



Essential Oil Composition and Extracts of *Cordia sessilis* (Vell.) Kuntze with Antioxidant and Antimicrobial Activity

Francisco J.T. AQUINO ^{1*}, Brunno B. CANELHAS ¹, Luís C.S. CUNHA ¹,
Lais C. SOUZA ¹, Trycia T. BARROS ¹, Alberto de OLIVEIRA ¹,
Sérgio A. L. MORAIS ¹, Roberto CHANG ¹, Evandro A. do NASCIMENTO ¹,
Maria G.M. de SOUZA ², Wilson R. CUNHA ² & Carlos H.G. MARTINS ²

¹ Instituto de Química, Universidade Federal de Uberlândia,
Av. João Naves de Ávila, 2121, CEP 38408-902, Uberlândia-MG, Brazil.

² Núcleo de Pesquisas em Ciências Exatas e Tecnológicas, Universidade de Franca,
Av. Dr. Armando Salles Oliveira, 201, CEP 14404-600. Franca-SP, Brazil.

SUMMARY. The essential oil obtained by hydrodistillation from the leaves of *Cordia sessilis* (Vell.) Kuntze was analysed by GC and GC-MS for the first time. Among the 26 compounds identified (representing 99.2 % of the total oil), the main components were: palmitic acid (20.75 %), 1-hexene (12.31 %), hexacosane (9.56 %), linolenic acid (6.27 %), and E-2-hexen-al (5.9 %). Linalool, α -terpineol, (*E*)-geraniol and (*E*)-phytol were the only terpenes found (6.07 % of total oil). The antioxidant activity of the leaf extract and partitions was evaluated using the DPPH-free radical method. The highest antioxidant capacity (EC₅₀ value of 15.8 μ g/mL) was reached in the methanol partition. Furthermore, the leaf extract and partitions showed antimicrobial activity against the aerobic oral bacteria *Streptococcus sanguinis* (ATCC 10556), *Enterococcus faecalis* (ATCC 4082), *Streptococcus mitis* (ATCC 9456), and *Streptococcus mutans* (ATCC 25175), and against the anaerobic oral bacteria *Actinomyces naeslundii* (ATCC 19039), *Prevotella nigrescens* (ATCC 33563), *Bacteroides fragilis* (ATCC 25285), and *Porphyromonas gingivalis* (ATCC 49417) using the broth microdilution method.

KEY WORDS: Antioxidant and antimicrobial activity, *Cordia sessilis* (Vell.) Kuntze, Essential oil, Human pathogens, Rubiaceae.

* Author to whom correspondence should be addressed. E-mail: aquino@iqfufu.ufu.br