

# SALVIA CAERULEA HERBA

## Definition

Salvia Caerulea Herba consists of the fresh or dried leaves and smaller twigs of *Salvia africana-caerulea* L. (Lamiaceae).

## Synonyms

*Salvia africana* L.  
*S. lanuginosa* Burm. f.  
*S. undulata* Benth.

## Vernacular names

Bloublomsalie (A), blue sage

## Description

### Macroscopical<sup>1</sup>



Figure 1 – Live plant

Aromatic shrub 0,6-2m high, often branching at the base with several erect stems; stems greyish and variably hairy, sometimes bearing glandular as well as clothing hairs; **leaves** simple, petiolate, rough to leathery, obovate, 8-35 × 4-25mm, greenish and roughened on the upper surface, grey-green, slightly hairy and gland-dotted on the lower surface, margin entire to partly denticulate; **flowers** (Jun-Jan) in 2-6 flowered verticils, each subtended by a persistent bract; **calyx** purplish, funnel shaped, glandular-hairy, expanding in fruit; **corolla** light blue, blue-purple or pinkish; lower lip paler or white in the centre with light blue margin, 16-28mm long.

<sup>1</sup> Codd, L.E. (1985). The genus *Salvia*. In: Flora of Southern Africa **28(4)**: 79-101.



Figure 2 – line drawing

### Microscopical

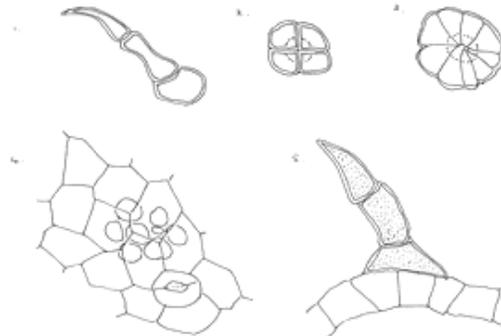


Figure 3 – microscopical features

Characteristic features are: the uniseriate 2-5 celled clothing hairs, up to 200 microns long, particularly numerous on the leaf margin and lower leaf surface, with thin warty walls, swollen basal cell and tapering apical cell (1+5); the numerous glandular trichomes of leaf and stem, of two kinds: a) with 1-2 celled stalk and multicellular head (3) up to 80 microns in diameter b) with unicellular stalk and 4-celled head up to 30 microns in diameter (2), filled with yellow-brown contents; the small polygonal straight-walled cells of the leaf epidermis (4); the single palisade layer below the

upper leaf epidermis; the anomocytic stomata on lower leaf surface only.

### Crude drug

Collected as needed or available in the market place as bundles of fresh or dried material comprising leaves, smaller stems, flowers and fruit in season; the whole herb is pungent-aromatic, grey-green in colour and rough in texture.

### Geographical distribution



Figure 4 – distribution map

Confined to the Western Cape Province, on sandy flats and lower slopes from Vanrhynsdorp south to the Cape Peninsula and eastwards to Montagu and Caledon.

### Quality standards

#### Identity tests

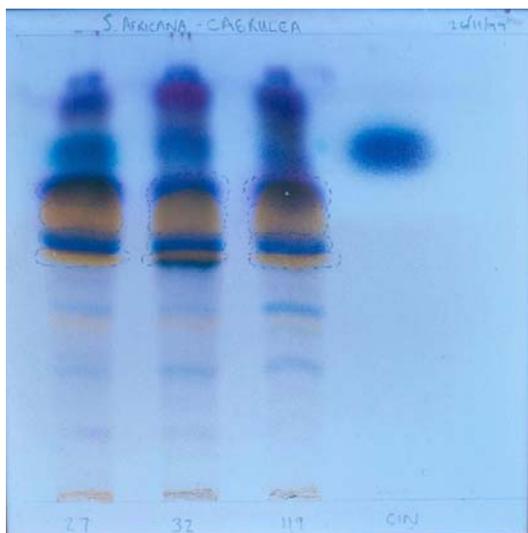


Figure 5 – TLC plate

Thin layer chromatography on silica gel using as solvent a mixture of toluene:diethyl ether:1.75M acetic acid (1:1:1). Reference compound cineole (0,1% in chloroform). Method according to Appendix 2a.

R<sub>f</sub> values of major compounds: 0,52 (yellow); 0,55 (purple); 0,61 (yellow); 0,66 (bright purple); cineole: 0,75 (blue-purple).

