Journal of Pharmacognosy and Phytotherapy Vol. 2(3) pp. 34-42, April 2010
Available online at http://www.academicjournals.org/jpp
ISSN 2141-2502 © 2010 Academic Journals

Full Length Research Paper

Argyreia speciosa Linn. f. : Phytochemistry, pharmacognosy and pharmacological studies

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Accepted 21 January, 2010

Many herbal remedies have been employed in various medical systems for the treatment and management of different diseases. The plant, *Argyreia speciosa* Linn. f. (Syn: *Argyreia nervosa*) belongs to family convolvulaceae has been used in different system of traditional medication for the treatment of diseases and ailments of human beings. It is reported to contain various alkaloids, glycosides, falconoid glycoside and steroids. It has been reported as antimicrobial, antidiarrhoeal, hepatoprotective, nootropic, anticonvulsant, central nervous system, hypoglycemic, antioxidant, antibacterial, antiviral, nematicidal, aphordiasic, immunomodulatory, analgesic and anti-inflammatory activity. Many isolated constituents from *A. speciosa* lack the reports of pharmacological activities, which support its further pharmacological studies.

Key words: *Argyreia speciosa*, pharmacognosy, pharmacology, traditional uses.

INTRODUCTION

Plants have played a significant role in maintaining human health and improving the quality of human life for thousands of years and have served humans well as valuable components of medicines, seasonings, beverages, cosmetics and dyes. Herbal medicine is based on the premise that plants contain natural substances that can promote health and alleviate illness. In recent times, focus on plant research has increased all over the world and a large body of evidence has collected to show immense potential of medicinal plants used in various traditional systems. Today, we are witnessing a great deal of public interest in the use of herbal remedies (Arulmozhi and Narayanan, 2007). Furthermore; many western drugs had their origin in plant extract. There are many herbs, which are predominantly used to treat cardiovascular problems, liver disorders, central nervous system, digestive and metabolic disorders (Arulmozhi and Narayanan, 2007). Given their potential to produce significant therapeutic effect, they can be useful as drug or supplement in the treatment/management of various diseases. Herbal drugs or medicinal plants, their extracts and their isolated compound(s) have demonstrated spectrum of biological activities. Such have been used and continued to be used as medicine in folklore or food supplement for various disorders. Ethno-pharmacological studies on such herbs/medicinally important plants continue to interest investigators throughout the world. One such plant, *A. speciosa* (Linn.f.) sweet, invites attention of the researchers worldwide for its pharmacological activities ranging from aphordiasic to nematicidal activistties (Subramonium et al., 2007; Gokhle et al., 2003; Habbu et al., 2008; Galani and Patel, 2009; Hemet et al., 2008; Hanu-manthachar et al., 2007; Srivastava et al., 1992; Vyavhare and Bodhankar, 2009; Bachhav et al., 2009; George and Pandalai, 1949; Mishra and Chaturvedi, 1978; Shukla et al., 1999; Babber et al., 1978; Parveen et al., 1990). *A. speciosa* (Linn.f.) sweet belongs to family convolvulaceae is a climbing shrub with woody tomentose stem, found mainly in Descant, Karntaka and East slopes of the West Chats at an altitude of 900 m^2. It is commonly known as Elephant creeper and in Samudra-sok Hindi (Warrier et al., 1997). Traditionally, leaves are used by Rajasthani tribes to prevent concep-

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Figure 1. Leaves, flower and seed part of *A. speciosa.*

tion (The Wealth of India: Raw materials, 2004). Seeds of *A. nervosa* found to possess hypotension, spamolytic (Agarwal and Rastogi 1974a) and anti-inflammatory activity (Gokhale et al., 2002). Chemical analysis revealed the presence of triterpenoids, flavanoids, steroids and lipids (Srivatasav et al., 1998). Roots of *A. nervosa* proved the immunomodulatory activity against the myelosuppressive effects induced by Cyclophosphamide (Gokhale et al., 2003). 24R-ergost-5- en-11-oxo-3 beta-ol alpha –D glucopyranoside xylose was isolated from seeds of *A. nervosa* known as Argyreioside (Rahman et al., 2003).

