

I stated it as my opinion, that the deceased died from hæmorrhage from the rupture of the liver.

This case is of interest, as it shows that after excessive injuries to the liver and with hæmorrhage going on, a person can swim or float in a strong tide for a considerable distance.

## CONTRIBUTIONS TO INDIAN MATERIA MEDICA.

"OUR INDIGENOUS MEDICAL PLANTS DESERVE FAR MORE STUDY THAN THEY HAVE YET RECEIVED."

ON THE MEDICINAL PROPERTIES OF SOME OF THE INDIGENOUS PLANTS OF SOUTHERN INDIA.

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Continued from Vol. XXIII, page 73.

No. 12	Clitoria ternatea (albiflora Linn.)	
	N. O. Leguminosæ,	
	S. O. Papilionaceæ,	
Ident.	W. & A. Prodrum, p. 205.	
	Dec. do. Vol. II, p. 233.	
	Roxburgh Flora Indica, R., p. 566.	
Eng.	Rheede Malabar. Vol. VIII, p. 38.	
Syn.	Clitoria spectabilis.	
	Læthyrus spect.	
	Ternata Vulgaris.	
Ref.	Drury's Indian Flora. Vol. I, p. 282.	
	Do. useful plants, p. 145.	
Vern.	Vellay Kakaretten Kody.	Tamil.
	Dintena ...	Telg.
	Kalizer Kanathenthi ...	Hind.
	Kajali gokaraw ...	Bombay.
	Nul upera jetta ...	Beng.
	Kanka puspa girnikelballi	Can.
	Aral Kankha pushpum	Mal.
	Kanka pushpum ...	Kon.
	Ganakish rannualli urishapady	Khadipraka apakijika Sans.

A shrubby twining plant common in hedges all over India, with pinnate leaves, flowering during a greater part of the year.

There are four varieties of the plant met with in gardens—First is clitoria ternatea, wing-leaved clitoria with blue flowers, very common in all hedges; the second C. ternatea albiflora with white flowers, cultivated for the sake of its root, the third one, C. ternatea plenus, double flowering (wing leaved clitoria). This is a very pretty variety, well adapted for trellis work, flowers large, blue; and the fourth one is clitoria plumeri turp) Plumers, Clitoria flowers large, white tinged with crimson, somewhat handsome. Of the four species, the first two kinds, the C. ternatea and C. ternatea albiflora are used in medicine. The seeds of the first variety is broiled and powdered, and administered with powdered ginger as a purgative in drachm doses, while the root of the second one is very largely employed as an hydrogogue cathartic in dropsical cases. It is purgative, diuretic and deobstruent in its action.

Chemical composition by Mr. D. Hooper, F.C.S., Ootacamund.

"The root bark contains two resins, one soluble in ether, and spirit, and the other soluble in spirit only. Tannin is present, and with it associated sodium chloride (common salt). The root contains 10 per cent. of aqueous extract, and 12 per cent. of mineral residue when burnt."

The villagers take it as an ordinary purgative. The roots are of a white colour, about the size of a little finger, and have an acrid taste. As an ordinary purgative, the fresh root is ground, and mixed with warm water, a free purgation is produced without any inconvenience, no diet is observed. As an hydrogogue cathartic for dropsical cases, the fresh root is ground and mixed with cocoanut milk and sugar candy, a good many watery motions are produced. Purgative pills also are made with the root, and administered in rheumatic affections, the formula for which is given below :

Take	Rasām, Metallic mercury ...	} a a 3i
	Poorām, Sulphate of mercury.	
	Vengaram Borax ...	
	Kadoogooragāny—Hellebore	} a a 3ij
	root black ...	
	Vellay Kakarataw varoo.	
	Clitoria ternatea	
	Albiflora root ...	
	Nairvallum. Croton tiglium	3viii

to be ground for seven hours and made into pills with the juice of (Paranday) vitex quadrangularis, a pill of the size of a Bengal grain, given with the juice of green ginger in rheumatic affections.

