

PP52. Scents from the Brazilian Cerrado: The essential oil from *Calea hymenolepis* (Asteraceae)

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The Brazilian Cerrado is a savannah-like biome with more than 12,000 botanical species in Central Brazil. It is an endangered biome, and considered to be a biodiversity hotspot [1]. *Calea hymenolepis* Baker is a shrub native from the Cerrado. Samples from a population (n>5) were collected from a rupestrian field in the Chapada dos Veadeiros National Park, in Goiás State, Brazil. According to Brazilian law, collection and access were authorized by the Ministry of Environment (process IBAMA 02001.003166/2013-26). A voucher was deposited at the Embrapa Genetic Resources herbarium and the essential oil was obtained from the leaves by hydrodistillation for 2 h, using a Clevenger-type apparatus. The oil was analyzed by GC-FID and GC-MS on Agilent 7890A and 5975C systems, both with HP-5MS fused silica capillary columns (30 m x 0.25 mm x 0.25 μ m). Oil components were identified by comparison of both mass spectra and linear retention indices with spectral libraries and literature. Oil yield was 0.2%. Major compounds present were α -phellandrene (34.2%), *p*-cymene (10.6%), germacrene D (8.5%), (*E*)- β -caryophyllene (6.3%) and δ -elemene (4.6%). The oil composition was quite different from other *Calea*, like *C. clematidea*, rich in clematerol, a terpenic epoxide [3]. Although subject to systematic phytochemical studies since the 1980's, with the identification of sesquiterpene lactones, chromones, benzopyrans, flavonoids, chalcones and even acetylenes, very few studies have been published regarding the essential oil of *Calea* species [2]. To the best of our knowledge, this is the first analysis on the essential oil from *Calea hymenolepis*.

References:

- [1] Myers, N. et al., 2000. Nature 403, 853–858.
- [2] Lima, T.C. et al., 2018. Phytother. Res. 32, 769–795.
- [3] Flach, A. et al., 2002. Planta Med. 68, 836–838.

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