Journal of Essential Oil Research

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/tjeo20

Composition of the Essential Oil from the Root of Carlina acaulis L. Asteraceae

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Published online: 09 Dec 2011.

To cite this article: J. C. Chalchat , S. Djordjevic & M. Gorunovic (1996) Composition of the Essential Oil from the Root of Carlina acaulis L. Asteraceae, Journal of Essential Oil Research, 8:5, 577-578, DOI: 10.1080/10412905.1996.9700696

To link to this article: http://dx.doi.org/10.1080/10412905.1996.9700696

Composition of the Essential Oil from the Root of *Carlina acaulis* L. Asteraceae

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Received: November 1995

ABSTRACT: The steam distilled essential oil obtained in1.3% yield from root of Carlina thistle (*Carlina acaulis* L., Asteraceae) growing in Serbia was analyzed by GC and GC/MS. The major compound was benzyl 2-furylacetylene (97.2%).

KEY WORDS: *Carlina acaulis* L., Asteraceae, essential oil, benzyl 2-furylacetylene.

PLANT NAME: *Carlina acaulis* L.

SOURCE: Wild plants were obtained from the mountainous regions of Suva Planina in Serbia. A voucher specimen has been deposited in the herbarium of the University of Belgrade.

PLANT PART: *Carlina acaulis* root was cleaned and dried at room temperature to produce an essential oil in 1.3% yield (1).

PREVIOUS WORK: The chemical composition of *Carlina acaulis* essential oil has not been the subject of study; only the main component of *C. acaulis* root was examinated (2,3).

PRESENT WORK: The oil obtained was initially yellow when first produced but got darker on standing. It had a narcotic odor and a pungent taste. The GC and GC/MS analytical procedures used were as previously described (4). The compounds identified in the oil of *Carlina acaulis* root are shown in Table I.

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1041-2905/96/0005-0577$04.00/0—

Table I. Chemical composition of the root oil of *Carlina acaulis*

Compound	Percentage
heptane	0.5
1,8-cineole	t
benzaldehyde	0.8
1-phenyl-2-propanone	0.2
(Z,E) α-farnesene	0.2
sesquiphellandrene	0.2
ar-curcumene	0.6
benzyl 2-furylacetylene	97.2

[a]compounds listed in order of elution from a 25 m x 0.25 mm CP Wax 52 CB capillary column that was temperature programmed as follows: 50°C (5 min), 50°-220°C at 2°C/min; t = trace

The structure of benzyl 2-furylacetylene was confirmed by IR, ^{1}H-NMR, ^{13}C-NMR and MS. Our results are in agreement with the previously published data (2,3).

REFERENCES

1. Farmakopeja SFRJ, *Pharmacopoea Jugoslavia*. Edito quarta, Ph. Jug; IV, National Institute for Health Protection, Belgrade (1984).
2. F. Bohlmann, A. Schuster and H. Meusel, *A carlina oxide derivative from Carlina diae*. Phytochemistry, **20**, 823-824 (1981).
3. E. Steinegger and R. Hänsel, *Lehrbuch der Pharmacognosie and Phytopharmazie*. Springer-Verlag, Berlin, Heidelberg, New York, London, Paris, Tokyo (1988).
4. J. C. Chalchat, R.Ph. Garry and A. Muhayimana, *Essential oil of Tagetes minuta from Rwanda and France: Chemical composition according to harvesting location, growth stage and part of plant extracted*. J. Essent. Oil. Res., **7**, 375-386, (1995).