The seeds are employed as a purgative among the Mahommedans. The following is the formula :—

Take	The seeds of clitoria ternatea	
	albiflora ...	... 3x
	Cumin seed ...	... 3v
	Sugar candy ...	... 3x
	Rose water ...	... 3v

Broil the seeds, powder, and strain, add the sugar-candy, mix with rose water, and administer. It is considered a very cooling purgative, sometimes Heleborus nigra is added when active purgation is required.

Dr. Dymock remarks in his Materia Medica of Western India, that the seeds should be administered in combination with twice their bulk of acid tartarate of potash and a little ginger, and in the same doses of compound jalap powder, and Hains has recommended a syrup of the deep blue flowers as a colouring agent, and a tincture as a substitute for litimus.

Mr. Hooper has found in the seeds a greenish coloured fixed oil, a light brown resin, a tannin giving a blue black precipitate with ferric chloride, a bitter principle, a glucoside and glucose.

No. 13	Azima tetracantha (Linn.)
	N. O. Azimaceæ.
Ident.	Wights Illustrations, Vol., p. 156.
Eng.	Do. do. p. 153.
Syn.	Moneti'a tetracantha G. Dona.
	Do. barlerioides 2 Herb.
Reference—	Roxburgh Flora Indica R., p. 716.
	Drury's Indian Flora, Vol. II, p. 177.
Veru.	Sungam cheddy ... Tamil
	Tella uppee ... Telg.
	Terkanta Juti ... Beng.
	Gantu Goorkamas ... Hind.

This is the only specimen of a small family called Azimace by Dr. Wight, is one of the common shrubs found in every part of the Coromandel Coast. It grows very freely in all situations, with opposite leaves, from the axil each of which spring two long pungent prickles, and is in flower, and fruit most part of the year. Flowers, white, small, axillary, sessile, solitary, or aggregated, fruit soft, white juicy berries eaten by men and birds.

Leaves, root, and milk are used in Hindoo medicine, have a bitter taste.

Leaves are considered stimulant, and hence it is given to puerperal women immediately after confinement. It is administered in the following manner among the villagers. The leaves of this plant, with an equal quantity of tender morgosa leaves with a little brick powder, [ground nicely, and given twice a day for the first two days, the woman is to undergo starvation for the same period], and on the morning of the third day, she gets her low diet, consisting of little boiled rice, and pepper water, [without tamarind, and a small quantity of warm water], sparingly given to drink after her meal, and none afterwards; she is to get only one meal a day for the first six days, and not allowed to sleep after her food during the day, lest the water get into her head, and bring on untoward symptoms; if she is thirsty, she must quench her thirst by taking betel and nut; and from the seventh day she gets her ordinary food. It is also a practice among the rural classes to give Nim oil two to four ounces, soon after delivery with a little assafœtida (burnt). The woman is made to take from the morning of the third or fourth day a bolus of stimulating confection called Naday cayam in Tamil, for a month containing stimulating vegetable ingredients, or drugs about twenty in number; the formula for its preparations is given by the late Dr. Shortt, F.L.S., in the 5th Volume of the transaction of the Obstetrical Society of London, under the head of the Medical History of Women in Southern India. The object of which I believe is to keep off cold from the system.

The leaves are further taken in rheumatic cases by making curry or broth, or with food. It is also made into chatny with chillies, tamarind, salt, and garlic, taken with the food. Dr. Dymock mentions in his Materia Medica of

Western India, page 509, that the juice of the leaves is bitter, and is supposed to give relief in cough, which accompanies phthisis and asthma, the root is also said to have similar properties.

*Root.*—The bark of the root besides possessing the same properties, as the leaves also act as a diuretic, and is exhibited in dropsical complaints either by itself or as an adjunct with other diuretic mixtures. The decoction is prepared from the bark of the root ʒij, water ʒx, boil down to ʒviii, two ounces twice a day.

