An analysis of papers published in Environmental Pollution in 2006: A continuing pattern of advancement and success

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The journal *Environmental Pollution* was founded in 1970 and has a long and rich history in publishing papers about the nature, distribution and ecological effects of pollutants in air, soil and water environments. Papers include findings from original research projects, re-examination and interpretation of existing data and reviews of important issues. Commentaries and letters to the editor are encouraged. The journal's impact factor has been steadily increasing since 1998. The journal's impact factor in 2000 was 1.121. By 2003, the impact factor had increased to 2.002. In 2004, the impact factor was 2.205, increasing to 2.451 in 2005. The current impact factor for the journal is 2.769. *Environmental Pollution* is currently ranked number 14 out of 144 journals in the category Environmental Sciences.

In 2006, *Environmental Pollution* published 433 papers, among which 424 were primary research papers with five authoritative reviews. In terms of the geographical distribution of the contributions (Fig. 1), USA contributes the most with a total number of 85, followed by the UK (England + Scotland) with 70 papers, and then China with 65 papers. Other countries that contribute significantly to *Environmental Pollution* in 2006 are Spain, France, Germany, Canada, Belgium, Italy and Japan. The above-mentioned countries contributed roughly 95% of the papers published in *Environmental Pollution* in 2006.

If these contributions are ranked based on individual institutions (Table 1), Chinese Academy of Sciences is right on the top with total number of 27 papers, followed by the Spanish National Research Council with total number of 14 papers. Among the universities, Lancaster University in England contributed the most number of papers (10), followed by Universities of Bordeaux 1, Ehime, Antwerp, Massachusetts and

Amsterdam (seven papers from each university). Among the top 25 institutions, five are from China, three from USA.

Individual authors can also be ranked based on the number of publications in *Environmental Pollution* in 2006 (Table 2). Dr M. Mench from France and Dr S. Tao from China are on the top with seven papers published in *Environmental Pollution* in 2006, there are 19 authors publishing more than four papers in *Environmental Pollution* in 2006, and six of them are from China.

Papers published in 2006 covered most areas of *Environmental Pollution* research, and it is difficult to generalize the pattern of topics among the papers, therefore we used the criteria of >4 citations through the database of ISI (accessed on 27, May 2007) to analyze the publication pattern. Altogether there were 20 papers published in 2006 having citation >4, among them, seven papers were on aquatic environment, seven papers dealing with soil–plant systems, three papers on air pollution, one on human health, and one on ecosystem health.

Persistent organic pollutants (POPs) are among the popular topics for soil, water and air pollution research, including organohalogen chemicals such as brominated flame retardants, organochlorine compounds (eg. Thomas et al., 2006; Jaspers et al., 2006). Studies on POPs include regional survey of contamination levels, distribution of POPs in different environmental and biotic components, toxicological assessment and remediation technologies. For aquatic ecosystem studies, much of the attention was focused on the bioaccumulation of POPs and metals in the food chain and its potential health and ecological impacts. For example, Jaspers et al. (2006) investigated the levels, patterns and tissue distribution of brominated flame retardants in aquatic and terrestrial predatory birds of Belgium. Isosaari et al. (2006) reported the concentrations of dioxins and dioxin-like compounds in edible fish caught from the Baltic Sea and lakes in Finland.

For soil pollution research, heavy metals remain as an important subject, covering topics of bioavailability,

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Fig. 1. Country breakdown of contributions to Environmental Pollution in 2006.

ecotoxicology, hyperaccumulation and restoration. Among the 433 papers published in 2006, there were over 180 papers related to “soils”. Soil toxicity tests have been conducted on various endpoints, such as plant, earthworm, collembolan, microbes and humans (Skovlund et al., 2006; Mench et al., 2006; Ren et al., 2006). Remediation of contaminated soils is wide interest, and is an important topic for Environmental Pollution in 2006. Understanding the soil–plant interactions is key towards remediation and restoration of contaminated land. Vogel-Mikus et al. (2006) examined the role of arbuscular mycorrhizal fungi in re-vegetation of metal-contaminated soils. Similar papers have also been published by Regvar et al. (2006) and Leung et al. (2006). Other aspects of

environmental remediation including the use of amendments have also been well represented in 2006.

Altogether there were 58 papers published in Environmental Pollution in 2006 that were related to air pollution, and roughly there were two major topics, one on the impacts of ozone on terrestrial ecosystems, and the other on particulate matters and toxic compounds that reside on these particles. Air sampler for persistent organic pollutants is by far the most popular topic in 2006, this is could be sue the publication of a special issue on this topic in 2006 (Harner et al., 2006). Elevated ozone in the air and its potential impact on the terrestrial ecosystem have attracted much attention in 2006. For example, Ramo et al. (2006) examined the impact of ozone and elevated CO₂ on grassland ecosystem, and Thomas et al. (2006) investigated the effect of ozone and nitrogen load on the growth and nutrient uptake by beech trees. Other topics include emission of greenhouse gases from terrestrial ecosystem,

Table 1
Ranking of institutions contributing to Environmental Pollution in 2006

Number of papers	Institution	Country
27	Chinese Academy of Sciences	China
14	CSIC	Spain
10	University of Lancaster	UK
9	Environment Canada	Canada
8	University of Bordeaux 1	France
7	Ehime University	Japan
	Peking University	China
	University of Antwerp	Belgium
	University of Massachusetts	USA
	Vrije University Amsterdam	Netherlands
6	City University of Hong Kong	China
	Hong Kong Baptist University	China
	INRA	France
	University of Florence	Italy
	Zhejiang University	China
5	Auburn University	USA
	Masaryk University	Czech Republic
	National Environmental Research Institute	Denmark
	Rothamsted Research	UK
	Seoul National University	Korea
	University of California Davis	USA
	University of Ghent	Belgium

Table 2
Ranking of scientists contributing to Environmental Pollution in 2006

Number of papers	Author	Country
7	Mench, M.	France
	Tao, S.	China
6	Tanabe, S.	Japan
5	Covaci, A.	Belgium
	Jones, K.C.	UK
	Liu, W.X.	China
	Van Gronsveld, J.	Belgium
	Wong, M.H.	China
4	Harner, T.	UK
	Holoubek, I.	UK
	Klanova, J.	Czech Republic
	Lam, P.K.S.	China
	Luo, Y.M.	China
	Renella, G.	Italy
	Ruttens, A.	Belgium
	Schepens, P.	Belgium
	Semple, K.T.	UK
	Xing, B.S.	USA
	Zhu, Y.G.	China

health impact of air pollution, air–vegetation exchange of POPs, etc.

Methods of sampling, monitoring and risk assessment have also received considerable attention in 2006. There are about 30 papers published in 2006 that are directly related to methods for sampling and characterization. Studies on this subject include passive sampler for air and water (Vrana et al., 2006; Harner et al., 2006), biomimetic methods for soil and water (Ehlers and Loibner, 2006), bioindicators (such as lichen, biomarkers and biosensors) for toxic substances (Dawson et al., 2006; Magni et al., 2006).

In conclusion, 2006 was a very successful year for Environmental Pollution. When accessed on 29, July 2007 to the ISI database, 450 citations have already been attracted by the papers published in 2006.

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