NOTE ON THE BOTANICAL IDENTIFICATION OF
"SUGANDHI KOKIL"

Vartak, V. D. And Upadhye, A. S.

Maharashtra Association for the Cultivation of Science, Research Institute, Law College Road, Pune 411 004.

ABSTRACT: The aromatic parched fruits imported from Middle-East countries have been known only by their trade name 'Sugandhi - Kokil'. No other information was available about the much deformed fruits. The note presents botanical identification of the plant material with the description of the plant, its local and medicinal uses.

INTRODUCTION -

An enthusiastic perfumer brought few wrinkled parched Ber like fruits to our laboratory for botanical identification. The fruits are more or less round, drup like and have agreeable fragrance, Along with the fruits there are few deattached fruitstalk with the dried calyx cup. Inside the shell like endocarp, there is a single seed with two cotyledons. The external appearance of fruits with brittle pericarp suggests that they could be a secondary product after extraction of essential oil. Unfortunately, besides the market name from Bombay 'Sugandhi kokil', no other information such as Habit, habitat, source botanical name etc. was available.

Special efforts were made to identify the specimens with the help of Botanical survey of India (W.C.) Pune, Jawahar herbarium of Medicinal plants, Pune and the Medicos practising Ayurvedic medicine but no one could give the correct information of the specimens. Central Institute of Medicinal and Aromatic plants Lucknow however gave good response and identified the material.

BOTANICAL DESCRIPTION -

The botanical name of the 'Sugandhi Kokil' is Lauras nobilis Linn. (Family Laureceae). The other popular names are 'Sweet bay and True Laurel', in English and Hab-Al-Ghar in Arabic (Chopra et al., 1956). It is an evergreen middle sized tree with narrow, lanceolate, fragrant foliage. Leaves are simple, alternate and coriaceous flowers white in axillary clusters (Coste 1906). The plant is native of Asia minor.
It is mainly cultivated in Europe and Africa and is propagated by cuttings. It is an ornamental plant which can be used in topiary by becorous trimming to almost any shape (Bailey 1977).

**ECONOMIC USES**

The leaves are bitter, aromatic and constitute the "lauraret of antiquity, the symbol of victory. They are also used in cooking for mild fragrance, in preparations like puddings, soups and other culinary products. They from an ingredient of French 'bought'. A small brance of the sweet herb is often used by the Europeans (The wealth of India, Raw materials). Hab. Al-Ghar, is much used in Arabic Unani medicine and could have been possibly brought to India by the Arabs (Desai 1927). In Unani medicine, the dried fruits are considered as a nervine tonic, it is given for cough alongwith the wine.

Dried fruits are also known as 'Boy berries', have been imported into India for medicinal use. They are blackish brown ovoidal (about 1.5 cm long), wrinkled and contained a single seed with two separable oily starchy cotyledons. Both leaves and fruit posses aromatic, stimulant narcotic properties. They were rarely used for hysteria, ammenreas and flatulent colic. Commercial oil of Laural oil of Laural berry is some times applied externally as stimulent in sprains and principally used in veterinary medicine. Berry yields 20-35% fat used to some extent in pharmacy, veterinary practice and perfumery.

**ACKNOWLEDGEMENTS**

Thanks are due to Dr. H. S. Puri, Central Institute of Medicinal and Aromatic plants Lucknow for Botanical identification of the specimen. We are also thankful to Dr. V. G. Vaidpa for useful suggestions and grateful to the Director, M. A. C. S. Research Institute, Pune for facilities.

**REFERENCES**:

OBSERVATIONS ON WILD PLANTS USED IN FOLK MEDICINE IN THE RURAL AREAS OF THE KOLHAPUR DISTRICT

UPADHYE ANURADHA, M. S. KUMBHOJKAR AND V.D. VARTAK
Maharashtra Association for the Cultivation of Science Research Institute,
Law College Road, Pune 411 004, India.

