

Health Series



**Traditional Family
Medicine**



Amalaka and Bhumi Amalaka

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TRADITIONAL FAMILY MEDICINE

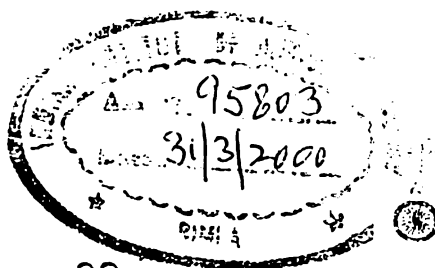
Amalaka and Bhumi Amalaka

K.H. KRISHNAMURTHY

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The information contained in these pages has been culled from various sources. This information is solely meant to create an interest about the wondrous qualities of our medicinal plants. On no account should this be utilised in a lay manner. Help of a trained physician is necessary.



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INTRODUCTION

Once upon a time Goddesses Bhagavati Parvati and Lakshmi started upon a pilgrimage and reached Prabhasa tirtha. Bhagavati then informed Lakshmi that she felt like doing the worship of Hari employing some unique and new material created by herself. Lakshmi replied that she also felt that she should worship Trilochana or the Lord Shiva with a similar material created all by herself. Because of the joy of such a simultaneous desire, tears of happiness from the eyes of both the goddesses dropped down on the surface of this earth. From them was born the tree of Amalaka on the day of Ekadashi, the eleventh day of the month of Magha. Both the Gods and the sages became delighted with joy by seeing this tree. And the tree got regarded sacred like *tulasi* (*Ocimum sanctum* L)

and *bilva* (*Acgle marmelos* Corn). From then on both Vishnu and Shiva are worshipped with the leaves of this tree. If one worships Vishnu on the Ekadashi of the month of Magha with them, He will become highly pleased.

So goes the story and much more elaborately of the creation of the Amalaka tree in Garuda Purana which also declares that all Indians consider this tree holy as it is dear to the Gods and therefore worship the tree itself with leaves and garlands of flowers. Skanda Purana declares that the tree removes all sins.

Such is the reputation of this quite a common tree of Amalaka (*Emblca officinalis* Gaertn).

Historical references to *amalaka* are also plenty. Buddhists have a special relationship with *amalaka*. Maharaja Ashok gave in gift half a fruit of *amalaka* to the *sangha* on his death bed. It was in consonance with this precedent, that the then Viceroy had given in gift half a fruit of golden *amalaka* as a memento at the time of the construction of Mula gandha kutivihar, at Varanasi. "Like the fruit of *amalaka* on the palm of one's own hand" is a very familiar idiomatic expression in Sanskrit to any situation which is completely clear like the round fruits of this tree. One of the principal disciples of Adi Shankaracharya was named Hastamalaka-charya, since everything connected with the Shastras was completely clear to him and there was nothing that was obscure. Once Adi Shankara asked for alms at

a very poor man's house. The house-wife finding nothing available in her house worthy of being given to the great sage, finally offered one fruit of *amalaka* that was somehow present there. The sage then took pity on the utter poverty of the house-hold and sang a song on Lakshmi the Goddess. A rain of golden *amalaka* fruits ensued and the prayer itself has become famous since then as *Kanakadhara Stotra*. The fruit of *amalaka* had also become a standard of measurement in prescribing the dosage of medicine. The ancient paediatrician Kashyapa thus indicates the measure to be given for a child: it can range from the size of *vidanga* seeds (*Embellia ribes*, Burm), on the smallest to those of *amalaka* as the largest.

Of the many medicinal uses of this plant, the most famous is the use of its fruits in *rasayana* or elixirisation viz a medication towards invigoration, rejuvenation and arresting of old age. *Kayakalpa* is an unique concept of Ayurveda which aims at submitting the body to specialised medicative treatments so as to render it resistant to disease and aging. "Long life, excellent memory, brilliance of intellect, health and youthfulness; an opulence of lustre of the body, colour and voice; a superbity in fact of the body and the senses; success in speech; a reverential attitude to life and a loveliness all over in one's self - one secures all of these by elixirisation" so declares Charaka regarding the effect of such a treatment. *Amalaka* fruit is almost an invariable ingredient of the many

rasayana preparations that he and many other classical authors on Ayurveda prescribe.

In spite of all this, it is significant to note that Charaka himself points out that the best among the *rasayanas* is what he calls the *achararasa yana*, the elixir of good conduct. Even the *rasayana* drugs act most propitiously only when given to such a man of good conduct. "He is one who is truthful, non-angry, celibate, non-violent, non-greedy, calm, speaks pleasantly, and clean. (He is a) giver of gifts (to the deserving) and is ever respectful to the elders, the brahmins and the cows... always sympathetic... simple and straightforward and carefully appreciative of the proprieties of place, time and circumstances "and so on goes the description of this man. Such a man's routine is itself a daily *rasayana* - tension free and perfectly organised.

The prescribed upanishadic span of *āyu* or life for man is one hundred and twenty years. This is the age which Mahatma Gandhi had once said he would live upto. Bhagawan Sri Krishna was believed to have left this earth when he was one hundred and twenty. According to both Charaka and Sushruta this is the prescribed age limit for a man. Sushruta clearly states that seventy to eighty or so is the middle age to a man. Both of their Samhitas consist of one hundred and twenty chapters.

A regular using of *amalaka* fruit is presumed to give such a boon of long and healthful life to man.

Names

The basic name of the plant is *amalaka* from the predominantly sour acidic taste of the fruit, which is its most valuable part. The taste however is not wholly sour like that of tamarind; it is mixed with some astringent taste as well as sweetness. But this sweetness comes out very prominently only when one drinks water immediately after chewing a bit of this fruit. The ordinary water feels very sweet and most refreshing then. In fact a routine use of the sourness of this fruit is medically advised to all those to whom the sourness of tamarind does not agree constitutionally. They can dry the bits of this fruit, preserve them over the year and use them with profit throughout instead of tamarind.

Naturally there are many names in Ayurveda for this illustrious tree besides *amalaka*. The following names offer apt descriptions of the plant; *shriphala* (beautiful fruit or a fruit where the goddess Lakshmi or all prosperity including health resides), *shobhani* (the beautiful); *kola*, *vritta phala* (a fruit round like that of a *ber* fruit), *jatirasa phala* (a fruit, like that of nut meg or *jayphal*, *Myristica fragrans*, Houtt), *shringi* (horn like, referring to the dried pieces of fruit which look like horns), *Vritta phala* (the fruits appearing on even very small branches of the tree), *amalagi* (acidic in taste), *kamalagi* (slightly astringent in taste) and *sidhuphala* or *sidhu rasa* (taste of the fruit slightly acidic and pungent like liquor).

All of these terms refer to the characteristics of the fruit, which is its most important part. The following names on the contrary indicate the medicinal properties: *shiva* (auspicious) *tishya*, *tishya rasa phala* (the fruit conferring all prosperity), *amrita*, *amritodbhava* (nectar or similar to *amrita* in its benefits), *divyadhara* (the basis of divine qualities that would ensue when one consumes the fruit regularly), *vayastha* (arresting aging), *vayasya* (promoting the span of life), *dhatrphala*, *dhatrī*, *dhatreyī* (sustaining the span of life like a mother), *vrishya phala* (the fruits are invigorative), *shita*, *shanta*, *shitaphala* (fruits are cooling and most refreshing).

This is *amala*, *avala* in Hindi, *amalaki* in Bengali, *avala* in Marathi, *ambala* in Gujarati - all of these terms are from the original Sanskrit term *amalaki*. It is *neli* in Tamil, Telugu, Kannada, Malayalam and Singhalese.

Arabic calls it *amalaz*, Persian *amalah* and Latin *emblica*. All of these terms again are from the basic name of *amalaka* of Sanskrit. The tree is an original inhabitant of India and its medicinal fame had spread from here to Europe, via Persia and Arabia. Its botanical name also reflects this situation itself aptly: *Emblica* (from *amalaka*) *officinalis* (the officially recognised medicinal drug) Gaertn. Its English name is "emblic myrobalan" while the other name 'chebulic myrobolan' refers to *haritaki*.

Botany

Amalaka belongs to a very large family of plants called Euphorbiaceae to which quite a few well-known plants like castor, croton and tapioca belong. This also includes many famous plants like *putranjiva* (Hindi *jaiputa*, *Putranjiva roxburghi*, wall) whose nuts are hung around the neck of children as a charm to keep them in good health and *jangli eranda* (Hindi) or *Jatropha curcas* Linn an esteemed remedy for itch, herpes and eczema.

In general, the members of this family are stimulative, vomit inducing and promotive of the discharge of urine. They also have a purgative action. An acrid, biting principle usually permeates the entire group. This acidity (i.e. a biting pungency) is however destroyed or modified by heat.

We are concerned here with only the *amalaka* like plants all of which are regarded as just 'varieties' of *amalaka* in popular language though botanically they are not; infact, they belong to three separate genera. They characteristically differ in the shape of their fruits on minor details. The 'varieties' are: the small and the big fruited (the hill or the King *amalaka*) *amalaka* which is *Emblca officinalis*, Gaertn), (the fruit in both are the largest among the three genera, their colour is green, shape is round, and the surface, smooth); *Cicca disticha* Linn. (Hindi - *chalmert*, *harfoourt*, the fruit is yellowish green, rather flattish and ribbed or ridged like a star); and, *Phyllanthus niruri* Linn (the

fruit is the smallest among the three genera, roundish, green and borne rather at the ground level itself, hence called *bhumi amalaka* since the plant itself is a small herb while the other two "varieties" are trees).

Despite these significant but minor differences, the overall shape and appearance of the fruit in all the three is similar and *amalaka* like. That is why the popular language calls all of them as but "varieties". The way in which these fruits are borne is also similar in all of them. They are borne on small lateral branches where the small, simple leaves are arranged in a typically flat double row on either side of the central axis alternately and the fruits are borne mainly at the angles of these leaves and on these small branches almost exclusively. This is what the term *vrinta phala* of Sanskrit describes, which is one of the names of *amalaka* as stated above.

We first discuss *amalaka* or *Emblica officinalis* Gaertn in detail and then consider *Cicca disticha* Linn and *Phyllanthus niruri* Linn to some extent.

Amalaka is a small or medium sized tree quite familiar all over India growing by itself or forming a typical component of deciduous forests viz where the trees shed down their leaves during particular seasons. In the Himalayas it occurs upto the Garhwal ranges and not beyond. It is often grown in parks and house-gardens. In Myanmar, Sri Lanka, China and Malaya, it is regularly cultivated.

The trunk of the tree is crooked characteristically and the branches are well spread out all around. The bark is greenish grey and peels off in greasy shell like or *conchoidal* flakes of irregular sizes. The inner portion of the bark is red. When these flakes fall off, yellowish, fresh bark gets formed underneath. The wood of the tree is red and hard. The branches are smooth or finely hairy, and, these branches themselves are often *deciduous* viz are shed down like the leaves during particular seasons regularly. Leaves are feather like, thin and arranged in a characteristic double row. The shedding of the leaves starts from November to December and the tree remains leafless from March to April, whence the fresh sprouting will commence. Leaves are almost stalkless, closely set along the branches, light green, smooth and narrow; the tip of the individual leaf is obtuse, and the margin, entire or uncut.

Small yellowish or greenish yellow flowers bloom in dense clusters at the angles of the small leaves from March to May, and these are accompanied with an equally dense hovering about of honey bees. Flowers are either male or female but both kinds occur in the same branches. Male flowers are numerous on short slender stalks. Female flowers are few in number and are almost stalkless.

The fruit is fleshy, round but rather flat at both the upper and the lower ends. In colour it is mostly green but with a tinge of yellow, with six vertical

lines visible on the surface. It has a hard, single nut within on the exposed surface of which six prominent lines are clearly seen. The nut contains three compartments in which four to six dark brown triangular seeds occur. Fruiting is strictly seasonal, and the fruits ripen from December to February. The best fruits are available in the market in the month of Magha and the same quality continues to be procurable till half of the month of Chaitra. All the vital principles are in their best in the fruits at this season of *magha*. The legends quoted above that the creation of Amalaka and its sacredness are associated with the month of Magha reflect this botanical truth. When the fruit is fully ripe its colour assumes a redness overlaid on the basic yellowish green. If the ripe fruit is kept to dry in the sun, the fleshy part dries and breaks out to expose the inner nut.

The fruits are available in the markets at the seasons concerned all over India. They are best procured during these times but they can very well be preserved over years, shade dried or pickled. The fruits from Benares region are the most reputed. In most places, both the varieties, the small as well as the big sized or the King-sized, are available; but, the latter is not so common as the former and are usually brought to the market of the plains from the hilly regions.

Medicinal Properties and Uses

The parts of the plant that are used in medicine are bark, root, leaves, flowers and fruits, as well as

the nuts within them. Of all the parts the most important is the fruit which is used in fresh as well as dried state.

(i) General Actions

Physicians of both Ayurveda and Siddha consider that the fruit has all the six *rasas* or principles of tastes viz sweet, bitter, pungent, astringent and acidic excepting that of salt. Of these, astringent or the *kashaya rosa* dominates. In potency, it is cooling and its post-assimilation effect or *vipaka* is sweet. Its three primordial actions as a drug are: it destroys the vitiations or *doshas* of all the three types, *vata*, *pitta* and *kapha*; it is an excellent *rasayana* or invigorative and rejuvenative drug; and it increases the seminal content (*shukram*) in man

The yunani system of Medicine considers it as cooling or refreshing and as a tonic to the two important organs of the human body viz brain and heart. It prevents vicious humors in the stomach and the intestines from playing their ill effects on the constitution. It is beneficially used in chronic diarrhoea and also in the convalescent or the recovering stages of typhoid and other fevers when the patient is generally very much down and actually needs a restorative tonic.

The fruit is acrid (bitingly pungent), sour, bitter, and sweetish. It is carminative (assists in expelling gas from the stomach and the intestines), alterative (makes a desirable change in the vital functions of

the body), laxative (loosens the bowels), tonic and antipyretic (counteracts fever and the attendant increase in the body temperature). It is useful in lessening the burning sensations specially at the chest that accompany many ailments. It is also useful when there is a vomiting sensation or urge, and biliousness or a derangement of liver and its normal secretions and in correcting errors in urinary discharge. It is a great reliever of excessive thirst.

Some of the diseases in connection with which the fruit is employed with useful results are the following: leprosy, constipation, all types of inflammations, erysipelas (an inflammatory disease, usually in the face and characteristically marked by a bright redness of the skin; this is called *visarpa* in Ayurveda), piles, anaemia (lack of red blood corpuscles or haemoglobin in the blood which gets manifested as paleness on the face and the body as well as a general languor) and stranguary (painful retention of or difficulty in discharge of urine) as well as in anuria (when there is a total failure in the secretion of urine). A few other afflictions where also the plant is occasionally used with commendable benefit are: poisoning, ophthalmia (diseases of the eye) and incipient blindness.

Of the many potent and *rasayana* drugs that Ayurveda mentions in its vast vegetable armamentarium, it considers two as the most excellent. They are: *haritaki* (*Terminalia Chebuela* Retz., *harad* in Hindi) and *amalaki*. Of the two

again, *haritaki* is of hot virility (*virya*) while *amalaki* is cooling and therefore much better. Charaka clearly enunciates that among all the drugs in the world that arrest aging (*vayasthapata*), *amalaki* is the best, and among all that confer resistance to disease (*roganirodhaka*), *haritaki* is the best. So high is the fame of *amalaki* in Ayurvedic literature. Its big fruits are astringent (constrictive of tissues and therefore healing), promotive of urine discharge, purifiers of blood and appetising. They are used with benefit in the following diseases: diarrhoea and dysentery, morbid or feverish heat (*daha*), urinary disease (*prameha*), jaundice, boils, anaemia, piles, obstructed intestines (*baddha koshta*), indigestion, anorexia (tastelessness) and difficulties of breathing and persistent coughing. It renders the eyes lustrous, makes the semen thick and increases the span of life.

Purity of blood and its efficient circulation in the body are the basis of all health; for, it is the blood that sustains the health of the entire body, most operatively. This supplies the nutrition required everywhere and removes the waste products of all metabolic or life activities. As long as these two primary functions of blood viz supplying nutrition and removing waste are taken care of well, diseases will not come and the degenerative changes of aging get resisted. When extraneous substances like alkalies, acids and parasitic organisms get collected to more than a tolerable degree, the blood functioning suffers

correspondingly, resistance to the injurious effects of the diseases decreases and the body loses the capacity to arrest aging. If one can get rid of these extraneous substances collected in the blood, completely and efficiently, one can presume to overcome disease, and aging. This is what the fruit of *amalaka* is believed to carry out. Investigations in modern Medicine have discovered three such materials: the apple fruit, the Olive fruit and the fruit of emblic myrobalan or the *amalaki*. Of the three, apple is well cultivated now in different parts of our country, olive is essentially European and *amalaka* is the purely native and the age old gift of our country to the world. It is because of these illustrious properties, the plant itself was called by our ayurvedic scholars as *shiva* the auspicious and *dhatrī*, the mother and the sustainer. There are probably no chapters in an Ayurvedic text where *amalaki* does not find a place.

