A. Vaněk, V. Ettler
In situ stabilization of metals and As in contaminated soils using oxides combined with phytostabilization is a potential alternative to conventional remediation techniques.
- 23 Toxic effects of erythromycin, ciprofloxacin and sulfamethoxazole exposure to the antioxidant system in *Pseudokirchneriella subcapitata***
X.-P. Nie, B.-Y. Liu, H.-J. Yu, W.-Q. Liu, Y.-F. Yang
Antibiotics (Erythromycin, ciprofloxacin and sulfamethoxazole) cause the change of antioxidant system and lead to oxidative stress to a green microalga, Pseudokirchneriella subcapitata.
- 33 Bioaugmentation with a consortium of bacterial nitrophenol-degraders for remediation of soil contaminated with three nitrophenol isomers**
X.-Q. Chi, J.-J. Zhang, S. Zhao, N.-Y. Zhou
A soil contaminated with three nitrophenol isomers has been successfully bioremediated by inoculation with a bacterial consortium.
- 42 Intra- and inter-basin mercury comparisons: Importance of basin scale and time-weighted methylmercury estimates**
P.M. Bradley, C.A. Journey, M.E. Brigham, D.A. Burns, D.T. Button, K. Riva-Murray
Fluvial methylmercury concentration correlates with wetland area not basin scale and time-weighted estimates better predict basin top predator mercury than discrete sample estimates.
- 53 Changes in Sb speciation with waterlogging of shooting range soils and impacts on plant uptake**
X.-m. Wan, S. Tandy, K. Hockmann, R. Schulin
Antimony uptake by grasses was dependant on redox speciation but responses differed between species.
- 61 Biomonitors of urban air pollution: Magnetic studies and SEM observations of corticolous foliose and microfoliose lichens and their suitability for magnetic monitoring**
M.A.E. Chaparro, J.M. Lavernia, M.A.E. Chaparro, A.M. Sinito
Lichen species are airborne pollutant collectors that are well-distributed in some urban areas and allow effective magnetic monitoring at low cost in cities.
- 70 Effects of selenium accumulation on phytotoxicity, herbivory, and pollination ecology in radish (*Raphanus sativus* L.)**
K.R. Hladun, D.R. Parker, K.D. Tran, J.T. Trumble
*Radish accumulated the pollutant selenium in floral tissues, but this did not deter the pollinator (*Apis mellifera*) from foraging.*
- 76 Ecotoxicity of manufactured ZnO nanoparticles – A review**
H. Ma, P.L. Williams, S.A. Diamond
Ecotoxicity of ZnO nanoparticles.
- 86 Enhanced PCBs sorption on biochars as affected by environmental factors: Humic acid and metal cations**
Y. Wang, L. Wang, G. Fang, H.M.S.K. Herath, Y. Wang, L. Cang, Z. Xie, D. Zhou
The biochars had higher adsorption affinity for PCBs in the extracted soil solution because coexisting humic acid and metal cations increased their sorption.