ABSTRACT: This paper deals with the wild medicinal plants used by rural population of south-western part of Kolhapur district, Maharashtra State. The authors gathered data on 34 species of locally available wild plants used in curing common human ailments. The plants are arranged according to the type of ailment. Vernacular name of each species followed by its botanical name, relevant plant family and known use of the plant in local medicine are given.

Introduction

Some selected wild plants are used by tribal and rural people for curing human ailments. During our routine botanical plant collection tours, especially for our studies on the sacred groves, we collected data on folk medicines from some plants used in local medicine. These records are based on interviews with elderly persons and consist of information which has been traditionally passed down from generation to generation. It is needless to say that such information requires verification through experimental work and clinical investigation in order to ascertain and establish their utility and efficacy in therapeutics. This paper presents data on 34 wild medicinal plants collected from the forest areas of the Kolhapur District since 1980.

For many centuries, the tribal community had a traditionally self-managed system of folk medicine and primary health care mainly based on herbal remedies. This system has certain relevance to the great traditional science of Ayurveda. People living in the rural communities still depend on the knowledge of local 'Vaidu' or 'Bhagat' for primary health care. These local doctors use seasonally available local flora and fauna for healing human illness. They collect the herbal material available in hilly areas and store it in the form of dried twigs or fruits. Sincere efforts should be made to train these tribal communities in procuring proper and genuine plant material and in using it as drugs with due care and thorough understanding. Medicos with University degrees are also urged to take keen interest in the knowledge and use of appropriate folk medicine in rural areas before its extinction. Sacred-groves, which are forest preserved on the religious grounds (locally known as Deo-raj), are well-known for their rich flora and fauna. It has also been observed that these spots are famous for good growth of medicinal plants. Locals 'Vaidu' proudly refers these sacred-groves as God's dispensaries (Gadgil & Vartak 1981; Vartak 1982.)

Area under consideration in the present article includes hilly rural areas of Kolhapur district (73°8'- 74°8' E long. and 15°7'-17°22' N lat.) from Maharashtra state. It has been found that in this region about 34 plant species are used commonly as home remedies in rural communities. The plants are well confirmed with the help of available literature (Chopra et al. 1956; Cooke 1967.) Voucher specimens of these plants are deposited in the Maharashtra Association
for the cultivation of Science herbarium. The medicinal plants recorded are arranged below according to their uses. The vernacular name is followed by the botanical name, name of plant family and known use in the local medicine.

**ENUMERATION**

**Plants used for cold and cough**

1. **Rai-tir:** Attylosia lineala W. & A. (Fabaceae). Leaves are collected and dried. The dried leaves are smoked in Asthma and Cough.
2. **Pundha:** Heracleum pincla D&h. (Apiaceae) Seeds are collected, dried and given for cold and cough along with hot water.
3. **Son-Garda:** Micuia nioiiosperma DC. (Fabaceae) Seeds are crushed with water and given for cold and cough.
4. **Akkal - Kadha:** Spilaiitlius acmella Aliirr. (Asleraceae) Root extract of this plant is given for cold and cough.

**Plants used for cuts and burns**

1. **Kandar:** Aeginetia indica L. (Orobanchaceae) The lump of the black powdery matured seeds is applied on burns.
2. **Rai-tur:** Attylosia lineata (Fabaceae) Fresh leaves are crushed in water and thick paste is placed on cuts.
3. **Tiplan:** Allophyus serratus (Sapindaceae) Young leaves of this plant are crushed and applied on cut.
4. **Chundada:** Macaranga peltata Muell. (Euphorbiaceae) Yellow latex is obtained from the plant. It is used to check blood flow from the cut or bleeding wounds.
5. **Dasadi, Eka-dandi:** Trilex procumbens (Asteraceae) Crushed leaves are applied on minor injuries.