Another formula much used by the native Vythians. Take the bark of the root ʒx, Naringypoondoo (*Tribulus tenestris*), Saranay vair. (*Tuianthema-monogyna*) Konaithundoo, (*Bryonia grandis*) stem ʒi. Taurik-kay *Terminalia bellerica* ʒgs. Kadookay — (*Terminalia chelula* ʒgs.), Kittum — Iron dross from Vullam village ʒx., Goat's urine, ʒviii. Water, measures 4. Make a decoction of it, and keep it for several days in the oven. Dose two to three ounces twice a day, taken with a corresponding quantity of water to be added to the decoction.

The whole plant is employed as a decoction, including root, leaves, and bark, with other drugs detailed below, in obstinate cases of chronic diarrhœa, occurring in females after confinement, and continuing for months together, baffling the best of treatment, and thereby the suffering female becomes wasted to skin and bone, the digestion impaired, the hair of the head withered, face flushed, feet œdematous; there is also ulceration of the os uteri, attended with pain of the uterine region and back, rumbling noise in the abdomen, with bearing down pain, voiding urine at the same time with stools. The compound decoction of azema tetracantha is given ʒiiss twice a day: a marked beneficial effect is said to be produced.

The formula for the compound decoction is as follows:—

Take	Azema tetracantha	...	} — a a oz.i
	Sweet flag	...	
	Ginger	...	
	Ajwaan	...	
	Sodic-chloride	...	
	Water	...	oz.xx

boil down to 10 ounces, cool and strain. Dose ʒiiss to ʒij twice a day.

*Milk.*—The juice obtained from the shavings of the bark of the root, is given in doses from one to one-and-a-half ounces, with three ounces of goat's milk twice a day, as a diuretic, in dropsical cases.

No. 14.	Clerodendron inerme (Linn.)
	N. O. Verbenaceæ.
Ident.	Roxburgh, Flora Indica, R. P. 477.
Syn.	Volkameria inermis (Linn.)
	Clerodendron buxifolium ( )

Eng.	Rheede Malab.
Ref.	Drury's Indian Flora, Vol. ii, page 502.
Vern.	Sangang Coopee
	Peenaree Changoo
	Pesange Chetto, Telug.
	Vishamadari Kurdalican.
	Nernocci, Mal.
	Banjai, Hind, and Bengal.
	Vanaja, Bomb.

A large ranious scandent shrub, delighting in a salt, sandy soil near the sea; leaves small, opposite, smooth, shining, flowers axillary, pure white, flowering chiefly during the cold season. The plant on the whole has an agreeable smell.

Drury describes 13 species, under the genus of *Clerodendron* as natives of India, of which five are mentioned by Dr. Dymock in his *Materia Medica* of Western India.

These are <i>Clerodendron infortunatum</i> (Gat.)	
	<i>Clerodendron siphonanthus</i> .
"	inerm.
"	phlomoïdes.
"	serratum.

The leaves are used in Hindoo medicine as an alterative, and antisiphilitic. They are pounded with cold congee water, (the congee water with rice boiled over night), and its juice about 3 to 4 ounces is given every morning for three days in gonorrhœa, chancre, rupia, syphilis, and gonorrhœal rheumatism.

The diet is very strict, rice and congee water, without salt or tamarind: the result is very successful in venereal diseases. The bark of the root is given in powder for venereal diseases; as follows:—

Take the bark of the root in powder	...	ʒv.
Pepper	...	ʒv.
Long pepper	...	ʒv.
Sugar	...	ʒiiss.

To have the drugs well powdered and strained, and add the sugar. Dose, half to one drachm twice a day. Dr. Ainslie states that the leaves and root are considered alterative in scrofulas and venereal affections, the dose being a tablespoonful with or without a little castor oil. Rheede speaks of the use of the dried leaves for the same purposes, and of a poultice of the leaves to resolve buboes; he further says that a bath prepared with them is used in mania, while the root boiled in oil affords a liniment useful in rheumatism.

The Malays and Maccasars administer the berries, or the root, to people poisoned by eating unwholesome fish; the leaves smeared with it are heated over fire, and applied to recent wounds. In Bombay the plant has a great reputation as febrifuge in remittent fever, the juice of the leaves are used in doses of half an ounce. The leaves are mucilaginous, very aitter, somewhat saline, and with a fragrant bpple-like odour.

