

THE HAHNEMANNIAN GLEANINGS

*with which is incorporated the
INDIAN HOMŒOPATHIC REPORTER.*

VOLUME VI.

AUGUST, 1935.

No. 7

Melia Azadirachta or Azadirachta Indica. (Nim)

BY SARAT CHANDRA GHOSE, M. D., M. R. S. L. (LONDON).

Natural order. Meliaceæ.

Name. Sanskrit—*Nimba*, *Vembaka* ; Bengali—*Nim* ;
English—*The Nim or Margosa tree* ; Hindi—*Nim*, *Nimba* ;
Bombay—*Nim*, *Bal-nimb* ; Tamil—*Vembu* ; Telagu—
Vepa ; Punjabi—*Nim*.

There is another variety of this plant which is called
as "Maha Nimba", *M. Bukayun*.

Habitat. Indigenous to India and Burma and planted
all over these countries.

DESCRIPTION OF THE PLANT.

Azadirachta Indica is a large ever green tree, 40 to 50
feet in height, commonly found throughout the greater
part of India and Burma. It is frequently planted as
homestead or avenue tree as it is believed to purify air.
Almost every part of this plant is used for medicinal
purposes in India.

The bark, leaves and fruit have been used by Ayur-
vedic physicians from antiquity. The barks and leaves
bear a particular interest from the medicinal point of
view. The bark exudes a clear bright amber-coloured
gum which is collected in small tears or fragments.

The dried flowers are also used for medicinal purpose. Under the name of "pancha-amrita", a medicine is prepared by Ayurvedic physicians which contains the flowers, fruits, leaves, bark and root of the tree.

AYURVEDIC USES.

Charaka. It is very useful in leprosy.

Sushruta. It is an excellent remedy in leprosy and skin diseases. It is also used in certain forms of gonorrhœa. It is also good in fever with burning symptoms all over the body. It also allays thirst due to cough.

Harit. It is an excellent remedy in impurities of blood. It is good for boils. It is used with beneficial results in cases of poisoning.

Bagbhat. It is used in boils and baldness of head. It is also used when the hairs grow gray untimely.

Chakradatta. It is an useful remedy in poisonous boils, boils, ulcers, eczema, scabies and other skin diseases. It is also good for jaundice.

Bangasena. It is a sovereign remedy for sciatica and many hopeless cases of sciatica are cured by its use. It is used in heart diseases due to cough. It is also used in eye diseases and in fevers of children.

Vabprakash. It is used in affection of worms. It is also used in hæmatemesis. It is also useful in all ulcers and boils and its use does away with all parasites found in those affections.

PARTS USED FOR MEDICINAL PURPOSES.

Bark, leaves, flowers, seeds and oil.

Dosage. Powdered bark, 1 to 4 annas ; Powdered leaves, 1 to 4 annas ; seeds, 2 annas ; Juice of the leaves, 1 tola ; decoction, 5 to 10 tolas.

OPINIONS OF ALLOPATHIC PHYSICIANS.

Constituents of M. Bukayun. Noncrystalline resinous substance—the active principle, sugar and tannin.

(R. N. Khory—Vol. II. P. 118).

Actions and Uses. In small doses, the bark is a bitter tonic, astringent, anti-periodic, anthelmintic, given to children in round worms and to adults in fever and indigestion; leaves and flowers are alterative, and diuretic. The juice of the leaves is used in fevers, dyspepsia, general debility, jaundice, worms, scrofula, boils, leprosy, etc. Externally the flowers and leaves are discutients, as a poultice they are made warm and applied to the head in nervous headaches. A poultice of the flowers is said to kill lice and to cure eruptions of the scalp; a paste of the leaves is applied hot to unhealthy ulcers, to indolent scrofulous glands, and to pustular eruptions. The drug is a narcotic poison in large doses, producing giddiness, dimness of sight, mental confusion, stupor, dilated pupils, and stertor. It also acts as a gastro-intestinal irritant, producing vomiting and purging.

(R. N. Khory,—Vol. II. P. 119).

Constituent of M. Azadirachta. The seeds contain a resinous oil known as margosa or nim oil. The bark contains a neutral resinous bitter principle, margosine, non-crystalline and without alkaloidal properties catechin gum, sugar and tannin.

(R. N. Khory,—P. 119,).