The advantages that ensue from the employment of *rasayana* drugs are listed by the sages of Ayurveda. They are physiological as well as psychological such as: a long span of life, brilliant power of memory, powerful intelligence, healthfulness in all ways, youthfulness throughout; increased lustre of the body, vigour and vitality; strong senses; nobility of disposition and conduct, success in speech, virility and well nourishedness all round. These gifts will ensue by a regular use of the fruits of this plant and more so when this use is done in prescribed ways as hinted at, later.

(ii) Individual Parts of the Plant and their Medicinal Uses

Most of the properties and uses mentioned above refer to the fruits of the plant, which so constitutes the officially recognised drug material. But, the other parts of the tree also have their own medicinal applications. And these are also employed in making proprietary preparations or *Yogas* and in many household remedies as well.

The root, the bark and the ripe fruit are astringent i.e., constrictive of living tissues and hence promote a healing of the injured regions and cracks of the body. The flowers are used as cooling agents and they also serve as laxatives.

Root

The bark of the root is rubbed with honey and used in aphthous stomatitides (or small whitish ulcers on the surface of the mucous membrane in the mouth region). A fermented liquor prepared from the root is used in jaundice, dyspepsia or indigestion and cough. The decoction of the roots is given in myalgia or pain in muscles that follow in some feverish conditions.

Bark

Juice of the fresh bark ground well and mixed with turmeric powder and also honey sometimes, is a remedy for gonorrhoea, a dreaded venereal disease. This is practised in Konkan region. *Tender*

shoots are given in butter milk to cure indigestion and diarrhoea.

Leaves

Green, fresh and tender leaves are gently crushed and given along with curds, or butter milk. This can be taken as such or along with rice. This measure also cures indigestion and diarrhoea just as the tender shoots mentioned above. Milky juice of the leaves is a good application to the offensive, foul smelling sores that do not heal up quickly to other treatments. An essential viz aromatic and pleasant smelling oil is extracted by distillation from the leaves and this finds a good application in perfumery industry. This can also serve as a product of cottage industry.

Boil the leaves in water to a simmering point and when the water is still rather warm, gargle your mouth with it. This will cure the blisters, the pustules and the lesions in the mouth. The leaves contain a large amount of tannic acid that brings about such a reaction of healing. A decoction of the leaves serves as a good mouth wash in *apthae* or small whitish ulcers on the mucous membranes on the inner surface of the mouth cavity.

In South Gujarat, the leaves are used as an infusion along with the seeds of fenugreek (*methi* in Hindi or *Trigonells foenumgroecum* L) for curing chronic dysentery. This is also a bitter tonic. In Cambodia, the leaves are employed in preparing antithermic lotions, to treat fevers.

Flowers

These are cooling and aperient or mildly laxative. Flowers gently crushed and taken with honey and the like forms a good electuary (i.e., a medicine to be licked up) to increase tastiness in food.

Seeds

An infusion of the seeds is given as a febrifuge viz to drive away fever. This is also useful in diabetes and its complications. It serves well as a collyrium and in curing conjunctivities or the inflammation of the conjunctiva of the eyes as well as in a few other minor ailments of the eye.

Seeds are fried in ghee, ground in *Conjee* or rice water and then applied as an ointment to the forehead; this will stop bleeding of the nose. Seeds are burnt, powdered and mixed in oil to serve as a useful application for scabies and itching.

Take one *tola** of the seeds, soak them overnight in a tinned vessel and grind them in the next morning adding some milk as well. Take this in seven *tolas* or one fourth of a *ser* of cow's milk. This is a good remedy for curing biliousness or upsets of liver.

* The modern equivalents of the traditional units of weight measurements referred in this Text henceforth are as follows 1 *ratti* = 1 *gunza* (the seed of *Abrus precatorius*), 8 *gunzas* = 1 *masha*, 10 *maschas* = 1 *tola*, 24 *tolas* = 1 *ser*, 1 *tola* = 10 grams.

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A powder made up of equal quantities of the seed along with the root of *ashwagandha* (*Withania somnifera* Dun) is given with ghee and honey as a restorative and invigorator. Specially in the days of winter, when one is likely to be rather down in vitality or liveliness, half a *drachm* of the seeds and a similar quantity of *gokhru* (*Tribulus terrestris* Linn) are powdered well and mixed with fifteen grains of the essence of *gulanich* (*Tinospora Cordifolia* Willd) and given early in the morning with ghee and sugar. This will serve also as an equally good and nutritive tonic.

Prepare a powder of the seeds along with the root of *chitrak* (*Plumbago zeylanica* L) the dried fruits of chebulic myrobalan or *harad* (*Terminalia chebula*) Retz and *pippali*. Give this in suitable doses in conformity with the age for children in warm water twice daily, morning and at bed time. This is a good remedy for diarrhoea in children.

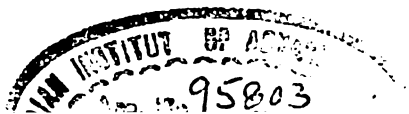
For loss of appetite, which is a usual complaint after any prolonged illness or severe fever, a good remedy is prepared out of the seeds. This is a decoction of the seeds given along with dried grapes and sugar, to gargle well. The tastiness in food is restored soon. A decoction of the seed, the root of *chitrak* (*Plumbago zeylanica* L), the fruits of *harad* (*Terminalia chebula* Retz) and *pippali* (*Piper longum* L) is given in fevers as a curative. A compound powder is made up of equal parts of the seeds, the fruits of *harad*, root of *chitrak*, *pippali* and *satindhav* salt. This is also given in fever.

A simple but an effective remedy is to powder the seed and red sandal or *rakta chandan* (*Pterocarpus santalinus* L) together and give this in honey. This will stop nausea and vomiting.

Fruits

The unripe fruits are cooling, diuretic (promotive of urine discharge) and laxative. The exudation that one can secure by making an incision on fresh fruits is used as an external application in inflammations of the eye. Physicians of the yunani system regard the fruits as acrid (bitingly pungent), sour and cooling. These are also astringent, tonic, expectorant (aiding in discharging or ejecting phlegm from the throat) and useful in the healing of wounds. They improve the appetite and are useful in the diseases of heart, liver complaints, cold in the nose, thirst, piles and eye troubles. They stop nasal bleeding and purify blood.

Fresh fruits are used in Turkey for curing the inflammations of the lungs and also as a choice collyrium to improve the vision and give a lustre to the eyes. Iranians employ them as a febrifuge viz to ward off the fever and lessen the temperature. This is usually given with honey; the preferred dosage is from one to three drachms depending upon the age. The green and fresh fruits procured in the season are most favoured to be preserved as pickles which are the best stimulators of appetite. They are also preserved by dipping in sugar syrup, pricking the flesh of the fruits (preferably of the



king sized variety of *amalaka*) with needle all around so as to facilitate perfect penetration of the sugar everywhere and keeping the glass container of such fruits for days together in direct sun. This is the *morabba* and considered the most healthful, for persons of all ages. The keeping quality in both the forms of preservation is quite commendable.

A paste of the fruit by itself or sometimes with the seeds and the thalamus (the fleshy protruding receptacle in the centre of the flower) of *Nelumbium speciosum* Willd or white lotus, saffron or *keshar* and rose water is beneficially applied over the pubic region to get rid of the irritability of the bladder or total retention of urine. An intermittent application of this paste over the head will also relieve throbbing as well as dull but constant headache.

Juice or alcoholic extract of the fruit is given internally along with honey and *pippali* (*Piper longum* Linn) with good results to stop persistent hiccup and also to give relief in painful respiration. Dried fruit when immersed overnight in water within a new earthen vessel yields a water extract or decoction which is used in afflictions of the eye or ophthalmia in the form of a collyrium. This may be applied either in the cold or warm state. Dried fruit is useful in curing haemorrhage or blood flow, diarrhoea and dysentery. If iron is added to it, it forms a valuable remedy in anaemia, jaundice, and dyspepsia or indigestion. Juice of the fresh fruit and ghee mixed together is an excellent restorative

tonic which is highly pleasant as well. A very highly pleasing and attractive *sherbet* can be prepared by grinding the fresh fruits in cold water to extract the juice fully and adding the requisite quantity of cold water again to the ground material. The water is then filtered and raisins or dried *draksha* and honey are added finally. This is infact quite a favourite drink which also has a good diuretic effect and promotes the discharge of urine, comfortably.

Take four drachms each of the powder of embelic and chebulic myrobolans (viz *harad* and *amla*), and one drachm of rhubarb powder, (the root of *Rheum emodi* Wall) and boil them together in one pint of water. This is a very good diuretic to be given in two ounce doses. A decoction prepared from the fresh fruit along with the fruits of *harad* and *baheda* (*Terminalia chebula* Rez and *T. belerica* Roxb.) is very useful in chronic dysentery and billousness or *Pitta dosha*. The dosage is one ounce once or twice a day. A mixture of the fruit juice and sugar is used as an application to relieve burning sensation at the vagina.

A fixed oil which is obtained from the fruits by mechanical pressure strengthens the base of the hairs on the head and also promotes their growth in profusion. This actually constitutes the ground for the many *amalak* based hair tonics in the market as well as the recipes for the balms for headache.

(iii) Some Household Remedies

Amalaka is quite a famous plant in kitchen as well. The fruits constitute a very favourite material for preparing pickles, *murabba* (sweet and preserved in sugar syrup) *chutney* or *bharat* or *patchadi* along with curds.

A rough and easy medicinal reckoning of the fruit of *avala* for house hold medication is as follows:

It helps in loosening the bowles and is responsible for securing easy motion. It sets right the vitiated blood and is therefore useful in all diseases that are suspected to be due to dysfunctions in blood and its circulation. It destroys the sense of burning whether it is felt on the surface of the body or internally and it also has a beneficial action in preventing haemorrhage or bleeding anywhere in the body - at the nose, the mouth, the intestine or the rectum, for instance. It is specially useful in curing constipative seizure (*kabz* in Hindi), piles, *vata rakta*, persistent coughing, difficulty in breathing, tastelessness or anorexia (*aruchi*) and dullness in the eye. It expels extraneous and toxic matter within the stomach and aphrodisiacally, it thickens the semen.

SOME SPECIFIC DISEASES AND THEIR AMALAKA BASED MEDICATIONS

1. Liver Dysfunctions

Yellowness in the eyes, the nails and the upper portions of the body, specially the face are the

usual accompaniments or symptoms for any serious dysfunctions in the liver. The stools will also be yellow and meagre in this complaint. Hunger is almost lost and sleep becomes very much less, than what is usual and habitual. The following medication will prove effective to reduce these symptoms.

Take four medium sized fruits of *amalaka*, crush them hard so as to remove out the hard nut within and grind the flesh alone of the fruit on a clean grind-stone. Extract the juice fully thus and by pressing through a clean piece of cloth and collect it in a vessel or a bottle. Soak four well-washed big sized and black dry grapes (*munakka*) in the juice now. Close the vessel and after an hour's lapse of time, crush the grapes within the juice of *amalak* fully so that the two get thoroughly mixed with each other. Give this to the patient at the dusk time in one bout. After four days, instead of four, use six fruits of both *amalak* and *munakka*. Continue this treatment for ten days. The result is quite appreciable.

Ayurvedic physicians consider that this affliction of yellowness or jaundice arises from the following reasons: lack of adequate exercise, eating excessively sour food, using excess salt, chillies and pungent stuffs and the eating of mud. Infact, jaundice is considered to be of five types: due to vitiations of *vata*, *kapha*, *pitta*, all the three and that which is due to the eating of mud. These are all accompanied with well marked and

differentiating symptoms: *vata*, dryness, blackness and redness of the skin, the urine and the stools, a sensation of being pricked with needles all over the body, an appearance of tremors on the body, and a lightness in the stomach; a giddiness of the head, cracks at the feet and the palms and an accompaniment of pain in general. *Pitta*, slight fever; burning sensation in the body; excessive thirst; thin stools and excessive yellowness of the body. *Kapha*, whiteness or palour on the face, skin surface, stools and urine; a general lassitude; a disinclination to do anything; oedema or morbid swellings on the body and heaviness all over.

To mitigate these attendant afflictions, it is advisable to give "dhatru lauha", a preparation with *amalak* as the basic drug that will augment blood formation.

Dhatru lauha is prepared as follows: Take equal quantities of the *amalak* fruit, *lauha bhasma*, ginger, pippali (*Piper longum*) and black pepper, powder them well together and then sift or sieve this mix through a fine cloth or a mesh. Give this powder now in one dose (of one *masha* each) once in the morning and evening. For *anupana* or the associated drink afterwards, give six *mashas* of cow's ghee along with honey and country viz. unrefined sugar one *tola* each; or, mix the medicine along with these and let the patient lick it up as an electuary (*lehya*). After the meals he can also be given an *asava* of *amalak* prepared as indicated below.

2. A Restorative Tonic in Many Diseases

Extract one fourth *ser* of juice from well developed and fully succulent fresh fruits. Filter this through a clean piece of cloth. Take one and a half *chatak* of country sugar and an equal quantity of honey and a pinch of the powdered fruit of small *pipal* (*Piper longum* L). Place the *amalak* juice in a glass bottle, wash the country sugar tied in a thin cloth inside this juice, so that the sugar will melt leaving undesirable residues on the cloth and then remove this piece of cloth out of the bottle. Mix the cleaned honey and *pipal* powder with it and close the mouth of the bottle. Sun-dry the bottle for one whole month daily. Filter this again finally and store in a clean closed bottle. Dosage to be given is one or two *tolas* mixed with an equal quantity of water.

This is the tonic of *amalak*, - a very good restorative drug for many kinds of debility that accompany jaundice and also cordiac weakness. Besides, this acts as a good curative for persistent cough, difficulties and distresses associated with breathing, hiccup and distaste in food. It also builds up good blood in the body.

In all of these cases this *asava* of *amalak* is a unique and excellent medicine.

3. Difficulties in Urination (*Mutra Kriccha*)

Passing blood along with urine or passing urine with much breaks or in little quantities and

accompanied with a redness as well as pain are the typical symptoms of urinary dysfunctions.

Using the fruits of *amalaka* in this condition is highly beneficial.

Take two *tolas* of the outer rind or the flesh of the dried fruit, and bruise and crush them well. Boil this mass in a quality of water which is eight times in measure. Reduce the quantity by such a boiling to one fourth of the original finally, filter then with a clean cloth and dissolve two *tolas* of jaggery in it. This is one time dosage. Depending upon the needs of the situation let the patient take it in the evening as well as before bed-time.

This will ward off the diseases of difficulties in urination, tiredness that accompanies it, general lassitude and fatigue and also *raktapitta* or plethora (i.e. bleeding at nose etc.).

A special drink prepared with the fruits of *amalak* as the principle ingredient is advised here so as to bring the attendant complications in all cases of urinary dysfunctions under control. For this, take two *tolas* of fresh fruit juice, six *mashas* of the kernel or pulp of cucumber, three *mashas* of the powder of the gum of *babul*, one and a half *mashas* of nitrate of potash obtained from the ashes of barley (*jaava khar*), four *tolas* of country or unrefined sugar, and ten *tolas* of old water from an earthen pot. Grind some pulp of cucumber and mix it with all the others. Filter it through a piece of clean cloth and the special drink of *amalak* is

ready now. If fresh fruits are not available, use half a *chatak* of dried ones, bruise them well, soak and then extract the juice, and proceed as above.

This is to be given as a drink to the patient once in the midday after the principle meals are over and another time in the evening, depending upon the needs.

This is a very beneficial medicine to promote urine discharge and quench thirst as well as the burning that accompanies urination and also to stop the bleedings of plethora.

Another remedy for the urinary distress of *Prameha* is the following: Two *tolas* of fresh juice of *amalak* fruits, a small amount of ground turmeric paste, two and a half *tola* of powdered *chana* and two *tolas* of honey are to be mixed together and given to the patient. This is one dose. Prepare another fresh dose for the evening.

This will set right all errors in urine-flow (too much or too little of it, irregularities in its quantity and the accompaniment with a burning pain etc.) and is also good in curing the dryness of the throat, and the burning felt at the hands and the feet.

Taking a *chutney* prepared out of fresh or dry-preserved fruits of *amalak* is a good dietetic adjunct (or *pathya*) to all urinary patients.

One more remedy for urinary distress is *amalak pak*. To prepare this, take three parts of fresh

fruits and one *pav* of fresh (or five *tolas* of dried) edible *shatavar* (*Asperagus*). Boil them together in three *sers* of water in a stainless steel vessel. When boiled well, filter and keep the water separately. Grind the fruits (after removing the nut within, and *shatavar* now on a clean stone. Fry this paste in half a *pav* of cow's ghee till dry. Keep this apart. Dissolve one *ser* of country jaggery in the previous water and cook this into a syrup till you can draw it into thin wires. Add the paste obtained as above into this syrup and cook. When it becomes thick, add one *tola* each of the smaller cardamum (*chott ilayachi*) and *peepal* (*Piper longum* L) after powdering them and sifting through a fine cloth mesh. Remove the *pak* or syrup now from the oven and when it cools down fully, keep it and preserve in a glazed earthen pot with a tight lid (*amritavan pot*).

Administer the drug in a dosage of one or two *tolas* to the patient and let him drink half a *pav* of cow's milk following it.