CLASSIFICATION (**http://plants.usda.gov, accessed at 2/11/09**)

Kingdom: Plantae – Plants
Subkingdom: Tracheobionta – Vascular plants
Super division: Spermatophyta – Seed plants
Division: Magnoliophyta – Flowering plants
Class: Magnoliopsida – Dicotyledons
Subclass: Asteridae
Order: Solanales
Family: Convolvulaceae.
Genus : Argyreia Lour. – *Argyreia*
Species : *Argyreia nervosa* (Burm. f.) Bojer

Botanical description (Figure 1)

A very large climber; stem stout, white-tomentose. Leaves are 7.5 - 30.0 cm in diameter, acute, ovate, glabrous above and persistently white-tomentose beneath, base cordate, petioles 5 - 15 cm long and white-tomentose. Flowers in subcapitate cymes; penduncles 7.5 - 15 cm long, stout, white-tomentose; bracts large, ovate-lanceolate with a long acumen, thin, veined, pubescent outside, glabrous inside, deciduous the outer sometimes 5 cm long; pedicels very short often almost 0, white-tomentose, calyx white-tomentose outside; corolla 5 - 6.3 cm long, tubular-infundibuliform, the bands silky pubescent outside, tube somewhat inflated, white pubescent outside, rose purple and glabrous inside. Ovary glabrous, fruit glabrous, 2.0 cm in diameter, apiculate (Kirtikar et al., 1981).

Parts used

Roots, leaves, seeds, flower etc.

Synonyms

Bea. Bichtawk, Eng: Elephant Creeper, woollyMorning-Glory; Guj. Samudrusoka. Samndrashoka, Hindi: Sumundar-ka-put, Suruudrashok Kan: Chandrapada: Mal: Samudrapala: mar: Samudrashokha Ori: Bryddhotereko Tam: Samuddirapacchai; Tel: Chandrapada, Samudrapala (Reviews on Indian medicinal plants**,** 2004).

Ayurvedic description (Reviews on Indian medicinal plants, 2004)

Sanskrit name : Vriddhadaruka, Synonyms : Avegi, Chagalantri
Properties: Rasa: Kuru, tikta, kasaya; Guna : Laghu, snigdha, sara; Virya : Usna.

Action

Vatakaphahara,sukravardhaka,vrsya,balya,rasayana.Medhya, swarakantikara.

Therapeutic uses (Reviews on Indian medicinal plants, 2004)

Klibato, daurbalya, amavata, vatarsa. Sotha.

Traditional uses

Plant

In stomach complaints, sores on foot, small pox, syphilis, dysentery and diarrhea (The useful plants of India, 2000; Guhabakshi et al., 1999).

Leaf

Antiphlogistic, emollient, poultices of wounds, externally for skin disease, gleet, gonorrhoea and chronic ulcers. Also used as a local stimulant and rubefacient (The Wealth of India: Raw materials, 2004; Kirtikar et al., 1981). Externally used in the treatment of ringworm. Eczema, itch and other skin diseases (The Wealth of India: Raw materials, 2004).

Root

Appetitiser, anaemia, aphrodisiac, anti–inflammatory, brain-tonic, cardiotonic, cerebral disorders, diabetes, expectorant, obesity, syphilius, tuberculosis, ulcers and wounds (Nandkarni 1995; Krishnaveni and Thaakur, 2009).

PHARMACOGNOSTIC STUDIES

The Macro- and micro-scopical features of the root, stem and leaf have been studied.

Root

Macroscopical

The commercial samples of the root vary in size as well as in thickness. The thin pieces of the root usually 2 - 4 mm in diameter show somewhat smooth brownish exterior. When cut transversely such pieces show a thin periderm and cambium appearing as a dark line almost midway between the centre and the outer circumference separating the outer phloem from inner central wood. The thicker pieces of the root 5 - 25 mm in diameter or even more have a rough exterior due to the presence of large number of lenticels. A transversely cut surface of such root shows colourless tertiary phloem and a pink coloured crescent shaped tertiary xylem (Singh, 1965; Singh, 1972; Prasad and Chauhan, 1975).

