

Supplementary Information

Volatiles and Antifungal–Antibacterial–Antiviral Activity of South African *Salvia* spp. Essential Oils Cultivated in Uniform Conditions

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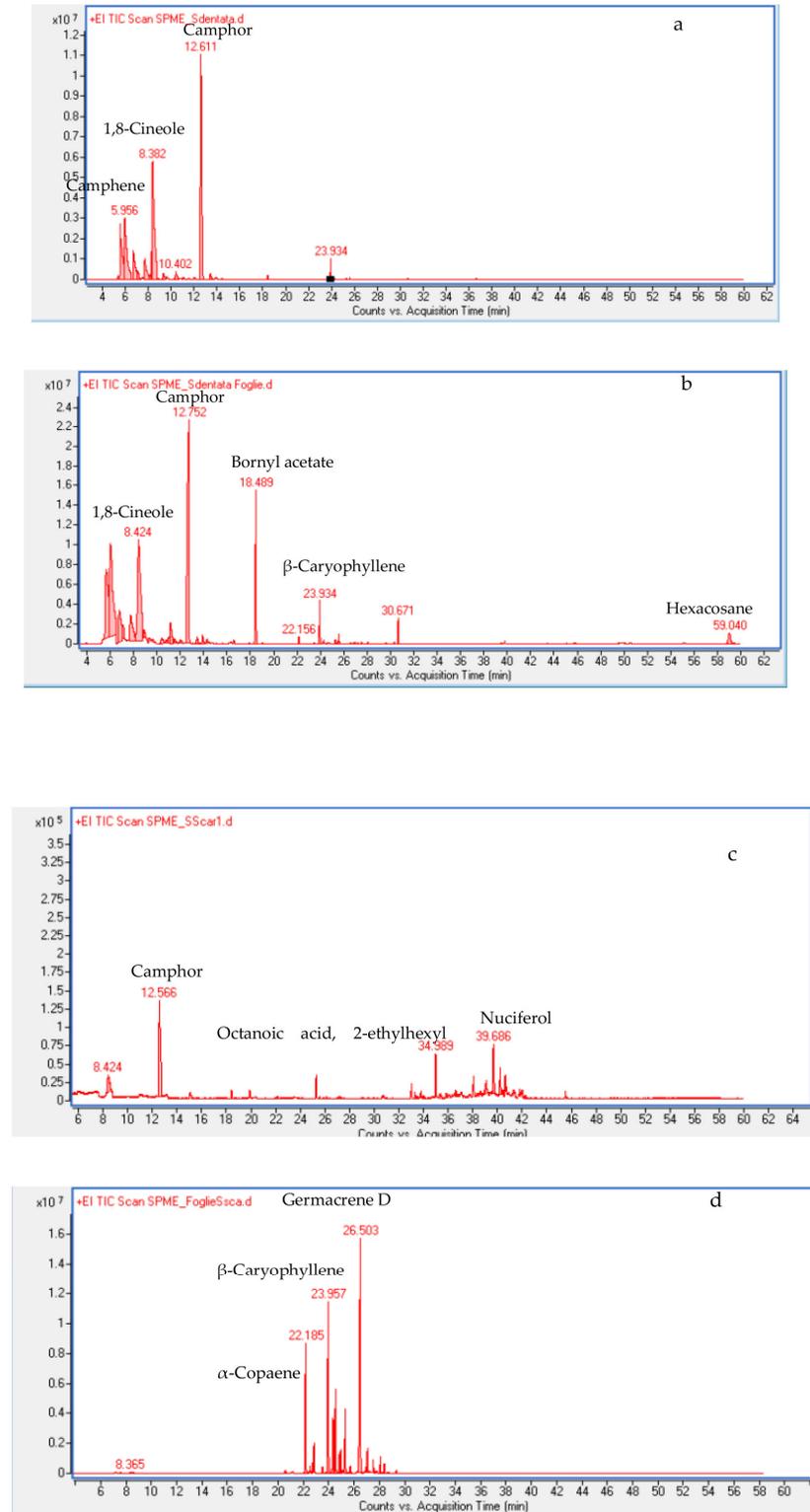


Figure S1. The aroma profile chromatograms of the studied sage. a: Flowers *S. dentata*, b: Leaves *S. dentata*, c: Flowers *S. scabra*, d: Leaves *S. scabra*.

