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Research Article

**INGREDIENTS IDENTIFICATION AND PHYTOCHEMICAL  
STANDARDIZATION OF KUMARI TAILA- AN AYURVEDIC  
POLYHERBOMINERAL FORMULATION**Hetal P. Baraiya<sup>\*1</sup>, Harisha C.R<sup>2</sup>, Shilpa Donga<sup>3</sup>, Kashyap Chauhan<sup>4</sup>, Yogesh Manani<sup>5</sup><sup>1\*</sup>Lecturer, Dept. of Streeroga & Prasootitantra, SGAM, GAU, Jamnagar<sup>2</sup>Head, Pharmacognosy, <sup>3</sup>Associate Prof. Dept. of Streeroga & Prasootitantra, <sup>4</sup>PhD Scholar, Dept. of Basic Principle, I.P.G.T and R.A., Gujarat, Jamnagar,<sup>5</sup>Lecturer, Dept. of Streeroga & Prasootitantra, SGAM, GAU, Jamnagar-361008**Abstract:**

According to the Ayurvedic principles, a drug or therapy should not be only having pacifying effect on disease, but also it must not create any adverse effect or complication.<sup>[1]</sup> A drug should not be only efficacious, but also easily available. Taking all these points into consideration, Kumari Taila Uttarabasti was selected in the present study for the management of tubal blockage which has been mentioned by Bhavamishra in Shirorogadhikara. The present study was aimed at setting up a standard profile of Kumari Taila which was prepared using pharmacognostically authenticated raw drugs followed by subjecting it to detailed pharmacognostical and physicochemical analysis as per standard protocol. The observations were systematically recorded. Pharmacognostical findings of raw drugs (Parenchyma cells with allotic cells, Acicular crystals, Anisocytic stomata, warty trichome with base, Aleurone grains, Endosperm Fragment, steroids, tannins, fibre, stone, Border pitted vessels, Prismatic crystals, Cork with crystals, Oleoresin with crystals, Perisperm cells, Oil content cells with Aleurone grains and epidermal cells, Cork in surface view, Starch grain etc.) confirm the authentication of ingredients present in the finished product which support the intended action of the formulation in Artavavaha Srotorodha i.e. tubal blockage.

**Key Words:** Artavavaha Srotorodha, Kumari Taila, Pharmacognosy, Phytochemistry, Tubal blockage.**\*Corresponding author:****Vd. Hetal P. Baraiya,**

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**INTRODUCTION:**

Causes of infertility include a wide range of both physical and emotional factors. Among the responsible factors tubal factor is the second highest [1, 2]. The management of infertility due to tubal factor in modern includes Tubal microsurgery, Laparoscopic tubal adhesiolysis, fimbrioplasty and tubal surgery, I.V. fertilization, Tubal cannulation etc. But these modalities have their own demerits. It is the need of the time that a safer, more cost effective and complete cure of this sensitive problem should be developed. *Uttarabasti* is a unique procedure mentioned in *Ayurvedic* classics especially for the treatment of *Vandhyatva* and other gynecological disorders. Tubal blockage has been considered as the *Vata* predominant *Tridoshaja* condition, with *Kapha* as being the next *Dosha*. The drug assumed as effective to open the fallopian tube was considered all, which contain *Vatashamaka*, *Vatakaphashamaka* and *Tridoshaghna* properties. Local administration of any drug containing *Sukshma*, *Laghu*, *Sara*, *Vyavayi*, *Vikasi*, *Pramathi* etc. *Guna*, *Katu Vipaka* and *Ushna Virya* can be assumed to have some effective role in removing tubal blockage. The most suitable method to administer such drug can be Intra Uterine *Uttarabasti*. Hence, it was taken for the study. Only the drugs indicated for internal application were taken under consideration, as the drug was to give by intra uterine route. Several contents of *Kumari Taila* are highly efficacious and established for their role in menstrual disorders and hormonal imbalance. According to Sushruta, tubal blockage can be considered as the deformity of *Kshetra* i.e. the female reproductive system. Correlating fallopian tubes with the *Artavavaha* (*Artava-bija-vaha*) *Strotas*, its block is compared with the *Sanga Sratodushti* of this *Strotas* [3].

**MATERIALS AND METHODS:****Collection of Raw Drugs:**

The raw drugs of *Kumari Taila* were collected from Pharmacy of Gujarat Ayurved University, Jamnagar.

**Preparation of Kumari Taila:**

*Kumari Taila* was prepared in Pharmacy of Gujarat Ayurved University, Jamnagar. Ingredients, part used and ratio of the drug are given in Table-1.