This will quieten all the complications that accompany urinary disorders and bring back the health and vitality as well as cheerfulness.

4. Amla Pitta, Billiousness and Acidity in the Stomach

Persistent acidity in the stomach and a feeling after the meals that the food has not gone down at all; pungent belching; intermittent collection of thin watery fluid in the mouth cavity and a

sensation of burning all over-these are the symptoms of *amla pitta*.

You can get a sure relief from these distresses by the use of a simple preparation of *amalak* fruit as below.

Secure two *tolas* of juice from fresh fruits, (filtered well through a piece of clean cloth), two *tolas* of the juice of sweet pomegranate seeds, four *tolas* of country sugar and five pieces of clove (*lavang*). Clove should be ground well and added with the mixture of the two juices in which the sugar is dissolved. This net bulk is a two times dosage. One of this is to be taken in the early morning on an empty belly and the next one after the morning breakfast. Such a regimen is to be continued for a week. Both the dosages are to be completed within an interval of three hours.

This removes the sensation of burning at the chest, pungency of the mouth, heaviness of the body, nausea, the upset taste at the tongue and the constipative obstruction. It also serves as a highly refreshing and delightful recipe that will gladden the heart and strengthen the body.

A quicker remedy still, is as below:

Remove the nut within the fruit and boil the fleshy portion only in half a *ser* of water upto a simmering point. When it is simmering, drop six *mashas* of *nishoth* powder (*Ipomea turpenthem* R. Br.). When the quantity of the water is reduced to a measure of half a *pav*, remove, cool and filter the

decoction with a clean cloth. Add a little honey to this when giving to the patient. Continue such a giving of the drug at intervals throughout the day. Following two hours of such an administration, the patient will get a good motion and an immediate relief. He can take his food afterwards. Even in this meals he can consume one *tola* of fresh fruit juice of *amalak*.

One more preparation from the fruit is the following. This is called *dhatru khand*, *dhatru* being another name for *amalak*.

Take ten *chatak* of fresh fruit juice, an equal quality of granular sugar (*danedar khand*), mix them both and filter through a piece of clean cloth, cook them now in a stainless steel vessel to a consistency of the syrup when you can draw thin wires out of it. Take now five *chataks* of the flesh of ash gourd (*petha*), and fry it dry in one and a half (*chatak*) of cow's ghee in a broad based iron vessel. Add the syrup as previously prepared with this now and cook them together. When it becomes thick enough to start getting stuck to the sides, add the following powders after sifting them on a cloth mesh: *peepal*, *jira*, ginger, coriander, smaller cardamom and *dalchini*. Cook all of them together for some time further and when the net bulk cools down fully add one and a half *chatak* of honey.

This is the famed *dhatru khand* which also has a *rasayana* or an elixirising effect. One or two *tolas* of this medicine is to be taken in the morning and evening followed by a cup full of cow's milk.

5. Rakta Pitta, Plethora

If there is a bleeding at the nose, mouth and the rectal passage (apart from the *piles*) one can deduce it to be a case of *rakta pitta*.

A very effective remedy for this quite a common affliction is as follows.

Two *tolas* of fresh fruits (or dried ones after soaking them in water) of *amalak*, two *tolas* of the juice of fresh flowers of the silk cotton tree (*sema*), three *mashas* of sugar candy and an equal quantity of unrefined sugar or treacle molasses are to be taken. A mixture of this constitutes one dose. Taking this three times a day, morning, afternoon and evening and doing so for three days will stop the bleeding in the upper as well as the lower parts of the body. Heaviness at the chest will get relieved as well as the burning there. The excessive thirst that such a patient is likely to feel will also get quenched, thereby.

Another well known and efficacious preparation is as given below. This is called as an *amalaka avaleha* (a semiliquid medicine that is to be taken by licking or as an electuary).

Take thirteen *chataks* of fresh fruit juice of *amalaka*, an equal quantity of the juice from a well ripe ash gourd (*petha*) and three *chataks* of sugar. Mix both the juices well, dissolve the sugar within this mixture after sifting it through a cloth. Cook it over fire in a large vessel and to such a degree that you can draw two strings out from the syrup. Drop

within this syrup now one measure of *pippa* liquorice root powder, five measures of large black raisins (*munakka*) after removing the seeds, five wet fruits of dates (again after removing the seeds) and a pinch of the molasses or manna of the bamboo (*vamsha lochana*). Mix them all well with the syrup by means of a long handled wooden laddle. Remove the vessel from the fire. After it cools down add five measures of honey. This is to be taken in a dosage of one or two *tolas*, once in the morning and then in the evening and before going to bed. Drink a cup of boiled and cooled cow's milk following it.

This is a delicious and effective remedy for *rakta pitta*, *amla pitta*, anorexia (or tastelessness generally following any illness), giddiness and all dysfunctions of the liver and also the general debility of the body.

SOME PROPRIETARY PREPARATIONS OR YOGAS OF AMALAKA

Besides the few above mentioned rather elaborate medicaments prepared out of this famous plant, there are a number of very highly reputed *yogas* in Ayurveda based on its fruit mainly. We shall have some ideas of them now. A few of these look repetitive but what has been described above refer to those that can be prepared readily as household remedies, while the following account is what reputed ayurvedic physicians actually carry out.

Therefore these recipes can be very well followed in Commercial manufacturing of the medicaments.

The emblic myrobalan or *amalaka* is light for digestion, cool in action and rather dry (*ruksha*) in effect. Used as an adjunct with meals, it is a good appetiser and highly refreshing. It removes nausea and stops vomiting. Its use is highly beneficial in overfilled stomach or gluttony, gurgling noises in the stomach and the intestine and constipation associated with colicky pain. Since it is a very cool agent at all times, it will lessen the heat of the body and the burning thereof. It is particularly good in stopping haemorrhage and curing liver dysfunctions as shown above. It also destroys the vitiation of the *kapha*.

A very useful property of the fruit which *is not well appreciated* is its effect in reducing the fat of the body and the consequent great potentiality in its weight-reduction and slimming up processes.

It helps in joining the broken or the fractured bones and lessening all types of morbid swellings. This is a good weight reducer and a bone setter.

The dried fruit is pungent, acidic, bitter and astringent. Though it is useful in alleviating the vitiations of all the three types viz *vata*, *pitta* and *kapha*, it is particularly effective in setting right the dysfunctions due to *pitta* and *kapha*.

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attributed to the fresh and the dried fruits. Besides, they are reputed to increase virility in man.

Amalaka and *haritaki* (*harda*) are the two very famous drugs of Ayurveda. Does a clear differentiation in their actions exist? Both are equally effective and illustrious. But the main contrast is that *amalaka* is cold (*shita*) pharmacologically i.e. in their potency while *haritaki* is hot (*ushna*). Acidic taste predominates in the former and the astringent taste prevails in *haritaki*. *Amalaki* acts mainly as a destroyer of the vitiations of *pitta* and *kapha* while *haritaki* acts against *vata* and *kapha*. Ayurvedic authors proclaim that *amalak* acts against the *vata dosha* since it is acidic in taste, against *pitta*, since it is sweet in taste and also cold in action and against *kapha* as it is dry and astringent. This is the pharmacological explanation of the all round beneficial effect of the emblic myrobalan or the *amalaka*.

The following are the *yogas* we consider now.

1. Oil of *Amalaka*

Four kilogram of the juice of fresh well developed and mature fruits extracted fresh, and, one kilogram of sesame oil are to be cooked together on a gentle fire. When this is fully prepared viz the oil from the juice has been fully extracted into the sesame oil which is but the bland medium used for this specific purpose, filter it out through a good

quality filter paper into a bottle and add to this, whatever other aromatic essence or oil you feel inclined, to give it a good and pleasing fragrance.

This is a good hair tonic to be applied over the head daily. More importantly it relieves the burning at the head as well as the headache.

2. Avaleha (an electuary) of Amalaka

Take fifty litres of the juice of fresh *amalaka* fruits extracted afresh, mix one kilogram of unrefined sugar or treacle molasses with it and cook the two together on a low fire. Take away whatever scum that gets collected on the surface and discard it. When the mixture becomes adequately thick and syrupy, remove it from the fire and add the powders of the following: three hundred grams of *pippali*, forty grams of liquorice (*Glycyrrhiza* root), three hundred grams of dried raisins, fifteen grams of dried ginger and forty grams of bamboo marna (*vamsha lochan*). When this entire lot becomes fully cool, add three hundred grams of honey.

The dosage is six to twelve grams.

This *avaleha* is advised in the disease of anaemia, jaundice, and *shukra meha* (or spermatorrhoea, seminal fluid getting discharged along with urine).

3. Amalaki khand (a sugary flake)

Take six hundred grams of the pulp of ash gourd (*petha*) and fry it dry in ninety five grams of ghee.

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Take six hundred grams of the pulp of ash gourd (*petha*) and fry it dry in ninety five grams of ghee.

Mix with this two hundred millilitre each of the freshly extracted juice of *amalaka* fruits, freshly extracted juice of the ash gourd pulp again and also sugar solution. Cook the whole on a gentle fire till it attains a thick syrup like consistency. Powder the following: *pippali*, *jira* (cumin seeds) and dry ginger, twenty five grams each; black pepper, twelve grams; coriander, *talispatra* (*Flacourtia cataphracta* Roxb.) and *motha* (a medicinal grass)—each of these three grams. Drop all of these powders in the syrup while it is still cooking. Stir the whole and keep it simmering for a while. Remove the vessel from the fire and when it is completely cooled add three hundred grams of honey with it.

Dosage advised is six to twelve grams.

This is prescribed in the following clinical states: persistent vomiting, pain in the heart, nausea, falling unconscious or fits, *amlapitta*, shooting pain at the stomach due to *pitta*, pain at the loins and the waist as well as recurrent coughing and asthma.

4. Dhatryarishta, A Spirituous Liquor from Amalaka

Extract the juice from one thousand fruits of *amalaka* by grinding them within a narrow mouthed deep pot by means of a cudgel (*kundisoni*). Mix with this one hundred and ninety grams of *pippali* powder and five kilograms of unrefined sugar or treacle molasses (*khand*). Cook

together and when the sugar is fully dissolved, remove the vessel and cool. When it is fully cooled, add honey upto a measure of one eighth to that of the *amalaka* juice. Keep this now in a pot whose inner surface is smeared with ghee. This becomes a fermented liquor after the lapse of a sufficient time. Employ it as the medicine only then.

The advisable dosage is fifteen to thirty millilitres.

This is prescribed in jaundice, anaemia, coughing and hiccup.

5. Amaladyaloha, an Iron Containing Preparation from Amalaka

Take twelve grams each of dry *amalaka* fruit, *pippali* and sugar candy along with thirty five grams of *loha bhasma*. Powder them all together, sift and store.

The prescribed dosage is two hundred and forty milligrams.

This is meant for *rakta pitta*, *amla pitta* and *agni mandya* (weak digestive capacity and the consequent loss of appetite.)

6. Dhatri Loha, Another Metallic Preparation from Amalaka

Take seven hundred and thirty grams of the powder of dry *amalaka* fruits, three hundred grams of *loha bhasma* and one hundred and ninety grams of the powdered liquorice (*Glycyrrhiza*, or *mulethi*) root. Treat them altogether in freshly extracted

juice of the fruits of *amalaka* for seven times (carry out a *bhavana* processing). Dry this well and store in a completely dry bottle with a tight lid.

The admissible dosage is three hundred and sixty five to seven hundred fifty milligrams.

The ailments in which this powder is prescribed are *raktapitta*, loss of appetite, over stuffed stomach, sounds in the belly and liver complaints. This is to be followed by an after drink (*anupana*) of ghee or honey.

7. Dhatri Loha, Another Metallic Preparation—More Complicated

Take three hundred and sixty five grams of barley and boil them in one and a half litre of water till the quantity of the latter gets reduced to three fourths of the original. Add into this decoction the following: three hundred and sixty five grams of *mandura bhasma*, three fourth litres of freshly extracted juice of *amalaka* fruits, three hundred and sixty five grams of curds, and three fourth litres of cow's milk, freshly extracted juice of *vidarikanda* (*Pleuraria tuberosa* DC) and three fourth litres of sugar-cane juice. Cook them all together. When this mixture is about to become ready, add five hundred and eighty gram powders each of the following: *jira* (cumin seeds), coriander, smaller cordamum, *tejpat*, *dalchini*, *harad* and *abhraka bhasma* as well as *loha-bhasma* and then dry ginger, pepper and *pippali*.

The dosage advised is half to one gram. The *anupana* or after-drink is milk.

This is prescribed in liver complaints and more particularly to *gulma vridhhi* or splenic enlargements.

8. Amalak Ghrita, a Ghee like Preparation from Amalaka—An Admirable Rasayana

Select very good quality of *amalaka* fruits grown in salubrious regions and full with their individual excellence of colour, smell and juice. Take twenty four litres of freshly extracted juice from them, and one and a half kilogram of the *kalka* (paste) of *punarnava* and cook them together. Prepare a ghee of six kilograms from them. After it is ready, filter the ghee. Then cool this again in the fresh juice of *amalaka* fruit and the *kalka* of *punarnava*. Filter again. Do this for a hundred times. Filter the ghee now and cook it with the fresh juice of *vidari kanda* and the *kalka* of *jivanti* in the same manner for a hundred times. Take twenty five kilograms of the juice of *vidari kanda* and one and a half kilogram of *jivanti kalka* every time. Filter the ghee now and cook it as before adding four times quantity of milk, decoction of *bala* and *atibala* and the *kalka* of *shatavari*. Every time, take milk of twenty five kilo grams, *bala* and *atibala* of a similar quantity and one and a half kilogram of the *kalka* of *shatavari*. When the ghee is ready add unrefined sugar or molasses and honey, to a measure of one fourth of its quantity.

juice of the fruits of *amalaka* for seven times (carry out a *bhavana* processing). Dry this well and store in a completely dry bottle with a tight lid.

The admissible dosage is three hundred and sixty five to seven hundred fifty milligrams.

The ailments in which this powder is prescribed are *raktapitta*, loss of appetite, over stuffed stomach, sounds in the belly and liver complaints. This is to be followed by an after drink (*anupana*) of ghee or honey.

7. Dhatri Loha, Another Metallic

Preparation—More Complicated

Take three hundred and sixty five grams of barley and boil them in one and a half litre of water till the quantity of the latter gets reduced to three fourths of the original. Add into this decoction the following: three hundred and sixty five grams of *mandura bhasma*, three fourth litres of freshly extracted juice of *amalaka* fruits, three hundred and sixty five grams of curds, and three fourth litres of cow's milk, freshly extracted juice of *vidari kanda* (*Peuraria tuberosa* DC) and three fourth litres of sugar-cane juice. Cook them all together. When this mixture is about to become ready, add five hundred and eighty gram powders each of the following: *jira* (cumin seeds), coriander, smaller cordamum, *tejpat*, *dalchini*, *harad* and *abhraka bhasma* as well as *loha-bhasma* and then dry ginger, pepper and *pippali*.

The dosage advised is half to one gram. The *anupana* or after-drink is milk.

This is prescribed in liver complaints and more particularly to *gulma vridhhi* or splenic enlargements.

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What is secured thus after cooling hundred times is called the *shata paka ghrta* and that which follows cooking thousand times similarly is the *sahasra paka ghrta*. The latter is more beneficial than the former. After the sugar molasses and honey are added, treat the ghee with silver or gold and then preserve it in hard earthenware container.

This great *rasayana* or elixir is to be taken after entering into a specially prepared health resort of a *kuti* (see below) or a specially prepared hut. The dosage is strictly according to the digestive capacity of the individual's constitution in the early morning and as per the physician's instruction. After this ghee is fully digested take a meal of that variety of rice that ripens in six months time along with milk and ghee.

The advised dosage is six grams.

If one takes this ghee for three years regularly, old age will be arrested and a life span of hundred years is assured. The intellect will be brilliant, memory power superb and all diseases will disappear and the virility secured is excellent.

This is a highly extolled *rasayana* drug.

9. An Amalaka Churna Rasayana, a Simpler Rasayana Which is Equally Effective

Take six kilograms of the powder of the dried *amalaka* fruit and treat it with the freshly extracted juice of one thousand fresh *amalaka*

fruits, twenty one times: (submit it to *bhavana*). Mix with it now the following: eleven and one fourth kilogram each of honey and ghee, seven hundred and fifty grams of the powder of *pippali* and one and a half kilogram of unrefined sugar. Store and preserve it now in an earthenware vessel smeared with ghee. The elixir is ready at the end of the rainy season.

The advised dosage is twelve to twenty four grams.

If a person who keeps consuming completely compatible food only and strictly as far as his own constitutional requirements necessitate, takes this *rasayana* regularly, old age will not reach him and he will live for one hundred years with no doubt.

This is also an excellent *rasayana*, much reputed by many.

10. Haritakyadi Yoga-Prepared along with Haritaki

Take ten kilogram powder of dried *amalaka* fruit, soak this in an adequate quantity of the freshly extracted juice of green ripe *amalaka* fruits and add one fourth quantity of strong *loha bhasma* to this mixture. Add now the following: *harda*, *behada*, *amalak*, *turmeric*, *shala parni*, *vacha* (*Acorus Colamus*), *vayu vidanga* (*Embelia ribes* Burm), *giloy*, dry ginger, liquorice and *pippali* — after powdering them well. Prepare a ghee from *kalka* taken from the pulp of white *khair* extracted with milk. Add to this ghee, honey and unrefined

sugar. Stir well and take according to the methodology of entering a specially prepared hut for elixirising purposes. (*kuti praveshika vidhi*; see below).