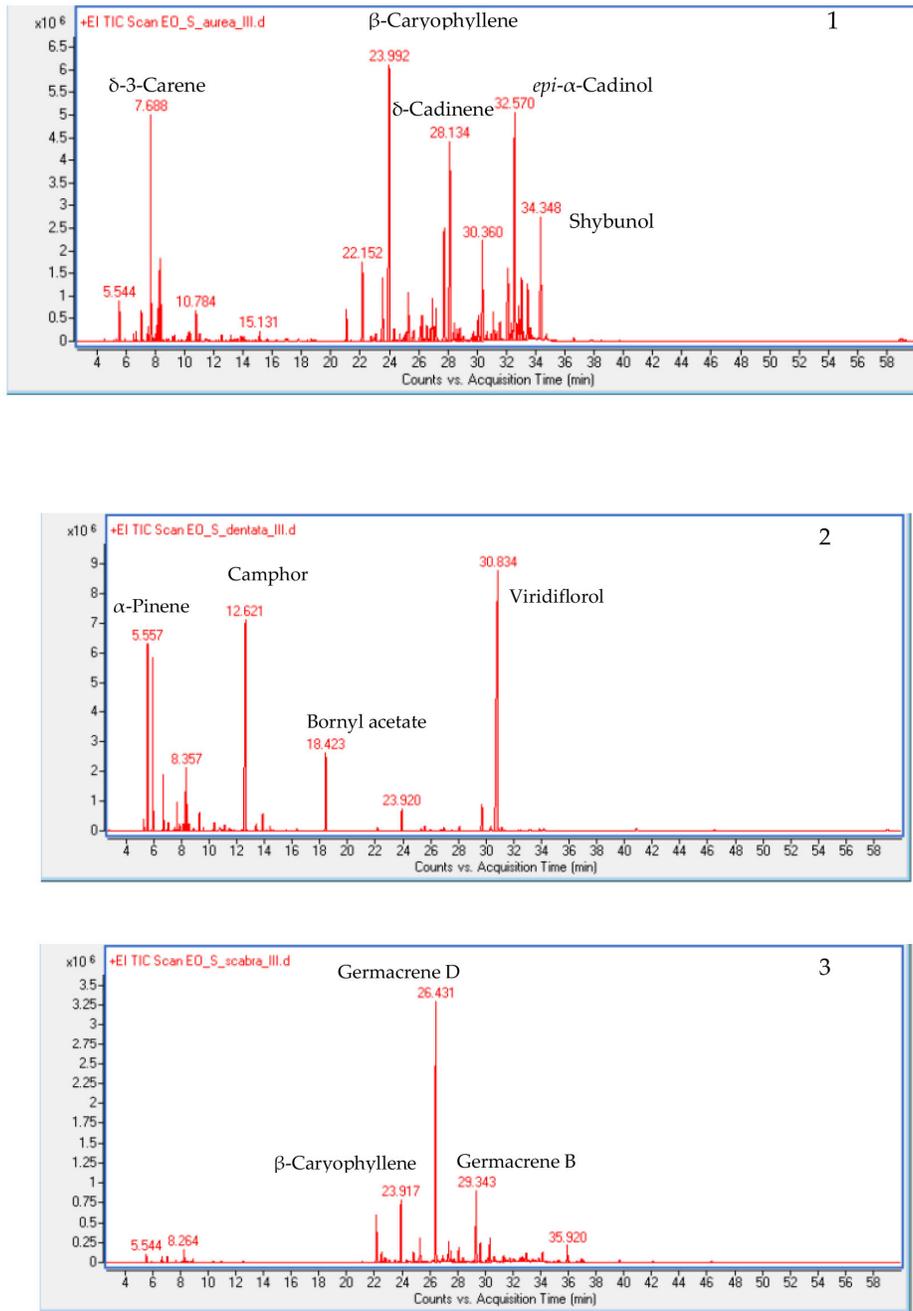


Figure S2. The essential oil chromatograms of the studied sage species. S1: *S. aurea*, S2: *S. dentata*, S3: *S. scabra*.

