A253 Constituents of *Chaerophyllum aureum* and their antimicrobial activity

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Chaerophyllum aureum L. (Apiaceae) is a perennial herb growing in the mountainous region of Europe. Due to morphological similarities it is often confused with *Anthriscus sylvestris*. Although the phytochemical and pharmacological data of the latter are well documented, there is little information known about *Chaerophyllum aureum* L., except for the leaves flavonoid glycosides (1, 2). Therefore, a dichloromethane extract of lyophilized rhizomes and roots was investigated by HPL chromatography. The main compounds were chromatographically isolated and identified as falcarindiol, deoxypodophyllotoxin, deoxypodorhizone and nemerosin by ^{1}H NMR, ^{13}C NMR spectroscopy and mass spectrometry. These compounds were also reported for *Anthriscus sylvestris* (3). Additionally, a new plant constituent was isolated and identified as 1-(7-methoxy-benzo[1,3]dioxol-5-yl)-prop-2-en-1-ol. This compound was already found as a metabolite of myristicin formed in the liver of mice (4) and rats (5). The dichloromethane extract showed a significant antimicrobial activity against *Escherichia coli* (ATTC 0120 and NCTC 9001), *Pseudomonas aeruginosa* (ATCC 27853), *Staphylococcus aureus* (ATCC 6538 and B9) and *Streptococcus pyogenes* (delta 68). No activity was determined against *Enterobacter aerogenes* (NCTC 10006) and *Enterococcus faecalis* (NCTC 775). By means of bioautographic tests on TLC plates, fractions of the dichloromethane extract were used to highlight the active ingredients. Falcarindiol was identified as the main active principle. Isolation and structure elucidation of further active compounds are in progress.

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References: 1. Gonnet, J.-F. (1985) Biochem. Syst. Ecol. 13: 313-317. **2.** Gonnet, J.-F. (1986) Biochem. Syst. Ecol. 14: 409-415. **3.** Ikeda, R. et al. (1998) Chem. Pharm. Bull. 46: 871-874; 875-878. **4.** Hattori, M. et al. Phytother. Res. (1993) 7: 395-401. **5.** Lee, H.S. et al. (1998) J. Chromatogr. B 705: 367-372.

A254 Sesquiterpene lactones from the aerial parts of *Anthemis altissima*. *In vitro* anti-*Helicobacter pylori* activity

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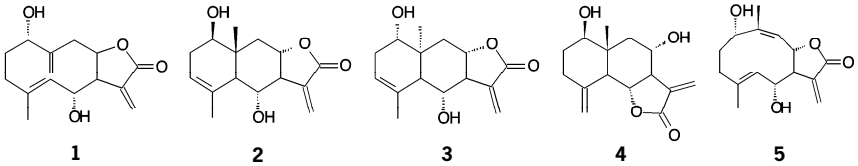
We report here the isolation and identification of sesquiterpene lactones **1-5** from *A. altissima* L., an annual herb of S. Europe (1). The aerial parts of *A. altissima* were extracted with cyclohexane-Et_2O-MeOH (1:1:1). The isolation was proceeded according to a standard procedure (2). Compound **3**, is a new naturally occurring rare *cis*-eudesmanolide. Its structure was deduced by means of 1D- and 2D-NMR spectroscopy (^{1}H, ^{13}C/DEPT, COSY, HSQC, HMBC, NOESY). Besides compound **3**, four known sesquiterpene lactones were isolated, namely **1** (3), **2** (4), **4** (5) and **5** (6), which were tested against *Helicobacter pylori*. Ten randomly selected clinical strains from gastric biopsies and one reference strain (ATCC 43504) were used for this study. The HP of approximately 5 x 10^5 CFU were inoculated into brain-heart infusion broth (bioMerieux 51009) and the tests were performed on 96-well dishes cultured microaerobically for 3 days at 37^{0}C in an anaerobic jar. The MIC was taken as the lowest concentration of each compound that inhibited visible growth. Compounds **2** and **5** were found to be the most active.



References : 1. Fernades R. (1976) in Tutin et al. Flora Europea, Vol. 4, Cambridge Univ. Press, p.157. **2.** Skaltsa H. et al. (1999) Planta Med. 65: 393. **3.** Yunusov A. et al., (1976) Khim. Prir. Soedin. 2: 263. **4.** Gören N. et al. (1992), Phytochemistry 31(1): 101-4. **5.** Yunusov A.I. et al. (1980) Khim. Prir. Soedin., (4), 573. **6.** Yunusov A.I. et al. (1979) Khim. Prir. Soedin., (1): 101-2.