Dosage is three hundred and sixty to one thousand and two hundred miligrams. This can be taken many a time during the day depending upon the needs.

A regular consumption of this medicament for three years will remove old age and confer a life span of hundred years. The person becomes immune to any poisoning, the body will be rendered hard like stone and resistant to any type of infection whatsoever.

After the medicine is digested well, he should take a meal in the evening of the rice that ripens in six months (*shastika* type) along with the juice of *mung dal* or milk and plenty of ghee.

Of the preparations for elixirisation mentioned above, *amalaka ghrta* and *amalaka churna* are from the Chapter entitled *Prana Kamiya* (drugs for those who desire life viz disease free and age resistant) while *haritakyadi Yoga* is from the Chapter entitled *abhayamalakiya* (concerning the *amalaka* which confers absence of any fear whatsoever)—all from the great Charakacharya. So famous and age old are these recipes.

Many classical authors like Charaka and Vagbhata have extolled the use and detailed the specifications of many a *rasayana* preparation

(other than the few above) that are meant to banish diseases and confer youthfulness for a long span of life. It will be of interest to dilate a little on a few of the directions they give for securing this boon. Among all the preparations here those that are made out of *amalaka* fruits are the best. The procedure of taking these medicines as well as their preparations are not easy but the efficacy expected is superb.

Charaka describes two procedures for taking the *rasayanas*; one called *kuti prayeshika vidhi* and the other *vatatapika vidhi*.

Kuti pravesika vidhi (a methodology of entering and residing in a specially prepared hut as the health and the elixir resort). First, get constructed a small cottage in an isolated, salubrious and beautiful region in the northern or the eastern direction. This should be adequately extensive and should also consist of three cottages one within the other. It should have a sufficient number of small windows distributed properly and all round. You should also have the required number of provisions on the roofs for getting the sky light in directly. These should all be comfortable in every season, and well-lighted every where. There should be no ladies around. Whatever is needed for a comfortable stay for a rather extended period should be kept fully provided. Before you enter this cottage, see that everything everywhere is clean, neat and pleasing.

Enter within now, with a completely pure conscience, in full control of all your senses, prepared for not getting afraid of any natural disturbances and calamities that may occur during your stay and be fully brave. Get your body completely purified through the *pancha karma* or the five procedures of emesis, purgation, sudation and the like, before hand. Enter then along with a capable physician and start the regimen of taking the prescribed *rasayanas* as per the suggestions of the physician and in accordance with the requirements of your own individual constitution. For meals, avoid rice and water and sustain yourself solely on milk. Reside like this for six months. All the diseases will disappear, the greyiness of the hair will turn black, the wrinkles on the skin will get set right and the skin will become taut, weakness of the senses will vanish, any looseness of the teeth will go and you will come out delighted, well nourished and rejuvenated.

Vata tapika vidhi (an acclamatisation procedure). This is meant for those who cannot afford the rigid process of the above methodology. There is not much of a difficulty in the taking of the *rasayanas* in this procedure. The essence of the steps here is to take the *rasayana* every morning and evening in the prescribed dosage, followed with a cup of warm milk and see that you continue to remain without tension, detached and neutral throughout the period of the treatment and also consume only light and *satvic* food.

If you continue like this for one to two years, all the principles that can confer vitality and vigour or *ojas* get gradually collected in your body, whatever aberrations that have come to you so far in your blood, *rasa* (or the assimilable essences of your food), virility and so on will get removed, digestive power will get effulgent, and the bodily activities of natural discharges of urine, impurities and the stools become completely normal. Simultaneously your memory power will increase, the strength and lustre of your body and the senses will become excellent and the virility attained is commendable; you will become youthful and rejuvenated, on the whole.

We shall conclude this section by giving two most highly reputed *rasayanas*: *Brahma rasayana* and *Chyavana prasha*. Both of them are from the specifications given by Charakacharya in his Chapter entitled *abhayanmalaka rasayana pada*.

Brahma Rasayana

Take one thousand well developed and succulent fruits of *amalak* (viz the quantity would be one thousand six hundred and sixty kilograms). Warm them up well in the heat of the steam of milk. The method for such a steaming is as follows: place a small earthen pot (*handi*) over the vessel in which milk is kept boiling. The floor of this pot should have a large number of small holes. Wrap moist earth round the pot before keeping it on fire for preparing the medicine (i.e. by *kapad mitti*). Then

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place the fruits within the pot. Set the fire below the vessel. The steam ensuing from the milk will start scalding the fruits. Place only that much of milk which on boiling will not enter into the pot. In case the milk still seems to enter the pot, place a piece of cloth wetted in cold water around the base of the pot, the boiling will get quietened down. After the fruits are fully steamed, remove the nuts and discard them. Dry the rest of the fruits in shade. Powder them. Soak them now in freshly extracted juice of one thousand good quality *amalaka* fruits. Keep them soaking and be stirring every day. When the juice gets dried, mix with it one eighth quantity of the powders of the following: *saliparni*, *punarnava* (*Boerhavia diffusa* Linn), *jivanthi*, (*Leptadenia reticulata* W & A), *nagabala* (*Sida spinosa* Linn), *brahmi* (*Bacopa monnieri* Linn), *mandukaparni* (*Centella asiatica* Linn), *shatavari* (*Asparagus racemosus* Willd), *shankha pushpi* (*Convolvulus pluricaulis* Choisy), *pippali* (*Piper longum* Linn), *vacha* (*Acorus Calamus* Linn), *vaya vidanga* (*Embellia ribes* Burm.f), *krauncha bija*, *giloy* (*Tinospora cordifolia* Willd), *rakta chandana* (*Pterocarpus santalinus* Linn), *aguru* (*Aquillaria agallocha* Roxb), liquorice, flower of *arka* (*Calotropis gigantea* Linn), blue lotus, white lotus, flower of *malathi* (*Aganosma dichotoma* Roxb) and the flower of jasmine. Now add four litres of freshly extracted juice of *nagabala* to this powder and dry it in shade. Grind it again after it is well dried. Render this now into the consistency of molasses by adding one measure of honey and two measures

of ghee. Keep this closed and store in a ghee besmeared, hard, earthenware container. Dig a hole in the ground. Spread on it the ashes of small cowdung cakes for a height of sixteen inches and place the pot on this ash. Surround the pot on all sides with similar cakes and set fire. Let the ashes remain undisturbed in this state for a fortnight. Remove the pot then and add in the preparation now one eighth measure of a mixture of the ashes of gold, silver, coral, copper and iron - all in equal parts.

This is the *rasayana* that is to be taken in the *kutti praveshika* procedure.

Chyavana Prasha

This is the *rasayana* which the old sage Chyavana of our Puranas is reputed to have taken in order to become young.

Take ninety five grams each of the barks of the roots of *bael* or *bilwa*, *shyonaka* (*Oroxylum indicum* vent), *arani*, *gambhari* and *patala* (*Stereospermum suaveolens* DC).

Take also the root of *bala*, *shaliparni*, *prishni parni*, *mugda parni*, *masha parni*, *pippali*, *gokshura*, smaller *kateri*, larger *kantakari*, *karkataka shringi*, *bhumi amalaka*, *munakka*, *jivanti*, *pushkara mula*, *aguru*, *harad*, *guduchi*, *riddhi*, *jivak*, *rishabhak*, black Zedoary (*Curcuma caesia* Roxb.), liquorice, *motha* (*Cyperus rotundis*

L.), *punarnava*, *meda*, smaller *vidari kanda*, root of the bamboo, *kakoli* and *kakanasa*. Take five hundred fruits of *cardamom*, *rakta chandan*, blue lotus and *amalaka*, (five and half kilogram), cook them in fifty litres of water. The fruits are to be tied in bundles of cloth and then kept for boiling. When the decoction is ready, remove the cloth bundle. Remove the nuts from the fruits and crush the flesh well with the hand, remove out any fibres and discard them, after filtering the crushed mass. This mass is to be roasted in sesame oil and ghee, taking five hundred grams each of them. After it is roasted well, keep it apart. Dissolve four and a half kilogram of unrefined sugar in the filtered decoction, keep it on the fire and remove out the scum. Place the roasted mass in it and cook in mild fire. When it becomes like an electuary i.e. *leha* or semiliquid in consistency, take it down from the fire. While roasting as well as cooking, keep stirring with a wooden laddle with a long handle so that the medicament does not get stuck to the sides.

When it becomes completely cooled down, add the following and mix them well by shaking the vessel preferably: five hundred and fifty grams of honey, three hundred and eighty grams of the bamboo manna, (*vamsha louhana*), hundred and ninety grams of *pippali* and twenty grams each of *dalchini*, smaller *cardamom*, *tejpat* and *nagakesar* (*Messua ferrua* Linn).

SOME FURTHER HOUSEHOLD REMEDIES AND USES OF AMALAKA

The medicinal reputation of *amalaka* is almost endless. We shall list below a few other highly commended medications of this famous plant.

As An Elixir

The king Bhoja extols the use of its fruit as a *rasayana* in the following way. If one consumes the powder of this fruit along with ghee, honey and oil for one month continuously, one can secure expertise in speech, lustre in the body and youthfulness. If one continues to take this powder followed by water, ghee or honey as an *anupana* or the after-drink, the digestive power gets augmented, nose, ears and eyes remain healthy and youthfulness is ushered in. To overcome the degenerative effects of old age one should habitually consume *amalaka* mixed with ghee, honey or sugar candy.

Garuda Purana declares that by taking bath in its water regularly one secures a long life of hundred years full of all prosperity; the hairs will never turn grey.

For Weak Children

Children who suffered from many types of chronic debility, physical and mental, were given twelve grams of *chyavana prasha* regularly in the morning, followed by cow's milk. In every case, a remarkable improvement was noticed. The usual

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medicine or rather tonic that is advised in these cases happened to be cod liver oil or shark liver oil both being given specially to overcome vitamin A deficiency as well, and as energisers mainly. However *chyavana prash* is much better and definitely more compatible than these oils from fish. More importantly, all fish based oils definitely induce a nausea at the very first attempt itself and it is only with great difficulty that the child overcomes this nausea and learns a tolerance for it. *Chyavana prasha* on the contrary is pleasant and well liked by the children; they take to its eating with much relish at the very first time itself. It is an elixir, energiser and full of vitamin A and many other useful ingredients.

For Troubles in Mouth, Throat and Teeth

If the skin has started peeling off in bits on the face or there arise pimples over it, both of which are due to vitiation of *pitta* and are quite common; take the bark of the root of this tree, rub it on a corborandum stone just as you would rub a piece of sandal wood on it and then apply this rubbed out paste along with honey on the affected parts. This would be highly beneficial. Gargling with its leaf decoction will also give relief. Charaka declares that a soup made out of the *amalaka* and *pippali* is curative in throat diseases.

Because of its richness in vitamin C the fruit is very useful in treating scurvy. Children in whom teeth are weak or do not grow up properly or they are brittle and soon get infected, should be given

fresh fruits of *amalaka* or any other preparations of this fruit like *chyavana prasha*. Either chewing of the fruit or rubbing the fruit against the teeth—both of these procedures are profitable to the health of the teeth.

In Gastritis Syndrome or Amlapitta

Amalaka has a palliative action on the alimentary canal. In all *pitta* inflammation here, *amalaki khanda* is prescribed to be taken in the early morning or half a *tola* of *amalaki* powder is given after meals along with water. The typical symptoms of the emission of acidic juices through mouth along with a pungent belching and a severe burning sensation at the throat - both of these will disappear within three days of the treatment. In shooting pains due to *pitta*, one can get relief very soon by consuming *amalaka* juice along with sugar candy. Giving unrefined sugar along with the decoction of *amalaka* is seen to be beneficial in splenic enlargements due to *pitta*. Hiccup will stop immediately by licking the fresh juice of *amalaka* mixed with honey and *ptppali*.

Dry fruits are very commonly given in cases of dysentery and diarrhoea. In sprue or malabsorption (i.e. defective absorption of food in the alimentary canal) three grams of *amalaka* powder are given three times a day. For chronic dysentery, constant eating of the fruits is advised.

In Iran the fruits form a favoured remedy in destroying worms in the stomach.

In Diseases of the Liver

The powder of *amalaki* is considered a good reagent for setting right the dysfunctions in the stomach as well as the liver. For this purpose, the powder of dried fruits are given along with *loha bhasma*. This is believed to be an useful remedy in jaundice, anaemia and indigestion also. Vagbhata points out that this powder mixed with *loha bhasma*, dried ginger, black pepper and a pinch of turmeric and given along with honey and sugar candy is seen to be highly effective in jaundice and *halimaka*, which is a particular form of jaundice.

Difficulties in Breathing

For setting right the difficulties in breathing, many preparations of *amalaka* like *chyavana prasha* are found to be highly commendable. Infact, *chyavana prasha* is given very much in chronic respiratory disorders, coughing and catarrh. Phlegm will be effectively removed thereby and the lungs are stengthened. Patients who suffer for years together from the distresses are seen to get relieved by the use of *chyavana prasha*.

A household remedy is to cook the powders of *amalaka* fruit in milk, mix this with ghee and give it to a patient suffering from persistent coughing. The relief obtained is commendable. Giving the freshly extracted juice of the fruit along with honey and *pippali* as an electuary i.e. for licking is also quite effective in quietening all painful breathings.

Fresh fruits are given in inflammations at the lungs.

In Tuberculosis

A person prone to tuberculosis will benefit from taking *chyavana prasha* daily. He can very well start its course as soon as the symptoms of this wasting disease are detected; he is sure to get benefit. Since this *chyavana prasha* has many ingredients such as calcium and metallic salts besides *amalaka* and many other vegetable drugs that are all strength giving, it will nourish all the organs of the body. Its regular use increases the disease resistance capacity of the whole constitution.

In Bleeding at the Nose

The powder of the *amalaka* fruit is given along with unrefined sugar as a pinch of medicine, to be taken in to prevent this bleeding. Cold decoction of *amalaka* is also beneficial here. A paste prepared by roasting an *amalaka* paste or *kalka* in ghee is applied over the head. Chakrapani, the commentator on Sushruta opines that this application stops the bleeding just like a dam that obstructs the streaming waters of the river. Those who are prone to such nasal bleeding should habitually take the *amalaka* fruit as such or its fresh juice. In seasons when fresh fruits are not available, three grams of dried fruits are to be soaked in eight times quantity of water, this water is to be taken out in the morning and drunk along with honey.

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In the Intoxiation Due to Liquor

A pinch of the powder of *amalaka* taken along with sugar candy is beneficial in the intoxication following excessive liquor consumption.

In the Diseases of the Brain and the Head

When there is a hit injury on the head and the blood gets collected and clotted, the *kalka* or paste of *amalaka* is mixed with ghee and applied over the lesion as well as over the head. In general when the head gets heated during hot summer, for example during sun strokes, the oil of *amalaka* is massaged over the head and the temples. Such a measure is found to be very helpful also in relieving an overworked brain and a situation of tension as well as confusion in the mind. This is also found to be beneficial for those who have a habitual tendency of getting headache and burnings at the eyes. An application of the oil quietens this distress and the constant burnings within a few days and the mind also becomes calm and capable, by its application. The drug is useful to the head as well as the brain within.

Take seven hundred and sixty grams of sesame oil, one and a half litres of the juice of *amalaka*, twelve grams each of the *kalkas* of *pundarika*, *kashta*, *pippali*, *rakta chandan* and *nilophar* or water lily and prepare an oil out of these together. Such an oil is beneficial in all complaints of the head. The method of administration of the drug is to place a few drops of this oil into the nose.

For the Hairs on the Head

Amalaka has proved excellent for the upkeep, the health as well as the growth of the hairs on the head. To wash the head with the water in which its fruits or even tender branches (crushed if needed or even as such) are kept soaked over-night is quite beneficial. The habitual falling of the hairs will stop by a daily use of the *amalaki* oil. If the head is well anointed with the powders of *amalaka*, *padma kesara*, liquorice root (*Glycyrrhiza glabra* Linn) along with honey, hairs will become well nourished, firm rooted and dark.

Such an application on the head with a paste made up of grinding *amalaka* and the "nut" (viz the seed within) of mango will render the hairs dense and long.

In Heart Troubles

If tremors in the chest (*hrit kampa*) or a pain in the chest arise due to the aggravated *pitta* vitiation, medicaments made up of *amalaka* are advised. In all liver troubles (that often accompany heart troubles) the *murabba* of *amalaka* is prescribed and the fruits are also advised to be eaten along with the meals.

Cholesterol

Percentage of cholesterol was seen to be definitely decreased by the use of *amalaka*. An experiment was tried on fifteen patients, both male

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Cholesterol

Percentage of cholesterol was seen to be definitely decreased by the use of *amalaka*. An experiment was tried on fifteen patients, both male

and female who were given to eat fifteen grams of fresh fruits of *amalaka* daily, for four weeks. The cholesterol was seen to be reduced by twenty one per cent.

