

# STOEBE PLUMOSA HERBA

## Definition

Stoebe Plumosa Herba consists of the fresh or dried overground parts of *Stoebe plumosa*(L.) Thunb. (Asteraceae).

## Synonyms

*Seriphium plumosum* L.  
*Seriphium cinerea* Thunb. var. *plumosa* (Less.) Harv.

## Vernacular names

Slangbos (A)

## Description

### Macroscopical <sup>1</sup>, GR 3

Sprawling, conspicuously white-woolly, softly woody shrub to ± 1m; **leaves** minute, granular in appearance, borne in tufts on main stems or on short shoots developed in all main leaf axils; **flowers** (Apr-Jun) minute, borne in discoid heads grouped together in the leaf axils towards the end of the main shoots; capitula subtended by several rows of involucre bracts, the innermost golden brown and sharply pointed.



Figure 1: Live plant

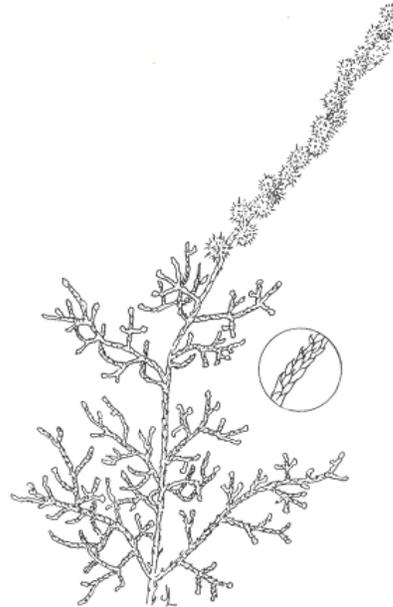


Figure 2: line drawing

## Microscopical

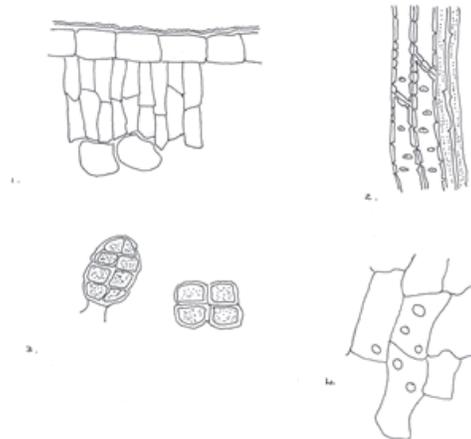


Figure 3: microscopical features

Characteristic features are: the very abundant long unicellular clothing hairs; the glandular trichomes having unicellular stalks and multicellular heads up to 10µ in diameter, with yellow brown contents; the fragments of leaf lamina in the powdered drug, showing epidermal cells with striated cuticle and double palisade layer; the abundant oil droplets staining red with Soudan IV; the vascular tissue of the stem with accompanying thick walled fibres.

<sup>1</sup> Levyns, M. (1937). A revision of the genus *Stoebe*. *Journal of South African Botany* **3**(1): 1-35.

1. T/S leaf lamina showing epidermal cells with striated cuticle and double palisade layer
2. Vascular tissue of stem with accompanying thick walled fibres
3. Glandular trichome with unicellular stalk and multicellular head up to 10µ in diameter, with yellow brown contents
4. Fragment of leaf mesophyll showing oil globules

### Crude drug

Collected as needed or available in the marketplace as bundles of twigs with minute beadlike leaves; colour grey-white felted; odour pleasant aromatic; texture springy.

### Geographical distribution

Rocky flats and slopes of the Western and Eastern Cape Provinces of South Africa and north into Angola and Namibia.

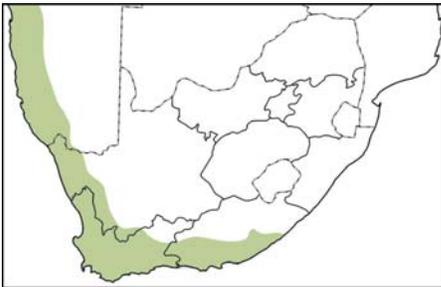


Figure 4: distribution map

### Quality standards

#### Identity tests

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: 0,28 (yellow); 0,39 (green-brown); 0,46 (grey-brown); 0,56 (purple-mauve); 0,60 (purple-pink); cineole: 0,73 (blue-purple)

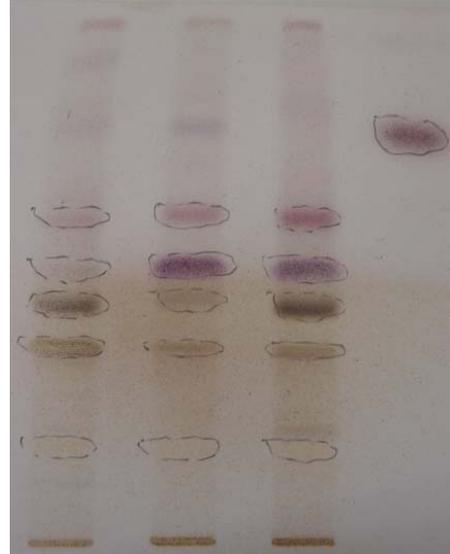


Figure 5: TLC plate

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

#### Major compounds:

Methanol extract:

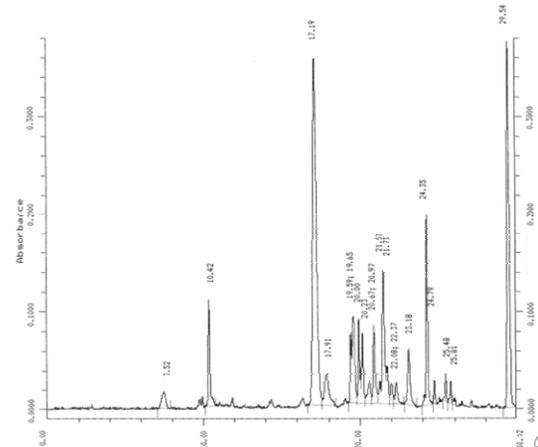


Figure 6: HPLC spectrum

Retention times (mins): 10.42; 17.19; 17.91; 24.35

Ethanol (70%) soluble extractive value: not less than 24.0% (range: 24.3-32.3%)

#### Purity tests

#### Assay

Not yet available

## Major chemical constituents

There is little in the published literature concerning the secondary chemistry of this species. Microchemical tests in our laboratories indicated the presence of alkaloids and tannins but not of cardiac, anthraquinone or cyanogenic glycosides.

## Dosage forms

A fresh aqueous infusion is taken orally.

## Medicinal uses

Preparations of this species are taken orally for gynaecological problems, stomach ache, intestinal worms and cardiac problems.<sup>GR1</sup>  
and 21-23

## Pharmacology/bioactivity

Few scientific studies have been conducted on the bioactivity of this species. No *in vitro* antimicrobial activity of aqueous extracts against *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Mycobacterium smegmatis*, or *Candida albicans* was observed, in the concentrations used for disc assays in our laboratories.

## Contraindications

None known

## Adverse reactions

None reported

## Precautions

No special precautions

## Dosage

To be determined

