Hahnemannian Proving and Clinical Verification of Caesalpinia Sappan

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INTRODUCTION

1.1 HAHNEMANNIAN DRUG PROVING

The systematic procedure of testing drugs on healthy subjects in order to elucidate the symptoms reflecting the action of drugs is called**' Drug Proving'.**

Every system of medicine has its own mode of testing the efficacy of new drug substances. But in Homoeopathy, there is a definite procedure for this purpose, known as 'Drug Proving' described by Dr: Samuel Hahnemann, the founder of this system of medicine. The word 'proving' is derived from the German word 'Prufung' which Hahnemann used to describe the homoeopathic trial on healthy human volunteers. Nowadays, '***to prove***' from the Latin word ***'Probare'*** has the main meaning of test, approve, demonstrate the truth of, by evidence or argument. (The Concise Oxford Dictionary)[1]

Provings are the pillars upon which homoeopathic practice stands.Without accurate proving all prescribing indications are bound to be vague guesses at best, and pure fiction at worst. There is no other way to predict the effect of any given substance as a remedy with any degree of accuracy, and the use of signatures, toxicology or fancy ideas cannot approximate the precise knowledge gained by a thorough proving.

As Hahnemann says in the Organon, paragraph 21:

"therefore, we have only to rely on the morbid phenomena which the medicines produce in the healthy body as the sole possible revelation of their in-dwelling curative power,

2nd Para 110:
the only possible way to ascertain their medicinal powers is to observe those changes of health medicines are capable of producing in the healthy organism; for the pure, peculiar powers of medicines available for the cure of disease are to be learned neither by any ingenious a priori speculations, nor by the smell, taste or appearance of the drugs, nor by their chemical analysis, nor yet by the employment of several of them at one time in a mixture (prescription) in diseases .

All the above gives us good reason to conduct thorough and Comprehensive provings.

Ever since the dawn of homoeopathy drug proving has played a very crucial role in its development. The therapeutic application of homoeopathic drugs is based on it. Hahnemann reasoned that in order to know what healing properties are contained in a given substance, we must know what the substance is capable of doing in a healthy person. The Law of Similar states that any substance, which can produce a totality of symptoms in a healthy human being, can cure the totality of symptoms in a sick human being. Proving of drugs, therefore is a technique for ascertaining the curative powers of a drug.[2]

Dr. Samuel Hahnemann could be the inventor of experimental pharmacology by eliciting the drug pathogenesis on healthy human beings. He preferred this to the conventional method of animal experiment, for assessing the subjective evaluation of the drug effect on the drug on the holistic economy of the human environment. For this, he transformed the crude, toxic or inert substances into simple medicinal preparations by potentisation. Due to the peculiar nature of this method of preparation known as drug dynamisation not only the therapeutic principles are activated but the toxicity of the crude substance is annulled. Apart from this, the human proving without producing any ill effect on the system.[3]

Dr. Hahnemann explains in detail about 'drug proving' in the aphorisms 20 and 105 - 145 of the 6th edition of Organon of Medicine. Proving in the process in which the medicinal substances are administered in a systematic way to healthy human beings over a period of days, just sufficient enough to initiate a reaction in the vital principle of human economy. The pathogenesis produced by it on the prover is recorded and later on clinically verified on patients.[4,5,6]

If we hope to utilize fully this healing potential a vast amount of remedy Proving will still have to be done. Yet, the more details we elicit about Substances, the more confusion and overlapping of details we are bound to come up against. Prescribing was easier, even though less effective, with the relatively limited number of polychrests put at our disposal by past teachers, than it is with the additional array of hundreds of "small" medicines we now have. In the future we will have perhaps thousands of more specifically attuned medicines often closely resembling each other through future provings. Hence, more exact ways of proving and evaluation of proving will have to be used to help us to focus more precisely upon specific points of differentiation.**7**

Even Hahnemann himself, in Chronic Diseases, suggested that proving new remedies would not solve all our problems.What Hahnemann means in this context is that without the true understanding of the inner nature of disease and cure, it will not really help to know more remedies. Vast knowledge of materia medica is only one aspect of homoeopathy and no substitute for philosophy. It was Hahnemann's real intention that wego on producing quality provings, as stated in Para 145:

Of a truth, it is only by a very considerable store of medicines accurately known in respect of these their pure modes of action in altering the health of man, that we can be placed in a position to discover a homoeopathic remedy, a suitable artificial (curative) morbific analogue for each of the infinitely numerous morbid states in nature, for every malady in the world.

And in a footnote to the same paragraph:

But what shall we not be able to effect in the way of curing in the whole extent of the infinitely large domain of disease, when numbers of accurate and trustworthy observers shall have rendered their services in enriching this, the only true materia medica, by careful experiments on themselves ! The healing art will then come near the mathematical sciences in certainty. **7**

1.2 DRUG PROVING - HISTORICAL PERSPECTIVE. 7,8

Paracelsus the medieval physician and great forerunner of Hahnemann claimed that "there is no illness for which some remedy has not been created and established to drive it away and cure it" The proving work of Hahnemann, Kent and their followers, have experimentally established the probable validity of this momentous assumption. The multiplicity of substances that exist on our planet do indeed seem to replicate the many varieties of human illnesses and inner conflicts.

Even though Hahnemann himself originally enunciated the fundamental theoretical basis for the proving of drugs on healthy persons, the first person to introduce drug proving on healthy human beings was physician **Albrecht von Haller**. But still there stray instances on record where provings have been done earlier such as [9,8] **William Alexander**, surgeon in Edinburgh,had made a proving on his body. He nearly lost his life by taking two scruples of camphor, after which he desisted from drug proving.[8]

Samuel Crumpe, an Irish physician, published *'An inquiry into the nature and properties of Opium.'* [8]

Hahnemann was competent in different languages and used to translate many works of considerable significance. While translating '***A treatise on Materia Medica'*** by ***Dr. William Cullen*** who was leading teacher, chemist and physician in Edinburgh, Hahnemann came across the statement made by Dr. Cullen in the book regarding the action of Cinchona bark in the cure of ague. This statement appeared unsatisfactory to the inquisitive mind of Hahnemann and he was prompted to try this drug on himself. Hahnemann experienced symptoms similar to ague after taking this drug. This event lead to the development of a new therapeutic system- HOMOEOPATHY.[8,3] This lead him to a six year study of different drugs on himself and others. The results of the laborious painstaking work of proving homoeopathic medicines was published first in Hahnemann's work "***Fragmenta de Viribus Medicamentorum Positivus***" in 1805 and later in his "***Materia Medica Pura" in*** six parts, between 1811 to 1821. Several thousand symptoms were recorded in an index covering 66 individual medicines. [8]

Hahnemann conducted repeated experimental drug studies on himself and 64 volunteers whose names are listed in his Materia Medica Pura. In total, he investigated 101 remedies over a period of about half a century, establishing the method which has come to be known as **'proving'** (or testing) medicines.[10,8]

His immediate followers, **Hering**, **Stapf** and others, carried out their own provings. During the 19th century, provings multiplied in Germany, France, England and above all in the United States under the powerful influence of Hering.[10,8]

In Austria, from 1842 onwards, the Homoeopathic Society of Vienna undertook numerous reprovings, as well as establishing new pathogenesis. In France, **Petroz** and the amazing **Benoit Mure**, with his Brazilian pathogenesis stand out. The fruits of the great research efforts in America were published by **Timothy Allen** in 1874, in his 12 volume *Encyclopedia* which contained numerous reproving as well as new pathogenesis. [10]

Dr. Hering describes the FIVE STEPS involved in drug proving in the preface of Volume 1 of his 'Guiding Symptoms of Homoeopathic Materia Medica' (1892).

They are: [11,12,13]

1.**PROBABILITY**: When a symptom occurs in a proving there is first a certain probability that it belongs to the remedy picture.

2. **CONFIRMATION**: is obtained by several volunteers during the same proving, or when they recur in other proving.

3. **CORROBORATION**: which means to look for physiological or pathological effects of the drug, when taken in a raw substance i.e.; by accident or in daily life.

4. **VERIFICAITON**: When the drug is given to the sick according to the symptoms it has produced in the healthy, the cures made are the verifications.

5. **CHARACTERISTICS**: When a symptom is consistently verified by the cures, it becomes characteristic for the remedy.

The doses employed varied from the sub toxic material doses to the 30C. in the U.S.A Kent's school of physicians were using the 30C in their reproving.[16] **Kent** in his lectures: "the ***best way to study a (homoeopathic) remedy is to make a proving of it".*** [10]

Kent says:
The materia medica is to be developed by careful and thorough provings of new drugs; we repeat careful and thorough provings, for most of the modern provings are worthless, having been carelessly and improperly made. One is afraid to prescribe upon them; afraid to trust valuable lives to such careless work. How differently do we feel when we prescribe one of the old, reliable remedies. Then security begets quiet reliance and success crowns our efforts.

As time has passed since the days of Hahnemann, so provings have deteriorated in quality. Hering, Wells and other 19th century homoeopaths conducted great provings, but since Kent's time the quality has gradually diminished. Many of the provings conducted in the 20th century have lacked the refinement of earlier provings.

Thus we have a few hundred really thorough provings, the rest of the material medica being composed of partial provings or toxicological reports. Many ofthe remedies in Boericke's Materia Medica or the SyntheticRepertory have had scanty provings or no provings at all, leading to aproliferation of common symptoms as opposed to strange and characteristicsymptoms. **7**

In his Lesser Writings Kent states:
The record of symptoms derived from cases of poisoning, is the poorest kind of evidence for the homoeopathic materia medica. They are useful only ascollateral evidence.

In the United States, the proving technique was perfected by the use of placebo in proving. In a reproving of Belladonna carried out, two in Boston in 1906, one by the American Homoeopathic Ophthalmologic and Otorhinolaryngological Society and three under the direction of **Prof.Howard P. Bellows**, the general instructions for the conduct of the proving, specify, without an ambiguity, the use of placebos, double blind technique and cross over study.[10]

Francois Lamasson, former President of the International Homoeopathic Medical League, has discussed the experimental conditions, which should apply in modern proving. [16] In the *Annales Homoeopathiques Francaises* of 1965, he insists on the necessity of single or double blind technique, on varied subjects, using a range of dilutions, and at different times of the year. The International Council for Research in Homoeopathy chaired by the late Dr. **William Gutman** of New York put forward certain recommendations for the conduct of proving. [10]

1.3 PRESENT CONCEPT OF DRUG PROVING [14,15,5,16,17,3]
Hahnemann preferred proving drug substances on himself and his trusted fellowmen. All these proving were either open or single blind i.e; Hahnemann knew the medicine he was proving on himself and others. With the passage of time, however things changed. In order to eliminate false signs / symptoms and subjective bias, **Drysdale** proposed and introduced a double-blind method for proving of drugs on healthy volunteers where neither the proving master, nor the prover knew the name of the drug used for conducting the proving.[3]

Since 1948, **Randomized Controlled Trials (RCT)** have become the standard design for valid conclusions on the efficacy of medicines.

The requisites of an RCT are: [5]

1. **Control group**- the necessity of a control group is for the comparison of symptoms obtained by the administration of medicine with those of the placebo.

2. **Blinding**- masking both the provers and observers ('double blind') for avoiding bias.

3. **Randomization**- is done for further reducing the bias, so that all provers will get an equal chance for receiving either medicine or placebo.

4. **Statistical evaluation**- an additional requirement is that the results of a well planned and conducted trial have to be evaluated by statistical methods.

RCT can be conducted either by crossover or by parallel studies, of which crossover in the better design. In cross over design, each prover will receive both medicine and placebo, at different stages of the proving.[11]

In 1996, Flavio Dantas coined a new term for drug proving – **'HOMOEOPATHIC PATHOGENETIC TRIAL' (HPT)**. [5] Historically, HPT's are the first systematic experimental approach to detecting changes in healthy volunteers after exposure to a drug. An HPT is a clinical trial to investigate the effects of potentially toxic or pathogenic substances, diluted and attenuated according to homoeopathic pharmacopoeias, in non-patient volunteers in relatively stable healthy conditions. HPT aims to produce valid and useful data concerning objective and subjective changes at mental, general or local levels. This information together with data from toxicological sources and clinical experience after using the medicine, is used to build a data set to be compared with the symptoms an individual patient is experiencing. [5]

To meet today's standards of methodology, the **ECH Subcommittee on Drug Proving** (European Committee for Homoeopathy, 1994) have formulated a ***Minimum Standard for Homoeopathic Drug Proving Protocols*** which is given below:

1. Qualification of proving doctor [5]

a) Minimum 5 years of experience in homoeopathic practice

b) To have personally proved a minimum of three remedies as a volunteer.

2. **Case taking** [5] (before pre-observation phase),case taking is obligatory:

a) For the safety of the volunteer, to make sure that they are healthy enough to take part in a proving.

b) To give a baseline of the actual state of health and symptoms.

c) To make sure that the volunteer has properly understood the purpose and procedure of the proving, is reliable (Aphorism 126, Organon of Medicine), and is able to express their symptoms precisely enough.

3. **Inclusion Criteria:** [5] The volunteers must be healthy in the sense that they do not show severe psychic or physical symptoms and do not consider themselves to be in need of medical treatment. The proving doctor should not see a necessity for treatment either.

4.Exclusion Criteria: [5]Pregnancy, breast feeding, allopathic treatments or homoeopathic drugs, contraceptive pills (intra- uterine pessaries often contain copper).

5. Pre Observation Period: [5]not less than one week before intake of remedy, with recording of symptoms occurring during that time.

6. Drug administration: [5]

a) Definition of the remedy : Origin and identification, way of manufacturing (eg; fresh plant, trituration of mother tincture, way of potentisation, solvent etc:)

b) Dosage and potency : Normally C12 or C30, 3 globules every two hours (if another application form or dosage is given, please explain), as long as no symptoms occur, maximum 6 times during one day, stop drug intake immediately if symptoms occur.

7. **Documentation of symptoms :** [5]

a) Duration of observation of symptoms: minimum 4 weeks.

b) Supervision: Intense contact between proving doctor and volunteer has to secured i.e; daily phone calls, schedule of meetings.

c) Symptoms should include location, sensation, modality, concomitants and chronological records (illustrating how long after the commencement of the proving each symptom arose) and should be presented following the head foot scheme in distinct categories –

- New symptoms
- Old symptoms
- Altered symptoms
- Cured symptoms.

Complete original notes should be kept from each volunteer and proving doctor.

8. <u>The legal requirements of a country must be considered.</u> [5]

At the time of Hahnemann, laboratory investigations and modern techniques to assess the effects of the drug on prover were not available. This has resulted in difficulties of evaluate the physiological, anatomical, biochemical and pathological changes of the system on which the proving took place. So, to make the Materia Medica more pure and scientific, all the possible investigations will be taken up during the proving of a drug.

Remedies proving are the most important source of drug pictures of the homoeopathic materia medica. A continuing supply of high quality proving is essential for the continuance of homoeopathy. Proving is needed to develop new remedies, and to clarify and improve knowledge of existing ones. [5]

INTRODUCTION TO THE PLANT USED FOR DRUG PROVING:

- **NAME** : CAESALPINIA SAPPAN
- **SOURCE** : VEGETABLE KINGDOM
- **FAMILY** : CAESALPINIACEAE
- **VERNACULAR NAME** : SAPPANNAM
- **PARTS USED** : STEM- HEARTWOOD

AIM OF STUDY

- To introduce a new drug (Caesalpinia sappan) into the Homoeopathic Materia Medica
- To elicit the symptomatology of the same through Hahnemannian drug proving
- To verify the pathogenesis produced during drug proving and establish its therapeutic efficacy.
- To verify the pathogenesis produced during drug proving and establish its therapeutic efficacy.
- To apply statistical methodology in clinical verification.
- To find appropriate place for its symptoms in Synthesis Repertory.

PROVING OF CAESALPINIA SAPPAN

2.1 <u>INTRODUCTION</u>

The Homoeopathic Materia Medica contains about 3712 medicines,[18] of which more than 2000 are derived from plants plant origin substances, about 400 are from animal or biological products, approximately 1000 are from chemicals or minerals and the rest are from certain inert substances in crude state, physical energies such as light, X-ray etc. According to the origin, they are grouped into kingdoms of vegetable, animal, mineral, nosode, sarcode, imponderabilia etc;

The use of plants forms the basis of traditional system of medicine all over the world.[3]There are evidences that plant based medicine goes back at least 100,000 years and probably even longer. It has been estimated that 2.5 to 7.5 lakhs species of higher plants exist on earth, some of these have not yet been botanically described. Although there is no way to determine accurately how many of these species have been used in traditional medicine, a reasonable estimate would be about 10% or from 25, 000 to 75,000 species. [5] However, perhaps only about 1% of these are acknowledged through scientific studies to have real therapeutic value when used by humans. All the plants or the plant products used in medicinal preparations are grouped into one category, which is called the ***Vegetable Kingdom.*** [5]

The Vegetable Kingdom, offers us many varieties of medicinal substances, some are of great practical utility, and others have a limited sphere of usefulness. The medicines of this group owe their effects to the juices, which they contain, or to certain properties, which reside in the roots, flowers or seeds. The medicinal qualities of a plant may be obtained from various parts of it, and these qualities may vary from part to part.

