CISSAMPELOS CAPENSIS HERBA

**Definition**

Cissampelos Capensis Herba consists of the fresh or dried leaf of *Cissampelos capensis* L.f. (Menispermaceae)

**Synonyms**

*Antizoma capensis* (L.f.) Diels  
*Antizoma capensis* (L.f.) Diels var. pulverulenta (harv.) Diels  
*Cissampelos fruticosa* L.f.  
*Cissampelos humilis* Poir.

**Vernacular names**

Dawidjieswortel (A); mayisake (Xh)

**Description**

**Macroscopical**

Figure 1 – Live plant  
Dioecious perennial sprawling or twining shrublet; leaves entire, alternate, almost without hairs, ovate to heart-shaped, up to 2.5cm wide × 2.5cm long, on thin petioles up to 3cm long; flowers (Feb-May) axillary, velvety-hairy, greenish, females 1-2 with 1 sepal and petal, males in cymose inflorescences; fruit a small fleshy orange berry; root up to 2.5cm in diameter with grey-brown bark, cream in T/S with distinct brown medullary rays.

**Microscopical**

Figure 2 – line drawing  
Characteristic features are: the absence of calcium oxalate crystals in the leaf lamina; the occasional unicellular clothing hairs of leaf and stem, up to 240µ long, usually loose in the powdered drug, with thin slightly roughened walls (4); the cells of the leaf epidermis with striated cuticle and thickened walls (1 and 2); the anomocytic stomata of

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both leaf surfaces; the papillate cells of the leaf margin (3).

**Crude drug**

Collected as required or available in the marketplace as bundles of fresh or dried leaf and stem; texture thin and soft, odour faint characteristic, colour light green.

**Geographical distribution**

[Sandy slopes and scrub of the Northern, Western and Eastern Cape Provinces, northwards into Namibia.]

**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. (figure 5) 

R_f values of major compounds: 0.42 (sage green); 0.63 (green); 0.69 (purple); 0.98 (purple-brown); cineole: 0.83 (blue-purple).

**Figure 4 – distribution map**

**Figure 5 – TLC plate.**

HPLC on C_{18} column, method according to Appendix 2b.

**Major compounds:**

Methanol extract: (figure 6a) 
Retention times (mins): 2.71; 11.42; 26.98; 28.06

DCM extract: (figure 6b) 
Retention times (mins): 1.31; 3.33; 6.55

**Figure 6 a – MeOH HPLC spectrum**
Ethanol (70%) soluble extractive value: not less than 25% (range: 25.07-31.51%)

**Purity tests**

**Assay**
Not yet available

**Major chemical constituents**

Phytochemical tests in our laboratories indicated the presence of alkaloids, saponins, tannins and reducing sugars but not of cardiac nor of anthraquinone glycosides. There is nothing in the published literature concerning the secondary chemistry of this species. The chemical profile of the family typically includes benzylisoquinoline, bisbenzylisoquinoline (e.g. tubocurarine, cissampareine), diterpene and triterpene alkaloids, as well as saponins.

**Dosage forms**
A leaf infusion or tincture is taken orally and a poultice or paste applied externally. Preparations of the root of this species are also extensively used, both internally and externally, and are the subject of a separate monograph.

**Medicinal uses**
Leaf preparations are taken orally for the treatment of upset stomach, bladder ailments, diarrhoea and colic and applied externally to heal wounds and sores, including venereal lesions and snakebite. Mixed with *Pentzia incana* and *P. globosa*, preparations of this species have been used both internally and externally to treat erysipelas. GR1, 20

**Pharmacology/bioactivity**
No pharmacological information is available for this species. The related *Cissampelos pareira* is used in Asian traditional medical practice for the treatment of intermittent fever, heatstroke and colic and *Cissampelos* species are known to have been used as ingredients in South American curares (arrow poisons). GR9 The mode of action in the latter case is presumably to do with muscle relaxation and may resemble that of tubocurarine.

No activity against *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Candida albicans* or *Mycobacterium smegmatis* was shown by aqueous leaf extracts used in preliminary assays for in vitro antimicrobial activity in our laboratories.

**Contraindications**
None known at present

**Adverse reactions**
None recorded

**Precautions**
In view of the likely presence of highly bioactive alkaloids of this species, it would be prudent to undertake basic pharmacological studies and/or a survey of current traditional practice, in order to establish a suitable treatment regimen.

**Dosage**
To be established.
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