Characterization of the Bioactive Compounds from Philippine Medicinal Plants

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Introduction - All headings format should be Arial, 10 pt., bold, left aligned

For centuries, plants have served as one of man's oldest source of pharmacologically active compounds. Many studies on the search for potential drugs from plants have been conducted to explore the presence of bioactive compounds in plants which are based on the folkloric history of the plants.1

There are about 215,000 to 500,000 species of higher plants in the world according to estimates.2 Among these are the approximately 1,500 medicinal plants of the Philippines from more than 13,500 plant species of which more than 3,500 are considered indigenous.3 Majority of these Philippine medicinal plants have centuries of ethnomedical history but the potentials of these plants have not been fully investigated. Bioassay-guided purification of the chloroform and hexane leaf fractions of the medicinal plants Eucalyptus degplupta Blume, Ageratum conyzoides Linn, Cnidoscolus chayamansa, Annona muricata, Prunus grisea, Equisitum debile, Bambusa blumeneana, Piper baccatum,and Abelmonchus esculentus afforded several isolates. Most of these isolates have been and are being being subjected to NMR measurements for structure determination. Analyses of the NMR spectral data of some of isolates has led to the identification of the following metabolites: the flavonoids 5'-methoxynobiletin and eupalestin together with the flavone 5,6,7,3'-tatramethoxy-4',5'-methylene dioxyflavone from A. conyzoides; the C50, C55 and C60 ficaprenols from A. muricata; fatty acid ethyl esters as well as a 3,4-dimethoxy-3',4'-methylenoxydibenzylbutyrolactol from P baccatum; alkanes and a triterpenoid from P grisea; and Euglobal lag and its 7-epimer Euglobal lai from E. deglupta.

Experimental

For the selected active plant extracts, isolation and purification was done through repeated gravity column chromatography and/or reversed-phase high-performance liquid chromatography, whichever was appropriate. The isolates obtained were sent to the AMRIS facility at the University of Florida in Gainesville for various NMR measurements.

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