



## Solanaceae Containing Medicinal Plants and Its Importance: An Overview

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### ABSTRACT

Solanaceae is an important name of plant family containing approximately more than two thousand species of different plants. These plants are cultivated in Asia as well as America, Europe and Africa. Solanaceae is a potent source of resins, alkaloids specially glyco and tropane alkaloids. Different types of plants are Belladonna, Datura, Hyoscyamus, Stramonium, Duboisia, Capsicum, Ashwagandha, Solanum, Tobacco, etc. The plants from this family member are a rich content for medicinal world due to their different properties associated with medicinal as well as pharmacological activities. Beside those family plants are also used as nutrient, spice and food. These medicinal plants show the anticholinergic activities due to the presence of parasympatholytic properties. They are also useful for treatment of different types of nervous disorders. These plants exhibit anti-asthmatic properties. Therefore, these plants relieve the patients from cough. Some plants control rigidity of muscles, sweat, gastric juice and salivation. Few plants are also used to treat gastric ulcers.

**Keywords:** Solanaceae, Resins, Alkaloids, Belladonna, Datura, Hyoscyamus, Stramonium, Duboisia, Capsicum, Ashwagandha, Solanum, Tobacco.

### INTRODUCTION

Family is an essential taxonomical part of the plant. Solanaceae is one of them. Many plants fall under this family member. Most of them are medicinally and pharmacologically active plants. Therefore, these plants are the rich sources of medicine and nutrition. They are also very popular in ethnobotanical world. Various parts of these herbs can be used as daily household as different activities. The parts of plants contain resins, Glyco alkaloids, Tropane alkaloids, etc.

Alkaloids are basically heterogeneous classes of natural materials while tropane nucleus follows the combination of methylated nitrogen, piperidine and pyrrolidine ring. Glyco alkaloid is Solanum whereas tropane alkaloid is Belladonna. Other examples of tropane alkaloids are Datura, Duboisia, Hyoscyamus, etc. These herbs are cultivated in India associating different parts of Asia, Europe, America and Parts of Africa. These herbs can also very useful as food and spice.

The medicinal plants are very strong anticholinergic. They exhibit parasympatholytic activities. They can produce cerebral excitement. Therefore, these medicinal plants are used for the treatment and management of various types of neurological problems. Some plants like Datura with the strength of morphine can be used as preoperative medication cum preparation. Datura also shows as one of the most powerful plants for the treatment of peptic and duodenal ulcers. Few plants can also be used for the treatment of motion sickness, cough as well as asthma. Beside they are also very powerful antispasmodic agent<sup>1,2</sup>.

**Table 1:** List of Medicinal Plants under Solanaceae Family<sup>1,2</sup>

List of Medicinal Plants	
	Belladonna
	Datura
	Stramonium
	Duboisia
	Hyoscyamus
	Capsicum
	Ashwagandha
	Solanum
	Tobacco
	Mandrogora
	Scopolia
	Wolfberry
	Solandra
	Physoclaina
	Boxthorn
	Physalis
	Nicandra
	Cestrum
	Brugmansia
	Anthocercis
	lochroma
	Brunfelsi



## PLANTS DESCRIPTION

### Belladonna

It is one of the important plants under Solanaceae family. Various synonyms associated with Belladonna are present like Deadly night shade leaf, Belladonna Folium, Belladonna leaf, etc. Deadly night shade leaf is basically known as European belladonna. Generally dried leaves or aerial parts of the plants are used. The scientific name is *Atropa Belladonna* or *Atropa Acuminata* for European belladonna and Indian belladonna respectively. The dried leaves or aerial parts are collected when the plants are showing the flower. It is grown in India basically in Jammu & Kashmir, Simla, Himachal Pradesh, West Himalayas. It is also cultivated in England associating with Europe. The leaves of the plants are Green or brownish green in color. The leaves are 5-25 cm long. The flowers are yellowish brown or purple in color. The fruits are greenish brown. The odor is characteristic. The taste is acrid and bitter. The leaves are ovate or lanceolate in shapes. Apex is acuminate in the leaves. Decurrent lamina is found in the leaves. The margin is present in the leaf. The flowers are campanulate in shape. The fruits are sub globular in shape with flat seeds. The microscopic characters of the plants are very interesting. The leaves contain epidermal cells with anisocytic stomata. Multicellular uniseriate trichomes are found in the leaves. Glandular trichomes are also found in the leaves. Straight cuticles are observed in the leaves. The palisade ratio is ranging from five to seven. The plants contain belladonine, scopoletin, hyoscine, homotropine, atropine, pyridine and N-methyl pyrrolidine. It is used as anticholinergics. It is also used as antispasmodic for the removal of spasm. It reduces saliva, sweat and gastric juice. It is very useful for treatment of poisoning from opium and chloral hydrate <sup>1,2,3</sup>.

