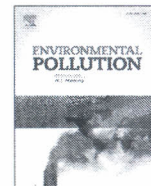


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# Spatial and vertical distributions of sedimentary halogenated polycyclic aromatic hydrocarbons in moderately polluted areas of Asia



Takeshi Ohura <sup>a,\*</sup>, Hiroyuki Sakakibara <sup>b</sup>, Izumi Watanabe <sup>c</sup>, Won Joon Shim <sup>d</sup>, Pathmalal M. Manage <sup>e</sup>, Keerth S. Guruge <sup>f</sup>

<sup>a</sup> Faculty of Agriculture, Meijo University, 1-501 Shiogamaguchi, Nagoya 468-8502, Japan

<sup>b</sup> Faculty of Agriculture, University of Miyazaki, 1-1 Gakuen Kibana-dai Nishi, Miyazaki 889-8526, Japan

<sup>c</sup> United Graduate School of Agriculture, Tokyo University of Agriculture and Technology, 3-5-8 Saiwai-cho, Fuchu 183-8509, Japan

<sup>d</sup> Oil and POPs Research Group, Korea Institute of Ocean Science and Technology, 391 Jangmok-myon, Geoje-shi 656-834, South Korea

<sup>e</sup> Faculty of Applied Science, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka

<sup>f</sup> Pathology and Pathophysiology Research Division, National Institute of Animal Health, National Agriculture and Food Research Organization, Kannondai 3-1-5, Tsukuba 305-0856, Japan

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### ABSTRACT

The sedimentary halogenated (chlorinated and brominated) polycyclic aromatic hydrocarbons (Cl/BrPAHs), PAHs, and elements were analyzed to investigate contamination processes and sources. Assessments were conducted in sediments from three sites: surface sediments from the Yellow Sea and sediment cores from Kandy Lake and Negombo Lagoon, Sri Lanka. Most of CIPAHs targeted were detected in all sediments. Spatial distributions of total CIPAH concentrations in the Yellow Sea showed the presence of multiple hot spots that differed from those of total PAHs. In Kandy and Negombo sediments, total CIPAH concentrations were slightly higher in surface layers than in bottom layers; the opposite trend was observed for PAHs. Principal component analysis showed that the clusters of most CIPAHs were similar to those of anthropogenically derived elements, but were far from those of PAHs. Consequently, CIPAHs in sediments appear to be persistent contaminants, which may make them appropriate as indicators of anthropogenic sources.