**Plants used for skin diseases**

1. **Oosdi:** Ageratum coyoizides L. (Astereae) Leaves of this plant are crushed and applied externally on ringworms.
2. **Burambi:** Anoora lavi Bedd. (Meliaeaceae) Leaves are allowed to decompose and then applied for any type of skin diseases.
3. **Bihati:** Blumea p. (Asteraceae) Leaf juice is applied on skin for rash due to Bibba Semecarpus anacardium L. f.
4. **Owi, Pori, Tambati:** Melanthesa turbinataw (Euphorbiaceae) In case of redness of skin the leaf juice of this plant is applied.
5. **Bahasa:** Cassia fistula L. (Ceasalpiniaaceae) Leaf juice is applied for ringworm infection by local peoples.
6. **Kanguni:** Celastrus paniculata (Celastraceae) Oil is obtained from the seeds of this climber. The oil is said to be effective remedy for skin diseases.
7. **Ukshi:** Calycopteris floribunda Lam. (combretaceae) Leaf juice of the climber is said to be useful for white patches on the skin.
8. **Umber:** Ficus globerata Roxb. (Moraceae) Latex from the leaves is used for dermatitis.

**Plants used for dysentery**

1. **Makadi, Matangi:** Atlantis monophylla Dc. (Rutaceae) Leaves are used by tribals as antidyserteric.
2. **Pandhra kudu:** Holarrheea antidysenterica Wall. (Apocynaceae) Root is antidyserteric. A suspension of root is made along with butter milk and given. Usually the fresh root is used as it is more effective than that of the stored one.
3. **Gel-pha:** Randia dumetorum Lam. (Rubiaceae) When there is vomiting along with diarrhoea then Stem bark of the Gel phal is used externally as well as internally.

**Plants used for stomach-ache**

1. **Bahava:** Cassia fistula L. (Ceasalpiniaaceae) Stem bark is eaten raw for the stomach ache.
2. padali: Cyclea peltata H. F. & T. (Menispermaceae) Root of this plant is eaten raw for the stomach ache.

3. Bhamburda, Elephants leg, Agaimon: Elephanthophus scaber L. (Asteraceae) Water suspension of the root is used with sugar and few seeds of Cuminum cymunum. It is said to be very effective for stomach pain.

4. Nana: Lagerstroemia lanceolata wall (Lythraceae) Stem bark of this plant is given for the continuous pain in the abdomen.

5. Pandhari: Muraya paniculata luck. (Rutaceae) Leaf juice is mixed with seven garlic buds and seven pepper seeds and given for chronic stomach ache.

6. Rukhalu: Remusatia vivipara Schott. (Araceae) Root is externally used for snake bite.

Plants used for abscesses
1. Karulacha dola: Cucurbita sp. (Cucurbitaceae) Leaves of this climber are crushed and applied on an abscess.

2. Keri: Cucumis tricuspin Roxb. (Cucurbitaceae) Fruits are cooked and applied on an abscess.

3. Kapur bhendi : Turacoa villosa Benn. (Meliacceae) Leaf suspension is applied on an abscess.

4. Chiksa : Sida rhombifolia Linn. (Malvaceae) Leaves are crushed and applied on an abscess.

Plants used for swellings
1. Chitrak : Plumbago zeylanica L. (Plumbaginaceae) Root is poisonous and used for swelling externally.

2. Hura : Sapium insigne Trim. (Euphorbiaceae) Leaf latex is used for any type of swelling followed by chronic pain.

Acknowledgements
The authors are thankful to the Director, M. A. C. S. Research Institute for giving facilities and also thank Miss V. Y. Dabadghao for valuable help in field work. Financial aid from the Department of Environment, Government of India, for floristic survey of sacred groves is also gratefully acknowledged.

REFERENCES


RESEARCH NOTE

(III)

NOTE ON MAGNIFICENT TINOSPORA SINENSIS (LOUR.) MERRILL IN SACRED GROVES OF PUNE DISTRICT

Sacred groves, the forests preserved on religious belief, are regarded as the treasure houses of rare species. Due to the protection to these forests of Western Ghats, they also exhibit climax type of vegetation for that particular zone. Naturally it adds grandeur to the vegetation in the sacred groves. Over 200 sacred groves have been reported so far by Botany department of the M.A.C.S. (Gadgil & Vartak, 1981) and they are being critically studied for their floristic wealth.

