Volatile Components of *Stachys corsica* Pers. (Lamiaceae)

Yves Pélissiér,1 Chantal Marion1 and Sylvie Rapier2
1Laboratoire de Pharmacognosie
2Laboratoire de Botanique, Phytoclimie et Mycologie
Université Montpellier I, Faculté de Pharmacie, 15 avenue Charles Flahault
34060 Montpellier cedex 2, France

Jean-Marie Bessière*
Laboratoire de Chimie Appliquée, Ecole Nationale Supérieure de Chimie
8 rue de l’Ecole Normale, 34296 Montpellier cedex 5, France

Abstract

Nineteen volatile components were identified by GC/MS from the dichloromethane extract of air-dried *Stachys corsica*. Carvacryl acetate, linalool, α-terpenyl acetate and α-terpineol were the main volatiles.

Key Word Index

*Stachys corsica*, Lamiaceae, volatile components, carvacryl acetate, linalool, α-terpenyl acetate, α-terpineol.

---

**Plant Name**

*Stachys corsica* Pers. (*= S. cincinnata* Mut.). Local name: "U nizzu" (1-3).

**Source**

Plant material was collected in August 1994 from the Forest of Vizzanova, near Corte (Corsica, France). A voucher specimen was preserved in the Herbarium at the Faculty of Pharmacy (University Montpellier I, France).

**Plant Part**

Volatile components of air-dried *Stachys corsica* were extracted with dichloromethane in a Soxhlet apparatus for 5 h. The extract was concentrated to a small volume under nitrogen and used directly for GC/MS analysis (4).

**Previous Work**

As far as we know, the volatile components of *Stachys corsica* have never been analyzed, except as a preliminary report on Lamiaceae from Corsica (4).

**Present Work**

Analysis of the organic extract from *S. corsica* was performed on a Hewlett-Packard GC/MS system (5).

*Address for correspondence*

Received: December 1997
Accepted: January 1998
Table I. Identified volatile components of *Stachys corsica* extract

<table>
<thead>
<tr>
<th>Compounds</th>
<th>Percentage</th>
<th>Compounds</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>linalool</td>
<td>13.4</td>
<td>eugenol</td>
<td>6.3</td>
</tr>
<tr>
<td>terpinen-4-ol</td>
<td>1.1</td>
<td>carvone acetate</td>
<td>37.5</td>
</tr>
<tr>
<td>p-cymen-8-ol</td>
<td>0.4</td>
<td>(E)-β-damascenone</td>
<td>2.6</td>
</tr>
<tr>
<td>α-terpineol</td>
<td>7.8</td>
<td>(E)-α-ionone</td>
<td>1.7</td>
</tr>
<tr>
<td>myrtanol</td>
<td>0.2</td>
<td>β-ionone</td>
<td>3.5</td>
</tr>
<tr>
<td>pipertone</td>
<td>0.2</td>
<td>β-ionone epoxide</td>
<td>3.0</td>
</tr>
<tr>
<td>pulegone</td>
<td>1.2</td>
<td>dihydroactinidiolide</td>
<td>0.8</td>
</tr>
<tr>
<td>carvone</td>
<td>1.6</td>
<td>cedrol</td>
<td>1.3</td>
</tr>
<tr>
<td>octanoic acid</td>
<td>0.7</td>
<td>benzyl benzoate</td>
<td>0.4</td>
</tr>
<tr>
<td>α-terpinyl acetate</td>
<td>7.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The chromatograph was fitted with a 25 m x 0.25 mm polydimethylsiloxane DB-1 (fused film thickness: 0.25 μm) silica capillary column. The carrier gas was helium with a flow rate of approximately 0.9 mL/min; the injector and detector temperatures were 200°C and 220°C, respectively. The column was temperature programmed as follows: 60°-200°C (3°C/min). The mass spectra were recorded on a mass selective quadrupole-type detector of the HP5970A class, using a potential of 70 eV for ionization by electron impact. Volatile compounds were identified by their MS spectra and retention indices (6,7).

The volatiles of *S. corsica* extract are listed in Table I in order of their elution. The main volatile components of *S. corsica* extract were carvacrol acetate, linalool, α-terpinyl acetate and α-terpineol. The extract also produced high levels of ionones and damascone. The volatile composition of *S. corsica* characterized by a high level of aromatic terpenes was close to those of *S. cretica anatolina* and *S. obtigua* reported by Kirimer et al. (8) and Harmandar et al. (9), respectively. On the other hand, the volatile composition of *S. corsica* was very different from that of *S. glutinosa*, a plant that grew on the same biotope as that of *S. corsica* (10).

**Acknowledgments**

The authors wish to thank G. Paradis for the plant determination, and M. Milhau and C. Quastana for their technical assistance.

**References**