

FLAVONOIDS FROM ROOTS OF *Dahlstedtia glaziovii* (Fabaceae)

Emanuelle K. Meneghetti,¹ Edione Canzi,¹ Cinthia Barbosa,¹ Angelita Nepel,¹ Francisco A. Marques,¹ Beatriz Helena L.N. Sales Maia¹

UFPR, Curitiba, Brazil¹; emanu_km@yahoo.com.br

Abstract: The *Dahlstedtia* Malme and *Lonchocarpus* Kunth genera (Fabaceae) are very similar considering their taxonomy and secondary metabolites biosynthesis. In a recent study¹ it was investigated the relationships of *Lonchocarpus* and allied genera based on nuclear and plastid DNA markers. Both these genera are chemically characterized by produce prenylated flavonoids.² In this context and continuing our research on Fabaceae native species, this study aimed a phytochemical investigation from roots of *D. glaziovii*. The dried roots bark were powdered and successively extracted at room temperature with petrol ether (PE), dichloromethane (DCM) and methanol (MeOH). The PE extract were submit to flash column chromatography and the fractions F14 and F10(8) were subjected to NMR (1D and 2D) data analyses. The structures were identified in mixture in these fractions, furnishing: two rotenoids tephrosin (1) and 12a-hydroxyrotenone (2), one flavone, lanceolatin B (3) and one dibenzoylmethane (4). The typical signals of rotenoids are δ 4.62 (dd, 1H, 12.0 and 2.5Hz, H-6ax) δ 4.57 (dd, 1H, 2.5 and 0.7Hz, H-6a) δ 4.50 (dd, 1H, 12.0 and 0.7Hz, H-6eq) δ 67.5 (C-12a-OH). The difference between 1 and 2 is that while compound 1 presents the dimethylchromene group [δ 5.55 (d, 1H, 10.1Hz, H-3'), δ 6.59 (d, 1H, 10.1Hz, H-4'), δ 1.38 (s, 3H, CH₃) and δ 1.44 (s, 3H, CH₃)]; the compound 2 presents the dihydroxyfuran [(δ 1.73 (sl, 3H, H-8'), δ 2.93 (dd, 1H, 15.8 and 8.2Hz, H-4'), δ 3.28 (dd, 1H, 15.8 and 9.8Hz, H-4'), δ 5.22 (t, 1H, 8.9Hz, H-5') and δ 5.01 (sl, 1H, H-7')] at the same position. The flavone, lanceolatin B (3) shows the signals δ 6.88 (s, 1H, H-3), δ 178.1 (C=O) and the furan group. And at last, the dibenzoylmethane shows the signals δ 7.04 (s, 1H, H-8 and δ 96.0 C-8), δ 184.9 (C-7) and δ 183.1 (C-9), the presence of the methylenedioxy group, δ 6.05 (s, 2H, H-2''') and δ 101.7), methoxyl group δ 3.80 (s, 3H and δ 62.5, 2'-OCH₃) and dimethylchromene group. The study from *D. glaziovii* afforded at this moment, the identification of 4 known flavonoids³: two rotenoides (1) and (2), one flavone (3) and one dibenzoylmethane (4) (Figure 1) and being 2 e 4 described for the first time in this specie. The prenylated flavonoids from *Dahsltedtia* species with prenyl cyclized groups such as furan ring and dimethylchromene had been used as indicators of the genus *Dahlstedtia* evolution.²

References:

- [1] Da Silva, M.J., Queiroz, L.P., Tozzi, A.M.G.A., Lewis, G.P., Sousa, A.P. 2012. Phylogeny and biogeography of *Lonchocarpus* sensu lato and its allies in the tribe *Millettieae* (Leguminosae, Papilionoideae). *Taxon*. 61: 93-108.
- [2] Garcez, F.R., Scramin, S., Do Nascimento, M.C., Mors, W.B. 1988. Prenylated flavonoids as evolutionary indicators in the genus *Dahlstedtia*. *Phytochemistry*. 27: 1079-1083.
- [3] Canzi, E.F., Marques, F.A., Teixeira, S.D., Tozzi, A.M.G.A., Da Silva, M.J., Duarte, R.M.T., Duarte, M.C.T., Ruiz, A.L.T.G., Monteiro, P.A., Carvalho, J.E., Sales Maia, B.H.L.N. 2014. Prenylated flavonoids from roots of *Dahlstedtia glaziovii* (Fabaceae). *J. Braz. Chem. Soc.* 25:995-1001.

Figure:

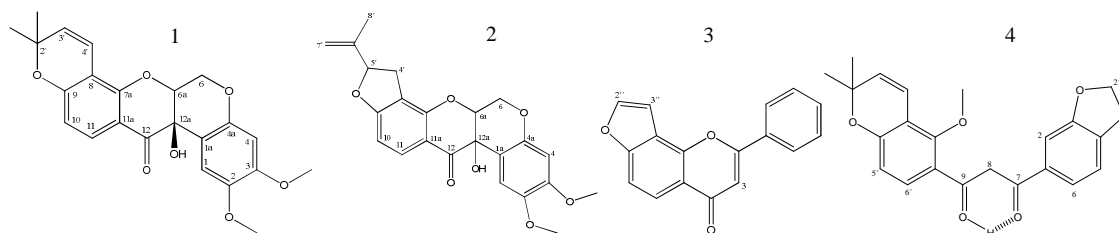


Figure 1: Identified flavonoids from *Dahsstedtia glaziovii* roots.