So while conducting the proving of a vegetable drug, one should be certain of the part of the plant used, and in publishing the proving, it should be clearly mentioned whether the whole plant is used or a single part of it. If a single part is used it should be accurately stated as to which part- the root, the flowers, the seeds etc. is used for preparation of the raw drug. [5]

In the vegetable kingdom itself, the medicines are grouped into many according to the botanical classification of the plants from which they are derived. The medicine under discussion, **Ceasalpinia sappan** , comes under the family, ***Caesalpiniaceae*** under ordor **leguminosae.**

2.2 LEGUMINOSEAE AND HOMOEOPATHY

The natural order Leguminoseae contribute a number of commonly indicated remedies to Homoeopathy, under Caeslpiniaceae, Mimoseae and Papillionaceae family

CAESALPINIACEAE

1. Balsamum peruvianum
2. Caesalpinia bonducella
3. Cassia alata
4. Cassia fistula
5. Cassia occidentalis
6. Copaiva officinalis
7. Gymnocladus canadensis
8. Haematoxylon campechianum
9. Joanesia asoca
10. Ratanhia peruviana
11. Senna
12. Tamarindus indica
13. Tongo odorata

MIMOSEAE

14. Caliandra houstoni
15. Mimosa humilis
16. Mimosa pudica

PAPILLIONACEAE

17. Abrus precatorius
18. Alfalfa
19. Anangyris foetida
20. Angophora lanceolata
21. Aragallus lamberti
22. Astragallus campestris
23. Astragallus cicer

24. Astragallus excapus
25. Astragallus glycyphyllos
26. Astragallus gummifer
27. Astragallus hornii
28. Astragallus legum
29. Astragallus menziesii
30. Astragallus mollissimus
31. Balsamum pruvianum (Peruvian Balsam from Myroxylon Pereirae)
32. Balsamum tolutanum
33. Baptisia confusa
34. Baptisia tinctoria
35. Chrysarobinum
36. Cicer arietinum
37. Cystius laburnum
38. Cystisium
39. Derris pinnata
40. Desmodium gangeticum
41. Dolichos pruriens
42. Ervum ervilia
43. Erythrophaleum judiciale
44. Eserinum
45. Eysenhardatia polystachia
46. Galega officinalis
47. Genista tinctoria
48. Geoffroya vermifuga
49. Hedysarum ildefonsianum
50. Indigo tinctoria
51. Indolum
52. Kino pterocarpi
53. Kino malabar

54. Lathyrus latifolius
55. Lathyrus sativus
56. Lathyrus sylvestris
57. Lespedeza capitata
58. Lespedeza sieboldii
59. Lobelia erinus
60. Medicago lupulina
61. Melilotus alba
62. Melilotus altissima
63. Melilotus officinalis
64. Mucuna urens
65. Ononis natrix
66. Ononis repens
67. Ononis spinosa
68. Oxytropis campestris
69. Oxytropis Lamberti
70. Phaseolus lunatus
71. Phaseolus vulgaris
72. Phaseolus nanus
73. Physostigma venenosum
74. Piscidia erythrina
75. Psoralea bituminosa
76. Robenia pseudacacia
77. Sarothamnus scopaius
78. Tongo odorata
79. Trifolium alpinum
80. Trifolium arvense
81. Trifolium dubium
82. Trifolium elegans
83. Trifolium pratense

84. Trifolium repens

85. Wisteria sinensis

2.3 CAESALPINIACEAE

2.3.1 General features of ***Caesalpiniaceae*** family[19]

Trees, shrubs or rarely herbs. Leaves pinnate or bipinnate, rarely simple or 1-foliate; stiples mostly absent .Flowers mostly showy, racemose,spicate, or rarely cymose,zygomorphic,rarely actinomorphic, Sepals 5 or the 2 upper ones connate ,mostly free, imbricate or rarely valvate. Petals 5 or fewer or absent ,the adaxial (upper) one inside, the others variously imbricate. Stamens mostly 10, very rarely numerous, often free or variously connate. Anthers various, sometimes opening by terminal pores. Ovary superior, 1- celled. Seeds with copious,thin or no endosperm and large embryo.

A. Leaves simple, abruptly bipinnate

1. Calyx- disk subbasal.Sepals imbricated

Sutures of pod not winged ……. CAESALPINIA

2. Calyx- disk subbasal.Sepals valvate

a. Pod thin, flat …… DELONIX

b. Pod lanceolate, flattened ……..... HAEMATOXYLON

3. Calyx- disk placed considerably above the base … WAGATEA

B. Leaves Simply pinnate. Calyx-tube short. Disk sub basal

1. Petals 5.Anthers mostly dehiscing by a terminal pore ....CASSIA

2. Petals 5. Anthers dehiscing longitudinally ….... CYNOMETRA

3. Petals none. Stamens 5. Leaves abruptly pinnate...CERATONIA

4. Petals none. Stamens 10. Sepals usually 5…….. HARDWICKIA

C. Leaves equally pinnate. Disk at the top of a prolonged calyx tube

1. Petals none …….. SARACA

2. Petals 3-5

a. Stamens monadelphous, only 3 developed ……. TARAMINDUS

b. Stamens 5, free, equal ……..... HUMBOLDTIA

D. Leaves simple, mostly deeply bilobed ……..BAUHINIA

The members exhibit mostly tonic , astringent, and mucilaginous properties; some have a pectoral, and laxative or cathartic action; others are anthelmintic, antiseptic, antipyretic, styptic.

2.3.2 The products obtained from caesalpiniaceae group of plants.[19]

1. Acids – ellagic, gallic, illuric, tannic

2. Carbohydrates – glucose ,sucrose, starch

3. Mucilage
4. Anthraquinone derivatives - Emodin
5. Gums – Copaiba , copal ,tolu
6. Glucosides –brasilin , kaemferin
7. Enzymes – amylase ,catalyse ,peroxidase, protease , urease
8. Bitter principle – bonducin ,sappanin

Vernacular names of plants within the Family Caesalpiniaceae 20

- St. John's bread
- St. Thomas tree
- Bauhinia
- bird-of-paradise shrub
- brazilwood
- butterfly tree
- camel's foot
- carob
- cassia
- ceratonia
- copaiba
- copaifera
- cynometra
- divi divi
- holdback
- mato
- mountain ebony
- nicker
- oreganillo falso
- plume
- railroadfence
- redbud
- shoofly
- texasplume
- sappanwood

Tribus Amherstieae			Genus Amherstia			
Tribus	Bauhinieae	Subtribus	Bauhiniinae	Genus	Bauhinia	L. common name: bauhinia
Tribus Cadieae Baill.			Genus Cadia Forssk.			
Tribus Tounateeae			Genus Tounatea			

Tribus Ceratonieae Genus Ceratonia L. common name: ceratonia
Tribus Cercideae Genus Cercis L. common name: redbud
Tribus Copaifereae Genus Copaifera L. common name: copaifera
Tribus Sclerolobieae Genus Sclerolobium
Subfamily Cassioideae Tribus Cassieae Bronn Subtribus Cassiinae Genus Cassia L. common name: cassia
Tribus Cynometreae Subtribus Cynometrinae Genus Cynometra L. common name: cynometra
Subfamily Detarioideae Tribus Detarieae Subtribus Detariinae Genus Detarium
T: Dimorphandreae SubT: Dimorphandrinae Genus Dimorphandra
Subfamily Swartzioideae Tribus Swartzieae. Subtribus Swartziinae. Genus Swartzia
Subfamily Caesalpinioideae Tribus Caesalpinieae Subtribus Caesalpiniinae Genus Caesalpinia L.

2.3.3 CAESALPINIACEA AND HOMOEOPATHY

MATERIA MEDICA OF IMPORTANT MEDICINES COMES UNDER CAESALPINIACEAE FAMILY

1. BALSAMUM PERUVIANUM (bals-p.)

(Peruvian Balsam from Myroxylon Pereirae)
Useful in bronchial catarrh, with copious, purulent expectoration. Debility; hectic fever.
Nose.-Profuse, thick discharge. Eczema, with ulceration.Chronic, fetid, nasal catarrh.
Stomach.-Vomiting of food and mucus. Catarrh of stomach.
Chest.-Bronchitis, and phthisis, with muco-purulent, thick, creamy expectoration. Loud rales in chest. Very loose cough.Hectic fever and night-sweats, with irritating, short cough and scanty expectoration.
Urine.-Scanty; much mucus sediment. Catarrh of bladder.

2. COPAIVA OFFICINALIS (cop.) (Balsam of Copaiva)
Acts powerfully on mucous membranes, especially that of the urinary tract, the respiratory organs, and the skin, here producing a well-marked nettle-rash. Cold and catarrhs.

Head.-Excessive sensitiveness; pain in occiput. Dull, frontal headache, passes to occiput and back again, with throbbing, worse right side and motion. Scalp sensitive. Sensitive to sharp sounds.

Nose.-Rawness and soreness of nostrils with stopped-up feeling; dryness of posterior nares. Profuse, thick, fetid discharge from nasal passages, running down throat at night. Burning and dryness, crusts on turbinated bones. Marked catarrhal condition in upper respiratory tract.

Stomach.-Food seems too salty. Gastric troubles during menstruation or following urticaria. Gas and intestinal flatulence, urging to stool and difficult passage with pain.

Urinary.-Burning pressure; painful micturition by drops.Retention, with pain in bladder, anus, and rectum. Catarrh of bladder;dysuria. Swelling of orifice. Constant desire tourinate. Urine smells of violets. Greenish, turbid color; peculiar pungent odor.

Rectum.-Mucous Colitis. Stools covered with mucus, with colic and chilliness. Burning and itching of anus, caused by piles.

Male.-Testicles sensitive and swollen.

Female.-Itching of vulva and anus, with bloody purulent discharge. Profuse, strong-smelling menstrual discharge, with pains radiating to hip bones, with nausea.

Respiratory.-Cough, with profuse, gray, purulent expectoration. Tickling in larynx, trachea, and bronchi. Bronchial catarrh, with profuse greenish, offensive discharge.

Skin.-Hives, with fever and constipation. Roseola. Erysipelatous inflammation, especially around abdomen. Circumscribed lenticular patches, with itching; mottled appearance. Chronic urticaria in children. Bullous eruptions.

3. GYMNOCLADUS CANADENSIS (gymno.) (American Coffee-tree)
Sore throat, dark livid redness of fauces, and erysipelatous swelling of face are most marked. Hives. Desire for heat and quiet. Headache, throbbing in forehead and temples and over eyes, with bluish-white coating of tongue. Burning in eyes.

Face.-Sensation as of flies crawling over face. Erysipelas. Great sensibility of teeth.

Throat.-Sore; dark livid redness of fauces and tonsils. Sticking pain. Mucus in throat and hawking. Tickling, with dry cough.

4. HAEMATOXYLON CAMPECHIANUM (haem.)(Logwood)
Sense of constriction is characteristic. Sensation as if a bar lay across chest. Angina pectoris.

Head.-Feels constricted; heavy, hot. Eyelids heavy.

Stomach.-Painful digging from abdomen to throat, causing pain in region of heart with oppression. Colic, tympanitis. Borborygmi and diarrhoea. Swollen, painful.

Chest.-Constriction, extending to epigastrium. Sensation of a bar across chest. Convulsive pain in heart region with oppression. Great soreness in region of heart. Palpitation.

Female.-Pain in hypogastrium, attended with slimy, whitish leucorrhoea. Weak feeling, with painful bearing down sensation at menstrual period.

5. JOANESIA ASOCA (joan.)
(Bark of an Indian Tree, introduced by Dr.N.D.Ray, Calcutta)

Has extensive sphere of action on female organs. Amenorrhoea and metrorrhagia.

Head.-Unilateral headache; reflex uterine, congestive headache, better open air and by free flow. Pain in eyeballs; supraorbital pains, photophobia. Nasal catarrh, profuse, watery discharge. Loss of sense of smell.

Gastric.-Desire for sweets, also acid things. Thirsty, excessive nausea; obstinate constipation, haemorrhoids.

Female.-Delayed and irregular menses; menstrual colic; amenorrhoea, pain in ovaries before flow; menorrhagia, irritable bladder; leucorrhoea.

Sleep.-Disturbed. Dreams of travelling.

Back.-Pain along spine radiating to abdomen and thighs.

6. RATANHIA PERUVIANA (rat.)
Rectal symptoms. Compulsive neurosis.

MIND. Sensitive, easily overturned with stress. Closed person with apprehension and fear. Anxiety about members of the family. Ailments from cares.Fear of death. Fear something will happen when alone, relieved by conversation.Superstitious. Fear something bad is going to happen to himself or his family, if he doesn't do something properly. COMPULSIVE NEUROSIS. Religious insanity.

HEAD: Bursting headache while straining at stool and after stool.

FOOD AND DRINKS: Desire: Chicken, salt, sweets, fat.

RECTUM: HEMORRHOIDS. Protrude with stool.FISSURES of anus with constriction.Long-lasting pains after stool. Aches, as if splinters of glass sticking. Knife-like stitches.Burning pains before and after stool > cold applications. Other pains > warm applications. Excoriation and oozing of rectum. Pin worms.

EXTREMITIES: Pains > motion.

7.SENNA (senn.) (Cassia Acutifolia)
Is of much use in infantile colics when the child seems to be full of wind. Oxaluria, with excess of urea; increased specific gravity. Where the system is broken down, bowels constipated, muscular weakness, and waste of nitrogenous materials, Senna will act as a tonic. Ebullitions of blood at night. Acetonaemia, prostration, fainting, constipation with colic a flatulence. Liver enlarged and tender.

Stool.-Fluid yellowish, with pinching pains before. Greenish mucus; never-get-done sensation. [Merc.] Burning in rectum, with strangury of bladder. Constipation, with colic and flatulence. Liver enlarged and tender, stools hard and dark, with loss appetite, coated tongue, bad taste, and weakness.

Urine.-Specific gravity and density increased; hyperazoturia, oxaluria, phosphaturia, and acetonuria.

8. TONGO ODORATA (tong.) (Seeds of Coumarouna -a tree in Guiana)

Useful in neuralgia; pertussis.

Head.-Tearing pain in supra-orbital nerve, with heat and throbbing pain in head and epiphora. Confused, especially the occiput with somnolence and a sort of intoxication. Trembling in right upper lid. Coryza; nose stopped, must breathe through mouth.

Extremities.-Tearing pains in hip-joints, femur, and knee, especially left side.

9.TAMARINDUS INDICA

Tama

Tamarindus indica. Tamarindus officinalis. Tamarind. Imlee. N.O. Leguminosae. In the Middle Ages, the Arabs brought the Tamarindus from India to Europe, where it is now very common. The Arabic name Tamr hindi [meaning 'date of India'] was later corrupted to the genus name Tamarindus."People consuming tobacco in any form, chewing or smoking, are especially affected. Tamarindus may be useful to give up the habit of tobacco chewing or smoking. Provers addicted to tobacco developed some unbearable symptoms of tobacco, e.g. vertigo. One rover who had stopped smoking one year back, developed increased desire for smoking again and now he is not able to give it up." [Vakil]

2.4 CAESALPINIA Linn 24

A genus of about 150 species of lianes and trees, distributed in the tropical and sub-tropical regions. Ten species occur in India. A number of these provide tanning materials; some yield dyes and a few are medicinal 24

Several important dyes are obtained from natural phenolic compounds in plants. Brazilin ($C_{16}H_{14}O_5$) and hematoxylin ($C_{16}H_{14}O_6$) are pigments from the heartwood of two tropical American trees. During the Middle Ages, colorful red and purple dyes were difficult to obtain and very expensive. During the 1400s, one of the finest red dyes for cotton and wool came from the heartwood of an Asian tree called sappanwood (**Caesalpinia sappan**). Then in 1500, Portuguese ships discovered and claimed the Atlantic side of South America that straddled the equator and the tropic of Capricorn. This land mass was called terra de Brasil and later Brazil, because of the dyewood trees (**Caesalpinia echinata**) that grew there in abundance. The valuable dye from brazilwood (called brazilin) became a popular coloring agent for cotton, woolen cloth and red ink. As with precious cargoes of gold and silver, Portuguese ships loaded with brazilwood were favorite targets for marauding buccaneers on the high seas .Although these dyes have been replaced by synthetic aniline dyes, they are still used extensively in acid-base titrations and nuclear stains for histology and microbiology.

