Research Article

PHARMACOGNOSTIC, PHYTOCHEMICAL STUDIES ON THE ROOT OF CLERODENDRON INFORTUNATUM LINN ROOT

Leena PN[1]* and NA.Aleykutty[2]

[1]Karpagam University,Coimbatore, Tamil Nadu, India.
[2]Pushpagiri College of Pharmacy, Department of Pharmacognosy, Medicity,
Tiruvalla.Pathanamthitta, Kerala, India.

ABSTRACT
India has a great wealth of various naturally occurring plant drugs which have great potentialpharmacological activities .The root of clerodendroninfortunatum Linn is used in south India asa remedy for various dieases.The study comprising taxonomy of the species ,macro and microscopical characters ,phytochemical and uv analysis of the root powder .Besides chromatographic details of root extract helps in the identification of the plant constituents also contribute towards establishing pharmacopoeial standards .HPTLC studies helps to identify the species in drug form and to establish the biomarker compound.

Keywords: *Clerodendroninfortunatum* root, Pharmacognosy, HPTLC.

INTRODUCTION
Clerodendroninfortunatum Linn, (Family: Verbenaceae)[1] is a speciesfound in India, It is reported as folk remedy for tumours, leprosy, fever, infection, inflammation .The roots have been reported to possess laxative, diuretic,analgesic,anti inflammatory, anti tumour and antibacterial activities[1]. In the present study the root portions of Clerodendroninfortunatum Linn comprising taxonomy of the species,macro and microscopical characters,phytochemical and uv analysis. The root was extracted with ethanol, chloroform by cold extraction. The vaccum dried extracts were screened various phytoconstituent and TLC,HPTLC analysis.

MATERIALS AND METODS
EXPERIMENTAL SECTION
The plant C.infortunatum was collected from Pathanamthitta district of Kerala and identified by Thomas Mathew, HOD of Botany, Marthoma College Tiruvalla, Kerala.Voucher no. VSCI-13 was deposited in the Pharmacognosy department, Pushpagiri College of pharmacy, Tiruvalla.

PREPARATION OF EXTRACT
The root portion of the plant was washed with running water to remove soil and other matter and dried in shade for 20 days, powdered, extracted 500gm with ethanol (EECI) by cold extraction to yield the extract. The extract were reduced to molten mass by rotary vaccum evaporator and the yield was 21%

Phytochemical screening
Preliminary phytochemical screening was performed as per standard procedure and various phytochemical constituents were identified[6,7].

TAXONOMICAL CHARACTERS
Taxonomical characters such as ClerodendroninfortunatumLinn ,Kingdom Plantae ,Family- Verbenacea Genus-Clerodendron,
Species-nfortunatum.

Synonyms
In Tamil Parugilai,MalayalamVatta-perivalm,English Glory tree.

MACROSCOPICAL, MICROSCOPICAL,POWDER CHARACTERS
Macroscopic characters involves annular rings, wrinkles, striations.Microscopic characters involves stratified cork ,phelloderm , stonecell layer, cambium, large lingnified vessels,xylem fibreetc .Powder characters involves stratified cork,parenchyma cell with starch grains,lignified phloem fibers.Measurement of specimens like starch grain, phloemfibres by micrometric method were also determined.

PHYTOCHEMICAL SCREENING
The root portion of the plant was washed with running water to remove soil and other matter and dried in shade for 20 days, powdered, extracted 500gm with ethanol by cold extraction to yield the extract. The extract were reduced to molten mass by rotary vaccum evaporator and the yield was 18%.
Preliminary phytochemical screening was performed as per standard procedure and various phytochemical constituents were identified[6,7] such as carbohydrates ,starch, mucilage ,saponins ,flavanoids ,tannins ,phenolic compounds in the different extract .

RESULT AND DISCUSSION
Macroscopic characters involves annular rings, wrinkles,striations.Microscopic characters involves stratified cork , phelloderm , stonecell layer, cambium, large lingnified vessels,xylem fibreetc .Powder characters involves stratified cork,parenchyma cell with starch grains,lignified phloem fibers.Measurement of specimens like starch grain, phloemfibres by micrometric method were also determined.[4,5]
Preliminary phytochemical screening was performed as per standard procedure and various phytochemical constituents were identified[6,7] such as carbohydrates,starch, mucilage, saponins, flavanoids, tannins,phenolic compounds in the different extract.The vaccum dried extracts were screened various phytoconstituent by TLC,HPTLC analysis.[7,8]

Table 1: Taxonomical characters

Kingdom	Plantae
Family	Verbenacea
Genus	Clerodendron

Species	infortunaum

Table 1a: Synonyms

Tamil	Parugilai
Malayalam	Vattaperivalam
English	Glory tree

Table 2: Phytochemical screening

Active constituent	Alcohol extract
Carbohydrate	+
Protein	+
Mucilage	_
Alkaloid	_
Glycoside	_
Vol.oil	
Flavanoid	
Phenolics	
Saponin	

Table 3: TLC, HPTLCof root

M/P	1	EA: Benzene (9:1)
		S/P Silica gel G coated plate
		S/R Vanillin HCl
		Colour of spot : Pink, RfCi (0.179, 0.309, 0.561)
	2.	nBAW (4:1:5)
		S/P Silica gel G Coated Plate
		S/R fumes with ammonia
		Colour of spot : Bright yellow , RfCi (0;.179, 0.309, 0.561)

CONCLUSION
From the present work helps to find out pharmacognostical,phytochemical investigations of the root which help to identify the crude drug is not available in the literature and also helps to identify the marker compound.

