

## Sarat Chandra Ghose

### 1937 - *Syzygium jambolanum* or *Eugenia Jambolana*

*Common Names.* *Sans.* - Nilaphala; *Engl.* - Jambul, the black plum, *Hindi* - Jaman; *Beng* - Kala Jam, *Guz.* - Jambudo, *Tel* - Nacraedu, *Tamil.* - Nagum, Navil, *Mal* - Naval, *Can* - Naeralu, *Duk.* - Sittalchini.

*Natural order.* - Myrtaceae.

*Parts Used* - Dried seeds (fruit-stones).

*Description of the plant.* - *Syzygium Jambolanum* or Kala Jam of Bengal, is a common plant of Bengal and is known to every one of us. It is a large tree and can be found all over India. Its fruits are very sweet, appetising to all taste and soothing.

#### Ayurvedic Uses.

*Charak* says - Its powdered seeds are very efficacious in boils and ulcers. It is also an excellent remedy in bilious vomiting.

*Chakradatta* writes - It is a sovereign remedy in bloody dysentery or diarrhoea associated with blood. In diarrhoea of children it is used with goat's milk with excellent results.

It has been mentioned in *Charak* that it has a decided action in checking and curing Diabetes Mellitus.

*Parts Used.* - Leaves, bark and seeds.

*Dose.* - Bark and juice of leaves - 1 to 2 tolas; powdered seeds - ½ to 3 annas; bark - 4 to 8 annas.

#### Allopathic Uses and Opinions.

*Constituents.* - The seed contains jambulin, a glucoside; also a trace of essential oil, chlorophyll, fat, resin, gallic acid, albumen etc. The bark contains tannin 12 p c. and a kino-like gum.

*Actions and Uses.* - The juice of the ripe fruit or syrup is stomachic, astringent, and diuretic and given in scanty urine. The decoction of bark is astringent and used in diarrhoea of children, in chronic dysentery, as a gurgle mixed with Dhomaso for the relief of spongy gums, and sore, cracked or irritable tongue. A paste of the leaves is used to promote healthy discharges from indolent sores or from unhealthy ulcers. The extract of the powdered seeds and dried fruits is used in diabetes. It checks diastatic conversion of starch into sugar in cases depending on increased production of glucose (*Materia Medica of India* - R, N. Khory, Part II, p. 269).

"A wine and syrup of the fruit has been shown to us by Mr. M. C. Pareira, of Bombay, they much resemble in flavour similar preparation made with red currants, and appear to have stomachic and astringent properties. Some years ago at Monghyr, in Bengal, excellent brandy was prepared from the fermented fruit. Of late years the seeds of this tree have been recommended as a remedy for diabetes".

Dr. C. Graeser, of Bonn, has published in the *Centralblatt für Klinische Medicin* a highly interesting account of a series of experiments with the extract of the fruit of *Syzygium jambolanum* on dogs, which had previously been made diabetic by the administration of phloridizin.

Dr. Graeser thought that the best way of studying the physiological and therapeutic action of the new drug was to administer it to dogs which had artificially been made diabetic by a method introduced by V. Mehring, who found that artificial diabetes can at any moment be produced in dogs by the administration of phloridizin.

A young dog of 2,700 to 4,800 grammes body weight, to which 25 to 48 grammes of phloridizin (1 gramme to 1 kilo body weight) have been given, in the course of a day, will show an excretion of sugar, lasting for twenty four to thirty hours, and amounting to 5.89 to 12.45 grammes. Graeser first gave the daily dose of phloridizin but later on he split the quantity into doses of 1 gramme, given every two to three hours. In both cases the excretion of sugar was the same. Diarrhoea was caused by phloridizin in three cases. After Graeser had experimented for sometime with phloridizin alone he began to administer simultaneously phloridizin and extract of *Syzygium jambolanum*.

The latter was given before, along with, or after phloridizin, and invariably had the effect of reducing the expected excretion of sugar most considerably. This reduction amounted to at least half, in some cases even to nine-tenths, of the quantity of sugar which would have resulted had phloridizin alone been given. At the same time the duration of the diabetes was shortened. Dogs which under phloridizin alone had excreted 5.89 to 12.45 grammes of sugar, showed under the jambul treatment a maximum excretion of 2.906 grammes of sugar and a minimum excretion of 1.5 gramme.

