CLIFFORTIA ODORATA HERBA

Definition

Cliffortia Ododrata Herba consists of the fresh or dried overground parts of *Cliffortia odorata* L.f. (Rosaceae).

Synonyms

Cliffortia alnifolia Reichenb**.**
Cliffortia odorata L.f. var. *vera* Harv.

Vernacular names
wildewingerd, wildevyerank (A)

Description

Macroscopical[1]

Figure 1 – Live plant

Scrambling shrub to 1,0 m; older stems glabrous, rust brown, younger stems tomentose, flushed pink; **leaves** alternate, stipulate, shortly petiolate, 30-60mm ×20-50 mm, flat, simple, ovate, with serrate-crenate margin, faintly aromatic, glabrous dark green above, densely pubescent, grey-green on lower surface, leathery; male and female **flowers** small, inconspicuous, borne separately in dense fascicles in axils of leaves.

Figure 2 – line drawing

Microscopical

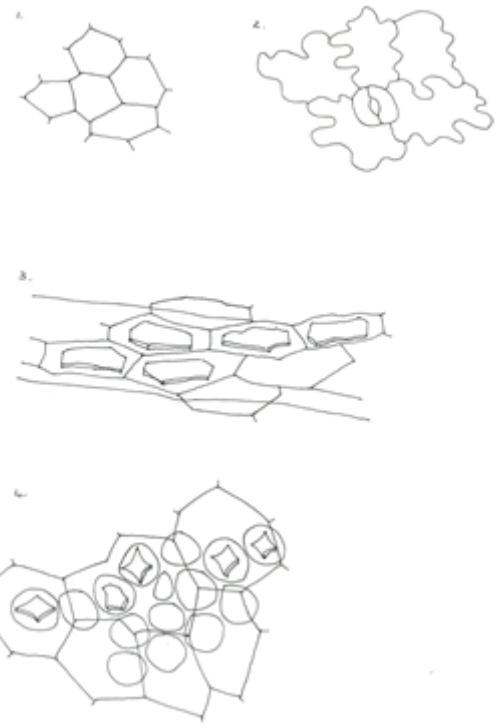

Figure 3 – microscopical features

Characteristic features are: the numerous uniseriate, unicellular clothing hairs of leaf and stem, up to 2mm in length; cells of upper epidermis irregularly polygonal (1), those of lower surface with sinuous walls (2); single palisade layer below upper

[1] 1. Weimarck, (1934). A monograph of *Cliffortia.*

epidermis; stomata anomocytic, on lower leaf surface only; prisms of calcium oxalate, ± 20m in length, in cells of the mesophyll, forming an incomplete crystal sheath surrounding the larger veins (3); star-shaped crystals of calcium oxalate, forming a layer in cells of the palisade layer and mesophyll (4); occasional pollen grains, golden-brown, spherical, ± 20m in diameter.

Crude drug

Used fresh, collected as needed, or available in the market place as bundles of air-dried material, comprising mainly leaves and occasional flowers. Texture leathery, odour pleasantly aromatic, colour dull green.

Geographical distribution

Figure 4 – distribution map

Widespread on damp mountain slopes of the Western and Eastern Cape Provinces, from Paarl to the Cape Peninsula and eastward to Port Elizabeth; also north to KwaZulu-Natal.

Quality standards

Identity test

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: 0,24 (blue mauve); 0,22 (blue); 0,53 (blue-green); 0,82 (sage green); cineole: 0,78 (lilac purple)

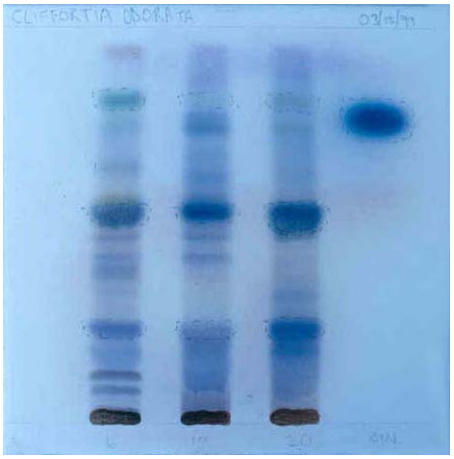

Figure 5 – TLC plate.

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

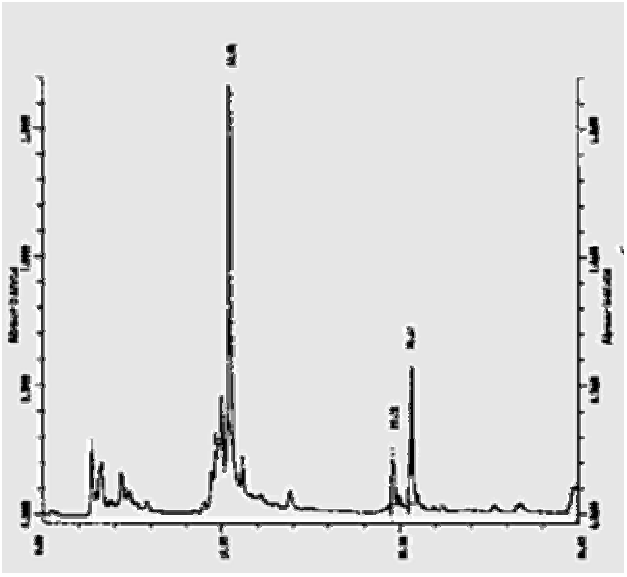

Figure 6 – HPLC spectrum

Methanol extract: (figure 6)
Retention times (mins) of major compounds:
10.50; 19.62; 20.67

Ethanol (70%) soluble extractive value:
not less than 26% (range: 26.38-34.02%)

Purity tests

Assay

Not yet available

Major chemical constituents

Little is known of the secondary chemistry of this species. Preliminary microchemical tests indicated the presence of tannins, triterpenoid steroids and small amounts of saponins. Alkaloids, cyanogenic glycosides and quinones were not detected.

Dosage forms

An aqueous decoction or infusion of fresh or dried leaves and smaller stems is taken orally.

Medicinal uses

Taken orally to treat arthritis, internal haemorrhoids and urinary tract problems.

Pharmacology/bioactivity

Brine shrimp lethality assay:

Activity was suggested in tests (our laboratories) using a decoction of dried material at a concentration of 1000mg/ml.

Antibiotic activity assay

In vitro antimicrobial activity against *Staphylococcus aureus* was demonstrated by aqueous extracts prepared from dried leaf material, at a concentration of 10mg/ml. No activity against *Pseudomonas aeruginosa, Candida albicans* or *Mycobacterium smegmatis* was shown by any of the extracts used in preliminary assays. No other information is available regarding the bioactivity of this species.

Contraindications

None known.

Adverse reactions

None reported

Precautions

No special precautions.

Dosage

An infusion may be prepared by adding one tablespoonful (3,5g) of dried powdered leaf (or two tablespoonsful of fresh leaf) to 1litre of boiling water, allowing to stand in a covered vessel until cold and straining.

Adults: One wineglassful (120ml) dose once daily.