### Datura

Datura is very crucial plant members in Solanaceae family. The synonym is Datura herb as well as Angel's trumpet. The useful parts are dried leaves and flowering top. The scientific name is *Datura metel*. It is observed in India, England and some tropical areas of the World. The cultivation is done via sowing the 7-8 kg seeds. The seeds germinate within 20 days time. The germination rate is increased when the seed absorbs the water by keeping the seeds overnight. The macroscopic characters of the plants are very important. The leaves are bitter in taste and unpleasant in odor. The leaves are acute or rounded in shape. The margin of the leaf is of entire. The leaves had thin texture. Glabrous lamina is present in the leaf. The apex is acute. The leaf is also unequal. Coarse veins and secondary veins are also present in the leaves. The flowers are reddish purple at outer surface whereas white at inner surface. Funnel like flowers are present. The corolla of flower is circular, thin, triangular and acuminate in shape. The seeds are brown colored. The triangular types of seeds are originated in thorny capsule. The color of the stem is purple. The microscopic characters show the dorsiventral types. Cruciferous or anisocytic stomata are present in the

epidermal cell. Glandular, non glandular trichomes are also found in the epidermal cell or midrib. The range of palisade ratio is from 3.5 to 6.5. Spongy parenchyma cells are observed. Spongy parenchyma contains calcium oxalate crystals. Datura contains scopolamine, scopolamine, atropine, hyoscine. Datura is powerful anticholinergics. It is useful for the treatment of cough as well as asthma. It is very useful for the treatment and management of gastric ulcers. It produces cerebral excitement. It is also acted as powerful preoperative medications when it is used along with morphine. It is very good in the treatment of motion sickness <sup>1,2,4,5</sup>.

### Stramonium

It is also very common plant. It composed of flowering top and dried leaves of the plant. *Datura stramonium* is the scientific name. It is cultivated in South America, France, Hungary, Germany, and United States. Stramonium is developing via seeds sowing. Mainly calcareous soil is required for cultivation purposes. The flowers come usually in the month of September. Before flowering and during the flowering tops, the leaves are basically collected. The leaves are bitter. The color of the leaf is green, gray or greenish gray. The odor is unpleasant. The leaves are ovate in shape. The leaves are having very short petiole. The flowers are purple or white colored. The flowers are funnel typed in shape. The leaves are brittle and very thin. The acute apex is observed. The margin is dentate. The flowers are solitary. The corolla is also funnel shaped where as the calyx sharp is folded in shape. Five stamens are also observed. Anisocytic stomata and uniseriate multicellular trichomes are observed in the epidermal cell. This type of stomata is present in lower epidermis basically. Palisade is present on top surface. Bicolateral structure is seen in the midrib of the leaf. Hypodermal collenchyma is present in the midrib. It contains atropine, l-hyoscyamine, hyoscine, fixed oil. It confirms Vitali Morin reaction. The leaves are very useful for asthma. It regulates the rigidity of the muscle and salivation. It is also useful as sedative and motion sickness. It depresses the nerve endings <sup>1,2,6</sup>.

### Duboisia

It is commonly known as cork tree or cork wood. Dried leaves are used. It includes scientific name like *Duboisia myoporoides* or *Duboisia leichhardtii*. It is located in Sydney, North Queensland, etc. The bark is purple colored. The leaves are tapering. The color of the leaf is green whereas the taste is bitter. It contains atropine, scopolamine, l-hyoscyamine, nor-hyoscyamine, tigloidine, valtropine, tiglyoxytropine. It shows Vitali Morin test. It is parasympatholytic agent. It produces central stimulation. It reduces gastric juice secretion. It also reduces rigidity and tremor in parkinsonism. It dilates the pupil of the eye. Hence it is used for the ophthalmic purposes. It reduces bronchial spasms. It is used for the treatment of stomach disorders such as peptic ulcer, asthma and motion sickness. It is also used as analgesic and antispasmodic <sup>1,2,7,8</sup>.