Chemical composition: by Dr. Hooper, F. C. S., of Ootacamund, *Pharmaceutical Record*, New York, August 1, 1888, p. 288.

Etheral	extract	...	4·77
Alcoholic	do.	...	5·70
Aqueous	do.	...	15·54
Alkaline	do.	...	11·48
Organic residue	do.	...	5·06
Inorganic	do.	...	6·44
Moisture	do.	...	6·01

Total 100·00

Ash soluble in water	...	44·14
Ash soluble in acid	...	47·10
Sand, &c.	...	8·76

Total 100·00

Sodium chloride	...	24·01
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The leaves of *C. inerm*, when distilled with water, yield a like body, having the fruity flavour of the fresh plant. The æther extract was fragrant, green, and of a greasy consistence. The alcoholic extract contained some resinous matter, and much of the salt which was left as cubical crystals, when evaporated, water dissolved out gum and brown coloring matter, neither tannin nor starch was found to be present in the leaves. They left, on gentle incineration, as much as 15·29 per cent. of ash, and the large amount of salt in this ash indicates the habitat of the plant as being in close proximity to the sea.

Dr. Ainslie says that the juice of this leaf is bitter, and is supposed by the native practitioners to possess virtues in cases of cough, consumption, and humeral asthma. It is commonly prescribed in the form of an electuary, in conjunction with some other medicines; the powder of the root also is sometimes administered for similar complaints.

Dr. Roxburgh observes that the berries are eaten by men and birds.

No. 15	<i>Mimusops hexandra</i> (Roxb.)
	N. A. Sapotacea.
Ident.	Roxb. <i>Flora Indica</i> R., p. 318.
	Dec. <i>Prodrom.</i> Vol. VIII, p. 204.
Syn.	<i>Mimusops Indica</i> .
Eng.	Wight <i>Iconis.</i> Vol. IV.
Reference	Drury's <i>Indian Flora.</i> VII, p. 151.
	Do. <i>useful plants,</i> p. 293.
Verno.	Paulay Marām ... Tamil.
	Palla ... Tel.
	Rajadani ... Sans.
	Kishu ... Hind.
	Kherkhejee ... Beng.
	Rojun and Kerin, Bombay.

Though the tree is described as a native of mountains of Circar, yet it is found in the plains a few miles south of Tanjore, in the jungles of Vadaranium and Poodookotah.

Dr. Roxburgh describes that the trunk is erect, frequently when old it has rotten excavations, bark ash-colored, branches numerous, rigid, spreading, extremities nearly erect, forming a large shady head, leaves alternate, petioled, broad wedge-formed, or obcordate deeply emarginate, very hard both sides of a deep shining green, from three to five inches long, and one and a half or two

broad. It flowers during the hot, and in the beginning of the wet season. Berry, the size and shape of a margosa fruit, or a little smaller yellow, when ripe rarely more than one seeded.

The wood is much employed for a variety of economic purposes, for the railway, for sugar mills, beams, well frames, bressumors, rice pounders, and other things where toughness is required. The leaves are used as a manure for paddy fields at Poodookotah, and other places where it grows.

The fresh bark also used as a paste spread in cloth, and applied like a starch bandage in fracture. The bark is employed as an astringent made in decoction used as a gargle for pytalism, and spongy gums similar to that of *Mimusops elingy*.

The fruit is largely eaten by natives; it contains a milky juice, taste sweet, containing much saccharine matter, and sticky, sweetmeats are prepared with it by villagers. The juice when boiled, and evaporated under heat, the extract tastes like sugar. A fixed oil is obtained from the seeds by decoction, it is bland, and of yellowish color and tasteless. Tonic alterative and emolient and demulcent in its action, and applied in cases of ozeana. The oil is used for lighting, and preparing sweetmeats, and employed in medicine as a cooling to the body. Chemical composition—Mr. D. Hooper, F. C. S., has been kind enough to favor me with the chemical analysis. "The oil of *mimusops hexandra* solidifies at the temperature of 15°C, and has a specific gravity of 9186 at 17°. The saponification equivalent is 266.3, as it requires 21.1 per cent. of caustic potash for forming soap. The oil yields 95 per cent. of fatty acids melting at 37° and containing some stearic acid.

