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Riparian forest potential to retain sediment and bromophenol concentrations in fish
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EDITORIAL NOTE

Riparian forest potential to retain sediment and bromophenol concentrations in

ELIBIO RECH and FERNANDO GALEMBECK
Editorial Board

Biodiversity conservation has attracted growing concern and importance for global stability. The data presen
Luiz F. Pires and colleagues in this issue of the *Anais da Academia Brasileira de Ciências* (AABC) may soo
some praise regarding a more effective stability of biodiversity. Their study aimed to check the efficiency of a r
forest in trapping sediments coming from an upland sugarcane field, using the ^{137}Cs technique aided by soil
isotopic ratio analysis. Riparian zones are ecotons located between aquatic and terrestrial systems, consider
areas for the stability of global biodiversity, serving as protection niches for wildlife, and acting as ecological co
between forest fragments (Kajeyama et al. 2002, Rodrigues and Gandolfi 2001). Besides their ecological fu
these "buffer zones" are considered important for waterway protection, being responsible for improving surfac
quality. The main mechanisms involved in this function are the filtering and trapping of sediments which
from erosion on upland agricultural fields. These mechanisms are related to changes in surface roughness
infiltration rates into litter layers, the presence of roots, and the improved structure of soil matrix caused by
microbiologic activity in the soil (Ampontuah et al. 2006, Izidorio et al. 2005). The results obtained by th
technique and soil carbon isotopic ratio analysis indicated the efficiency of riparian vegetation in trapping sed
coming from agricultural lands and its importance as a conservation measure on the watershed scale. The result
the statement that the minimum forest width of 30 m would not be enough to ensure the sediment trapping fu
of riparian vegetation for the local conditions of soil, climate, land use, topography, and kind of riparian vege
contradicting Brazilian Environmental Law (Law 4.771/65) if adopted for such conditions. Although the re
Pires et al. (2009) will undoubtedly be appreciated as a technical advance in the evaluation of the riparian
related to the stability of global biodiversity, the results will likely generate even greater interest among Br
legislators as a significant indication regarding the necessity to reevaluate Brazilian Environmental Law accor
the recent scientific evidence.

In another important study published in this issue of the AABC, Jailson B. de Andrade and his group present a d
analysis on the occurrence of bromophenols in the flesh and gut in two species of the Lutjanidae family (Oliv
al. 2009). Bromophenols have attracted much attention in recent years for their contribution to the flavor of f
other seafood, and they are often held responsible for making an advantageous contribution to the taste of fish,
and other important marine products (Boyle et al. 1992). The authors find significant concentrations of them
a broad range in the muscle and stomach of the lutjanid species *Lutjanus synagris* and *Ocyurus chrysurus* (po
known as the "vermelho" fish) purchased in Salvador, one of the major coastal cities in Brazil.

The data presented is essential to strengthen our understanding of many complex matters: food chains, me

changes. Since these brominated compounds are produced in sargassum, some authors have seriously considered the possibility to use this marine vegetation as a nutrient for cultivated species, contributing as a natural source of valuable flavors. Knowledge on flavor substances transported across the food chain can certainly help fish and prawn breeders to make their product more satisfactory to consumers just by feeding them with natural sources of the flavors (Chung et al. 2007). This is an intelligent approach to the use of natural resources and adds value to otherwise neglected abundant raw materials like sargassum, that is often viewed as a nuisance when it is thrown by waves on beaches covering the sand and undergoes decomposition. The use of sargassum may thus contribute to increase the production of quality food for humans while transforming deject into a functional animal food, which certainly contributes to sustainable aquiculture. The reader of this paper will certainly be led to appreciate the importance of new analytical techniques because the need for the kind of information presented by the authors is always increasing, and the growing demands can only be satisfied by faster and more powerful techniques.

Those are only two of the interesting studies published in this issue of the AABC, which was exceptionally sponsored by the Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ).

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