**Method of preparation of Kumari Taila**

It was prepared as per the description of *Bhava Prakasha Samhita*.

Fresh juice of <i>Kumari</i>	- 01 <i>Prastha</i> (640ml)
Juice of <i>Dhattura</i> leaves	- 02 <i>Prastha</i> (1280ml)
Fresh juice of <i>Bringaraja</i>	- 02 <i>Prastha</i> (1280ml)
<i>Tila taila</i>	- 01 <i>Prastha</i> (640ml)
Each <i>Kalka Dravya</i>	- 01 <i>Karsha</i> (10 gms)

All are boiled together and medicated oil prepared, filtered through cloth, put into a fresh pot, fumigated (with sweet smelling drugs) and kept concealed for three days.

**Pharmacognostical Evaluation:**

As per API raw drugs which are used in *Kumari Taila* were identified and authenticated by the Pharmacognosy department. The identification was carried out based on the morphological, organoleptic features and microscopy of the raw drugs. Microphotographs were taken by using Carl-Zeiss Trinocular microscope [4].

**Pharmaceutical Evaluation:**

Following parameters were analyzed for different physico-chemical parameters by today's routine methods at the pharmaceutical chemistry lab, IPGT& RA, Jamnagar.

**Physico-chemical Parameters [5]:**

1. Organoleptic examination
2. Determination of loss on drying at 105°C
3. Specific gravity
4. Refractive index at room temperature
5. Acid value
6. Saponification Value
7. Iodine Value

**RESULTS AND DISCUSSION:****Pharmacognostical study:**

The initial purpose of the study was to confirm the authenticity of the raw drugs used in the preparation of *Kumari Taila*. For that microscopy of the raw drugs were studied i.e. Parenchyma cells with allotic cells, Acicular crystals of *Kumari*; Anisocytic stomata, warty trichome with base etc. of *Bhringaraja*; Epidermal cells, Stone cells of *Dhatura*; Aleurone grains, Endosperm Fragment of *Tila*; steroids, tannins etc. of *Yashtimadhu*; fibres, stone cells etc. of *Hribera*; Border pitted vessels, Prismatic crystals of *Manjishtha*; Perisperm cells, Oil content cells with Aleurone grains and epidermal cells of *Ela*; Prismatic crystal, Border pitted vessels of *Jivanti*; Cork with crystals, Oleoresin with crystals of *Kushtha*; Epidermal cells, Fibres starch grains of *Talisha*; Trichom, Spool shaped cells of *Vidanga*; Epidermal cells, Oil globules with wavy parenchyma of *Shatapushpa*; Cork in surface view, Starch grain of *Ashwagandha*; Border pitted vessels, Lignified fibres of *Erandamula*; Prismatic crystals, Tannin content of *Vata* etc. (Plate 1). Results matched with the API and thus confirmed the genuineness of all the drugs used in the finished product.

**Organoleptic findings:**

Organoleptic findings of *Kumari Taila* is given in Table -2.

**Pharmaceutical Evaluation:**

Physico-Chemical parameters of *Kumari Taila* like Loss on drying, Specific gravity, Refractive index,

Acid value, Saponification value and Iodine value all were found to be within the normal range. Details are given in Table-3.

In the present study a pharmaceutical preparation of *Kumari Taila* was tried. Its pharmaceutical properties had to be studied; hence the formulation was subjected to minimum Pharmacognostical and Pharmaceutical analysis. Pharmacognostical evaluation of raw drugs used in *Kumari Taila* showed the specific characteristic features found in microscopy confirm the same and showed that the genuinity of the drugs. For administration of the drug in tubal blockage, a medium is always required. The medium adapted must not be having any adverse effect in *Samprapti Vighatana* and it would be more appreciable, if it will contain some adjuvant role to open tubal blockage. So, *Tila Taila* was selected for this purpose, as it has most of the qualities, which were required for the present study. Several contents of *Kumari Taila* are highly efficacious & established for their role in menstrual disorders and hormonal imbalance. In case of tubal blockage, effect seems to be more local than systemic. The *Tila Taila* [6, 7, 8, 9] is *Vranashodhaka* & *Vranapachaka*. It is *Krimighna* too. In addition, its specific role on uterus and reproductive tract is also mentioned as *Garbhashayashodhana* & *Yonishulaprashamana*. These all the properties indicate towards its antiseptic as well as anti-inflammatory actions. Its *Vyavayi* & *Vikasi Guna* show its potency to enter in minute channels and to get spread easily. Thus, it should be the best medium for any drug to reach in tubal cavity and remove the blockage. In both the groups, the selected drugs were also having the same *Doshaghna*. *Kumari* (Aloe vera) [10, 11, 12] is now well established for its anti-inflammatory, ulcer-healing & antibacterial

