

## Pharmacognostical and Chemical Investigation of *Putrajiva* Seed

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### ABSTRACT

Indian community is obsessed to have at least one male child since ancient time. Recently it has become a topic of discussion about *Putranjiva* role in begetting male child.

*Putranjiva* has been experimentally evaluated for anti inflammatory, antipyretic, antioxidant, aphrodisiac, antimicrobial, hypoglycemic and cytotoxic activities. The main aspects included in the study are morphological characters, physicochemical studies and thin layer chromatographic profile. These observations will help in the pharmacognostical identification and standardization of the drug in the crude form and can be used to distinguish the drug from its adulteration.

**Keyword--** *Putranjiva*, Thin layer chromatographic profile, Pharmacognostical identification

### I. INTRODUCTION

*Putranjiva* Beej is an ancient Indian Herb used in the treatment of infertility in women and uterus related problems. If the seeds of *Putranjiva* and 'shivlingi' are taken regularly then the causes of infertility and childlessness are treated. It re-shapes the deformity of uterus and the woman could deliver child.

*Putranjiva* is a green medium sized tree generally found at the height of three thousand meters (3000) height (fig-1). Member of Euphorbiaceae family, *Putrajivak* is known botanically as *Putranjiva roxburghii*. Being helpful in establishing pregnancy its names are based on effects of this herb. *Putrajivak* is also called as garbhkar, garbbhad, putrajivak etc.

According to Healthy medicine.in, *Putranjiva* is heavy in digestion, Sweet and pungent in taste, sweet taste after digestion, cold in potency. It pacifies vata and pitta while it promotes kapha. It also enhances quantity of

semen. In fact this is one of the best foods for women suffering from infertility. *Putrajivak* is a diuretic, checks edema and acts as a carminative. *Putrajivak* checks excessive thirst, burning sensation and helps to improves vision.

### II. MATERIAL AND METHOD:

The crude drug was procured from local market, New Delhi and identified by botanist using pharmacopoeial standards. The physico-chemical studies and TLC of the drug were carried out according to Ayurvedic and Unani Pharmacopoeia of India.

### III. OBSERVATION AND RESULTS

#### 1. Macroscopical Features

Solitary, Ovoid, testa crustaceous, albumen fleshy, cotyledons broad, flat.(fig-2).

#### 2. Chemical Analysis

##### A. Physico-chemical parameters

Parameters	Values
Alcohol soluble matter (%)	22.90
Water soluble matter (%)	11.87
Total ash (%)	95.33
Acid insoluble ash (%)	9.34
p <sup>H</sup> of 1% Aqueous solution	5.48
p <sup>H</sup> of 10% Aqueous solution	4.87

Table-1

### B. Thin Layer Chromatography:

Extract 2 g of sample with 20 ml of ethanol and chloroform separately by refluxing on a water bath for 30 min. Filter and concentrate to 5 ml and carry out the thin layer chromatography. Apply the ethanolic and chloroform extracts on TLC plate.

TLC of the ethanolic and chloroform extract of the drug developed on silica gel 60 F<sub>254</sub> (E. Merck) using *Toluene: Ethyl acetate: Formic acid* (9:1:0.1 v/v/v) and as mobile phase. Phytochemical fingerprints of Chloroform and Ethanol extract of fruit of *Putranjiva roxburghii* showed no bands under UV detection at 254 nm. Under 366 nm UV detection both extracts showed one band at  $R_f$  0.60 (light blue). Spray the plate with *vanilline sulphuric acid reagent* followed by heating at 105<sup>0</sup> in an oven shows ethanol extract showed seven bands at  $R_f$  0.22 (dark blue), 0.24 (dark blue), 0.42 (Violet) , 0.47 (dark blue), 0.52 (dark blue), 0.82(violet) and .84(violet). After derivatization Chloroform extracts showed five bands at  $R_f$  0.42 (Violet), 0.47 (dark blue), 0.52 (dark blue), 0.82(violet) and .84 (violet) as represented in (Fig. 3-5)

## IV. CONCLUSION

Authentication of drug by macroscopy, (Fig-1) along with physico-chemical parameters (table No.1) followed by TLC (FIG-3, 4, 5) demonstrates the genuineness and purity, that may helps ensuring the quality of the crude drug.

## ACKNOWLEDGEMENT

The authors are highly thankful to the Director-General CCRUM, New Delhi and Director I/C. PLIM for providing necessary research facilities and Research officer Incharge, D.S.R.I., Ghaziabad for continuous encouragement.

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**Putranjiva Plant**



Fig-1

**Putranjiva Seeds**



Fig-2

HPTLC Profile

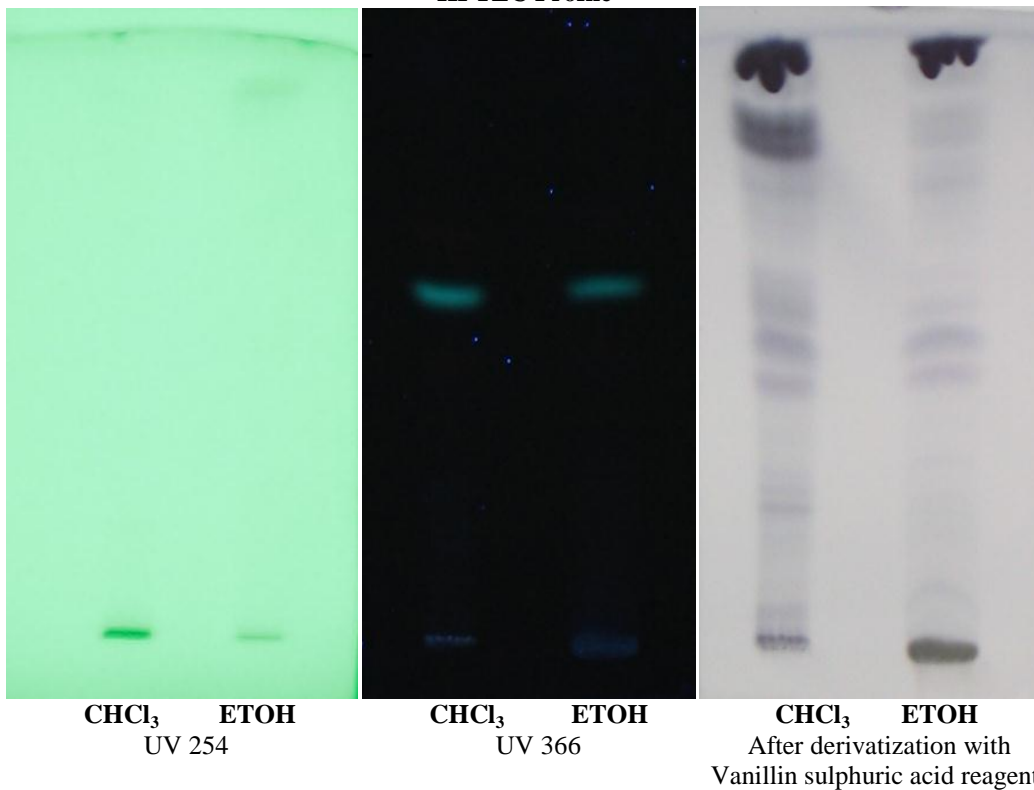


Figure-3

Figure-4

Figure-5