Microscopical (Figure 2)

Microscopically, the young root shows an epidermis composed of small cubical parenchymatous cells, follo-wed by a wide cortex consisting of mostly isodiametric or in some cases, slightly oval cells. The primary vascular structure is tetrarch to pentarch. The mature root possesses a narrow periderm of 6 - 8 layers of cork cells, a single layer of phellogen and 10 - 12 layers of phelloderm cells, the phelloderm cells close to the phellogen are somewhat tangentially elongated and thin walled but become gradually polyhedral. Some of them possess rosette crystals of calcium oxalate. The secondary phloem is a wide zone, consisting of sieve tube elements with companion cells and phloem parenchyma. Resin canals, small strands of tertiary xylem and tertiary phloem a found scattered throughout the region. The secondary xylem is composed of large xylem vessels, tracheids, fibre tracheids and fibres. The vessels arc drum shaped, having bordered pits on the walls. The tracheids are cylindrical and possess bordered pits on the walls. The wood fibres are long and tapering with pointed ends (Singh, 1965; Singh, 1972; Prasad and Chauhan, 1975).

Stem

Macroscopical

The stem is white and tomentose in young stages. The older stem (25 mm or so thick show vertical ridges and numerous lenticels, which are mostly transversely elongated) (Singh, 1965; Singh, 1972; Prasad and Chauhan, 1975).

Microscopical

The young stem microscopically, shows nonglandular hairs, which are uniseriate, multicellular and usually 3-celled. Resin canals are distributed throughout the cortex. Following the cortex is an amphiphloic siphonostele. The mature stem shows the cork composed of 10 - 15 layers of cells, which are stratified due to alternate arrangement of 3 - 4 layers of large cells, followed by almost equal number of shorter cells. The secondary phloem is wide and occupies the greater portion. A tertiary cambium arises in the secondary phloem and gives rise to tertiary phloem and tertiary xylem strands. The xylem vessels are drum shaped with well marked perforation rims. A few vessels are long and cylindrical. They have all bordered pits on the walls. The tracheids are longer than the vessels. These also have bordered pits on the walls and there are no end wall opening.

The xylem fibres are long with pointed tapering ends and short lumen. They are however, shorter and narrower as compared to the pericyclic fibres which have pointed ortruncated ends and show in some cases peg like out-growths towards the tapering ends.