Under the optimum growth conditions prevailing in the sacred groves, some of the floristic elements attain maximum dimensions (Vartak, 1981). The nature lover is often confronted here with an unbelievable phenomenon of size, growth and vegetational pattern of the plant associations. Hence the authors surveyed interesting arboreal plants and lianas showing maximum attainable growth and grandeur. Present note describes occurrence of *Tinospora sinensis* (Lour.) Merrill, a liana showing remarkable appearance and growth in the 'Jakhanichi Rai'.

*Tinospora sinensis* (Lour.) Merrill is recorded from following nine sacred groves from Pune district:

<table>
<thead>
<tr>
<th>Tahsil</th>
<th>Location</th>
<th>Name of Sacred grove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mulshi</td>
<td>Dakhane</td>
<td>Jakhanichi rai</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Sandavghar</td>
<td>Vardainichi rai</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Paushi</td>
<td>Sonjaichi rai</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Paushi</td>
<td>Mariaaichi rai</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Paushi</td>
<td>Bhairebachi rai</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Muse Budruk</td>
<td>Kalkaicha ban</td>
</tr>
<tr>
<td>Mulshi</td>
<td>Ambegaon khurd</td>
<td>Bhairecha ban</td>
</tr>
<tr>
<td>Velhe</td>
<td>Gholapghar</td>
<td>Vardainidevicha raha</td>
</tr>
<tr>
<td>Velhe</td>
<td>Shirkoli</td>
<td>Shirkaila raha</td>
</tr>
</tbody>
</table>
However, a strange phenomenon of growth was noticed in the sacred grove of Dakhané 18°31' N. Lat. 73°31' E. long.) Tal. Mulshi in the Pune District.

From a distance we saw a tall lofty umbrella-shaped tree with rope-like thick prop-roots hanging in the air. It appeared as a banyan tree with its characteristic prop-roots. On closer scrutiny it became evident that it was a mango tree entirely covered by a huge liana of *Tinospora sinensis* (Lour.) Merrill sending more than 100 prop-roots of hind arm thickness. Height of the mango tree, and the climber too, was about 20 metres (Fig. 1).

*T. sinensis* (Lour.) Merrill (Syn. *T. malabarica* Miérs ex Hook f.; *T. tomentosa* Miérs ex Hook f.) locally known as *Gulvel*, is a large climber, clothed with whitish hairs on young parts. Stem is light coloured, more or less warty, with papery bark (Fig. 2 & 4). Leaves large, 10-15 cm in diameter, tomentose or woolly beneath, 7-nerved, cordate (Fig. 3). Flowers are green, in 7-15 cm long racemes. Drupes ovoid, smooth, red. In local floristic accounts, it is reported as an uncommon species (Cooke, 1967).

There are many reports ascribing medicinal properties to *T. sinensis*. In Ayurvedic medicine the herb and its extract is recognized as a good tonic and is considered to have alterative, antiperiodic and emetic properties (Chopra et al., 1956). In Indian pharmacopoeia, the herb is described as a good tonic. The plant is commonly used in the treatment of piles and ulcers. The root extract is commonly used as an antipyretic agent. Fresh leaves and stem are used in treatment of chronic rheumatism. It is understood that the plant is also used as an adulterant in the preparation of medicine from *T. cordifolia* (*Gulancha*). In view of the multifarious uses of the plant, it is indiscriminately cut and is on the verge of complete annihilation in forests from this part of the Western Ghats. It is quite possible that the specimen described above which has attained the magnificence through a very long period of growth and development could be just lost through the indiscriminate and cruel cutting. The Forest department of the Maharashtra state has been alerted to take necessary precautions for the safety of the sacred groves in general and the specimen under report in particular. The specimen, in fact, deserves to be declared as a natural national monument.

