Anukta Dravya/Extrapharmacopial drugs
with respect to Namarupa vigyan

INTRODUCTION-:

Problem facing related to Anukta dravya is "*Pratyaksham hi alpam, apratyaksham hi analpam*" i.e. known is less, unkown is more.(Acharya Charaka)

- "अनेनउपदेशेननानौषधिभूतंजगधतधिधित्द्रव्यंउपलभ्यतेतांतांयुक्तिमर्थंचतंतंअधभप्रेत्य ||(च.सु.26/12)"

There is no any such substance in this world which cannot be used as medicine i.e. each and everything existing in this world work as medicine if used properly.

- The knowledge about medicinally useful plants is scientifically documented, and systematically organized in Ayurveda Samhitas, Nighantus and other texts.
- Due to innumerability of plant species, many plant drugs were not recorded in classical treatises though they have the medicinal properties.
- Therefore, no any classical herbal pharmacopeia is available which enumerates all the medicinal plants. Such drugs are being utilized and practiced by the many ethnic groups
- *Maharshi Charaka* while concluding *Mahakashayas* in *Sutrasthana* 4th chapter said that **'the intellectual person may find out properties from new drug after the logical examination and analysis'** *(Sutrasthana* 4/20*)*

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- ._गोपालास्तापसा व्याधा येचान्येवनचाररण: | मूलाहाराश्च येतेभ्यो भेषजव्यिररष्यते||१०|| (Aacharya Charaka)

The Aushada naama, Roopa which is unknown can be known through Gopaalaka, Vanacharini, folklore practitioners usually these nomadic forest tribes know very well the vernacular names.

- Even in Dhanvantari nighantu explains the same methodology to gain the knowledge of unknown Aoushadhi dravyaas.

" किरातगोपालितापसाद्यिानेचरास्तत्ु शलास्तथाऽन्ये| िदिन्तनानिाधाभेषजानांप्रमाणिणिाृ तिनामजातीः ||६||
तेभ्यःसािशादुपलभ्यैद्यःपश्चिाशास्त्रेषिुमृश्यबुद्धध्या| िल्पयेद्द्रव्यरसप्रभािान्िपिीयिाणतथाप्रयोगात्||७|| प्रायोजनाःसिन्तिनेचरास्तेगोपादयःप्रिृ
तनामसञ्ज्ञाः| प्रयोजनाथिाचनिप्रियास्मिातःप्रिृ तिमत्यदोषः ||८|| एि तुनामप्रिथतंबहूनामिस्यनामिानतथाबहूिन| द्रव्यस्यजात्यिृ
ितिणिीयारसप्रभिाकदगुणैभिान्त ||९||"

- Aacharya Charaka Said-:

"ओषधीर्नामरूपाभ्यां जानते ह्यजपा वने|

अविपाश्चैव गोपाश्च ये चान्ये वनवासिनः||१२०||"

Aacharya Charaka clearly states that information about unknown drugs should be collected from forest dwellers, shepherds tribes etc. This will expand the knowledge of herbs.

ETYMOLOGY & DEFINITION

- **Etymology**: The word Anukta is derived from the root ‘N -UKTA’ with negation attached to the basic root.

  Thus Anukta literally means ‘Ana’ meaning ‘NO/UN’ and ‘UKTA’ ‘ written/said’ meaning

  unsaid and unuttered.

- **Definition**: “*nuktam-anuktam*.” i.e., which has not been said or stated or documented in Ayurvedic texts. Thus Anukta dravya means all those folklore plants not mentioned in Ayurvedic classical literature which include majorly Brihatrayee, Laghutrayee and Classical Nighantus. For example Ahiphena not described in Samhitas and Vedas.

AYURVEDA OPINION BEHIND ANUKTA DRAVYAS

- Need of Anukta aushadi dravya is important because there is no material which cannot be used as drug *(Jagat evam anoushadam),said by Aacharya Sushruta.*
- ***"Yatha nana aushadha kinchit deshjanam vacho yatha..dravyam tatt tatha vachyamanuktamiha yaddbhaveda."***

Charaka Samhita (Sutrasthana 27/329,330)

Due to innumerability of plant species, many plant drugs were not recorded in classical treatises though they have the medicinal properties. Therefore, no any classical herbal pharmacopeia is available which enumerates all the medicinal plants.

- Such drugs are being utilized and practiced by the many ethnic groups. Further, many herbal drugs were introduced in India after intrusion of many other countries.
- Multiple exotic plants which are not referred to either in classical literature of Ayurveda i.e. Samhitas or in Nighantus and are commonly referred to as Anukta Dravya.
- Study of Anukta Dravyahelps in achieving many objectives like many important medicinal plants have been red listed and many are on the way. If Anukta Dravyas are studied scientifically and if we find pharmacodynamic properties similar to the drugs which are red listed then this Anukta Dravyais a best substitute for it.

- A good number of such medicinal plants have been discretely mentioned at. numerous instances. The complete description of such medicinal plants in terms of their pharmacodynamic properties i.e. name, identification, morphology, rasa, guna,. virya, vipaka, etc. may not be available in the Ayurvedic texts.
- Therefore, there is an urgent need to first demarcate, identify, name these plants and then analyse them scientifically in terms of rasa, guna, virya, vipaka etc. Simultaneously, the plants should be described botanically and evaluated for their chemical composition so that they as can be successfully utilised in therapeutics and documented per the Ayurvedic nomenclature. by incorporating into Ayurvedic Materia Medica (nighantus) for future reference

AYURVEDIC APPROACH TO IDENTIFY ANUKTA DRAVYA-:

- No direct references regarding determination of properties of *Anukta Dravya* are available in classical texts. *Maharshi Charaka* while concluding *Mahakashayas* in *Sutrasthana* 4th chapter said that 'the intellectual person may find out properties from new drug after the logical examination and analysis. *(Sutrasthana* 4/20).
- Again in *Sutrasthana* 27th chapter, he stated that the properties of drug utilized in other region may be determined by taking into account the attributes made for them by the people of that locality (*Sutrasthana* 27/329,330).
- *Maharshi Sushruta* also opined that qualities of the substance can be determined by Rasa (taste perception) and Bhuta-guna (properties of proto-elements) (*Sutrasthana* 46/331).
- Such indirect scattered references provide the clue to determine the method for the evaluation of *Anukta Dravya*.
- Four kind of *Pariksha* also are useful for this purpose. Four kind of *Pariksha* (investigation method) i.e. *Aptopadesha* (authorities testimony), *Pratyaksha* (direct perception), *Anumana* (inference) and *Yukti* (logical reasoning) have been described to assess all kind of substances(*Sutrasthana* 11/17). *Anukta Dravya* also can be assessed by these methods.
- 1. **Aptopadesha**:

These are authoritative instructions based on their experience. It is said that foresters like shepherds and goatherds are acquainted with the names, forms (*Sutrasthana* 1/120). It has reduced confusion regarding classification and identification of a drug especially in case of unknown or folklore medicine. Nomenclature and morphological identification can be learnt from these persons and they may be considered as *Apta* in this regard.