The stem is often substituted for the root and is also

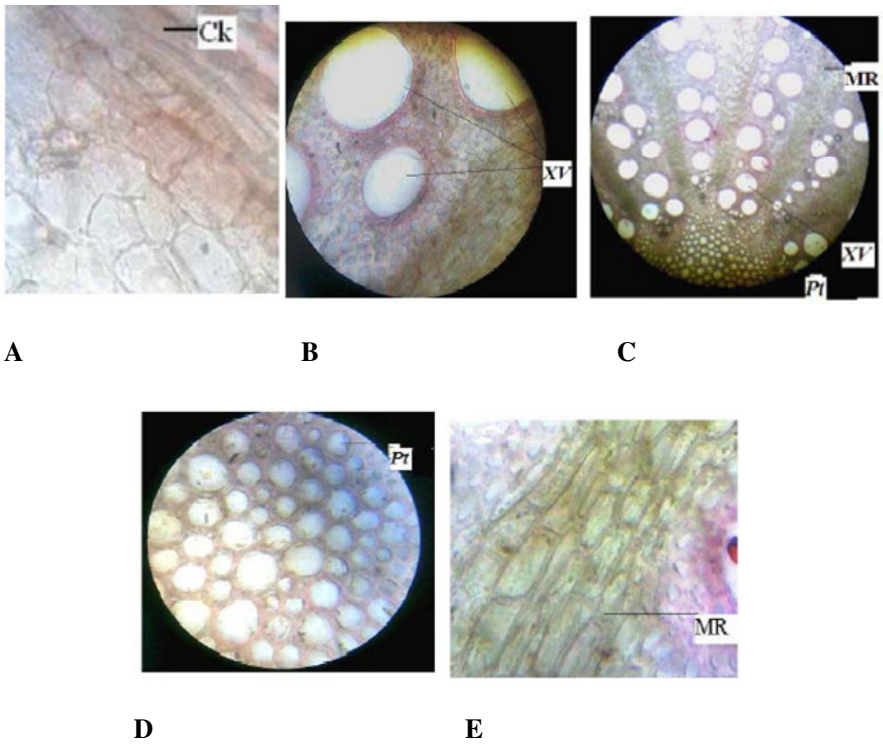

Figure 2. Microscopy of root of *A. speciosa*.
A: Transverse section consists of cortex (100×),
B: Transverse section contains xylem vessel (100x) ,
C: Transverse section consists of pith, xylem vessel and medullary rays (100x),
D: Transverse section consists of medullary rays (100x) and
E: Transverse section consists of Pith (100x).
Abbreviations: Ck-cortex, MR-medullary rays, Pt-pith, XV-primary xylem.
*All images are taken from Sandeep Ahlawat et al. (2009).

adulterated with the stem cutting of cocculus hirsutus (Singh, 1965; Singh, 1972; Prasad and Chauhan, 1975).

Leaf

Macroscopical

The lower surface of the leaf is entirely covered with hair, which gives the leaf a silvery soft wooly appearance; the upper surface is green, glabrous and shows the markings of nerves by slight depressions. The mature leaf is dorsiventral, unicostate with a strong midnerve and several faint lateral nerves, alternate, petiole, acute at the apex and cordate at the base. The margin is entire but slightly wavy near the base. Lateral nerves 14 - 20 pairs arise alternatively on the midrib; the single nerves bifurcate before reaching the edge, the-anterior branch unites with the posterior one of the neighbouring nerve; an arched nervule connects the two branches slightly above the point of bifurcation. Neither the main secondary nerves nor their branches reach the margin. Petiole stout and cylindrical, a little shorter than the length of the blade is completely covered with wooly tomentum (Singh, 1957; Sasikala et al., 1991).

Microscopical

The transverse section of the leaf near the apex shows a prominent ridged midrib on the lower surface and a small groove on the upper surface, while a section through the basal region presents a small ridge on the upper side as well. The ventral cuticle is stratified while the dorsal is thin and simple. The epidermal cells of the upper side have synclinous walls with rubiaceous type of sunken stomata. The openings of the latex canals are bound by 5 - 6 cells, the epidermal cells or the under side differ from those of the upper in possessing smaller cells and about twice the number of stomata and openings of latex canals. The cells of the epidermis along the veins on both sides of the leaf are roughly rectangular straight walled and completely devoid of appendages. The spongy tissue is composed of rounded cells enclosing air spaces and a

Table 1. Determination of ash values of *A. nervosa* Burm. (*A. speciosa*).

S. No.	Ash type	Percentage of Ash (% w/w)
1	Total ash	4.3
2	Acid insoluble ash	1.6
3	Water soluble ash	3.94

Table 2. Determination of extractive values of *A. nervosa* Burm. (*A. speciosa*).

S. No.	Solvent	Percentage of extractive (% w/w)
1	Petroleum ether	3.16
2	Chlororform	0.8
3	Ethyl acetate	1.4
4	Ethanol	0.2
5	Water	7.6

few latex canals. The palisade cells are nearly rectangular, roughly four times longer than broad and are seen in the section usually in a single row only and rarely in two rows. A few latex canals are sometimes present in this zone as well. The vascular bundles are hexagonal in transverse section and occur in characteristic, continuous single row chains.

The transverse section of the petiole at the base is grooved along the ventral side while the groove becomes rather negligible at the apex. Arrangement of the tissues in the petiole is as in the stem. The vascular bundles are open, bicollateral and arranged in a ring. The vasculature is represented by a shallow abaxial arc and a pair of adaxial traces. Conjunctive parenchyma separates the xylem and the phloem tissues distinctly. There are broad patches of phloem parenchyma. Xylary tissues of the leaf and the petiole are identical. Fresh vascular bundles are produced in the pith. The epidermal cells are barrel shaped and most of them bear trichomes. Hypodermis or any mechanical tissues are completely lucking. Hexagonal corticalcells are smaller towards the periphery and the stele but are larger in the central region. The corticle merge gradually with the phloem parenchyma. The endodermis and pericycle are not made out even in a very young petiole (Singh, 1957; Sasikala et al., 1991).

