Chemistry of Natural Compounds, Vol. 44, No. 4, 2008

CHEMICAL CONSTITUENTS OF THE ETHANOLIC EXTRACT OF *Mikania parodii*

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UDC 547.972

Mikania parodii Cabrera (Asteraceae) is a cosmopolitan species, which is found mainly in Brazil and Argentina [1]. However, there is still no report of the chemical composition of *Mikania parodii* Cabrera.

Aerial parts of *Mikania parodii* were collected at Aquidauana, MS, Brazil, in July, 2004 and were identified by Dr. Roberto Lourenco Esteves (Departamento de Biologia Animal e Vegetal, Universidade Estadual do Rio de Janeiro, Brazil).

Dried and pulverized aerial parts of *M. parodii* (592 g) were exhaustively extracted at room temperature with 96% ethanol. The crude extract yielded 101.78 g after evaporation to dryness. The ethanolic extract (45 g) was chromatographed in a VLC column packed with silica gel 60 H eluted with a gradient of hexane–EtOAc–MeOH, giving 45 fractions.

Fraction 4 was passed through a silica gel 60 column and eluted with a gradient of hexane–EtOAc to obtain pseudotaraxasterol acetate (**1**; 14 mg) and taraxasterol acetate (**2**; 21 mg). Traces of the triterpenoids lupeol acetate (**3**), α-amyrin acetate (**4**), and β-amyrin acetate (**5**) were identified in fraction 4 by GC analysis using authentic samples. Fraction 39 was passed through a silica gel 60 column and eluted with a gradient of EtOAc–MeOH to obtain kaempferol 3-*O*-glucoside (**6**; 64 mg) and quercetin 3-*O*-glucoside (**7**; 8.5 mg).

The identities of the compounds were confirmed by comparing their NMR data with those reported in the literature (compound **1** and **2** [2]; compound **6** [3, 4] and compound **7** [3, 5]).

The infrared analysis of ethanolic crude extract and the fractions from the VLC of this extract did not display the typical infrared bands of the lactone ring carbonyl group (1740 to 1790 cm^{-1}) of sesquiterpene lactones, which indicates the absence or very low concentrations of this secondary metabolic class in *Mikania parodii*.

The compounds 5-*O*-caffeoylquinic acid (**8**), 3,4-di-*O*-caffeoylquinic acid (**9**), 3,5-di-*O*-caffeoylquinic acid (**10**), 4,5-di-*O*-caffeoylquinic acid (**11**), and 3-*O*-feruloyl, 5-*O*-caffeoylquinic acid (**12**) were identified in the ethanolic extract of *Mikania parodii* by LC-MS^n analysis based on the hierarchical scheme for LC-MS^n identification of quinic acid derivatives according to Clifford et al. [6, 7].

ACKNOWLEDGMENT

The authors are grateful to CNPq, FAPESP, and CAPES for financial support, Carlos Alexandre Carollo for plant collection, Dr. Roberto Lourenco Esteves for plant identification, and Izabel Cristina Casanova Turatti for IR and GC analysis.

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 0009-3130/08/4404-0512

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