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Pharmacognostical study of *Seenthil chooranam*: A siddha formulation

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Abstract

Siddha system is an intuitive system of medicine borne out of wisdom; therefore, nature is seeding this system. Global recognition to the Siddha system of medicine standardization of Siddha formulation by modern techniques is fundamental requirement. The development of standards for identity, quality, purity and strength of the Siddha drugs and its formulations Traditional remedies is advantageous, it does suffer some limitations. The main limitation is the lack of standardisation of raw materials, of processing methods and of the final products, pharmacognostical standardization of the drug brings the validation to be used as a medicine by subjecting the drug into many analysis and determining its quality and effectiveness. In this study covered the qualitative standard of the Siddha formulation *Seenthil chooranam* in a pharmacognostical view.

Keywords: Siddha, Pharmacognosy, standardization, *Seenthil chooranam*

Introduction

Siddha system is an intuitive system of medicine borne out of wisdom; therefore, nature is seeding this system. Siddha system of medicine has as a distinctive move toward to care specific ailments and also to restore the body power of the slain person. Most of the preparations are based on plants and plants products along with metal, minerals as well as animals origin. World Health Organization (WHO) and National Center for Complementary and Alternative Medicine (NCCAM) accentuates the need to ensure quality and safety of herbal medicine by modern techniques and applying suitable Standards and has proposed guidelines for development of standard herbal medicine.

To bring global recognition to the Siddha system of medicine standardization of Siddha formulation by modern techniques are fundamental requirement. The development of standards for identity, quality, purity and strength of the Siddha drugs and formulations through which study their potential usefulness including evaluation, safety and efficacy with and quality of drugs in order to ensure safety to the public.

The test drug *Seenthil chooranam* (*Chooranam* = one of the 32 types of *internal* medicine), mentioned in classical siddha text *Agasthiyar paripuranam* – 400, has been used for *Megam* (Diabetic mellitus), *Eelai* (Tuberculosis), *Kasam* (Cough), *Elaipu* (Bronchial asthma), *Eranda vayu* (Scrotal swelling). The ingredients of this formulation are

Seenthil (<i>Tinospora cordifolia</i>)	-	10 palam (350gm)
Karisalai (<i>Eclipta Alba</i>)	-	10 palam (350gm)
Earthworm (<i>Eudrilus eugeniae</i>)	-	3 palam (105mg)

Aim

To find out the macroscopic, microscopic, and physicochemical characteristic features of the sample drug *Seenthil chooranam*.

SOP for preparation of *Seenthil chooranam*

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Materials and Methods

Procurement of raw drugs

The plant materials were collected from Tambaram sanatorium and Earth worm was collected at Thiruthani Agriculture farm Tamil Nadu.

Identification and authentication of raw drugs

The Herbs were Identified and authenticated by competent authority department of Gunapadam, National Institute Of Siddha and the Earth worm was identified & authenticated by Head, P.G. & Research Department of Zoology Govt. Arts College, C. Mutlur, Chidambaram.

Purification process

1. **Seenthil:** Peel off the outer skin of the stem and powdered, then washed it for 21 times in pure water and dried then sprinkled cow's milk allow drying it
2. **Karisalai:** Wash the whole plant and dry it in sunshade & powdered
3. **Poonagam:** Soaked Earth worm Butter milk for a while to spit out mud then sprinkled lime water over it to kill then dry and powdered

Method of preparation

The above purified three ingredients were powdered individually and mixed together and stored & preserved in an air tight container.

2 Analytical studies

Analytical studies of *Seenthil chooranam* by ayush guidelines

Standardization of the drug brings the validation to be used as a medicine by subjecting the drug into many analysis and determining its quality and effectiveness. Standardization includes many studies such as its organoleptic character, physico chemical characteristics studies and determination of phytochemical properties in order to assess the active principles and elements present in the drug. Thus standardization brings the efficacy and potency of the drug in this study which only focusing the pharmacognosy of particular trial drug

Standardization of the drug includes:

- **Pharmacognostic studies**

4.2.1 Pharmacognostic studies of *Seenthil chooranam*

The pharmacognostical study was done at Captain Srinivasamurti Reseach Institute for Ayurveda and Siddha Drug Development, Arumbakkam, Chennai-106. Many studies have been carried out to bring the efficacy and potency of the drug *Seenthil Chooranam*. This study includes, organoleptic character, and pharmacological study. The drug *Seenthil Chooranam* has been selected from the text "*Agathiyar Paripuranam 400*".

4.2.1.1 Organoleptic characterization - (The results expressed in Table – 01)

Colour: The *Seenthil chooranam* was taken into watch glasses and placed against white back ground in white tube light. It was observed for its colour by naked eye.