PLANT GENERA CAESALPINIA

Trees or climbing shrubs, unarmed or armed. Leaves large, abruptly pinnate; stipules various. Flowers yellow or red, in axillary or terminal racemes or panicles. Calyx deeply cleft with the disk confined to its base ; segments 5, imbricate , the lowest concave or boat- shaped. Petals distinctly clawed, orbicular (rarely oblong), spreading, imbricate, subsequal or the uppermost (the inner) smaller than others. Stamens 10, free,declinate; filaments often villous or glandular at the base; anthers uniform, dehiscing longitudinally. Ovary sessile or subsessile;ovules few. Style filiform , sometimes clavate at the apex; stigma terminal . Pod oblong or ligulate, flat or turgid, indehiscent or dehiscent, smooth or prickly. – Species 60. –Tropical and subtropical.

A. Pod dry, armed on the faces with abundant wiry prickles.

Petals narrow

1. Leaves with a pair of reduced pinnae at the base ….

1. CAESALPINIA CRISTA

2. Leaves without reduced stipular pinnae…….

2. CAESALPINIA JAYABO

B. Pod dry, naked on the valves, indehiscent or finally dehiscing.Petals broad.

1. Pinnae 4-6 Leaflets 4-6
   3. CAESALPINIA NUGA
2, Pinnae 20-24 Leaflets 20-24
   4. CAESALPINIA SAPPAN
3. Pinnae 12-18 Leaflets 20-24

5. CAESALPINIA PULCHERRIMA

4. Pinnae 12-20 Leaflets 16-24

6. CAESALPINIA SEPIARIA

C. Pod rather fleshy, indehiscent, naked on the faces. Petals broad
1. Leaflets 60-20…….
7. CAESALPINIA DIGYNA
2. Leaflets 25-30 pairs
8. CAESALPINIA CORIARIA

2.4.1Caesalpinia group of plants 20

a. Caesalpinia bonduc

b. Caesalpinia bonducella

c. Caesalpinia coriaria

d. Caesalpinia crista

e. Caesalpinia cuculata

f. Caesalpinia decapetala

g. Caesalpinia digyna

h. Caesalpinia jayabo

i. Caesalpinia mimosoides

j. Caesalpinia nuga

k. Caesalpinia pulcherrima

l. Caesalpinia sappan

m. Caesalpinia sepiaria

n. Caesalpinia spicata

2.4.2 MEDICINAL IMPORTANCE OF CAESALPINIA GROUP OF PLANTS [19,21,22,23,24,25,26]

1. CAESALPINIA CORIARIA

Powder of Pods used as astringent, antiperiodic and tonic; decoction in the treatment of bleeding haemorrhoids; bark : antiperiodic; beneficial in chronic fever

Biological action ;Fruit - semen coagulant [23]

2. CAESALPINIA CRISTA L.;

syn. Caesalpinia bonduc. syn C. bonducella
Root are used as diuretic, tonic, anticalculous. [23] Seeds are used as antiperiodic . antipyretic. tonic, febrifuge,used in asthma, in snake-bite. antirheumatic, antidiarrhoeal .Tender leaves—in disorders of the liver.

Leaves and seeds—used in external applications for dispersing inflammatory swellings .Leaves and bark are used as emmenagogue., febrifuge., anthelmintic /Oil from seed is emollient. used as embrocation to remove freckles from the face and for stopping discharges from the ear. Bitter amorphous glycoside bonducin isolated from the oil .bitter principle ineffective.

Biological action.: Seed shows antifertility action; nut-antidiarrhoeal rootand stem-antiviral[23]

AYURVEDIC USES: Beneficial in gynaecological disorders, skin diseases, constipation, abdominal lump, piles, ulcer, worms and deranged kapha. Leaves are beneficial in deranged kapha, vata, piles, worms and oedema; laxative, katuvipaka, ushnaveerya, aggravates pitta: laghu. Fruits cure deranged kapha and vata, polyuria, piles, worms and skin diseases[25]

Therapeutic Uses : Seeds : recommended in fever, asthma and colic (dose 0.7 to 2.1 g of powdered seeds with equal quantity of black pepper); used externally in cases of inflammation; oil: emollient and efficacious for stopping discharges from the ear and other skin diseases; leaves (tender) in disorders of liver; boiled with castor oil or butter fat effective when applied externally on painful and swollen testicles; leaves and bark : emmenagogue, anthelmintic and febrifuge. [25]Used against bird malaria [22]

3.CAESALPINIA DIGYNA

Root used as astringent, given internally in scrofulous affections , phthisis and diabetes. [25] (It pacifies deranged tridosha; cures emaciation; tuvara (kasnaya); rrlost efficacious in goitre, polyuria and tuberculosis.[25.]

1. CAESALPINIA NUGA

Roots are used as diuretic, tonic, useful in gravel and stone in bladder.

Pulped fruit and stems yield a fish poison.

5. CAESALPINIA PULCHERRIMA

Syn . Poinciana pulcherrima L (peacock flower; Barbados pride)

Leaves are used as purgative, tonic and emmenagogue; bark used as abortifacient. [25] Infusion of flowers prescribed in bronchitis, asthma and malaria[24]

6 CAESALPINIA DECAPETALA syn CAESALPINIA SEPIARIA

Bark as astringent ;leaf – emmenagogue,laxt [22]applied to burns; root and leaf – purgative .Administration of plant extract (500 mg/kg, p.o.) on days 1-8 post-coitum, exhibited significant contraceptive activity in female hamsters, but was devoid of any estrogenic activity. [26 .]

7 CAESALPINIA JAYABO MAZA

Resembles C. crista to some extent, and is of minor medicinal value. [24]

In Indo-China the bitter leaves used as emmen. and the root prescribed in dysentery.

2.4.3 Medicinal plants commonly used in Foreign countries

In Malaya - Caesalpinia sappan
In Indo China - Caesalpinia sappan C.bonduc Roxb.,
C.bonducella Flem.,C. pulcherrima , C.sepiaria
In China -, Caesalpinia sappan C.sepiaria
In Java - C.bonducella ,
In the Philippine Islands - Caesalpinia sappan C.bonducella,
C. bonduc C. pulcherrima
In the Molucca islands - C. nuga

In West Indies. - *C.bonducella , C .Coriaria*
In Brazil- *C. echinata*
In Guiana- *C. pulcherrima*
In Madagascar and La Reunion-*C.bonducella , C.sepiaria*
In Guinea - *C.bonducella*

2.4.4 Caesalpinia group of plants commonly used in Indian system of medicine [21]

- Caesalpinia bonducella
- Caesalpinia crista
- Caesalpinia pulcherrima
- Caesalpinia sappan

2.4.5 CAESALPINIA LINN AND HOMOEOPATHY

Only one medicine has proven under Caesalpinia group.The medicine is Caesalpinia bonducella

CAESALPINIA BONDUCELLA(Nata)

Clinical: Fever, headache etc

Mind: Mental depression; lack of enthusiasm.

Head: Terrible headache; better by wrapping, by pressure.

Eyes: Terrible pain as if burn before and during invasion of fever, relieved by cold applications.

Tongue: Slight white coating on the tongue; bloodless white moist tongue; thirst for cold water.

Abdomen and stomach: Gurgling in lower abdomen; enlargement of liver and spleen, which is painful to touch; desire for boiled rice, meat or other hard substance; aversion to liquid food.

Stool: Hard, saffron-coloured or liquid and yellow coloured stool.

Fever: Regular: fever with chill and shivering on one day and on the other day it appears with slight chill; fever comes at 8-10 A.M. or 2-4 P.M. In intermittent fever there is no thirst when fever comes at after noon: again in morning fever there is thirst in hot stage. Flushed face; hot breath; hurried respiration. After the remission of fever patient feels extremely weak, disinclined to do any work even to talk; with closed eyes, likes to sleep.

Skin: Dry, dirty, small eruption like mosquito bites.

Back: Drawing pain in back after cold bath.

2.5 CAESALPINIA SAPPAN

Is of 6-9m in height, the thickness is within the palm. It is with an ash-grey bark, (which is) yellowish brown inside, with quite hard, somewhat red wood, (turning) red with age; A shrub or small tree found in south India,West Bengal, Orissa and Madhya Pradesh; Ceylon, Burma andMalaya. It is usually cultivated as a hedge plant. The orange-red heartwood finds use in the dyeing of cotton, silk and wool fabrics.

VERNACULAR NAMES [22,23,24,25,30,110]

NAMES OF CAESALPINIA SAPPAN **IN DIFFERENT INDIAN LANGUAGES**

Hindi	Bakam, patang
Sinh	Patangi
Kannada	pattanga, sappanga
Malayalam	Chappanga sappannam, chappanam, , patrangam, tsja-pangan
Marathi	Patang,
Beng	Bakam, patang;
Sanskrit	pattaranjaka,Patanga
Tamil	Vettangi, , patungam, sappamgu
Telugu	Bakamu,Putanga
Urdu	Patang.

FOREIGN NAMES OF CAESALPINIA SAPPAN [110,19]	
Arabic	Baqqam Baqum
Persian	Bakam.
Spanish	Palo de Brazil
Malaya	Davon setjang
English	Sappanwood, Brazil wood
Japanese	Sappan Lignum
Burma	Teinnyet
Combodia	Sbeng
Canarese	Pattanga, patranga, sappanga
Chinese	Su Fang Mu, Su Mu
French	Bois de sappan

The freshly cut surface of the wood is light yellow, but quickly changes to red. A transverse Section shows a pattern like annual ring.Almost odorless; almost tasteless.[27] Prickles on branches thinly dispersed and small. Flowers during summer and fruits during winter. [25].

The source of the colouring matter in C. sappan is brazilin, $C_{16}H_{14}O_5$, soluble in water and alcohol, and crystallizing in colourless silky needles. On exposure to atmospheric oxygen, it is converted into brazilein,$C_{l6}H_{12}SO_5$. For extracting the colouring matter, the wood is cut into chips or rasped into powder and extracted twice with hot water. The deep orange extract is allowed to ferment before use, so that brazilin is converted into brazilein.

The leaves contain 0.16—0.25% of a pleasant-smelling essential containing α phellandrene as the chief constituent. Oscimene is also reported to be present.

Classification for Kingdom Plantae Down to Species of Caesalpinia sappan L 20

- Kingdom ***Plantae*** Plants Kingdom
- Division ***Magnoliophyta*** Angiosperms , flowering plants
- Subdivision ***Magnoliophytina*** Angiosperms
- Class ***Rosopsida***
- SuperOrder ***Fabanae***.
- Order ***Fabales*** legumes
- Family ***Caesalpiniaceae***
- Subfamily ***Caesalpinioideae***
- Tribus ***Caesalpinieae***
- Subtribus ***Caesalpiniinae***
- Genus ***Caesalpinia*** L.
- Species Caesalpinia sappan L

2.5.1 IDENTIFICATION

2.5.1..1 MORPHOLOGY [24,19]

STEM
Stem prickly,15-25cm.diameter.;with branches hanging down towards the sides, whitish inside, with short and curved spines running in between;

ROOT
the root is fibrous, from white to reddish, odourless; with saffron bark, covered with a black skin.

LEAVES
Leaves 20-38 cm; long; pinnae 8-12 pairs, 10-15 cm long subsessile, with small prickles at the base.Leaflets 10-18 pairs , 1.3-2 by 1 cm.,subsessile, close,oblong, rounded at the apex ,attached at the lowest corner,very inequilateral (the upper side much the largest) glabrous above,more or less puberulous beneath.

The leaves have pleasing smell, the taste however slightly sharp and bitter. At sun-set, they shut in themselves and draw together with the inner sides like the leaves of Balam-pulli,

FLOWERS
Flowers, without smell, yellow, burst forth many in racemes at the tips of defoliated shoots, consisting of ten, almost round, slender leaves, of which the five outer ones are a little cuspidate and light green; one of the middle ones being small, with rose coloured vein-lets thrown across, by the side of which is a green, oblong leaf, surrounding the whole flower. From the flowers there come out ten knotted, from yellow to green stamens, provided with black, semicircular apices, curved inwards, so also with a common smooth base, white with down, containing the rudiment of the fruit. Similar, compressed, large pods, adhering to strong petioles, are four transverse thumbs long and almost two thumbs (fingers) broad, with a thicker cuspidate back, the venter a little curved inwards, ripe and dried ones are with hard, horny and shining dark rind, covered inside with cartilage, which when they are younger, is transparent, then wraps and separates

the oblong, slightly smooth seeds, (which are) from ash-grey to dark, adhering to the back of the pods transversely by means of tongue-like structures.

Flowers in panicles,which are terminal and in the axils of the upper leaves,30-40 cm long; pedicels 1.3-1.5 cm. long; bracts lanceolate, 8 mm. Long, caducous . Calyx 11mm, long ,leathery ,glabrous.Corolla 2 cm across; petals orbicular , subequal,yellow,the upper with a red spot at the base .Stamens declinate ,waxy white ; filaments densely woolly at the base . Ovary gray velvety.Pods 7.5-10 by 3.8-5 cm., woody , obliquely oblong,subcompressed,polished,indehiscent,with hard recurved short beak at the upper angle of the obtuse apex.

Being fond of sandy soil, it is commonly grown throughout the whole of Malabar, because of its decoration and use. It grows spontaneously (freely) in Travancoor. in the provinces of Goendre and Elle de Soroan and other mountainous places. Flowers from April up to September. Fruits are plucked by the end of the year. Bears fruits when three years old; extends its life to hundred years during winch it is never defoliated.

Under a microscope, a transverse section reveals ray Composed of 1 – 2 rows of slender and long cells; the area between rays filled with fiber cells, and large and oblong

Vessels scattered there; solitary crystals of calcium oxalate in Parenchymatous cells of the innermost of xylem.

2.5.2 MICROSCOPICAL FEATURES OF CAESALPINIA SAPPAN

STEM

The internal structure of Caesalpinia sappan shows the presence of three tissue system. 1. Epidermal tissue system 2.Granulation tissue system and 3.vascular tissue system.

Epidermis : It is the outermost protective layer composed of compactly arranged thin walled parenchymatous cells,intercellular spaces are absent in epidermis.

Cortex. The tissue beneath the epidermis is called cortex. It can be differentiated in to three region

a. Hypodermis ; This is the outermost part of cortex .It has few layer of chlorenchymatous cells.These are living cells and contain chloroplast.

b. General cortex; The region of few layer p cells seen beneath the hypodermis is called general cortex

Endodermis ; It is the innermost layer of cortex . It consists of large barrel shaped closely packed cells.

STELE

The part of stem inside the cortex is called stele. It consists of three region

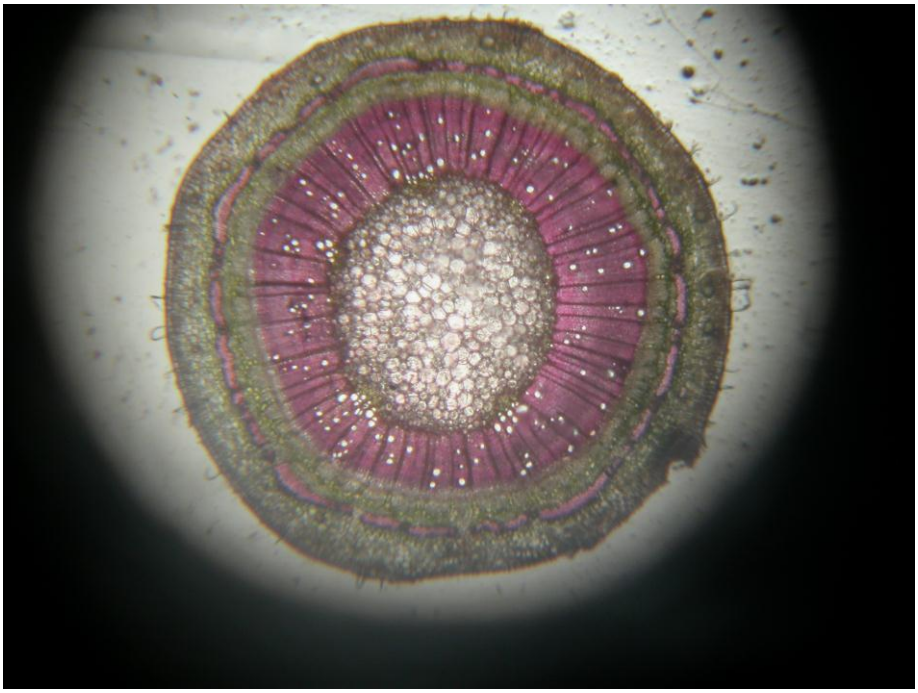
a. Pericycle The layer of cells founded in between endodermis and vascular tissue is called pericycle

b. Vascular tissue; Vascular bundles are conjoined , collateral and open - it consists of xylem and phloem. Xylem toward inside and phloem toward outside

Cambium ; A single layer of meristematic cells between xylem and phloem

Pith or medulla . Pith is the ground tissue present in the center.pith is composed of parenchymatous cells.