Powder analysis of *A. nervosa* Burm.

It is pale green, fine, odourless powder with sight bitter taste. The powder microscopy revealed the presence of glandular and covering trichomes, xylem fibres, epiermal cells, cork cells, vessels with bordered pits and xylem vessels with spiral thickenings were recorded (Tables 1, 2 and 3).

Table 3. Determination of phyto constants of *A. nervosa* Burm. (*A. speciosa*).

Leaf constants	Report (/mm ^{2})
Vein islet number	10.2
Vein termination number	12.6
Stomatal index (upper epidermis)	4.5
Stomatal index (lower epidermis)	16

PHYTOCHEMISTRY

The petroleum ether extract of the leaves yielded 1-tricontanol, epifriedelinol acetate, epifriedelinol and β-sitosterol (Sahu and Chakravarti, 1971). The leaves were found rich in quercetin (Daniel, 1989). Extraction of the leaves with 90% methanol led to the isolation of the flavonoids, quercetin and kaemperol together with the latter's glycoside kaemperol-3-o-l-rhamnopyranoside (Khan et al., 1992). Two new flavone glycosides characterized as 7,8,3',4',5'-pentahydroxyflavone5-o-α-l-rhamnopyranoside and 7,8,3',4',5'-pentahydroxyflavone5-o-α-l-glucopyranoside were also reported from leaves (Ahmad et al., 1993).

The hexane extract of the root yielded tetradecanyl palminate, 5,8-oxidotetracosan-10-one (Rani and Shukla, 1997) and two novel aryl esters characterized as stigmasteryl p-hydroxycinnamate and hexadecanyl p-hydroxycinnmate along with scopoletin (Shrivastava and Shukla, 1998).

The seeds yielded fatty oil which found to contain the glycerides of palminate, stearic, linoleic, linolenic and oleic acids (Biswas et al., 1947; Batra and Mehta 1985). In another study, the seed oil revealed the presence of myristoleic, myristic, palmitic, linoleic, linolenic, oleic, stearic, nonadecanoic, eicosenoic,eicosanoic, heneicosaoic and behenic acids identified as their corresponding methyl esters through GLC (Kelkar et al., 1947). The ethanolic extract of the seeds revealed the presence of a mixture of three alkaloids, out of which only one was characterized as ergometrin. The other constituents isolated were caffeic acid and ethyl caffeate (Agrawal and Rastogi, 1974b), another study also revealed the presence of ergoline alkaloids in the seeds (Nair et al., 1987). The ergolines were indicated to be of clavine type (Nair et al., 1987).The free amino acids reported in the seeds were glutamic acid, glycine, isoleucine, leu-cine, lysine, phenylalanine, tyrosine, praline and α-amino butyric acid (Jaiswal et al., 1984).

The fruits were reported to contain n-tricontanol, β-sitosterol, p-hydroxycinnamoyloctadecanolate and caffeic acid (Purushothaman et al., 1982).

PHARMACOLOGICAL STUDIES

Although a lot of pharmacological investigations have

been carried out based on the ingredients presents but a lot more can still be explored, exploited and utilized. A summary of the findings of these studies is presented below.

Aphrodisiac activity

The root, flower and to some extent, leaf (homogenate in 2% gum acacia) of the plant showed aphrodisiac activity as evidenced by an increase in mounting behavior of mice. When different extracts of the root were tested, the activity was found in the alcohol extract (200 mg/kg; p.o, single dose). The extract, 1 h after administration, stimulated mounting behavior of male mice in a concentration-dependent manner. The root- or flower-treated male mice also exhibited a remarkable increase in mating performance. Further, the number of males was found to be more among the pups fathered by the herbal drug-treated mice compared to those by the control mice. Thus, the plant has promising potential to be developed into an effective medicine for stimulating male sexual activity with an influence on sex ratio favoring males (Subramonium et al., 2007).

