

## Short Communication

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CONSTITUENTS OF *CONYZA AEGYPTIACA* L\*Mohammed Abbas Metwally and Abdel Azis M. Dawidar<sup>+</sup>Institute for Organic Chemistry, Technical University of Berlin,  
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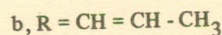
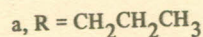
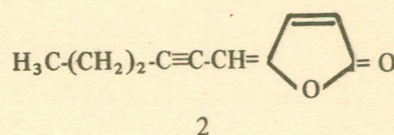
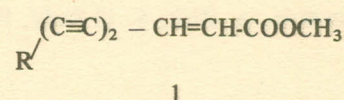
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## INTRODUCTION

One of the *Conyza* species (Compositae, tribe Astereae) growing in Egypt, *C. aegyptiaca*, is of common abundance[1]. *Conyza* has been early used in folk medicine[2]. A previous investigation of *C. aegyptiaca* L. resulted in isolation of  $\beta$ -amyryn, its acetate, stigmasterol, compesterol, cholesterol[3], quercetin and its 7-arabinoside[4].

In continuation of our study on the Egyptian Compositae [5] the present work deals with investigation of the constituents of the essential oil of *C. aegyptiaca* L..

The plant used in this study was collected in the region of the river Nile, Mansoura, Egypt, and grown in the garden of Mansoura University. The extract of the powdered aerial parts was separated by column chromatography into four fractions. (a) Sesquiterpene hydrocarbons, (b) oxygenated sesquiterpenes and acetylenic esters and (c) sterols. The first fraction was further divided into the sesquiterpenes,  $\alpha$ -curcumene[6], germacrene D[7] and  $\beta$ -farnesene[6] on a Sigel (see Exp.). The second fraction was further divided into caryophyllenepoxide[8] and lachnophyllum ester (1a) and matricaria ester (1b)[9] and the third fraction was found to be stigmasterol[3]. The isolated compounds were identified by comparison of IR, <sup>1</sup>H NMR and MS with those of authentic spectra. It may be noted that  $\alpha$ -curcumene, germacrene D,  $\beta$ -farnesene, caryophyllene epoxide and methyl ester acetylenes 1a,b have not been isolated previously from this species[3,4]. Similarly, the essential oil from roots was separated by CC into four fraction (a) sesquiterpene hydrocarbons, (b) squalene[10] and (c) acetylenic compounds 1a and 2[11]. Squalene and acetylenic lactone 2 have not been isolated previously from *C.*

*aegyptiaca* L[3,4].

## EXPERIMENTAL

The air dried plant material, collected in August 1983, from the garden of Mansoura University, was extracted with Et<sub>2</sub>O/petrol and MeOH (1:3:1). The extract of the aerial parts (665 g) was first treated with MeOH to remove long chain hydrocarbons and then partially separated by CC (SiO<sub>2</sub>) with petrol and increasing amounts of Et<sub>2</sub>O and finally Et<sub>2</sub>O/MeOH (10:1). The fractions obtained with petrol and 5% Et<sub>2</sub>O were combined and further separated by TLC (petrol) afforded 10 mg  $\alpha$ -curcumene, 15 mg germacrene D and 10 mg  $\beta$ -farnesene. The fraction obtained with 50% Et<sub>2</sub>O was further separated by TLC (25% Et<sub>2</sub>O) afforded 150 mg caryophyllenepoxide, 15 mg 1a, 50 mg 1b. The fraction obtained with 10% MeOH afforded 100 mg stigmasterol. Similarly the roots extract (45 g) was defatted and chromatographed by CC (SiO<sub>2</sub>) with petrol and increasing amounts of Et<sub>2</sub>O and finally Et<sub>2</sub>O/MeOH (10:1). The fractions obtained with petrol, 10% Et<sub>2</sub>O and 25% Et<sub>2</sub>O were combined and further separated with 10% Et<sub>2</sub>O and Et<sub>2</sub>O were combined and further separa-

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\*Part 2 in the series of Egyptian Compositae. For Part 1 see F. Bohlmann, M.A. Metwally and J. Jakupovic, Phytochemistry, (1984) communicated.



ted with 10% Et<sub>2</sub>O afforded 5 mg  $\beta$ -farnesene, 3 mg  $\alpha$ -curcumene, 5 mg germacrene D, 5 mg squalene, 6 mg **1a** and 5 mg **2**.

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