## Hyoscyamus

It is another one important medicinal plant under this family member. Hyoscyamus is commonly known as Henbane. The scientific name is *Hyoscyamus niger*. The useful parts are dried leaves as well as flowering top. It is grown through the seeds sowing. Two weeks time was taken for the seed germination. The plant's location is in Europe, North Africa, West Asia, India, etc. It is also cultivated and propagated in Hungary, Belgium, Russia, etc. The leaves are oblong in shape. The margin of the leaf is acute triangular lobes. The acute type of apex is present. Glandular hair is covering with the outside of the long lamina. Shorter petiole are also seen. The funnel type flowers are found. The flowers are yellow colored. The microscopic character gives the dorsivenral nature type of leaves. Anisocytic stomata are found in the layer of epidermis. The epidermal cell is composed of glandular trichomes. Midrib of the leaves provide bicollateral vascular bundles. The leaves contain hyoscyamine, tropic acid, tropine, and atropine. Datura herb shows Vitali Morin test. It is used as counteract gripping. It is used to treat spasms as an antispasmodic agent. It is also used as sedative. It controls salivation. It is useful as anti-asthmatic and expectorant<sup>1,2,9</sup>.

## Capsicum

Capsicum is very common in India. The synonym is chilies or cayenne pepper. The parts used of capsicum are dried ripe fruits. *Capsicum annum* is the scientific name. It is cultivated in East as well as West Africa and India. It is observed in the state of Andhra Pradesh, Tamil Nadu, Gujrat, and Uttar Pradesh, Assam in India. The seeds are sowing in the first stage of cultivation. One month old seedlings are transplanted. The crop is harvested after six months. The fruits in ripe conditions are collected by hands and dried under sunny weather. Capsicum is usually cultivated in warm dry climate. Fine drained soil is necessary for natural growth and cultivation. The color of the fruit is orange reddish brown. The odor is characteristic. The taste is pungent. The fruits are oblong or conical in shape. The fruits are approximate 12 to 25 cm in length. Pedicel with calyx is found in capsicum. The surface is glabrous. It has capsaicin, carotene, ascorbic acid, capsanthin, and thiamine. It also contains proteins and fixed oil. It is used as appetizer, spices, carminative, and stomachic. It is also used for the treatment of neuralgia, rheumatism, and lumbago<sup>1,2,10</sup>.

## Ashwagandha

It is having synonym of Asgandh, Withania root, Winter Cherry. Ashwagandha (*Withania somnifera*) roots in dried conditions and steam bases are generally used. It is cultivated in India, South Africa, Morocco, Congo, Jordan, etc. It is found in Uttar Pradesh, Madhya Pradesh, Punjab, Rajasthan, and Gujarat in India. The cultivation is done by sowing the seeds in the month of June-July. Nitrogenous fertilizer is used generally to grow the plant. The harvesting is completed in the month of December or January. The

whole plant is uprooted. The roots are collected and dried on immediate basis. The root is yellowish grey in color. Longitudinal wrinkles are observed in the roots. The roots are conical and straight in shape whereas the roots are bitter is taste. The smell of the roots is very similar to the horse urine. The fracture is powdery and smooth. Phellogen and phelloderm are seen in the microscopic characters of the roots. Phloem with parenchyma, secondary xylem pericyclic fibres, starch grains, fibres, tracheids xylems are also observed in the roots. The dried root and stem bases of ashwagandha contain full of steroidal lactones and alkaloids like anaferine, DI-isopelletierine, pseudo-withanine, tropine, somniferine, somnine, somniferinine, withananine, pseudo tropine, choline, 3- $\alpha$ -gloyloxytropane, cuscohygrine, anahydrine, isopelletierine, sitoindoside VII and sitoindoside VIII. It also contains withaferin, withaferin A, withanolide A, withanolide E, withanolide M, somnitol, ipuranol, phytosterol, somnirol, oleic acid, cerotic acid, stearic acid, palmitic acid. Ashwagandha is used as sedative and hypnotic agent. It is also used as hypotensive, immuno modulatory, and mood stabilizer. It is used for the treatment of rheumatism, hypertension gout, skin and nervine diseases. It is also used as sex stimulant. It produces bradycardia. It is very useful for the management of stress. Therefore these are showing anti-stress properties<sup>1,2,11-15</sup>.

