International Journal of Herbal Medicine
Available online at www.florajournal.com

IJHM International Journal of Herbal Medicine

E-ISSN: 2321-2187
P-ISSN: 2394-0514
IJHM 2015; 3(5): 57-61
Received: 17-10-2015
Accepted: 21-11-2015

B Mahadev
SRF, THCRP, Regional Ayurveda Research Institute for Skin Disorders, CCRAS, New Rajiv Nagar, Payakapuram, Vijayawada, Andhra Pradesh, India

G Siva Ram
Senior Consultant, Regional Ayurveda Research Institute for Skin Disorders, CCRAS, New Rajiv Nagar, Payakapuram, Vijayawada, Andhra Pradesh, India

RS Chalapathi
Senior Consultant, Regional Ayurveda Research Institute for Skin Disorders, CCRAS, New Rajiv Nagar, Payakapuram, Vijayawada, Andhra Pradesh, India

V Subhose
Research Officer (Ay.), Regional Ayurveda Research Institute for Skin Disorders, CCRAS, New Rajiv Nagar, Payakapuram, Vijayawada, Andhra Pradesh, India

Correspondence:
B Mahadev
SRF, THCRP, Regional Ayurveda Research Institute for Skin Disorders, CCRAS, New Rajiv Nagar, Payakapuram, Vijayawada, Andhra Pradesh, India

An Insight into the Recent Entry of medicinal Plants into Ayurvedic Treasure

B Mahadev, G Siva Ram, RS Chalapathi and V Subhose

Abstract
Ayurveda is an eternal system of medicine which mainly depends on medicinal plants. Authoritative instructions of the sages to alleviate innumerable health hazards hold good even today. Several hundreds of medicinal plants have been mentioned in the *Samhita granthas* (authoritative scriptures). *Sangraha granthas* (compiled scriptures) and *Nighantus* (lexicons) introduced several new medicinal plants. This hierarchy of addition of new medicinal plants into the wealth of Ayurveda is ever continuing and Ayurveda, being a broad minded medicine endorses it to a great extent. Recently several new medicinal plants have been discovered and their usefulness has been deduced. Phytoconstituents and pharmacological properties attributed to these plants have been well emphasized keeping in view their medicinal potential. Their effectiveness has been found in varied disease conditions attributing to their immense pharmacological properties. These new plants can be undoubtedly incorporated into the Ayurvedic pharmacopoeia and they can be suitably utilized for the benefit of mankind. Incorporating these new plants and evolving into a better way is the basic phenomena of every science to grow by leaps and bounds. Hence here an insight has been made into the recent entry of some of the medicinal plants into Ayurvedic treasure. These plants should be sensibly used without disrupting the ecology and the ecological balance.

Keywords: Ayurveda, Medicinal plants, Medicine

1. Introduction
Ayurveda, the science of life utilizes medicinal plants to the fullest extent to offer solutions for various ailments. There is mentioning of around 700 medicinal plants in *Susruta Samhita* and around 300 medicinal plants in *Charaka Samhita.* Ayurveda is a science of broader view point which incorporates the recent advances also into it. In the recent years several new medicinal plants have been explored. From the *Nighantu* (lexicon) period hitherto recent times many new medicinal plants have been identified and they have been included into Ayurvedic treasure. Here an insight has been made into the recent entry of some medicinal plants. Their morphology, active ingredients and uses have been explained.
Medicinal plants like *Trichopus zeylanicus, Canthium parviflorum, Chloroxylon swietenia, Eupatorium triplinerve, Lagerstroemia speciosa, Toddalia asiatica, Morinda citrifolia, Peganum harmala, Hybanthus enneaspermus, Blepharis persica, Pergularia daemia, Azima tetracantha* have been explained.

Some Medicinal Plants Which Made Their Entry Into Ayurvedic Treasure

1. Trichopus zeylanicus GAERTN.

Fig: showing *Trichopus zeylanicus*

This is the now famous "Arogya Paccha" (green health) plant, brought into lime light by Dr. Pushpangadan and his team of Tropical Botanical Garden and Research Institute (TBGRI). It grows in Agastyamalai region of Peppara wild life sanctuary of Kerala. Its adaptogenic properties are almost similar to *Varahi* (*Dioscorea bulbifera* L.) of *Samhitas* (authoritative scriptures). This plant is widely used by "Kani" tribes of Tamilnadu and Kerala. These contain various glycolipids and non-steroidal compounds. They relieve fatigue. They are used for their immune-enhancing properties. They are also used to delay or postpone ageing [1].