Patients of heart disease are well advised to take to the eating of the fruit, twenty five grams of it at least every day.

In Fever

It is a practise in Malaysia to give a decoction of the leaves during fever. A paste or *kalka* prepared out of these leaves is applied externally on the head for patients of headache and giddiness. To stimulate sweating during an attack of fever a *santa* or filtrate or cold infusion of the seeds of this plant is given. The tribals of Chotanagpur area give an external application of the *kalka* of *amalak* over the pustules of eczema which are often associated with fever.

In fevers associated with erysepelas (*visarpa*), the juice of *amalaka* is advised to be given along with ghee. If the patient is also having a complaint of constipation, the powder of *trivrit* (*Ipomea turpethum* R. Br.) is to be added with this juice itself.

In cases of posioning when the patient suffers from a lack of inclination to eat, the juice of *amalaka* fruit added to his food renders the latter delectable.

In Urinary Disorders

Amalaka is proverbially useful in correcting errors in liver function which is the primary cause of most urinary troubles. The powder of the dried *amalaka* fruit mixed with sugar or molasses is beneficial in burnings associated with urinary dysfunctions and difficulties in urination, when these latter are due to the aggravation of *pitta*. If the aggravation is due to *kapha*, eating the smaller cardamom seeds along with *amalaka* fruit is profitable. Fresh juice of the fruit given along with honey is a good diuretic; a suitable dosage is twenty to sixty millilitres. Adding honey to a decoction of *amalaka* renders it a delectable drink, cool, sweet and also diuretic. For patients of *puyameha* where pus is discharged along with urine, eating fresh fruits daily is useful. Soak thirty grams of dried *amalaka* overnight in two hundred and fifty millilitres of water and take out the water the next day morning. Drinking this, after adequate honey is added, is beneficial in the venereal disease of gonorrhoea, difficulties in urination and the sensations of burning; all of these afflictions will disappear soon. This is a good diuretic drink and therefore clears the passage of urine well and as it is cooling in effect it also quietens the burning that is normally an attendant complaint of such patients.

Another simple recipe here's to clean dried large black grapes (*munakka*) overnight, crush them with the hands the next day morning and drink this in the fresh juice of *amalaka* (or even the dried

but overnight soaked fruits or even a cold decoction will do) and honey. Patients of *puyameha* can drink it as an excellent, sweet and strength giving *sherbet* three times a day, one cup every time. The urinary tract gets thoroughly cleared thereby. If blood is associated with urine discharge a decoction of the fruit serves best.

An interesting and useful modification of the recipe to be used when passing urine is difficult and whatever little is passed comes mixed with blood, is to take the juice of *amalaka* along with sugar-cane juice and honey. Sushruta advises that patients of urinary disorders should crush the fruits of *amalaka* under a press much as one does for the sugarcane, extract a plentiful of juice thereby and drink it. Applying a *kalka* or paste of *amalaka* at the loins or the bladder region helps in assuaging the pains of urinary dysfunctions.

In Diabetes

Fresh juice of *amalaka* mixed with honey is good for diabetic patients. To quieten the unnaturally excessive thirst of a diabetic patient, chewing an *amalaka* fruit and the sucking of the juice thereby, little by little is advised with profit. One can prepare a *fanta* or filtrate of the seeds of *amalaka* and give it to the patient with good results.

Sushruta advises a diabetic patient to ignore all of his own wealth and luxury. For a diabetic patient is considered a royal patient, as this disease usually comes to rich people with an

indolent habit. Ignoring all his luxury, the patient should live like a sage on a diet of coarse millets eating *amalaka* fruits all along and residing (if possible) along with the deer of the forests.

In Prameha

Charakacharya advises taking the juice of *amalaka* fruit in which ground turmeric and honey is added, for such patients of *prameha* wherein seminal fluid is exuded along with urine. Harita, another reputed classical author on Ayurveda recommends the constant use of the freshly extracted juice of *amalaka* along with honey; this is said to be beneficial in all kinds of *prameha*. By taking daily fifteen millilitres of *amalaki* juice with honey, one can overcome seminal ejection along with urine as well as the disorder of profuse urination.

In the Disease of the Reproductive Organs of Women

Formulations (*yogas*) of *amalaka* are given in *rakta pradara* to quieten the aggravated *pitta* in women. A *kalka* or paste is made out of six to seven grams of the pulp of the fruit and given along with honey to stop the flow of blood. In leucorrhea or the whites, the waters of the seeds of the fruit are given along with honey or molasses. Powder of fresh fruits along with honey is also advised in leucorrhoea. If heat and pains occur persistently in the uterus, a constant drinking of

fresh juice of the fruit along with honey or molasses is advised with a proven effect. An external application of fresh or dried pulp of the fruit at the region of the bladder gives a good relief for shooting pains at the bladder and the uterus and also in conditions of retention of urine.

In Complaints of Fits or Epilepsy

Prepare a ghee of *amalaka* by using three kilograms of ghee, thirty nine kilograms of the juice of *amalaka* fruit and a *kalka* of liquorice.

This is given to persons prone to epileptic attacks due to aggravation of *pitta*. The dosage advised is six grams.

Amalaka in Yunani Medicine

The dried *avala*, with its nut removed is used as *avala mulakka* in Yunani Medicine. The fruits soaked two or three times in milk and then dried constitute *shir parvarda*; it is this that is mostly employed in making *avala* medicines in the form of sweet meats (*majun*). Soak the fruits for one day in milk and then wash them in water. Boil them then in water to such an extent that the flesh gets rent asunder and filter out the water. This *avala* is called *shir avala*. Extract the juice from fresh fruits enclosing them within a cloth. Place this juice in an earthen vessel and boil, keep it boiling till it thickens. Dry this in sun now. It is such an *avala* that is used in further chemical reactions (or *rasakriya*) and called *sukka* in Arabic.

When *amalaka* is converted into *shir parvarda*, the rough and the dryness of the action (*rukshata*) innate in it get reduced. You may recall that Ayurveda also considers *amalaka* as *ruksha* and *shita*.

The general medicinal actions that Yunani system attributes are as follows. It is strength giving to head, stimulative, and constrictive (*grahi*). It palliates *pitta* and *rakta* and is good for the eyes. It hardens the roots of the hairs on the head and also darkens them.

The plant, specially its fruit are utilised abundantly for improving intellect, memory power and eye-sight. It wards off the weakness of the heart as well as feebleness in digestive capabilities (*agnimandya*). The excitations of *pitta* and excessive thirst are well pacified by this plant and so also the dysentery and diarrhoea. Its decoctions are utilised to wash the head and also as the basis for many hair tonics that are in addition used to dye the hairs black (*kesha ranjana tailas*). The *murabba* of its fruits are good in overcoming the weaknesses of the heart and the brain as well as in the regulation of the disorders of liver and spleen. *Jugarish amla* is a famous *yoga* here which is prescribed effectively, in pacification of the stomach disturbances, and to render it strong and also in checking dysentery and diarrhoea. When constipative and colic pain is unbearable, one is advised to use the *amalaki murabba* instead of any other ordinary preparation. This will also give strength to the heart, brain and stomach, On

external application it is said to remove black spots of the skin.

Modern Work

The fruit of *amalaka* is rich in tannins. The tannins are colourless, amorphous substances secured from many other plant products such as gall nuts (nut like growths on some trees eg. oak, due to a gall-wasp), sumac (different species of the genus *Rhus*, eg. *Rhus coriaria*) and many barks. The principal use of this substance is to convert raw hides of animal skin into the commercially valuable leather, this process being called tanning. Any tannin rich material is thus a highly economically useful product and *amalaka* fruit is quite rich in tannin. Another use of tannin is in dyeing cloth material. Besides, this also has a therapeutic or a medicinal property, that of quick healing of the wounds.

But it is the young immature fruit which is very rich in tannin; the percentage of the tannin content gets reduced as it matures. Young fruits are wholly astringent in taste and almost unedible. Sweetness increases with the development and this reaches its maximum when the fruits are fully developed; but a basic astringent factor never disappears completely. It is such a mixture of many tastes occurring together that makes the fruit highly valuable. In the dried flesh of the immature fruit, there is twenty five per cent of tannin which gets very much reduced on ripening. Besides tannin the flesh of the fruit contains many

other valuable substances such as gallic acid, exudates, sugar, albumin, cellulose, many organic minerals and vitamins.

In fact, the tree of *amalaka* is one of the very excellent sources of tannin in India as well as the Far East, such as Thailand, where also it is a principal crop actually cultivated for the purpose. Moreover in order to extract tannin, all most all parts of the plant viz leaf, bark and fruits are equally useful. An analysis of the bark of the Indian embelic myrobalan shows six per cent of tannin in the nut, twenty six to thirty per cent in the flesh of the fruit, nineteen per cent in the whole of the fruit, nineteen to twenty four per cent in the barks of the smaller branches and twenty three per cent in leaf. It is this general presence of tannin all over the plant which is another reason why the whole plant gets considered as being medicinally active.

An analysis of the fully dried flesh of the fruits after removing the nuts showed the following components:

<i>Ether extract (gallic acid and the like)</i>	11.32 Per cent
<i>Alcoholic extract (tannin, sugar and the like)</i>	36.10 " "
<i>Watery extract (gum and the like)</i>	13.75 " "
<i>Soda extract (albumin and the like)</i>	13.08 " "
<i>Impure cellulose</i>	17.08 " "
<i>Mineral matter</i>	4.12 " "

In the seeds of the fruit, a fixed oil (best used in the salves for the head ache) and a fragrant resin is obtainable, though no alkaloids (the other specific chemicals that generally render the plant medicinally useful) are seen to be present in the seeds. In the leaves are seen eighteen per cent of tannic acid and a volatile oil in a very little quantity.

Modern Medicine considers the fresh fruit refrigerant or refreshing, diuretic and laxative. Green fruit is very acidic. Fruit is also considered carminative (viz expelling gas) and stomachic (viz good for the stomach and its disorders). Dried fruits are sour and astringent. Flowers are also cooling and laxative. Bark is definitely astringent. The air dried fruits are found to contain thirteen types of separable tannins along with two to four colloidal complexes.

Phyllemblin (named after the terms *Phyllanthus* and *Emblin*, both being the botanical names for *amalaka*) is the characteristic alkaloid extracted from the plant. This, extracted from the pulp of the fruit is known to potentiate the action of adrenalin, the characteristic hormone of the kidney. It also depresses mildly the action of the central nervous system and inhibits spasmodic activity or violent involuntary muscular contractions. When tried on frog, it revealed a mild stimulant action on its isolated heart and in cat its administration resulted in a short and insignificant rise in the blood pressure and in rat, a contraction of its

nictitating membrane (a thin transparent membrane that covers its eye ball below the eyelids, closing during sleep and opening while awake). In the guinea pig, a favourite animal for clinical trials of any drug material before it is tried on humans, it increased the amplitude of cardiac (i.e. heart) contraction as well as the rate of its beat, transiently. In anaesthetised (i.e. where the unconsciousness is deliberately induced in the laboratory) albino rats, another favourite animal for drug experimentation, its trial resulted in an initial transient rise, followed by an equally transient fall and then a sustained rise in blood pressure. In mice, it protected effectively against tremors and clonic (intermittent) and tonic (continuous) convulsions induced by nicotine, the alkaloid of tobacco which makes it a tobacco *viz* which is responsible for its toxic stimulative effect.

An alcoholic extract of the fruit of *amalaka* was found to have antiviral properties, viruses being the highly microscopic organisms that are responsible for many important diseases such as fevers, measles and so on. The effect of a prepared total *amalaki rasayana* was studied on total serum proteins (which is more or less equal to the total protein content of the blood) and its fractions was studied in rabbits. The drug did not reveal any significant effect on the levels of serum protein fractions but it raised the total protein level and increased the body weight. This increase in the body weight was seen to be due to a positive

balance achieved in nitrogen, which is the most important chemical component of the protein.

Clinical (viz experimental studies at the bed side of the patients) trials were carried out to investigate as to what effect does *amalaka* have in *amta pitta* or gastritis syndrome that shows all the symptoms of an inflammation of the inside of the stomach such as acidity. *Amalaki churna* was given in twenty cases in a dose of three grams three times a day for a total duration of seven days. The drug was found effective in eighty five per cent of cases. Cases of hyperchlorhydria (or increased acidity of the stomach) accompanied with burning sensation in abdominal (viz the belly) and the chest regions were also benefitted.

OTHER USES OF THE AMALAKA

This tree whose various medicinal uses have been briefly sketched above, also has many other aspects of importance to man and his economics. These are noted below.

As a Wood

The plant is a favoured tree for the country folk engaged in bringing fuel from the forests. This is because when the major branches are all lopped down even upto the root level, fresh sprouts spring up soon, grow vigorously and are ready to be cut down again. They can thus get adequate supply of fuel material for their needs, from this tree. The

branches form good props, rafters and poles. The timber is useful for making instruments for agricultural purposes as well as some minor furniture and also in house construction but to some extent only. This is because, on drying, the wood shrinks and splits irregularly. But it resists being soaked in water, and is therefore useful in making implements for well water and the like. Since its cut pieces as well as smaller branches clarify the turbid and foul water when sunk in the latter, it is very useful in making the wooden boundary linings during the construction of wells.

Sharangadhara, an ancient and reputed author on Ayurveda points out that if you drop powders of dried *amalaki* fruit in a well water which is bitter, saltish, tasteless, harmful and foul smelling, it will turn clear, sweet, fragrant and beneficial.

Tannin

As told earlier, this is one of the excellent minor trees of Indian forests as well as many open and cultivated places for producing tannin on a commercial scale. Infact it is more useful as a natural source of tannin than as a fuel. However its habit of quick and profuse regeneration from the root level once the aerial spreading branches are cut down assures a renewable supply of raw material both for fuel and the tannin purposes. The method of securing the best advantage is to give the first cut only when the tree is sufficiently old and well grown. For tannin extraction, it is the

bark that is generally preferred while the fruit is mostly meant for medicinal utility.

However one can use any portion of the tree, leaves, barks and fruit in tanning industry since the presence of tannin throughout is not inconsiderable. Infact, it is actually used so, along with other highly tannin rich trees such as *harad* or *Terminalis chebula* Retz. The cobblers of Bengal consider the leaves of *amalaki* as best for cleaning of the leather. In Kerala however it is the bark that is most used for tanning.

Investigations of Indian leather industry reveal that the following mixture of the raw materials is best for tanning purposes: fifty per cent made up of the barks of the smaller branches of the *amalaka* tree, thirty per cent made up of *kakaranda* (*Blumea balsamifera* DC) and the remaining twenty per cent, made up of *dhaura* or *dhava* (*Anogeissus latifolia* wall). The leather tanned with such a mixture becomes beautiful brown red in colour.

In Dyeing Industry

Different parts of the tree are used in dyeing cloth material. The colour obtained from the fruits is darkish brown. But it is rare that the fruits alone are used. In order to secure a tinge of blackness in the net colour over this brownness, they are used along with an iron salt or the barks of other trees. This is as happens when the fruits of *harad* and *behada* are used for a similar purpose. Using these materials renders the colour

rather obscure and concealed. On coarse silken cloth (*tasar*) one can secure pretty light brown colour by using this material, but it does not dye the cotton fibres well. In the leaves there occurs a little quantity of brown or yellowish pigment material, which is soluble in water. By this means, a light but very beautiful shades of brown can be obtained on coarse silken cloth, silk, mulberry and wool. This same colour turns black by an admixture of iron salts. Silk industry of Hong Kong uses these leaves very much. The Japanese workers prefer this to dye the mats. In Shibsagar district, textile workers secure a dark dyeing by using the bark of *amalaka* along with the barks of *jamun* and *amarud* trees.

The dried fruit of *amalaka* is believed to be a good reagent for cleaning. That is why it often takes the role of soap in washing and cleaning the head. Soak it in water overnight in sufficient quantity and wash the head with this water. Such a treatment is believed to confer a silken sheen to the hairs and also make them long.

In Making Vid-lavan

The fruits of *amalaka* are used in preparing a special kind of salt called *vid lavana* much used in many medicines.

The procedure is as follows: Take twenty six kilograms of *sambhar* salt (a salt obtained from around the Sambhar Lake in Rajasthan) and mix it with ten *chatak* of dried *amalaka*. One fourth of

this material is placed in a narrow mouthed earthen vessel and this is now kept in a furnace or kiln and heated for one hour steadily. When the material within the vessel gets heated, add the remaining part of it also slowly and gradually into the vessel. When the entire material is over, the vessel is again submitted to about six hours of stay in the red hot furnace. Let the furnace as well as the vessel become afterwards completely cooled down by themselves. When you break open the vessel now, you will secure about 22.40 kilogram of *vid-lavan*.

As a Rich Source of Vitamins

There is probably no fruit where vitamins occur so richly as in the fruits of *amalaka*. The juice of fresh fruits of this plant contain probably twenty times more of vitamins than what we can secure in orange fruits. One single *amalaki* fruit is equal to one and a half to two big sized orange fruits. In one gram of the pulp of the fruit there occurs six hundred milligrams of vitamins.