Immunomodulatory activity

Oral administration of the ethanolic extract of *A. speciosa* root (ASEE), at the doses of 50, 100 and 200 mg/kg in mice, dose-dependently potentiated the delayed-type hypersensitivity reaction induced both by sheep red blood cells (SRBC) and oxazolone. It significantly enhanced the production of circulating antibody titre in mice in response to SRBC. ASEE failed to show any effect on macrophage phagocytosis. Chronic administration of ASEE signify-cantly ameliorated the total white blood cell count and also restored the myelosuppressive effects induced by cyclophosphamide. The present investigation reveals that ASEE possesses immunomodulatory activity (Gokhle et al., 2003).

Hepatoprotective activity

The ethanolic extract and ethyl acetate extract (200 and 400 mg/kg) of *A. speciosa* roots decreased the elevated enzyme levels induced by CCl4, thus protecting the structural integrity of hepatocyte cell membrane or regeneration of damaged liver cells. These two extracts are found to be capable of enhancing or maintaining the activity of hepatic enzymes which are involved in combating Reactive Oxygen Species. The hepatoprotective effect of *A. speciosa* roots was evidenced by the amelioration of biochemical indicators of liver damage and pathological disturbances caused by CCl4. From the study we can conclude that root extracts of *A. speciosa* protects liver from oxidative damage and could be used as an effective protector in CCl4 induced damage (Habbu et al., 2008).

Central nervous system activity

The n-hexane (n-HF), chloroform (CF), ethyl acetate (EAF) and water (WF) fractions of hydroalcoholic extract of roots of *A. speciosa were tested* on the central nervous system. All the fractions (100, 200 and 500 mg/kg, p.o.) were evaluated for neuro-pharmacological activity using spontaneous motor activity and pentobarbital-induced sleeping time in mice. Chlorpromazine was used as a positive control. Central nervous system depressant activity was observed with all the fractions as indicated by the results in which they reduced spontaneous motor activity and potentiated pentobarbital induced hypnosis in mice (Galani and Patel, 2009).

Hypoglycemic

The hypoglycemic and antihyperglycemic activities of methanolic extract of stem of *A. speciosa* sweet (*A. speciosa* and *A. nervosa*) were done in normal and alloxan induced diabetic rats. The blood glucose levels were measured at 0 h and 1, 2, 4, 6, 8, 12, 16 and 24 h after the treatment. Oral glucose tolerance test was performed in normal, diabetic control, plant extract treated normal and diabetic groups and tolbutamide also treated normal and diabetic groups. It was found that alcoholic extract of *A. speciosa* showed significant ($P < 0.05$) dose dependent percentage blood glucose reduction in normal (26.42% at 250 mg/kg, 28.50% at 500 mg/kg and 34.25% at 750 mg/kg body weight) and in diabetic rats (24.72% at 250 mg/kg, 31.10% at 500 mg/kg and 40.47% at 750 mg/kg body weight) respectively at 8 h. The hypoglycemic and antihyperglycemic effect of *A. speciosa* was compared with the reference standard drug tolbutamide (40 mg/kg) (Hemet et al., 2008).

Nootropic

According to Hanumanthachar et al. (2007) effectiveness of aqueous extract of AS on ageing, scopolamine and diazepam induced memory deficits in mice was evaluated. Elevated plus maze and passive avoidance paradigm were employed to assess short-term and long term memory. In order to delineate the possible mechanism through which AS elicits the anti-amnesic effects, the whole brain acetyl cholinesterase (AChE) activity, was also assessed. Two doses (100 and 200 mg/kg, p.o.) of aqueous extract of AS were administered orally for 6 successive days to both young and aged mice.

AS decreased transfer latencies and increased step down latencies in both young and aged mice AS (100 and 200 mg/kg, p.o.) successfully reversed amnesia induced by diazepam, scopolamine and natural ageing.

Anti inflammatory activity

The alcoholic extract of the root exhibited statistically significant anti-inflammatory activity against granuloma formation technique in albino rats which comparable to acetylsalicylic acid. The extract did not show much activity against formalin induced arthritis in rats (Srivastava et al., 1992).

