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**Review Article**



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**Review article on *Helicteres isora* Linn., with an activity  
of Demulcent and Astringent**

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**Abstract**

Most indigenous medicinal plants possess therapeutic, phytochemical and pharmacological value is being suggested in *Helicteres isora* Linn., commonly known as Indian screw plant. It has high value in South East Asia. Demulcent and Astringent property of this plant *H isora* Linn has many significant medicinal values or activities. It is used in treating diarrhea, dysentery, Abdominal colic pain, intestinal parasites, diabetes etc., In Sanskrit, Avatani meaning rotating. So it is imagined as intestines, hence they are useful in twitching pain of Abdomen.

**Keywords:** *Helicteres isora* (*H.isora* Linn.), Linn., demulcent, Astringent, ValampuriKaai

**Introduction**

Siddha is one of the Ancient Medical System in India is considered as the Mother Medicine of Ancient Tamilians or Dravidians in India. The word Siddha means truth. Siddha system is a treasure house of secret science embodying the results of the order pursuit thereof by the ancient Siddhars. This civilization dates back to 12,000 years B.C. The founding of Historians and the tamil literacy such as "Tholkapiam" "Thiruvvasagam" etc. reveals that, there were three tamil academics for the growth of 64 Arts of Literature of tamilians. Before 2000 years, The traditional medical system of the tamil such as Marunthu "Medicine"

Siddha medicine utilizes plant extract and metal oxides with chanting of mantra are done during the preparation of medicine. The siddha medicines meant for the Human body are prepared, based on "Panchabuthas" [Metals of Gold, Lead, Copper, Iron and Zinc]. Gold and lead are used for maintenance of the body. Iron, the metal attracted by the electric power of the magnet and Zinc, used for the generating electricity are employed. In the medicines which are administered for the extension of life and the copper is used for the preservation of Heat in the body. The learned modern scientist of today have yet to know the rejuvenation theories followed by the siddhars of tamilians in ancient times.

## Description

*Helicteres isora*, sometimes called the Indian Screw plant, is a species of small trees or large shrub found in Asia including Indian subcontinent, South China, Malay Peninsula, Java and Saudi Arabia and also in Australia [1]. The flowers are red, which are pollinate [2] by birds of sunbird family [2]. It possess an impressive range of Nutritional and medicinal properties [3].

## General information:

Tamil Name	: திருகுபலை [4]
Sanskrit	: Avartan, Avarphala
Hindu	: Marorphali, Bendhu, Johnphal
English	: Indian Screw plant, East India Screw plant, Dear's Horn
Marathi	: Kewad, Muradsherg
Bengali	: Antamora
Gujarati	: Maradashingh
Kannada	: Yedmuru
Telugu	: Vadampuri
Malayalam	: Idampiri, Valampuri
Thai	: SamunpraPaiKa bid [5]
Singhale	: Liniya [6]

Fruits are compound pod, twisted like screw, with pointed end, signifying the name "INDIAN SCREW PLANT". Raw fruits are greenish in colour, brown or grey when dried. Seeds are black-brown, highly polished, roughly rhomboid, rectangle or triangular in shape [4] [6] [7] [8] [9]

## Organoleptic Characters

சுவை - கைப்பு, தன்மை - வெப்பம், பிரிவு - கார்ப்பு [4]

## Scientific taxonomical classification:

Kingdom	:	Plantae
Sub-Kingdom	:	Tracheobionta
(Unrained)	:	Eudicots
Class	:	Magnoliophyta
Sub-class	:	Rosidae
Order	:	Malvales
Family	:	Strerculiaceae (large amount of plants of order "Malvales")
Sub-family	:	Helicteroideae
Genus	:	Helicteres
Species	:	isora
Binomial Name	:	<i>Helicteres isora</i>
Linn	:	[10]

## General Information

Parts used for medicinal purpose:	Stem bark, Root juice, Fruit, Seed
Plant type / Growth Habit	: Sub-deciduous shrub
Duration	: Perennial
Habitat	: Dry Forest
Flowering	: April to December
Fruiting	: October to June [1]

## Activity

Demutent	உள்ளமூலாற்றி
Astringent	துவர்ப்பி [4]

## Materials and Methods

புதபை சாசம் பொறுக்கொணா நேந்திரநோய் கீத மிகுசெவிநோய் கேவல்விக்கல் - ஓதுகுளிர் தோடமொடு மேகங்கூன் சொன்னவையெ லாம்நடுங்கி ஓட வலம்புரியை யுன் [4]

## வழக்குமுறை

❖ காயை எண்ணெயிலிட்டுக் காய்ச்சி வடிகட்டி காதில் 4,5 துளிவிட்டு பஞ்சிட்டடைக்க காதடைப்பு, காதுகுத்தல், முதலிய நீங்கும். [12]

❖ இதைபொடி செய்து தினமொன்றுக்கு 2, 3 முறையாக 4, 8 கிராம் வீதம் கொடுத்து வர இருமல் நேரிடும் கேவல், விக்கல், மேகம், ஐயசுரம், கூன்விழுதல் நீங்கும்.