The extract of *mimusops* contains 70 per cent. of sugar which is amorphous reduces Fehling's solution without previous inversion, and has a left handed rotation on polarised light, this sugar therefore may be referred to lævulose fruit sugar. The extract also contains a yellow resin soluble in alcohol, ether and benzol, and a white substance resembling caoutchouc. Pectin colouring matter and a small quantity of tannin are in the soluble portion of the extract, such as are found in other edible fruits."

No. 16	<i>Myrabilis Jalapa</i> (Lun.) N. O. <i>Nyctagineæ</i> Cæcæ,	
Ident.	Rheede Hort. Malabar, x 75. Botanical Magazine, p. 371.	
Syn.	<i>Mirabilis dichotama</i> Gater. <i>Jalapa conjestata</i> Moench. <i>Nyctago Hortensis</i> Juss. Do. <i>Jalapa</i> Dec.	
Ref.	Lindley's Treasury of Botany.	Vol. II, p. 746.
	Patharachi ...	Tamil.
	Anthimullee ...	Tamil.
	Batharachi ...	Tel.

<i>Madhyānhamallige</i>	...	Can.
<i>Antimalari</i>	...	Mol.
<i>Akācumogri</i>	...	Kon.
<i>Sandhyārāya</i>	...	Sans.
<i>Keso</i>	...	Japan.
<i>Gulabbas</i>	...	Hind.
<i>Rambal Rocalambal</i>	...	Malay.
<i>Krishmua Keli</i>	...	Beng.
<i>Hoanphan</i>	...	Cochin China.

The mariel of Peru is a showy perennial under shrub with large smooth ovate acute leaves, equally cordate at the base, and handsome flowers collected in clusters at the summit of the stem. The flowers are distinguished by a tubular corolla bearing beneath its base, a single farinaceous seed, and having a tuberous root. The plant is a native of South America, but naturalized in this country.

It is called four o'clock plant from the fact of its flowers expanding about that time in the evening, and accordingly it is known as "*Anthienulla chedy*" among the Hindoos.

There are four varieties cultivated in gardens distinguished by their flowers, which are red, white, yellow, and striated.

The leaves and roots are used in native medicines. The leaves are used for local application to boils and buboes, the leaves are first smeared with castor-oil, and heated over the fire, and applied twice a day promoting suppuration, and causing the boils to burst or break.

The roots are large and of variable size; they are boiled first, and then made into curry, and eaten by natives, more especially by those suffering from piles, taken with soup. It is medicinally given in powder, and confection. The root is cut into slices, dried, and made into fine powder of which

Take	...	3v
Black pepper powder	...	3iiss
Long pepper do.	...	3iiss
Sugar	...	3vd
Dose	3i	twice a day.

The confection—

Take the powdered root	3v	
Nutmeg	...	3iiss
Mace	...	3iiss
<i>Aconitum heterophyllum</i> .		Atthivadya
	...	and 3iiss (Tamil.)
Sugar	...	3x
Milk	...	3x
Ghee	...	3i

The first three drugs are powdered separately, and mixed, heated over fire to proper consistence agitating until coming to a consistence of a confection then removed. To be preserved in a porcelain vessel. Dose 3ss to 3i twice a day.

*Mirabilis Jalapa* was supposed at one time to furnish the jalap of commerce, and to possess purgative property. But now it is not the case. I found in my practice the root as an astringent and specific for hæmorrhoidal complaints, and does not possess purgative virtues

at all; and the leaves emollient and supplicative.

Dr. Dymock in his *Western Materia Medica*, page 657, observes that the seeds are used to adulterate black pepper.

In the Concan the dried root powdered, and fried in ghee with spices, is given with milk as a paushtic or strengthening medicine, and rubbed with water it is applied as in Raktab-ao (contusions).