Acknowledgements

We are thankful to Dr. S.H. Gojbole, Director, M.A.C.S. Research Institute, Pune-4 for encouragement and to the Department of Environment, Government of India, New Delhi for financial assistance.
References


Department of Botany
M.A.C.S. Research Institute
Pune (Maharashtra)

A.S. Upadhye
M.S. Kumbhojkar
V.D. Vartak

KIND ATTENTION: RETIRED OFFICERS

The Society of Indian Foresters is shortly publishing a directory of the retired officers of forest departments and Forest Research Institute & Colleges. All those retired officers are, therefore, requested to kindly furnish this Society with the information about their present address and other particulars as early as possible.

SOCIETY OF INDIAN FORESTERS
P.O. New Forest,
Dehra Dun.
Taxonomy of the Controversial Ayurvedic Drug ‘Pittapapada’

Upadhye Anuradha1, M.S. Kumbhojkar2 and V.D. Vartak3

Received on 7th Dec., 1987

‘Pittapapada’ is an Ayurvedic drug used as febrifuge by local people from Pune and neighbouring districts. The drug is controversial as six different species, viz. Glossocarida bosvallea (L.f.) DC., Justicia procumbens L., Haplanthus verticillaris Nees, Oldenlandia corymbosa L., Peristrophe bicalyculata Nees and Rungia repens L.) Nees are in use as ‘Pittapapada’. Present study covers taxonomical status of these six taxa, their vernacular names and precise uses. For easy identification of the market drug samples, an artificial key is devised on the basis and exomorphic characters of leaves.

Introduction

Traditional health system with the help of herbal drugs has been in vogue in India since vedic period. However, large number of Ayurvedic drugs have doubtful origin and are as yet controversial. In ancient Indian literature, from the vedas to Ayurveda and Samhitas, several names of ambiguous herbal drugs with doubtful identification are met with. In addition, different languages spoken in India have coined different regional names to such controversial plants. These factor have created a state of confusion, with regards to the exact botanical identity of certain plants. ‘Pittapapada’ is one such glaring example, hence its selection for the present critical taxonomical study. The area of Pune and neighbouring districts has been scanned for occurrence of the plant species consumed as “Pittapapada” and the results are presented in this paper.

Area under study

The area under study lies between 72° 15’—75° 00’ E longitude and 15° 75’—21° 00’ N latitude. This area is bounded
y Arabian sea on the West; boundaries of Gujarat on the North; dry forests of Ahamadnagar and Solapur on the East and evergreen forests of Goa and Karnataka on the South. Topographically it consists of the coastal region and alluvial plains, low hills, crest of ghats and eastern gentle spurs. It shows a heterogeneous vegetation.

Materials and Methods

Different plant materials locally called as *Pittapapada* were collected during botanical tours in areas of Pune and neighbouring districts and identified in the laboratory. Herbarium of all the species were made by routine method (Jain and Rao, 1978). They are preserved at the herbarium of Maharashtra Association for the Cultivation of Science, Pune—4 (AHMA).

Interviews with tribal people to know more about the source of plant material were taken during the field work and ethno-botanical data were thus collected therefrom.

Likewise, three drug samples of *Pittapapada* were collected from Pune market and identified by comparing with herbarium specimens at AHMA and Botanical Survey of India (WC). These samples were observed critically in the laboratory for the exomorphic characters.

While describing these plants, the following abbreviations are used:

AHMA—herbarium at M.A.C.S. Research Institute; Pune—4.

AS—Aushadhi Sangrah;

C—Flora of Presidency of Bombay; FBI—Flora of British India;

Fls./Frs.—Flowering & fruiting time;

GIMP—Glossary of Indian Medicinal plants; KB—Indian Medicinal Plant, W. Con—Wight Icones Plantarum Indiae orientalis; WI—Wealth of India.

Botanical description—


(*Pittapapada, Phattarsurva*). *Asteraceae.*

A small prostrate annual herb; branched from base; leaves bi-pinnatisect segments linear; flowers yellow; achenes brown.

The Plant is emmenagogue, used in female complications, acts on ulcers. Infusion of plant is given in fevers.

Fls/Frs.—Sept./Nov.