properties. It is *Tikshna* & *Vata-Kaphavardhaka* in *Karma*. Thus, it removes the fibrosis of endometrium and helps in its rejuvenation. Its Anti-inflammatory action decreases the inflammation and ulcer-healing property heals the inner lining of tubes & uterus. The another important content of *Kumari Taila*, *Bhringaraja* (*Eclipta alba*) [13], is a very potent *Vata-Kapha Shamaka* drug, which contains antiviral, antibacterial, antioxidant & antihemorrhagic qualities. All these properties make the medicine more potent in removing the chronic inflammation and fibrosis. Its *Shothahara* & *Vishahara Karma* reduce swelling & oedema of the tube and render it in a healthier atmosphere. Another major content of *Kumari Taila*, *Dhatura* (*Datura metel*) [14, 15, 16] is *Krimighna*, *Vranahara* & *Vishaghna*. It is known for its anti-inflammatory property and hence, it hastens the healing and rejuvenation of the inner lining of tubes.

#### CONCLUSION:

Pharmacognostical findings confirm the ingredients of *Kumari Taila* and there is no major change in the microscopic structure of the drug during the pharmaceutical processes of preparation of *Taila*. The drug assumed as effective to open the fallopian tube was considered to have *Vatashamaka*, *Vatakaphashamaka* & *Tridoshaghna* properties. Local administration of the drug containing *Sukshma*, *Laghu*, *Sara*, *Vyavayi*, *Vikasi*, *Pramathi* etc. *Guna*, *Katu Vipaka* & *Ushna Virya* can be assumed to have some effective role in removing tubal blockage. It is inferred that the formulation meets minimum qualitative standards as prescribed by API at preliminary level. The results of this study may be used as the reference standard in further research undertakings of its kind.

Table 1: Contents of *Kumari Taila*

Content	Latin name	Family	Part used	Part	Form
<i>Kumari</i>	<i>Aloe vera</i> Mill.	Liliaceae	Leaf	32 parts	<i>Svarasa</i> (Leaf-juice)
<i>Bhringaraja</i>	<i>Eclipta alba</i> Hassk.	Asteraceae	Whole plant	64 parts	<i>Svarasa</i>
<i>Dhatura</i>	<i>Datura metel</i> Linn.	Solanaceae	Leaf	32 parts	<i>Svarasa</i>
<i>Gokshira</i>	-	-	-	128 parts	-
<i>Tila</i>	<i>Sesamum indicum</i> Linn.	Padaliaceae	Seeds	32 parts	Oil
<i>Yashtimadhu</i>	<i>Glycyrrhiza glabra</i> Linn.	Fabaceae	Root	0.5 parts	<i>Kalka</i> (paste)
<i>Hribera</i>	<i>Pavonia odorata</i> Willd.	Malvaceae	Root	0.5 parts	<i>Kalka</i>
<i>Manjishtha</i>	<i>Rubia cordifolia</i> Roxb.	Rubiaceae	Root	0.5 parts	<i>Kalka</i>
<i>Bhadramustaka</i>	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Tuber	0.5 parts	<i>Kalka</i>
<i>Nakha</i>	<i>Helix aspera</i>	-	Animal shell	0.5 parts	Powder
<i>Karpura</i>	<i>Cinnamomum camphora</i> Nees & Eberm.	Lauraceae	Extract	0.5 parts	Powder
<i>Bhringaraja</i>	<i>Eclipta Alba</i> Hassk.	Asteraceae	Whole plant	1 part	<i>Kalka</i>
<i>Conti.....</i>					

