

CLIFFORTIA FERRUGINEA HERBA

Definition

Cliffortia Ferruginea Herba consists of the fresh or dried leaves and smaller stems of *Cliffortia ferruginea* L.f. (Rosaceae).

Synonyms

Cliffortia berberidifolia Lam.
C. ferruginea var. *flexuosa* (E.Mey.) Harv.
C. ferruginea var. *latifolia* Eckl. & Zeyh.
C. ferruginea var. *longifolia* Eckl. & Zeyh.
C. ferruginea var. *villosa* Harv.

Vernacular names

glastee, teringtee, pypsteelbos (A)

Description

Macroscopical¹



Figure 1 –Live plant

Trailing or semi-erect shrub with glabrous to pilose stems; **leaves** simple, alternate, coriaceous, glabrous-shiny to sparsely pilose, 10-40mm long × 1-7mm wide, linear-lanceolate to obovate, recurved or flat, margin entire or dentate to serrulate, stipulate (the stipules 3-5 mm long, triangular and having an acute apex); **flowers** inconspicuous, axillary, sessile, apetalous, having 3 sepals and subtended by two ciliate bracteoles 3-4 mm long with acute apex (male flowers with 15 stamens and sepals 3-3.5 mm long, female flowers with red receptacle and stigma and sepals 1-3mm long).

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



Figure 2 – line drawing

Microscopical

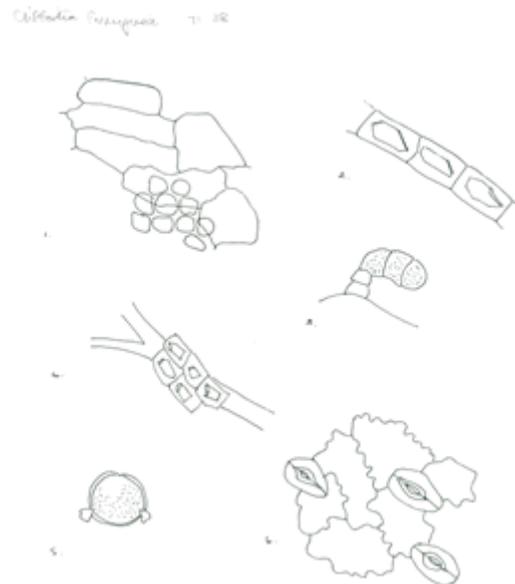


Figure 3 – microscopical features

Characteristic features are: the anomocytic stomata of the lower leaf epidermis; the thin-walled elongate cells, up to 600 microns long, of the upper leaf epidermis (1); the cells of the lower leaf epidermis with sinuous walls (6); the calcium oxalate prisms, up to 80 microns long, in the parenchyma cells surrounding the main and subsidiary veins,

forming a crystal "sheath" (2+4); the occasional glandular trichomes with 2-3 celled stalk and 2-3 celled head, with red-brown contents (3); the abundant pollen grains, loose in the powdered drug, up to 140 microns in diameter (5).

Crude drug

Collected as required or found in the marketplace as bundles of fresh or dried leaf and stem; odour faint aromatic, texture leathery.

Geographical distribution

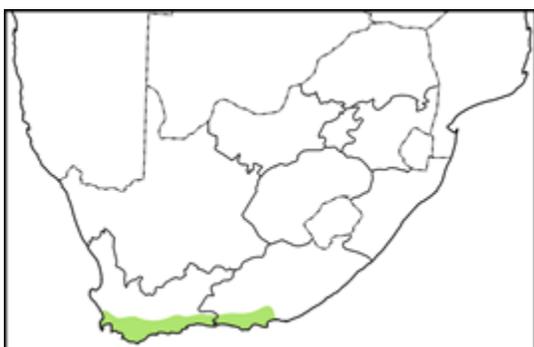


Figure 4 – distribution map

Moist habitats in mainly coastal areas and lower mountain slopes of the Western and Eastern Cape Provinces, from the Cape Peninsula to Uitenhage.

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: 0,26 (purple-blue); 0,36 (light green); 0,55 (dark purple); cineole: 0,78 (blue-purple)

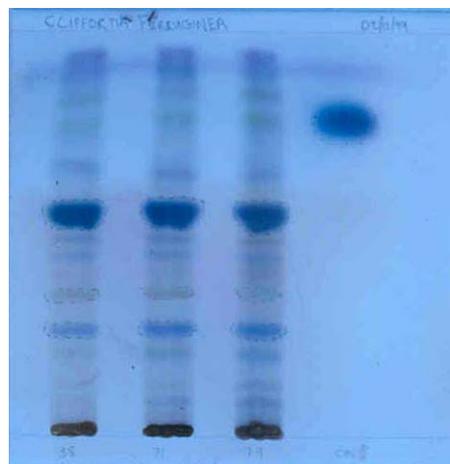


Figure 5 – TLC plate.

HPLC on C₁₈ column, method according to Appendix 2b.

Major compounds:

Methanol extract: (figure 6)

Retention times (mins): 2.76; 2.86; 10.20; 17.25; 19.78; 20.05

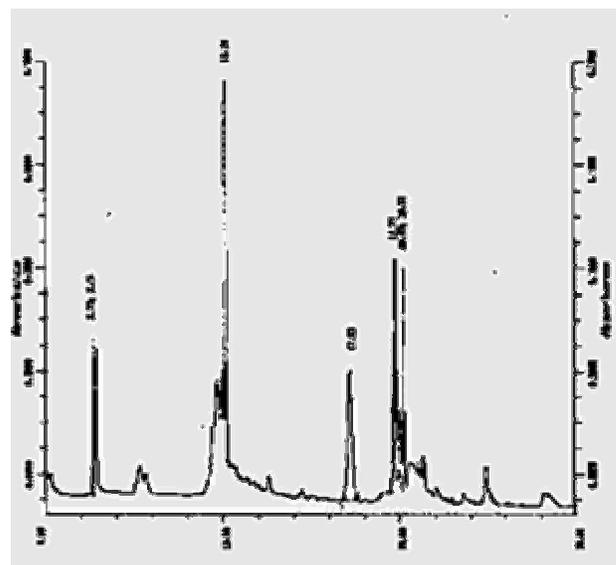


Figure 6 – HPLC spectrum

Ethanol (70%) soluble extractive value:
not less than 35,0% (range: 35.19 - 35.49%)

Purity tests

Assay

Not yet available

Major chemical constituents

Microchemical tests in our laboratories indicated the presence of tannins and saponins but not of alkaloids nor of cardiac, cyanogenic or anthraquinone glycosides. Further information regarding the secondary chemistry of this species is lacking.

Dosage forms

Used mainly as an aqueous infusion, taken orally.

Medicinal uses

An infusion is taken orally to treat influenza, colds and bronchial congestion.

Pharmacology/bioactivity

Weak *in vitro* antimicrobial activity of aqueous extracts of *Cliffortia ferruginea* against *Staphylococcus aureus*, *Candida albicans* and *Mycobacterium smegmatis* was observed, in the concentrations used for disc assays in our laboratories. No activity was noted against *Pseudomonas aeruginosa*.

Contraindications

None recorded.

Adverse reactions

None reported.

Precautions

No special precautions.

Dosage

