NOMENCLATURAL CONFUSION OF SOME SPECIES OF ANDROGRAPHIS WALL

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ABSTRACT: Andrographis paniculata Nees, Andrographis alata Nees and Andrographis lineate Nees. (Acanthaceae) are important medicinal plants useful in the treatment of various human ailments. Nomenclatural confusion prevails with regards to these medicinal plants in India medical literature and vernacular nomenclature. This nomenclatural confusion has been clarified in the present paper.

INTRODUCTION

India is endowed with a rich wealth of medicinal plants. Most of these plants continue to be gathered only from the wild. The correct identification of wild medicinal herbs used in Indian systems of medicine is one of the most serious problems confronting medicinal plant collectors, medical practitioners, botanists and phytochemists. The nomenclatural systems used by the ancient Indians, attributing different names to the same plants and same name for different plants together with the time lapse, have caused considerable confusion in procuring the medicinal herbs in various parts of the country by various people. Nomenclatural confusion prevails with reference to some species Andrographis wall. (Acanthaceae). Some medicinally important species of Andrographis are called Nilavembu, Siriyanangai and Periyanangai in the Siddha, and Kalmegh in the Ayurvedic medical literature and drug markets. These plants were valued by the Indian medicine men for their febrifuge, alternative, bitter, tonic and hepato protective properties (Kirtikar and Basu., 1975; Nadkarni., 1976; De et al. 1993). They are also found to be value in dysentery and malaria (Nadarni., 1976). Valuable drugs are prepared from these plants in India. But there exists a confusion with regard to the vernacular and botanical nomenclature of these species. The present study has been undertaken to clarify this nomenclatural confusion and to find out the correct botanical identities of the species of Andrographis.

OBSERVATIONS

The medicinally important species of Andrographis are distributed from the plains up to an elevation of about 1500 meters above the mean sea level in the hilly regions of Tamil Nadu. The species of hilly regions are very much restricted in their distribution due to environmental and biotic factors.

The varied Indian vernacular nomenclatures of A. paniculata Nees have been observed to be as follows:
In English it is known as Create, Chiretta and King of Bitters. It is reported to be a bitter annual herb, found in the plains throughout India and Ceylon. In the plains of Tamil Nadu this spice is identified as either Periyanangai or Siriyanangai and widely used for various medicinal purposes. Its reputation is attributed by the local medicine men to its antivenom and snake-repellent properties.

It is claimed by the medicine men of the hills of Tamil Nadu that the herb Periyanangai is not available in the plains. Its availability has been said to be restricted only to hills above 1500 m altitude. The species A. alata (Fig.1) and A.lineata (Fig.2) are claimed by them as Periyanangai and used for various therapeutic purposes, namely antivenom and snake-repellent properties. These two species are also bitter in taste like A. paniculata (Fig.3).

A. alata has been mentioned as Periyanangai by some authors (Matthew, 1983; Lakshmanan and Kalyani, 1988) A. lineate has not been assigned any local names in the available floras.

The Tamil vernacular names Periyanangai and Siriyanangai are attributed to certain species of Polygala (Polygalaceae) P.elongata Klein ex Willd. and P. telephioides Willd are called Periyanangai; and P.arvensis Willd (syn. P. chinensis L) is called Siriyanangai (Chopra, et al. 1956 ; Anonymous, 1969; Murugesu Mudaliar, 1988). Literature available on the species of Polygala was investigated in order to ascertain its correct identity.

Polygala Linn. (Polygalaceae) is a large genus of herbs, under shrubs or shrubs distributed in the warm temperate regions of the world. About 20 species occur in India. P. senega, indigenous to North America is source of the drug senega. The roots of P. chinensis have been mentioned in the Indian Pharmacopoea as a substitute for true senega. The roots were supposed to have been derived from 3 to 4 years old plants of P. chinensis; but P. chinensis is an annual herb. The anatomical structure of P. chinensis roots available in the market shows 3 – 5 rings of secondary growth, indicating that the source of these roots must be some perennial plants. It appears that the confusion arose as some authors considered P. glomerata as a synonym of P. chinensis. The two species are considered distinct by all Indian floras. P. glomerata is a perennial robust plant with caduceus bracts, found from Sikkim to Assam. P. chinensis is merely an annual with persistent bracts, distributed in the plains throughout India. The roots of P. chinensis are so thin that their commercial exploitation is not economical, even though they are reported to contain considerable quantities of saponins P. chinensisi and its preparation were, therefore, deleted from the Indian Pharmacopoea.
The medicine men of the plains attribute antivenom and snake-repellent properties only to the species of *Andrographis*. The Tamil vernacular names of the species of *Andrographis* are observed to be as follows:

A. *paniculata* - Nilavembu, Periyanangai and Siriyanangai

A. *alata* - Periyanangai

A. *lineate* - Periyanangai

The species of *Polygala*, Viz; *P. elongate* (Fig.4) and *P. telephioids* (Fig.5) are claimed as Periyanangai and *P. arvensis* (Fig.6) as Siriyanangai in the Indian medical literature (Muruges Mudaliar, 1988).

Hence, the Tamil vernacular nomenclature Periyanangai and Siriyanangai have to be revised because the species of *Andrographis* are more commonly known and used as

Periyanangai and Siriyanangai than the species of *Polygala*.

In the ayurvedic drug industry *A. paniculata* is known as Kalmegh. Kalmegh is observed to be its Bengali vernacular nomenclature. In the ayurvedic herbal market the name chiretta is also applied for *A. paniculata* and some other plants of the family Gentianaceae, namely *Swertia chirata*, *Gentiana kurroo* and *Ophelia augustifolia* (Moodeen sherife, 1978).

In order to avoid this confusion *A. paniculata* must be assigned with the existing ayurvedic drug name Kalmegh only. The name Chiretta must be restricted only to the species of Gentianaceae. This will facilitate the correct identify of the herb in the drug market. The plants *A. alata* and *A. lineate* are known to have no ayurvedic drug names.

Table.1 clarifies the currently existing nomenclatural confusion among these medicinal plants.
Fig. 5. Polygala telephoides

Fig. 6. Polygala arvensis
TABLE 1

| Sl. No | Botanical Name      | Family Name          | Ayurvedic Name | Siddha Name | English Name        | Local Name       |
|-------|---------------------|----------------------|----------------|-------------|---------------------|------------------|
| 1     | Andrographis paniculata | Acanthaceae         | Kalmegh       | Nilavembu   | King of bitters     | Periyanangai    |
| 2     | Andrographis alata   | Acanthaceae         | -             | -           | -                   | Siriyanangai    |
| 3     | Andrographis lineate | Acanthaceae         | -             | -           | -                   | Periyanangai    |
| 4     | Polygala arvensis    | Polygalaceae        | -             | Siriyanangai| Common Indian Milk Wort | Periyanangai |
| 5     | Polygala telephioides| Polygalaceae        | -             | Periyanangai| -                   | -               |
| 6     | Polygala elongate    | Polygalaceae        | -             | Periyanangai| -                   | -               |

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