

CONTENTS

Volume 168 September 2012

- 1 Flame retardants in eggs of four gull species (Laridae) from breeding sites spanning Atlantic to Pacific Canada**
D. Chen, R.J. Letcher, N.M. Burgess, L. Champoux, J.E. Elliott, C.E. Hebert, P. Martin, M. Wayland, D.V. Chip Weseloh, L. Wilson
Various flame retardants were found in eggs of four gull species from sites across Canada, and levels were influenced by location, ecosystem, diet and proximity to human populations.
- 10 Estrogenic activity of bio-degradation products of C-heavy oil revealed by gene-expression profiling using an oligo-DNA microarray system**
Y. Zhu, K. Kitamura, A. Maruyama, T. Higashihara, R. Kiyama
We found that the degradation products of C-heavy oil contained estrogen-like components, suggesting the effect of bio-degradation products on ecosystems.
- 15 Bioaerosols in residential micro-environments in low income countries: A case study from Pakistan**
Z.A. Nasir, I. Colbeck, S. Sultan, S. Ahmed
Bioaerosol concentrations up to 14,650 CFU/m³ were measured in the indoor environment reflecting the proximity to cattle and poor sanitary conditions. These elevated levels pose a significant health risk.
- 23 Contrasting levels of heavy metals in the feathers of urban pigeons from close habitats suggest limited movements at a restricted scale**
A. Frantz, M.-A. Pottier, B. Karimi, H. Corbel, E. Aubry, C. Haussy, J. Gasparini, M. Castrec-Rouelle
Concentrations of metals in the feathers of Parisian feral pigeons (Columba livia) strongly differ at a restricted spatial scale, suggesting limited movements in urban areas.
- 29 Long-term persistence of various ¹⁴C-labeled pesticides in soils**
N.D. Jablonowski, A. Linden, S. Köppchen, B. Thiele, D. Hofmann, W. Mittelstaedt, T. Pütz, P. Burauel
Residual fractions of the pesticides ethidimuron, methabenzthiazuron, and metabolites of anilazine are highly persistent in soils and remain extractable after long-term environmental aging.
- 37 Size dependent bioaccumulation and ecotoxicity of gold nanoparticles in an endobenthic invertebrate: The Tellinid clam *Scrobicularia plana***
J.-F. Pan, P.-E. Buffet, L. Poirier, C. Amiard-Triquet, D. Gilliland, Y. Joubert, P. Pilet, M. Guibbolini, C. Risso de Faverney, M. Roméo, E. Valsami-Jones, C. Mouneyrac
AuNPs were aggregated in seawater, Scrobicularia plana accumulated Au with higher accumulation for bigger NPs and increased activities of biomarkers showed oxidative stress.
- 44 Environmental risks of trace elements associated with long-term phosphate fertilizers applications: A review**
W. Jiao, W. Chen, A.C. Chang, A.L. Page
Environmental risks of trace elements associated with long-term phosphate fertilizer applications were articulated by combining data from the literature and results from model simulations.
- 54 Evaluation of acute toxicity and teratogenic effects of disinfectants by *Daphnia magna* embryo assay**
S.-S. Ton, S.-H. Chang, L.-Y. Hsu, M.-H. Wang, K.-S. Wang
Comparing the toxic endpoints of 3 disinfectants with and without sunlight exposure.
- 62 Imaging of metal bioaccumulation in Hay-scented fern (*Dennstaedtia punctilobula*) rhizomes growing on contaminated soils by laser ablation ICP-MS**
J. Koelmel, D. Amarasiriwardena
Using LA-ICP-MS we determined elemental distributions in Hay-scented fern rhizomes including concentration dependent Pb sequestration patterns in the outer cortex.

