



# Hibiscus Rosa sinensis : A review of Morphology of H. Rosa sinensis plant, its nutrients and pharmacological properties.

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**Abstract:-** Hibiscus have many more types like H. Rosa sinensis, H. Schizopetalus Hook, H. Mutabilis L. , H. Syriacus L. , Hibiscus Fragilis, Hibiscus Genevii & Hibiscus Arnottianus. Hibiscus Rosa sinensis are explain briefly in this review. It contains many more nutrients and chemical components like carbohydrate, vitamin C and vitamin B, calcium, flavonoids, phenolic acid and other organic acids. Hibiscus rosa-sinensis also perform the pharmacological properties like antioxidant, anticancer, anti-inflammatory, antidiabetic, antibacterial and many more. Hibiscus rosa-sinensis perform very important character in medicinal use. Due to its less toxicity it is used to prepare a medicines.

**Keywords:-** Hibiscus Rosa sinensis, Nutrients, Chemical components, Pharmacological properties.

**Introduction:-** Hibiscus Rosa sinensis also known as China rose. It is a flowering plant in the Hibisceae tribe of malvaceae family. It is grown as an ornamental plant. It is cultivated in the tropics and subtropics regions.

It is bush and evergreen shrub or small tree growing. It is genetically polyploidy plant. Researchers can change the colour of hibiscus Rosa sinensis like Red, white to pink, Orange, yellow, purple, peach. Some

flowers of hibiscus *Rosa sinensis* have a double layer of corolla. Hibiscus have both male and female part on same plant on same flowers. The root is a branched tap root and stem is erect, green, aerial, branched and cylindrical. It contains many pharmacological activities like antimicrobial, antifungal, antioxidant, anticancer, antidiabetic, antifertility, hair growth promoting, neuroprotective, anti inflammatory, antipyretic, antihyperlipidemic, immune response and wound healing properties. Cardioprotective activity are also involved in *H. rosa-sinensis*. All parts of *H. Rosa Sinensis* are used for treating fever, inflammation, bacterial infection. It is also used as contraceptive agent. Less toxicity of this plant is also be the advantage as a new therapeutic agent.

## Botanical Classification of Hibiscus Rosa sinensis



## Type of Hibiscus:-

**1) Hibiscus Rosa sinensis** Hibiscus *Rosa sinensis* is also called as China rose from malvaceae family. Universal name as Hibiscus *R. Sinensis* is derived from the Greek word "Hibiskos". Hibiscus *Rosa sinensis* the name was given by C. Linnaeus. There are many new colours involving white, yellow, pink, Orange, Terracotta, cerise, etc.



## 2) H. Schizopetalus Hook

*H. Schizopetalus* Hook known as coral hibiscus and spider hibiscus. It carried from Africa. It is red or orange Red flowers drooping and with recurved petals. Hibiscus *schizopetalus* is a reared as figurative plant. It does not rhetorical Suffer temperature below 10°C. It is reared in tropical and subtropical regions. Various part of *H. Schizopetalus* Hook used for treating Cough, cold & fever and also have

analgesic, hypolipidemic, hypoglycemic, antipyretic, and anti-inflammatory actions.



### 3) H. Mutabilis L.

H. mutabilis L. is also known as cotton Rose. It is distributed from China and Taiwan. This plant is reared for its showy flowers. Cotton roses tends to be shrub or tree like. H. mutabilis also shows the hepatoprotective, analgesic, antidiabetic, anti-proliferative and anti-inflammatory activity. H. Mutabilis have a sedative and anesthetic properties. They earn with white or pink colour and converted to deep red at evening. In this colour changing process, temperature have very affecting and important role. In cold condition it remain white like morning but in warm condition it

turns to pink then red.



### 4)H. Syriacus L.

H. Syriacus L. native from South Central and South East China, It is also called as rose of Syria, rose mallow in United Kingdom. It is a national flower of South Korea. It's leaves are used in herbal tea. It is also known as Korean rose. Flowers colour is pink but also converted in dark pink or light pink or white.



### 5) Hibiscus Fragilis

Hibiscus fragilis commonly name of a hibiscus fragilis is "Mandrinette". It is

very rare shrub. The hibiscus fragilis evergreen plant with 7-10 cm flowers diameter. It have a bright pink colour of flower. It is look like a Chinese hibiscus.



## 6) Hibiscus Genevii

Hibiscus Genevii also known as Mandrinette, distributed to the island of Mauritius. The flower colour is pink or white. Leaf eating insects loves this plant for feed. Also aphids and white scale can be a problem of this plant. This plant is easily available.



## 7) Hibiscus Arnottianus

Hibiscus arnottianus have a scientific name is "Hawaiian white hibiscus". It is originated from Oahu Island (Hawaii). It is a small tree of malvaceae family. It is also known as white hibiscus.