Usually the vitamin content of food stuffs whether they are leafy greens or fruits decrease very much after the latter get cooked. But the fruit of *amalaka* is an exception here. Even after cooking, its vitamin content does not get lost. One reason is that the amount of vitamin C is so abundant in the fresh fruit that its loss on cooking becomes not worth being considered. The sourness of the fruit is an innate protector of vitamins and guards it against destruction. There are a few other

substances in the fruit which keep the vitamins content well guarded. It is because of these reasons, *amalaki murabba* also contains many vitamins and even when the fruit is dried and preserved, enough concentration of vitamins still resides.

A highly commended method to dry the fruits of *amalaka* is as follows. This is to cut the fruit into small pieces by hand and dry them quickly in bright sun. After drying, grind the pulp to a fine degree. In the powder prepared in this manner there reside ten to sixteen milligrams of vitamins and this powder form is the best method of preserving the fruit. Its vitamins content will however get lessened if the storing is done in wet or very hot places. Therefore store them in dry and cool places. This can be used for months together then without any loss of quality.

Adding salt to the powder or even the dried peels of the fruit is another way of preserving the fruit. For this purpose the whole fruits being cut open are first soaked in water for about ten minutes and then sunk in a strong solution of salt. This is a good way of preserving a great percentage of the vitamins. If the fruits are cooked too long and much ghee and oil as well as *masala* are added, the vitamin content gets lost.

War Time Use of Amalaka

In the first World War, there was an attack of scurvy in the soldiers fighting in Iraq war front

(which was then called Mesopotamia). This is a disease characterised by bleeding and sponginess of the gums of the teeth due to a lack of fresh vegetables and consequently of vitamin C. Tablets of the powdered *amalaki* fruit were great boons for these soldiers. In our own country when there was a famine in Hissar Division and the scurvy had assumed proportions of a wild epidemic, *amalaka* proved a strong antidote for this scourge.

Amalaka in Food

Eating the raw fruit of *amalaka* as such along with the meals is beneficial whether it is taken at the beginning or in the middle or after the meals. If taken before the principle food, five to eight minutes prior, this will stimulate the secretion of the digestive juices and increases the hunger. Taken in the middle, it will help in digestion. Both the *murabba* and the pickles of the fruit are promotive of hunger. Taken after the meals it serves the function of betel nut but in a better fashion as it is never addiction forming like the betel. A method to prepare such an *amalakisupari* is given below.

Select the fresh fruits that have ripened on the tree itself in the months of March to May. Cut the pulp into separate peels with a sharp knife, remove the nut and discard. Take sugar in a quantity equal to the weight of the pulp you have secured. Place them both in an enamelled earthenware pot (*martaban*), mix them thoroughly and keep the pot in direct sun, covering the mouth with a thin cloth

so as to protect it from flies and insects. The peels start "giving" out water. By keeping the pot under direct sun like this for a few months, till the water would become lost completely. The sugar would have entered into the peels fully and the latter would be now tasty as well as wholesome and beneficial.

In Malaysia, the fruit is used as a *masala* in food preparation. But the most favourite form of using the fruit in food in India as well as the Far East is to prepare *murabba* out of it. The best fruits for this purpose comes from Benares which are probably the biggest of the varieties; they are produced by grafting. For making *murabba*, select the best of the fruits, green and fresh, and sink them for two to three days in lime (*chunam*) water. Then boil them in ordinary water. When they start getting slightly soft, remove them out, cool and make holes on them all around with a wooden sharp pointed needle and drop them now in a sugar syrup made up of two to three times the quantity of sugar as compared to the quantity of the fruits you have selected. When the fruits start "giving" out water, keep them over fire in a pan and evaporate out the water. When the syrup has entered the fruit fully, *murabba* is ready.

An idea of the nutritive value of the fruit can be had by looking at the official report of an Health Bulletin of the Government of India. The contents in a fruit are as below:

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<i>Protein</i>	0.5%
<i>Fat (ether extractives)</i>	0.1%
<i>Fibres</i>	3.4%
<i>Carbohydrates</i>	14.1%
<i>Calcium</i>	0.05%
<i>Phosphorus</i>	0.02%
<i>Watery portion</i>	81.2%

For every hundred gram of the fruit pulp there occurs 1.2 milligram iron. The calorific value (viz capacity to produce bodily heat and energy) of every hundred gram is 59, there being 70 calorific units in every 28 gram.

RELATIVES OF AMALAKA

Among the many plants coming under the same family Euphorbiaceae to which *amalaka* belongs, we discuss now only two viz *Cicca disticha* Linn and the genus *Phyllanthus*, wherein four species are of notably medicinal value i.e. *P. niruri* Linn, *P. maderaspatensis* Linn *P. urinaria* Linn and *P. simplex* Retz. The common botanical feature they share with *amalaka* is in the general shape of the fruit, because of which reason popular consideration treats all of them as "varieties" of *amalaka*. Thus a *Cicca* is *kirunellikal* (the little *amalaka*) in Kannada, *P. urinaria* is *kempukirnellil* (the red little *amalaka*), *P. niruri* is *bhumi amalaka* (the *amalaka* borne at the ground level) and *P. simplex* is *mott bhutavali* (the larger ground level

amalaka) in Marathi. Of these *Cicca* is a tree and the rest are small herbs or undershrubs.

1. ***Cicca disticha*** (after the characteristic double rowed arrangement of the leaves) *Linn.*

Names

This is called by quite a few names in Sanskrit: *lavali*, *lavali phala* (these two are the distinctive names or the basonyms, not applied to any other plant); the other names are descriptive, *skandha* or *skandha phala* (fruits borne directly on the main trunks as in *gular* or jack fruit), *ghana* (the fruits are in dense clusters), *sugandha mula* (the root is fragrant) and *komala valkala* (the bark is delicate).

In English it is Country gooseberry while *amalaka* is Indian gooseberry. In Hindi and Urdu it is *harfarauri* (related to the Bengali name *hariphul*, flowers being greenish yellow); in Marathi *harparavani*, *royavala* (the lordly *amalaka*); in Gujarathi, *khati axali* (the sour *amalaka*); in Kannada *kirunelli* or *aranelli* (half i.e. a somewhat *amalaka*); in Tamil, *aruneli* (a somewhat *amalaka*); and in Telugu, *rachayusirika* (the smaller lordly fruit).

Botany

This is quite a pretty looking small sized tree cultivated in India and Malaysia very commonly. It is particularly prevalent in the house gardens of South India. Unlike *amalaka* which is a common minor tree of the Indian forests, this tree is almost

never found as a component of any forest. It occurs almost exclusively as a tree cultivated in the gardens. The leaves are thin, obliquely ovate but much larger than that of the *amalaka* and are characteristically double rowed or distichous (which is what its name in Latin viz *disticha* conveys); they are light green in colour. Flowers are very small and are borne in slender racemes (i.e. elongated clusters) from the thick branches. Fruits are borne on ball like knobs on the branches as in the *gular* tree. The fruits are large sized but definitely smaller than in the *amalaka* and differs from the latter in that they are distinctly ribbed, obscurely six lobed, rather flattish, depressed at both the ends and greenish yellow in colour. They are fleshy and acidic.

Medicinal Importance

Compared to *amalaka*, this plant is not so famous at all. The fruits however are more preferred in cooling recipes for example in preparing pickles (whose keeping quality however is not much) or a few minor side dishes. They are better liked by children because of a tinge of sweetness in them while the fruit of *amalaka* is more astringent in taste. The heightened sweetness of water which one feels after eating the *amalaka* fruit is not found with this fruit.

The fruit is slightly bitter, not at all or only slightly astringent, acrid and sour in taste, rather quite sour though with a very little bit of sweetness in it.

However, Ayurveda regards the pharmacological (i.e. the action of the fruit in the body when used as a drug) action of the fruit to be astringent basically but promotive of generating taste in general. It is therefore regarded to be pleasant as well as delicious for eating raw. It is dry (*ruksha* i.e. not *kaphakaraka* or promotive of phlegm formation). The fruit is also having a pleasing fragrance. The main drawback in its greater use as a drug of many medicaments as the *amalaka* lies in the fact that its keeping quality is very poor. It cannot be dried and preserved, nor can powders be made out of it. Whenever it is used, it has to be used only in a fresh state.

The medicinal importance also is not much; for instance it is not a *rasayana* drug.

Its consumption increases the *dosha* of *vata* in the body.

The best and the most notable utility of the fruit is that it helps very much in increasing the appetite. Therefore the meals of a convalescent patient not liking to eat still, is best initiated with a side dish (for eg. as a pickle or a *pachadi*) of this fruit in a raw or very slightly fried state. The patient however should not be prone to any aggravation of *vata*.

It is a good tonic to liver and as such useful in biliousness or acidity in general and other liver complaints. It is also helpful in lessening the tendency and in actual stopping as well, of

vomiting and constipation. It is presumed to be beneficial in stones in urine as well as piles.

Bhavamishra, a reputed classical author of Ayurveda of the mediaeval period considers *lavall* as useful in setting right the disorders of blood, piles and the aggravations of *kapha* and *pitta*.

In digestion, it is regarded as rather heavy, though stimulating to appetite as noted above. Very interestingly its eating increases the hunger, though the fruit itself is not easily digested.

The root and the seed are cathartic viz they are helpful in inducing good purging.

Modern Work

Modern studies (for instance, those of Chopra) find the fruit constrictive (and therefore helpful in healing), and the roots and the seeds purgative. The roots and the leaves are often considered as counteracting to poison though there is not much of a support for this aspect of its drug action in modern work.

Yunani Opinion

Yunani physicians regard this fruit as very acidic but a giver of strength to liver and its functioning. They consider the fruit as a good means to quench thirst. It is beneficial in aggravations of *pitta*, emesis or vomiting and constipative seizure. This is also regarded as a purifier and an augmentive to blood.

2. ***Phyllanthus*** (flowers occurring in the middle of the leaves) *niruri* (from the Hindi name) Linn.

Of the four species of the genus *Phyllanthus* considered here, *P. niruri* Linn is the most famous and very justifiably so, because, even practising physicians of allopathy willingly advise its freshly extracted juice for a sure, readily available and probably the best cure for patients suffering from jaundice.

Names

This is called *bhumi amalaki*, *bahupatra* (many leaved), *bhudhatra* (a ground *amalaki*), *kshetramali* (the little *amalaka* of the cultivated fields) and *sukshma phala* (fruits, small sized); *jaramla* and *niruri* (which forms the specific term in the botanical name) in Hindi; *bhutamlā* in Bengali; *bhūlavala* in Marathi; *nellaneeli* (the ground *amalaka*) in Kannada; *kīla nelly* (the *amalaka* borne at a low level) in Tamil and Malayalam; and *nelausrika* in Telugu.

Botany

This is a small annual herb springing up in abundance specially in cultivated fields, following the first rains of the season. It is infact a winter weed found throughout India. The plant is quite glabrous viz smooth and non-hairy throughout. Quite often, the main stem branches at the very base producing many leaf bearing branches in a

clump. These branches are slender and spread out on all sides around the central axis. Leaves are numerous, almost stalkless, elliptic or oblong in shape, the tips are obtuse; they are very characteristically arranged in a strictly double rowed or distichous manner. Flowers are small, axillary to the leaves, yellowish, green or whitish in colour. Fruit is a capsule, viz it becomes finally dry and dehiscent or breaking open to release the seeds within. It is only the younger fruits that look like little *amalaka* fruits; but they do not develop any pulp as in *amalaka* or either the bulk.

This is believed to be a native of the Western India, from where it has become well introduced to Africa and the West Indies.

Medicinal Importance

Ayurveda considers this plant as astringent, sour and cooling in action. It destroys the aggravations of *pitta* and *prameha*, corrects the obstructions in urinary flow, and quietens the thirst as well as the sensations of burning. Bhavamishra regards it as promotive of *vata* and beneficial in curing cough, *raktapitta* (plithora), *kapha* vitiation and jaundice. The nighantu compiled by Shodhala, a later classical author in Ayurveda goes so far as to consider the plant as curative of poisoning and conferring a son (*putradayaka*)!

The (unripe) fruit and the plant are acrid and sour. As a drug material, it is also considered to be

astringent, deobstruent (a remover of obstructions in the passages), stomachic (good for the stomach), diuretic (promoting urine flow), febrifuge (useful in warding off fever) and antiseptic (acting against bacteria, the causative organisms of many diseases).

It is considered to be good in healing up the sores. The Yunani physicians particularly regard this plant as being highly beneficial in tubercular (i.e. knot like swollen) ulcers, wounds, sores, ugly spots, bruises, lesions and also for scabies and ringworm.

It is used in relieving many of the afflictions of stomach such as dyspepsia (or indigestion) colic (severe pain associated with the distension of the stomach) and also diarrhoea and dysentery. An infusion of the young tender shoots is given in chronic dysentery effectively. The roots and leaves are pulverished and made into a paste along with rice-water and applied externally as a poultice to lessen oedematous (i.e. morbid) swellings and ulcers. The milky juice of the plant is a good external application to offensive and foul smelling sores. Mixed with oil, this is also useful in ophthalmia. This is also found useful in curing difficult and painful tumours, as an external application on the parts affected. A poultice made up of the leaves with salt cures scabby affections and this same poultice can also be applied (minus the salt to avoid burning) to open lesions and bruises. In the Konkan region the root is ground

down with rice water (*konjee*) and given as a remedy for menorrhagia or excessive menstrual flow. In the Gold coast of Africa, the leaves are pounded and used to cure gonorrhoea. The leaves are boiled in water and is then drunk to stop acute gripping pains in the stomach. A paste of the entire plant is applied externally in reducing morbid swellings of the breasts.

The water decoction of the root and leaves is very bitter but a very favourite and efficient remedy among the natives of Porto Rico in the West Indies for the cure of intermittent fever. The expected paroxysm (i.e. the climax stage) of such a fever can be prevented before hand by its use. The dose is two drachms in the morning when the onset is feared. An infusion of the roots and the leaves is a good tonic and also a diuretic when taken in repeated doses.

The juice of the fresh roots is taken internally along with milk as a galactagogue i.e. promotive of profuse milk formation in women, following child birth. A decoction of the roots is used as a refrigerant i.e. a cooling reagent for the scalp of the head.

The whole plant is utilised in some forms of dropsy (morbid accumulation of fluid in any part of the body), gonorrhoea, menorrhagia and many other similar genito-urinary affections.

The most important medicinal value of the plant lies in its sure use against jaundice. For this

purpose a *tola* of the ground fresh juice of the root is given in the early morning along with milk. This is to be taken twice a day once in the morning and then before bed time.

A decoction of the whole of the plant is given in malarial fever. By an administration of this decoction, stools will become normal, sweating will commence, the patient will secure sleep, enlargement of liver and spleen that often accompanies in long standing fever will subside and slowly the incidence of the attack of the intermittent fever will stop. The plant will increase the quantity of urine and will also remove the burning associated with urine flow. It is because of this reason, it is advised in gonorrhoea also. In brief, the plant is very effective in all diseases of the urinary tract ranging from kidney to the outflow of urine. In cases of new gonorrhoea an administration of a spoonful of the fresh juice of the plant along with sugar and *jira*, will result in a great mitigation in the painfulness of urination.

A Few Other Household Remedies of the Plant

In open lesions. An external application of the milky juice of the plant will heal up the exposed wounds of all types very quickly.

In itching. An application of the poultice prepared from its leaves cures itching, abrasions and eczema.

In sprue. Giving the tender leaves of the plant along with the seeds of *methi* (*Fenugreek*) will set right the chronic and long standing disorder of sprue.

In dropsy. A decoction of the whole plant mitigates morbid swellings due to collections of fluids in the body or dropsy (*jalodara*) by inducing profuse urine flow.

In intermittent fever. A paste is prepared by grinding its tender leaves along with black pepper; a peelet is made out of it of the size of a nutmeg (*jayphal*) and given in all intermittent fevers including malaria.

In inflammation at the mouth. Gargling with cold extract of the leaves will cure sores and inflammations at the mouth (*mukha pak*).

Modern Work

The dried leaves contain 0.4 per cent of a toxic bitter principle named phyllanthine, after the generic name of the plant and this is the chief medically active substance of the plant. This is seen to be poisonous to fish and frog. In frogs it causes depigmentation (i.e. removal of colour) in the skin, but this is regained after about 20 hours. The leaves are very rich in potassium which is considered to be responsible to their powerful diuretic effect, - the basis for its most celebrated use in jaundice.

Stem contains saponin, a detergent or a cleaning substance. A decoction of the stem and leaves dyes cotton threads black; infact, this decoction is so black that it is sometimes used in the place of ink. Alcoholic extract of leaves and roots exhibit antibacterial activity against *Micrococcus pyogenes*, the pus causing bacteria and *Escherichia coli*.

3. ***Phyllanthus*** (flowers amidst the leaves) *maderaspatensis* (first described by botanists from the grounds around the city of Madras) linn.

Names

This does not seem to have any Sanskrit name. It is *kanocha*, *kanauka* and *hazarmant* in Hindi; *marur* in Arabic; *morurshat* in Persian; *kanocha* in Gujarati; *nala usarika* (the good *amalaka*) in Telugu; and *mela nelli*; *madras nelli* (the good *amalaka* or the *amalaka* from Madras) in Kannada.