- 2.**Pratyaksha**:

It is evidence based on direct observation (*Vimansthana* 4/7). Organoleptic characters of the drug such as taste, color, smell etc. can be determined through this tool.

- 3**. Anumana:** It is the inference or indirect knowledge based on reasoning. It is also important method to determine the properties of Anukta Dravya.
- 4.**Yukti**

- ***Determination of Rasa***

Aacharya Charaka states rasa is experienced as gustatory sensation when a Dravya comes in contact with the tongue (Sutrasthana 1/64). Rasa serves as a tool to infer the Panchabhautika composition of the Dravya (Sutrasthana 46/331) and facilitates for identification of spectrum of activity of a particular drug. According to modern chemistry, the taste are resultant from certain chemicals .

for ex- 1.Carbohydrates such as sucrose, glycogen and starch are sweet in taste.

2. Tannins have astringent taste.

3.Volatile oils may have pungent taste.

4.Alkaloids are generally bitter in taste.

5.Lavana rasain salts.

6. Amla rasain acids etc.

In case, of poisonous plants where the direct taste cannot be possible, indirect method with help of Anumana Pramana may become helpful to assume the taste of such drugs.(Sutrasthana 7/14-18).

- ***Determination of Guna***:

The *Guna* inherent in a *Dravya* can be understood by their *Rasa*, applications and biological responses. They can be inferred also by its known Pharmacological actions. Ex. *Madhura Rasa* is having *Snigdha, Seeta* and *Guru Guna*. Hence can be considered as *Vata Shamaka* and used in *Vataja Vikara.*

- ***Determination of Vipaka:***

Vipaka is the transformed state of ingested substance after digestion. *Vipaka* can be assessed based on *Doshakarma* (action on humors), *Dhatukarma* (action on tissues) and *Malakarma* (action on metabolic waste products) (Sutrasthana 26/58).

- ***Determination of Virya :***

The *Virya* of *Dravya* is perceived through two means, viz. *Adhivasa* (*Anumana*-Inference) and *Nipata* (*Pratyaksha*-Directly) (*Sutrasthana* 26/66). Here, *Adhivasa (Anumana)* means after knowing the karma done by the *Dravya,* inferring its *Virya*. *Nipata (Pratyaksha)* means direct perception of *Virya* through sense organs. When a *Dravya* comes in contact with any of the sense organs it is grouped under *Nipata. ex. Seeta Virya* of *Saindhava Lavan* and *Ushna Veerya* of *Anupa Mamsa* may be perceived through inference.

- *Acharya Chakrapani* suggested use of ***Panchamahabhuta Siddhanta*** for assessment properties of *Anukta Dravya (Sutrasthana 27/329,330)*. All substances are classified in to the five categories depending upon the dominance of one or other *Mahabhutas* and specific characteristics are described.
- For instance, *Prithvi Mahabhuta* possesses *Guru* (heavy), *Kathina* (hard), *Khara* (rough), *Sthira* (immobile), *Sthoola* (gross) etc. qualities (*Sutrasthana* 26/11). To determine the therapeutic activities of unknown drug, initially, *Panchamahabhautic* categorization based on its *Guna* (properties) should be evaluated. Therapeutic utility can be inferred further as the actions of such *Mahabhutas* and also drugs having various tastes are already described in classical text. *Maharshi Sushruta* and commentator *Dalhana* also has given the same opinion *(Sutrasthana* 46/331).

Role of Habitat/Desha in Assesment of Anukta Dravya-:

- Three kind of *Desha* (habitat) have been described in *Ayurvedic* classical texts. They are *Anupa* (marshy), *Jangala* (arid) and *Sadharana* (general or medium) [1] (*Kalpasthana* 1/8).
- Among these *Jangala* land is said to be dry and *Vata-Pitta* predominant, i.e. drugs of this land are having less humidity and are comparatively *Laghu (*light) in nature.
- Opposite to that *Anupa* kind of *Desha* is more humid and therefore herbs of this land tend to be *Guru* (heavy).
- *Sadharana desha dravyas* will have characterstics of both.
- *Aacharya Sushruta* mentioned characteristic features of *Panchabhautika Bhoomi* (land predominant of particular Mahabhoota) (*Sutrasthana* 36/4). For instance, Land with many stones, having blackish colour and hard is *Prithvi Mahabhuta* predominant and the plants of this land also will having dominant properties of *Prithvi Mahabhuta*. Further, Land is also categorized in to two types based on Hot and cold potency. This division further leads to infer the quality and properties of medicinal plant that are grown in particular land (*Sutrasthana* 36/5). This reference of *Sushruta Samhita* is also useful for determination of properties of unknown drugs.