Continued on inside back cover

CONTENTS—Continued from outside back cover

- 94 Primary investigation on contamination pattern of legacy and emerging halogenated organic pollutions in freshwater fish from Liaohe River, Northeast China**
G. Ren, Z. Wang, Z. Yu, Y. Wang, S. Ma, M. Wu, G. Sheng, J. Fu
An unusually high percentage of PCB-209 was first reported in the fish samples collected from China, which might indicate that there were distinct sources of pure PCB-209 in the region of Liaohe River.
- 100 Fluorescence quenching of fulvic acids by fullerene in water**
F. Wu, Y. Bai, Y. Mu, B. Pan, B. Xing, Y. Lin
Interactions between nanoscaled-fullerene-aggregates and fulvic acids in water were quantitatively investigated by fluorescence quenching titration.
- 108 Monitoring bioremediation of atrazine in soil microcosms using molecular tools**
S. Sagarkar, S. Mukherjee, A. Nousiainen, K. Björklöf, H.J. Purohit, K.S. Jørgensen, A. Kapley
This study demonstrates the use of molecular tools in bioremediation to monitor and track target genes; correlates the results with degradation and thereby predicts the efficiency of treatment.
- 116 Incidence of invasive macrophytes on methylmercury budget in temperate lakes: Central role of bacterial periphytic communities**
S. Gentès, M. Monperrus, A. Legeay, R. Maury-Brachet, S. Davail, J.-M. André, R. Guyoneaud
The incidence of periphytic microbial communities on net methylmercury production is highlighted in temperate aquatic ecosystems.
- 124 Migration of polybrominated diphenyl ethers in biosolids-amended soil**
T. Gorgy, L.Y. Li, J.R. Grace, M.G. Ikononou
PBDEs migrated downward over one year after applying biosolids to agricultural soil, but photodegradation or volatilization appear to have also occurred.
- 131 Spatial scales of pollution from variable resolution satellite imaging**
A.A. Chudnovsky, A. Kostinski, A. Lyapustin, P. Koutrakis
The correlation between $PM_{2.5}$ and AOD decreases as AOD resolution is degraded. The new high-resolution MAIAC AOD retrieval has the potential to capture $PM_{2.5}$ variability at the intra-urban scale.
- 139 Comparing early twentieth century and present-day atmospheric pollution in SW France: A story of lichens**
Y. Agnan, N. Séjalon-Delmas, A. Probst
Using lichens registration, past (As, Pb, Cd) and recent (Sb, Sn, Cu) atmospheric pollution from local and long-range transport, as well as dust deposition, was evidenced in SW France.
- 149 Arsenic speciation in Chinese Herbal Medicines and human health implication for inorganic arsenic**
X.-J. Liu, Q.-L. Zhao, G.-X. Sun, P. Williams, X.-J. Lu, J.-Z. Cai, W.-J. Liu
Inorganic arsenic was the predominant species in all of CHMs samples.
- 155 Integrated monitoring of particle associated transport of PAHs in contrasting catchments**
M. Schwientek, H. Rügner, B. Beckingham, B. Kuch, P. Grathwohl
Particle-facilitated transport of PAHs was found to relate to urban population pressure relative to suspended particle loading in contrasting catchments.
- 163 Assessment of flame retardants in river water using a ceramic dosimeter passive sampler**
J. Cristale, A. Katsoyiannis, C. Chen, K.C. Jones, S. Lacorte
Ceramic dosimeter using HLB as sorbent can be an efficient river-water passive sampler for organophosphorous and brominated flame retardants.
- 170 Maximum entropy estimation of a Benzene contaminated plume using ecotoxicological assays**
A. Wahyudi, M. Bartzke, E. Küster, P. Bogaert
A Maximum Entropy method to rebuild qualitative relationships between Benzene groundwater concentrations and their ecotoxicological effect.
- 180 Short-term extractability of sulfadiazine after application to soils**
T. Müller, I. Rosendahl, A. Focks, J. Siemens, J. Klasmeier, M. Matthies
The extractability of sulfadiazine from soil is reduced by an instantaneous process on a time scale of minutes followed by a kinetic sequestration on a time scale of days.
- 186 Metal exposure and accumulation patterns in free-range cows (*Bos taurus*) in a contaminated natural area: Influence of spatial and social behavior**
S. Roggeman, N. van den Brink, N. Van Praet, R. Blust, L. Bervoets
This study reveals that spatial heterogeneity and foraging behavior play a more important role in the metal exposure pattern of large grazers than generally is presumed.
- 200 Life-history effects of arsenic toxicity in clades of the earthworm *Lumbricus rubellus***
C.J. Anderson, P. Kille, A.J. Lawlor, D.J. Spurgeon
*The impact of arsenic toxicity and role of genotype on *Lumbricus rubellus* life-history parameters reveal variation among sublethal endpoints.*