

# New Erythroxane-Type Diterpenoids from *Fagonia boveana* (Hadidi)

## Hadidi & Graf

Sahar R. Gedara<sup>a</sup>, Osama B. Abdel-Halim<sup>a</sup>, Saleh H. El-Sharkawy<sup>a</sup>,  
Osama M. Salama<sup>a</sup>, Thomas W. Shier<sup>b</sup>, and Ahmed F. Halim<sup>a\*</sup>

<sup>a</sup> Department of Pharmacognosy, Faculty of Pharmacy, Mansoura University,  
Mansoura 35516, Egypt. Fax: 002-050-2247496. E-mail: halim432@mans.edu.eg

<sup>b</sup> Department of Medicinal Chemistry, University of Minnesota, Minneapolis,  
Minnesota 55455, U. S. A.

\* Author for correspondence and reprint requests

Z. Naturforsch. **58c**, 23–32 (2003); received June 27/September 17, 2002

The aerial parts of *Fagonia boveana* afforded two new erythroxane-type diterpenes, 3 $\beta$ , 15, 16-trihydroxy-erythrox-4(18)-ene (**2**) and 15, 16-dihydroxy-*cis*-ent-erythrox-3-ene (fagonene) (**3**) together with two known ones; 16-O-acetylfagonone (**1**) and 7 $\beta$ -hydroxy fagonene (**8**). Also a new guaiane sesquiterpene alcohol, 6,10-epoxy-4 $\alpha$ -hydroxy guaiane type sesquiterpene (**4**) has been isolated. In addition three 8-methoxy flavonols, 8-methoxy-quercetin-3, 7, 3'-trimethyl ether (ternatin) (**5**), gossypetin, 3, 8, 3', 4' tetramethyl ether (**6**) and herbacetin-3, 8-dimethyl ether (**7**) were also isolated. The structures of the isolated compounds have been determined on the basis of spectroscopic evidences as well as physical and chemical correlation with known compounds. On performing different assays for biological activities, **6** displayed significant cytotoxic activity against KA3IT and NIH3T3 cell lines, **8** was the most active antiviral against *Herpes simplex* type 1 while **7** was the most active cancer-preventive agent using protein-tyrosine kinase inhibitory method.

*Key words:* *Fagonia boveana*, Diterpenes, Cytotoxic Assays