- “नामानि क्वचिदिह रुढ़ितः स्वाभावात्। देश्योक्त्या क्वचन च लाञ्छनोपमाभ्याम्।।

वीर्य्येण क्वचिदितराह्वयादिदेशात् द्रव्याणां ध्रुवमिति सप्तधोदितानि।। (रा०नि०ग्रन्थ प्रस्तावना -13)”

Names and Synonyms are assigned to plants on the following seven bases according to *Raja Nighantu* as follows

a).Rudhi (Traditional usages) e.g., Atarushaka, Tuntuka

b).Prabhava (Effect), e.g, Krimighna, Vata

c)Desha(Habitat), e.g., Vaidehi.

d)Lanchana(Morphological characters), e.g., Citratandula, Chitraparni

e)Upama(Simile), e.g., Kinshuka, Hinhasya

f)Virya(Potency), e.g., Ushana

g)Itarahvaya(Names prevalent in other regions or other factors) e.g., Indrayava, kakahvaya

- ***'Dravya Pariksha Vidhi'*** (**drug examination method**) has been introduced by *Acharya Charaka (Vimanasthana 8/87).* Further, quantification, standardization and examination tools for various factors are discussed in *Vimanasthana*. Among them, *'Dravya Pariksha Vidhi'* may be utilized to assess purity, quality and efficacy of already known or documented drug as well as unknown drugs.
- "तस्यापीयं परीक्षा इदमेवंप्रकृत्येवंगुणमेवंप्रभावमस्मिन देशे जातमस्मिन्नृतावेवगृहीतमेवंनिहितमेवमुपस्कृतमनया च मात्रया युक्तमस्मिन् व्याधावेवंविधस्य पुरुषस्यैतावन्तं दोषमपकर्षत्युपशमयति वा यदन्यदपि चवंविधं भेषजं भवेत्तच्चानेन विशेषेण युक्तमिति ।। ८७||"

Acharya Charaka has given guidelines for drug standardization, which are as relevant in today's era too. It indicates that a drug should be studied as follows:

1.*Prakruti*: Name, Natural order of drug and botanical morphology.

2.*Guna*: Rasa, Virya, Gunasand chemical properties

3.*Prabhava*: Therapeutic actions.

4.*Desha*: Botanical distribution

5.*Rutu Gruhitam*: Time and method of collection

6.*Nihit*: Method of preservation

7.*Upaskrit*: Sanskar, Pharmaceutical processing for its preparations

8.*Matra*: Dosage

9.*Vyadhi*: Various diseases in which drug can be therapeutically used

10.Evam Vidham Purushasya: Clinical trials or in which person it is probably useful.

MODERN APPROACH TO IDENTIFY ANUKTA DRAVYA-:

"Identifying involves a comparison between a known and an unknown, so you have to have a guide or a field manual or a key of some sort (the known) to compare with your specimen (the unknown)"

- 1.**Collection of data for undocumented dravyas-:**

a).PRIMARY SOURCE-

Ethanobotanical surveys:

-The term 'Ethnobotany' was first coined by Dr. John W Harshberger in 1895. It comprises two syllables. Ethno – meaning science of races and Botany – meaning science of plants.

-Ethnobotanical surveys focus on the complex connection between local inhabitants and local plants, Including practices and cultural beliefs associated with different forms of uses. These studies are important in highlighting the value of native plant species, e.g., for discovering novel/unexplored drugs.

-is based on an interdisciplinary team usually composed of an ethnobotanist, an anthropologist, an ecologist and a physician.

- Includes **QUESTIONNAIRE WITH FOLKLORE PRACTITIONERS**.Relevant information related to -:

- Local/Vernecular name
- Useful part of that plant
- Form of use
- Dosage
- Vehicle/Method of administration
- Indications of that plant

is usually collected from folklore practitioners of respective area where unknown drug is found.

Characters Considered Before Plant Identification:

-i. Whether a plant is herbaceous or woody, and annual or perennial in nature.

ii. Whether or not milky or coloured sap is present in the leaf, stem or other plant parts.

iii. The leaf type, phyllotaxy, and venation.

iv. Presence or absence and type of stipule on young shoots.

v. The distribution and kinds of surface coverings (i.e. hairs, trichomes, spines, etc.).

vi. The parts of the flower and the number of sepals and petals, whether separate or fused, and also their arrangement i.e. aestivation.

vii. Whether perianth is present in one or more series, or absent.

viii. Whether pappus (e.g. Asteraceae) or epicalyx (e.g. Malvaceae) or similar structures are present.

ix. Whether a nectar-secreting disc is present in the flowers (e.g. Rutaceae).

x. Whether the flowers are actinomorphic or zygomorphic.

- xi. The number and attachment of stamens and if there is any fusion of anthers or filaments.
- xii. The number of pistils, styles and stigmas of the gynoecium, observation of a transverse section of the ovary, the number of locules, number of ovules per locule, and also the placentation.
- xiii. The position of the ovary and fusion of the perianth by observing a longitudinally cut section of the entire flower through its centre.

Benefits of Ethanobotanical surveys-

It will be helpful in knowing about-

- Indigenous healers and traditional healthcare practitioners throughout the world have developed rich stores of knowledge about how to collect and use medicinal plants when providing services to communities.
- Identification & Standardisation of Anukta Dravya.
- Geological diversity of medicinal plants.
- Knowledge about appropriate botanical standards such as taxonomy like- family,genus,species etc.
- Helps to exclude Vernecular name controversy. Eg- Brahmi,Arjuna,Rasna,Murva etc.
- To explore the therapeutic utility of unexplored herbs.
- To explore the indications of unexplored herbs.

b).SECONDARY SOURCE-

- Mainly includes Extensive literary Surveys.
- GENERAL TAXONOMIC INDEXES –

The indexes serve as an aid to locate quickly the source of original publication of a name. This helps us to learn if a particular name has been applied to a plant or to know to which order, family, subfamily or tribe a plant of a given name may belong. The important indexes to vascular plants are as follows:

i) Index Kewensis Plantarum Phanerogamarum

ii) Gray Herbarium Card Index

iii) Genera Siphonogamarum

- FLORAS –

A flora is a work dedicated to the plants of a particular region and also usually restricted to a major segment of plant kingdom (as vascular plants, flowering plants etc.). There are numerous floras that account for all the vascular or seed plants. A flora provides an inventory of the plants occurring in a definite area. It is usually authenticated by citation of herbarium specimens, and their location. It is customary to arrange the plants in a known, recognized system of classification viz. Bentham and Hooker; Engler and Prantl; Hutchinson, etc.

A few important floras are listed below: World Floras

1) Baillon, H. The Natural History of Plants, 8 Vols. London .1871-1888.
2) 2) Bentham, G.and Hooker, J.D. Genera Plantarum, 3 Vols. London. 1862- 1883.
3) 3) Engler, A, and Prantl. K. “Die Natürelischen Pflanzenfamilien”, 23 vols. Leipzig 1887-1915.