Odour: The *Seenthil chooranam* was smelled individually. The time interval among two smelling was kept 2 minutes to nullify the effect of previous smelling.

Taste: Small amount of *Seenthil chooranam* was kept over the tip of the tongue

4.2.1.2 Microscopic

The drug sample passed through sieve 80 and used for microscopic studies. It was carried out as per the procedure. Microscopic slides were prepared either by soaking a pinch of fine powder in distilled water for 1hr. and staining with saffranin for 2-4 minutes or treating with solution of chloral hydrate for 1 hr and staining with phloroglucinol followed by addition of 1-2 drops of conc. HCl. The mounting medium is glycerine 50% [39, 40, 41].

The images of pharmacognostical studies were shown in figures 2-4.

Results and Discussions

Standardization of the test drug

Traditional remedies is advantageous, it does suffer some limitations. The main limitation is the lack of standardisation of raw materials, of processing methods and of the final products, dosage formulation, and the non- existence of criteria for quality control. Standardization of the drug is more essential to derive the efficacy, potency of the drug by analyzing it through various studies. The development of the standards of identity, quality, purity and strength of the traditional drug formulation importance to detect the adulteration for which this pharmacognostical analysis will aid more effectively, following table and figures are the results of pharmacognostical study. It has been given below.

Organoleptic character

Table 1: Organoleptic characters of *Seenthil Chooranam*

Colour	Yellowish Brown
Odour	Aromatic with rotten
Taste	Bitter
Texture	Fine powder
Particle size	Completely pass through sieve no 80

