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Chemical constituents of the leaves of *Boscia senegalensis*

Abubaker M A Morgan, Jang-Hoon Kim, Sang-Un Park and Young-Ho Kim
Chungnam National University, South Korea

The genus *Boscia* (Capparaceae) contains more than 37 species distributed mainly in Africa, excluding one species found in southern Arabia. *Boscia senegalensis* (Pers.) Lam. ex Poir. is an evergreen shrub reaching 7 meters in height. It is native to the Sahel and Sahara savannas stretching from Mauritania, Senegal, Mali, Niger and Nigeria to Cameroon and across Africa to Egypt, Sudan, Ethiopia, Somalia and Kenya. The importance of *B. senegalensis* for the rural agro-economy in Africa has been discussed in several reports, making it a plant of high value for both humans and animals. Previous phytochemical reports on *B. senegalensis*, which were conducted on the leaves and fruits, identified glucosinolate. Detailed chemical investigation of *Boscia senegalensis* (Per) Lam. ex Poir led to the isolation of one new flavonol glycoside, rhamnocitrin-3-O- β -D-(6''-O-E-feruloyl)-glucopyranoside named bosenegaloside A (1), with seven known compounds, rhamnocitrin-3-O- β -D-(6''-O-E-p-coumaroyl)-glucopyranoside (2), rhamnocitrin-3-O- β -D-glucopyranoside (3), 3,4,5-trimethoxyphenol- β -D-glucopyranoside (4), lasianthionoside A (5), 3,7-dimethyl-1-octene-3,6,7-triol-6-O- β -D-glucopyranoside (6), syringin (7), and austroside B (8). The chemical structures of these compounds were elucidated from spectroscopic data (ESI-MS, HR-ESI-MS, 1D, 2D-NMR, UV and FT-IR) and by compared these data with previously published results. The inhibitory activity of the isolated compounds on soluble epoxide hydrolase (sEH) was assessed. Compounds 1-3 potently inhibited sEH activity with IC₅₀ values of 12.8 \pm 0.5, 18.4 \pm 0.2 and 11.3 \pm 0.9 μ M, respectively.

Biography

Abubaker M A Morgan has his expertise in extraction and isolation of secondary metabolites from plants and microbes using normal column chromatography, MPLC, preparative TLC, semiprep-HPLC, etc. and structure elucidation of isolated compounds using 1D and 2D NMR techniques as well as other spectral methods such as UV, FT-IR and X-ray crystallography. During his PhD degree, he has worked on three plant species from Sudanese native medicinal plants.

abubaker_morgan@yahoo.com

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