- MONOGRAPHS –

A monograph is defined as "the complete account as can be made at a given time of any one family, tribe or genus, nothing being neglected of it". It is worldwide in its scope and application. which refers to an extensive compilation of information about one particular plant.

- HERBARIUM-

a collection of dried plant specimens that are stored, catalogued, and arranged by family, genus and species for study.

- MANUALS-

A manual is a book that contains information on the area of coverage and keys and descriptions to the families, genera and species. It includes the accepted scientific name, followed by the author of that name, and major synonyms. Information on infraspecific (below the rank of the species) taxa if any, is also provided along with ecological and distributional data and common names. Many manuals have been revised and reprinted numerous times. Such manuals become the standard reference for the flora of a particular area.

Examples :

1.Fernald, M.L.1850 (8th Edition) Gray's Manual of Botany, American Biological Company, New York. Fassett,N.C. 1940

2.A Manual of Aquatic Plants McGraw Hill, New York. Bailey, L.H. 1949

3.Manual of Cultivated Plants. Macmillan, New York. _

- REVISIONS-

A revision differs from a monograph being much less in degree of scope and completeness. It generally accounts for only a single genus or a section of a large genus. Revisions are generally restricted to a continent or smaller geographical area; these may/rarely contain reviews of previous publications and are most of the times based on herbarium sheets. Thus, a revision is a provisional document.

- PERIODICALS-

A periodical is a publication appearing at regular intervals. Each issue is called a number and collectively these numbers comprise a Volume (Band/ Heft/ Fascicle in German).

Periodicals most frequently used in taxonomic studies of plants are as follows:

1) Annals of Royal Botanic Gardens, Kolkata
2) Journal of Linnean Society, Botany,London
3) Records of Botanical Survey of India, Kolkata
4) Journal of Indian Botanical Society, Meerut
5) Tropical Ecology Bulletin, Varanas

- AYURVEDIC PHARMACOPEIA OF INDIA/API
- DATABASE ON MEDICINAL PLANTS
- HERBAL MUSEUM
- BOTANICAL GARDENS
- PREVIOUS DISSERTATION WORKS
- VARIOUS JOURNALS
- RESEARCH PAPERS
- PUBLISHED & UNPUBLISHED WORK
- BOOKS OF BOTANY,TAXONOMY&DRAVYAGUNA VIGYANA
- PLANT SYSTEMATICS ON INTERNET

The internet now provides a wealth of information about plants. It provides quick access to floras, checklists, images of plants, detailed treatments to a group of plants, DNA sequences and other databases.

2. **Analytical evaluation/Standardization techniques in herbal drug-:**

- The modern guide lines of standardization of drugs; to verify the known and prove the identity of unkown drug and its purity, the criteria such as the **macroscopic evaluation, organoleptic evaluation, microscopic evaluation, chemical evaluation, physical evaluation, biological evaluation, chromatographic techniques, adulteration, contaminants, moisture, ash content and solvent residues** have to be checked.
- The correct and proper identity of the herbal drug is of prime importance in establishing the quality control of herbal drugs.

- **Macroscopic and organoleptic evaluation:**

The organoleptic evaluation of a drug by means of sense organs or macroscopic evaluation is the evaluation of the drug by its colour, odour, taste, shape, size and touch, which is based on the study of morphological and sensory profile of the drug.

- **Microscopic evaluation:**

This examination of drug is used to identify the organized drugs by their histological features with the help of microscope. For detecting various cellular tissues, trichomes, stomata, starch cells, calcium oxalate crystals, etc.

- **Physical evaluation:**

These include moisture content, specific gravity, refractive melting point, viscosity and solubility in different solvents. These criteria are useful in identification of constituent drugs present in the plants.

- **Chemical evaluation:**

The qualitative chemical tests are used to identify certain drugs to test their purity, isolation, active constituents, purification and for detection of adulterants.

- **Biological evaluation:**

Some drugs have specific biological and pharmacological activity which is utilized for their evaluation especially in plant extract. Here the experiments are carried out on both intact and isolated organs of living animals. With the help of bioassays, strength of drug can be evaluated.

- **Chromatography:**

Include identification of crude drug based on the use of major chemical constituents as markers.

- **List of Few Vernacular Names of Anukta Dravya corresponding to their Botanical names-:**

S.no.	Local Name	Locality where the vernacular names used	Botanical Name	Family	Habit	Useful part	Therapeutic uses
01.	Raat ki Rani	Ramnagar (Varanasi)	Cestrum nocturnum Linn.	Solanaceae	Shrub	Leaf	Spasm, Heart disease
02.	Khogar, Khaarpat, Kaikar	Ramnagar (Varanasi)	Garuga pinnata Roxb.	Burseraceae	Tree	Root, Stem, Leaf, Fruit, Gall, Bark	Asthma,obesity
03.	Aarogyappacha	Kottayam (Kerala)	Trichopus zeylanicus Gaertn	Trichopodiaceae	Herb	Unripe fruit, Leaf	Fatigue, Aging, Debility, Loss of appetite
04.	Poinsetta	Manduadih, (Varanasi)	Euphorbia pulcherrima	Euphorbiaceae	Shrub	Latex	Tumors
05.	Ban tambaku	Ramnagar, (Varanasi)	Solanum erianthum	Solanaceae	Shrub	Root, Whole plant	Inflammation, Pain, Cough,.