(To be continued.)

## Therapeutic & Clinical Memoranda.

### ANTIPYRIN CHECKING CONVULSIONS IN A DOG.

By F. P. MAYNARD,  
Surgeon 27th P. L.

THE notes of the following case may be of interest taken in connection with the large number of experiments made of late on the action of the drug in question: At 8-30 A.M., on July 11th, my small fox terrier bitch was smelling about in the rather long grass in the compound near some trees when the sweeper who happened to be about saw her jump, and then run towards the bungalow. Suspecting she had been bitten by some thing, he ran to the place, but could find nothing. Then examining the dog, he found marks of a tooth-bite on the left-side of the tongue. No salivation. The dog seemed ill very soon and restless, and presently slight convulsions came on which grew more severe, and they sent off to hospital for me—some distance. I saw the dog about 9-30. She was then lying on her right side, unconscious with dilated pupils, head drawn back, back arched, and all four legs sticking straight out rigidly. Clonic spasms very rapidly succeeding each other, shook her all over. Mouth dry. Respiration very rapid. On the left edge of the tongue were two distinct marks of teeth, one above, and one below. No swelling at all near them; was not passing water or fæces. I thought the dog had been bitten by some kind of snake and was dying, and hardly knew what to do, so gave her some whiskey. Then feeling her very hot, took her temperature, and found that it was 106.2° F., and having some antipyrin by me in gr. x powders, I gave her gr. x dissolved in strong whiskey and water at 9-45. At 10-15 her temperature was 104.2°, but the spasms remained the same, though her pupils had begun to contract. So the dose was repeated with more whiskey. At 10-40 temperature was 101.8°; the convulsions were lessening, and the dog recognised me. She previously, I should say, had tried to get on her legs and had

performed "circus movements." Grs. v. more were given, and at 11 A. M. the temperature was normal; the convulsions had ceased, and the dog being stiff and weak in her hind legs, was apparently well. She slept the greater part of the day, refusing to touch anything, and has been well ever since. Altogether she had gr. xxv of antipyrin and ʒiiss of whiskey. Turning to some experiments which were made on frogs, guinea pigs, rats and rabbits by Drs. Rayner, Batten, and Bakenham, Dr. Lauder Brunton's assistants (and in his laboratory at St. Bart's Hospital), the similarity between the symptoms of poisoning by antipyrin as observed by them, and the symptoms my dog showed is very striking.

They found that the most marked early symptom, common to all the animals experimented upon, was a rigidity of certain muscles, beginning in the forelegs and extending to the muscles of the back or abdomen. The forefeet generally recovering first. In mammals it was followed by peculiar rhythmic movements. Then followed a stage of extreme muscular irritability, the slightest stimulus causing the limbs to be shot out in spasm. Circus movements were also observed in some instances. These stages were followed by paralysis and death. In frogs at any rate the convulsions were proved to be of spinal, and not of cerebral, origin. Respiration was always much slowed. Anaesthetics entirely abolished all symptoms of poisoning (as long as administered), and if administered before the drug no poisoning took place.

Heat was found to increase the activity and cold to lessen it. After the injection into the peritoneal cavity of a guinea pig weighing 530 grammes, of .25 gramme (3.8 grains), respiration ceased, and the animal would have died, had not artificial respiration revived it until a further dose of .125 gramme finished it.

This dose is small when compared with the one given to the bitch, although the latter received hers by the stomach; still the very symptoms produced in the experiments by antipyrin existed in this bitch at the time of its administration, and far from being made worse by it they gradually disappeared and she recovered. Her recovery from what appeared to be a dying condition was so rapid that the drug must be given some credit for having checked the very symptoms which in smaller doses it produces, and that too not merely by reducing the high temperature which was secondary, and not probably due to the same poison prior to the motor symptoms. In this self-antagonistic property, it only resembles Ipecacuanha and some other drugs. It is unfortunate that the biter of the dog, whether reptile or insect (?) was not found, and though the sweepers swore it to be a "biscobar" which may mean anything or nothing, and some