PHOTO MICROSCOPIC VIEW OF CROSS SECTIONS OF CAESALPINIA SAPPAN STEM



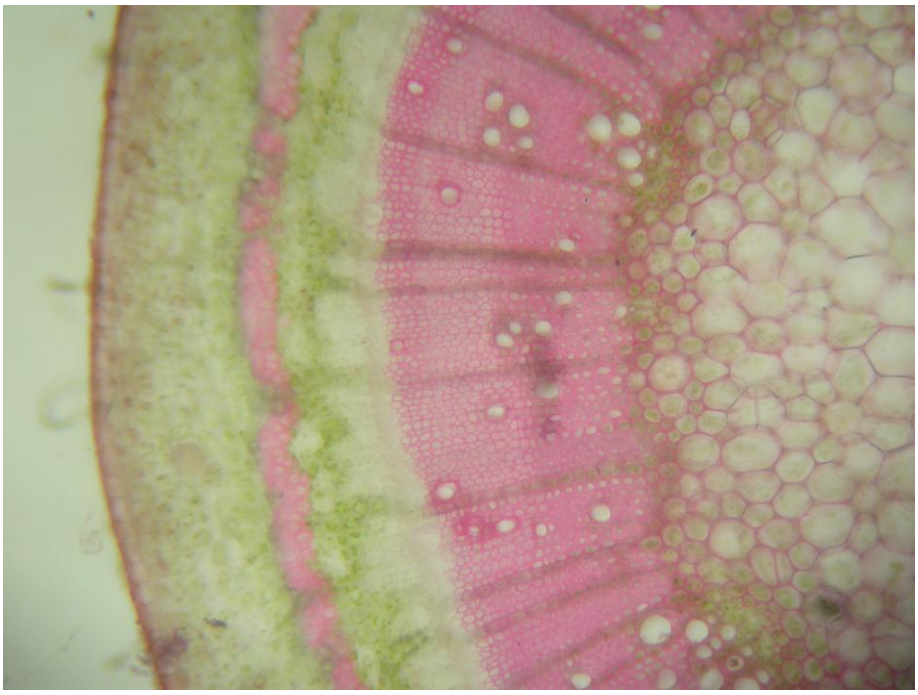
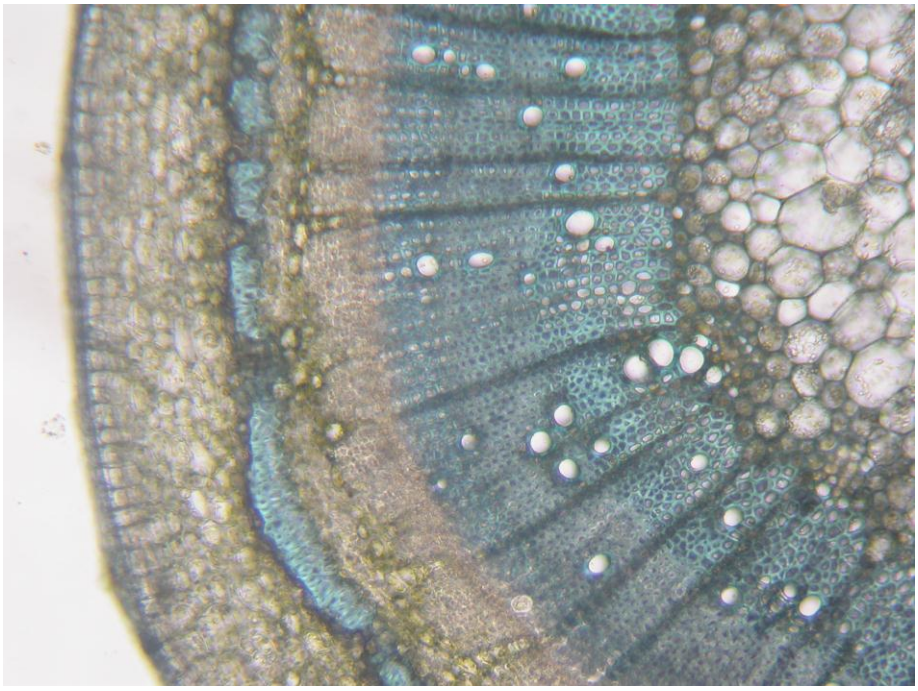


PHOTO MICROSCOPIC VIEW OF CROSS SECTIONS OF CAESALPINIA SAPPAN ROOT



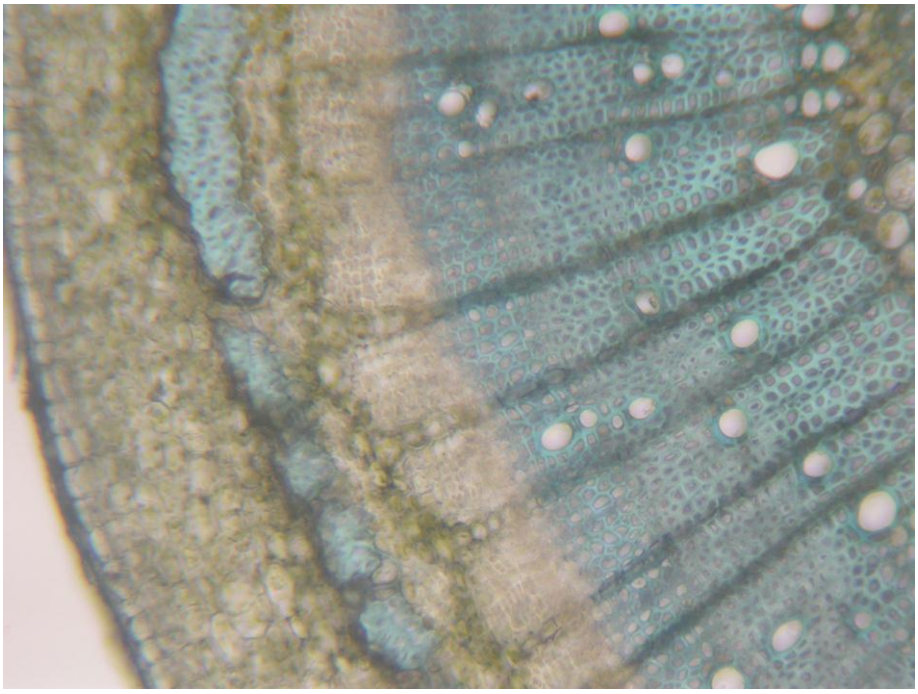
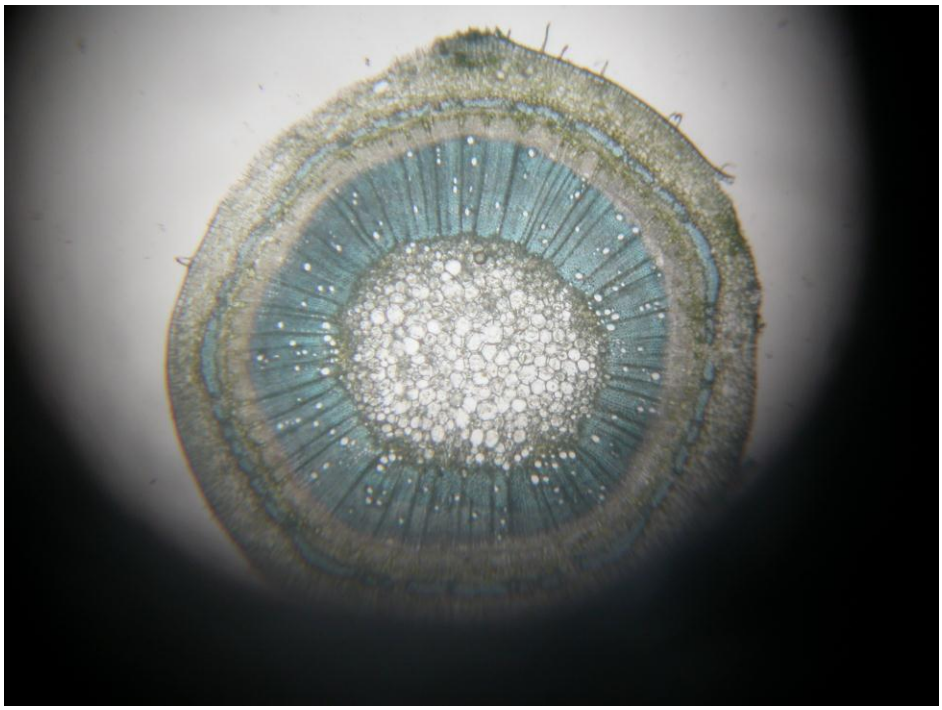
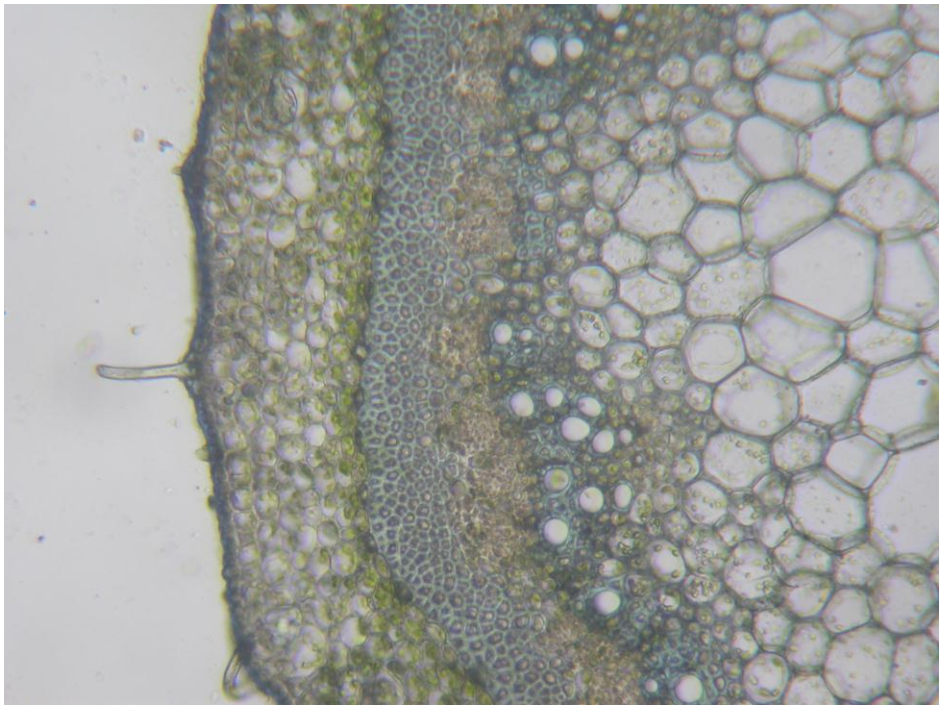


PHOTO MICROSCOPIC VIEW OF CROSS SECTIONS OF CAESALPINIA SAPPAN ROOT





ROOT

Rootcap ; It is composed of parenchymatous cells, protection in function.

Epidermis ; Outermost closed single layered ,but it lack cuticle stomata.

Cortex composed of thin walled polygonal cells

Endodermis ; ; It is the innermost layer of cortex . It consists of large barrel shaped cells without intercellular spaces.

Pericycle The layer of cells founded in between endodermis and vascular tissue is called pericycle

Vascular tissue ; Of root is charcterised by its radial arrangement. Xylem bundle alternate with phloem bundle. Xylem exarch

Conjunctive tissue ; it is parenchymatous tissue present between xylem and phloem

Pith ; Is very small and centrally located parenchymatous tissue

LEAF

Internal structure of Caesalpinia sappan shows following characteristics

Upper Epidermis ; it is made of single layered cells which are closely packed ,outer wall covered by thick cuticle parenchymatous

Mesophyll; It is chloroplastic containing photosynthesis tissue. It has two part

a. Palisade part composed of two layered closely arranged columnar cells . Large amount of chloroplast present in each cells.

b. Spongy tissue . Present below the palisade. It consists of loosely arranged irregular shaped cells with large intercellular space in between them

Vascular bundle; These are irregularly distributed in the spongy tissue . Each vascular tissue is composed of thin layer pf parenchymatous

Cells called bundle sheath . Within the vascular the xylem is seen toward the upper epidermis and phloem toward the lower epidermis

MIDRIB ; At this region Palisade cells are absent . Its position is occupied by collenchymas followed by parenchymatous cells above vascular bundle

Lower epidermis ; Similar to upper epidermis, numerous stomata are present in this layer each stomata is surrounded by two Guard cells is followed by a substomatal cavity

Identification of wood

To 0.5 g of pulverized Sappan Wood add 10ml of dilute ethanol, shake, and filter. To 5 ml of the filtrate add 2 to 3 drops of sodium hydroxide TS: a dark red color develops.

CAESALPINIA SAPPAN – HERBARIUM SPECIMEN

2.5.4 USES

From the red wood. which is offered for sale everywhere, boiled in water a black tincture is produced (which they call ink) which when diluted with alumine. becomes reddish, and is chiefly in use for dyeing linen with red colour and other things: it is however made dark with lime. If the white wood of the shoots is roasted with lime, immediately turns red: when it is mild turns yellow, this wood is employed for making by hand precious and more fine pieces of work. 24

Sappan wood extract finds use in calico printing for producing steam reds and pinks. Aluminium acetate or stannic oxalate is used as mordant in combination with an oxidizing agent (potassium chlorate or copper sulphate). With cotton fabrics, mordanted by tannin-alum, it produces a bright reddish-orange shade. In combination with indigo, purple shades are

obtained. Wool and silk can be dyed using alum, potassium dichromate or

iron salts as mordants, but the shades produced are not fast

The pod-cases and bark contain tannin (c. 40% in the former). Both these materials, in combination with iron, have been used in dyeing to produce black shades

The wood is hard, takes a shining polish and is useful for inlaying work It is used to a limited extent in cabinet making and for making scabbards and walking sticks (Burkill, loc. cit.). 24

2.5.5 Medicinal uses of Caesalpinia sappan19,21,22,23.24,25

A decoction of wood is considered a powerful emmenagogue.It is used as such in Indo China .

Given internally as a decoction the wood is useful in some forms of skin diseases, lichen especially.

In China , the wood is used as a vulnerary for wounds, haemorrhages , and disturbance of menstrual functions. It is also considered astringent and sedative.

A decoction of wood is said to be very useful in curing dysentery and diarrhoea

Sappan wood is astringent and is administered as a decoction (1 in 20) in doses of 0 5-20 fluid oz.

Sepang Heartwood To treat stomach ulcer or stomach cancer in Malay21

In Philippines *Caesalpinia sappan* sapang Treats hemorrhage no21

2.5.5.1 INDEGENIOUS USES OF CAESALPINIA SAPPAN

Ayurveda

The wood is bitter , dry sour ,cooling ;cures "vata", biliousness, fevers,delirium, ulcers, strangury, urinary concretions,

mental disorder; cures boils. 25

blood complaints; improves the complexion

Yunani

The wood is bitter; stops bleeding from the chest and lungs; heals wounds, ulcers; improves the complexion; useful in rheumatism

2.5.6 BIOLOGICAL ACTION OF CAESALPINIA SAPPAN

Stem- semen coagulant, anti-cancer;

heartwood and brazilin - and inflammatory

2.5.7 REPORTED PHARMACOLOGICAL STUDIES

A number of pharmacological studies and clinical experimental research based on the pharmacological action of Caesalpinia sappan being carried out in different institutions all over the world

Inhibitory effects of Caesalpinia sappan on growth and invasion of methicillin-resistant Staphylococcus aureus 28

Brazilin modulates immune function mainly by augmenting T cell activity in halothane administered mice.

Anticonvulsant compounds from the wood of Caesalpinia sappan L.were carried out.

Induction of vasorelaxation through activation of nitric oxide synthase in endothelial cells by brazilin.

Brazilein, is an important immunosuppressive component from Caesalpinia sappan L. Caesalpinia sappan induces cell death by increasing the expression of p53 and p21WAF1/CIP1 in head and neck cancer cells. 29

2.5.8 Chemical Constituents : 26

Leaves contain d- α βphelandrene and oscimene.

Triglycerides of fatty acids are reported from the seeds.

