ONCOSIPHON SUFFRUTICOSUM HERBA

Definition
Oncosiphon Suffruticosum Herba consists of the fresh or dried leaves and smaller stems of *Oncosiphon suffruticosum* (L.) Källersjö (Asteraceae).

Synonyms
*Cotula tanacetifolia* L.
*Pentzia suffruticosa* (L.) Hutch. ex Merxm.
*Pentzia tanacetifolia* (L.) Hutch.
*Tanacetum suffruticosum* L.

Vernacular names
Stinkkruid, wurmstinkkruid, wurmbossie (A)

Description

Macroscopical
Bushy aromatic annual herb to 500mm; leaves finely dissected, bipinnatisect, up to 40mm long, with narrow leaf lobes; flowers (Jul-Dec) discoid, borne on a conical receptacle in dense many-headed corymbs; individual heads 3-7mm in diameter, on slender peduncles; florets yellow with glabrous involucral bracts.

Microscopical

Characteristic features are: fragments of leaf lamina with clothing and glandular hairs; the clothing hairs more numerous in young leaves, multicellular, adpressed, with swollen base, several (3-6) small beadlike intermediate cells and a long tapering terminal cell, the latter often shrunken and twisted (1); the numerous glandular hairs, 2-celled, sessile, up to 70µ in diameter (4); pollen grains up to 20µ in diameter, globose with sculpted exine (5); fragments of yellow anthers with minute calcium oxalate cluster crystals at the junction of anther and...
filament, each crystal 4-5µ in diameter; the epidermal cells of the leaf lamina with sinuous walls, anomocytic stomata and single palisade layer below upper epidermis (2+6); the fragments of the corolla (3); the abundant oil globules, staining red with Soudan IV.

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**Crude drug**

Collected as required or obtainable in the marketplace as bundles of dark green leafy twigs with flowers in season; taste bitter, acrid; scent pungent aromatic; texture sticky.

**Geographical distribution**

Widespread on dry sandy flats and slopes, coastal and inland, from Southern Namibia south to the Cape Peninsula and the western Karoo, and eastwards as far as Gansbaai in the Western Cape. Often forms large stands on disturbed sites.

**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. $R_f$ values of major compounds: 0.13 (yellow); 0.24 (yellow); 0.27 (blue-grey); 0.37 (pink); 0.41 (purple); 0.46 (purple); 0.82 (purple).

**Major compounds**

Methanol extract:
Retention times (mins): 5.50; 6.14; 6.34; 7.91; 8.06; 8.29

**Figure 4:** distribution map

**Figure 5:** TLC plate

HPLC on C$_{18}$ column, method according to Appendix 2b.

**Major compounds**:

Methanol extract:
Retention times (mins): 5.50; 6.14; 6.34; 7.91; 8.06; 8.29

**Figure 6:** HPLC spectrum
Ethanol (70%) soluble extractive value: not less than 29.0% (range: 29.72-32.54%)

Volatile oil content: not less than 0.5% (dark yellow-green)

**Purity tests**

**Assay**

Not yet available

**Major chemical constituents**

The secondary chemistry of *Oncosiphon suffruticosum* (formerly *Pentzia suffruticosa*) has not been studied. Investigations of the aerial parts of other *Pentzia* species have revealed the presence of sesquiterpene lactones: fulvenoguaianolides, glaucolides and germacranolides, as well as C$_{14}$ acetylenic compounds and monoterpenic derivatives.

(figure 7)

![Figure 7: chemical constituents](typical Oncosiphon lactone)

**Dosage forms**

An aqueous infusion or dried ground powder are taken orally; a leaf poultice is applied externally.

**Medicinal uses**

Originally a Khoi-khoi and San remedy, this species, said to be both diuretic and diaphoretic, is today used as a tonic, antispasmodic and anthelmintic and to treat flatulence, gout, amenorrhoea, fever, asthma, diabetes and convulsions. A leaf poultice is said to reduce inflammation.

**Pharmacology/bioactivity**

No information is available in the published literature concerning the bioactivity of this species. *In vitro* antimicrobial activity of aqueous extracts against *Staphylococcus aureus* and *Pseudomonas aeruginosa* was observed, in the concentrations used for disc assays in our laboratories. No activity was noted against *Candida albicans* or *Mycobacterium smegmatis*.

**Contraindications**

None known.

**Adverse reactions**

None reported.

**Precautions**

This species should be used with caution by individuals prone to allergy.

**Dosage**

To be determined.

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