



Ethenopharmacology of Suddab: A Comprehensive Review

*Farha, Zainab Zaki, Sunaiba Manzar, Md Moiz Alam¹

Department of Saidla, A.K.T.C.A.M.U., Aligarh, India



ARTICLE INFO

Article History:

Received 10 March 2022

Revised 21 August 2022

Accepted 26 September 2022

Available Online 12 October 2022

Keywords:

Suddab,
Rutaceae,
Stimulant,
Glycoside,
Alkaloids

ABSTRACT

Rutagraveolens (L) has been used for centuries in the traditional system of medicine. It belongs to the family Rutaceae. Garden rue is its English name and in Unani, it is known by the name of Suddab. It is a native of southeastern Europe but is widely naturalized in southern Europe and cultivated worldwide. In India, Suddab is commonly found in South India. It is a shrubby perennial, herb about 30-40 cm in height, stems are erect and smooth (14-45 cm). Leaves are arranged in an alternate manner, pinnate leaves and leaflets are deeply lobed obvate in shape with bluish-grey-green stalked. Flowers are shiny yellow with four spoon-shaped petals that occur in terminal umbel like groups blooms from June-September. Its constituents are glycosides, flavonoids, rutin alkaloids such as coquisagenines, kimmianine and graveoline and psoralens, bergaptene and xantotoxine, essential oils containing compounds such as methyl-nonyl-ketone, methyl-hepatyl-ketone. Psoralen is mainly responsible for its pharmacological actions, such as photosensitization therefore, it is used in Leukoderma (burs-o-behek), it is hepato-toxic also. Rutin is used as a capillary protectant so used in reducing BP and it has anti-tussive and anti-spasmodic action also. In the Unani system of Medicine, the whole herb is used for medicinal purposes. Its actions are stimulant (muharrrik), antispasmodic (da'af-e-tashannuj), abortifacient (musqitejaneen), emmenagogue (mudrehaiz), demulsent (mulattif), antithrombotic (mufattesudad), calorific (muakhhin), carminative (kasir e riyah), brain tonic (muqawwi e dimagh), appetizer (mushtahi), pruritic (mukharrish), desiccant (mujafff), anti-inflammatory (muhallil). The present review provides pharmacological actions, chemical constituents, and therapeutic uses of Suddab.

1. INTRODUCTION

Ruta graveolens is mentioned in ancient literature of tibbe unani by Galen and Razi. It is a hardy, strong scented erect, glabrous, shrub like evergreen plant, which is native to Southern Europe (Ravindran *et al.*, 2012). It is cultivated as a medicinal and ornamental herb in many countries including India (Kritikar *et al.*, 2003; Cullen *et al.*, 2011; Joshi, 2002; Mandal, 2002). It prefers semi shelter dry environment for growing. The plant blossoms from June to September. It can be propagated by direct seed planting, stem cutting or root cutting (Ravindran *et al.*, 2012). It is the source of Rue or Rue oil called as Sadab or Satab

(Metcalf *et al.*, 1967). This is also known by the name of sadab and saatri in Hindi, suzab in Arabic, sudab in Urdu, satap in Persian and rue, garden rue, herb of grace in English (Bently, 2004; Anonymous, 2004; Baitar, 1999; Ghani, YNM; Hakeem, 2005). It belongs to the family Rutaceae which is one of the largest families contains approximately 150 genera and 1500 species (Jones, 1995). This family is also known as a citrus family because of its citrus fruits such as oranges, lemon, and grapes fruits (Sharma, 1993). Genus *ruta* has 14 species among them 2 are found in India which are *R. graveolens*. L and *R. chalcensis*. L (Anonymous-2004). *Ruta graveolens* resembles *Euphorbia dracunculoides* (Nazish *et al.*, 2009). The whole herb is used for medicinal purposes. The herb contain both dry and fresh herb. This is also used in cooking in some region. They have a strong unpleasant odor and bitter taste (Ravindran *et al.*, 2012). Alkaloids, essential oil, furquinolines, coumarines are mainly found in rue

*Corresponding Author: Farha

E-mail Address: aligfarhachaudhary@gmail.com

<http://dx.doi.org/10.46890/SL.2022.v03i04.001>

© 2022 by the authors. The license of Journal of e-Science Letters. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

(Kokate et al., 2015). In the traditional system of medicine, it is used as stimulant, emmenagogue, diuretic, abortifacient, and resolvent (Bently, 2004; Dymock et al., 2005; Anonymous, 2004; Baitar, 1999; Ghani, YNM; Kabirrudin, YNM.)

Scientific Classification

Kingdom: *Plantae*

Clade: Angiosperms

Clade: Eudicots

Order: Sapindales

Family: Rutaceae

Genus: *Ruta*

Species: *R. graveolens*

Botanical description

Ruta graveolens has a height of 2 to 2.5ft (Kritikar et al., 2003; Nadkarni, 2005). The stem is cylindrically, branched, 2 to 3 cm in length, and 1mm wide and its lower part is woody (Kokate et al., 2015). The shoots are gathered before the plant flower (Ravindran et al., 2012). Leaves are 5 to 7.5cm long, 2 to 2.5mm broad, alternate bluish green, and either bi or tri pinnate, strongly aromatic (Kokate et al., 2015). Fruits are dry hard, sub-cylindrical, brown greenish capsule, 4 to 5 lobe rough externally (Ravindran et al., 2012; Kokate et al., 2015). Flowers are small greenish yellow in colour and concave petals. Seeds are ovoids, rounded on the back (Kritikar et al., 2003; Nadkarni, 2005; Kokate et al., 2015).