2. *Canthium parviflorum* LAM.

Fig: showing *Canthium parviflorum*

This is an armed perennial shrub growing to a height of 1-2 m, available in South and South West India known as Kari and Balusu in Telugu. Fruits are sweet in taste and cooling. Roots are anthelminthic. Stem bark is astringent. This plant is used for its pharmacological importance as an anthelminthic, antidysenteric, antispasmodic and as a diuretic. Properties like anti-oxidant, anti-cancer, anti-microbial, anti-diabetic, anti-inflammatory and hypocholesterolaemia are also attributed to this plant. Leaves are highly nutritious, very tasty and are used as a pot herb for curry or chutney. They contain amino acids and β-carotene [2, 3].

3. *Chloroxylon swietenia* DC.

Fig: showing *Chloroxylon swietenia*

It is a medium sized tree growing to 5-20 m height. Bark is yellow in colour. Leaves are clustered towards the apex, 15-25 cm long and pinnately compound. Leaflets are in 10-20 pairs, oblong and light green. Flowers are white in panicles. Capsule is ovoid and 3-valved. It contains alkaloid skimminanine, furanocoumarin and xylotenin. Wood contains alkaloid chloroxylonine. Leaves are used in musculo-skeletal pains and are used externally in wounds and ulcers. Fresh leaves are used as a fumigative agent to repel mosquitoes. Leaf juice external application relieves body lice [4, 5].

4. *Eupatorium triplinerve* VAHL.

Fig: showing *Eupatorium triplinerve*

It is a small herb from American continent, now became a widespread weed all over India. It is famous with the name of Ayapan. Leaves are alternate, lanceolate, margins are sub-entire to lobed. Flowers are in capitula, involucre ovate to companulate. Fruits are achene, oblong cylindric and apex is truncate. Leaves contain 7-methoxy coumarin or ayapanin and 6, 7 – dimethoxycoumarin, carotene, vitamin C and stigmasterol. Leaves are used as styptic in various haemorrhagic conditions [6]. Rarely decoction of the plant is used in fevers [7].

5. *Lagerstroemia speciosa* (L.) PERS.

Fig: showing *Lagerstroemia speciosa*

It is commonly known as Jarul and used in Gujarat as Arjuna. It grows from Assam to west coast and also planted in the gardens. It is a medium sized tree, 12-20 m high. Leaves are 10-20 cm long, broad elliptic to oblong lanceolate. Flowers are in axillary or terminal panicles. Fruits are large capsules, 3-6 valved. Seeds are pale brown and winged. This plant contains arachidic, behenic, capric, caprylic, lauric, lignoceric, linoleic, myristic acids, isoleucine, methionine, ellagic acid, lageracetol and lagertannin. Corosolic acid is useful as an ingredient in medicines, cosmetics and health foods as it has been found to have pharmaceutical actions such as an anti-diabetic and a blood glucose level reducer. Pharmacological activities of it include anti-microbial, anti-inflammatory, anti-oxidant, anti-tussive and anti-viral properties [8]. Ripe leaves of this plant exhibit insulin like action and used in Diabetes mellitus. Bark powder is used as a cardiotonic [9].

6. *Toddalia asiatica* (L.) LAM.

Fig: showing *Toddalia asiatica*

This plant is known as wild chilli and used by villagers for its spicy action. It grows in all parts of Indian forests. It is a thorny, scandent shrub. Leaves are 3-foliate, leaflets are elliptic obovate and coriaceous. Flowes are white in axillary cymes. Fruits are globose, 3-5 grooved and orange coloured. Seeds are solitary in each cell. This plant contains skimmianine, toddaline, toddalinine, tooalolactone, toddanol and norchelyrethrin. Anti-pyretic, anti-inflammatory, analgesic, anti-viral, anti-microbial, wound healing, spasmolytic and anti-cancer properties have been identified in the pharmacological studies [10]. Leaves are used in fever. Infusion of the stem bark is widely used in body pains and arthritis. Fruits are decongestant and used in bronchitis and indigestion [11].

7. *Morinda citrifolia* L.

