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Pharmacognostical Standardization of Roots of *Acacia Nilotica Linn*

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Abstract: *Acacia Nilotica LINN (mimosaceae) commonly known as karuvalem is used in traditional system of medicine for healing various disease. It is used in the treatment of antioxidant, anticancer, the leaves are used as antibacterial.In the present investigation an attempt has been made for the pharmacognostical standardization of A.nilotica roots which includes macroscopy, microscopy as well WHO recommended physico-chemical parameters. The root extracts were subjected preliminary phytochemical screening. The result of this standardization may be helpful for identification, authentification & quality control of drug.*
Keywords: *Acaica nilotica roots, Pharmacognostical Standardization.*

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I. Introduction

Plants are the essential and integrate part in complementary and alternative medicine. Ability for the formation of secondary metabolite like flavonoids, alkaloids, steroids and phenolic substance makes the plants to be used to restore health and heal many diseases. Natural products of plant and animal origin offer vast resources of newer medicinal agent with potential in clinical use.*Acacia,* leguminous genous belonging to the family of mimosaceae , comprises approximately, 1200 species that are dispersed widely in tropical and subtropical regions of Australia, south America , Asia and Africa [1-2].Many of these species are important for fuelwood, timbers, shelder belts and soil improvement[3]. The traditionally claimed properties associated with the plant viral infection, diarrhea, microbial infection, anti pyretic, anti-diabetic activity. The roots are used in antioxidant, anti fungal activity. Since no pharmacognostical work has been carried on the roots of this plant, the present study is aimed at carrying out the pharmocognostical standardization on the root of *Acacia* nilotica[4]

II. Material and methods

2.1Collection

The fresh roots of *acacia nilotica Linn,* was collected from Tamil Nadu authenticated by prof. Jayaraman, Botanist, Director, Plant Anatomy Research Centre, Tambaram.

2.2 Macroscopic and Microscopic Analysis

The macroscopic charcters such as colour, odour, taste, nature were studied. The roots are stained with the solution of phloroglucinol, dil.HCL, glycerin+ water after showing different cell component such as crystal, starch grain and lignified cells.

2.3 Preliminary phytochemical screening

The preliminary phytochemical tests were carried out for the powdered roots according to that standard procedure described by kokate [5].

III. Result and Discussion

3.1 Macroscopy

Colour - dark brown
Odour - aromatic
Taste - bitter
Root width - 12mm
Root length - 50mm
Size - Irregular

Figure 1 ACACIA NILOTICA

IV. T.S of the Root

The root is slightly wavy in cross sectional outline. Epidermis are surrounding the cortex.the hairs are unicellular endodermis are generally present.(fig2) The protoxylem in the centre while metaxylem towards the cortex xylem vessels, many in numbers the xerophytic character of plant. The vascular bundles are radial and exarch. 2-6 vascular bundles are present protoxylem lies in contact with the pericycle. Metaxylem is present towards the centre of the root.(fig3) The parenchymatous tissue called conjective tissue lies in between xylem and phloem.the conjective tissue forms the vascular cambium.(fig4)