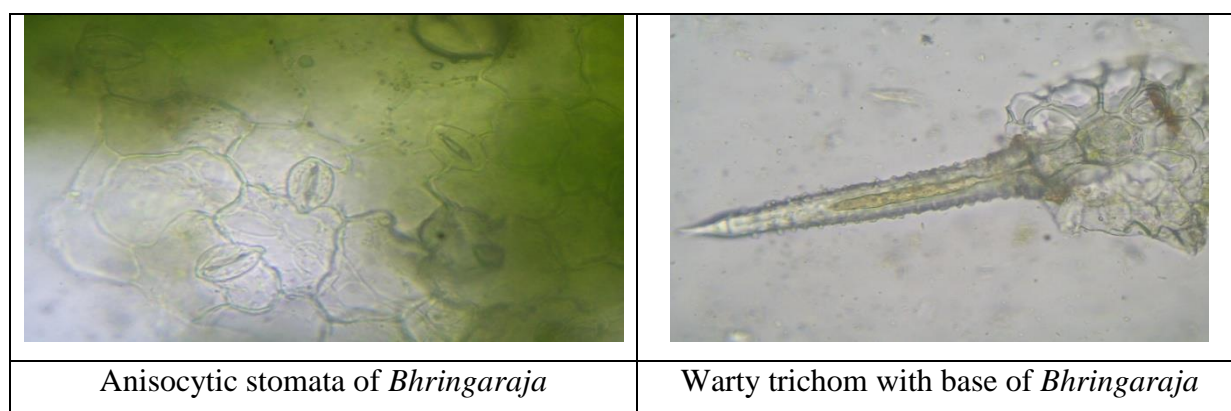
<i>Brihat Ela</i>	<i>Abomum subulatum</i> Roxb.	Zingiberaceae	Seed	0.5 parts	<i>Kalka</i>
<i>Jivanti</i>	<i>Leptadenia reticulate</i> W.&A.	Asclepiadaceae	Tuber	0.5 parts	<i>Kalka</i>
<i>Padma</i>	<i>Prunus puddum</i> D. Don	Rosaceae	Stem	0.5 parts	<i>Kalka</i>
<i>Kushtha</i>	<i>Saussurea lappa</i> C.B.Clarke	Asteraceae	Root	0.5 parts	<i>Kalka</i>
<i>Talisha</i>	<i>Abies webiana</i> Lindl.	Pinaceae	Leaf	0.5 parts	<i>Kalka</i>
<i>Sarjarasa</i>	<i>Shorea robusta</i> Gaertn.	Dipterocarpeae	Extract	0.5 parts	<i>Kalka</i>
<i>Vidanga</i>	<i>Embelia ribes</i> Burm.	Myrsinaceae	Seed	0.5 parts	<i>Kalka</i>
<i>Shatapushpa</i>	<i>Anthum graveolens</i> Linn.	Apiaceae	Seed	0.5 parts	<i>Kalka</i>
<i>Ashwagandha</i>	<i>Withania somnifera</i> Dunal.	Solanaceae	Root	0.5 parts	<i>Kalka</i>
<i>Erandamula</i>	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Root	0.5 parts	<i>Kalka</i>
<i>Narikela</i>	<i>Cocos nucifera</i> Linn.	Arecaceae	Pulp	0.5 parts	<i>Kalka</i>
<i>Vata</i>	<i>Ficus bengalensis</i> Linn.	Moraceae	Latex	0.5 parts	<i>Rasa</i>

Table 2: Organoleptic Examination

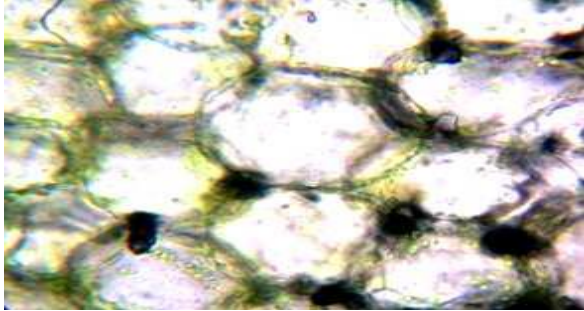
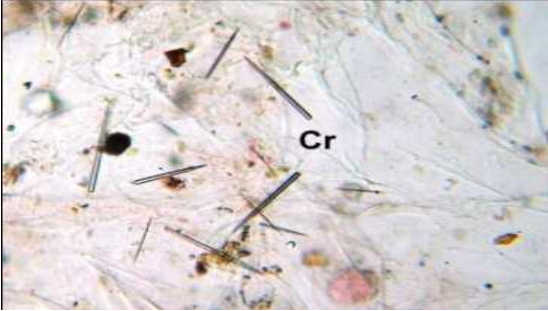
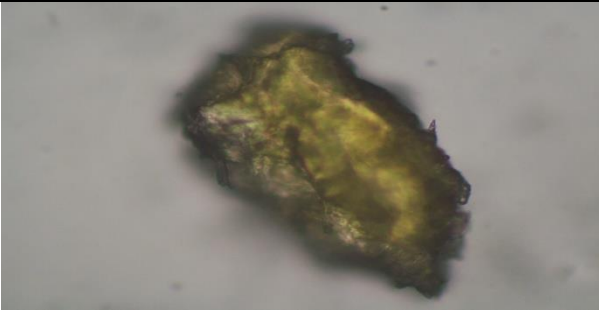
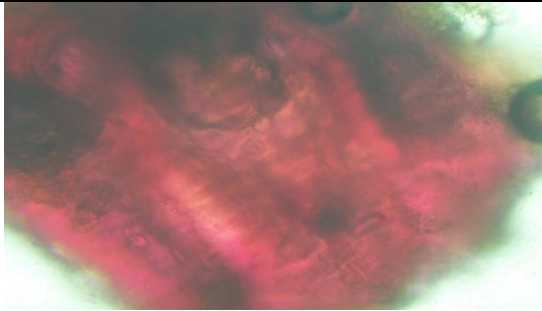
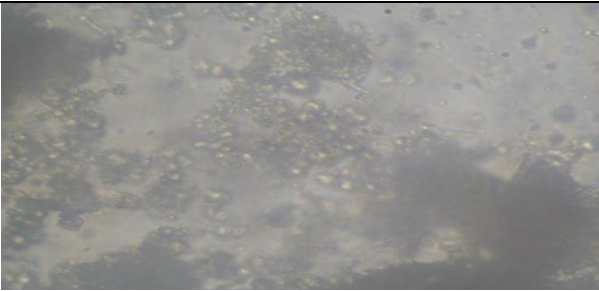
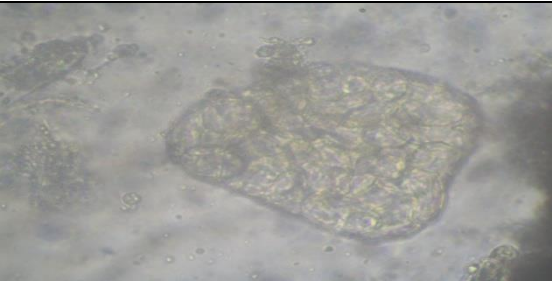


