

## Flavonoids as a natural “ DYE/PERMANENT INK “

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**Keywords:-** Flavonoids , Natural dye , Phytochemicals., polyphenols.

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Date of Submission: 24-09-2022

Date of acceptance: 08-10-2022  
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### I. BACKGROUND-

Flavonoids have found in nature for over one billion years [1,2]. These compounds were discovered by the Hungarian Nobel laureate Albert Szent-Györgyi in 1936 [3]. “Flava” means yellow in Greek [4]. A few nonplant sources also include flavonoids. For example, these compounds are present in the wings and bodies of butterflies in the Satyridae, Lycaenidae, and Papilionidae families. Besides, the only reported mammalian flavonoid source is also obtained from the scent of glands of the Canadian beaver. This flavonoid compound is 4'-methoxyflavan. Besides, flavonoids cannot be synthesized by humans. Most of flavonoids are present in plants as glycoside compounds. Mostly these flavonoid compounds split into to and aglycon and sugar during natural dyeing. The basic structure of the flavonoids is the colourless flavone .EdibleLandscaping:

**Review -Cranberry has been used for reducing the risk of "bladder infections" (urinary tract infections).Before having surgery, tell your doctor or dentist about all the products you use (including prescription drugs, nonprescription drugs, and herbal products).Hibiscus acetosella is an allotetraploid [2n = 4x = 72] with a genome composition of AABB.[6] It is often used to transfer genetic resistance to root-knot nematodes with compatible Hibiscus speciesCranberry hibiscus plants (Hibiscus acetosella) are multi-stemmed shrubs that grow from 3 to 6 feet (1-2 m.) in height with green/red to burgundy serrated leaves. The foliage looks much like that of Japanese maple. (Know How: Cranberry Hibiscus Info – Growing Cranberry Hibiscus Plants (https://www.gardeningknowhow.com /ornamental/flowers/hibiscus/growing-cranberry-hibiscus-plants. back ground plant in ornamental beds.Our family first found out about cranberry hibiscus during a eco-tour at ECHO Global farms in North Fort Myers, Florida where we were given a proper introduction to the plant including its many health benefits.**

**MAJOR FINDING--**Various type of plant and some living cells produced functional polyphenols/flavonoida which performed as staining material dye or ink in this regard i found Cranberry hibiscus plants khuch are actually taxonomically comes under family of Hibiscus Asetafollia its flower petal extract perform like natural dye or ink thi is not enuff this plant have so many benificail impact just like that The tart leaves and blooms of cranberry hibiscus plants contain antioxidants, calcium, iron, and vitamins B2, B3, and C.Cranberry hibiscus favors full sun but will grow in light shade, albeit a bit leggy. It grows in a variety of soil types but does best in well-draining soil. some types of hibiscus are toxic while others remain non-toxic to canines. For cats both blossoms and stems of this hibiscus are poisonous. after my se arch - i found ecofreindly permanent ink or dye from this cranberry hibiscus species flower

**Conclusion /result-** Tha conclusion is of this title review of plant based falvonoid we can collect this natural dye or ink withoutby using any heat treatment or chemical treatment or without applying any other kind of medium so its prosseing much low of cast and ecofreindly and based on agroswwaste materail



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