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STUDIES ON SOME SOUTH INDIAN MARKET SAMPLES OF AYURVEDIC DRUGS - V

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ABSTRACT: *The South Indian market samples of drugs Chavya, Gajapippali and Hrivera are evaluated. The accepted source, botanical identification of the market samples, ayurvedic synonyms, therapeutic properties, major preparations and diseases along with a short botanical description for the market samples are provided. Suitable photographs of the market samples are also included.*

INTRODUCTION

The drugs *Chavya, Gajapippali* and *Hrivera* are used in many important ayurvedic preparations (Anonymous 1978). The studies carried out by the authors in the South Indian Crude Drug markets on these drugs revealed that the market samples differ from the accepted source. Hence the identification work of the market samples of these drugs along with details on the drugs like relevant ayurvedic synonyms, important preparations, major diseases, therapeutic properties and a short botanical description for the market samples, was undertaken and are presented here.

MATERIALS AND METHODS

The same procedure was adopted as in the earlier papers of the series (Vasudevan Nair et al, 1982, 1983, 1984, 1985). All the samples are deposited at the Crude Drug Museum of RRCBI.

Elucidation of Drugs

I. **Chavya** (Figure 1): *Chavya* is an important drug included under the major grouping *panchakola, chaturjatha* and *shadooshana* (Gupta 1962). The roots of this drug are used in preparations like the *yogaraja guggulu, indukantha gritha, trikantaka gritha* for the treatment of diseases like *vishama jwara* (malaria), *kshaya* (tuberculosis) and *prameha* (diabetes mellitus) to mention a few (Anonymous 1978). The drug is attributed with the therapeutic properties *katu rasa, laghu ruksha guna, ushna veerya* and *katu vipaka.* The main synonyms for this drug are *kolavalli, kapivalli, sreyasi, kudala / masthaka* and *vaseera* (Kanta Deva 1967).

The drug *Chavya* as sold and found in South Indian markets consists of the stem portions, rooting at nodes; it is known as *kaattu mulagu* (Malayalam). *Adavi menasu* (Kannada) and *kaadu mulagai* (Tamil). The physicians use this drug in all the preparations as *Chavya* (personal observation). A study of this sample enable to botanically identify it as species of *Piper* Linn., (Piperaceae), chiefly *Piper schmidtii* Hk. f., and *P. bantamense* Bl., which are found abundantly in the hilly tracts of South India (Gamble 1967). However, the accepted source of *Chavya* are the roots of *Piper retrofractum* Vahl (= *P. chaba* Hunter, non Blume) which is confined to Indonesia in wild state (Anonymous 1978).

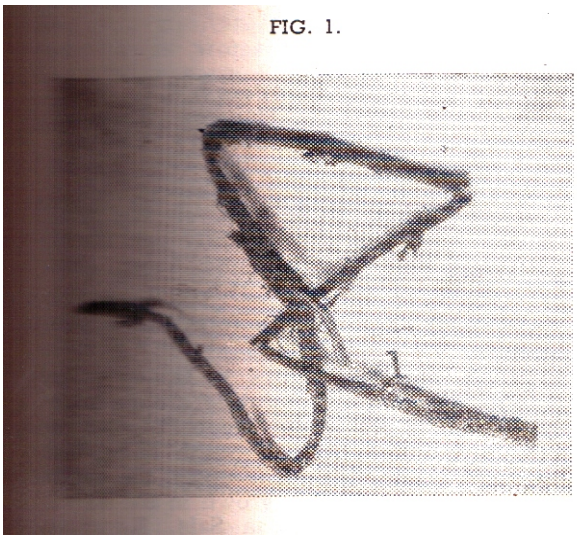


FIG. 1.