Pharmacognostical study

Powder Microscopy of *Seenthil Chooranam*

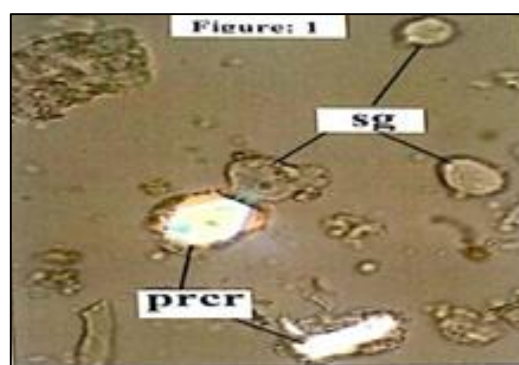


Fig 1: Starch grains and prismatic crystals of calcium oxalate

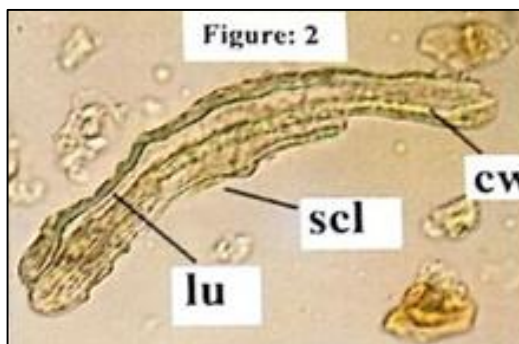


Fig 2: Sclereid

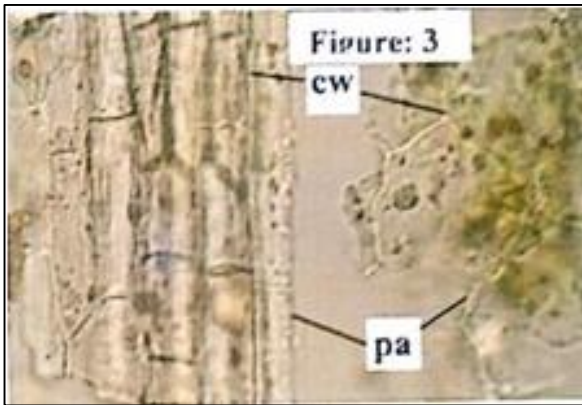


Fig 3: Fragment of parenchyma cells

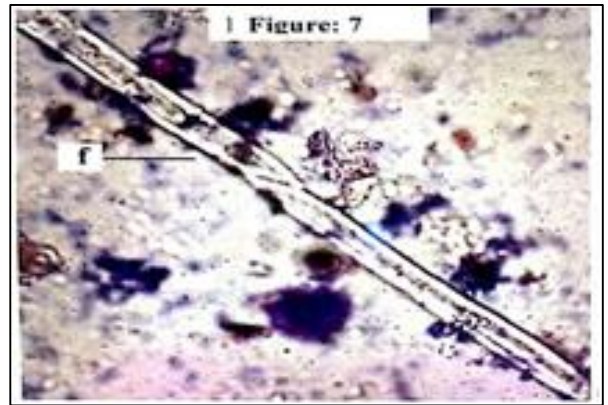


Fig 7: Fragment of fibre

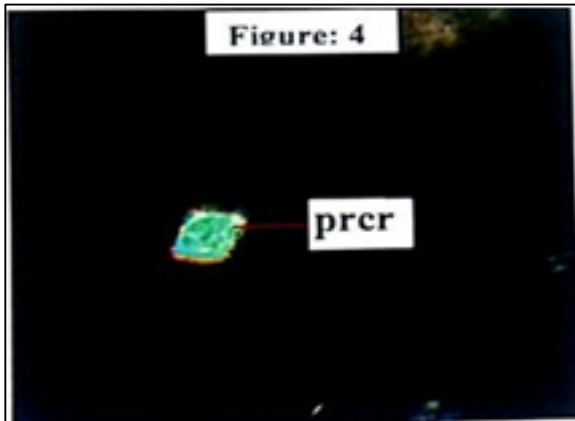


Fig 4: Prismatic crystals of calcium oxalate under polarizer light

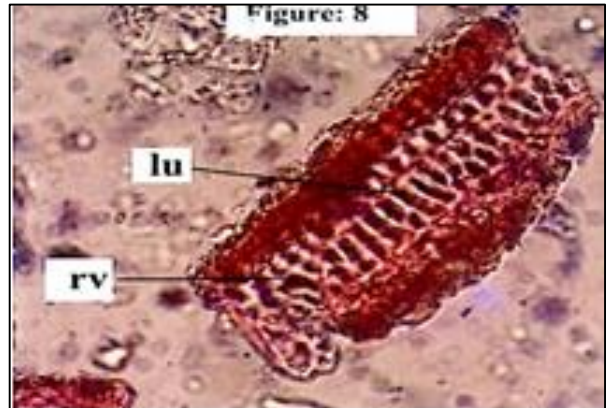


Fig 8: Fragment of reticulate vessel

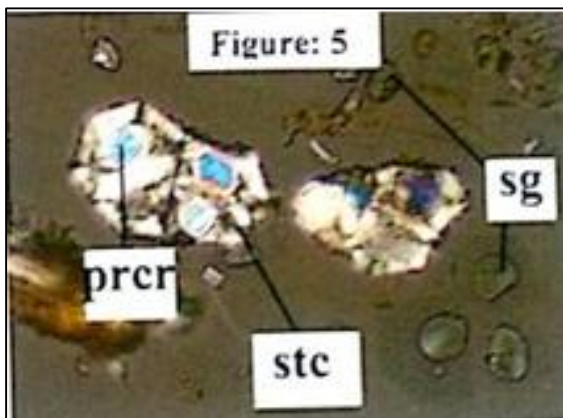


Fig 5: Stone cells embedded with prismatic crystals of calcium oxalate under polarizer light