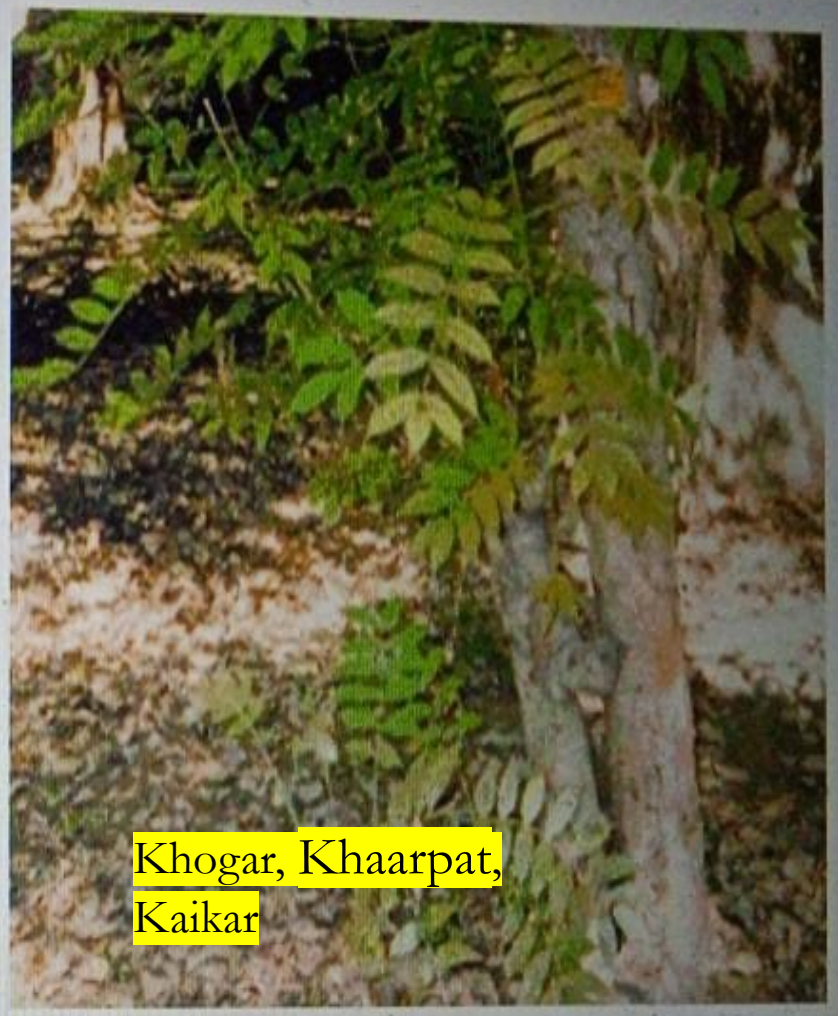
S.no.	Local Name	Locality where the vernacular names used	Botanical name	Family	Habit	Useful part	Therapeutic Uses
06.	.Ahiphena	Punjab,Rajasthan ,UP,MP	Papaver somniferum	Papaveraceae	Herb	Seeds,Latex	Insomnia,Headache,Analgesic
07.	Coffee	South India	Coffea arabica	Rubiaceae	Shrub	Seeds	Heaet liver health,
08.	Jonkmari	Nagwa, (Varanasi)	Anagallis arvensis Linn	Primulaceae	Herb	Whole plant	Viper poison, ,Epilepsy,Hysteria
09.	Nagphool	Manduadih, (Varanasi)	Gmelina asiatica Linn	Verbenaceae	Shrub	Whole plant	Rheumatism, Syphilis, Gonorrhoea
10.	Rangoon ki bel	Nagwa (Varanasi)	Quisqualis indica Linn	Combretaceae	Climber	Leaf,Seed	Diarrhoea, Fever, Worm, infestation,
11.	Ghoda tulasi	Manduadih, (Varanasi)	Scoparia dulcis Linn	Scrophulariaceae	Herb	Whole plant	Cough,Wound,cardiac
12.	Gulabbas	Ramnagar (Varanasi)	Mirabilis jalapa Linn.	Nyctaginaceae	Herb	Whole plant	Boil, Syphilis, Abscess, Colic

LIST OF BOTANICAL NAMES OF ANUKTA DRAVYA ALONG WITH THEIR NOMENCLATURE BASED ON DIFFERENT CRITERIA -:

S.no.	Botanical name	Vernacular	Nomenclature	Criteria
01.	Cestrum nocturnum Linn.	Raat ki Rani	Nishi Mahishi	Kala
02.	Garuga pinnata Roxb.	Khogar, Khaarpat, Kaikar	Garugo	Rudhi
032.	Trichopus zeylanicus Gaertn.	Aarogyappacha	Shaktida	Karma
04.	Euphorbia pulcherrima Willd.	Poinsetta	Kusumapatra	Lanchana
05.	Solanum erianthum D.Don	Ban tambaku	Vana tambaku	Jati
06.	Anagallis arvensis Linn.	Jonkmari	Harshani	Prabhav
07.	Gmelina asiatica Linn.	Nagphool	Nagaprasuna	Upma
08.	Quisqualis indica Linn	Rangoon ki bel	Rangunavalli	Desha
09.	Scoparia dulcis Linn.	Ghoda tulasi	Mishtapatri	Rasa
10.	Mirabilis jalapa Linn.	Gulabbas	Kautuka Pushpa	Itarhavya