Caesalpin J and caesalpin P isolated from heartwood and their structures elucidated ;crystal structure of caesalpin J determined ;two new aromatic compounds (I and II) isolated from heartwood and characterised ; protosappanin A isolated from heartwood and its structure determined and confirmed by X-ray analysis; isolation and structure elucidation of prolosappanin B from heartwood a novel dibenzoxocin derivative (III) isolated from heartwood and its structure elucidated .octacosanol, β sitosterol and taraxerol isolated from heartwood ,three new homoisoflavonoids - 7-hydroxy-3-(4'-hydroxybenzylidene)chroman-4-one (IV), 3,7-dihydroxy-3-(4'-hydroxybenzyl)chroman-4-one (V) and 3,4,7-triirydroxy-3-(4'-hydroxybenzyl)chroman (VI) - isolated from heartwood along with 4,4'-dihydroxy-2'-methoxychalcone, 8-methoxybonducellin, quercetin, rhamnetin and ombuin; three new homoisoflavonoids - 3'- O methylsappanol, 3'-O-methyl-episappanol and 3'-O-methylbrazilin - isolated from heartwood and absolute configurations of new compounds as well as sappanol, episappanol and 3'-deoxysappanol determined

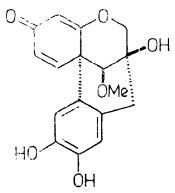
protosappanin C isolated from heartwood and characterised; its absolute configuration at C-7 determined as R

CHEMICAL STRUCTURE OF Caesalpin J, Caesalpin P, Two new aromatic compounds (I and II), Protosappanin A, Protosappanin B,

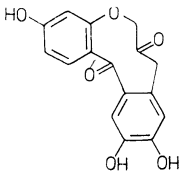
Protosappanin C, 7-hydroxy-3-(4'-hydroxybenzylidene)chroman-4-one (IV), 3,7-dihydroxy-3-(4'-hydroxybenzyl)chroman-4-one (V) ,

3,4,7-triirydroxy-3-(4'-hydroxybenzyl)chroman (VI),

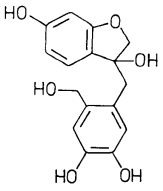
3'-O-methylbrazilin, 3'- O methylsappanol and 3'-O-methyl-episappanol



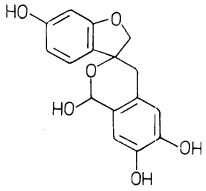
Caesalpin J



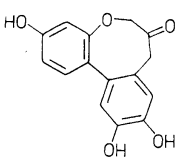
Caesalpin P



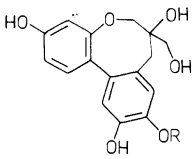
I



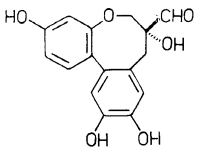
II



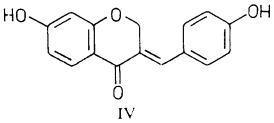
Protosappanin A



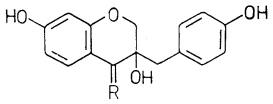
Protosappanin B
R = H
III
R = Me



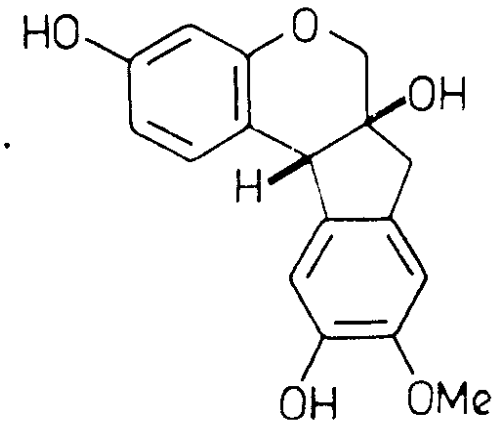
Protosappanin C



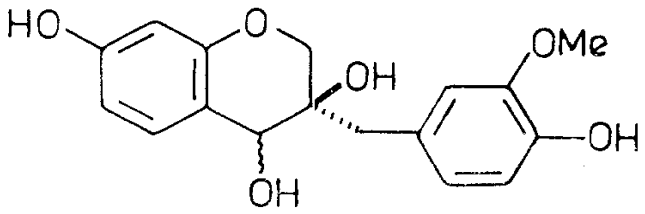
IV



V
R = O
VI
R = OH,H



3′-O-Methylbrazilin



3′-O-Methylsappanol

~ = β

3′-O- Methylepisappanol

~ = α

2.6 PHARMACOGNOSTIC AND PHYTOCHEMICALINVESTIGATIONS OF CAESALPINIA SAPPAN

2.6.1PREPARATION OF MOTHER TINCTURE AND STANDARDISATION

2.6.1.1 **Preparation of Mother Tincture – Class IV method.**

1. Principle: The mother tincture is prepared by adding five parts by weight of strong alcohol to one part by weight of powdered drug.

2. Requirement:

Ingredients : drug substance and strong alcohol.

Appliances : chopping board and knife, mortar and pestle, horn spatula, linen cloth, beakers, glass bottles, glass funnel with stand, filter paper, glass rod, balance with weight box, pan, paper, gum etc;

3. Procedure: the dried vegetable substance was pulverized into a fine powder. The powdered drug was weighed and taken in a glass jar. Five times its weight of alcohol was added to it and mixed with the powder. After thorough mixing, the whole mass was kept in a glass-stopped bottle in a cool dark place for 15 days. The mixture was shaken nicely two times a day. After this period the clear tincture was decanted, the residual substance was strained by a new linen cloth, and added to the previously decanted tincture. It was again filtered by a filter paper, and stored in a glass- stopper phial.

2.6.1.2. ***Standardization of Mother Tincture***

pH	**5.88**		**Total solids**		**2.58**
	Weight per ml		**0.93**		**Specific gravity**	**0.95**
Alcohol content	**77.4%**				

2.6.1.3 Physical constant

Purity
Put a small piece of Sappan Wood in calcium hydroxide TS: no purple-blue color develops.

Loss on drying
Not more than 11.5z (6 hours).

Total ash
Not more than 2.0z

Extract content
Not less than 7.0z (dilute ethanol-soluble Extract

2.6.2 QUALITATIVE CHEMICAL EXAMINATIONS

The extracts obtained above were subjected to qualitative tests for the identification of various plant constituents.

1. Detection of Alkaloids : stirred a small portion of the solvent free from chloroform, alcoholic and water extracts with a few drops of dilute hydrochloric acid and filtered. The filtrate was tested with Meyer's reagent. Meyer's test - -ve.

2. detection of Carbohydrates :

Dissolved a small quantity of the alcoholic and aqueous extracts separately in 4 ml of distilled water and filtered. The filtrate was tested with:

a. Mollisch' reagent (carbohydrate) - + ve.

b. Benedict's test (reducing sugar) - +ve.

3. Detection of protein and free Amino acids :

A small quantity of the alcoholic and aqueous extracts were separately dissolved in water and tested with :

a. Millon's reagent - +ve

b. Biuret reagent - +ve

c. Ninhydrin reagent - +ve

2.6.2.1 **THIN LAYER CHROMATOGRAPHY OF MOTHER TINCTURE (TLC)**.

The mother tincture was subjected to chromatographic separation by thin layer chromatography

Solvent System

Chloroform : Methanol :Acetic acid in 90:10:1 ratio.

Adsorbent – Pre coated silica Gel Plate

Visualisation by using spray reagent – 10% Sulphuric Acid in Chloroform : Methanol :Acetic acid in 90:10:1 ratio, four chrominant spots were observed with Rf values.

a) 0.93 b) 0.81 c) 0.66 d) 0.54

THIN LAYER CHROMATOGRAPHY OF CAESALPINIA SAPPAN – DRIED EXTRACT DISSOLVED IN ALCOHOL

THIN LAYER CHROMATOGRAPHY OF CAESALPINIA SAPPAN – MOTHER TINTURE

2.7 MATERIALS AND METHODS [112,113,114.116,119]

2.7.1 SELECTION OF PROVERS

Apparently healthy individuals are taken as provers. A consent form having name, age, sex, address and an undertaking is used to take the consent of the provers. Among the provers, both males and females are included, to get the changes produced in the sexual sphere. 20 persons are included in the study out of

which 30% are controls. They are of different age groups – ranging from 18 to 45 years of age. All the provers are students, post-graduate students or teachers of Govt: Homoeopathic Medical College, Calicut. Since the physician himself is the best prover, the experiment will yield the best results.

1. Inclusion Criteria [116,119]

The person should be reasonably healthy and well balanced body, soul and spirit.

The subject must be well acquainted with homoeopathic methodology, and must have a good knowledge of the symptomatology found in materia medica. This is necessary for the subject to fully appreciate the particular deviations that may manifest during the proving.

The subject must be able to lead a life which is as normal as possible during the course of the proving so as to allow a definite time for sleep, for working, for eating etc;

The subject must be intelligent enough to properly appreciate and record the subjective symptoms as deviations from his normal condition of life. These subjective symptoms are of utmost value.

Honesty is a pre – requisite of a good prover, for he must be very careful to record all phenomena from the very beginning of the trial.

2. Exclusion Criteria [116,119]

The subject should not be hysterical or anxious person. This is necessary because such individual display a high incidence of placebo effect.

Those who note down a lot of emotional symptoms. Too many symptoms in these realms confuse the final results.

Those who obviously omitted to recall symptoms or who exhibited superficiality in reporting.

Those who suffer from hypersensitivity diseases such as asthma, hay fever, allergies, food hypersensitivities etc;

3. Guide lines to Provers[116,119]

Before starting the proving, all the provers were given the following instructions so as to get a clear picture of the proving.

- To have a normal routine life.
- To have a simple diet with minimum spices and no drinks or smoking and if taken, to specify it while reporting.
- To avoid over exertion both mentally and physically.
- To avoid any other medication during the course of the proving.
- To report everyday to the proving master or write down all the details by themselves.
- To mention in the prover's report about any probable precipitating factor which could have produced the symptoms such as over exertion, night watching, any excitement, excess intake of coffee/tea, over eating, indiscretion in diet etc;
- To avoid any extraneous influence, this may distort the result.

4. **Sex Ratio of Provers**

Male 12: Female 08.

5. **Age group of Provers**

18-45 years

6. **Ethical considerations** [116,119]

- The subject or prover should be in such a mental, physical and legal state as to be able to exercise fully his or her power of choice.
- Consent should be, as a rule, be obtained in writing from the subject. However, the responsibility always remains with the investigator, or investigating team. It never falls on the prover even after the consent has been obtained.
- The nature and purpose of the drug proving must be explained to the subject or prover.
- Proving should never be done in toxic doses. For
- toxic symptoms we must rely solely on the reports of accidental provings recorded in toxicological literature.
- The investigator or investigating team should discontinue the provings if in his, her, or their judgment, the proving , if continued, be harmful to the subject.

2.7.2 SELECTION OF THE DRUG

Proving is done with standard preparations of Caesalpinia Sappan Q and 30 potencies. Potencies are given in clean phials, as medicated No.40 globules, identical phials of globules of saturated with dispensing alcohol are used as placebos. Food colours were used to make mild alcoholic solutions resembling the mother tincture, for controls.

Guide lines for the selection of the drug [116]

Care is taken that, nothing, which may ruin the health, is proposed for proving.

Proving should never be done in toxic doses.

2.7.3 PRE-TRIAL MEDICAL EXAMINATION OF THE PROVER [116,119]

As it is nearly impossible nowadays to find perfectly healthy provers, a format is designed to minimize recording of any pre-existing pathological symptoms. This is known as ***pre-medical examination proforma//////*** (Appendix-III). The details of physical and clinical examination along with constitutional, both mental/ emotional and physical traits were recorded in this form. Along with this, routine laboratory investigations were also done, ***Lab investigation Report///////*** (Appendix-IV) to confirm the fitness of the prover.

2.7.4 EXPERIMENTATION [112,113,114,116,119]

Hahnemann's concept of proving of drugs on healthy human volunteers with modifications proposed by Drysdale, specifying blinding of both the proving master and provers (double blind method), and cross-over design were followed during the entire course of the proving. Proving in done in 20 people over a period of 6 months. Out of these 20 provers, 6 are kept as controls (30%). Controls are later used as provers and vice versa in different stages of the proving (cross over design).

The drug is given in the mother tincture and 30^{th} potency. Mother tincture is given 10-20 drops (1 drop per kg body wt), 4 times daily for a period of 14 days unless the symptoms arise earlier. 30 C is given in a dosage of 4 pills 4 times daily for one week, and if no symptoms arise, the dose is increased to 4 pills 2hrly.

Each prover was provided with sufficient number of predesigned ***Prover's Day Book Proforma*** (Appendix-V) to record all the signs and symptoms, subjective and objective, they might observe during the course of

the proving. The provers were directed to report to the proving master everyday, and hand over the recorded symptomatic data.

The proving master elaborates each symptom, by writing down the sensation, location, modalities, concomitants and extensions [***symptoms elaboration proforma***/////////(Appendix- VI)].

In the event any prover(s) developing any signs/ symptoms, administration of drug was stopped immediately and was nor re- administered as long as the sign(s) /symptom(s) persisted. Disappearance of sign(s) and symptom(s) was followed by a washout (drug free) period of 7 days, and in case there was no recurrence of sign(s) and symptom(s), the drug was re-administered. During the course of the proving, the proving master took care to ascertain and record atmospheric changes, alteration is sleep, and eating habits of the prover(s) to ensure evolution of true drug pathogenesis.

1. **Guide lines for the recording of symptoms** [116]

- Adherence to the protocol, honesty and sincerity are pre-requisites both on the part of investigators and the subject.
- The provers must make a day book entries at least 3 times a day, to prevent even minor memory lapse.
- Each entry should record even the slightest deviation from the subject's normal life.
- Intensity and duration of the symptoms should be carefully recorded.
- Possible-exciting causes should be recorded meticulously.
- A detailed record of the order of appearance of all the symptoms should be made. Duration and the modifying characters of the symptoms, together with concomitants should be properly recorded.
- Recording should be done without biased ideas about the outcome of the proving.

2. **Way of minimizing errors** [116(59)]

- The subject are assured that the information will be treated as confidential.
- There should be frequent meetings between investigators and subjects, to record the elaboration and clarification of each symptom.

2.7.5 POST- TRIAL MEDICAL EXAMINATION OF THE PROVER [119 (59)]

After the completion of the experiment, all the physical and mental symptoms are again recorded. Along with this, similar lab investigations as carried out at the time of the pre-medical examination are also done. This is known as ***post-trial medical examination proforma*** ////(Appendix-III).

2.7.6 DATA COMPILATION, INTERPRETATION AND

FORMATION OF MATERIA MEDICA OF

CAESALPINIA SAPPAN[116,119(59,62)]

When the proving trials conclude, all daily records of the provers are collected, and all symptoms, which represent deviations from the prover's normal, listed. Any variations in pre and post proving findings (by comparing pre trial and post trial medical examination report forms) were also recorded. The symptoms generated by the placebo subjects (controls) are deleted from the records, all the remaining symptoms collected and Materia Medica is formed. While comparing the data, due care was exercised to retain the expression used by the provers "ipsissima verba" as far as possible. Those signs and symptoms, which were distinctly experienced by the prover(s) who were administered the drug, are arranged in a schematic manner (according to Boericke's Materia Medica).

2.7.7 CLINICAL VERIFICAITON

Statistical methodology will be utilized during clinical verification in 30 patients (both male and female and of different age groups), attending the OPD and IPD of Govt: Homoeopathic Medical College, Calicut.

2.7.8 INCLUSION OF SYMPTOMS IN THE RUBRICS OF SYNTHESIS REPERTORY

Symptoms obtained during drug proving which are included in the Materia Medica of the drug Caesalpinia Sappan are to be represented properly in Synthesis Repertory.

