Preparation of methyl esters of fatty acids. Lipid samples *ca* 10 mg were methylated [16] in a special extraction flask. Methyl esters were analysed by GC at 200° on a 2 m glass column packed with 6% diethylene glycol succinate on diatoport S with N_2 as carrier. The peaks were identified by comparison with known standards. Percentages of individual fatty acids were calculated by triangulation.

Acknowledgements—We are grateful to Professor P. S. Sastry, Professor of Biochemistry, Indian Institute of Science, Bangalore for GC facilities. Thanks are due to Professor V. S. R. Das for providing laboratory facilities. G.R.G. is in receipt of a fellowship from CSIR, New Delhi.

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Phytochemistry, Vol. 21, No. 11, pp. 2742–2743, 1982.
Printed in Great Britain.
0031-9422/82/112742-02$03.00/0

METHYL HEXADECA-6,8,12-TRIEN-10-YNOATE FROM *CHRYSOCOMA TENUIFOLIA**

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(*Received* 22 *February* 1982)

Key Word Index—*Chrysocoma tenuifolia*; Compositae; acetylenic compound; methyl hexadeca-6,8,12-trien-10-ynoate.

Abstract—*Chrysocoma tenuifolia* afforded a new C_{16}-acetylenic ester.

Chrysocoma is a South African genus belonging to the tribe Astereae. Three species have been investigated previously [1], two of them afforded acetylenic esters with an unusual C_{16}-chain. A reinvestigation of *C. tenuifolia* Berg., collected in Transvaal, only gave one such ester, the enynediene, **1**, as followed from the spectroscopic data. While from the UV maxima the nature of the chromophore could be deduced, the molecular formula clearly showed the presence of a C_{16}-ester. The positions of the double bonds, however, could not be indicated from the fragmentation pattern. The ^{1}H NMR spectrum (Table 1) clearly showed that all three double bonds were *trans*-configurated, while the position of the double bonds could be assigned by careful spin decoupling. Starting with the signal of the terminal methyl group the signal of H-15 could be assigned. Irradiation of

$$\mathrm{MeCH_2CH_2CH{=}CHC{\equiv}CCH{=}CHCH{=}CHCH_2CH_2CH_2CH_2CO_2Me} \quad \mathbf{1}$$

$$\mathrm{MeCH{=}CH(C{\equiv}C)_2(CH{=}CH)_2(CH_2)_4CO_2Me} \quad \mathbf{2}$$

$$\mathrm{Me(C{\equiv}C)_3(CH{=}CH)_2(CH_2)_4CO_2Me} \quad \mathbf{3}$$

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*Part 263 in the series "Polyacetylenic Compounds". For Part 262 see Bohlmann, F., Ahmed, M., King, R. M. and Robinson, H., *Phytochemistry* (in press).

Table 1. ^{1}H NMR spectral data of compound **1** (400 MHz, TMS as internal standard)

	C_6D_6	$CDCl_3$
H-2	2.07 *t*	2.31 *t*
H-3	1.47 *tt*	1.61 *tt*
H-4	1.12 *tt*	1.41 *m*
H-5	1.81 *dt*	2.08 *dt*
H-6	5.43 *dt*	5.74 *dt*
H-7	5.88 *dd*	6.06 *dd*
H-8	6.79 *dd*	6.51 *dd*
H-9	5.74 *br d*	5.58 *br d*
H-12	5.70 *br d*	
H-13	6.18 *dt*	6.11 *dt*
H-14	1.83 *dt*	2.11 *dt*
H-15	1.16 *tq*	1.41 *m*
H-16	0.74 *t*	0.88 *t*
OMe	3.38 *s*	3.66 *s*

J (Hz): 2, 3 = 3, 4 = 4, 5 = 5, 6 = 13, 14 = 14, 15 = 15, 16 ~ 7; 6, 7 = 8, 9 = 12, 13 = 15; 7, 8 = 10.

the latter collapsed the broadened double triplet to a doublet. As this signal was further coupled with the doublet triplet at δ 6.18, which itself was coupled with a proton adjacent to the triple bond, the positions of the double bonds were established. Similarly the signals of H-2–H-9 could also be assigned. Since the acetylenic ester **2** and **3** had been isolated previously from the same plant, the question arose whether **1** is the precursor of **2** and **3** or formed by hydrogenation of **3** via **2**. So far this point of general interest in the biogenesis of acetylenic compounds is not established though most of these steps were confirmed by feeding experiments [2].

EXPERIMENTAL

The air-dried aerial parts (30 g) (voucher 81/216, deposited in the Botanic Research Institute, Pretoria) were extracted with Et_2O–petrol (1:2) and the resulting extract was separated by TLC (Si gel) using Et_2O–petrol (1:10). 4 mg **1** were obtained, colourless gum, IR$\nu_{max}^{CCl_4}$ cm^{-1}: 2180 (very weak, C≡C), 1740 (CO_2R), 1640, 990, 960 [*trans*, *trans* $(CH{=}CH)_2$ and *trans* CH=CH]; UV $\lambda_{max}^{Et_2O}$ nm: 310, 290, MS *m/z* (rel. int.): 260.178 $[M]^+$ (28 ($C_{17}H_{24}O_2$), 229 $[M-OMe]^+$ (2), 217 $[M-C_3H_7]^+$ (4), 157 $[C_{12}H_{13}]^+$ (21), 143 $[C_{11}H_{11}]^+$ (21), 129 $[C_{10}H_9]^+$ (44), 117 $[C_9H_9]^+$ (100), 91 $[C_7H_7]^+$ (58).

Acknowledgements—We thank Dr. B. de Winter and Miss M. Welman, Botanic Research Institute, Pretoria, for their help and the Deutsche Forschungsgemeinschaft for financial support.

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Phytochemistry, Vol. 21, No. 11, pp. 2743–2745, 1982.
Printed in Great Britain.
0031-9422/82/112743-03$03.00/0

SESQUITERPENE LACTONES FROM *INEZIA INTEGRIFOLIA**

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(*Received* 21 *December* 1981)

Key Word Index—*Inezia integrifolia*; Compositae; sesquiterpene lactones; eudesmanolides; guaianolide.

Abstract—*Inezia integrifolia* afforded, in addition to known compounds, three new eudesmanolides and a guaianolide. Two of the eudesmanolides were obtained as a mixture. The relative position of the ester groups could not be determined with certainty. The chemotaxonomy is discussed briefly.

Inezia is a monotypic genus placed in the tribe Anthemideae. Morphological data indicated a relationship to *Lidbeckia* and *Thaminophyllum* [1], all three genera being endemic in South Africa. As the chemistry of the latter two genera has been studied [2, 3], it was of interest whether that of *Inezia* supports the proposed relationship. The roots of *I. integrifolia* (Klatt.) Phill. afforded **1** and **2** [4] and nerol isovalerate (**3**), while the aerial parts gave germacrene D, bicyclogermacrene, linoleic and linolenic acids as well as their triglycerides and four sesquiterpene lac-

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*Part 451 in the series "Naturally Occurring Terpene Derivatives". For Part 450 see Salam, N. A. A., Mahmoud, Z. F., Ziesche, J. and Bohlmann, F. (1982) *Phytochemistry* **21**, 2746.