Actions and uses. The bark and leaf stalks are astringent, bitter tonic and anti-periodic and used in intermittent and paroxysmal fevers and for general debility and convalescence and after febrile and other diseases. The leaves are discutient and local stimulant and used as varalians or poultices to disperse indolent

glands and swellings. The young trees yield a kind of sweet juice (toddy) which when fermented is used as stomachic and anthelmintic and is given in worms and jaundice. The pulp is applied to boils, pustular eruptions, open sores, and bruised joints. The compound powder *Puncha nimba churun* is tonic, and given in convalescence after fever.

The fruit is a purgative, anthelmintic, and stimulant, given in leprosy, intestinal worms, piles, and urinary diseases. The gum is used by lying-in women, as uterine stimulant. The seeds are used for killing pediculi, and the powdered kernel for washing the hair and as a remedy for mange in dogs. The oil, mixed with other oils, is applied to skin diseases, suppurating scrofulous glands and leprous ulcers. It is rubbed on the skin in rheumatic affections and to the head in headache. The oil contains sulphur, and therefore with alkalies it is used in skin diseases.

(R. N. Khory,—Vol. II. P. 120).

Lt. Col. R. N. Chopra, I. M. S. has dealt very extensively with this drug in his monumental work, *Indigenous Drugs of India*. I can not resist the temptation of reproducing his remarks and researches concerning the chemical composition and other properties of this valuable drug which will be found to be very interesting and edifying to our readers.

Chemical Composition. "Margosa bark was chemically examined first by Cornish (1856) who found that it contained a bitter alkaloid occurring in long white needles to which he gave the name of margosine but which was obtained only in minute quantities as a double salt of margosine and soda. According to Broughton (1873) the bitter principle present in the bark consists of a resin which it is very difficult to obtain in a state of

purity. This worker did not obtain any definite reaction for the presence of an alkaloid.

A fixed bitter oil occurs in the seeds to the extent of 31 per cent, and can be extracted by boiling or by pressure. This oil is deep yellow in colour and has a strongly disagreeable acrid taste. Warden examined the oil and found that it had a specific gravity of 0.9235 at 15.5°C; at about 10° to 7°C it congealed without losing its transparency; the oil contained free and volatile fatty acids. After standing for about 36 hours, the freshly-expressed oil deposited a white sediment which on microscopical examination was found to be amorphous in character. The colour reactions of the margosa oil were not characteristic. Though no attempt at separating the fixed fatty acids was made, they probably consist of a mixture of stearic and oleic acids with a small amount of lauric acid.

Roy and Chatterjee (1921) analysed the oil and found the following constituents:—

(1) Sulphur 0.427 per cent. (2) A very bitter yellowish substance was obtained from an alcoholic extract of the oil. There is every probability that this substance is an alkaloid but this point has not been finally settled. (3) Resins. (4) Glucosides, indefinite. (5) Fatty acids,"

Margosic acids and its salts. An acid which has been named 'margosic acid' was prepared from the oil by Roy and Chatterjee (1917-18) in the following manner:—

Steam-distilled neem oil was saponified with Caustic Soda dissolved in alcohol. The alcohol was removed by distillation and then the Potash Soap formed was decomposed by treatment with excess of dilute hydrochloric acid. The liquid was then boiled and margosic acid separated as an oily layer which solidified on cooling.

The acid was removed and washed repeatedly with water till it was free from hydrochloric acid. It was again melted on the steam bath and then the upper oily layer was carefully separated ; on cooling, margosic acid was obtained as a yellow mass.

The sodium and potassium salts were prepared by neutralising the acid with requisite quantities of caustic soda and caustic potash solutions respectively and evaporating them to dryness on the steam bath and finally in the desiccator over sulphuric acid. The salts are nearly white in colour and are soluble in water. They are extremely bitter to the taste.

Watson and his Co-workers (1923) consider that the objectionable odour of neem oil is chiefly due to organic sulphur compounds which are slightly volatile. On prolonged steam distillation of the oil a volatile sulphur compound slowly distils over and collects on the condensed water. A bitter principle, about 200 times as bitter as the original oil was separated by these workers. The ultimate analysis of the bitter substance showed that it consists of 2 different portions—an amorphous and a crystalline substance. The crystalline substance has been termed 'margosopicrin'.

Dutt and his Co-workers (1930), however, consider that the odorous element in the oil consists of an evil-smelling essential oil which remains in a state of solution in the oil itself and can not be easily separated on distillation.