2.8 SYMPTOMATOLOGY OF CAESALPINIA SAPPAN

MIND

a) Tincture

1. Concentration difficult (4) < after noon (2)
2. Euphoria fresh in the whole morning and day (3)
3. Calmness of mind (1)
4. Increased determination (1)
5. Lack of interest in doing anything, Seeks consolation (1)
6. Sympathy for others suffering (1)
7. Mental tension by slightest factor (1)
8. Mental tension relieves (1)
9. Fresh and well feeling in the morning (2)

b) 30C Potency

1.Concentration difficult (2) < afternoon (1)
2.fresh in the whole morning and day (2)
3. Calmness of mind (1)
4. Lack of interest in doing anything(1)
5. Fresh and well feeling in the morning (2)

VERTIGO

a) Tincture

1.Vertigo (2) < morning (1)
2.Vertigo > lying down (2)
3. Vertigo < standing (2)
4.Tendency to fall (2)
5.Sensation as if turning in a circle < afternoon (3)
6.Vertigo > after food (2)

b) 30 C Potency

1.Vertigo < morning (2)
2.Vertigo > lying down (1)
3.Falling tendency

Empirical use

Used in vertigo associated with hypertension. Tincture is useful to reduce hyper tension, it reduces blood pressure to 80/50 mm of Hg

HEAD

a) Tincture

1.Heaviness of head (5) < waking from sleep
2 Heaviness of head < 5 am
3 Heaviness of head >lying down (2)
4.Headache: Frontal (4) < rising from chair & bed (3),
5. Headache: Frontal <afternoon till evening (2)
6.Headache: Right occipital, Stitching type of pain < motion (1)
7.Headache: Vertex < afternoon (2)
8.Headache right side < reading (1)
9.Dull headache <2 pm till 6-7 pm > at night, (2)
10. Pain left side of head.
11. Headache from cold bathing < in the early morning

b) 30C Potency
1.Headache left side of head & face of head < evening (2)
2.Heaviness of head (2) < waking from sleep (2)
3.Headache: Frontal (2) < rising from chair & bed (2)
4.Heaviness and sleepiness due to night watching > after sleep (1)
5.Headache Temporal (3) both side, Mainly left < evening (2)
6.Headache. Temporal both side more on left side < evening (3)
7.Headache: Vertex < afternoon (2)

EYES
a) Tincture
1.Pain in left eyelid Stitching type of pain < closing the eye (1)
2.Pain in eye as if protruded (1)
3.Pain in right eye (2) Stitching type of pain (1)
4. Pain left eye Aching pain (1)
5. Eye opening difficult due to weakness of body (2)
6.Pain left eye, left nostril, left side of head (3)

b) 30 C Potency
1. Pain left eye, left nostril, left side of head (3)
2.Pain in left eyelid < closing the eye (1)
3.Pain in right eye (2)

EAR
a).Tincture
1.Pain in left ear <empty swallowing (1)

NOSE
a) Tincture
1. Pain in left nostril
2. Watery discharge from nose < evening
3. Coryza with weakness of all over the body
4. Sneezing < morning
5. Coryza with thin watery discharge < morning
6. Stopped sensation in nose < morning

b) 30C Potency
1.Coryza, nasal obstruction (more on left side)
2. Clear jelly like, thick mucus from nose especially from left
3.Clear jelly like, thick mucus from nose especially from left < warm room
4.Clear jelly like, thick mucus from nose especially from left >open air

FACE
a) Tincture
1. Pain in left side of face < evening (2)
2. Pain in left maxillary region < stooping (1)
3. Pain in maxillary region < evening (1)

b) 30C Potency
1. Pain in left side of face < evening (1)
2. Pain in left maxillary region < stooping (1)

MOUTH
a) Tincture
1.Ulcers on the tongue (1)
2.Bitter taste in mouth < evening (1)

b) 30C Potency
1.Bitter taste in mouth < evening (1)

TEETH
a). Tincture
1. Pain in left molar tooth <eating (1)

b). 30C Potency
1. Pain in left molar tooth < morning 7am(1)
2. Toothache <eating (1)
3. Toothache < drawing air, cold (1)

THROAT
a) Tincture
1. Itching of throat (2)< 12 midnight (2)
2. Must clear the throat constantly.
3. Glairy mucus comes out from throat while clearing the throat (1)

b) 30C Potency
1.Tendency to clear throat constantly (1)
2.Itching of throat (1)
3.Glairy mucus comes out from the throat (1)

STOMACH
a) Tincture
1. Appetite increased (5) during morning (2),
2. Appetite increased 10am(1)
3. Appetite increased <12 noon (1)
4 Appetite increased < empty stomach (1)
5 Burning in stomach < morning (1)
6.Ravenous appetite (2)
7. Ravenous appetite <morning 8 am (1)
8. Emptiness in stomach at 10am
9. Emptiness in stomach at 10 am > after eating 1-1 ½ after food (1)
10. All gone feeling in epigastrium, before noon, before food
11. All gone feeling in epigastrium without eructation, with palpitation (1)
12. Desire coffee (1),
13. Desire chocolate (1)
14. Heartburn from slightest mental exertion
15. Heartburn < 10am (1)
16. Nausea (2) while waking < 5am till 9am
17. Thirst decreased (1)

b) 30C Potency
1.Appetite increased (5) during morning (2),
2. Appetite increased 10am(1)
3. Appetite increased <12 noon
4. Increased appetite< waking on (2)
5. Burning in stomach < morning (1)
6. Ravenous appetite <morning (1)
7 .All gone feeling in epigastrium, before noon,
8 All gone feeling in epigastrium < before food
9. Nausea while waking (1)
10.Thirst decreased (1)
11.Emptiness in stomach at 10 am
12 Emptiness in stomach > after eating
13. Heartburn < 10am (1)

ABDOMEN
a) Tincture
1. Allgone feeling in abdomen < before food,
2. Allgone feeling in abdomen <before noon (1)
3. Allgone feeling with palpitation
4. Pain in abdomen < 4 am (waking hours)
5. Colicky pain in abdomen lasted for about 10 minutes (1)

6. Pain in left inguinal region (1)
7. Fullness feeling in hypogastrium < after food (2)
8. Fullness feeling in hypogastrium >evening (2)
9.Fullness feeling in hypogastrium without pain (2) < after noon (2)

b) 30C Potency
1.Discomfort and distension of abdomen < after journey (2)
2.Allgone feeling in abdomen < before food (1)
3.Pain in left inguinal region (1)
4.Fullness feeling in hypogastrium < after food (2)
5. Fullness feeling in hypogastrium >evening (2)

RECTUM
a). Tincture
1. Constipaton (3)
2. Pain and dryness at the margin anus <morning (4)
3. Pain and dryness at the margin anus < With hard stool (2)
4. Diarrhoea (4)

b) 30C Potency
1.Constipaton (1)
2. Diarrhoea (2)
STOOL
a) Tincture
1. Chopped eggs like (1)
2. Hard and dry stool (4)
3. Watery (2)

URINE
a) Tincture
1.Bladder is frequently filled with urine (2)
2.Tendency to urinate intermittently (2)
3.Fullness feeling in hypogastrium without pain (2) < after noon (2)
4. Urination profuse (1)
5.Pain during urination (3)

b) 30 C Potency
1.Bladder is frequently filled with urine (1)
2.Tendency to urinate intermittently (2)
3. Pain during urination (3)

GENITALIA -FEMALE
a) Tincture
1. Menses early, 3 days (2)
2. Menses profuse (2)

b) 30C Potency
1.Menses early, 3 days (1)
2. Menses profuse (2)

CHEST
a) Tincture
1.Palpittion with all gone feeling in abdomen (1)

RESPIRATION
a) Tincture
1. Difficulty in breathing < evening
2. Difficulty in breathing > sitting
3. Dry cough < 10 pm (1)
4. Cough With itching of throat (2)
5. Cough with sensation as if it would end in a vomit (1)
6. Cough several paroxysm (1)

b) 30 C Potency
1. Cough With itching of throat (1)
2. Dry cough (1)
3. Cough with sensation as if it would end in a vomit (1)

BACK
a) Tincture
1. Pain in back Bursting type of pain, wants to lie on back (3)
2. Backache > lying (2)
3. Pain in shoulder to finger tip (1)
4. Backache bursting > lying on back (2)

b) 30 C Potency
1. Backache > lying (2)
2.Backache bursting > lying on back(2)

EXTREMITIES
a) Tincture
1. Weakness of upper and lower extremities < 12 noon (3)
2. Weakness of upper and lower extremities < After Supper (1)
3. Weakness of upper and lower extremities < After lunch (2)
4. Weakness of upper and lower extremities > lying in bed (1)
5. Pain in left arm. (1)
6. Pain shoulder to finger tip (1)
7. Pain in wrist joint. right (1)
8.Heaviness of extremities (2)
9. Coldness of extremities in open air (1)

b) 30 C Potency
1. Pain in left arm. (1)
2. Heaviness of extremities (2)
3. Weakness of upper and lower extremities

Empirical use
Clinical Varicose vein >

SLEEP
a) Tincture
1. Deep sleep night (6)
2. Sleepiness: early night (3)
3. Sleepiness weakness due to (2)
4. Sleep disturbed (1)
5. Dozing< early morning (1)

b) 30 C Potency
1 . Deep sleep night (3)
2. Sleepiness: early night (2)
3. Drowsiness (1)
4 .Sound sleep (3)

PERSPIRATION
a) Tincture
1.Increased (2)
2.Increased with Vertigo (2)
3. Increased < morning (1)

b) 30 C Potency
1.Increased (1)

SKIN
a). Tincture

1. Hard and black coloured eruption on forearm and leg (2)

b).30C Potency
1. Eruption on forearm and leg
2.Eruption on forearm and legs turn to black after itching

GENERAL MODALITIES
a) Aggravation
1.morning (8)
2.10 am (3)
3.Afternoon (4)
4.Evening (5)
5.Before food (3)
6.After food (2)

b)Amelioration
1.After food (3)
2. lying down (2)

3. CLINICAL VERIFICATION

The therapeutic efficacy of a drug is established only after the clinical verification in patients .In Homoeopathy this is done after proving it on healthy human beings

After proving Caesalpinia Sappan in Q and 30C ,I have Clinically verified the symptom in 30 cases. I have selected 30 acute cases , since follow up time for chronic were inadequate. Of these 30 acute cases, 17 cases were males and 13 cases were females . These patients come under various age groups, ranging from 6-60 years .The drug was verified on a number of clinical conditions. The basis of prescription was the pathogenesis produced during the drug proving in Q and 30C.

The main clinical conditions where the drug was found to be effective are////vertigo, headache, eye pain, loss of appetite ,all gone feeling in abdomen, constipation ,diarrhoea, and dysuria

The symtomatology points its use in chronic conditions like hypertension, hypotension, amenorrhoea, sleeplessness and ////////////////skin complaints blackness

CLINICAL CONDITIONS IN WHICH CLINICAL VERIFICATIONS WERE CARRIED OUT

CLINICAL CONDITIONS	NO.OF CASES
Vertigo	7
Headache	5
Eye pain	3
Loss of appetite	4
All gone feeling in abdomen	4
Constipation	2
Diarrhoea	2
Dysuria	3

AGE WISE CLASSIFICATION OF PATIENTS INVOLVED IN CLINICAL VERIFICATION

AGE GROUP	NO.OF CASES
0-10	3
11-20	8
21-30	8
31-40	5
41-50	5
51-60	3

TABLE

Out of 30 patients studied, 24 patients got relief from their complaints. The remaining 6 patients do not show improvement, and for these patients,suitable acute medicines given

FINAL MATERIA MEDICA OF CAESALPINIA SAPPAN

4.1 INTRODUCTION TO FINAL MATERIA MEDICA

The final Materia Medica of Caesalpinia Sappan has been formed after proving the drug in tincture and 30C, followed by clinical verification of these proved symptoms.

I have selected the symptoms in the Final Materia Medica, based on certain criteria, which are given below in the order of importance. They are

1. Those symptoms, which were verified during clinical verification.

2. Those symptoms which have been obtained commonly, while proving Q and 30C

3. Those symptoms which were very intense, and persists for several days during proving

4. Those symptoms which were seen in majority of provers.

5. Those symptoms which were peculiar, characteristic or striking, even if seen in only very few provers

6. Incomplete and vague symptoms have been omitted from the final Materia Medica

I have inserted the potency or tincture after each symptom, to show in which potency a particular symptom was produced .I have used 'Q' to denote mother tincture.Symptoms obtained from empirical usage or clinical studies were denoted

by(:) .

Various Materia medicas-Hahnemann, Kent, Boericke Hering, Clarke, Copperthwait have been consulted for preparing the final Material Medica.

CAESALPINIA SAPPAN

Vernacular name : Sappannam

Family : Caesalpiniaceae

Source : Stem -Heartwood

Habitat: Found in South India , West Bengal, Ceylon, Burma, and malaya . Commonly grown throughout the whole Malabar ,because of its decoration and use. It grows spontaneously (freely) in Travancore , in Kundara,north and south of Quilon

Preparation: Tincture from dried powdered heartywood –stem according to Class 1V method.

Sphere of action: It has prominent action on the gastro intestinal system, eye and head. Other important sites are the nose, throat, urinary system, locomotor system, and respiratory system.

Side affinity: Predominantly Left sided.

Empirical uses
The decoction of wood is considered a powerful emmenagogue.It is used as such in Indo China .

Given internally as a decoction the wood is useful in some forms of skin diseases, lichen especially.

In China , the wood is used as a vulnerary for wounds, haemorrhages , and disturbance of menstrual functions. It is also considered astringent and sedative.

A decoction of wood is said to be very useful in curing dysentery and diarrhoea

Sappan wood is astringent and is administered as a decoction (1 in 20) in doses of 0 5-20 fluid oz.

Ayurvedic uses. The wood is bitter , dry sour ,cooling ;cures "vata", biliousness, fevers,delirium, ulcers, strangury, urinary concretions, mental disorder; cures boils.///104

Blood complaints; improves the complexion

Uses in Yunani System of Medicine. The wood is bitter; stops bleeding from the chest and lungs; heals wounds, ulcers; improves the complexion; useful in rheumatism.

1.MIND

Concentration difficult < after noon (Q).Euphoria fresh in the whole morning and day (Q). Calmness of mind (Q).Increased determination (Q).Lack of interest in doing anything, Seeks consolation (Q).Sympathy for others suffering (Q).Mental tension by slightest factor (Q).Mental tension relieves (Q).. Fresh and well feeling in the morning (Q). Concentration difficult < afternoon (30C) fresh in the whole morning and day (30C)

Calmness of mind (30C). Lack of interest in doing anything (30C). Fresh and well feeling in the morning (30C)

2.VERTIGO

Vertigo < morning (Q) .Vertigo > lying down (Q) . Vertigo < standing Q) Tendency to fall (Q). Sensation as if turning in a circle < afternoon (Q). Vertigo > after food (Q). Vertigo < morning > lying down (30C).Falling tendency(30C)

3.HEAD

Heaviness of head < waking from sleep(Q) Heaviness of head < 5 am(Q)

Heaviness of head >lying down (Q). Frontal headache < rising from chair & bed (Q) . Frontal headache <afternoon till evening (Q). Right occipital headache , Stitching type of pain < motion (Q). Vertex headache < afternoon (Q). Right side headache < reading (Q) .Dull headache <2 pm till 6-7 pm > at night, (Q) Pain left side of head.(Q)

Headache from cold bathing < in the early morning(Q)Headache left side of head & face of head < evening(30C) .Heaviness of head < waking from sleep (30C). Frontal headache < rising from chair & bed (30C).Heaviness and sleepiness due to night watching > after sleep (30C).Headache Temporal both side, Mainly left < evening (30C)

Temporal headache both side more on left side < evening (30C)

Vertex headache < afternoon (30C)

4.EYES

Pain in left eyelid Stitching type of pain < closing the eye (Q).Pain in eye as if protruded (Q) .Pain in right eye Stitching type of pain (Q) Pain left eye Aching pain (Q). Eye opening difficult due to weakness of body (Q). Pain left eye, left nostril, left side of head (Q). Pain left eye, left nostril, left side of head (30C). Pain in left eyelid < closing the eye (30C)Pain in right eye (30C)

5.EARS

Pain in left ear <empty swallowing (Q)

6.NOSE

Pain in left nostril(Q).Watery discharge from nose < evening (Q)Sneezing < morning(Q).Stopped sensation in nose < morning(Q).Coryza and nasal obstruction (more on left side) (30C). Clear jelly like, thick mucus from nose especially from left (30C).Clear jelly like, thick mucus from nose especially from left < warm room (30C).Clear jelly like, thick mucus from nose especially from left >open air (30C)

7.FACE

Pain in left side of face < evening (Q)Pain in left maxillary region < stooping (Q)

Pain in maxillary region < evening (Q) Pain in left side of face < evening (30C)

Pain in left maxillary region < stooping (30C)

8.MOUTH

Ulcers on the tongue (Q).Bitter taste in mouth < evening (Q).Bitter taste in mouth < evening (30C)

9.TEETH

Pain in left molar tooth <eating (Q)Pain in left molar tooth < morning 7am(30C)

Toothache <eating (30C)Toothache < drawing air, cold (30C)

10.THROAT

Itching of throat (2)< 12 midnight (Q)Must clear the throat constantly.(Q) Glairy mucus comes out from throat while clearing the throat (Q)Tendency to clear throat constantly (30C)Itching of throat (30C)Glairy mucus comes out from the throat (30C)

11.STOMACH

Appetite increased (5) during morning (Q). Appetite increased 10am(Q). Appetite increased <12 noon (Q) . Appetite increased < empty stomach (Q) .Burning in stomach < morning (Q) .Ravenous appetite (Q). Ravenous appetite <morning 8 am (Q). Emptiness in stomach at 10am(Q) Emptiness in stomach at 10 am > after eating 1-1 ½ after food (Q). All gone feeling in epigastrium, before noon, before food (Q). All gone feeling in epigastrium without eructation, with palpitation (Q) . Desire coffee (Q). Desire chocolate (Q) . Heartburn from slightest mental exertion(Q). Heartburn < 10am (Q). Nausea (2) while waking < 5am till 9am(Q) . Thirst decreased (Q) .Appetite increased (5) during morning (30C). Appetite increased 10am(30C). Appetite increased <12 noons (30C). Increased appetite (2) < waking on (30C). Burning in stomach < morning (30C). Ravenous appetite <morning (30C) .All gone feeling in epigastrium, before noon, (30C). All gone feeling in epigastrium < before food(30C). Nausea while waking (30C).Thirst decreased (30C).Emptiness in stomach at 10 am (30C) Emptiness in stomach > after eating(30C). Heartburn < 10am (30C)

12.ABDOMEN

Allgone feeling in abdomen < before food, (Q). Allgone feeling in abdomen <before noon (Q). Allgone feeling with palpitation(Q). Pain in abdomen < 4 am (waking hours) (Q). Colicky pain in abdomen lasted for about 10 minutes (Q)

Pain in left inguinal region (Q) . Fullness feeling in hypogastrium < after food (Q)

Fullness feeling in hypogastrium >evening (Q) .Discomfort and distension of abdomen < after journey (30C).Allgone feeling in abdomen < before food (30C)

Pain in left inguinal region (30C).Fullness feeling in hypogastrium < after food (30C)

Fullness feeling in hypogastrium >evening (30C)

13.RECTUM

Constipaton (Q). Pain and dryness at the margin anus <morning (Q).