## Solanum

It is one of the plants from the family Solanaceae background. Solanum consists of dried berries from the plant *Solanum khasianum*. It is usually found in coastal areas or hill areas. It is observed in different parts of Asia covering India like Assam, Sikkim, Manipur, Nilgiris, and Central India. Now the plant is commercially cultivated in the state of India like Maharashtra. It is also found in China and Myanmar. The plant is very highly branched. The seed is brown. The seeds are very smooth in texture. The leaves are ovate in shape. The flowers are white in color whereas the berries are green or yellow in color. The berries are attached with compressed seeds. The berries are 2.5 cm in diameter. The plant is 1-1.5 metre tall. The plants are cultivated by propagating the seeds. The seeds are sown in the month of February. The seeds are sealed with the sand. Sunny climate is required for growing of the plant. The requirement of soil is also very necessary for the growing of the plant. Well drained soil is required for the nourishment of the plant. Various types of fertilizers like potash, urea, and superphosphate are used generally. The irrigation is usually held once in a week at very earlier stage. After that the irrigation is done as per the requirements needed. The berries are collected after six months. The berries are dried and powdered immediately after the collection to remove the moisture or oil by defatting. For the collection of active ingredient solasodine, the defatted substance is extracted with ethanol and concentrated with hydrochloric acid. The mixture is then refluxed upto 6 hours. Ammonia is immediately inserted into it and again refluxes for 1 hour



only. The extract residue is filtered, washed, dried, powdered and mixed in chloroform. The mixture is evaporated and finally solasodine is collected or isolated. The berries contain solasodine, solakhasianin, mucilage, fixed oil, rhamnose, galactose. The color of the fixed oil present here is yellowish green. It is having solasodine. Therefore solasodine is very essential molecule for the preparation of steroidal nucleus as well as oral contraceptives and sex hormones. Another most important species of solanum are *Solanum inacanum*, *Solanum indicum*, *Solanum surratense*, *Solanum seaforthianum*, *Solanum mammosum*, *Solanum trilobatum*, *Solanum eleatnifolium*<sup>1,2,16-18</sup>.

### Tobacco

It is very common plant. The leaves in dry conditions are basically used. The scientific name of the plant is *Nicotiana tobacum*. It is found in United States, China and India. China and India are the major sources of tobacco. Other countries are Russia, Brazil, Turkey, Italy, etc. In India, it is usually observed in the state of Bihar, Orissa, Gujrat, Andhra Pradesh and Karnataka. The height of the plant is overall 1-1.3 cm. The plant had few branches and thick stem. It has brown or green leaves. The odor is characteristic to nicotine. The taste is bitter. The shape of the leaves is elliptic, ovate or lanceolate. Approximately 20 leaves containing 80 cm in length are found. The flowers are pink, light red or white in color. The fruits are ovoid in shape. The size of the fruit is 1.5-2 cm. The size of the seeds is 0.5 mm in diameter. The seed is brown and spherical. The leaves are sessile and petiolate. Different varieties of the plant is cultivated and collected in India. The seed is generally sown in winter season for cultivation purposes. The seeds are transplanted when they are 12 weeks old. The flowering tops are cutting to continue the plant growth and nourishment. Harvesting is possible only after approximate 90 days of transplantation. Tobacco contains nicotine, nor nicotine and anabasine. Nicotine is used as strong insecticide. Therefore it is very efficient against different types of insects. Nicotine is also showing stimulant effect on nerves and heart. Nicotine is used for the preparation of nicotinamide and nicotinic acid<sup>1,2,19-24</sup>.

### Mandragora

It is found in Spain, Sicily, Crete, Germany, etc. The common name is Mandrake. *Mandragora officinarum* is the scientific name. Other Species of Mandragora is *Mandragora caulescens*, *Mandragora turcomanica*, *Mandragora acaulis*, *Mandragora autumnalis* and *Mandragora vernalis*. The kingdom is Plantae. The leaves are simple but long. The berry is orange or yellow. The roots are thickened with branches. The flowers are blue or light greenish white or violet. The fruits came in the plant in the month of early summer whereas the flowers are growing in the spring season. It contains hyoscyamine, Cuscohygine, Apoatropine, Belladonnine, Sitosterol, Rhamnose, Glucose, Fructose, Sucrose and  $\beta$ -methylesculetin. It is used as an anticholinergic. It has hypnotic and psychoactive effects<sup>1,2,25</sup>.