EXPLANATION OF FIGURES

Figures 1 to 4: Studies on S. Indian market samples:

1. *Chavya* (market sample) (*P. schmidtii & P. bantamense);*
2. *Gajapippali* (market sample) (*Balanophora fungosa* asp. Indica)
3. *Hrievera* (market sample) (species of *Coleus)*

3a. *Hrievera* (herbarium specimen of *Coleus zeylanicus)*

4. *Hrievera* (market sample *Pavonia odorata)*
5. *Hrievera* (Living population of *Coleus zeylanicus)*
6. *Hrievera* (Root in live specimen of C. *Zeylanicus)*

Botanical description

a. *Piper schmdtii* HK. f in Large climbing shrubs with ovate – elliptic leaves; fruits / spirally twisted spikes, oblong or

globose. It is found throughout western ghats.

b. *Piper bantamense* Bl. (= *P. attenuatum* Buch – Ham. Ex Miq.), Slender climbers with flexuous branches, bearing orbicular – ovate or cordate leaves. Fruits ellipsoid or globose, about 4mm in diameter. Found in western ghats, Himalayas, Andhra Pradesh, Orissa, Assam and Meghalaya.

II. **Gajapippali** (Figure 2): This drug as per classics (Gupta 1962) should be the fruits of Chavya *"Chavikaya phalam prasokdhita Gajapippali"*. However, this dug is not properly understood and even the accepted source is agreed to as the fruits of *Schindapsus officinalis* Schott, a member of Araceae (Anonymous 1978). This is in no way concerned with *Pippali* which is always a member of Piperaceae.

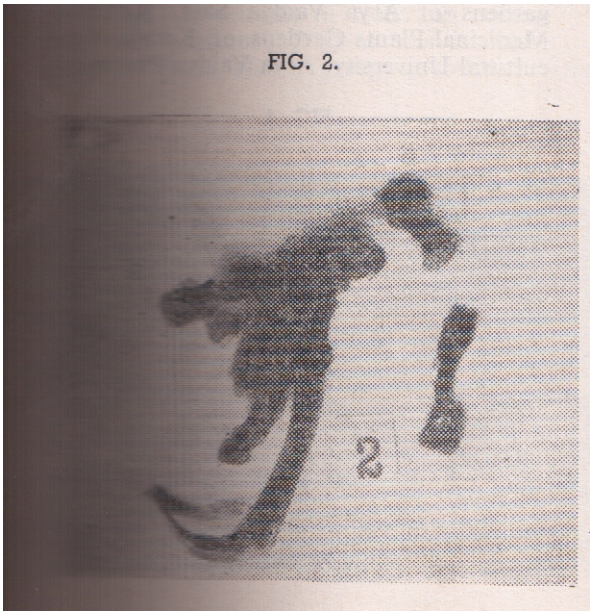


FIG. 2.

In South Indian markets, the authors observed a totally different drug sold in the name of *Attithippali* (Malayalam). *Attithippali* is the trade name for *Gajapippali* and is thus used in all preparations (personal observation). The botanical identification of *Attithippali* revealed that it consists of the rhizome, stalk and inflorescence portions of the male and female plants of *Balanophora fungosa* sp. *Indica* which occurs as a root parasite in the forests of South India.

The therapeutic properties of *Gajapippali* are *katu rasa, snigdha laghu guna, anushna seethe veerya* and *madhura vipaka* (Sharma 1969b). It is used in preparations like *dhadhika gritha, danwantara gritha, pancha thikta guggulu gritha* in the treatment of diseases like *arsa* (piles), *vata vyadhi* (rheumatism), *pandu* (anaemia). The main synonyms like *hasti pippali, ibha pippali, kunjara pippali, sreyasti, gajopakulya* and *gajahwa* are attributed to this drug.

It is also observed that while *Gajapippali* has aroma and pungent taste (*katurasa),* the market sample of *Attithippali (B. fungosa* ssp. *Indica)* has neither aroma nor pungent taste.

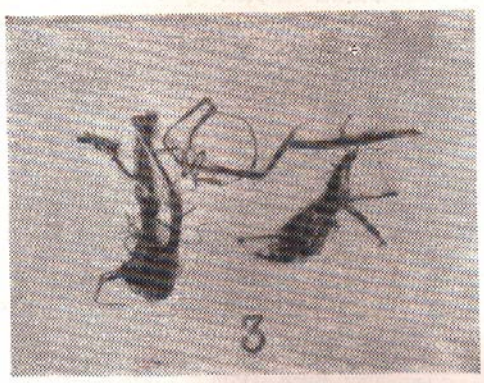
Botanical descriptions:

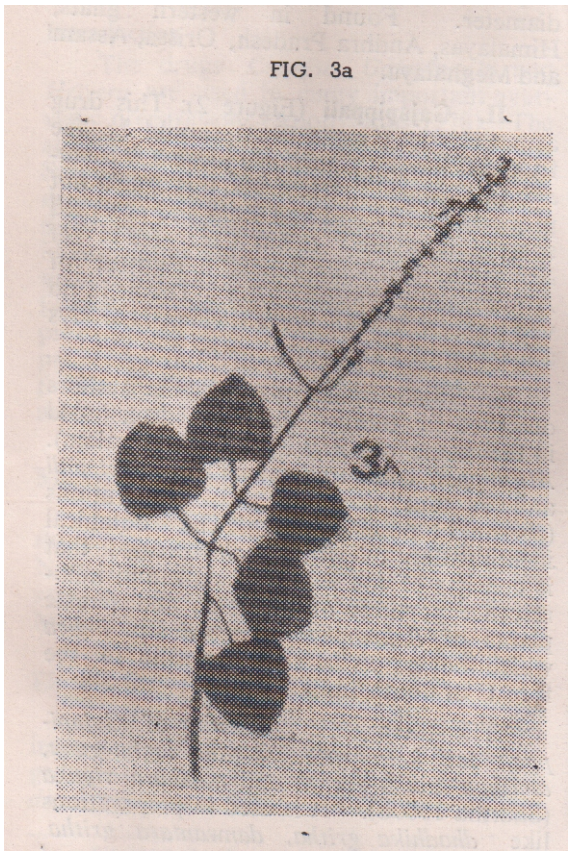
1. *Balanophora fungosa* J. & G. Forst. Ssp. *Indica* (Arn.) Hansen : Parasitic, rhizomatous herbs. Up to 13 cm tall, dioecious; rhizome tuberous with rounded lobed branches, pale brown. Scapes crowded, unisexual; male scape long, obovoid with ovate – oblong thick scales, dirty pale – white, acute; female scape globose, large, dark purple – brown, and pedicel short.

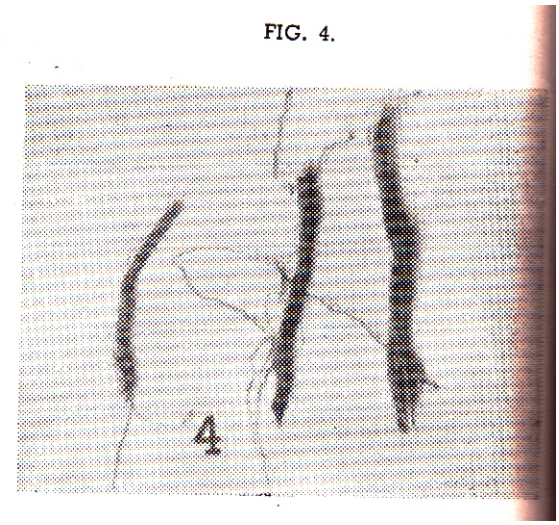
   Found in evergreen forests as a root parasite.

III. Hrivera (Figures 3, 3a, 4) : The accepted source of this drug are the roots of *Coleus vettiveroides* Jacob (Lamiaceae) (Anonymous 1978). In South India, the authors observed a plant under the name *Iruveli* (Malayalam) is grown in the herbal gardens of Arya Vaidya Sala, Kottakal, Medicinal Plants Gardens of Kerala Agricultural University, Arya Vaidya Pharmacy, Coimbatore and near the vicinity of the clinics of many vaidyas which is sold and used by the physicians as *Hrivera.* Botanical studies (Hooker 1885; Cramer 1981) and comparison of the specimen at MH revealed that the taxon belongs to *Coleus zeylanicus* (Benth.) Cramer (= *Plectranthus zeylanicus* Benth.), an endemic species of Ceylon, never found wild there but often cultivated in many places. This species is also now cultivated in India in many places for its aromatic roots and also for the medicinal purpose. It is also interesting to note that this species is known as *Iriweriya* in Sinhala language (Cramer 1981).

FIG. 3.







