

**Cover**

See Haris *et al.*, pp. 257-265.  
Image reproduced by permission  
of Parvez I. Haris from *J. Environ.  
Monit.*, 2011, **13**, 257.

**Inside cover**

See Sizmur *et al.*, pp. 266-273.  
Image reproduced by permission  
of Tom Sizmur and Mark E.  
Hodson from *J. Environ. Monit.*,  
2011, **13**, 266.

NEWS

---

233

**News**

Mike Sharpe provides a summary of the latest environmental news, literature and legislation.

CRITICAL REVIEW

---

241

**Relationship of polychlorinated biphenyls with type 2 diabetes and hypertension**

Charles Jay Everett,\* Ivar Frithsen and Marty Player

This paper will review the evidence supporting an association between serum polychlorinated biphenyl levels and both diabetes and hypertension.

---

**The occurrence of the herbicide dalapon (2,2-dichloropropionate) in potable water as a disinfection by-product**

Darryl W. Hawker,\* Janet L. Cumming, Andrew Watkinson and Michael E. Bartkow

2,2-Dichloropropionate is a herbicide, but also a potable water disinfection by-product, however, levels from the latter source have previously been unreported.

PAPERS

---

**The impact of a rice based diet on urinary arsenic**

Claudia Cascio, Andrea Raab, Richard O. Jenkins, Joerg Feldmann, Andrew A. Meharg and Parvez I. Haris\*

Higher consumption of rice by UK Bangladeshis results in their greater exposure to inorganic arsenic and dimethylarsinic acid.

**Impacts of epigeic, anecic and endogeic earthworms on metal and metalloid mobility and availability**

Tom Sizmur,\* Emma L. Tilston, John Charnock, Barbara Palumbo-Roe, Michael J. Watts and Mark E. Hodson

Earthworms increase the mobility and availability of As, Cu, Pb and Zn in a contaminated soil.

**Temporal and physiological influence of the absorption of nutrients and toxic elements by *Eichhornia crassipes***

Daniel Freitas Freire Martins,\* Maria de Fátima Vitória de Moura, Maria Iracema Bezerra Loiola, Luiz Di Souza, Káthia Maria Barbosa e Silva and José Francimar de Medeiros

Identifying factors that influence the absorption of nutrients and toxic elements is essential to determine possible uses of biomass.

**Mercury and methyl mercury ratios in caimans (*Caiman crocodilus yacare*) from the Pantanal area, Brazil**

L. M. Vieira, V. da S. Nunes, M. C. do A. Amaral, A. C. Oliveira, R. A. Hauser-Davis\* and R. C. Campos

Mercury and methyl mercury in Pantanal caimans: biota contamination and potential consequences in captivity.

**Longitudinal variability in streamwater chemistry and carbon and nitrogen fluxes in restored and degraded urban stream networks**

Gwendolyn M. Sviridchi,\* Sujay S. Kaushal, Paul M. Mayer, Claire Welty, Kenneth T. Belt, Tamara A. Newcomer, Katie D. Newcomb and Melissa M. Grese

Stream network scale monitoring of restored urban streams reveals variability in streamwater chemistry, and considerable in-stream transformation of nitrogen.

***Nucella lapillus* L. imposex levels after legislation prohibiting TBT antifoulants: temporal trends from 2003 to 2008 along the Portuguese coast**

Susana Galante-Oliveira,\* Isabel Oliveira, Nelson Ferreira, José António Santos, Mário Pacheco and Carlos Barroso

*Nucella lapillus* (dog whelk) populations sampled along the Portuguese mainland coast are still extensively affected by imposex and, even three years after the European ban on TBT, fresh inputs continued to occur. Nevertheless, the evolution of imposex levels indicates a decline in TBT pollution along the north and central coasts from 2003 to 2008.

**Fate estimation of polycyclic aromatic hydrocarbons in soils in a rapid urbanization region, Shenzhen of China**

Hong-Gang Ni, Pei-Heng Qin, Shan-Ping Cao and Hui Zeng\*

Soil PAHs pollution in Shenzhen will stay in a quasi-steady state for a long period.

**Characterization of PM10-bound polycyclic aromatic hydrocarbons in the ambient air of Spanish urban and rural areas**

M. S. Callén,\* J. M. López and A. M. Mastral

A better knowledge of the main sources of PAH pollution in air is interesting for the scientific community working in environmental chemistry.

---

**A new protease assay system using gelatin thin film for monitoring indoor air quality**

Yoshinobu Murakami, Masatomo Shimizu and Yoshito Ikada\*

This paper describes a high-sensitive, inexpensive, and simple method to monitor indoor environmental protease contamination.

---

**Dynamics and origin of PM<sub>2.5</sub> during a three-year sampling period in Beijing, China**

Yang Yu,\* Nina Schleicher, Stefan Norra, Mathieu Fricker, Volker Dietze, Uwe Kaminski, Kuang Cen and Doris Stüben

This study explained the meteorological and source driven dynamics of PM<sub>2.5</sub> concentrations during a 3-year continuous period in Beijing.

---

**Occurrence and distribution of organophosphorus flame retardants and plasticizers in anthropogenically affected groundwater**

J. Regnery,\* W. Püttmann, C. Merz and G. Berthold

Organophosphorus flame retardants reach groundwater via riverbank filtration and landfill leachate but not via infiltration of precipitation at rural sites.