Fig: showing *Morinda citrifolia*

This plant is supposed to be *Aksiki*, mentioned in Ayurvedic literature and was used previously to extract blue dye from all parts of the plant. It is planted in the gardens, cultivated and found wild throughout the hotter parts. It is a small tree, with obtusely 4-angled branches. Leaves are broadly elliptic and acute. Flowers are white, borne in axillary or terminal panicled or umbellate peduncled heads. Fruits are many drupes, coalescent into a fleshy globose or ovoid head which looks like “eyes”. Seeds are ovoid or reniform. This plant contains morindine, morindone, alizarin, damnacanthol, asperuloside, α, β, γ-carotenes, cryptoxanthin, lutein etc [12]. Fruits and roots are used in diarrhea and dysentery. Stem bark is used in menorrhagia and leucorrhoea. Leaves are used externally in non-healing wounds. There are two more species which are also known with the name of *Aksiki* and they are *Morinda tinctoria* Roxb, variety *pubescens* and *Morinda umbellata* Linn [13].

8. *Peganum harmala* L.

Fig: showing *Peganum harmala*

This plant is known locally and in trade, as Harmal. It is not mentioned in any Ayurvedic literature. It grows in North West India and Western Ghats. It is a bushy, much branched plant with rich foliage. Leaves are alternate, 5-8 cm long and pinnatifidly cut. Flowers are solitary in axillary branches. Fruits are globose capsules. This plant mainly contains harmine, harmaline, vasicine, deoxyvasicinone, harmalol, harmalacidine, harmalacinine, harmalanine, harmalidine, harmidine, nor harmine, deoxypeganidine, kryptogenin etc [14]. This plant is used as a bronchodilator and antispasmodic. It is used in colic, bronchitis, amenorrhoea, dysmenorrhea and fevers [15].

9. *Hybanthus enneaspermus* (L.F.) MUELL.

Fig: showing *Hybanthus enneaspermus*

This plant is believed by some as *Sthala padma* and called in South India with the name of *Ratna Purusa.* It is a slender, small, erect herb growing upto 10-40 cm. Leaves are 1 or 2 at each node, oblong lanceolate or linear lanceolate, sub-sesile and crenate. Flowers are solitary and pink. Fruit is a capsule, ellipsoid and breaks into 3 parts. Whole plant is used in medicine and contains dipeptide alkaloid aurantiamide acetate, isoarborinol and β-sitosterol. This plant is popularly used as an aphrodisiac in male and female sterility. It is also useful in dysuria and leucorrhoea [16].

10. *Blepharis persica* (BURM.) O. KUNTZE

Fig: showing *Blepharis persica*

This is the famous *Utangana* of Unani medicine used by Ayurvedic physicians also. This plant grows wild in Punjab, Western Rajasthan and Pakistan. Seeds are usually imported from either Baluchistan or Afghanistan. It is a small grey, pubescent perennial herb. Stems are short 25-40 cm long. Leaves are 4 at each node, elliptic or oblong. Flowers are blue in heads. Fruit is a capsule and seeds are 2, compressed and orbicular. Seeds contain d1-allantoin, d-arnidol, blepharin, blepharigenin, benzoxazolone, catechol, diastose, lupeol, β-sitosterol- β-D-glucopyranoside. Seeds are mucilaginous and are used as aphrodisiacs along with other drugs but their therapeutic activity is doubtful. Roots are useful in menstrual disorders [17].

11. *Pergularia daemia* (FORSK.) CHOIV.

Fig: showing *Pergularia daemia*

It is a moderate climber grown in entire India in all climatic conditions. Entire plant is hispid. Leaves are ovate and cordate. Flowers are greenish yellow or white in pendulous corymbs. Fruits are follicles, short and echinate. This plant is known as *Uttamarani* in Sanskrit. This plant contains sterols, hentriacontane, lupeol, α-amyrine, β-amyranine, a cardio glycoside Uzarigening D-cymarose, D-sarmentose, L-oleandrose etc. It is used in bronchitis, chest pain, arthritis and worm infestation [18, 19].

12. *Azima tetracantha* LAM.

Fig: showing *Azima tetracantha*

It is a bushy shrub growing upto 1m height with sharp greenish spines on the branches. Leaves are 2 at each node, ovate, brittle and sharply acute. Female and male plants are separately grown and flowers small, greenish in fascicles. Fruits are white, globose and 4 mm in diameter. This plant grows in all hotter parts more so in south India. Leaves and stem contain dimeric piperidine alkaloids, azimine, azcarpine, carpaine, friedelin, glutinol, lupeol and β-sitosterol. Leaf extract possesses significant scavenging effect on the free radicals and inhibits peroxidation of lipid components and thereby acts as an effective antioxidant principle. [20] Its root, stem bark and leaves are used in neurological diseases. Leaf juice is highly efficacious in bronchitis and arthritis [21].