### Scopolia

Scopolia is the plant under Solanaceae family. The scientific name is *Scopolia carniolica*. It is cultivated in different parts of the World like Europe. The leaves are ovate in shape. The plants are very small. It contains scopolamine, atropine, anisodine, anisodamine, scopalamine, hyoscyamine and cuscohygrine. It is used for the treatment of motion sickness. It is also used as anti-spasmodic agent due to its smooth muscle relaxant properties. Other species are *Scopolia tangutica*<sup>1,2,26,27</sup>.

### Wolfberry

It is commonly known as acai berry, goji berry, med berry, Chinese berry, etc. The scientific name is *Lycium barbarum* or *Lycium chinense*. Other species are *Lycium dasystemum*, *Lycium ruthenicum*, *Lycium eylindricum*, *Lycium truncatum*. It is found in North Africa, North America, Central and South Europe and West Asia. Wolfberry contains carbohydrate, fat, dietary fibers, proteins,  $\beta$ -sitosterol, zeaxanthin, lycopene, linolic acid,  $\beta$ -carotene, lutein, cryptoxanthin, xanthophylls, phenols, etc. It is showing antioxidant properties. Therefore these are used as anti-aging agent. It is used as immune modulatory agent as well as cytoprotective agent. It is also used as neuro modulatory agent<sup>2,28,29</sup>.

### Solandra

It is found in Italy, Mexico, South America, West Indies and Europe. The scientific name is *Solandra maxima*. It is the plant containing single flowered. The calyx and corolla were found. The shape of fruit is conical whereas the shape of seed is round or reniform<sup>1,30</sup>.

### Physoclaina

The scientific name is *Physoclaina physaloides*. It contains apigenin-7-O- $\beta$ -D-glucoside, scopolamine-N-oxide, adenosine, apigenin, nicotiflorin, narcissin, luteolin, quercetin, narirutin, luteolin-7-O- $\beta$ -D-glucuronide, cynaroside,  $\alpha$ -belladonnine, neoisorutin, geniposide, hyoscyamine, scopolamine, swertiamarine,  $\beta$ -belladonnine, catalpin, atropine, rutin and sophocarpine<sup>1,31</sup>.

### Boxthorn

The genus is Lycium. Many species like *Lycium afrum*, *Lycium barbarum*, *Lycium europaeum*, etc are available in the World. The dried fruits are used. It is used for the treatment of inflammation, anaemia and sore eyes<sup>2,32</sup>.

### Physalis

It is having common synonym of Cape gooseberry. The genus is Physalis. The species are *Physalis peruviana*, *Physalis alkekengi*, *Physalis angulata* and *Physalis minima*. The orange color small dried fruit is used. It is used in desserts as well as salads for their flavors. It contains  $\beta$ -sitosterol, lanosterol, palmitoleic acid, oleic acid, linoleic acid, palmitic acid, linolenic acid, gadoleic acid, erucic acid, nervonic acid, lignoceric acid, stigmasterol, ergosterol,



myricetin, quercetin, pyrogallol, rutin, kaempferol, physalin,  $\gamma$ -terpinene and carotenoids. It is used as anti-inflammatory, antidiabetic, antileishmanial, antibacterial, antiulcer, anti-asthmatic, anti-fertility, antioxidant, diabetic, and anticholinergic agent<sup>2,33,34</sup>.

### Nicandra

The scientific name is *Nicandra physaloides*. It is commonly known as shoofly plant, broadleaf-nightshade, Giftbeere, ballongblomma and Apple of Peru. The plant is 1 meter in height. The leaves are ovate. The seeds are light brown in color whereas the fruit is yellow in color. The dried fruits are composed of seeds. The stems are hairless and angular. The taproots are present. The flowers are pale violet. The epidermis is coated by trichomes. The corolla is blue in color. The gynoecium, androecium and calyx are found. It is cultivated in waste land with road side. It is used as an analgesics, antibacterial, diuretic, antidiabetic, antipyretic, mydriatic and vermifuge. It is used for the treatment of influenza, urinary tract infections, rheumatoid arthritis and nasosinusitis. It contains nicandrin B, 6-hydroxykynurenic acid, aperuvine E and nicglycoside A–C. It is also having insect repellent properties<sup>2,35,36</sup>.