As jambul showed such a powerful effect on the artificially produced diabetes, it may be anticipated that when given in proper time and in a large dose it will entirely prevent the excretion of sugar.

It is not yet known how jambul given in large doses acts on the pathological diabetes mellitus of man. But it is well worth trying. The experiments on man are all the more justified as no ill effect has ever yet been produced by the new drug. A favourable effect of such experiments would prove that phloridizin diabetes and pathological diabetes are of a similar nature.

In all the animals on which Graeser experimented no signs of any secondary effects of jambul extract were observed, not even after doses of 18 grammes. In one case diarrhoea set in, which, as further experiments proved, was caused by phloridizin and not by jambul.

All the experiments were made with extract of jambul prepared by Mr. R. H. Davies, F.I.C., Chemist to the Society of Apothecaries, London, from seeds which the author had himself brought over to Europe. As the fruit contains great quantity of starch, it was thought advisable to eliminate this as much as possible in preparing the extract. Several extracts were prepared out of the whole fruit, or solely out of the kernel or solely out of the pericarp; 100 grammes of the fruit gave 16  $\frac{1}{3}$  grammes Kernel extract, and 11  $\frac{2}{3}$  grammes pericarp extract. The quantity given in one single dose was 6 grammes, the maximum daily dose 18 grammes.

Whether the active principle is contained in the pericarp or Kernel cannot as yet be decided to a certainty. Probably it is contained in both, but to a great extent in the pericarp.

From the long series of experiments which he has made, Graeser draws the following conclusions:

1. Phloridizin diabetes is considerably lessened by jambul extract.
2. Jambul extract is non-poisonous, and does not cause any ill effect.
3. The active principle contained in jambul is not yet known. It will have to be determined by careful analysis and further experiments (*Chemists and Druggists*, 1889).

With reference to Graeser's experiments, G I. Iaveine (*Vrat Ch*, 1889, p. 1029) records having obtained negative results with the seeds in three cases of diabetes in which the urine contained from 6 to 7 per cent of sugar. In these cases the powdered seeds were given in doses of one

gramme 4 to 6 times a day. (*Dymock* - Part II., p. 26-29).

Lt. Col. R. N. Chopra, IMS writes in his *Indigenous Drugs of India*, page 577:

"The seeds are considered astringent in diarrhoea and dysentery preferably in combination with the seeds of *Mangifera Indica* (Mango). Powdered seeds are said to diminish the quantity of sugar in urine in diabetes. A decoction of the bark has also been used in cases of dysentery in combination with cardamom and cinnamon."

#### Homoeopathic Uses.

The Homoeopaths use it in Diabetes Mellitus and Insipidus with marked benefit. Dr Dudgeon employed *Syzygium* in the lower homoeopathic attenuations with gratifying results. Many others of our own school of therapeutics have experienced the same results in their practice.

Hansen has mentioned that "old ulcers of skin, probably of a diabetic foundation" have been cured with *Syzygium*. Dudgeon in *Homoeopathic World*, Vol XXIV, Page 540 relates this case:

"A scientific man, 56, complained of "prickly heat" all over upper part of body and arms. The skin was covered with small red papules, which itched so intensely as he could get no rest. He felt very weak, which was perhaps due to his having abstained from all animal food, and confined himself to bread, farinaceous food, vegetables and fruits. There was much thirst, and great flow of urine, which he was obliged to pass every two hours, night and day, mouth very dry. Urine 1036, very saccharine. He was ordered chiefly animal diet, very little bread and no sugar. *Syzygium*  $\theta$  mixed with three times the quantity of Alcohol, was given: of this two drops every three hours.

The specific gravity of the urine steadily declined, sugar disappeared, and all the symptoms passed off, and this in spite of the fact that the dietetic rules were relaxed".

Boericke in his *Materia Medica* 9th Edition page 629, has written the following:

"It has an immediate effect of increasing the blood sugar, glycosuria results.

