Phytochemical Identification of Albertisia papuana Becc. Leaf Methanolic Extract through Liquid Chromatography Tandem Mass Spectrometry Data Analysis

ABSTRACT

The leaves of Albertisia papuana Becc. (Menispermaceae) is traditionally used by the people of Borneo as rice wine's flavor enhancer and utilized for the treatment of symptoms associated with hypertension, stroke, and cancer. Despite its potential, this plant's part remains largely unexplored from a scientific standpoint. Thus, this work aimed to profile and identify the phytochemicals of the methanolic leaf extract of A. papuana Becc. through liquid chromatography tandem mass spectrometry-based data analysis with MZmine and global natural products social molecular networking (GNPS) platforms. The present study managed to identify a total of 21 phytochemicals from different classes of compounds including alkaloids, flavonoids, terpenoid and several other phytochemicals. Of these, three compounds (nicotiflorin 11, isorhoifolin 12, and genistein 17) are first time reported in the family meanwhile 18 compounds (5'-deoxy-5'-(methylsulfinyl) adenosine 1, coclaurine 2, magnoflorine 3 isoschaftoside 4, reticuline 5, isovitexin 6, sinapic acid 7, dicoumaroyl spermidine 8, apigenin 9, loliolide 10, liriodenine 13, moupinamide 14, paprazine 15, ferulic acid 16, n-acetylanonaine 18, 13S-Hydroxy-9Z,11E,15Z-octadecatrienoic acid 19, 2-hydroxy-3-(2-hydroxyacetoxy) propyl palmitate 20, and monoelaidin 21) are new to the genus and the species. Some of the identified phytochemicals such as moupinamide 2, apigenin 9 and magnoflorine 11 have been previously reported to exhibit biological activities related to hypertension, stroke, cancer treatment, and flavor enhancing properties of certain foods. The findings provide evidence to support the plant's traditional uses.