### Cestrum

*Cestrum nocturnum* is vital species in Solanaceae family. Other species are *Cestrum fasciculatum* and *Cestrum bengahalensis*. The common names are queen of the night, night blooming jasmine, hasnuhana, night blooming jessamine, lady of the night, raat ki rani and night blooming cestrum. It is grown in West Bengal, India. The leaf is ovate or lanceolate in shape. The corolla color is violet or red. The leaf base is round or obtuse. The leaf lamina is pubescent or glabrescent. The leaf is yellowish brown. The calyx and pedicel are found. Nutritious clay soil is required for their cultivation<sup>2,37,38</sup>.

### Brugmansia

Various species of Brugmansia are *Brugmansia vulcanicola*, *Brugmansia suaveolens*, *Brugmansia sanguine*, *Brugmansia aurea*, *Brugmansia arborea*, *Brugmansia insignis* and *Brugmansia versicolor*. The common name is Angel's trumpet. The genus is Brugmansia. It is found in America, Africa, Europe, Asia and Australia. It contains hyoscyamine, apo-hyoscyamine, meteloidine, norhyoscyamine, noratropine, atropine, scopolamine, cuscohygrine, pseudotropine, tropine, meteloidine, apoatropine, aposcopolamine, scopine, hyoscyamine. It is used as muscle relaxant, antimicrobial, antinociceptive, anti-rheumatic, anti-inflammatory, insecticidal, antiulcer, anti-asthma, anti-parkinsonism, wound healing, antispasmodic, nematocidal, etc. It is also used for the treatment of skin rash, burn, vaginal infections, fungal infections, swelling and hemorrhoids<sup>2,39,40</sup>.

### Anthocercis

It is commonly known as tailflower. It is found in Australia. The genus is Anthocercis. Various species are *Anthocercis*

*aromatica*, *Anthocercis anisantha*, *Anthocercis angustifolia*, *Anthocercis genistoides* and *Anthocercis fasciculate*. It contains tropane alkaloids, resins, etc. Glandular trichomes are seen<sup>2,41</sup>.

### Lochroma

Various species are *Lochroma confertiflorum*, *Lochroma ayabacense*, *Lochroma albianthum*, *Lochroma cornifolium*, *Lochroma calycinum*, *Lochroma australe*. The genus is lochroma. The leaves are simple. The apex is acute. The flowers are bisexual. The corolla is having 5 lobes. The plant is 2 meters in tall. The lamina is elliptic. It is cultivated in road side or damp areas. It is found in South and Central America like Peru, Brazil, Colombia, Ecuador, Costa Rica, Venezuela and Nicaragua), Southern Mexico and India. The flowers and fruits came in the month of april to june. The berries are globose<sup>2,42,43</sup>.

### Brunfelsia

It is commonly known as "lady of the night". Various species are *Brunfelsia americana*, *Brunfelsia grandiflora*, *Brunfelsia pauciflora* and *Brunfelsia hopeana*. The genus is Brunfelsia. It is grown basically in South America. The plant is also called as "yesterday, today and tomorrow" due to the presence of color changing properties. It contains aesculetin, brunfelsamidine, manaceine, coumarins, metilendiamine, scopoletin, manacine, scopolamine, steroidic saponins and cuscohygrine. It is found in Central America (USA, Costa Rica, Nicaragua), South America (Brazil, Colombia, Peru, Ecuador and Bolivia). The length of the leaf is 10-23 cm. The calyx and pedicel are found. Violet or white flowers are seen. It is used for the treatment of different types of digestive and skin disorders. It is having insecticidal properties. It is having antioxidant and antimicrobial activities<sup>2,44,45</sup>.

### CONCLUSION

Solanaceae is an important family of medicinal plants. The medicinal plants under this family are showing different types of pharmacological properties. These plants act as anticholinergic, neuro modulatory, immuno modulatory, antioxidant, anti-stress, anti-rheumatic, anti-gout, carminative, spice, appetizer, anti-asthmatic, sedative, hypnotic, anti-ulcer agent, etc. These plants are also used for the treatment of different types of neurological disorders. It is also useful against cough. Some plants like tobacco are strong insecticide. Few plants under this family have a role of controlling sweat, saliva and muscular rigidity. Besides medicinal plant is showing their antispasmodic properties by relaxation of smooth muscles. These are also helpful for treating hypertension. The plants show bradycardia. Various parts like leaves, stem, bark, roots, etc are used. Different phytochemicals like atropine, scopolamine, hyoscyamine, tropine, tropic acid, etc present in the plants. Various plants species like *Datura*, *Ashwagandha*, *Belladonna*, *Capsicum*, etc under Solanaceae family are having their greater significance cum importance in the medicinal world.



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