## Nutrients & Chemical components involve in Hibiscus

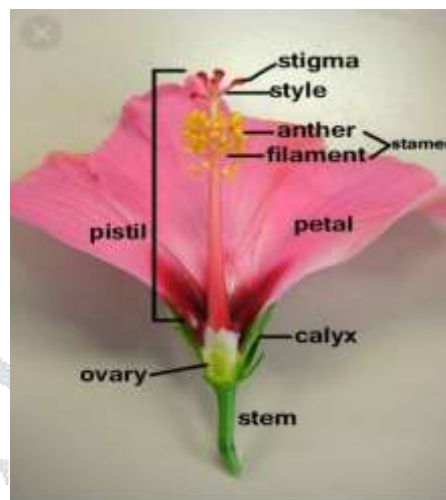
Row Hibiscus contains some carbohydrates, calcium, magnesium, potassium, vitamin C and vitamin B. It have a flavonoids, anathocyanins, phenolic acid and other organic acids. Hibiscus is act as a antioxidant property. It contains many chemical components like anthraquinone, phenols, alkanoids, quinines, cardiac glycosides, proteins, free amino acid, reducing sugar, mucilage, oils and steroid. Hibiscus are also used to preparing tea, extracts and powder,

which is helpful for reduce body fat, improve metabolic syndrome, protect the liver, decrease blood pressure, diamond the cancer cell, etc.

## Morphology of Hibiscus Rosa sinensis

Flowers are large, born singly on stalk, bisexual and pentamerous. The flower is pedicellate bracteate, hermaphrodite, actinomorphic & hypogynous. Five fused carpels, five stigma are present on this plant. The leaves are simple and egg like shape. Hibiscus Rosa sinensis is a dicot plant with axillary, complete and perfect flower. Epicalyx contains 5 - 7 free green bactereoles. Calyx have a five sepals and it is green in colour, gamosepalous, campanulate and valvate aestivation. Corolla contains five petals which attach to the staminal tube. It is large, polypetalous, showy and twisted aestivation. It is red coloured. Androecium have many stamens, fused filaments, monoadelphous, (filaments fuse to form staminal tube and anthers free), anthers reniform (kidney shaped). Gynoecium have pentacarpellary syncarpous means 5 fused carpels, with superior ovary and penta locular

with axial placentation. Style passes through staminal tube, 5 - stigma and free capitate.



## Some Pharmacological properties of Hibiscus Rosa sinensis

### 1) Antibacterial agent:-

Hibiscus Rosa sinensis flower petals are carried out the antibacterial activities. Extract prepare from Hibiscus Rosa sinensis shows an antibacterial property against humans related pathogens like B. Subtillis, E. Coli, P. Aeruginosa, S. aureus, Streptococcus SP. , Salmonella SP. , Gram positive bacteria. antimicrobial activity of H. Rosa sinensis con tested by the help of agar well diffusion method and can find out the zone of inhibition of various bacterias.

According to research E. Coli bacteria have more large zone of inhibition.

## 2) Antioxidant agent:-

Antioxidant activity was rated by evaluation of total flavonoids contents, total phenolic contents. The antioxidant property of flavonoids which present in *H. Rosa sinensis* helps to prevent the chronic and age-related diseases. Different antioxidant assay were perform on the isolated compound using standard procedure.

## 3) AntiCancer agent:-

Hibiscus Rosa Sinensis extracts packs with prospective as virtual cytotoxic agent against k-562 cells. (K-562 cells were first human immortalised Myelogenous leukaemia cells). Hibiscus Rosa sinensis flowers phenolic extract are effective on all type of cancer cell. Hibiscus extract also observe to increase the induction of programmed cell death of chemotherapy treatment in triple negative breast cancer cell, So hibiscus extract is effective on breast cancer.

## 4) Hair Growth promoting agent:-

Hibiscus Rosa sinensis leaves extract are very useful for growing hair.

Hibiscus flowers which containing an amino acids provide the various nutrients for process of hair growth. It contains keratin also help for hair makes less prone to breakage. It produces the thickness of hair strands. Hibiscus flowers was able to increase natural hair colour with a crimson tinge. Hibiscus aids also conflict dryness of hair & dandruff. It make hair smooth and silky. It have an anti-aging property.

## 5) Antidiabetic agent:-

Complications of diabetes such as hyperglycemia, hyperlipidemia, hypercholesteromia also manage by using hibiscus rosa-sinensis. The flowers of hibiscus Rosa sinensis contain ethanol extract which reduces the blood glucose level. *H. rosa-sinensis* aerial part extract enhance in the plasma insulin and C-peptide levels. Extracts also prevent from liver and kidney from injury chances due to diabetes.

## Benefits of Hibiscus ☒



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