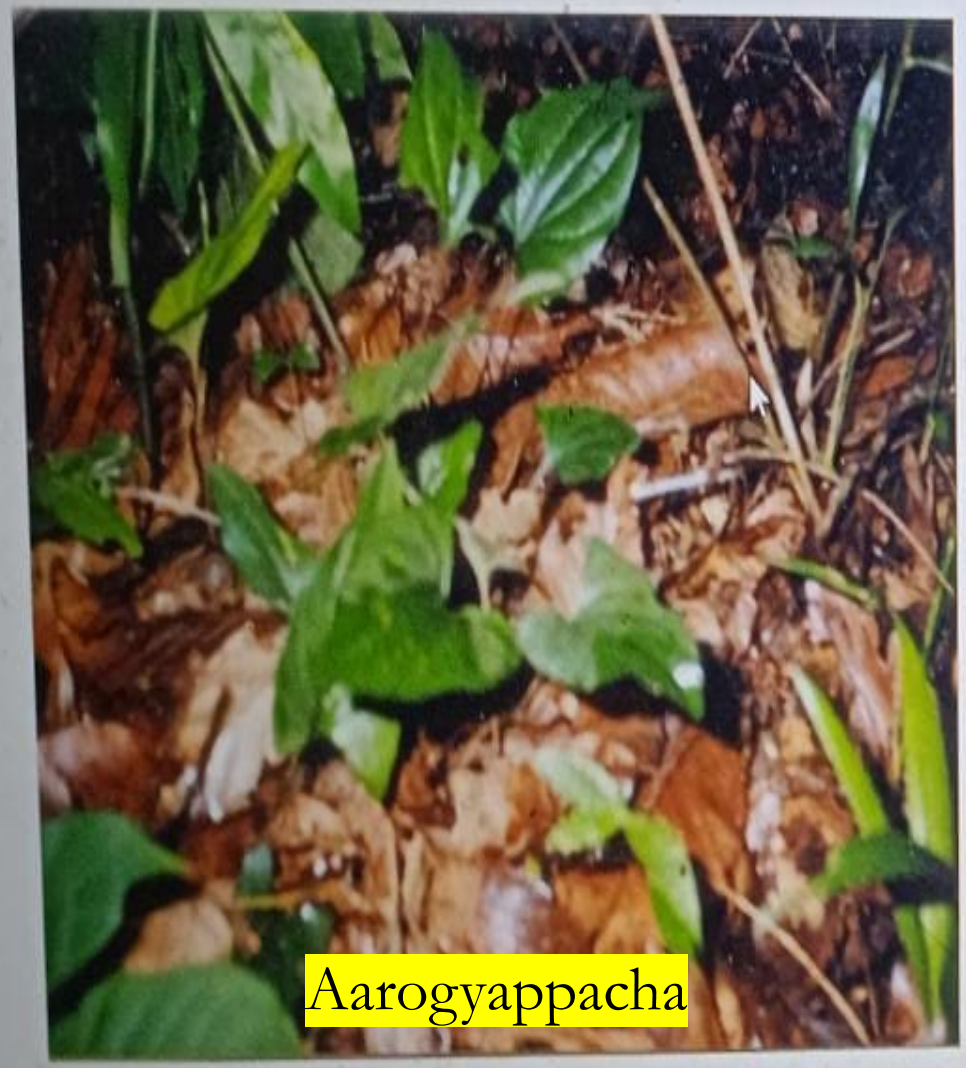
Raat ki Rani

1. *Cestrum nocturnum* Linn



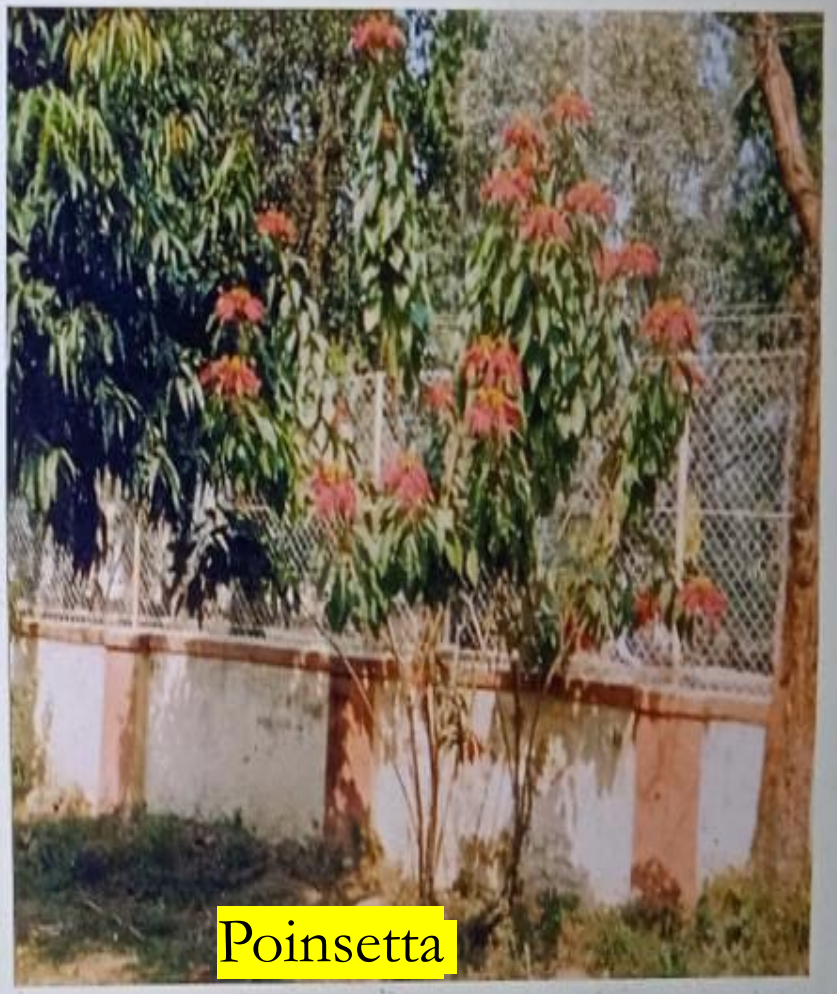
Khogar, Khaarpat, Kaikar

2. *Garuga pinnata* Roxb



Aarogyappacha

3. *Trichopus zeylanicus* Gaertn