Botany

This is a much bigger sized plant than the above and an erect, or decumbent (i.e. growing along the ground as if it is lying on it) herb or even an undershrub, found throughout the drier parts of India. It occurs quite commonly in the drier parts of Africa, Arabia, Java, The Far East, China and even as far as Australia. The plant is sometimes woody at the base but is actually very variable in habit. The stem is glabrous, i.e. smooth and non-hairy. Leaves are scattered and well spread out on

the twigs and in shape much variable; glabrous, mucronate (i.e. provided at the tip with a sharp thin projection), tapering to a narrow stalk below, glaucous (shiny) and with a few lateral nerves beneath, characteristically. They are slightly round, green and fragrant. Flowers are axillary, male flowers are minute and arranged in small clusters while the female flower is larger, solitary and with a short stalk. Fruit is a capsule, globe like in shape but depressed at the ends.

Medicinal Importance

The leaves are expectorant (helping in discharging the phlegm from the throat) and diaphoretic (i.e. causes or induces sweating all over the body). It has mucilaginous properties (i.e. a capacity to render substances slimy and sticky).

In Southern India, an infusion is made out of the leaves and applied over head to relieve the headache. The leaves are useful in urinary obstructions.

The seeds have a bad taste but they have useful medicinal properties. They are carminative (i.e. release gas from the bowels), laxative, tonic to the liver and diuretic.

The plant is more famous in the Yunani system. According to the physicians of this system, the seeds (which are the most useful part) are hot, of the second category and dry (*ruksha*) of the first category. Its medicinal actions are: clearing of obstructions, dissolving of the morbid swellings of

the wounds, mucilaginousness (slimy) and mitigating of the vitiations of the body. The seeds are somewhat like those of the linseed (*atasi* or *Linum usitatissimum* L), brown, soft, smooth and slippery and triangular, rounded on the back, muriculate or beautifully marked like basket work. When soaked in water, it absorbs water and swells up with a fine coat all round. It is because of this property, they find their use in medicine.

If the seeds are removed from their outer coating, mixed well in a woman's milk and then a few drops of this are placed in the ear, the shooting pains of the ears are relieved. If this is given internally it strengthens liver and intestines and confers a relief to the pains therein. This is infact given after frying, by itself or along with other suitable drugs, in dysentery with blood and diarrhoea. A poultice made out of the leaves is applied externally and tied over boils, pustules and hard abscesses with quite a good effect. The seeds are also good for removing gasses in the bowels.

Many Yunani physicians consider that the seeds of this plant are much better than the linseed in hastening abscesses to maturity and thus curing them ultimately. For this purpose the seeds are ground, mixed with honey and then applied. The seeds are definitely slimy and mucilaginous and are therefore useful in all cases where such an action is required, for example in healing. If this slime is given along with jasmine oil, a patient of *pitta* aggravation gets relieved.

The leaves are good in removing phlegm and also in fever.

Modern Work

The dried seeds on extraction with light petroleum yields 8.1 per cent of a clear, deep, yellow oil of a characteristic odour. The defatted seeds (i.e. the seeds from where the fatty components are fully removed) yields a dirty white fibrous mucilage which turns brown on long exposure to air and on hydrolysis, yields many important acids like arabinose and rhamose acids. Besides these, a reddish brown colouring matter and an essential oil (i.e. aromatic oil, responsible for the smell) are also found in the seeds.

4. **Phyllanthus** (flowers amidst the leaves)
urinaria (connected with correcting urinary disorders) Linn.

Names

This also does not seem to be having any name in Sanskrit, though occasionally the term *tamravalli* (the coppery creeper) is used.

It is called *hazarmant* or *lalbhulavala* (the red ground level *amalaka*) in Hindi; *hazarmant* in Bengali; *kharsat*, *bhumtavaali* in Gujarati. Its name in many other languages mean that it is a ground level *amalaka* which is red in colour; these names are: *lalmundaz aval* in Marathi, *erra ustrika* in Telugu; *kempu nellanelli* in Kannada. It is *shivappu nelli* (the red *amalaka*) in Tamil.

Botany

This is a diffusely branched herb somewhat similar to *P. niruri* L. but a little larger and rather reddish all over. Like the latter, it is also a weed of the cultivated fields growing throughout India. Stem is erect, slightly branched and the leaf bearing branchlets are short, flattened or even slightly winged. Leaves are closely placed, not scattered, and again distichous viz characteristically double rowed as in the other species of *Phyllanthus*. They are nearly stalkless, oblong in shape, apex is rounded; they are pale beneath, base rounded and usually oblique. Flowers are minute, solitary, yellowish. Fruit is a capsule viz dry, dehiscent or breaking open on maturity to release the seeds which are triangular, rounded at the back and transversely furrowed. The fruit is globose and echinate viz spiny.

Medical Importance

The plant is diuretic, astringent and cooling. In the form of decoction it is used in jaundice and gonorrhoea. It is useful in thirst, bronchitis and also leprosy. In general the plant is used much in the same manner as *Phyllanthus niruri* L and in fact, very often, as just a substitute for it. A decoction of the dried plant is given in a dose of one tea-spoonful to ward off the disease of jaundice. Because of its excellence as a diuretic, it is well used and much profitably so in removing morbid fluid collections in the body or dropsy

(jalodar). This is found to be useful in gonorrhoea as well as many other afflictions connected with the urinary tract.

By the tribals of Chotanagpur the root is utilised as a mild sedative to get small children into sleep. But the juice of the leaves is given in coconut milk as an appetiser to children. And these leaves are well eaten by cattle.

In the islands of La Reunion, the plant is regarded as being diuretic, sudorific (causing sweat all over), purificatory and regulatory to the menstrual flow.

In Cambodia, the plant is used as a bitter drug and also as a tonic, an astringent (contractive to living tissues and hence, useful in healing) and a febrifuge (a drug which relieves one from fever).

5. **Phyllanthus** (flowers amidst the leaves) *simplex* (which is rather simple viz does not have any distinguishing or outstanding feature) Retz.

Names

No name seems to exist for this plant also in Sanskrit. It is called *moti bhui aval* in Gujarati and Marathi, a term that means "a bigger sized *bhumi amalaka*, which is what the plant is. The Telugu name *Uchhi usarika*, the higher (i.e. the bigger) *amalaka* also means the same.

Botany

The plant is rather similar to *Phyllanthus niruri* L. but larger in size. The branches are rather thinner and more depressed, but the flowers and the fruits are somewhat similar.

This is also a herb but sometimes an undersherb, found throughout India. It usually has a long tap root. The branches are compressed. Leaves are typically double rowed or distichous as in the other species of *Phyllanthus*. They are almost stalkless, closely packed and often overlapping. In shape they are oblong, with an obtuse tip. Flowers are minute and brownish purple. Fruit is a capsule i.e. dry and dehiscent, globe like in shape but depressed at both the ends; hard and crust like and very dark brown in colour.

It occurs all over India, Sri Lanka, Malaysia, China and Pacific islands.

This widely distributed plant finds many useful applications in medicine. Its fresh leaves, flowers and fruits along with *jiraka* (cumin seeds) and sugars in equal quantities are made into an electuary (a lickable medicine or a *lehya*) and given for curing gonorrhoea, the dosage being one teaspoonful twice a day.

Fresh leaves crushed and mixed with buttermilk makes a medicated wash to cure itching in children, since they are said to have antiseptic properties. The root is used in Chota Nagpur as an external application for abscesses of the breasts.

In the Philippines, the juice of the leaves is used in eye diseases.

Modern Work

Fruits are shown to contain an oxalic acid, which is also found in another popular herb of a sour taste, *Oxalis Corniculata* L, the Indian Sorrel (called *amrul* in Hindi).

6. **Phyllanthus** (flowers amidst the leaves) *reticulatus* (with net work like markings on the seeds) Poir.

Names

This does have a few names in Sanskrit, *krishna kambhojl* (referring to the darkish *amalaka* like fruits), *bahupushpa* (many flowered).

It is called *butnowla*, *panjoli* in Hindi; *pajuli* in Bengali; *krishna nelli* (the dark *amalaka*) in Kannada; and *karup puphilanjil* (the darkish *philaranjil*) in Tamil.

Botany

This is another *Phyllanthus* species not mentioned in the list given above. Its fruit is a berry and fleshy like *amalaka* but darkish and purple but not green.

The plant is found throughout tropical India.

It is a large, smooth or softly hairy straggling or a climbing shrub ascending over the largest trees along the rivers. Branches are smooth or they may

show lenticel (whitish protruding marks for respiration) markings on the surface. Leaves are variable in shape, smooth and pale below. Flowers are axillary, male flowers are found in clusters while the female flowers are solitary. Fruit is a purple fleshy berry, globose, smooth and shining. Seeds are irregularly triangular and finely granulate or reticulate on the surface.

Medicinal Properties

The fruit is astringent to bowels and is useful in aggravations and inflammations due to *vata dosha* and also in the diseases of blood. The bark is alterative (viz capable of making desirable changes in the vital functions of the body) and attenuant (swimming down the fatty tissue). Its dosage prescribed is about four ounces or more twice daily and in the form of a decoction.

The leaves are employed as a diuretic and cooling medicine in Sind, where the plant grows profusely along the banks of the Indus river.

In Konkan region, the leaf-juice is made into a pill with camphor and cubebs (dried berries of *Piper cubeb-sitalachini* or *kobabchini* in Hindi) and is allowed to dissolve in the mouth as a remedy for spongy and bleeding gums.

In Lakhimpur area of Bengal the juice of the leaves is used for diarrhoea in infants. This juice is also reduced into a thin extract along with the juice of other alterative drug plants and made into

a pill with aromatics, i.e. those that are sweet smelling. The pill is then given twice a day followed by a cup of milk in order to lessen the "warmth" in the blood. Decoction of the bark (1 in 20) in doses of 1 to 2 fluid ounces or infusion of leaves (1 in 10) in doses of 1 to 2 fluid ounces is given as an astringent, diuretic and alterative drug.

In Ashanti in Africa the leaves are mixed with the nuts of a local palm tree (*Elaeis guineensis*) and made into a broth which is then given to women who have delivered newly so as to relieve them from the pain. On the Gold Coast, the juice of the stems are blown into the eyes to cure the soreness. East Africans employ the powdered leaf as a local application to sores, burns and pus filled wounds as well as chafing of the skin.

Modern Work

Leaves and bark contain tannic acid, gum and a crystalline principle.

SOME MORE PROPRIETORY PREPARATIONS (YOGAS) OF AMALAKA

Amalaka or *Emblita officinalis* Gaertn has been one of those highly reputed medicinal plants of Ayurveda which has been much popular and in great demand since ancient times to even now. As such many proprietary preparations or yogas (or combinations) are in vogue among the practitioners of Ayurvedic Medicine mainly. These make use of

amalaka as the principal ingredient but very commonly they contain numerous other ingredients added to it and processed often quite elaborately till the finished product is obtained. All the specifications here are clearly delineated in the Sanskrit Texts concerned and they are also strictly complied with, even now, by the manufacturers though with necessary elaborations to suit with the conveniences now available and the needs of the modern times. An advantage of such *yogas* over the use of fresh drug material is that they can be preserved over a long time and can be utilised any time desirable and according to our conveniences. The *yogas* take various forms such as powders (*churnas*), decoctions (*quatha*), alcoholic distillations (*asavas*), electuaries (or lickables or *lehyas* and *avalehas*), ghees (*ghritas*), oils (*tailas*) and so on.

Some *yogas* of *amalaka* have been given above. A few more of this nature are as below.

1. ***Dhatri shadamalaka ghrita.*** (A ghee of *amalaka*.)

Take one and a half kilogram of cow's ghee, twelve kilograms of freshly extracted juice (*svarasa*) of *amla* fruit and for preparing the oil cake base for the drug, take eight *tolas* each of *pippali*, *pippalimula*, *chavya*, *chitraka*, dry ginger and *yava kshara*. Cook them in twelve kilograms of water to prepare the ghee.

After the ghee is ready, add unrefined sugar and *satndhav* salt.

Dosage is: three grams at a time, once a day.

This is prescribed in the disease of *gulma* or splenic enlargement.

This prescription is from a reputed Text called *Bhaishajya ratnavali*.

2. ***Amalakavaleha*** (an electuary made out of *amalaka*).

Take 1,000 fruits (1.660 kilograms) of *amalaka* of very good quality. Get a freshly prepared boat like basin from the wet wood of *dak* tree (*Butea frondosa*). Let the lid of this basin be also made from this wood and let it be tight fitting so that no steam would escape. Fill the basin with these fruits and close the lid. Keep this now on a fire over three stones. The wet wood and the fresh fruits within would both get steamed thereby, as they would both lose their water content completely. After the steaming is complete remove the basin from fire and let everything cool down completely.

Remove the "stones" inside the fruit and discard. Separate the fibres from the pulp by crushing the latter with the palm of your hand against a thin cloth straining it thereby. Discard the fibres. To this strained pulp of the fruit, add six kilograms each of *pippali* powder and *vaya vidanga* (with the husk removed), nine kilogram of unrefined sugar, and add then twelve grams of sesame oil, cow's ghee and honey as a treatment procedure (*bhavana*). Store this in a clean and strong container. Use this after twenty one days.

The dosage advised is: six to twelve grams a day.

The objective: a regular use of this drug is a sure tonic. It arrests aging and is a very beneficial and unfailing *rasayana*.

This is a recommendation of Charakacharya.

3. *Amalakayana brahma rasayana* (an elaborate elixirising drug of *amalaka*).

In the month of *magh* or *phalgun*, pick out the best of the quality fruits of *amalaka* from the tree with your own hands. Remove the "stones" within and dry them in shade. When they are fully dry treat them (*bhavana*) twenty one times with adequate quantity of freshly extracted juice from other *amalaka* fruits. Dry them well under the shade after every treatment. When fully dried after such a series of twenty one times, take six kilogram of the material and powder.

Now take six kilogram net of all the following materials together: *jivaka*, *rishabhaka*, *meda*, *mahameda*, *kakoli*, *mudga parni*, *masha parni*, *jivanti*, *madhu yasti*, *sariva*, *raja kshavaka*, *bala*, *shweta bala*, *peeta bala*, *vana karpasa*, *vidari kanda*, rice (ordinary and *shastika* variety), sugarcane, *ikshuvarika*, *kusha*, *itkata*, *shatavari*, *haritaki*, *amalaki*, *rasna*, *shweta aparajita*, *punarnava* and the heart wood of *chandana*, *dhava*, *khadira* and *asana* trees, *chavya*, *chitraka* and *vaya vidanga*.

Cook all of these together in sixty litres of water. When the quantity of water gets reduced to twelve litres cool and filter it through a piece of cloth.

Add the *amalaka* powder as prepared above into this decoction now. Cook this with bamboo splinters or similar other materials till the decoction does not become completely dry. Do not give very powerful flames; otherwise there is a danger of the drug itself catching fire. When the liquid portion gets evaporated, remove the residual drug, spread it on a iron (steel) container. When administering the medicine, see that *loha bhasma* is added to it to a measure of one eighth of the drug taken.

The dosage advised is: 20 grams of the powder and 240 milligrams of *loha bhasma*.

The objective: This medicine removes the effect of disease and old age. It makes the intelligence sharp, sensory faculties powerful and the span of life, prolonged.

This is again a recommendation of Charaka. He assures us that this is what the great sages of the ancient times had used. The sages are: Vasista, Kashyapa, Angira, Bharadwaja, Jamadagni and Bhrgu.

The drug is to be taken with honey or ghee as *anupana* or the after drink.

4. **Maha tikta ghrita** (the great bitter ghee)

Take one to two *tolas* of the following materials:

Ativisha, *amaltas*, *kutaki*, *kalipad*, *nagar motha*, *harad*, *behada*, *amalaka*, inner bark of neem, *ghamasa*, *rakta chandan*, black pepper, *gajapippali*, *padmak*, turmeric, *daru haldi*, *vacha*, *shatavari*, *indrayava*, *giloy*, *chirayata*, liquorice and *trayaamana*.

Grind them together with water into the consistency of a chutney. Place it in an iron pan, add 128 *tolas* of water, 256 *tolas* of freshly extracted juice of *amalaka* fruits and 128 *tolas* of cow's ghee. Cook in low fire. When all excepting ghee alone seem to have disappeared remove the pan from fire, cool and store in a suitable container.

The dosage advised is: to take one to two *tolas* twice daily, to be followed with cold water.

This is a beneficial remedy for *vatarakta*, plethora, bleeding piles, acidity, boils, itches and eczema, anaemia, jaundice, goitre and fistula in ano, even though these afflictions have proved difficult so far. For persons with hot or *ushna* constitution, when no other medicine works in cases of their *pitta* troubles and the haemorrhage, this always proves unfailing and surprisingly effective.

5. **Brihad-dhatri rasa** (the great juice preparation of *amalaka*).

Take one hundred and twenty eight *tolas* of the following materials:

Juice of *amalaka*, juice of *vidarikanda*, juice of *shatavari*, cow's milk and ghee.

Take thirty two *tolas* of the following:

Kas, black sugarcane, *munj* and *khas*.