Vartak = 13579—AHMA—PUNE;

Kulkarni = 16345—AHMA—PANCHGAON PARVATI.
TAXONOMY OF THE CONTROVERSIAL AYURVEDIC DRUG ‘Pittapapada’

Justicia procumbens Linn. Sp. PI. (1753) p. 15.
= Rostellaria procumbens Nees, in wall, pl. AS. Rav. v. 3 (1832) p. 101; Dalz. & Gibbs. p. 193; FBI. 4: 539; C 2: 491; GIMP: 149; AS 2: 104; KB 3: 1898; plate: 723; W. Con. 3: 1539; WTV: 313.

(Ghatipittapada, Pittapapada, Karamel). Acanthaceae. Herb with diffuse stem; rooting at lower nodes; glabrous; leaves variable, obtuse at both ends; flowers in terminal spikes, violet-pink; fruit capsule.

Plant is a substitute for Fumaria parviflora. It is febrifuge, laxative, used in ophthalmia.

Fls./Fr.—Sept./Nov.
Vartak—6017—AHMA—KUMBHALI; Pataskar—102002—BSI—VENGLURA; Kulkarni—119408—BSI—RAMGHAT; Razi—6013—AHMA—LOHAGAD.

Haplastanthus verticillaris Nees, in DC. Prod. v. 11 (1847) p. 513.

FBI. 4: 506; C. 2: 452; GIMP: 130; KB 3: 1887; WI V 6, (Ghatipittapada, Jhaukara). Acanthaceae.

Erect herb; stem glabrous; leaves ovate, acuminate, base cuneate; axillary spines (cladodes); flowers axillary, dark-lilac; fruit capsule.

Plant is antipyretic; it is used in place of pittapapada and hence vernacularly known as Ghatipittapada.

Fls./Fr.—Aug./Nov.
Vartak—3686—AHMA—BHOR.

= Hedyotis corymbosa (L.) Lam; FBI 3: 94; C. 2: 475; GIMP: 180; KB 2: 1263; plate: 492B; WI V: 15, (Pittapapada, Kher-pittapapada, Paripath, Parpet) Rubiaceae.

Annual, glabrous herb, leaves subpetiolate, stipulated; flowers on filiform pedicels, white; usually in pairs; fruit capsule.

Plant decoction is cooling and hence given in fevers. It is also recommended in diseases of liver and considered as anthelmintic. Dried plant powder is smoked in asthma.

Fls./Fr.—Dec./Jan.
Kulkarni—120094—BSI—RANGANA FORT; Vartak—5935—AHMA—PURANDHAR; Razi—5942—AHMA—TORA; Datar—5943—AHMA—KARNALA.

Oldenlandia corymbosa Linn. Sp. PI. (1753) p. 119.

=Hedyotis corymbosa (L.) Lam; FBI 3: 94; C. 2: 475; GIMP: 180; KB 2: 1263; plate: 492B; WI V: 15, (Pittapapada, Kher-pittapapada, Peripath, Parpet) Rubiaceae.

Annual, glabrous herb; leaves subpetiolate, stipulated; flowers on filiform pedicels, white; usually in pairs; fruit capsule.

Plant decoction is cooling and hence given in fevers. It is also recommended in diseases of liver and considered as anthelmintic. Dried plant powder is smoked in asthma.

Fls./Fr.—Aug./Nov.
Vartak—3691—AHMA—RAIRESHWAR; Kulkarni—107917—BSI—AMBOLI; Ansari—107711—BSI—SAVANTWADI.

Peristrophe bicalyculata Nees in Wall. Pl. As. Rav. V.3 (1832) P. 113;

(Ghas-pittapada, Ghatipittapada). Acanthaceae. Herb; grows as weed on
waste places; leaves lanceolate; base rounded; flowers in lax cymes, rosy-pink; fruit capsule. Decoction of the whole plant is given in fever. It is used as a substitute for pittapapada.

Fls./Frs.—Sept./Nov.

Vartak—6093—AHMA—PASHAN;
Tadphale—6099—AHMA—MUTHA RIVER SIDE (PUNE).