Anticonvulsant activity

The hydroalcoholic extract of *A. speciosa* at the dose of 200 and 400 mg/kg significantly delayed the latency to the onset of the first clonus as well as onset of death in unprotected mice and exhibited protection in 16.66 and 33.33% of pentylenetetrazole treated mice respectively. Whereas in case of maximal electroshock seizures, the dose of 200 and 400 mg/kg significantly reduced the duration of hind limb extention and both the doses were statistically found to be equipotent. The reference standards, clonazepam (0.1 mg/kg) and phenytoin (20 mg/kg) provided complete protection (Vyavhare and Bod-hankar, 2009).

Analgesic activity

The methanolic extract of *A. speciosa* root was used in pain and inflammation models. The analgesic activity of AS at the dose of (30,100 and 300 mg/kg p.o) showed significant ($P < 0.01$) decreased in acetic acid induced writhing, whereas ME of *A. speciosa* at the dose of (30,100 and 300 mg/kg p.o) showed significant ($P < 0.01$) increase in latency to tail flick in tail immersion method and elevated mean basal reaction time in hot plate method (Bachhav et al., 2009).

Antibacterial activity

The alcoholic extract of the leaves revealed antibacterial activity against staphylococcus aureas (George and Pandalai, 1949), the seed oil was found to possess *in vitro* antibacterial activity against *Klebsiella* sp., *Escherichia coli, Pseudomonas aeruginosa* and *Bacillus anthracis* (Kelkar et al., 1947; Mishra and Chaturvedi, 1978).

Antifungal activity

Hexadecanyl p-hydroxycinnamate and scopoletin isolated from the root were tested for antifungal activity against *Fusarium fusiformis. F. semutectum* and *Alternaria alternata* at a concentration of 1000 ppm. It was found that both the compounds produced 100% inhibition against *A. alternate*. The compounds also revealed phytotoxicity in terms of root growth inhibition of germinating wheat seeds (Shukla et al., 1999).

Antiviral activity

The extract of the plant and fruits had interferon-like antiviral activity against vaccinia virus in CAM cultures, but was devoid of any activity against Ranikhet disease virus (Babber et al., 1978).

Nematicidal activity

The effect of the aqueous and alcoholic extracts of the leaves on the spontaneous movements of both the adult worm and a nerve/muscle preparation of *Setaria cervi*, a filarial worm of cattle and on the survival of microfilariae *in vitro* was studied. The aqueous extract in a dose of 150 mcg/ml caused a decreased in tone and amplitude of spontaneous movements of the worm. A similar response was produced by the alcoholic extract but a much lower concentration of 75 mcg/ml. The aqueous extract produced complete paralysis of the nerve/muscle preparation in a dose 25 mcg/ml whereas with the alcoholic extract only 50 ng/ml was required (Parveen et al., 1990).

CLINICAL STUDIES

A preparation made from this plant along with several other ingredients is used for curing sexual disorders in males (http://www.himalayahealthcare.com/herbfinder/h_argyreia.htm. Accessed at 16/11/09).

TOXICOLOGY

A few of the ergoline alkaloids reported in this plant are hallucinogic (http://www.himalayahealthcare.com/herbfinder/h_argyreia.htm. Accessed at 16/11/09).

Conclusion

In this review, we have presented information on the botanical description, traditional uses, phytochemistry and pharmacology of *A. speciosa (syn: A. nervosa),* a medicinal plant found in central and southern Europe, western Asia and the United States, amongst others.

There are over 400 different tribal and other ethnic groups in India which constitute about 7.5% of India's population.

Tribal, rural and primitive societies have discovered solution for treatment of disease to almost all their needs and problems from the natural resources around them (Basu and Mukherjee, 1999), hence, in recent years, ethanomedicinal studies received much attention as this brings to light the numerous little known and unknown medicinal virtues especially of plant origin which needs evaluation on modern scientific lines such as phyto-

chemical analysis, pharmacological screening and clinical trials (Atique et al., 1985; Jha, 1999; Mali et al., 2006). *A. speciosa (*syn: *A. nervosa)* possesses various pharmacological activities as discussed in present paper. However, it is imperative that more clinical and pharmacological studies should be conducted to investigate the unexploited potential of this plant.

ACKNOWLEDGEMENT

The authors are thankful to the staff, Government College of Pharmacy, Amaravati (M. S.) for providing necessary facilities and support to carry out this work.

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