It is a most powerful remedy in Diabetes mellitus. *No other remedy causes in so marked degree the diminution and disappearance of sugar in the urine. Prickly heat in upper part of the body, small red pimples itch violently. Great thirst, weakness, emaciation. Very large amount of urine, specific gravity high. Old ulcers of skin. Diabetic ulceration. The powdered seeds, ten grains three times a day; also, the tincture"*.

I have carefully ransacked all available Homoeopathic Journals in order to unearth the experiences, observations and researches of the Homoeopaths pertaining to this drug and the only interesting paper found by me was contributed by no less a personage than the late eminent French Homoeopath Dr. G. Seiffert, M D. of Paris in the *Revue Homoeopathique Française* on this drug. I reproduce that paper in toto which was translated in English and published in the *North American Journal of Homoeopathy* in May, 1904, pages 331-332.

Dr. Seiffert on *Syzygium* writes: "Theoretically, we know little about this drug, whose pathogenesis has not yet been established. The plant is also known under the names of myrtus jambosa and jambul. It grows in the west Indies, the Antilles, Reunion Island, and New Caledonia, and belongs to the family of myrtaceae, all the representatives of which contain tannin, fixed and volatile oils, free acids, a mucous liquid and sugar.

In the West Indies, the fruit and bark of the plant are employed allopathically as astringents in dysentery, blennorrhagia and leucorrhoea. The juice expressed from the leaves is equally efficacious in dysentery.

M. Gerrad has extracted from *Syzygium* a crystalline substance to which he has given the name of Jambosine and suggested as a formula  $C_{10}HNO_3$ . The crystals, white, tasteless,

melting at 77 degrees C, are soluble in ether, alcohol and chloroform, insoluble in cold water and slightly soluble in hot water. The active principle of myrtus jambosa, however, is not jambosine, but lies in a resin still to be found, which, according to Lyons, exists in combination with an alkaloid and a certain acid.

M. Beneha recommends Syzygium for diabetes, the sugar disappears in forty eight hours, and so long as the drug is used, an amylaceous diet can be used with impunity. It is stomachic, carminative and astringent. M. Scott says that its presence in the stomach retards and lessens the saccharifying action of the saliva and pancreatic juice. Dr. Rosenblatt, of Vilua, and Dr. Zevaskar have used Jambul both as a powder and as a fluid extract, they have cured more than ten cases in diabetes, and they attribute their success to this drug. The usual dose was 30 cgm of the pulverized fruit, three times a day.

Homoeopaths have made a tincture from the pulverized fruit and used it in diabetes. The pulverized fruit itself has also been used, as mentioned above.

Dr Dudgeon and others used successfully in diabetes low liquid attenuations. Dr. Hansen reports the cure of some inveterate cutaneous ulcers, probably due to diabetes.

I tried this treatment in my practice; but I must confess it was with mediocre success, so much so that I was on the point of giving up the use of Syzygium Jambolanum. Just at this time I suffered from diabetes myself with violent thirst, marked wasting away, dryness of the mouth, complete repugnance to smoking, 20 grammes of sugar per litre of urine. The daily quantity of urine was ordinary, about 1400 grammes.

I had read in the Manuel of Pahlmann "A new remedy, recommended particularly by American homoeopaths, is Syzygium jambolanum. It is said that true sugar diabetes can be cured by this drug in six weeks, if, during this period, the patient will confine himself to a diet of skim milk. Alcoholic tinctures extracted from the seeds according to homoeopathic methods do not act so decidedly. It is necessary to use four teaspoonfuls a day of an infusion prepared as follows

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Semin Syzygii jamb pulv. 25 grammes.

Inf. et mac. cum Aq coct. Colat, added 250 grammes.

Per horas 11. Glycerini 25 grammes.

I prepared the drug in this manner, and took four teaspoonfuls a day, without submitting myself to a strictly dietic regime. I omitted, however, all alcoholic liquors, and all sugar and amylaceous food.

After eight days the sugar had fallen from 20 grammes to 8, and after another eight days all traces of sugar had gone. The violent thirst and dryness of the mouth had disappeared, my former delight in smoking had come back.

I considered myself cured, more particularly because my diabetes was of rheumatic origin. I returned to my former manner of life, and kept free for a year, when suddenly the diabetes reappeared.