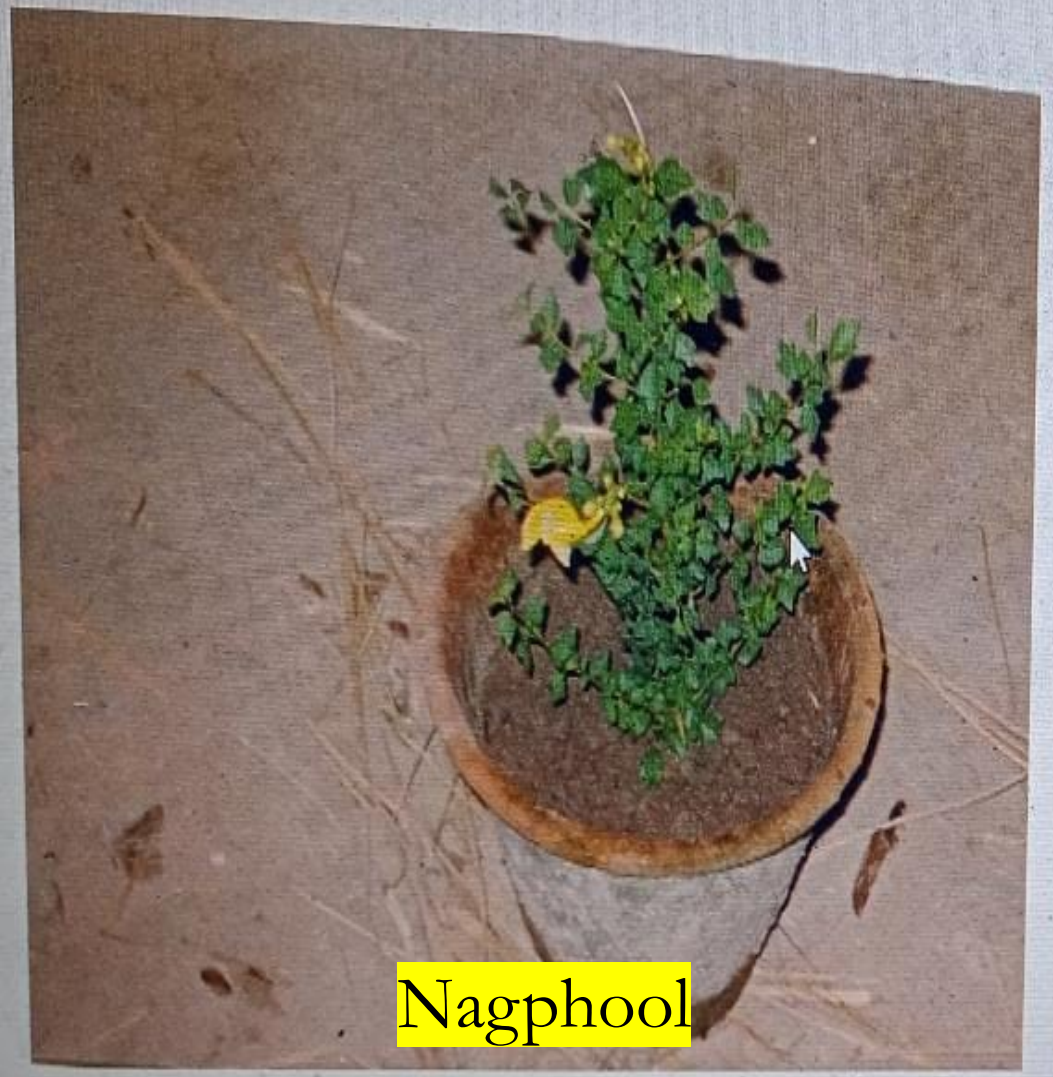


Poinsetta

4. *Euphorbia pulcherrima* Willd.ex Klotzsch

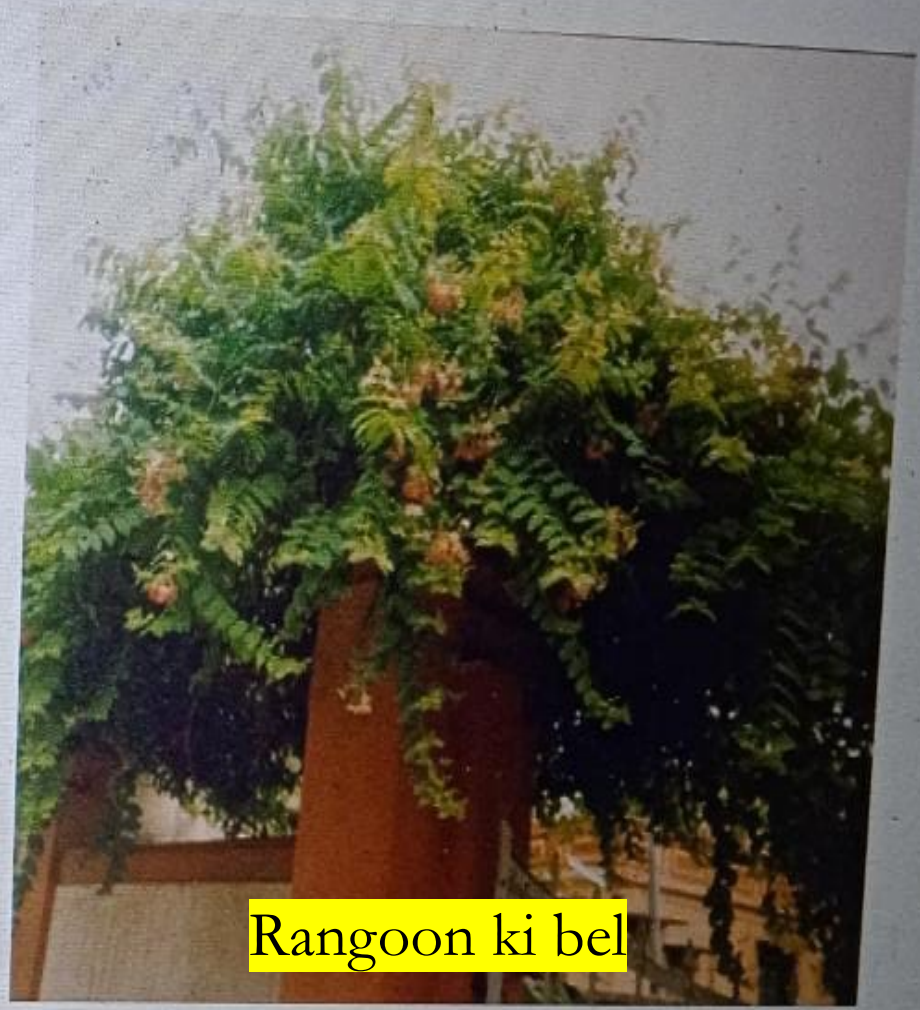
5. *Solanum erianthum* D.Don

6. *Anagallis arvensis* Linn



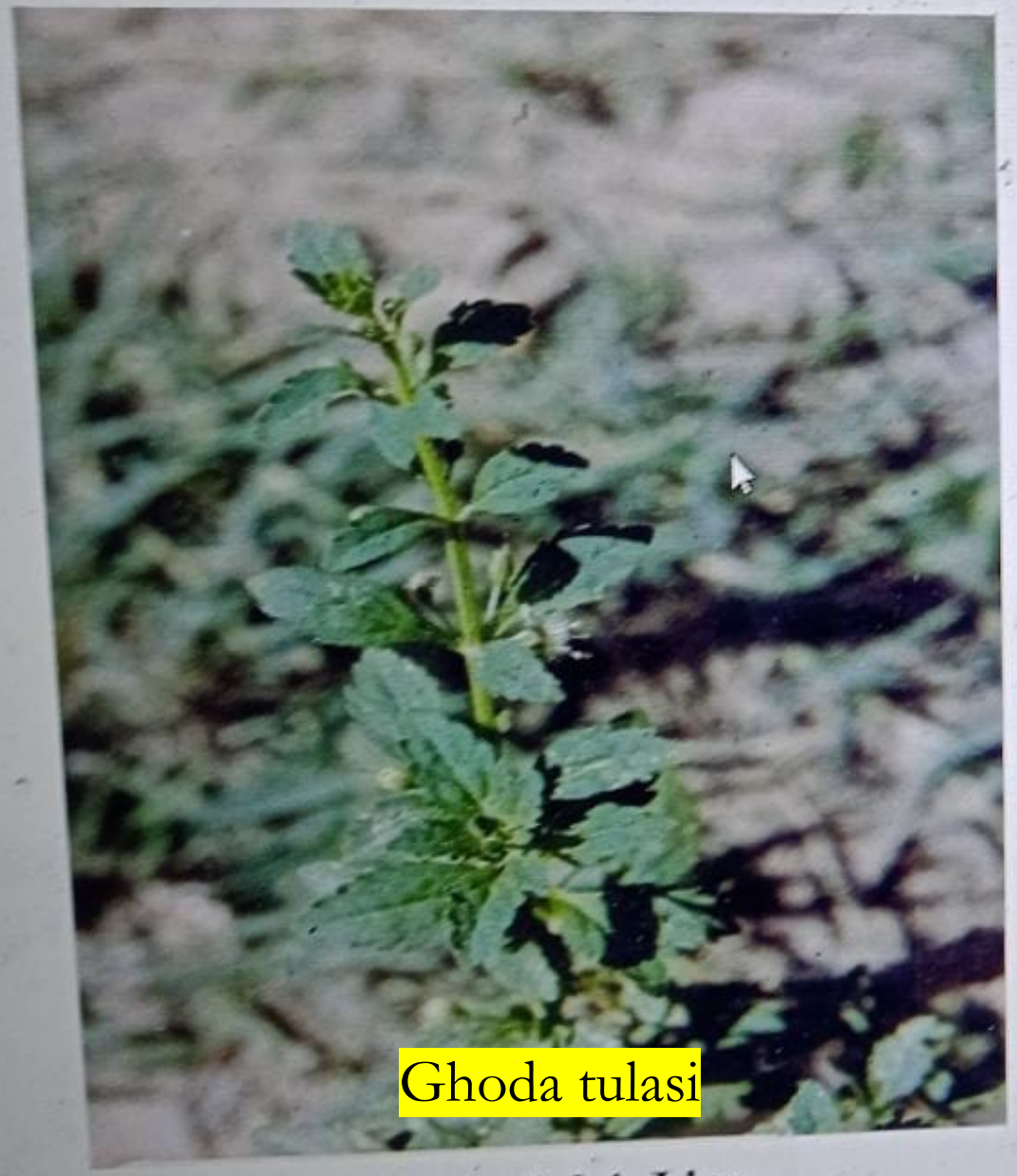
Nagphool