Properties	<i>Kumari Taila</i>
Colour	Reddish brown
Odour	Aromatic
Appearance	Dark
Clarity	Thick

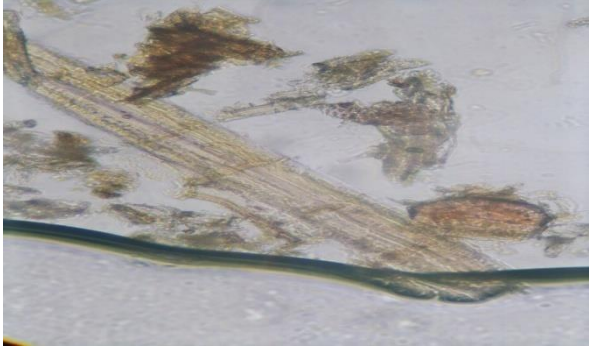


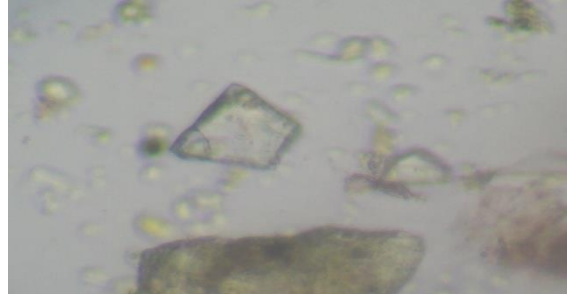
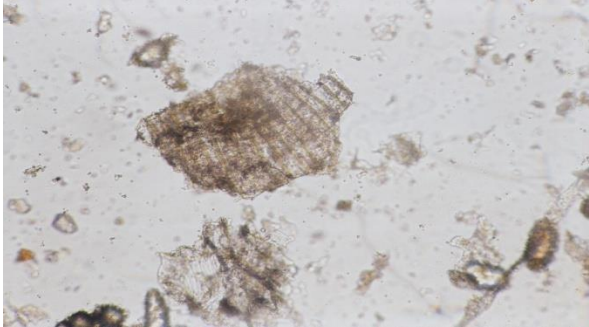
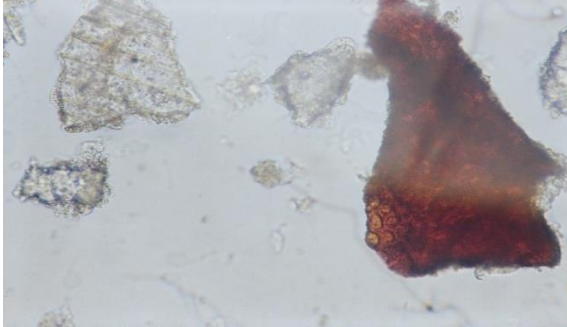

