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THE DEVELOPMENT OF THE HYPHENATED MASS SPECTROMETRY METHODOLOGIES IN BRAZILIAN NATURAL PRODUCTS

Norberto Peporine Lopes

Department of Physic and Chemistry, NPPNS-FCFRP, University of São Paulo. Av. Do Café s/n, Bairro Monte Alegre, CEP: 14903-040, Ribeirão Preto, São Paulo Brazil.
npelopes@fcfrp.usp.br

Brazil hosts the largest proportion of global biodiversity¹, and has demonstrated its commitment in conservation and sustainable use being a key negotiator of the Nagoya Protocol. The CBD calls for actions to reduce extinction rates, something that according with different theories^{2,3} is of fundamental importance for the survival of life on Earth. Contrary to its position in the CBD meetings, Brazil is on the verge of approving a new Forest Code that will result in escalating deforestation⁴, increasing the urgency to demonstrate the value of native species.

For centuries extractive-based activities of forest inhabitants resulted in low profits, triggering a perverse logic that profit increase is necessarily linked to extraction increase⁵. In the last decades new strategies, as for instance the Sustainable Development Reserve Mamirauá⁶, are showing that forest preservation can also be profitable.

Considering the new paradigm of green economy⁷, that now surrounds all this tensioned discussion, we are bringing to the eyesight of policy-makers results on biodiversity conservation research: combining floristic⁸ and chemodiversity surveys, using fast High Throughput Mass Spectrometry Screening, to screen forest leaves for economically valued natural products.

One of the aims of a long term ongoing BIOTA/FAPESP⁹ research project at the Serra do Mar State Park is to understand ecophysiological traits of leaves, and LC-MS/MS and HT-MALDI-MS was used to identify alkaloids as one of the nitrogen sink. Also the metabolomics protocol can be applied to understand xenobiotic natural products in pré-clinical trials. Here we provide an integrative overview of

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spectrometry strategies helping integrative metabolomics analysis for the Brazilian Biodiversity.

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