7. *Gmelina asiatica* Linn



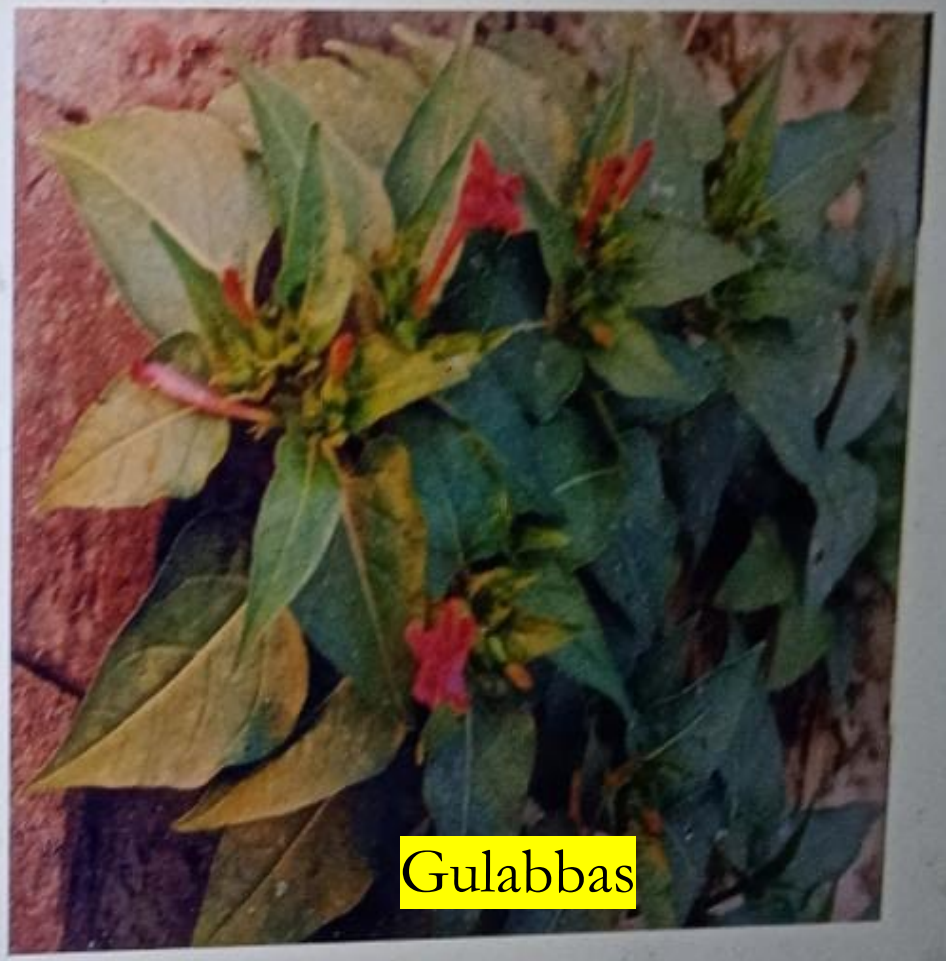
Rangoon ki bel

8. *Quisqualis indica* Linn



Ghoda tulasi

9. *Scoparia dulcis* Linn



Gulabbas

10. *Mirabilis jalapa* Linn

Papaver somniferum

Coffea arabica

THANKS !!!!