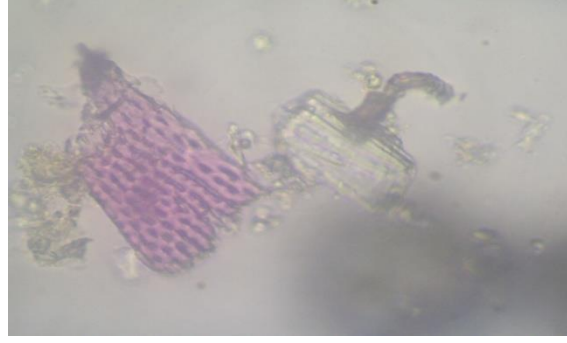
Table 3: Results of the Drug Analysis on Physico-chemical Parameters

Parameter	<i>Kumari Taila</i>
Loss on drying (%)	15.68
Specific gravity	0.9132
Refractive index	1.4750
Acid value (%)	2.89
Saponification value (%)	185.04
Iodine value (%)	57.67

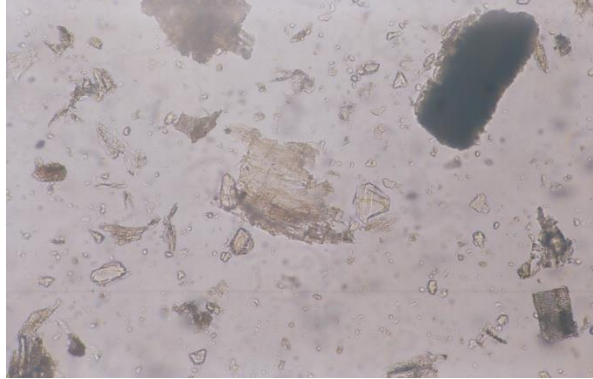

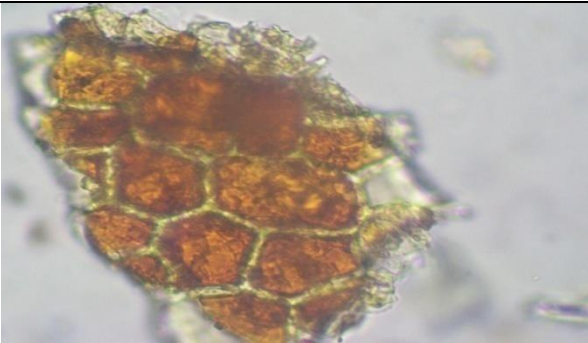


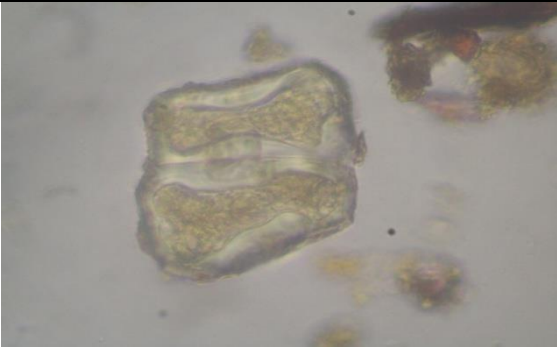
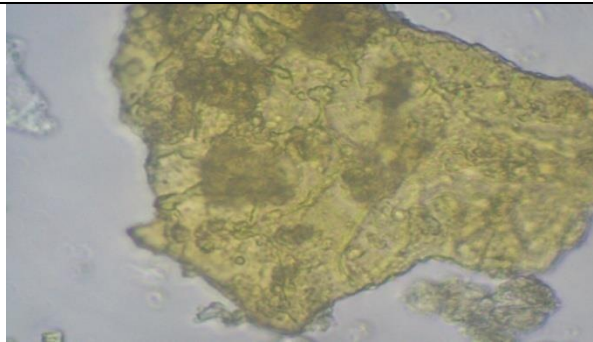
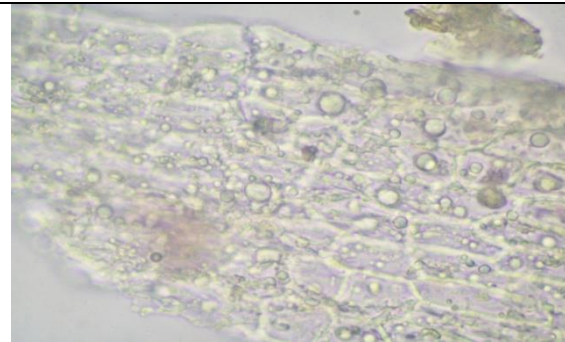
Plate -1: Microphotographs of *Kumari Taila*:

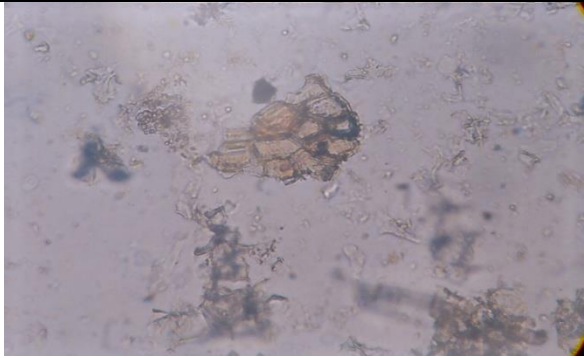
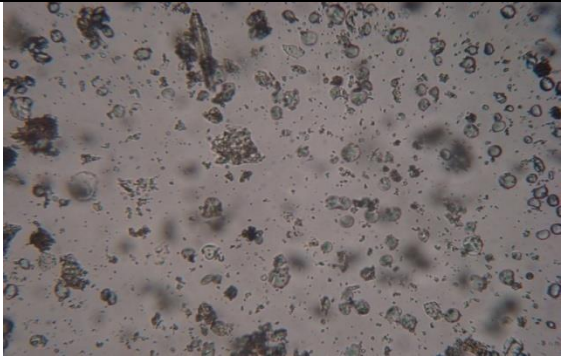
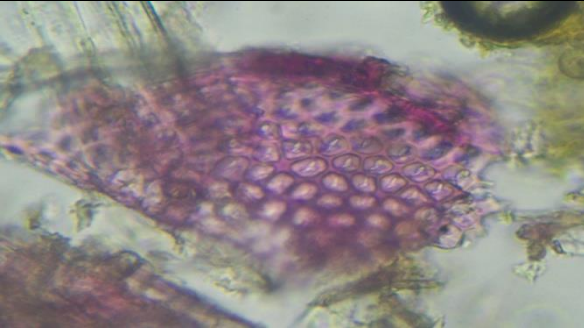
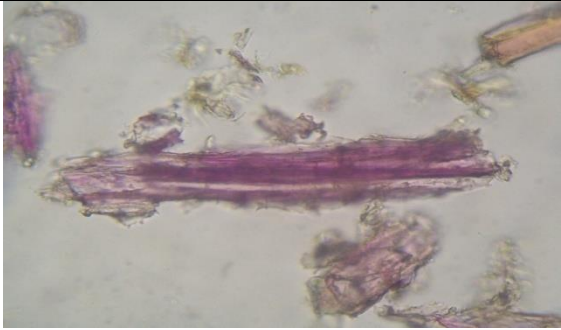
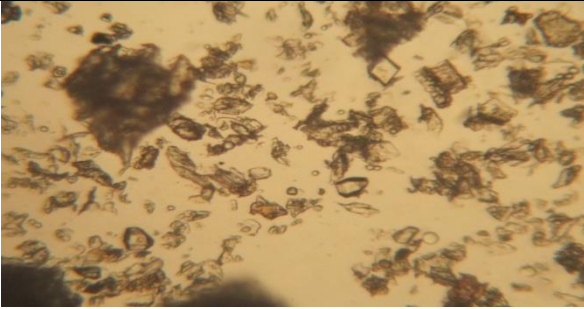
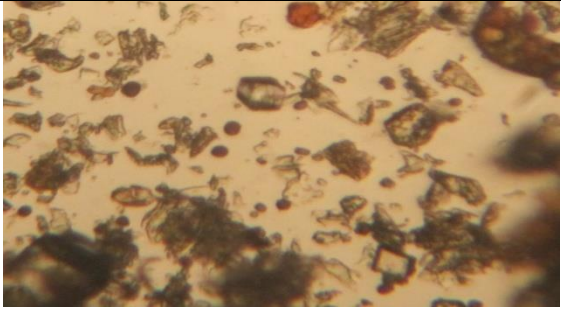


	
Parenchyma cells with allotic cells of <i>Kumari</i>	Acicular crystals of <i>Kumari</i>
	
Epidermal cells of <i>Dhatura</i>	Stone cells of <i>Dhatura</i>
	
Aleurone grains of <i>Tila</i>	Endosperm Fragment of <i>Tila</i>
	
Steroids of <i>Yashtimadhu</i>	Tannin of <i>Yashtimadhu</i>

	
Fibre+stone of <i>Hribera</i>	Stone cell of <i>Hribera</i>
	
Border pitted vessels of <i>Manjishtha</i>	Prismatic crystals of <i>Manjishtha</i>
	
Perisperm cells of <i>Ela</i>	Oil content cells with Aleurone grains and epidermal cells of <i>Ela</i>
	