❖ பொடியை கொடுத்துவருவதுடன் இத்துளை புகைத்தும் வரபுதகணக் குற்றங்கள் விலகும்.

❖ வேர்ப்பட்டையில் வேளைக்கு ¼ - ½ தோலா எடை ¼ படிநீரில் போட்டு வீசும்படியாகச் சுண்டகாய்ச்சி வடிகட்டி தினம் 2 வேளை கொடுத்துவர நீரில் உள்ள இனிப்பு, பேதி, சீதபேதி முதலியன குணமாகும். [4]

## Medicinal Uses

1. The pods of *Helicteres isora* are twisted like intestine and it is mainly used in the treatment of intestinal complaints such as colic, Flatulence, diarrhea and dysentery.
2. In Diabetes mellitus and locally in otorrhoea[discharge from ear].
3. The Astringent activity of fruit and bark having anti-diarrheal and anthelmintic.
4. The Roots and stem barks are Astringent, demulscent and constipating activity.
5. They are useful in Colic, scabies, gastric problems, diabetic diarrhoea and dysentery.

6. The powdered seeds are used to cure ulcers in Ears, dysentery and stomach ache.

It has no side effects. Avoid use in pregnancy and breast feeding [10]

### Definition Of Astringent

It causes the contraction of skin cells and other body tissues [3] i.e it tends to shrink or constrict body tissues.

### Definition of demulcent

Relieving inflammation or irritation. It forms a soothing film over a mucous membrane, also referred to as Mucoprotective Agent [14]

### Phytochemical interventional observation of *Helicteres isora* Linn [15]

S. No	Phytochemical	Observation	Inference
1	Carbohydrate	Reddish violet ring at junction of two liquid in Molisch's East	+
2	Protein	Violet colour obtained in bired reaction and deep orange colour developed in Xanthoproteic protein	+
3	Polyphenols	Blue colour developed with ferric chloride	+
4	Tannins	White precipitate with lead acetate was coloured	+
5	Flavonoids	Deep blue colour	+
6	Alkaloids	Yellow brown precipitation	+
7	Saponins	A Honey comb like froth formed	+
8	Steroid	The upper layer and a sulphuric layer showed an yellow colour with a good fluorescence	+

### Pharmacological effects of *Helicteres isora* Linn., [16]

#### Anti-microbial activity:-

Demulcent Action – of *H.isora*:

Aqueous and Alcoholic extract of fruit of *Helicteres isora* against a number of bacterial strains. The fruit aqueous extract of *H. isora* showed prominent anti-bacterial activities against *E.coli*, *Staphylococcus epidermidis*, *Salmonella typhimurium*, *Proteus vulgaris*, moderate activity against *Enterobacter aerogones*, *Staphylococcus aureus*.

#### Anti-diarrheal activity

The fruits are demulcent and astringent and are useful in gripping of bowels and flatulence of children. The bark is useful on dysentery and diarrhea.

#### Anti-cancer activity

It has potent action against Human breast cancer. The cytotoxic activity is due to presence of alkaloids and flavonoids.

#### Wormicidal activity

The worm infestation in the children are possible with the fried powdered pods with Hot water.

#### Cardiotonic activity

*H.isora* has rapid onset of action compared to digoxin [13]

#### Anti-diabetic activity

Major disease characterized by derangement in carbohydrate, fat and protein metabolism. In related complications continued to be a major medical problem not only in developed countries but also on developing countries.

This medicinal plant reported to be useful in diabetes [14]

In java island, it is used for treating gastrospasm, as an anthelmintic for tapeworm in Indonesia and as an anti-spasmodic, anti-pyretic, anti-diarrheal and anti-dysentric in Saudi-Arabia and as a tonic compound after childbirth in the Malayan Islands. [16] [17] [18]

In traditional use, the root juice is claimed to be useful in cough, asthma, diabetes, empyema, intestinal infections a cure for scabies, when applied topically and also cure for snake bite.

Fruits are demulcent mildly astringent and useful in gripping and flatulence [19] [20] [21]

It balance the pitham and kabam on tridoshas [22]

## Conclusion

Numerous reviews are shown as example for *Helicteres isora* Linn., medicinal plant. This plant exhibits the activity of demulcent and Astringent activities. These activities have shown effects on Anti-diahereal, Anti-microbial, Anti-cancer, wormcidal, Cardiotonic and Anti-diabetic Activity. The above considerable evidences shows each and every part of the medicinal uses of *Helicteres isora* Linn., having the above activities.

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