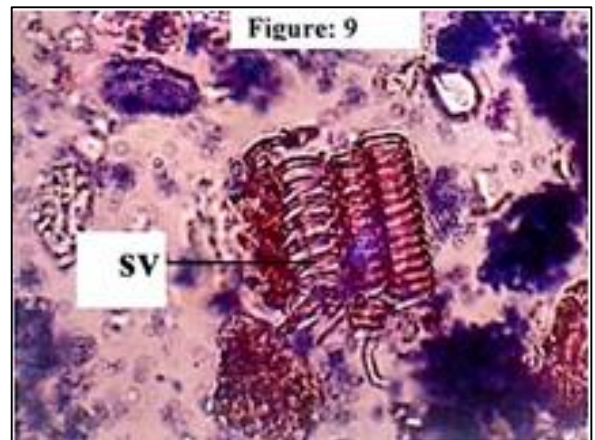


Fig 9: Fragment of spiral vessel

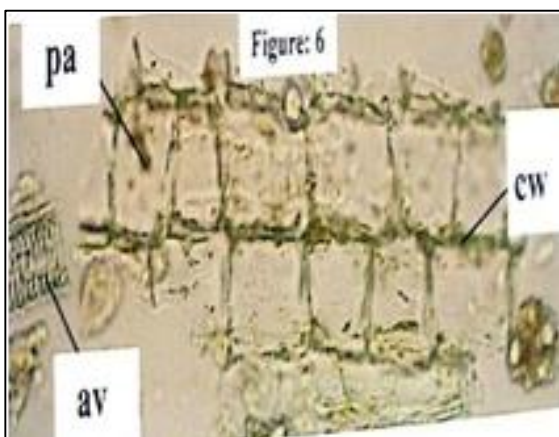


Fig 6: Fragment of parenchyma and annular vessel cells

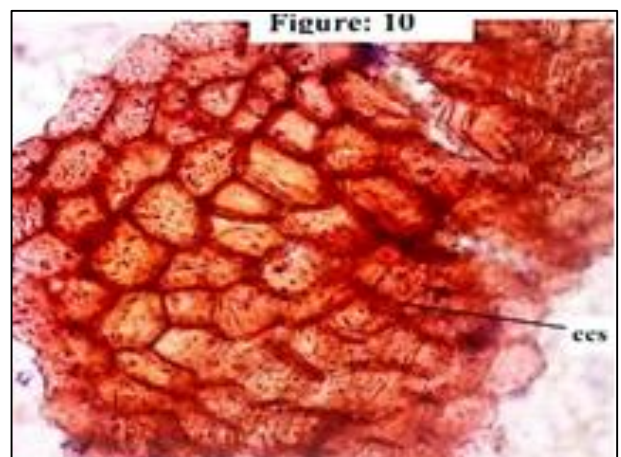


Fig 10: Fragment of cork cells in surface view

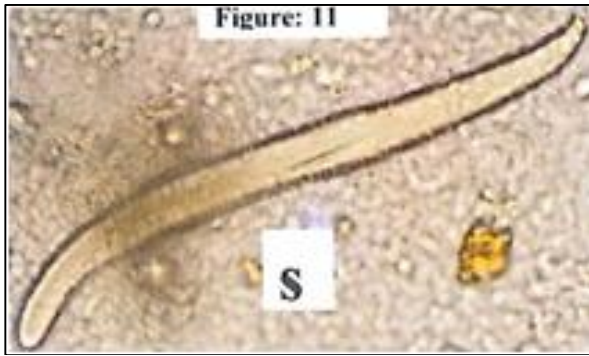


Fig 11: Seta

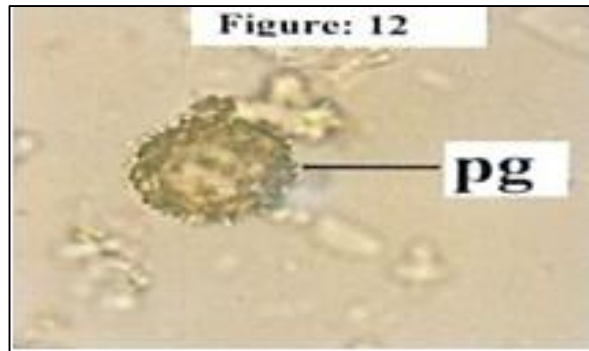


Fig 12: Pollen grain

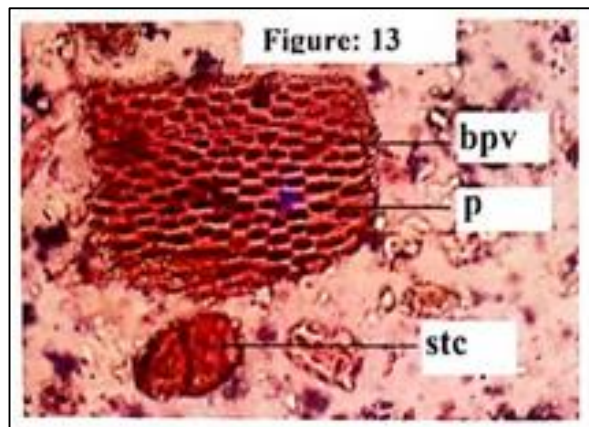


Fig 13: Fragment of bordered pitted vessel and stone cells

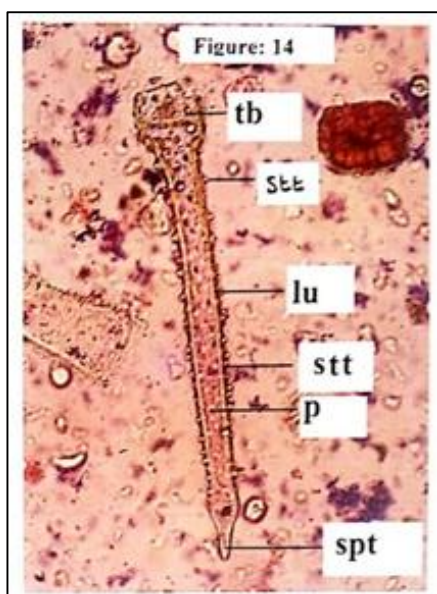


Fig 14: Striking trichome

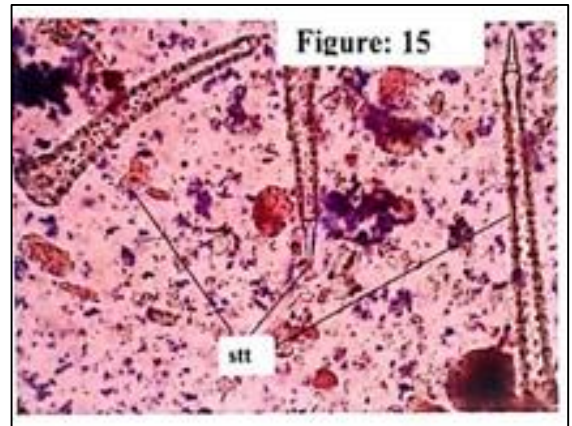


Fig 15: Striking trichome

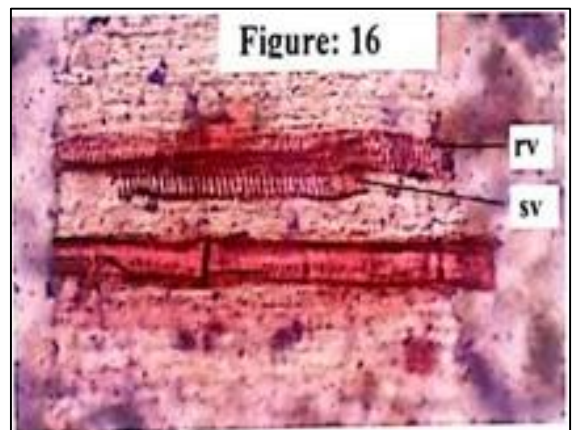


Fig 16: Fragment of reticulate and spiral vessel

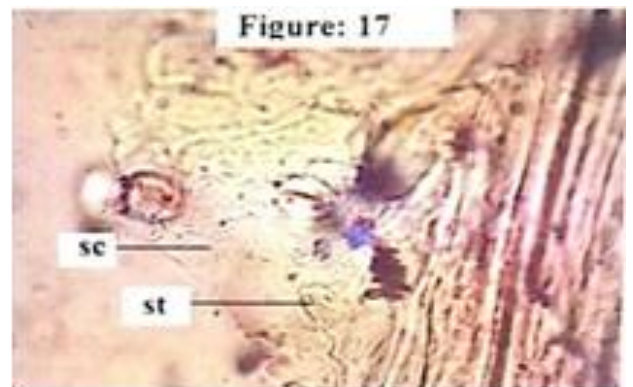


Fig 17: Fragment of anomocytic and anisocytic stomata with subsidiary cells

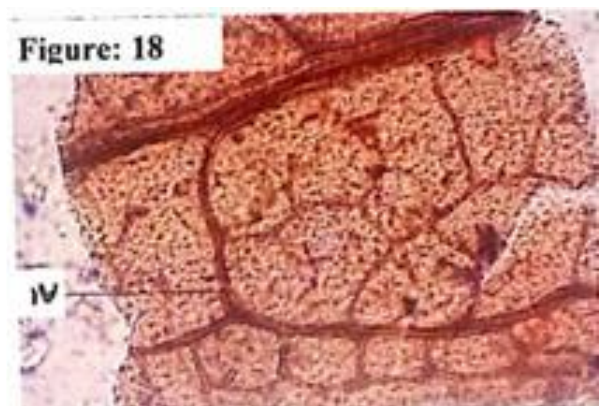


Fig 18: Fragment of anomocytic and anisocytic stomata with subsidiary cells

Powder microscopy

Under microscope shows numerous fragments of stone cells embedded with prismatic crystals of calcium oxalate; fragments of thick walled polygonal cork cells in surface view; fragments of bordered pitted vessels; numerous simple, irregularly ovoid or elliptical shaped starch grains with concentric striations having hilum in centre and sometimes compound with 2-4 components measuring 12.2 to 51.8 μ in diameter, numerous unicellular, uniseriate, warty, tubercles, pointed with basal in different sizes of trichomes; a few fragments of epidermis with anomocytic, anisocytic stomata and cicatrix; a few fragments of parenchyma cells; a few spherical shaped pollen grains with spines or warty surface; a few fragments of lignified spiral and reticulate vessels; a few fragments of non-lignified septate fibers; a few fragment of thick walled sclereid with narrow lumen and pits; a few fragments of parenchyma and annular vessels; a very few fragments of lamina with veins and vein- islets in surface view and a few entire seta.

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