

## ***Rubia cordifolia* Linn. (Manjistha) – Controversial Identity**

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### **Abstract**

In indigenous systems of medicine, *Rubia cordifolia* Linn. is the accepted source for Manjistha. A recent research found that market samples of *R. cordifolia* from south India were derived from *R. tinctorium*. However, *R. tinctorium* is not a south Indian plant. A plant, which is not found in south India, might not be a source of the adulterant. Polymorphism and geographical variations were reported in *R. cordifolia*. We concluded that the south Indian sources of *R. cordifolia* might be derived from a different subspecies or geographical type or plants with different polymorphism and never be from *R. tinctorium*.

**Key Words:** *Rubia cordifolia*, *Rubia tinctorium*, Manjistha, authentic source, controversy, polymorphism, pharmacognosy.

### **Introduction**

Indigenous systems of medicine play a vital role in rural health populations. Complexities in herbal nomenclature system in indigenous systems of medicine lead to misidentification of plants. Identifying the exact plant mentioned in traditional literature and identifying the adulterants or substitutes are major tasks in basic research. There are controversies between researchers in identifying the source of plants. This article enumerates about the controversial identifications/comments made in the botanical sources of a popular herb *Rubia cordifolia*.

### ***Rubia cordifolia* Linn. (Manjistha)**

A recent research article was published (Pathania et al., 2006) on the authentication of market samples of *R. cordifolia*. Authors purchased the samples from 5 different places and compared them with the field-collected,

botanically-identified authentic plant. It was found that samples purchased from north Indian markets were authentic and samples purchased from south Indian markets (Coimbatore and Thiruvananthapuram) were spurious. Based on the presence of specific flavonoid (Dengre et al., 1993), they concluded that the spurious samples were derived from *R. tinctorium*.

### **Habitat of *R. cordifolia* and other species**

*R. cordifolia* is found throughout the hilly districts of India from N.W. Himalayas eastwards, ascending to 8000 ft and southwards to Ceylon. *R. tinctorium* is restricted to the Himalayas (Hooker, 1882).

*R. cordifolia* is a common plant in almost all parts of south India. *R. tinctorium* is not reported from south India (Gamble, 1921; Ramaswamy & Razi, 1973; Saldanha & Nicolson, 1976; Mathew, 1983 & 1999; Nair & Nayar, 1987; Singh, 1988; Keshavamurthy & Yoganarasimhan, 1990; Pallithanam, 2001).

### **Adulteration and Polymorphism in *R. cordifolia***

Sarin (1996) mentioned that stem pieces are adulterants, and samples derived from Sikkim and NE hills are originated from *R. Sikkimensis* Kurz.

Anonymous (1995), mentioned that *R. cordifolia* is a complex group, exhibiting a wide range of morphological characters. Santapau & Henry (1973) mentioned that *R. cordifolia* group consists of several distinct species and in India this group is very polymorphic with several recognizable geographical races.

### **Controversy and Conclusion**

1. *Rubia cordifolia* is the only species found in south India. *R. tinctorium* is restricted to the Himalayas.

A plant, which is not found in wild or in cultivation in south India, may not be the source of the adulterant in south India.

2. If we believe that *R. tinctorium* is the source of adulterant in south Indian markets, then it might have originated from the Himalayas.

However, it is unbelievable that an adulterant sold in south Indian markets, originated from the Himalayas, was not sold in north Indian markets.

3. In general, morphological and geographical variations alter the phytochemical constituents of plants.

It is concluded that the market samples sold in south Indian markets may be originated from a different polymorphic plant or a geographical race and never from *R. tinctorium*.

It is recommended that all forms, types and sub-species of *R. cordifolia* should be studied for its correct botanical identity and phytochemical constituents.

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