In a recent paper by Sen and Banerjee (1931), it has been shown that the bitterness of the oil is due to the presence of the Sodium Salt of an acid and partly to the presence of the free acid which are held in solution in the oil. The acid contains sulphur in its molecule and is unsaturated.

Pharmacology of Margosates. The pharmacological action of the margosates was studied by Chatterjee and Roy. They have a powerful action against protozoa, a solution of 1 in 10,000 killing the flagellate *proteosoma* in 5 minutes. The results obtained by these workers are as follows :—

<i>Drug used.</i>		<i>Dilution which suffices to kill in 5 minutes.</i>	
Quinine Sulphate	...	...	1 in 100,000
Emetine	...	...	1 in 10,000
Tarter emetic	...	...	1 in 500
Sodium margosates (B.C.P.W.)	...	...	1 in 10,000

Paramoecium caudatum was killed instantaneously with 1 in 2,000 solution. The sodium salt of the acid was also tested on microfilariæ and it killed these organisms in 35 seconds in a concentration of 1 in 200. These workers considered that, along with their strong parasitotropic properties, the margosates possess very low organotropic properties. The carbolic acid co-efficient of the soluble salts is only 2 and, therefore, the antibacterial or bactericidal properties of margosates are not very marked in vitro. They, however, consider that there is sufficient clinical evidence to show that margosates have a powerful action against bacteria in the body.

Therapeutic uses. *M. Azadirachta* is a reputed remedy for skin affections and in view of the parasitotropic properties of the margosates, it was tried on a number of cases of scabies, eczema, pemphigus, etc. The results obtained were promising in some patients but not so satisfactory with others; on the whole the drug was considered to have a beneficial effect. The possibility of its possessing anti-spirochætal properties led Chatterjee to try margosates in the treatment of syphilis.

Sodium margosates was given in solution, in doses varying from 0.01 gm. to 0.325 gm. subcutaneously, intramuscularly and intravenously in the primary, secondary, and tertiary stages of syphilis. In the primary and secondary stages, the initial lesion and secondary manifestations disappeared under its influence much more readily than in untreated cases. In the late secondary and tertiary stages the skin lesions, gummata, etc., soon subsided. The results, however, were not so satisfactory as those obtained from administration of the arsenicals, mercurials, bismuth and iodides.

The juice of margosa leaves has a reputation in indigenous medicine as an anthelmintic. In order to confirm the truth of this statement, Caius and Mhaskar (1923) administered it in one dose of 4 drachms preceded and followed by purgation. Neem oil was also tried in doses of 1 to 4 drachms. The maximum dose of the oil produced occasional diarrhoea, nausea and general discomfort but both the leaves and the oil proved quite ineffective in expelling the intestinal parasites."

In the Journal Soc. Chem. Ind., 1923, Page 387. We find the following :—

It is used in scorpion-sting and snake-bite, antiseptic, antiperiodic, anthelmintic, tonic, in skin diseases ; bitter substance, bitter oil.

ITS HOMŒOPATHIC USES AND PROVINGS.

This common indigenous drug was introduced to the homœopathic world by the late Dr. P. C. Majumdar, M.D. of Calcutta. Nim was proved by him and by one of his pupils, U. C. Bagchi. A full report of those provings was published in the *Indian Homœopathic Review*, edited by him, Volume III, No. 1. And later on two more provings were made, one by Dr. H. Chakrabarti and another by

his assistant. A synopsis of those provings was published in the *Medical Advance*, Vol. XXV, page 423. Almost identical symptoms were produced in the four provings mentioned before.

I have, therefore, culled the most important and guiding symptoms from these provings and give them below for the purpose of selection and administration of this drug. The bark known, as *Margosa Bark*, is the best-known medicinal portion and the tincture for the provings was prepared from this by Dr. P. C. Majumder and others.

SYMPTOMS.

Mind. Depressed and forgetful, mistakes in writing and spelling words, weak and dull, full of anxiety, inactive, could not think or remember names of persons very familiar, or what has been done in previous day. No desire to go out or walk out. Loss of memory-

Head. Giddiness, as if the head were moving to and fro, especially when rising from a sitting posture; headache, pressure in the head, by moving it; headache, throbbing in the temporal arteries, especially of the right side, with a little vertigo; aching, drawing and throbbing in the whole head; headache by wet compress, with much pain in the right eye-ball; headache, on moving; headache on the right side with much pain. Frontal headache, especially on the right side, in the open air. Throbbing in the vertex, by stooping; scalp is painful and sensitive to touch, even the hair is painful. Vertigo at 10 A. M.; intense headache, pain in the whole head; on walking pain is felt in the back part of the head.

