

## PRELIMINARY PHYTOCHEMICAL STUDIES ON BARK OF COMMIPHORA BERRYI (ARN) ENGLOR

N.L. Gowrishankar & K. Chandrasekaran<sup>1</sup>, R. Manavalan<sup>2</sup>, D. Venkappayya<sup>3</sup>

<sup>1</sup>Department of Pharmacognosy,

Swamy Vivekanandha College of Pharmacy, Tiruchengode

<sup>2</sup>Institute of Pharmaceutical Technology, Annamali University, Chidambaram.

<sup>3</sup>School of Chemical & Biotechnology, SASTRA Deemed University, Thanjavur – 613 402.

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### ABSTRACT

*Commiphora berryi* (Arn) Englor (*Burseraceae*) is a well known plant in Tamil nadu, India. It is used in several parts of the state for various medicinal properties. The present work summarizes preliminary phyto chemical study of bark of this plant.

### INTRODUCTION<sup>1-4</sup>

*Commiphora berryi* (Arn) Englor is a shrub (or) small tree found mostly in dry forest of Peninsula, Andhra, Tamil Nadu and Karnataka. This plant has anti-bacterial and anti-ulcer activity. Hence it was taken up for preliminary phyto-chemical investigation.

### MATERIALS AND METHODS

The plant material was collected from Tiruchengode, Tamilnadu. It was identified by Botanical Survey of India, Coimbatore, India. The bark was separated, dried under shade and powdered, through 40 mesh sieve and stored in a closed vessel.

### EXTRACTION METHOD<sup>5,6</sup>

100 gm of powdered material was extracted successively with petroleum ether (60°-80°C), Chloroform, acetone, ethanol by using Soxhlet apparatus. The extracts were concentrated under reduced pressure at low temperature. The aqueous extract was

prepared by maceration process using chloroform water. The water was evaporated off by heating on steam bath.

### ASH AND EXTRACTIVE VALUES<sup>7,8</sup>

Values such as total ash, acid insoluble ash, water soluble ash and sulphated ash were 8.94%,1.4%,8.0%, and 21.8% respectively. The water soluble and ethanol soluble extractives were 14.0% w/w and 7.69% w/w.

### PHYTOCHEMICAL SCREENING AND OTHER STUDIES<sup>6,9,10,11</sup>

The petroleum ether, chloroform, acetone, ethanol and distilled water extracts were subjected to various chemical tests for the identification of the phytoconstituents.

The behaviour of the powdered bark with different chemical reagents and fluorescence character of the powdered bark and the extracts were observed under UV and visible

light. These results are shown in table 1,2&3.

## RESULT AND DISCUSSION

The phytochemical tests indicated the presence of phytosteroids in petroleum ether extract, carbohydrate, phytosteroids, and proteins in chloroform extract, phytosteroids, phenolic compounds and proteins in acetone extract, carbohydrate, Phytosteroids, proteins, gums, phenolic compounds and tannins in ethanol extract and carbohydrate and gum in aqueous extract.

The fluorescence characteristics of the powdered bark when treated with various chemical reagents (Table – 2) have been

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studies. Likewise the behaviour of the bark powder upon treatment with chemical reagents was also studied (Table – 3).

In conclusion, the present work on phytochemical studies of *Commiphora berryi* (Arn) Engler may be useful to supplement information in regard to its identification. Further studies on this species are in progress.

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**TABLE -1**

Fluorescence analysis of bark powder of *Commiphora berryi* (Arn) Englor with various chemical reagents.

REAGENTS	UV LIGHT
Powder as such	Brown
Powder + 1N NaOH	Pale green
Powder + 1N NaOH	Light green
Powder + Ethanol	Green
Powder + HNO <sub>3</sub> +NH <sub>3</sub> Solution	Yellow
Powder + 50% HNO <sub>3</sub>	Yellowish Brown
Powder + HCl	Green
Powder + H <sub>2</sub> SO <sub>4</sub>	Pale violet
Powder + Picric acid solution	Yellowish brown
Powder + Glacial acetic acid	Pale green
Powder + Concentrated HNO <sub>3</sub>	Yellowish brown
Powder + 5% Iodine solution	Brown
Powder + 5% FeCl <sub>3</sub> solution	Green

**TABLE -2**

Fluorescence analysis of different extracts of *Commiphora berryi* (Arn) Englor bark

EXTRACT	OBSERVATION	
	UV-LIGHT	VISIBLE LIGHT
Petroleum ether (60°-80°C)	Green	Yellowish green
Chloroform	Greenish brown	Dark green
Acetone	Brownish yellow	Brown
Ethyl alcohol	Light brown	Brown
Aqueous	Brownish yellow	Brown

**TABLE – 3**Behaviour of *Commiphora berryi* (Arn) Englor bark powder with different chemical reagents.

<b>REAGENTS</b>	<b>UV LIGHT</b>
Powder as such	Brown
Powder + HCl	Brown
Powder + H <sub>2</sub> SO <sub>4</sub>	Red
Powder + HNO <sub>3</sub>	Red
Powder + Glacial acetic acid	Yellowish Brown
Powder + Picric acid	Yellowish Brown
Powder + Ferric chloride solution (5%)	Dark violet
Powder + Iodine solution	Brown
Powder + Ammonia solution	Brown
Powder + NaOH	Dark brown