

Accumulation and releasing

of radium in *Thypha sp.* leaves and detrital materials

Dejanira C. Lauria

V. R. G. Reis

José Marcus O. Godoy

The radium accumulation and liberation in *Thypha dominguenes* Pers. green leaves and leaf detritus from a coastal lagoon was studied by in situ and lab experiments. From results of leaf sample analysis collected in different locals of the lagoon and the lab experiments, adsorption experiments followed by sequential extraction, it was observed the importance of the ionic exchange for the foliar accumulation. So the salinity plays a very important role in the dynamic of radium accumulation/releasing in the leaf. Decomposition of the leaves was studied by litter bag methods during a period of 6 months. At the end of the experiments the major cation losses were 96% of K, 76% of Na and 51% of Mg. On the other hand the amount of Ca in the residue increased three times (means a concentration increases of seven times) as well as increased the total activity of ^{226}Ra and of ^{228}Ra (seven and at least three times, respectively). In agreement with this observation, lab experiments showed that the material was able to adsorb quite a 100% of the added Ra and its adsorption capacity was estimated as $5 \text{ meq } (\text{Ba}^{2+})/\text{g}_{\text{detritus}}$. Radionuclide releasing by sequential extraction of the detrital material followed a little bit different dynamic from the green leaf, showing that important fraction of the radium