Pain and dryness at the margin anus < With hard stool (Q).Diarrhoea (Q).

Constipaton (30C. Diarrhoea (30C)

14.STOOL

Chopped eggs like (Q)Hard and dry stool (Q)

Watery (Q)

15.URINE

Bladder is frequently filled with urine (Q).Tendency to urinate intermittently (Q)

.Fullness feeling in hypogastrium without pain (2) < after noon (Q). Urination profuse (Q).Pain during urination (Q).Bladder is frequently filled with urine (30C).Tendency to urinate intermittently (30C). Pain during urination (30C)

16.GENITALIA –FEMALE

Menses early, 3 days (Q) .Menses profuse (Q)

Menses early, 3 days (30C). Menses profuse (30C)

17.RESPIRATION

Difficulty in breathing < evening(Q)Difficulty in breathing > rest(Q).Dry cough < 10 pm (Q).Cough With itching of throat (Q).Cough with sensation as if it would end in a vomit (Q).Cough several paroxysm (Q)Cough With itching of throat (30C)Dry cough (30C)Cough with sensation as if it would end in a vomit (30C)

18.CHEST

Palpitation with all gone feeling in abdomen (Q)

19.BACK

Pain in back Bursting type of pain, wants to lie on back (Q).Backache > lying (Q).

Pain in shoulder to finger tip (Q).Backache bursting > lying on back (Q)

Backache > lying (30C).Backache bursting > lying on back(30C)

20.EXTREMITIES

Weakness of upper and lower extremities < 12 noon (Q) . Weakness of upper and lower extremities < After Supper (Q).Weakness of upper and lower extremities < After lunch (Q).Weakness of upper and lower extremities > After rest (Q). Pain in left arm. (Q). Pain shoulder to finger tip (Q).Pain in wrist joint. right (Q). Heaviness of extremities (Q).Coldness of extremities under fan (Q).Pain in left arm(30C) .Heaviness of extremities (30C) .Weakness of upper and lower extremities(30C)

21.SLEEP

Deep sleep night (Q).Sleepiness: early night (Q).Sleepiness weakness due to (Q).

Sleep disturbed (Q)Dozing< early morning (Q). Deep sleep night (30C).

Sleepiness early night (30C). Drowsiness (30C).Sound sleep (30C)

22.PERSPIRATION

Increased (Q).Increased with Vertigo (Q). Increased < morning (Q) .Increased (30C)

23.SKIN

Hard and black coloured eruption on forearm and leg (Q). Eruption on forearm and leg (30C.Eruption on forearm and legs turn to black after itching (30C)

24.GENERAL MODALITIES

a) Aggravation

Morning (Q, 30C)10 am(Q, 30C).Afternoon (Q, 30C).Evening (Q, 30C)

Before food (Q, 30C).After food (Q, 30C)

b)Amelioration

After food (Q, 30C),lying down (Q, 30C)

REPERTORIAL REPRESENTATION OF SYMPTOMS

5.1 INTRODUCTION TO REPERTORIAL REPRESENTATION OF SYMPTOMS OF CAESALPINIA SAPPAN

The total symptomatology of Caesalpinia sappan, obtained after proving the tincture and 30C, are represented as rubrics according to the schematic arrangement of the **SYNTHESIS Edition 7.1**(Repertorium Homoeopathicum Syntheticum – edited by **Dr: Frederik Schroyens**). These rubrics form the repertorial totality in Synthesis Repertory. They are arranged chapter wise, and the page numbers of Synthesis Repertory where these symptoms appear, are given in brackets. New rubrics are represented by an asterix sign'*****' after the corresponding page in the Synthesis Repertory. The arrangement of rubrics, sub rubrics and their spacing are not given exactly as in Synthesis Repertory. For easy comprehension and convenience, the main rubrics have been repeated throughout, against the sub rubrics. The spacing between the rubrics and sub rubrics has been reduced.

MIND
CONCENTRATION difficult

CONCENTRATION difficult after noon agg: *****

EUPHORIA

morning and day *****

TRANQUILITY

DETERMINATION Increased*****

1. Lack of interest in doing anything, Seeks consolation (1)

SYMPATHY

from others suffering (1)

TENSION mental

slightest factor from*****

relieves *****

WELL feeling in the morning *****

VERTIGO

VERTIGO

MORNING

LYING ,while amel

STANDING

FALL, tendency to

TURNING,as if in a circle

//////// Agg. Afternoon

EATING ,after amel

HEAD

HEAVINESS

waking on

morning 5 am*****

lying while: amel

Sleepiness with *****

Sleep amel

PAIN

Rising , from lying

From sitting

evening

Afternoon

2 pm to 7 pm////

till evening///////

Motion from

Reading agg:

Night amel

Bathing,after,cold

Morning agg:

Forehead
afternoon till evening *****

rising from chair and bed, after*****

Occiput
Motion

Side

right

reading agg:

left

extending to face evening agg *****

Temples
Right

Left

Evening

Vertex
Afternoon

Stitching

Occiput
Motion on

EYE
OPENING the lids, difficult: Weakness during*****

PAIN

Right

left

as if protruded *****

Lids

Closing on

aching

left

stitching

right`

lids

closing eyes

EAR

PAIN

swallowing empty *****

left

NOSE

CORYZA weakness of body with*****

Left

Air,open, amel

discharge, with

morning

evening

warm room

DISCHARGE

left

Glairy

thick

Watery

PAIN

left

SNEEZING

Morning

OBSTRUCTION

left

morning

Sensation of

FACE
PAIN

Left

Evening

stooping

upper jaw?????(maxillary

MOUTH
TASTE

Bitter

evening

ULCERS

Tongue

TEETH

PAIN ,in general

Molars

Left

Morning

7am*****

air, cold

drawn in, from

eating

during

THROAT
HAWK, disposition to:(???? Must clear the throat constantly)

ITCHING

12 midnight *****

MUCUS

albuminous

STOMACH

APPETITE

Increased

Morning

Forenoon

10 am

noon

waking on

ravenous,canine , excessive

morning

8 am *****

DESIRES

Chocolate

coffea

EMPTINESS

Forenoon:

10 am

eating before

palpitation with*****

THIRSTLESS

HEARTBURN

morning

10am*****

mental exertion after

NAUSEA

Morning

5am-9am

waking on

PAIN

Burning

morning

ABDOMEN

EMPTINESS

Forenoon: *****

eating before*****

palpitation with*****

FULLNESS,sensation of

Hypogastrium

afternoon agg: *****

evening amel:*****

eating after *****

PAIN

Morning

Waking on

Inguinal region

Left

Cutting

Lasting for 10 minutes????

DISTENSION

Journey after *****

RECTUM

CONSTIPATION

DIARRHOEA

DRYNESS

Anal margin????

Morning

Hard stool with

(Pain and dryness at the margin anus <morning

Pain and dryness at the margin anus < With hard stool)

PAIN

Anal margin????

Morning

Hard stool with

STOOL
CHOPPED

eggs:

DRY

HARD

WATERY

URINARY ORGANS
BLADDER
FULLNESS,sensation of,pain without

afternoon agg:

PAIN

Urination during

URINATION

frequent

URINE
COPIOUS

????????Bladder is frequently filled with urine

GENITALIA -FEMALE
MENSES

copious

frequent,too early,too soon

RESPIRATION
DIFFICULT

Evening

Sitting amel:

COUGH
DRY

Night 10 pm

ITCHING trachea, from

PAROXYSMAL

Consisting of long coughs

????Cough with sensation as if it would end in a vomit

CHEST
PALPITATION

Emptiness of abdomen with*****

BACK
PAIN

Lying,back on : amel

Tearing

Lumbar region

Lying, amel

EXTREMITIES
COLDNESS

Air, open

ERUPTION

Forearm

Leg

HEAVINESS

PAIN

Upper Limbs
left

Shoulder

Extending to fingers:

Wrist

Right

WEAKNESS

noon

Lunch after*****

dinner after*****

lying in bed amel: *****

Empirical use?????

Clinical Varicose vein >

SLEEP
DEEP

DOZING

Morning

SLEEPINESS

Evening

Weakness of body due to????

DISTURBED

PERSPIRATION
PROFUSE

morning

vertigo with

SKIN
ERUPTION

black

hard

itching

??Eruption on forearm and legs turn to black after itching ??

GENERALITIES
MORNING

10 am

AFTERNOON

EVENING

EATING before

After

Amel

LYING amel

OBSERVATION & DISCUSSION

?????? PROVING to rewrite

Proving was done in the age group 18-45 years. The majority of provers (15) come with in the age group of 21- 35 years (75%). Proving was conducted in both sexes. Male to female ratio is 11:9. Proving was done on 20 provers of which 30 % (6 provers) was placebo. Symptoms obtained with placebo were deleted from the total symptomatology, to get the correct picture of the drug.

?????? AGE-WISE CLASSIFICATION OF PROVERS

AGE GROUP	MALE	FEMALE	TOTAL
21-25	5	5	10
26-30	3	2	5
31-35	0	1	1
36-40	2	1	3
41-45	1	0	1

TABLE –

Proving was done on the students, P.G.students and teaching staff of Govt: Homoeopathic Medical College,Calicut. Of the 20 provers, 7 are students, 11 are P.G. students and 2 are tutors. As the proving was conducted among the doctors and medical students, the best result was obtained, since the physician is the best prover. So the observation and documentation of symptoms was most reliable.

A small number of provers did not produce any symptoms at all during proving, some provers produced only mild symptoms, and while certain others produced very severe symptoms, even though all provers took the drug in the same potency, dosage and repetition.

Initially the dosage for intake of tincture was 5 drops four times daily. Since this did not produce any significant changes even after one week in majority of provers, the dosage was increased. In 30 C the initial dosage was 4 pills 4 times daily, to which some provers didn't produce any response. So the dosage was increased to 4 pills 2 hourly. In those provers who produced symptoms according to the initial dosage of 4 pills 4 times daily, no change was brought in the dosage later.

The sphere of action of the drug was found to be different for different potencies. Certain symptoms were obtained commonly, in Q and 30 C potencies. These symptoms are more significant than those obtained either with Q or 30 C potency.

The intake of the drug was stopped as soon as distressing symptoms developed. In almost all provers, the intensity of symptoms decreased, followed by cessation of symptoms, as soon as the drug intake was stopped.

According to the latest proving protocol, proving was carried out only in the functional level. Proving was not extended to the toxicological or pathological level. Pre- trial laboratory investigations were conducted to assess the state of health of the provers. Only the healthy persons were selected for the proving

programme. Post – trial laboratory investigations were also carried out, which did not reveal any significant changes in the biological values **,** since the proving was done only on the functional level.

Proving was conducted as a Randomised Controlled Trial (RCT). This eliminates bias, and helps to utilize the latest statistical methods in this study. The double blind, cross- over method used for this trial, helped to minimize the errors and to make the experiment most reliable.

SYMPTOMATOLOGY

Mental symptoms are produced during the proving of mother tincture. Symptoms obtained during proving of mother tincture were found to be of greater intensity and duration, when compared to those obtained with 30 C.

The modalities of symptoms occurring in three or more parts of the body, are considered for forming a general modality. Peculiar sensations relating to different parts of the body are retained in the language of the prover.

The most prominent time of aggravation was found to be in the morning, even though certain symptoms were aggravated in the evening and evening also. Specific modalities wherever observed were retained as such, in the symptomatology.

Almost all the provers had aggravation of abdominal complaints before food.
?????????????????? The miasmatic background of the drug is predominantly psoric. This was determined after analyzing the general modalities and characteristic features of the drug.

Most of the provers had increased appetite after the intake of the tincture. One prover had hypotension after intake of tincture ,this was verified several time on this prover

Relationship of this drug can be determined after repeated clinical verification.

CLINICAL VERIFICATION

The 30 cases selected for the study, had the same symptomatology as obtained in the drug pathogenesis.

Of the 30 cases, 17 (57%) were male and 13 (43%) were female. Out of 30 cases studied, 24 patients (80%) were relieved of their complaints. The remaining 6 patients (20%) did not show any improvement. For these patients, suitable similar acute medicines were given.

RESPONSES OF CASES DURING

CLINICAL VERIFICAITON

Number of cases relieved	**24**
Number of cases not relieved	**06**
Total	**30**

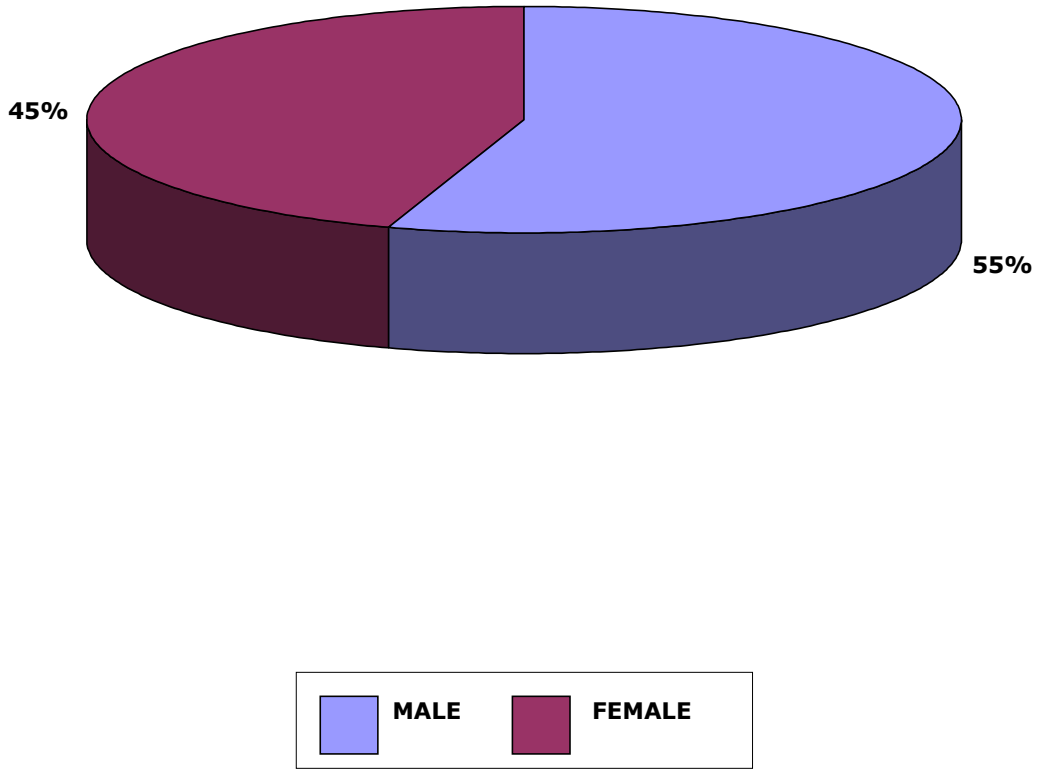
% of patients relieved = 80%.

% of patients not relieved = 20%.

Of 30 cases, 30 C was given in 18 patients, tincture was given in 12 patients.

