Review Article

A review on medicinal potentials of *Jasminum mesnyi* Hance

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Abstract

Jasmine mesnyi Hance is well known traditional medicinal plant for the treatment of CNS disorders. It belongs to family oleaceae and found in China, Napal and India and commonly known as Primrose Jasmine or Japanese Jasmine. The Plant has been found to possess some pharmacological activities such as antibacterial, antioxidant, antiulcer, antihelminitic, antiulcer etc. But still require exploring its pharmacological activities. It is research oriented plant and may provide new aspect to treat the various disorders. Authors hope that researcher will utilize this current knowledge to explore and establish the potential role of *Jasminum mesnyi* in their investigation and validation of its traditional claims.

Keywords: Central Nervous System, Japnese Jasmine, primrose Jasmine, pharmacological

Introduction

In the last few years there has been mushrooming in the field of herbal medicine and these drugs are attaining more popularity in both developing and developed countries. India is rich in indigenous herbal resources consists of near about 20,000 plant species, of which 2500 are of medicinal values. Considering rich diversity and traditional knowledge, world is looking towards India for developing new natural, safe herbal drugs to cure different diseases. In India around 25000 effective plant based formulations are used in traditional and folk medicines. More than 1.5 million practitioners are using the traditional medicine system for health care in India. It is estimated more than 7800 manufacturing units are involved in the production of natural health products and traditional plant based formulations in India (Aneesh et al., 2009). *Jasminum mesnyi* is traditionally, medicinally and pharmacologically important one. *Jasminum mesnyi* Hance belongs to family oleaceae, is a native to China but distributed in India, Nepal. It is commonly known as Primrose Jasmine, Unnan-obai in Japan, Pahari butie, Peeli chameli, Peeli malti in villages of Himachal Pradesh, India. It is ever green rambling shrub with long and lean arching stems that scale up like a rambling creeper. Leaves are trifoliolate, opposite and attached at the base of branchlets. Flowers are usually axillary or rarely terminal, solitary and yellow coloured and having 6-10 petals arranged in a semi double worls (Poonia et al., 2011). Traditionally, leaves are used in diabetes, CNS disorder, gastric disturbance, anorexia, oral sores, nocturnal emission, and in muscular. Flowers are used medicinally in aroma therapy for stress, anxiety, depression and are used to treat rashes and minor irritations (Satyali et al., 2012). The roots of the plant posses wound healing potential.

Table 1. Taxonomic Classification

Kingdom	Plantae
Phylum	Magndiophyta
Class	Magnoliopsida
Sub class	Magnoliidae
Order	Lamialea
Family	Oleaceae
Genus	Jasminum
Species	J.mesnyi

Figure 1. ***Jasmine mesnyi*** **Hance**

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Synonyms

Jasminum primulinum Hemsley

Plant Distribution

Jasminum mesnyi is native to Vietnam and Southern China (Guizhou, Sichuan, Yunnon). It is also reportedly naturalized in Mexico, Honduras and parts of the southern united states (Florida, Georgia, Alabanna, Louisiana, Texas, Arizona), Eastern Australia (Satyali et al., 2012).