Table S1. Monographs of the studied *Salvia* species.

Sage species	Characteristics
 <p data-bbox="188 751 438 846"><i>Salvia aurea</i> L. (= <i>Salvia africana-lutea</i> L.)</p>	<p data-bbox="475 342 862 369">Voucher N°: HMGBH.e/7290.2019.001</p> <p data-bbox="475 394 1455 470">Common name: "bruinsalie", "sandsalie", "strandsalie" and "geelblomsalie" (www.sanbi.org, accessed 15 April 2021).</p> <p data-bbox="475 495 1455 571">Distribution: typical of arid and rocky coastal environments, introduced in North America and Europe as an ornamental plant and has successfully adapted to the Mediterranean climate [26].</p> <p data-bbox="475 596 1455 856">Botanical description: It is a very branched suffrutice, with an enlarged habit, and can reach 90 cm in height. The leaves vary in shape, from oval to rounded, with unevenly toothed margins, rich in coating and glandular hairs, which give them a silver color. The flowers, grouped in verticils, have large bell-shaped calyxes that tend to take on a papery appearance with aging. The corollas, pressed on top of each other, are yellow when the flower is in bud and become golden brown when ripe [66,67].</p> <p data-bbox="475 882 1455 1052">Traditional uses: used as an infusion for the treatment of colds, chronic bronchitis, tuberculosis, flu, fever, headache and digestive and gynecological disorders [68]. Promising activity against <i>Mycobacterium aureum</i> and <i>Mycobacterium tuberculosis</i> [69]. In-vivo tests demonstrate the efficacy of the aqueous extract as an analgesic and antipyretic [70].</p>
 <p data-bbox="188 1539 438 1566"><i>Salvia dentata</i> Aiton</p>	<p data-bbox="475 1087 862 1115">Voucher N°: HMGBH.e/7290.2019.002</p> <p data-bbox="475 1140 889 1167">Common name: "bergsalie" e "blousalie"</p> <p data-bbox="475 1192 1455 1318">Distribution: It prefers the arid and rocky slopes of the Western Cape Province and is found at an altitude between 150 and 1500 m. It was first described in 1789 by the Scottish botanist William Aiton (1731-1793).</p> <p data-bbox="475 1344 1455 1709">Botanical description: An evergreen shrub It is an upright plant and can reach 2 m in height. The leaves and stems are grey-green due to the presence of glandular hairs, but become hairless when ripe. The stems are unusually rounded. The leaves are curled at the apex, narrow and irregular in shape; the margin is mainly toothed, a characteristic which gives it its name. The flowers have a green calyx or with violet hues and a purple or white corolla that reaches 25 cm in length; the upper lip is slightly curved downwards, while the lower lip is flattened to facilitate access to pollinating insects. The seeds, black or dark brown, are clearly visible at the base of the glass. Flowering occurs between July and January (www.sanbi.org, accessed 15 April 2021).</p> <p data-bbox="475 1734 1455 1810">Traditional uses: the decoction of leaves is used as a tonic and for the treatment of colds, back pain and kidney problems; it is often associated with other herbs [71].</p>



Salvia scabra Thunb.

Voucher N°: HMGBH.e/7290.2019.003

Common name: “kuskruiusalie” e “usikiki”

Distribution: grows wild on the rocky slopes and sandy coasts of the Eastern Cape Province in South Africa. It prefers open and sunny places and is located at an altitude between 15 and 450 m.

Botanical description: is a perennial herbaceous plant, usually it does not exceed 50 cm in height. The stems, erect, woody and very branched, are covered with velvety and dense covering hairs. The leaves are green, rough, lyrate and lobed, with crenate or wavy margin. Both leaf surfaces are covered with coating hairs, but only on the underside are glandular hairs present. The flowers, gathered in verticillastri, have a tubular corolla, lilac, mauve or purple in color, with a deeply bidentate and very protruding lower lip (Sotti, 1997; [65]). The glass has hairs and red-violet shades. Flowering occurs between spring and autumn, with a peak during the summer. The plant produces a large amount of dark brown seeds (www.sanbi.org, accessed 15 April 2021).

Traditional uses: The leaves decoction is used as a purgative [20].

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