Eyes. Burning in the eyes; burning in the eyes continued throughout even the next day; burning, dull and heavy. Pain in the eye, by slightest pressure; red, congested and burning with slight coryza; sense of

pressure in the right eye ; eyes red and sunken ; pressive pain in the right eye-ball.

Ears. Buzzing in the ears ; a peculiar cracking sound is heard in the ear like tickling with a feather, which is increased on opening the mouth.

Nose. Running of watery fluid from the nose.

Face. Flushings of the face ; flushing and heat in the face ; face pale.

Mouth. No thirst but mouth is clammy, water has relish ; taste good, but mouth is clammy and bitter. On the sides and surface of the tongue a painful burning sensation is felt as scalded ; papillæ seem to be enlarged and prominent. Putrid taste in the mouth. Saliva coming out which tastes salty. Slight difficulty in deglutition, especially water and meat.

Throat. Bitter taste in the throat ; left-sided sore throat.

Stomach. No thirst ; appetite very acute and keen ; very great thirst for large quantity of cold water ; very great thirst at long intervals. Heart burn and water-brash. Uneasy sensation in thorax.

Abdomen. Great uneasiness in the abdomen with flatulent rumbling in the bowels ; twisting pain in the epigastric region ; no tenderness in the abdomen ; clutching pain in the umbilical region, obliging to bend forwards, which affords some relief ; abdomen a little distended, passing of offensive flatus ; painful tension in the hypochondric region.

Stools. Insufficient bowels, very much constipated ; stools hard, small and knotty ; stools hard but natural ; stools copious, soft, semi-solid. Diarrhoea, no satisfaction after stool.

Genito-urinary organs. Great excitement of sexual organ (in male) ; sexual desire a little diminished. Urine

scanty and high coloured, and scalding ; urine white, clear and copious ; urine of strong odor (once with purple sediment).

Respiratory organs. Very troublesome cough after bathing at 1 P.M. ;—Sputa white, in small lumps, expelled with much difficulty. Sighing, breathing at intervals. Slight hoarseness. Cough with grayish expectoration ; cough with thick sputa ; short dry cough in the afternoon ; very troublesome cough with white sputa and tasteless. Deep breathing at long intervals ; breathing very rapid and hot.

Chest and throat. Aching in the lower part of the right chest, below the nipple. Stitches in the chest. Crampy pains in the lower part of chest. Transitory stitches in the chest, especially in the right side.

Pulse. Quick and hard, feeble.

Neck and back. Pain and debility in the nape of the neck.

Extremities. Numbness of the limbs, as if the limbs are paralysed. Gnawing in the legs. Strength of the hand diminished. Burning of the hands and soles of the feet. Numbness of the hands only, especially the right hand. Rheumatic pains in the lower extremities.

Sleep and dreams. Sleeplessness and tossing in bed ; dreamy and interrupted sleep at night. Dreams of quarrels and beating in the latter part of night.

Fever. Fever commences with very slight chill or without chill from 4-30 P.M., and abates from 7-30 P.M. ; afternoon fever. Glowing heat and burning, especially in the face, eyes, palms of the hands and soles of the feet, in open air. Copious sweat, especially on the forehead, neck and upper part of the body ; sweating commences on the forehead, gradually extending towards the trunk ; no sweat in lower part of the body.

Skin. Itching of various parts of the body, without the appearance of any eruption; itching of the body. Sudamina on the back.

Aggravation. Aggravation takes place in open air; in afternoon.

PERSONAL EXPERIENCES AND OBSERVATIONS RELATING TO ITS THERAPEUTIC USES.

Nim is a wellknown plant in India. There is a popular and wellknown proverb about this important drug which runs thus :—

"The land where Nim and Nischinda abound,
Can Death, Disease therein be found?"

Nim tree is planted almost in every house in our country and from this it can be easily concluded that its therapeutic uses are known by us in India from time immemorial.

The leaves, bark, wood, roots and fruits, in short, every part of this plant, are intensely bitter. According to the Hindu system of Medicine the different parts of this plant possess different medicinal properties.