HPLC on C<sub>18</sub> column, method according to Appendix 2b.

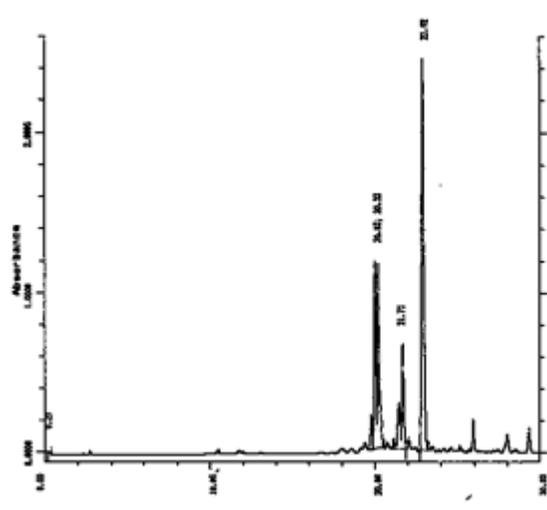


Figure 6 – HPLC spectrum

#### Major compounds:

Methanol extract: (figure 6)  
Retention times (mins): 20.03; 20.23; 21.71; 22.92

**Ethanol (70%) soluble extractive value:**  
not less than 22.5% (range: 22.66-26.79).

#### Purity tests

#### Assay

Not yet available

#### Major chemical constituents

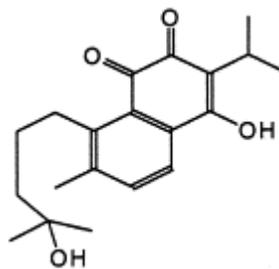


Figure 7 – chemical constituents

Microchemical tests indicated the presence of saponins, tannins and cyanogenic glycosides in 3/3 collections and cardiac glycosides in 2/3 collections. Alkaloids and anthraquinone derivatives were not detected. Studies of the secondary chemical profiles of other *Salvia* species used in traditional medical practice have identified various diterpenes (Figure 7) as major components<sup>2</sup>. (See *Salvia Herba Lutea* for a summary of the secondary chemistry of the genus *Salvia*). Further information regarding the secondary chemistry of this species is lacking.

### Dosage forms

Used as an aqueous infusion, taken internally or applied externally.

### Medicinal uses

Applied externally as an antiseptic wash to treat ulcers or taken orally to relieve stomach-ache, headache and bronchial congestion associated with influenza or bronchitis.

### Pharmacology/bioactivity

Weak *in vitro* antimicrobial activity against *Staphylococcus aureus* was shown by aqueous extracts prepared from dried leaf material by infusion. No activity was shown against *Pseudomonas aeruginosa*, *Candida albicans* or *Mycobacterium smegmatis*. Further information is lacking. Other *Salvia* species, used as traditional medicines in various parts of the world, have been shown to possess antibacterial, antioxidant, cardiovascular, antidiabetic and antitumour activity. See<sup>2</sup> for a recent review of the bioactivity of the genus.

### Contraindications

None known. See monograph for *Salvia Lutea Herba*.

### Adverse reactions

None recorded.

### Precautions

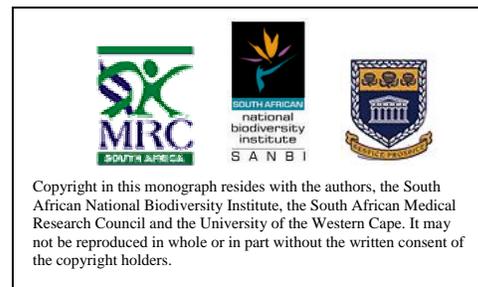
No special precautions. See however monographs for *Salvia Lutea Herba* and *Artemisia Afra Herba*.

### Dosage

An infusion may be made with two tablespoonsful ( $\pm 7.0g$ ) of dried ground herb to which is added one litre of boiling water. The mixture is strained when cold. If fresh herb is used, four tablespoonsful of chopped leaf are infused with one litre of boiling water.

**Adults:** Half a teacupful (90ml) three times daily.

**Children (6-12 years):** Quarter of a teacupful (45ml) three times daily.



<sup>2</sup> Ulubelen, A. (2003). Cardioactive and antibacterial terpenoids from some *Salvia* species. *Phytochemistry* **64(2)**: 395-399.