Chemical Constituents

Ruta graveolens mainly contain Glycosides such as Flavanioid, Rutin(2%). Alkaloids such as Coquisagenine, Skimmianine, and Graveoline, Psoralens, Bergerpetene, and Xantoxine. Essential Oil containing compound such as Methy-nonyl-ketone, Methy-noncttyl ketone. It also contains Fixed Oils such as Linoleic, Stearic, and Palmitic acid (Ravindran et al., 2012; Kokate et al., 2015).

Pharmacological Activities

Mufattehe sudad (Anti-thrombotic), *Dafe-tashannuj* (Antispasmodic), *Mulattif* (demulcent), *Muharrik* (Stimulant), *Musqitejaneen* (Abortifacient), *Mudre bol wa haiz* (Diuretic and Emmenagogue), *Mulattif*

(Demulcent), *Muakhhkhin* (Calorific), *Kasir-e-riyah* (Carminative), *Muqawwi-e-dimagh* (Brintonic), *Mushtahi* (Appetizer), *Mukharrish* (Pruritic), *Mujaffif* (Desicant), *Muhallil* (Anti-inflammatory), *Manae hamal* (Anti- conceptive), *Muqawwie basar* (Increase eyesight) (Bently-2004; Anonymous, 2004; Baitar, 1999; Ghani, YNM; Hakeem, 2005; Dymock et al.,2005).

Therapeutic Uses

The whole herb is used for the treatment of cough, colic, and flatulence (Ravindran et al., 2012). It is useful in hysteria and ammenorhae. The juice of the herb is used in earache and toothache. Leaves are used locally in the treatment of rheumatism of joints,feet, and loin (Anonymous,2004). It is also used in leukoderma due to presence of its chemical constituent's psoralen. Due to the presence of rutin it reduces blood pressure (Ravindran et al., 2012). It is also used in the treatment of epilepsy (Baitar, 1999). Decoction of suddab used as an enema to relieve colitis. Infusion of suddab leaves used to treat infantile paralysis in the form of nasal drops. It is used as an antidote for toxins such as snake and scorpions venom.Juice of suddab leaves along with fennel juice and honey help increase eyesight. Gums of suddab along with honey are used in treatment of fungal infection. It is also used in kidney and urinary bladder stones and are used to treat spleen disease and jaundice. It is also used in itching problems (Ghani, YNM).

Adverse Effect

It is harmful for pregnant lady because it acts as an abortifacient. In large doses, it act as a narcotic. It also causes allergy (Anonymous, 2004; Nadkarni, 2005)

CONCLUSION

The present review concluded that *Ruta graveolens* is an odiferous herb of the family Rutaceae.It contains chemical compounds such as glycosides, alkaloids, coumarins, essential oil compounds, fixed oil etc. It has pharmacological activities such as antithrombotic, diuretic, emmenagogue, anti- inflammatory, pruritic, stimulants, etc. It is used for the treatment of various conditions such as eye problems, rheumatism, dermatitis, pain, hypertension, epilepsy, etc.

REVERENCES

- [1.] P.N.Ravindran and M.Divakaran.Handbook of herbs and spices(2nd edition),vol. 2,2012
- [2.] Kiritikar KR, Basu BD. MedicinalPlantswithIllustrations.2nd ed. Uttrarnchal: Oriental Enterprises; 2003; pp. 625-9
- [3.] Cullen J, Knees SG, Cubey HS.The European garden flora flowering plants. Cambridge: Cambridge University Press; 2011;p. 504
- [4.] Joshi SG. Medicinal plants.New Delhi: Oxford and IBH Publishing; 2000; p. 351.
- [5.] Mandal B.Text Book of Homoeopathic Pharmacy. New Delhi: B. Jain Publishers; 2002; p. 327
- [6.] Metcalfe CR, Chalk. Anatomy of dicotyledon. L. Vol.1. Oxford: Oxford University Press;1967;pp.305-16.
- [7.] Jones D. Rutaceae. In: The Flora of Sabah and Sarawak. 5th ed.. Kuala Lumpur: Ampang press Sadn, 1995:351-401.
- [8.] Sahrma Os. Plant Taxonomy. 2nd ed. New Delhi; Tata McGraw-Hill; 1993:274-278: 291-294
- [9.] Nazish I, Kaskoos RA, Mir SR, Amin S, Ali M. Preliminary pharmacognostical standardization of *Ruta graveolens* L, Aerial parts. *Res J Med Plant.* 2009;3:41
- [10.] C.K.Kokate, A.P.Purohit, S.B.Gokhale. Pharmacognosy. 51 ed.
- [11.] Bently, R, Trimen H. Medicinals Plants. 1st ed. New Delhi: Asiatic Publishing House;2004:44 serial number.
- [12.] W. Dymock CJHW, D. Hooper. Pharmacographia Indica: A History of the PrincipalDrugs of Vegetable Origin. 3rd ed. New Delhi: Srishti Book Distributors; 2005:249-252.
- [13.] Anonymous. The Wealth of India. 5th ed. New Delhi: Council of Scientific and industrial Research; 2004:94-99
- [14.] Baitar I. Al Jami ulMufradatul Advia walAghzia. 2nd ed.New Delhi: Ministry ofHealth and Family Welfare, Govt. of India; 1999:27-30.
- [15.] Ghani N. Khazainul Advia. NM ed. New Delhi; IdaraKitabulShifa; YNM:793-795.
- [16.] Kabiruddin M. MakhzanulMufradat. NM ed.New Delhi: IdaraKitabulShifa.
- [17.] Hakeem M. BustanulMufradat. NM ed.New Delhi: IdaraKitabulShifa; 2002:186-188.
- [18.] Nadkarni KM. Indian Plants and Drugs. 5th ed.New Delhi: Srishti Book Distributers; 2005:344-345.
- [19.] Anonymous. Medicinal plants in Folklores of Southern India. Isted. New Delhi: CCRUM;2001:139.