The consensus of opinion of all physicians is that, it is generally used with success in cases of lassitude, thirst, cough, fever, loss of appetite, helmenthiasis, boils, indolent ulcers, bilious derangements, catarrh, vomiting, cutaneous diseases, leprosy, hiccough, gonorrhœa, etc; its leaves are used in some forms of ophthalmic disease, helmenthiasis and disorders produced by vitiated bile or use of poisonous things. A decoction of fresh leaves is employed as a favourite wash to cure old ulcers of long standing. It is a sovereign remedy to do away with the sloughs very shortly and to promote the healthy granulation and healing. The fruit is purgative, demulcent, and is used in some kinds of cutaneous

affections. A kind of oil is prepared from the seed of ripe fruits which is said to cure lepra, eczema, and some other malignant skin diseases. Nim is also praised by them for its tonic, antiseptic, astringent and anti-periodic properties. Its action to control fever is wellknown in our country. The native physicians of our country use Nim as the principal ingredient in their febrifuge medicines. It has a vast range of its action which is principally due to *azaderine*, *margocine*, and *Katechin*, the three active principles found in this drug. It has a decided action upon skin, uterus and nerves. It is generally used in chronic fever associated with burning of hands and feet, asthma, and uterine debility.

It is a good medicine in forgetfulness, patient can not remember any thing, forgets the names of wellknown persons. There is forgetfulness in writing and speaking. Headache, giddiness of head. Headache due to excessive secretion of bile. The eyes burn and feel heavy. There is absence of thirst, but the patient likes water ; insipid and bitter taste in mouth is present.

It is a grand remedy in every form of skin diseases. Its action has been found in leprosy and lepra. It antidotes the bad effects of quinine. It is very useful after mal-administration of quinine. It is an excellent remedy in ophthalmia, asthma, cough, catarrh, constipation, uterine debility and a few other diseases owing to improper use of quinine.

There are several peculiar and clear-cut symptoms attached to this drug which are not found in other remedies of our materia medica. It is a grand remedy in chronic fever. The fever generally comes in the afternoon ; there is slight chilliness during the onset of the fever or sensation of chilliness may be altogether absent ; there is bitter taste in the mouth or throat ; occasional

sensation of heaviness in the abdomen, ameliorated by passing of flatus both upwards and downwards (unlike *Argentum Nitricum* and *Lycopodium* both of which possess this heaviness of abdomen to a considerable degree experienced particularly while taking a few mouthfuls) ; the most prominent symptoms exhibited by the patient is the sensation of burning and glowing heat especially on the face, eyes, palms of hands and soles of feet appearing in the afternoon ; there is aggravation in open air, there may be derangement and enlargement of the liver and spleen. Relying on the above symptoms I cured several obstinate cases of Chronic fevers.

It is also used externally as a wash, poultice or plaster in many skin diseases. A poultice consisting of clarified butter and its leaves is usually employed externally to cure abscess, boils, simple and malignant bubo, carbuncle and several poisonous ulcers. Its action in those affection is sure and swift.

Relations. Compare. It bears a close resemblance to *Arsenic album*, *Cedron*, *China*, *Ipecac*, *Nat. Mur.*, *Pulsatilla*, *Rhus tox* and *Sulphur*.

Dilution. 6, 30 and 200 potencies are generally used.

Preparation. The fresh bark is pounded to a pulp and macerated into two parts by weight of alcohol.

References :—

1. *Indigenous Drugs of India* by R. N. Chopra. 2. R. N. Khory. Vol. II. 3. Cains and Mhaskar, 1823, *Ind. Jour. Med.* Vol. XI.
 4. Watson, Chatterji and Mukharji, 1823, *Jour. Soc. Chem. Ind* ; Vol I.
 5. R. N. Sen and G. Banerjea, 1931, *Jour. Ind. Chem. Soc* ; Vol. VIII.
 6. P. C. Majumder, *Ind. Hom. Review*, Vol. III. 7. *Dictionary of Mat. Med.* by J. H. Clarke, Vol. II. 8. *New, Old and Forgotten Remedies* by E. P. Anshutz. 9. *Homoeopathic Mat. Med.* by W. Boericke. P. 10.
 10. *Banausadhi Darpan* by Biraja C. Gupta. Vol. II.
-