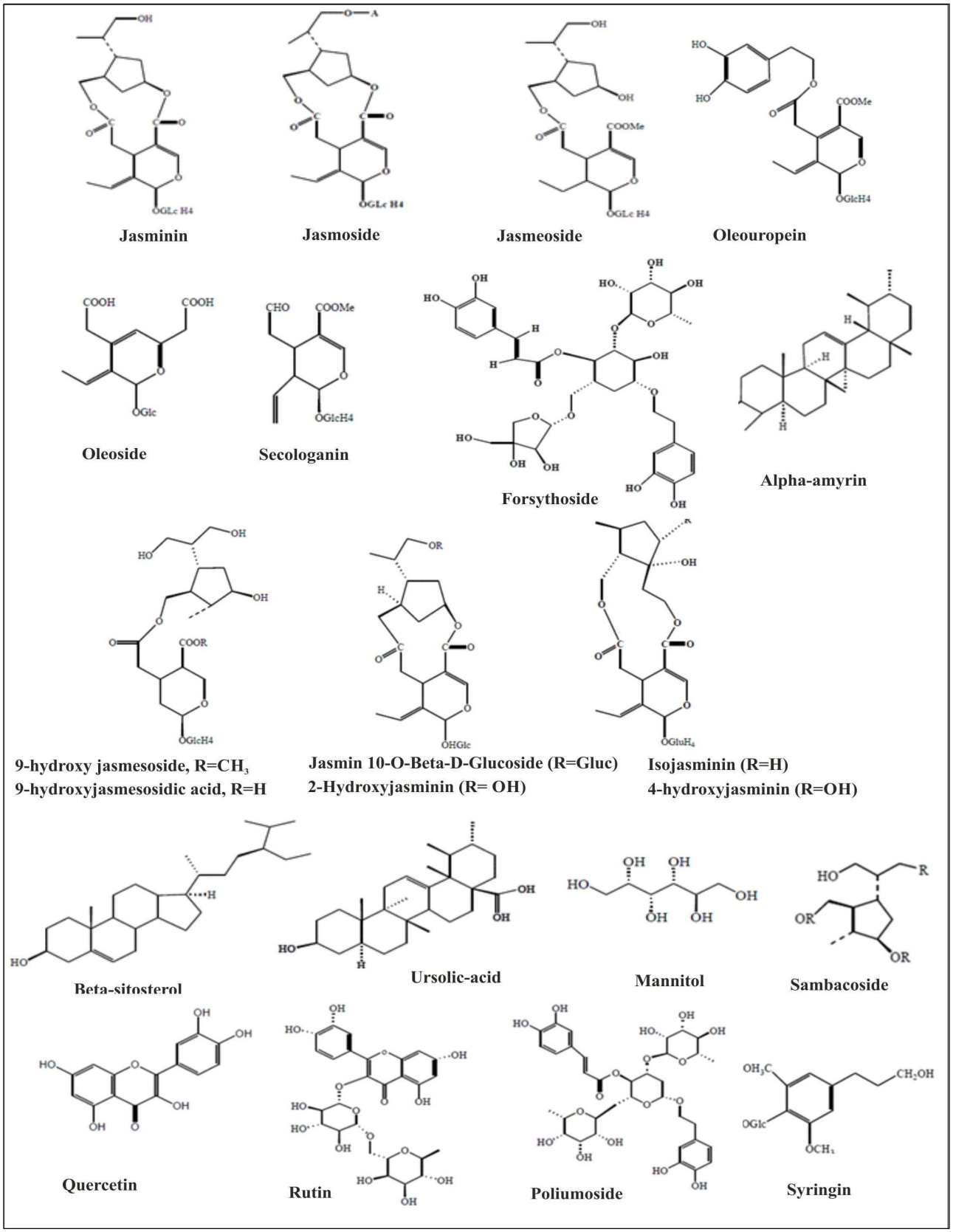

Figure 2. Chemical constituents of *Jasminum mesnyi* Hence

Phytochemistry

Leaves are reported to have essential oil. The Majority of the essential oil contains coumarin (48.9%). The oil also contains major amounts of monoterpenol, including linalool (14.8%), α-terpinol (5.2%) and geraniol (3.3%). The other constituents present in this plant include secoiridoids, (jasmoside, jasmesooside, 9- hydroxy jasmesoside. 9-hydroxy jasmesosidic acid, Jasminum 10-α β-D glucoside, 2 hydroxy jasminin, iso jasminin, jasminin, 4 hydroxy iso jasminin and jasmosidic acid) a phenolic glucoside (syringin) and rutin. The leaves also contain cerylalcohol, α amyrin, β sitosterol, ursolic acid, mannitol, quercetin, poliumoside and forsythoside.

Traditional Uses

Traditionally leaves are widely used in diabetes, CNS disorder, pyorrhea, gastric disturbance, oral sores, nocturnal emission, and in muscular pain. It is believed that branchlets are beneficial in migraine, joint disorder and spinal pain, menstrual disorder while flowers are employed in hepatic disorder. For veterinary purpose, leaves are used as galactagogue, vermifuge and in treatment of ruminant stomach problem.

Pharmacological Activities

Antioxidant and Antidiabetic activity

Antioxidant and Antidiabetic activity were observed by Borar et al. (2010), in methanolic extract of *Jasminum mesnyi* Hance leaves having antidiabetic activity was subjected to fractionation to obtain antioxidant and antidiabetic rich fraction. Different concentrations of ethyl acetate and n-butanol fraction were subjected to antioxidant assay by DPPH method, nitric oxide activity and reducing power assay. The fractions shows dose dependent free radical scavenging property in all the models but they found that n- butanol fraction showed a good reducing potetial and better free radical scavenging activity as compared to ethyl acetate fraction. n-buatnol fraction contained secoiridoid glycoside which might be responsible for both antioxidant and antidiabetic activity.

Antihelminitic activity

Antihelminitic activity was explained by Dullu, (2014), that ethanolic extract of leaves of *Jasminum mesny* has potent antihelminitic activity at the concentration of 40 mg/ml than the concentration 20 mg/ml of extract. It took 24 min to paralyse the worm in case of drug extract 40 mg/ml and 92 min to paralyze the worm in case of drug extract of 20mg/ml concentration.

Antiulcer activity

Farheen et al. (2015) observed that the ethanolic extract of *Jasminum mesnyi* and *Triticum aestivum* leaves showed significant ulcer protective action at the dose of 200 and 400 mg/kg body weight individually as well as in combined doses in the animal models. The antiulcer property of tests extracts was attributed due to presence of flavonoids and tannins.

Wound healing activity

Wound healing potential was evaluated by Saini et al. (2017), in the roots of *Jasminum mesnyi* Hance in diabetic rats. The wound healing effect was studied on the streptozotocin-induced diabetic rat model for 21 days. The glucose levels in the blood of rats were measured by using glucose oxidase method by blood glucose measuring strips. According to the obtained statistics, the ethanol and ethyl acetate extract of *Jasminu mesnyi* roots at 400 mg/Kg was found to hold a high antidiabetic and wound healing potential.

Conclusion

In spite of Jasmine's high export demand and use in perfumery and cosmetics industry, there have been limited efforts to improve this crop and hence the availability of literature is also very scanty. So tissue culture techniques are useful for enhancing the production of this plant species to fulfill the need of perfumery and cosmetic industries. Clonal propagation and in vitro multiplication of Jasminum will result in large scale production of these plants. This will help in supplying uniform plant material for industrial use at affordable prices.

Conflict of interest

The authors pronounce that they have no conflict of interests.

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