

TAXONOMIC STUDY OF AN AYURVEDIC HERB *KADE-CHIRAYET* FROM PUNE AND NEIGHBOURING DISTRICTS

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ABSTRACT: Five difference species of plants are known as *Kade-Chirayet* in different parts of Pune and neighbouring districts. Botanical identification of all the five species is presented in this paper.

INTRODUCTION

In traditional medicines doubtful identification of plant species is often noticed. Physicians and druggists also get puzzled when different substitutes are brought before them. In India there is a variety of folk medicinal systems and also of languages. This has resulted in creating many controversial plant species used as herbal drugs to achieve the same result. **Kade-chirayet** is one of such controversial herbs.

Five different plant species vernacularly known as **Kade-chirayet** are prevalent in area of Western Maharashtra. They are **Swertia angustifolia**, **S.decussata**, **Exacum bicolor**, **Enicostemma littorale** and **Andrographis paniculata**. Out of these, first four belong to the family Gentianaceae while **Andrographis paniculata** is a member of family Acanthaceae. All five are used as tonic and febrifuge by local people where ever available. In Pune market **Swertia decussata** is sold as **Kade-chirayet**.

Though these are recognized species, there detailed comparative taxonomic account is

not available and hence the present work was undertaken.

Area Under Study

The area under study lies between 15° 17', to 21° N. lat. And 73° to 75° E. long. It covers areas of Western Ghats from Pune and neighbouring districts. The samples are collected from hilly regions of Pune, Satara, Raigad and Ahmednagar districts.

MATERIAL AND METHODS

Different plant species known as **Kade-chirayet** were collected during botanical tours in different areas of Pune and neighbouring districts. Herbarium of all five plant species were made by usual method (Jain & Rao, 1978).¹ These specimens are preserves in M. A.C. S. herbarium.

The crude drug samples of **Kade-chirayet** were also collected from local market. They were identified in the Botany Department of MACS Research Institute. Plants were also observed critically for their exomorphic characters. The data presented in this paper include valid botanical name of the drug sample, its citation, local names, brief morpho-logical description, medicinal uses,

phenology and availability in fields. While describing, the following abbreviations have been used: As – **Aushadhi Sangraha** by V.G. desai²; **C-Flora of Presidency of Bombay** by Cooke, T.³; **FBI – Flora of British India** by J.D. Hooker⁴; F – Family name. **GIMP – Glossary of Indian Medicinal Plants** by Chopra, Nayar and Chopra⁵. **KB - Indian Medicinal Plants** by Kirtikar & Basu⁶. **LN – Local Name. WI – Wealth of India, Raw materials**⁷.

A key for identification of these taxa was prepared as follows:

Key to General –

1. Bract & bracteoles are present.....**Andrographis**

1. Bract & bracteoles absent

2. Ovary two celled..... **Exacum**

2. Ovary one celled

3. Corolla lobes with pits... **Swertia**

3. Corolla lobes without pits...**Enicostemma**

Keys to Species of Swertia –

1. Calyx lobes more than 12 mm....**S.angustifolia**

1. Calyx lobes 6-8 mm..... **S. decussate**

Botanical Description:

Andrographis paniculata Nees in Wall. Pl. AS. Rar. V.3 (1932), p.116.

F. – Acanthaceae.

FBI. 4:501; **C.** 2:451; **GIMP.:** 18; **AS.** 2:103; **KB.** 3:1884, plate -722B. **LN. – Kade-chirayet, kal-megh, Palekerayet.**

Erect annual, stems quadrangular leaves acute, glabrous; flowers in panicles, rose red, fruit capsule.

Plant is tonic, febrifuge, anthelmintic, used in debility, dysentery & dyspepsia. Fls. Frs. – Sept/Oct.

Ericostemma littorale Blume, bijdr. (1926) p.848.

F. – Gentianaceae.

FBI. 4:101, **C.** 2:255; **GIMP.** :107; **AS.** 2:56; **KB.** 3:1635, plate – 637. **LN. – Kade-chirayet, Chota-chirayet, Naichapala, Mamanjva.**

Perennial glabrous herb, leaves sessile, variable, flowers in axillary clusters, fruit capsule.

Plant is bitter, stomachic, ferbrifuge, laxative, used as blood purifier, applied on swellings. Fls.Frs. – Sept./Nov.

In Pune market this plant is sold under market name **Naicha pala**. The medico practioners in Pune use it, as **Mamanjva** (blood purifier). Used as **Kade-chirayet** by tribal people.

Exacum bicolor Roxb. Hort. Beng. (1814) p.83

F. – Gentianaceae.

FBI. 4:96 **C.** 2:252; **GIMP.** : 116; **AS.** 2:55; **KB.** 3:1653, plate – 635.

LN – Kade-chirayet, Udichirayet, Ghatichirayet.

Erect annual; stems quadrangular; corolla upper half blue, lower half white.

Plant is stomachic, tonic, used in place of Chirataa. Fls./ Frs. – July/Sept.

Swertia angustifolia Buch-Ham. In Don Prodr., 126; Bot. Mag. 5687, Fig. 3, 4

F. – Gentianaceae.

GIMP. : 237; **AS.** 2:52; **KB.** 3:1666, plate 641 A.

LN. – **Kade-chirayet, Pahadi-kirayet.**

Stem angular, winged; leaves linear, lanceolate; flowers bluish white, one gland on each corolla lobe.

Plant is used as substitute for chirayet. Fls./Frs – Oct./Nov

Swertia decussate Nimmo ex grah. Cat. Pl. Bomb. (1839) p.249.

F. – Gentianaceae.

FBI. 4:127; **C.** 2:259; **GIMP.** : 237; **AS.** 2:54; **KB.** 3:1616, plate 642 A.

LN. – **Kade-chirayet, Siljt, Kadu.**

Small herb stems quadrangular, flowers white. Plant is bitter. Used as a substitute for **Gentiana kurron**. In Pune market plant is available as crude drug. Whole plant is sold in the market under name **Kade-chirayet**. It is used by Medico-practitioners in Pune and said to be effective. It is bitter tonic and used as febrifuge. Decoction of whole plant in water is recommended in high fevers.

DISCUSSION

It is seen from the above account that all the five plant species are used by local people in

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Desai, V. G. Aushadhi Sangraha, Ganesh Book Depot, Bombay (1975).

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different areas of Pune and neighbouring districts. During literature survey it is found that **Swertia chirata** is also known as **Kade-chirayet** but it is not found in area under consideration. Out of five above described **Kade-chirayet**, **Enicostemma littorale** is sold in Pune market under the market name **Naicha-pala** and it is said to be a good blood purifier. **Swertia angustifolia** and **Exacum bicolor** are locally used as **Kade-chirayet** but not available in Pune Crude drug market. **Andrographis paniculata** is used as **Kade-chirayet** in the area, which is cultivated on large scale at Kashele tribal area as a **Kade-chirayet** and said to be an effective febrifuge.

In Pune market **Swertia decussate** is available as **Kade-chirayet** and claimed as a good remedy for fevers.

An artificial key presented in the paper is helpful to identify all the four genera and five species on the basis of exomorphic characters.

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