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SHORT COMMUNICATION

Nyctanthes arbor-tristis L: A holistic medicinal plant

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ABSTRACT

Nyctanthes arbor-tristis is a small sized tree found almost throughout the country. It is commonly known as Harsingar. It has various pharmacological activities like anti-bacterial, anti-fungal, anti-inflammatory, anti-malaria, anti-oxidant, anti-pyretic and anti-viral activities. The pharmacological activities are supported due to presence of various secondary metabolites. The present short communication highlights the importance of this medicinal plants.

From the ancient time, uses of medicinal plants have been documented for curing diseases. Due to safe and effective active principle the interest in medicinal and aromatic plants have been displayed all over the world (Rani et al. 2012). *Nyctanthes arbor-tristis* (Figure 1), a medicinal plant belongs to family Oleaceae and commonly known as "Night Jasmin" (Meshram et al. 2012; Gulsan 2018). It is native to India and widely distributed throughout the world (Aggarwal and Goyal 2013). It is a small tree, requires loamy soil with pH 5.6-7.5. It is a woody perennial having life span 5-20 years. It has grey or greenish, rough and peeling bark, growing up to 10 m in height. Leaves are opposite with an entire edging about 6 to 12 cm long and 2 to 6.5 cm wide. Flower has 5-8 lobed corolla and orange red center. Petals are snowy white in colour (Saxena and Brahmam 1995; Haines 1924). Traditionally the leaves are used against malaria & fiver. Details are listed in the Table 1. The responsible bioactive compounds are detected to validate its medicinal claims. Other pharmacological values of this plant is also reported. It acts as anti-microbial, anti-inflammatory, anti-oxidant, diuretic etc. Details are listed in Table 2.

Figure 1: Flowers of *Nyctanthes arbor-tristis*

Table 1: Medicinal uses of different parts of *Nyctanthes arbor-tristis*

Parts used	Mode	Ailment	Source(s)
Leaf	One spoon leaf juice with honey (3 times per day) till cure.	Fever & malaria	Girach et al. (1994)
	Leaf juice	Blood purifier to prevent skin infection and as an antidote	Girach et al. (1994)
	Infusion	Fever	Sasmal et al. (2007)

	4-5 leaves mixed with honey and common salt and consumed	Against worm specially in children	Sasmal et al. (2007) Girach et al. (1994)
Seeds	Seed paste	Against skin infections	Sasmal et al. (2007)
Bark	5 g of bark eaten with betel leaf	For rheumatic joint pain	Girach et al. (1994)
Flowers	Infusion	Malaria fever	Sasmal et al. (2007)
Flower juice	Tonic	Graying hairs and baldness	Sasmal et al. (2007)
Roots	Infusion	Enlargement of spleen	Sasmal et al. (2007)

Table 2: Secondary metabolites and corresponding pharmacological activities of *Nuctanthes arbor-tristis*

Plant parts	**Phytoconstituents**	**Pharmacological uses**	**Source(s)**
Bark	Alkaloids and Glycosides	Anti-Microbial	Vats et al. (2009)
Flower	Anthocyanins, D-mannitol, tannins, carotenoid, Nyctanthin, Glycosides, Quercetin, crocin-3	Anti-bilious, Anti-inflammatory, Anti-oxidant, Diuretic, Ophthalmic, Sedative	Ratnasooriya et al. (2005)
Leaves	Iridoid, glycosides, Mannitol, carotene, Flavano glycosides, benzoic acid ester of loganin, beta sitosterol, ascorbic acid, Glucosides of linoleic acid, oleic acid, stearic acid and palmitic acid.	Anti-helminthic, anti-bacterial, anti-fungal, anti-inflammatory, anti-oxidant, antipyretic, asthma, arthritis, Bronchitis, constipation, cough reptile venom, rheumatism, ringworm, sciatica	Mahida and Mohan (2007); Vishwanathan and Juvekar (2010)
Seeds	Arbortristoside A, B	Anti-bacterial, anti-	Chattarjee and

	and C, Glycerides of Linoleic and oleic acid	fungal, hair tonic, Immunomodulatory, pies.	Parkrashis (1994)
Stem	Glycosides-naringenin-4’-O-beta-pyranosyl-alphaxyopyranoside, beta-sitosterol	Anti-oxidant, anti-pyretic, bronchitis, snakebite.	Girach et al. (1994)
Roots	Beta-sitosterol, oleanonic acid	Enlargement of spleen	Rani et al. (2012)

Conclusion

The above study reveals that *Nyctanthes arbor-tristis* possess diverse bioactive compounds and therefore might be responsible to cure viral fever, skin disease, fungal infections, malaria etc. Hence, more advance study is needed for evaluation of bioactivity of the plant.

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