Mix these together and boil in eight *sers* of water. When this quantity gets reduced to 64 *tolas* of water only, remove from the fire, cool and filter. Add this now to the juices mentioned above and cook in low fire. When all materials excepting ghee seem to have disappeared, remove from the fire and cool. Filter and add four *tolas* each of the following powders: liquorice, *nishoth*, *yavakshar* and *vidhara*.

Dosage advised is: one to *tolas* daily, to be followed by a decoction of *ashok*, *giloy*, *daru haldi*, *nagar motha* and red sandal.

This is a sure cure for leucorrhoea or whites (*pradara*) among women and an effective tonic as well, for them.

6. ***Amalaki taila*** (oil of *amalaka* - a superlatively effective hair tonic).

Take the following materials:

Four *sers* each of freshly extracted juice of *amalaka* fruits, *saival* (algae or *Vallisneria spiralis* Linn) and *bhangra* (*Eclipta prostrata* L) and three *sers* of pure sesame oil.

Place them together in a brass pan which has been well tinned.

Prepare a mass by grinding fine with water the following material and place it in this brass vessel. The materials are: one tola of *valchad* (*jatamansi*) one tola of small cordamom, ten tolas of sandal wood dust, ten tolas of *khas*, ten tolas of fresh rose petals, one tola each of Borneo camphor, *lavang* (cloves) *dalchini*, *tejpat* and *jatamansi*.

Prepare now a decoction from the following: two tolas each of *nagar-motha*, liquorice, lotus petals, *giloy*, *majith*, turmeric and *triphala*. For making this decoction use eight sers of water and when this gets reduced to two sers in quantity finally, remove it from fire, filter and add this decoction to the brass pan containing the substances mentioned above.

Cook the whole on a low fire. When all materials excepting oil seem to have disappeared, remove from the fire and cool, filter and keep it overnight for a day.

Add the following: six *mashas* of *ruh qulab*, *ruh kevada*, *ruh hina* viz the scents of many such fragrant substances. Then store in bottles.

This is a recipe from a well known text called *Ayurvediya Kosha*. This is recommended to render the hairs on the head, shining, soft, black, long and dense. Application of this oil even for one day will retain the fragrance for days together.

Besides, this oil is a sure and unique remedy for all types of headache, dizziness of the head, falling of hairs, as well as the tendency to epileptic fits.

PROSPECTIVE SUGGESTIONS

A. For Amalaka

Any modern reader who would glance even at the many sided and very highly extolled uses of *amalaka*, a sample of which only has been mentioned above would naturally like to ask a question: why is it that such a valuable substance is not much popular at all nowadays? On the contrary it is being just neglected by the lay public as well as intelligentsia in general. *Amalaka* offers us one of the many instances that emphasises the fact that we do not value our own treasures of the country as they richly deserve. Practical observations and achievements of our ancients seem to be not much of a concern to us. It is high time we should take efforts to repopularise this fruit as it is a bestower of so many gifts to the young as well as to the old. The tree of *amalaka* is of great potentiality on several accounts: industrially because of its rich tannin contents, nutritionally, because of its richly nutritive composition and the abundance of vitamins and medically because of its highly varied and effective medicinal roles.

An important step that can be taken up by our small-scale industrialist at least is: to think of preparing squashes and cool drinks out of *amalaka* fruits and do so, on a large scale. This will be a pleasant, highly refreshing and immensely likable addition to our markets. More importantly there will not be any dearth of raw-material viz

amalaka fruits for this purpose. It has been established for instance that our total consumption of the fruit for medicinal or any other professional needs is far less than the total procurement in the market. This is so even though our entire supply comes from collections from forest trees of the plant only. No where in our country is this cultivated commercially as it happens either in Sri Lanka or Malaysia where the tree is actively cultivated. This evidently means that in case cultivation is adopted, rich harvesting can be undoubtedly expected. More over there is no reason why we cannot try modern horticultural practices in this most respected indigenous plant of our country. For instance it is very well known that - *amalaka* fruits from Benaris is of a very big size and the best praised for *murabba* preparations. Grafting this desirable trait on other ordinary trees of *amalaka* should not at all prove difficult.

The general nutritional level of our country is rather low; this usually lacks much in vitamins and minerals. The best and the cheapest means available to us and that too in great abundance, is this fruit of *Embllica officinalis*, the *amalaka*. This is a fruit that can be eaten fresh, dried or in powdered and stored form - equally effective and beneficial in all of its such varied forms. It is a food as well as a medicine, both simultaneously and of a high qualitative excellence. If the freshly extracted contents of this juice can be made into preservable squashes, they are sure to secure a

flourishing market quite soon. The speciality of the taste of *amalaka* is: the slight astringency mixed with a base of acidity, the sweetness getting manifested rather belatedly but quite positively. A proverb of Punjab is worth recalling here. It states that the value and sweetness of the words of the elderly and the experienced is similar to the value and sweetness of the *amalaka* fruits - both are realisable, rather belatedly. The colour of the fresh juice of this fruit is very beautiful, - rather greenish and white. *Amalaka* squash will prove unbeatable on many scores, taste, appearance, colour, cheapness, ample availability and great demand. Only this needs a commercial exploitation by entrepreneurs who can be well advised to go in for manufacturing and popularising this highly desirable cool drink, beneficial on all counts and with no trace of any suspicions of any type of untoward or injurious effects, which are the complaints against many other squashes of the market.

Cultivation of the tree is best encouraged in all of our Old Age Homes. For, the fruit is particularly valuable for the aged and the infirm. They may be encouraged to consume this fruit in many forms: fresh, powdered, preserved in sugar as *murabba* or in salt as pickles or in a form similar to eating *supari* or bettle nut after meals. In all ways it is undoubtedly beneficial. Its resotorative effect is well proved now as well as its ability to confer an appreciable capacity for disease resistance. Besides, its cultivation is quite easy and profitable

n many ways. Once the tree becomes well established, the outer branches can very well be cut off in bulk and used as fuel; very soon this is followed with a quick regeneration of fresh branches for being used in the next occasion. The plant can grow well in almost any soil and any climate (excepting probably the Himalayas) and all over India.

There are two diseases over which the drugs of Modern Medicine do not seem to have much role to play. These are psychiatric disorders and geriatric complaints (i.e. complaints of old age). These happen to be the chief regions of great demand in highly advanced countries of the world like the United States of America. Geriatric dysfunctions are of varied nature and are essentially stemming from degenerative processes that set in due to advanced aging. The principal complaints are: general debility, lack of resistance to disease and loss of memory. The well known and much proven efficacy of this great *rasayana* drug of India can very well play an important role at this juncture. It is not that every body would be assured thereby of a span of life for hundred years and all the reputed effects of *kayakalpa* thereby. Nor is it necessary that the patients need undergo all the rigours of taking the *amalaka* in the strict procedural regimen of the ayurvedic Texts. But these precautions do not mean that we should neglect this great treasure available with us in plenty. We should definitely benefit from it in whatever way it is possible. An advantage of employing *amalaka*

here is: it can be utilised in very varied forms—fresh, dried, powdered or preserved as noted above and in many recognised formulas and *yogas* over which we can add any number if exporting abroad is also our objective. Modern pharmaceutical companies can very well exploit this situation quite profitably. It is useful to note here that there already exists special preparations in Ayurvedic practices specially meant for such a purpose of foreign trade.

One such medicament is an *avaleha*, an electuary (to be taken principally by licking). There does exist a foreign market for this already. This is prepared from fresh *amla* fruits that are cleaned and boiled and the pulp alone is obtained from machines untouched by hand. They are then fried in pure ghee and mixed with many other ingredients as indicated in our Sastras. For example, *abhayamalaki avaleha* is prepared as per Charaka's prescription. A few of the ingredients are: *haritaki*, *amalaki*, *brahmi*, *shankha pushpi*, *vidanga*, *chandan*, *aguru*, *vacha* and *dashamula*. This is a reputed alterative (i.e. what would bring about desirable changes in vital functions) tonic. It is specially suitable for all debilities of old age and general disabilities as well which are accompanied with mental weakness and weak memory. The advised dosage is: 1/4 to 1 *tola* or 2 to 10 grams to be taken in morning followed by milk.

The tragedy of the gigantic prevalence of blindness in India is not merely its great

proportions but more so because this malady is entirely curable and preventable though we have not succeeded in either. The cause of this blindness is a disease called Xerophthalmia which is due to vitamin A deficiency in developing ages of early childhood. This deficiency alone strikes more than 30,000 children with blindness every year, specially because of an attendant complication known as kerotomalacia, which is an advanced stage of vitamin A deficiency. Moreover, this is an affliction abundantly prevalent not only in India but in most other developing countries of the tropics. This is totally curable if care is taken to supply adequate quantities of vitamin A in the poor diet of these unfortunate children.

There is no reason why we need not try popularising the use of *amalaka* fruits in all possible forms in the diet of these children and take a highly desirable step in the direction of our national health.

A very interesting use of *amalaka* tree is as follows.

One of the harmful effects of modern developmental activities in our country is what has been seen in many cases as being the direct result of dam construction and its system of numerous supply channels. In many places for e.g. in many villages in Dharwad District of Karnataka around Tungabhadra dam, along Nagarjun Sagar construction in Andhra Pradesh and Bhakra

Nangal areas of Rajasthan, a harrowing disease has made its appearance on quite an extensive scale. This is the disease of Fluorosis which appears when the concentration of flourine in the drinking water exceeds the optimal level, as it has happened in all these areas. Because of a heavy collection of dam water the minerals containing flourine get dissolved in it and pollute the entire ground water of the area, so much so all the wells have undrinkable water—too salty and too injurious. Patients of this disease suffer from chronic weakness, loss of strength specially in their bones, so that they become old and bent even when they are of thirty years even. They exhibit all signs of advanced old age, lead a miserable life afterwards and succumb to death also very early.

The disease is totally due to increased flouride salts of the well water. A simple remedy is to clean the water before using by dropping alum crystals which will clarify the water after a few hours and renders it drinkable. Ayurvedic literature speaks very highly of the ability of *amalaka* in clarifying well water. Whole twigs of this tree can be chopped off and dropped in all such foul smelling wells for securing drinkable water. Drumstick tree is another tree that can be put to a similar use with much advantage. Both *amalaka* and drumstick trees are quite common all over India, easily cultivable, highly regenerative and can therefore be best advised for this essential though unusual use.

B. For Phyllanthus

The disease of jaundice is quite a debilitating affliction that leaves the patient highly weak, down-spirited and disabled for days together. Though many symptomatic attempts at curing this disease do exist it is not incorrect to say that Modern Medicine does not offer any effective medicine excepting for the post hepatic kind as stated below till now, for this very common malady of our country.

Redness of the blood is due to a red pigment called haemoglobin present in its red blood corpuscles or RBC. The RBCs carry out the most important function of supplying oxygen to all the living cells of the body. But the total life period of a RBC is 120 days after which they die out as a routine and leave an insoluble and undesirable product called bilirubin. Fresh RBCs are however constantly produced and the function of blood is never allowed to be interfered with. However it is very necessary that this degenerative product of bilirubin should be expelled out of the body and this should be done as constantly as it is getting accumulated. One of the chief functions of liver is to carry out this expulsion by converting bilirubin into conjugated forms and thus rendering them soluble. It is when there is a failure in this aspect of liver functioning that the disease of jaundice gets manifested.

As a result of this failure the excess bilirubin becomes visible in certain regions of the body,

particularly the eyes (sclera - the white portion of the eye ball) which have a special attraction for bilirubin. The consequence is the characteristic yellow pigmentation of the skin, the palms, the urine and the eyes of jaundice. This always signifies a hyper bilirubin content in the blood. The normal level of bilirubin in the blood is 0.5 to 1 milligram per 100 millilitre of blood. When this level exceeds 2 milligrams level, the clinical manifestation of the disease sets in.

Jaundice arises because of three types of causes: prehaptic, hepatic and post hepatic, the term hepatic means that it is connected with liver. Prehaptic failure ensues when the load of bilirubin reaching liver is too much for it to cope up. This is what happens in haemolytic anaemias wherein there is excessive destruction of red blood corpuscles in the blood. Hepatic failure arises when there is some interference with the normal functioning of liver as it happens due to alcoholism, (i.e. too much drinking of liquor), virus infection or cancer of the liver. The former is what is called infective hepatitis. The third category of hepatic failure is due to blocking of the outflow of bile. This is most usually by stone formation from the gall bladder, a structure closely associated with liver and situated next to it below. This category of jaundice however almost always needs only a surgical intervention.

Another important consequence of liver failure is as follows. The brain will then receive

concentration of toxic substances (eg. ammonia and amines) to which it is normally not exposed under healthy conditions. Liver would have taken care of disposing them and to see that they do not reach the level of brain at all. As a result, the function of brain is interfered with and its reaction to drugs becomes abnormal. This condition is technically called hepatic encephalopathy or a pathological condition of the brain caused by hepatic dysfunction.

Till now Modern Medicine has no medicines for the first two categories of hepatic failure. It is of value to note here that Traditional Medicine and Tribal Practices have been offering effective medicines for jaundice since ages.

Ethnobotany is a recent branch of botanical sciences which focuses on the role the different plants play in the life and practices of the diverse races of mankind. Many such surveys and studies have been conducted in our rich tribal populations in recent years. One such study focussed on the art of healing jaundice as practised in our vast tribal communities inhabiting Dandakaranya area covering Koraput and Phulbani Districts of Orissa, Bastar District of Madhya Pradesh and the extensive belt of Eastern Ghats in Andhra Pradesh. Infact there exist here "Herbal Cure Centres" manned by villages and tribals to which suburban and even urban people are found to take resort specially for getting rid of jaundice. The survey

shows that quite a large number of plants have been in active use by practitioners here for curing jaundice. And, these plants are used in many specific manners as well.

The list of the plants actively utilised in this area is quite large. They are: the stem bark of neem (*Azadirachta indica* A. Juss), the whole plant of *bhullmba* (*Andragaphis paniculata* Burm. f) and, *kutaja* (*Holorrhena antydysentrica* Linn); ash gourd (*Bennincasa hispida* Cogn); *arhar* (*Cajanus Cajan* Millsp); *Cassia tora* Linn; *slesmataka* (*Cordia dichotoma* Forst. f); *teekur kanda* (*Curcuma angustifolia* Roxb), *Cucumis melo*, Linn. var-*agrestis* Naud; *Diospyros montana* Roxb; *Ficus hispida* Linn. f., *lauki* (*Lagenaria siceraria* Standley); *mehndi* (*lawsonia mermiz* Linn), *syonalka* (*Oroxylum indicum* (Linn) vent), rice plant (*Oryza sativa* Linn), *tamalaki* (*Phyllanthus asperulatus* Hutch), Castor (*Ricinus Communis* Linn), *kakamachi* (*Solanum nigrum* Linn) and *guduchi* (*Tinospora cordifolia* (Willd) Miers).

Of these, the details available for *Phyllanthus asperulatus* Hutch are as follows:

The plant is in active use for jaundice by the tribals of Srikakulam district of Andhra Pradesh.

The whole plant is made into a paste and given internally.

Alternatively, its juice is mixed in curds and given.

The advised dosage is: 25-50 grams of whole plant once a day for three days continuously and preferably in the morning.

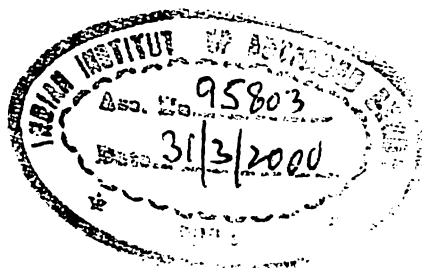
Despite all this, the most famous of the folklore plants which is nowadays regarded almost as a specific to jaundice even by practitioners of Modern Medicine is *Phyllanthus niruri* L or *bhumi amalaka*. This plant is a small herb quite abundantly present specially near about the cultivated fields. There are also a number of other closely allied species for this plant which are also quite common. Infact *P. niruri* L is considered botanically as a highly polymorphic species i.e. one in which many closely allied forms exist. Tamalaki as it is called and actively utilised for jaundice in Kerala State is recently identified as yet an another species called *Phyllanthus amarus* Schum and Thonn. The point is: the botanical wealth of jaundice specific plants of India is quite noteworthy.

A few modern works on pharmacological trials and assessment of *Phyllanthus niruri* L have been quite promising. For instance in alcoholism or consumption of excess amount of alcohol, the damage to liver caused thereby, the resulting interference with hepatic functioning and the consequent jaundice as the manifested disease, beneficial effects of using dried powder of this herb on albino rats have been seen. This brought down to quite an appreciable amount the level of many undesirable products that get accumulated as a

result of alcohol consumption viz cholesterol and lipids in the liver, brain and kidney.

However, in actual practice, this herb of *Phyllanthus niruri* L common in central and south India upto Sri Lanka can be seen to be given in several cases of jaundice, where alcoholism is not a cause of hepatic dysfunction for eg. infective hepatitis. Its effect in stimulating sluggish liver and regenerating liver tissue is well noted in Ayurveda. Siddha practitioners actively give the expressed juice of the fresh plants for any liver disorder and chronic liver disease with an effective result.

Inspite of these two viz abundance of the plant material concerned and the highly reputed and successful use of *Phyllanthus niruri* L in jaundice, much work on modern clinical lines in this regard remains to be done. As such, this happens to be a very promising field of research.



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