Continued on inside back cover

CONTENTS—Continued from outside back cover

- 71 An integrated SOM-based multivariate approach for spatio-temporal patterns identification and source apportionment of pollution in complex river network**
Y. Yang, C. Wang, H. Guo, H. Sheng, F. Zhou
Spatio-temporal combinational analysis provides a powerful mean to identify source pollution types and the non-point source pollution was a primary factor in the study watershed.
- 80 Parent and halogenated polycyclic aromatic hydrocarbons in rice and implications for human health in China**
C. Ding, H.-G. Ni, H. Zeng
Human exposure to parent and halogenated PAHs via rice ingestion and the cancer risk for Chinese population were assessed.
- 87 Transformation of PBDE mixtures during sediment transport and resuspension in marine environments (Gulf of Lion, NW Mediterranean Sea)**
J.A. Salvadó, J.O. Grimalt, J.F. López, X. Durrieu de Madron, S. Heussner, M. Canals
Decomposition of decabromodiphenyl ether in marine sediments generates congeners found in banned mixtures in areas located far away from the discharge sites.
- 96 Modeling the kinetics of microbial degradation of deicing chemicals in porous media under flow conditions**
M. Wehrer, P. Jaesche, K.U. Totsche
Modeling transport and degradation of propylene glycol in porous media requires a dynamically reacting biomass.
- 107 Ionizing radiation-induced DNA damage response identified in marine mussels, *Mytilus* sp.**
O.D. AlAmri, A.B. Cundy, Y. Di, A.N. Jha, J.M. Rotchell
Apparent detrimental biological effects at the internationally agreed "no effect" chronic radiation dose rate to the natural biota.
- 113 Effects of elevated carbon dioxide and nitrogen addition on foliar stoichiometry of nitrogen and phosphorus of five tree species in subtropical model forest ecosystems**
W. Huang, G. Zhou, J. Liu, D. Zhang, Z. Xu, S. Liu
N addition could facilitate the N_2 fixer rather than the non- N_2 fixers to regulate foliar N and P stoichiometry under elevated CO_2 in subtropical forests.
- 121 Effect of different arbuscular mycorrhizal fungal isolates on growth and arsenic accumulation in *Plantago lanceolata* L.**
E. Orłowska, B. Godzik, K. Turnau
*Effect of arbuscular mycorrhizal fungi on As uptake by *Plantago lanceolata* strongly depends on the origin of fungal isolates.*
- 131 Accumulation of dioxins and induction of cytochrome P450 1A4/1A5 enzyme activities in common cormorants from Lake Biwa, Japan: Temporal trends and validation of national regulation on dioxins emission**
A. Kubota, M.X. Watanabe, E.-Y. Kim, K. Yoneda, S. Tanabe, H. Iwata
Dioxin residues in common cormorants from Lake Biwa did not decrease between 2001 and 2008 in spite of the decline in the ambient environment.
- 138 Sorption mechanisms of perfluorinated compounds on carbon nanotubes**
S. Deng, Q. Zhang, Y. Nie, H. Wei, B. Wang, J. Huang, G. Yu, B. Xing
Hydrophobic interaction dominated the sorption of perfluorinated compounds on carbon nanotubes, while electrostatic repulsion suppressed their sorption.
- 145 Biological effects of environmentally relevant concentrations of the pharmaceutical Triclosan in the marine mussel *Perna perna* (Linnaeus, 1758)**
F.S. Cortez, C.D. Seabra Pereira, A.R. Santos, A. Cesar, R.B. Choueri, G.d.A. Martini, M.B. Bohrer-Morel
Triclosan causes biological adverse effects at environmentally relevant concentrations.
- 151 Distribution and bioavailability of cadmium in ornithogenic coral-sand sediments of the Xisha archipelago, South China Sea**
X. Liu, C. Lou, L. Xu, L. Sun
Guano and plant biocycling processes can exert different influences on the distributions of total Cd and bioavailable Cd in coral-sand ornithogenic sediments.
- 161 Aquatic ecotoxicity of the fungicide pyrimethanil: Effect profile under optimal and thermal stress conditions**
A. Seeland, J. Oehlmann, R. Müller
Thermal and multigenerational effects should be considered if assessing their present and future risk for the aquatic environment.
- 170 Methodology for agricultural and rural NPS pollution in a typical county of the North China Plain**
Y. Yang, Y. Chen, X. Zhang, E. Ongley, L. Zhao
We address the methodology for agricultural NPS pollution assessment. We show that livestock, not rural living or crops, is the significant pollutant source.
- 177 A review of multiple stressor studies that include ionising radiation**
N. Vanhoudt, H. Vandenhove, A. Real, C. Bradshaw, K. Stark
This review on multiple stressor studies involving radiation, highlights that most experimental designs used did not allow to deduce the nature of the interactive effects.