However, the South Indian market samples of *Hrivera* were found to be of two types :

A type – consisting of major portions of stem and wiry main roots with many lateral roots. This type on scrutiny was found to be different species of *Coleus* Lour. – chiefly *C. zeylanicus, C. barbatus, C. amboinicus,* very rarely *C. vettiveroides,* The stems and roots of these species are intermixed to such an extent that it is very difficult to recognize them in the drug lot.

B type – It consists of stout tap roots along with portions of stem; this is sold mainly in Tamil Nadu (except in southern parts). The source of this sample is identified as *Pavonia odorata* (Malvaceae). The price of this sample is considerably cheap.

The synonyms like *chikura* (hair – like), *kuntala* (hair – like) *sugandha balaka* (sweet scented), *undeechya* (usira – like smell and hairy roots) suit with the species *C. vettiveroides.* This drug is one of the ingredients of *shadanga kwatha, drakshadi kwatha* and *brihat manjistadi kwatha* which are used in treatment of diseases like *jwara* (pyrexia), *kamala* (jaundice) and *vata rakta* (gout) (Chunekar and Pandey 1969a; Sharma 1969b).

Botanical description

1. *Coleus zeylanicus* (Benth).Cramer: Annual herbs with stems rooting at lower nodes; stem 4 – angled, hirsute. Leaves broadly ovate to sub orbicular, rounded to truncate at base, coarsely crenate – serrate,

sparsely hirtellous on both surfaces, thick with amber coloured oil globules. Panicles terminal (Figures 3a, 5 & 6).

Endemic to Ceylon where it is cultivated as a medicinal herb. Introduced and cultivated now in India in many places.

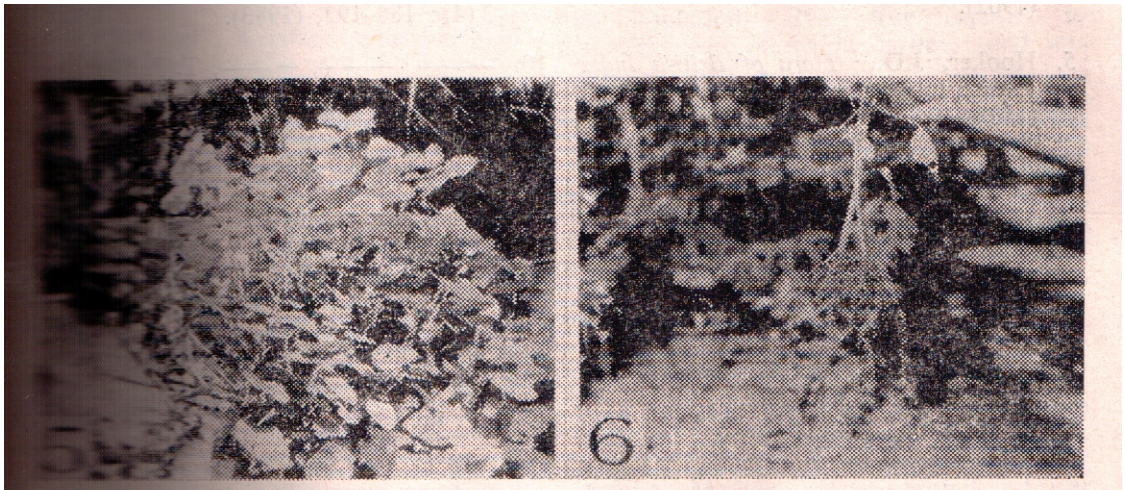


FIG. 5 & 6

2. *C. barbatus* (Andr.) Benth. (= *C. forskohlii* sensu Briq.) Perennial, aromatic herbs, to 1m tall with thick root – stock. Found in Himalayas, Deccan Peninsula, Gujarat and Bihar.

3. *C. amboinicus* Lour: Succulent herbs with pale purple flowers. Chiefly found cultivated in gardens throughout India.

4. *C. vettiveroides* K. C. Jacob: Small, succulent herbs, about 60 cm tall with procumbent purplish pubescent stems and leaves. It is strongly aromatic when fresh. The plant is cultivated in South India.

5. *Pavonia odorata* Willd : Pubescent herbs with cordate – ovate, shallowly 3 to 5 – lobed leaves. Flowers axillary, pink or white, fragrant. Found in warm places in South India, parts of Bengal, Bihar, Orissa, U. P. and Rajasthan.

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