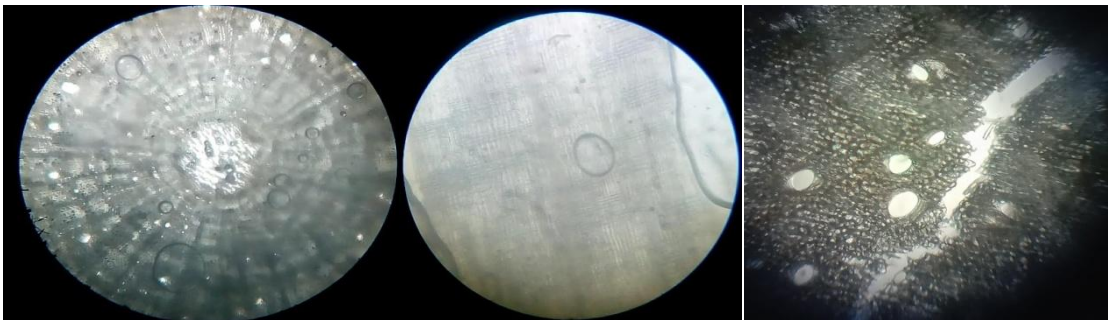

Fig 2. Epidermis **Fig 3.** Vascular Bundles **Fig4.** VasucularCcambium

5.Powder Microscopy

Colour – Dark brown Odour – Aromatic Taste- Bitter

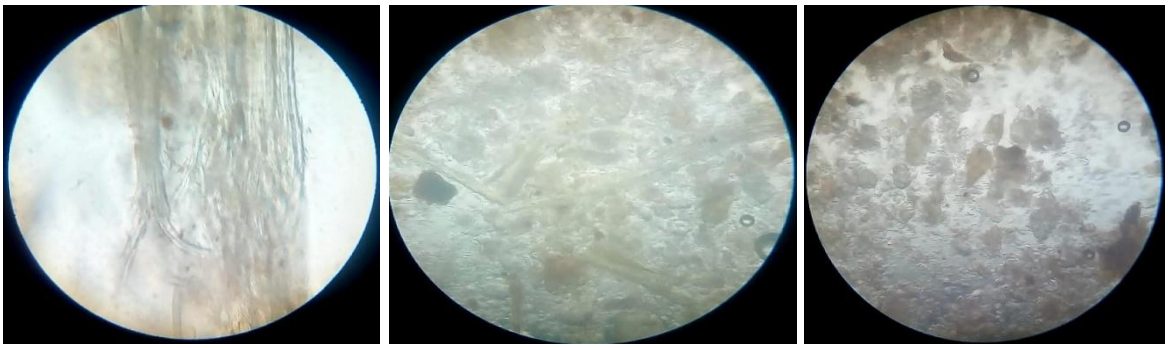

Fig 5 Medullary ray **Fig 6** Sclerieds Fibres & Pitted Cell **Fig 7** Starch Crystals

V. Preliminary Phytochemical Screening

The preliminary phytochemical screening was carried out for the root powder and it showed be the presences of alkaloids, glycosides, terpenoids, and saponins.

Table1. Preliminary phytochemical screening on root of Acacia nilotica linn.

S.	Phyto	Powder	Chloroform	Hexane	Ethanol
1.	Alkaloids	+	_	_	_
2.	Steriods	_	+	_	_
3.	Saponins	+	_	_	_
4.	Tannins	_	_	_	+
5.	Glycoside	+	+	_	_
6.	Terpenoids	+	+	_	+
7.	Carbohytrates	_	+	_	+

+ve- indicates the presence of phytoconstituents
-ve- indicates the absence of phytoconstituents

VI. Conclusion

In the present work a medicinally useful plant in folklore claim in the Indian system of medicine, *Acacia nilotica linn* was selected. The majority of information on the identify, purity and quality of the plant can be obtain from macroscopy, microscopy and phytochemical parameters. As there is no pharmacognostical work done in the root of *Acacia nilotica linn* the present work was undertaken to produce some pharmacognostical standards which can very useful in the identification of the plant in whole and fragmentary form.

Reference

[1]. Simmons, M.H,1987. The Genus Acacia. In Acacias of Australia, Simmons, M.H(Ed) vol.I, Nelson, South Melbourne, PP:7-10.
[2]. Jones TC, Batchelor CA, Harris PJC. In Vitro Culture & Propagation of Acacia Species.(Acacia Bivenosa, Acacia Holosericae, Acacia Salicina, Acacia Saligna &Acacia Sclerosperma).Int. Tree Crops. J .1990;6:183-92.
[3]. Palmberg C. A Vitral fuel Wood Gene Pod is in danger. Unasylvs, 1981;133:22-30.
[4]. Kritikar K. R., & Basu, B,D volume IV.P.NO.2418 (rational selection).
[5]. Gamble,JS Flora of the Presidency of Madras Vol.I,II& III. Botanical Survey of india, Calcutta, India1935.

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