

Publication

Antiprotozoal sesquiterpene lactones and other constituents from *Tarchonanthus camphoratus* and *Schkuhria pinnata*

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4325882

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In continuation of a search for new antiprotozoal agents from plants of the family Asteraceae, *Tarchonanthus camphoratus* and *Schkuhria pinnata* have been investigated. By following the promising in vitro activity of the dichloromethane extracts from their aerial parts, bioassay-guided chromatographic isolation yielded two known sesquiterpene lactones (1 and 2) from *T. camphoratus* and 20 known compounds of this type from *S. pinnata*. From the latter, a new eudesmanolide, (1R*,5S*,6R*,7R*,8R*,10R*)-1-hydroxy-8-[5''-hydroxy-4'-(2''-hydroxyisovaleroyloxy)tigloyloxy]-3-oxoeudesma-11(13)-en-6,12-olide (3), and two new germacranolides, 3 β -(2''-hydroxyisovaleroyloxy)-8 β -(3-furoyloxy)costunolide (14) and 1(10)-epoxy-3 β -hydroxy-8 β -[5'-hydroxy-4'-(2''-hydroxyisovaleroyloxy)tigloyloxy]costunolide (16), were obtained. Additionally, the flavonoid pectolinarigenin (24) and 3-hydroxy-4,5-dimethoxybenzenepropanol (25) were also isolated from *S. pinnata*. The compounds were characterized by analysis of 1D and 2D NMR spectroscopic and HR/MS data. In vitro antitrypanosomal activity and cytotoxicity against mammalian cells (L6 cell line) were evaluated for all the compounds. Santhemoidin A (13) and 3 β -(2''-hydroxyisovaleroyloxy)-8 β -(3-furoyloxy)costunolide (14) were the most active compounds found in this study, with IC₅₀ values of 0.10 and 0.13 μ M against *Trypanosoma brucei* rhodesiense trypomastigotes and selectivity indices of 20.5 and 29.7, respectively.

Publisher American Society of Pharmacognosy**ISSN/ISBN** 0163-3864**edoc-URL** <https://edoc.unibas.ch/60962/>**Full Text on edoc** No;**Digital Object Identifier DOI** 10.1021/acs.jnatprod.7b00747**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/29244495>**ISI-Number** WOS:000423778900018**Document type (ISI)** Article