Prismatic crystal of <i>Jivanti</i>	Border pitted vessels of <i>Jivanti</i>



	
Cork with crystals of <i>Kushtha</i>	Oleoresin with crystals of <i>Kushtha</i>
	
Epidermal cells of <i>Talisha</i>	Fibres starch grains of <i>Talisha</i>
	
Trichom of <i>Vidanga</i>	Spool shaped cells of <i>Vidanga</i>
	
Epidermal cells of <i>Shatapushpa</i>	Oil globules with wavy parenchyma of <i>Shatapushpa</i>

	
Cork in surface view of <i>Ashwagandha</i>	Starch grains of <i>Ashwagandha</i>
	
Border pitted vessels of <i>Erandamula</i>	Lignified fibres of <i>Erandamula</i>
	
Prismatic crystals of <i>Vata</i>	Tannin content of <i>Vata</i>



**REFERENCES:**

1. Agnivesha, Charaka & Dridhabala. Charaka Samhita, edited by Vaidya Jadavaji Trikamji Acharya. Reprint edition, Chaukhamba Surbharati Prakashana, Varanasi, 2011, Nidanasthana 8/23, 228.
2. D. C. Dutta, Textbook of Gynaecology, 5<sup>th</sup> ed. New Central Book Agency, New Delhi, 2009, 223.
3. Sushruta, Sushruta Samhita. Edited by Vaidya Jadavi trikamji Acharya & Narayana Ram Acharya. Reprint edition, Chaukhamba Surbharati Prakashana, Varanasi 2012; Sharirasthana 2/33, 348.
4. Trease and Evans, Pharmacognosy, 15th ed. W.B. Saunders Company Ltd. 1996; 569-570.
5. Anonymous 4, Govt. of India. The Ayurvedic Pharmacopoeia of India. 1st edition, part II, The Controller of publications, New Delhi;2006;Vol.II, Appendix - 03:212.
6. Shri Bhavamishra, Pandit Shri Brahma Shankara Mishra, Shri Rupalalaji Vaisya. Bhava Prakasha Nighantu, Vidyotini Hindi commentary. 11ed. Varanasi;Chaukhambha Sanskrita Bhavana;Taila Varga;2007, 779.
7. Shri Bhavamishra, Pandit Shri Brahma Shankara Mishra, Shri Rupalalaji Vaisya. Bhava Prakasha Nighantu, Vidyotini Hindi commentary. 11ed. Varanasi;Chaukhambha Sanskrita Bhavana;Dhanya varga;2007, 651-652.
8. Anonymous. Govt. of India, Ministry of Health & Family Welfare, dept. Of ISM & H. The Ayurvedic Pharmacopoeia of India. New Delhi, 2006:4:143.
9. Sushruta, Yadavaji Trikamji Acharya, Narayana Ram Acharya. Shushruta Samhita, Dalhana commentary. Varanasi;Chaukhambha Surbharati Prakashana;2012. 205.
10. Shri Bhavamishra, Pandit Shri Brahma Shankara Mishra, Shri Rupalalaji Vaisya. Bhava Prakasha Nighantu, Vidyotini Hindi commentary. 11ed. Varanasi;Chaukhambha Sanskrita Bhavana; Guduchyadi varga;2007, 419.
11. Database on Medicinal Plants in Ayurveda, C. C. R. A. S. , Dept. of ISM &H, Ministry of Health & Family Welfare, Govt. of India, New Delhi, Vol. 1, 2000. pg 225
12. Vd. Mukund Sabnis, Chemistry and Pharmacology of Ayurvedic medicinal plants, Chaukhamba Amarbharti Prakashana, Varanasi, 2006, 100.
13. Anonymous, Govt. of India. Dept. of ISM&H, Ministry of Health & Family Welfare. Database on Medicinal plant used in Ayurveda C.C.R.A.S. New Delhi;2000;Vol.2e:112.
14. Shri Bhavamishra, Pandit Shri Brahma Shankara Mishra, Shri Rupalalaji Vaisya. Bhava Prakasha Nighantu, Vidyotini Hindi commentary. 11ed. Varanasi;Chaukhambha Sanskrita Bhavana; Guduchyadi varga;2007,317.
15. Anonymous, Govt. of India. The Ayurvedic Pharmacopoeia of India. First edition, New Delhi;2006;volume 4:29.
16. Anonymous, Govt. of India. Dept. of ISM&H, Ministry of Health & Family Welfare. Database on Medicinal plant used in Ayurveda C.C.R.A.S. New Delhi;2000;Vol.2e:200.