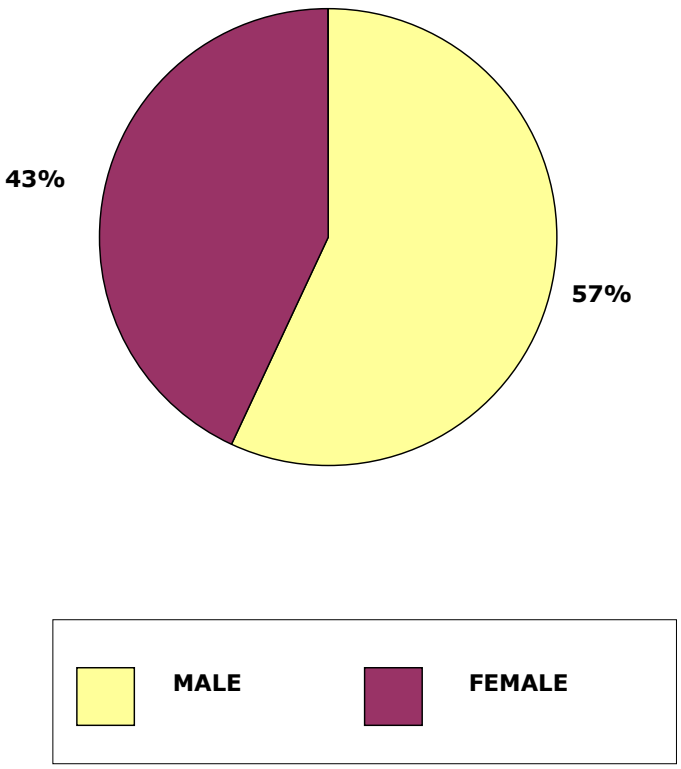
DIAGRAMS

GENDER- WISE CLASSIFICATION OF PROVERS

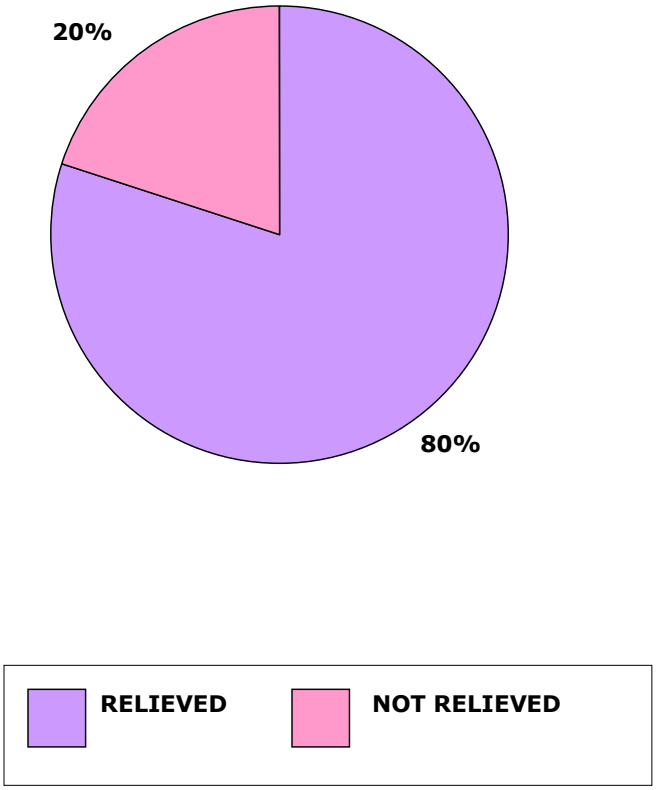


GENDER -WISE CLASSIFICATION OF PATIENTS

SELECTED FOR CLINICAL VERIFICATION

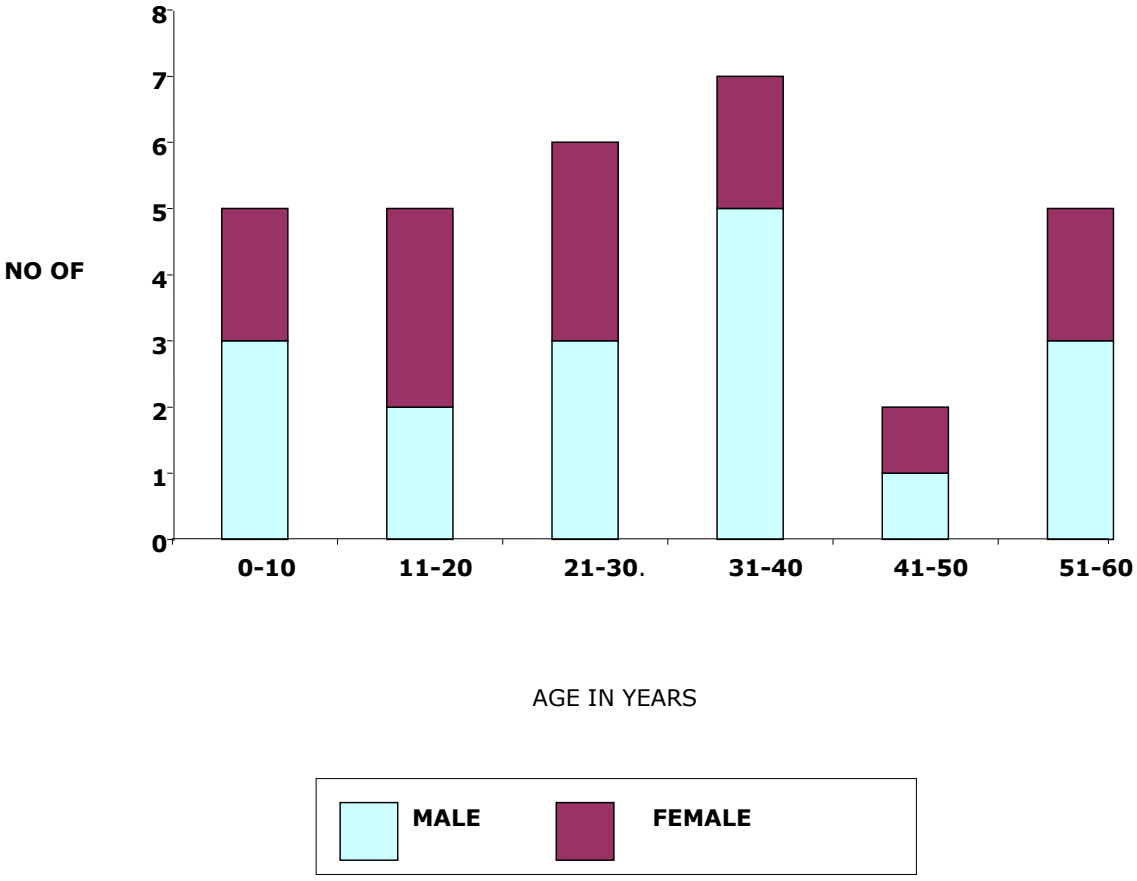

43%
57%
MALE
FEMALE

RESPONSES OF CASES DURING CLINICAL VERIFICATION

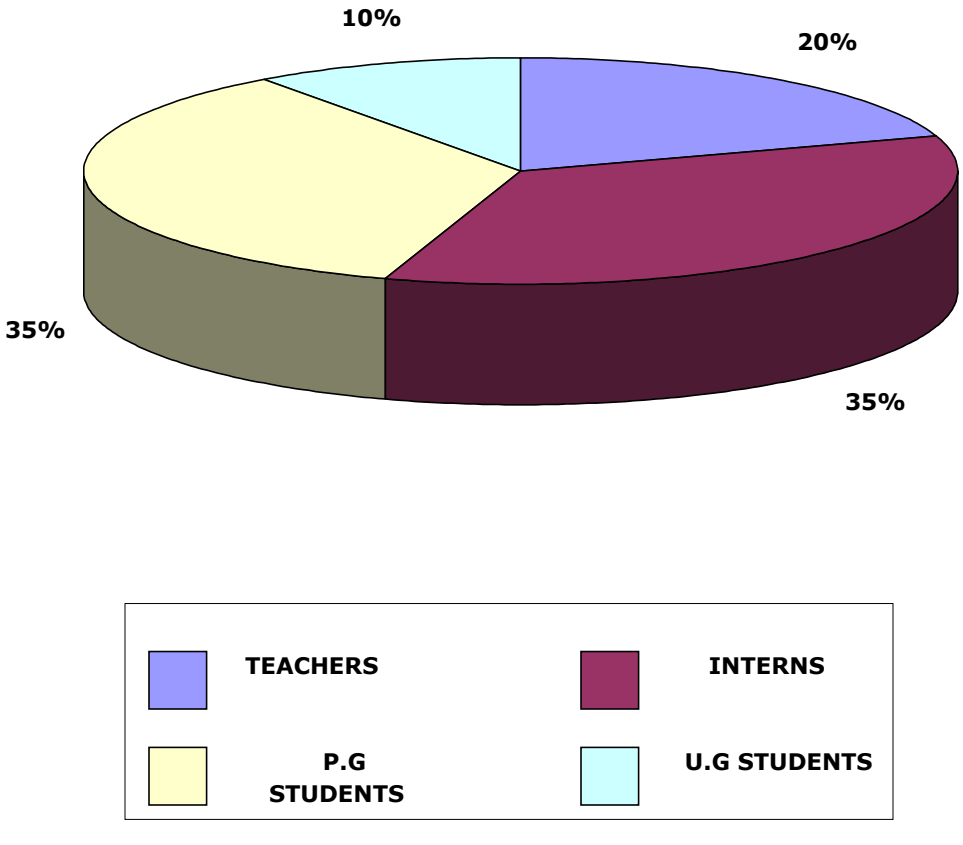


AGE WISE CLASSIFICATION OF PATIENTS INVOLVED IN

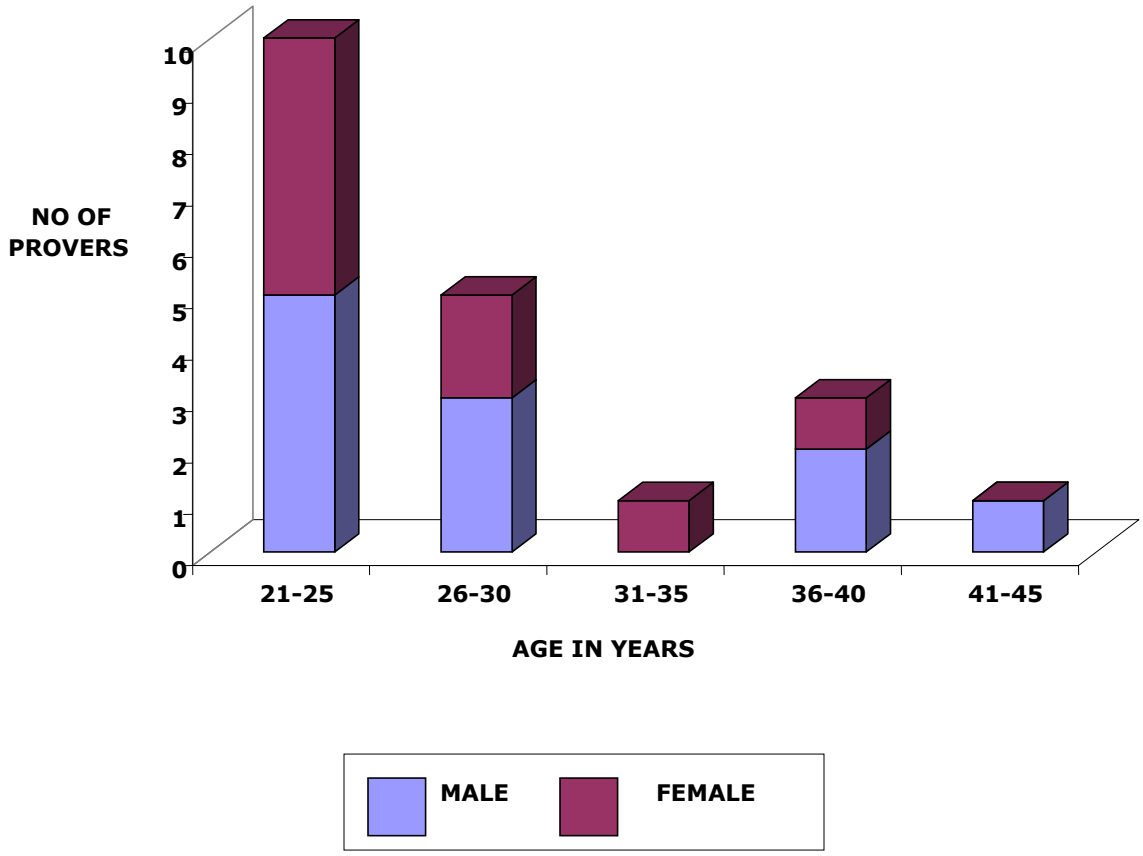
CLINICAL VERIFICATION



CATEGORY OF PROVERS



AGE WISE CLASSIFICATION OF PROVERS



CONCLUSION

Only acute cases were selected for the study, since follow up time for chronic cases was insufficient. The symptomatology also points to the use of this drug in chronic conditions. So, clinical verification should also be done in chronic conditions to establish the complete therapeutic efficacy of this drug.

The study was conducted to elicit the proving of Caesalpinia sappan in Hahnemannian method, and to introduce this new medicine In Homoeopathy, it has great potential in the treatment of vertigo. It can also be used in the treatment of headache, dysuria, eye pain, loss of appetite and all gone feeling in abdomen

The present study included the preparation, proving and clinical verification. The mother tincture and 30 C were prepared under the guidance of Dr: K.S.Gopi, HOD, Dept of Pharmacy, Govt: Homoeopathic Medical

College, Calicut. All the provers were given adequate training and guidance, carry out the proving and refrain from taking anything which would antidote the drug effect. This study was carried out over a period of one year as a part of the partial fulfillment of the rules and regulations for the M.D. (Hom) Materia Medica. The proving programme was carried out under the guidance and supervision of Dr: A.Esmail Sait, my guide who is the Principal (Rtd) of Govt: Homoeopathic Medical College, Calicut.
Proving new remedies has been a joy and a wonderful learning experience formyself . It is my hope that this work will stimulate theprofession to new and better provings so that together we may all benefitfrom this wonderful homoeopathic process.

Since the venture involves the proving and introduction of a new drug into Homoeopathy, this work needs further study and repeated clinical verification to establish itself in the Homoeopathic therapeutic field. I strongly believe that further clinical verification will enable this medicine to be of much use in Homoeopathy. I hope this will provide necessary initiative and impetus to further scientific research in Homoeopathy in the future.

DETAILS OF THE PROVER

1. Name and address
2. Age
3. sex
4. Occupation
5. Religion
6. Marital status
7. Place and period of stay

PHYSICAL CHARACTERISTICS OF THE PROVER

1. Height
2. Weight
3. Deformity if any
4. Built

PAST HISTORY OF THE PROVER

1. Birth – any incidents
2. Developmental milestones
3. Immunisation
4. Adolescence
5. Adulthood
6. Allergies
7. Trauma
8. Any major disease – hospitalization

9. Regular medication if any.

FAMILY HISTORY OF THE PROVER

1. Father
2. Mother
3. Paternal grandfather and grand mother
4. Maternal grandfather and grand mother
5. Husband / wife
6. Sisters / brothers
7. Children

GENERALITIES OF THE PROVER

1. General nature of the prover
2. Sensitivities
3. Habits – tea, coffee, tobacco, alcohol, pan / beedi, drugs etc;
4. Appetite
5. Thirst
6. Desires
7. Aversions
8. Disagree

SYMPTOMS RELATED TO DIFFERENT ORGANS OF THE BODY

1. Head
2. Eyes
3. Ears
4. Nose
5. Mouth
6. Teeth
7. Gums
8. Tongue
9. Throat
10. Neck
11. Back

12. Chest
13. Abdomen
14. Rectum
15. Anus
16. Kidneys
17. Bladder
18. Urethra
19. Genitalia
20. Extremities
21. Skin

PHYSICAL EXAMINATION OF THE PROVER

1. Pulse
2. Blood pressure
3. Respiratory rate
4. Temperature
5. Lymph glands – any enlargement
6. Anemia
7. Cyanosis
8. Jaundice
9. Any abnormal growth
10. Skin – any eruptions.

LABORATORY INVESTIGATIONS

1. Blood
2. Stool
3. Urine
4. Sputum
5. X – ray
6. Ultrasonography
7. L.F.T.
8. E.C.G.

APPENDIX - IV

LAB INVESTIGATION REPORT

(As part of the pre/post medical examination associated with proving conducted at Govt: Homoeopathic Medical College, Calicut-10.)

Name: age:

Code number:

BLOOD	**URINE**
1. Haemoglobin	1. colour
2. Total count	2. reaction
3. total RBC	3. specific gravity
4. platelet count	4. bile salts
5. differential count	5. bile pigments
polymorphs	
lymphocytes	6. albumin
eosinophils	
basophils	7. sugar
monocytes	
6. ESR	8. microscopic examination
7. blood sugar(P.P)	
8. blood urea	
9. serum cholesterol	

10. serum bilirubin (total)

    serum bilirubin (direct)

11. S.G.O.T

12. S.G.P.T

13. R.A.Factor

STOOL

Microscopic examination

Place: Signature of Lab technician.

Date; Signature of Guide.

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