ACKNOWLEDGEMENT

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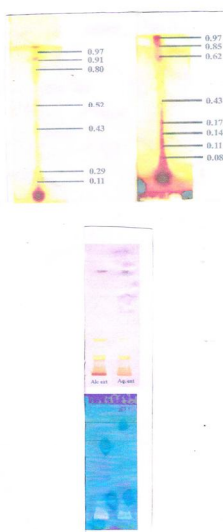
HPTLC Data at 254 nm

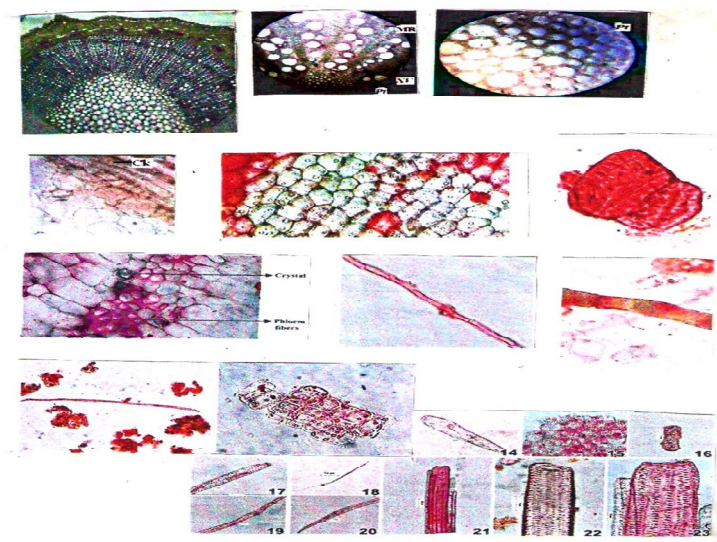| Peak	Start position	Start height	Max position	Max %	End position	Area
1	0.50	27.7	0.52	22.00	0.55	1363.99
2	0.65	12.0	0.74	53.8	0.81	9946.1
3	0.87	14.2	0.88	12.94	0.88	401.5
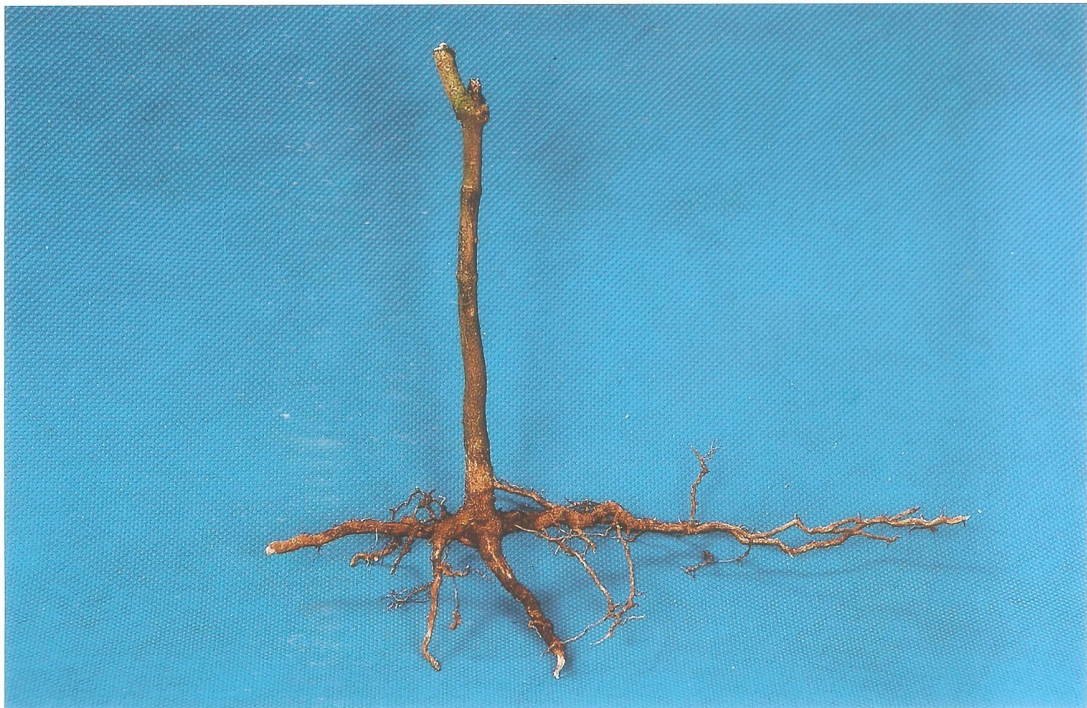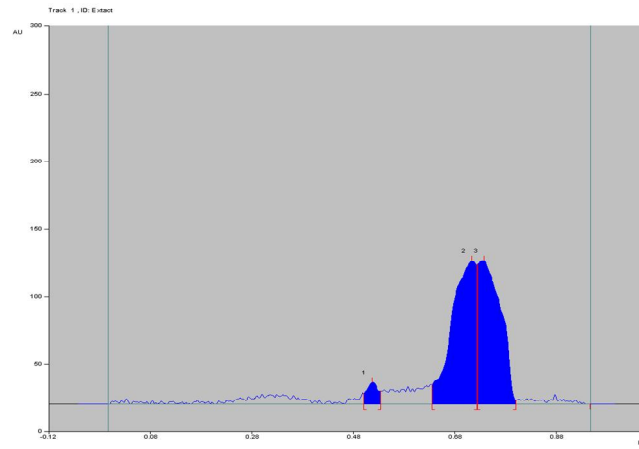
Microscopic characters of C$_i$ Root

Fig. 2: Morphological,Microscopical, Powder characters of Ci root