Discussion

Trichopus zeylanicus GAERTN. relieves fatigue and is used for its immune-enhancing properties. It is also used to delay or postpone ageing. *Canthium parviflorum* LAM. fruits are sweet in taste and cooling, roots are anthelminthic, stem bark is astringent and leaves are highly nutritious, very tasty and used as a pot herb for preparing curry or chutney. *Chloroxylon swietenia* DC. leaves are used in musculo-skeletal pains and are used externally in wounds and ulcers. Fresh leaves of it are used as a fumigative agent to repel mosquitoes. Leaf juice external application relieves body lice. *Eupatorium triplinerve* VAHL. leaves are used as styptic in various haemorrhagic conditions. *Lagerstroemia speciosa* (L.) PERS. ripe leaves exhibit insulin like action and are used in Diabetes mellitus. Bark powder of it is used as a cardiotonic.

Toddalia asiatica (L.) LAM. leaves are used in fever. Infusion of its stem bark is widely used in body pains and arthritis. Fruits of it are decongestant and used in bronchitis and indigestion. *Morinda citrifolia* L. fruits and roots are used in diarrhea and dysentery. Stem bark of it is used in menorrhagia and leucorrhoea. Leaves of it are used externally in non-healing wounds. *Peganum harmala* L. is used as a bronchodilator and antispasmodic. It is used in colic, bronchitis, amenorrhoea, dysmenorrhea and fevers. *Hybanthus enneaspermus* (L.F.) MUELL. is popularly used as an aphrodisiac in male and female sterility. It is also useful in dysuria and leucorrhoea. *Blepharis persica* (BURM.) O. KUNTZE is used as an aphrodisiac along with other drugs but their therapeutic activity is doubtful. Roots are useful in menstrual disorders. *Pergularia daemia* (FORSK.) CHOIV is used in bronchitis, chest pain, arthritis and worm infestation. *Azima tetracantha* LAM. root, stem bark and leaves are used in neurological diseases. Leaf juice of it is highly efficacious in bronchitis and arthritis.

Conclusion

These medicinal plants possess immense medicinal properties helping people fight diseases in a better way. Hence it can be said that they enhance the medicinal plant treasure of Ayurveda.

References

1. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:695.
2. Chandra Kala S. A review on Phytochemical and Pharmacological significance of *Canthium parviflorum* LAM., International Journal of Current Pharmaceutical Research. 2016; 8(1):1-3.
3. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition. 2006; I:685.
4. Reddya Naik Bannoth *et al*. Silver nanoparticle synthesis form leaf extract of *Chloroxylon swietenia* DC. as an

effective larvicide on Dengue vector Aedes albopictus. International Journal of Recent Scientific Research. 2014; 5(3):580-584.
5. Dr. Sitaram B. Bhavaprakasa of Bhavamisra, First Edition. 2006; I:685.
6. Bose PK, Sarkar BB. Haemostatic action of ayapin and ayapanin. Nature. 1937; 139(3516):515-517.
7. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:688.
8. Munish PAL, Deepika Thareja, Chandana Majee. *Lagerstroemia* species: a review. International Journal of Pharmacy. 2016; 6(1):95-98.
9. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition. 2006; I:690-691.
10. Raj kumar M, Chandra RH, Kaleab Asres, Ciddi Veereshem. *Toddalia asiatica* – a comprehensive review. Pharmacognosy Reviews, 2008; 2(4):386-397.
11. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:695.
12. Wang MY *et al* Acta Pharmacol Sin. 2002 23(12):1127-1141.
13. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:691-692.
14. Jinous Asgarpanah and Fereshteh Ramezanloo. Chemistry, pharmacology and medicinal properties of *Peganum harmala* L. African Journal of Pharmacy and Pharmacology. 2012; 6(22):1573-1580.
15. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:692.
16. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:689-690.
17. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:684-685.
18. Doss, SP. Anand. Preliminary Phytochemical Screening of *Asteracantha longifolia* and *Pergularia daemia*. World Applied Sciences Journal. 2012; 18(2):233-235.
19. Dr. Sitaram B. Bhavaprakasa of Bhavamisra, First Edition, 2006; I:692.
20. Muthuswamy P *et al.* Preliminary Phytochemical and Invitro Anti-oxidant Perspectives of the leaf extracts of *Azima tetracantha* LAM. International Journal of Pharma and Bio Sciences. 2012; 3(1).
21. Dr. Sitaram B. Bhavaprakasa of Bhavamisra First Edition, 2006; I:684.