---

**Isotopic evidence of natural uranium and spent fuel uranium releases into the environment**

L. Pourcelot, \* B. Boulet, C. Le Corre, J. Loyen, C. Fayolle, D. Tournieux, W. Van Hecke, B. Martinez and J. Petit

Uranium and plutonium isotope ratios were used to distinguish the main sources of actinides in the environment.

---

**Evaluation of old landfills—a thermoanalytical and spectroscopic approach**

Ena Smidt, Katharina Böhm\* and Johannes Tintner

Different landfill types were characterized in terms of stability and reactivity using infrared spectroscopy and thermal analysis in association with multivariate statistical methods. The development of mechanically–biologically treated (MBT) municipal solid waste was compared to materials from different landfill types to reveal the status of degradation. MBT materials intended for landfilling according to the Austrian Landfill Ordinance served as a reference.

---

**A suite of microplate reader-based colorimetric methods to quantify ammonium, nitrate, orthophosphate and silicate concentrations for aquatic nutrient monitoring**

Stephanie Ringuet, Lara Sassano and Zackary I. Johnson\*

We describe a suite of microplate reader-based colorimetric methods for quickly quantifying major nutrients in aquatic systems for environmental monitoring.

---

**Extending wipe sampling methodologies to elements other than lead**

Lauren T. McDonald, Pat E. Rasmussen,\* Marc Chénier and Christine Levesque

This wipe sampling study evaluates the application of the wipe sampling method to a variety of metals including antimony, arsenic, cadmium, chromium, copper, nickel, and lead.

**The effect of changes to the method of estimating the pollen count from aerobiological samples**

Branko Šikoparija, \* Tatjana Pejak-Šikoparija, Predrag Radišić, Matt Smith and Carmen Galán Soldevilla

Slide sub-sampling methods were assessed as a prerequisite for routine airborne pollen monitoring with maximum amount of precision for the minimum amount of work.

---

**Characteristic occurrence patterns of micropollutants and their removal efficiencies in industrial wastewater treatment plants**

In-Seok Lee, Won-Jin Sim, Chang-Won Kim, Yoon-Seok Chang and Jeong-Eun Oh\*

This is the most comprehensive field study investigating the fates and removals of various organic micropollutants in on-site wastewater treatment plants.

---

**Integrated survey of water pollution in the Suquía River basin (Córdoba, Argentina)**

Magdalena Victoria Monferrán, Lucas Nicolás Galanti, Rocío Inés Bonansea, María Valeria Amé and Daniel Alberto Wunderlin\*

Changes in the pollution degree of the Suquía River basin (Córdoba, Argentina) were evaluated using an integrated approach, including measurement of water quality parameters, heavy metals at both water and sediment as well as the influence of pollution on several biomarkers determined in the native fish *Jenynsia multidentata*.

---

**Synergistic effects of metal nanoparticles and a phenolic uncoupler using microdroplet-based two-dimensional approach**

Anette Funfak, \* Jialan Cao, Andrea Knauer, Karin Martin and J. Michael Köhler

A droplet-based microfluidic set-up was used for the investigation of the microbial effects of metal nanoparticles in binary mixture with xenobiotics.

---

**Input of selected human pharmaceutical metabolites into the Norwegian aquatic environment**

Katherine Langford and Kevin V. Thomas\*

Environmental screening of metabolites from human pharmaceuticals in sewage effluent, surface waters and sediments.

---

**Assessment of prenatal exposure to persistent organohalogen compounds from cord blood serum analysis in two Mediterranean populations (Valencia and Menorca)**

Esther Vizcaino, Joan O. Grimalt,\* Daniel Carrizo, Maria-José Lopez-Espinosa, Sabrina Llop, Marisa Rebagliato, Ferran Ballester, Maties Torrent and Jordi Sunyer

The concentrations of organochlorine and organobromine compounds in cord blood serum of newborns from two Mediterranean cohorts are described.

---

**Comparison of polycyclic aromatic hydrocarbon uptake pathways and risk assessment of vegetables from waste-water irrigated areas in northern China**

Y.-C. Wang, M. Qiao, Y.-X. Liu, H. P. H. Arp and Y.-G. Zhu\*

Different polycyclic aromatic hydrocarbon (PAH) uptake pathways and their associated health risks were investigated in vegetable samples collected from the Beijing-Tianjin city cluster, China.

---

**Magnetic microsphere confined ionic liquid as a novel sorbent for the determination of chlorophenols in environmental water samples by liquid chromatography**

Fei Yang, Rui Shen, Yiming Long, Xiangyu Sun, Fei Tang, Qingyun Cai and Shouzhao Yao\*

We established a novel, convenient and effective method to preconcentrate and determine chlorophenols (CPs) in environmental water samples.

**Distribution pattern, behavior, and fate of antibacterials in urban aquatic environments in South China**

Xianzhi Peng,\* Kun Zhang, Caiming Tang, Qiuxin Huang, Yiyi Yu and Jianlan Cui

Antibacterials can enter the environment through discharge of effluent and disposal of sludge from sewage treatment plants.

---

**Use of *in vivo* phycocyanin fluorescence to monitor potential microcystin-producing cyanobacterial biovolume in a drinking water source**

N. McQuaid,\* A. Zamyadi, M. Prévost, D. F. Bird and S. Dorner

The rapid detection of potentially toxic cyanobacteria at the entrance of a drinking water treatment plant in Québec, Canada.

---

**Characterization of bacterial contaminants in the air of a duck hatchery by cultivation based and molecular methods**

Elena Martin\* and Udo Jäckel

This study investigates the bacterial population in bioaerosols from a duck hatchery by both cultivation based and molecular methods.