This time symptoms were extremely sudden and violent; there were distaste for tobacco, wasting, gastric symptoms, impotency, dryness of the mouth with slight ulcerations of the buccal mucous membrane, 30 grammes of sugar per litre; no thirst, no excessive urination.

I used the remedy employed before, followed a very mild diet, and a week later, after an abundant perspiration, all symptoms had disappeared, since then there has been no recurrence.

In my practice I have tried the same treatment and found a favourable result in a lady of seventy years of age. She complained of excessive thirst, great feebleness, and had a number

of cutaneous ulcers on the legs, which, so far had resisted all external medication. Urinalysis showed 35 grammes of sugar per litre while S. G. 1028. It was a very characteristic case.

I used uranium nitricum, phloridzinum, aqua creseotata, etc., without success. Finally I resorted to syzygium. In 15 days the ulcers on the leg had disappeared, never returning. The violent itching which provoked the scratching that had led to the ulcers disappeared also. The sugar diminished progressively to 5 cgm.; more thirst. But the patient was obliged to take the medicine constantly. As soon as the treatment was interrupted the sugar increased in quantity." - *Revue Homoeopathique Française*.

#### Personal Observations.

Syzygium possesses great astringent properties and so the tincture prepared from its tender leaves is used with great success in cases of dysentery. The juice in combination with goat's milk is generally used by our Native Kavirajes in all sorts of dysentery even when associated with blood. In chronic diarrhoea and dysentery its action is always perceived. In cases of sore throat and spongy gums, its bark in decoction is used as a gargle. The dried seed of the fruit is highly efficacious in curing diabetes; it lessens sugar and reduces the specific gravity of the urine.

In diabetes there is excessive thirst the patient passes large and enormous quantity of urine at a time, the urine is found to be of high specific gravity. These are the characteristic symptoms of diabetic patients in which Syzygium has potent influence in checking and curing it. I used it in three bad cases of diabetes with the above mentioned symptoms and all of them were cured.

It is specially suited to those patients who suffer from chronic dyspepsia. If long standing dyspeptic troubles be present along with diabetic symptoms, Syzygium will be found to be a sovereign remedy.

#### Clinical Verifications.

##### *Case No. I.*

Babu Bistupada Ghose, a merchant aged 48, had been suffering from diabetes mellitus for more than three years.

He took several Allopathic and Homoeopathic remedies prescribed by some well-known medical practitioners, but unfortunately he did not get any relief.

At last he was placed under my treatment.

I found the following symptoms:

His urine was examined, there were 28 grains of sugar per ounce, the urine was of high specific gravity, he passed large quantities of urine day and night, the patient was a chronic dyspeptic patient and excessive thirst existed.

I prescribed Syzygium Jambolanum 1x four times daily.

He was cured of this disease within 2 months.

##### *Case No. II.*

Shaik Abdul Bari, a teacher aged 52, suffered from diabetes. He was found to pass copious quantity of urine at a time which caused great weakness, excessive thirst existed. Urine was of high specific gravity and the quantity of sugar was 12 grains per ounce. Syzygium 1x thrice daily was prescribed and he was cured.

##### *Case No III.*

Babu Rabindra Nath Ghose M.A. suffered from diabetes. His urine was examined, and there

were 32 grains of sugar per ounce, specific gravity was high, excessive thirst was present, weakness and exhaustion were felt after urination, chronic dyspeptic troubles tormented the patient, there was prickly heat in the upper part of his body, small, red pimples were found there which itched terribly.

Relying upon these symptoms I prescribed Syzygium 1x and it did not fail in bringing about an instantaneous mitigation of his sufferings.

From the 4th day, he began to perceive great improvement.

On the 12th day his urine was again examined and it was found to be of normal specific gravity i.e. 1012, his urine did not contain any sugar and his other symptoms almost disappeared. Only Syzygium cured him.

*Mode of Preparation.* - The tincture is prepared from dried seeds according to Formula IV of the A. H. P.

*Dilutions.* -  $\theta$ , 1x, 3x, generally used.

(Sarat Chandra Ghose, M.D., Drugs of Hindoosthan, Calcutta 1937, Syzygium Jambolanum or Eugenia Jambolana, p. 305-317)