Rungia repens (L.) Nees, in Wall' PI. AS. Rar. V.3 (1832) p. 110; FBI—4:549; C—2:480; GIMP—217; KB—3:1907, plate : 728; W. Con.—465; WI—IX—5.

(Ghuttipapadu, Parpata). Acanthaceae. Diffuse herb; leaves sub-sessile, exstipulate; flowers in terminal spikes, pink or purple; fruit capsule.

The whole plant decoction is given in fevers and cough. It is also used as vermifuge. Crushed leaves with castor oil are applied to the scalp.

Fls./Frs.—Oct./Jan. Mandavgane—6139—AHMA—KARNALA.

Discussion

Extensive field work in the areas of Pune and neighbouring districts resulted in procuring six plant species, viz. Glossocardia bosvilea, Justicia procumbens, Haplanthus verticillaris, Oldenlandia corymbosa, Peristrophe bicolyculata and Rungia repens, locally known as 'pittapapada'. Literature survey revealed four more plant species described as pittapapada and used as a febrifuge. They are Naregamia akata W. & A. (Meliaceae);

Fumaria indica Pugsley (Fumariaceae); Mollugo pentaphylla L. (Molluginaceae) and Polyarpela corymbosa Lam. (Caryophyllaceae). These plants are available in the area under study but none of the tribal communities could mention them as 'pittapapada' nor could any use of them be ascertained.

According to some medico-practitioners 'Paripath' (a remedy for fever) and 'pittapapada' are one and same plant species. Mollugo pentaphylla is recognized in the South India as Pittapapada (Bapalal Vaidya 1971, 1932). In Maharashtra, though it is available, none of the tribals use it as a medicinal plant.

Fumaria indica is a weed of cultivation and found in the area under study but it is not used as 'Pittapapada' according to local people and its occurrence is not very common. Kirtikar and Basu (1935), Desai (1975) and Bapalal Vaidya (1977) mention Fumaria indica as true Pittapapada. The drug available in the bazzars is dried aerial parts of Fumaria officinalis (Wealth of India 1948-52 IV : 68).

In Pen-Varsai area people hold (Rungia repens as true Pittapapada and Haplanthus verticillaris as a substitute. But the dried sample given by those people was a mixture of Rungia repens and Justicia procumbens. This may be due
TAXONOMY OF THE CONTROVERSIAL AYURVEDIC DRUG ‘Pittapapada’

to morphological similarities between the two plant species.

*Peristrophe bicalyculata* is a weed and used by tribal people in Mulashi area as ‘Pittapapada’.

*Polycarpaea corymbosa* is used in rural districts of U.P. as ‘pittapapada’ (Bapalal Vaidya, 1982). *Naregamia alata* is one of the *pittapapada* used as cooling emetic and cholagogue (Kirtikar and Basu, 1935) but not used as febrifuge. *Oldenlandia corymbosa* is known as *pittapapada* or *Paripath* and is a good febrifuge. In the Kashele tribal area of Raigad District, this plant is cultivated as *Paritaili* and used by tribals.

*Glossocardia bosvallea* is one of the ‘pittapapada’ (Kirtikar and Basu 1935; Desai, 1975; Bapalal Vaidya 1977, 1982). In the Pune market crumbled fragments of *Peristrophe bicalyculata*, *Oldenlandia corymbosa*, *Fumaria indica* and the whole plants of *Glossocardia bosvallea* along with some grasses are sold as ‘pitlapapada’. The grasses might be the adulterated during the collection of the drug proper. Whole plants of *Glossocardia bosvallea* are used as a drug by medico practitioners in Pune. Other crumbled fragments of three plant species also get adulterated due to morphological similarities in plant species and ignorance of the collectors.

Botanical identification of all these ten species (six from field survey, four more from literature survey) during the field collection is very important for the procurement of genuine drug sample. An artificial key is, therefore, prepared for proper identification of the crude drug sample.

An artificial key to separate plant species known as ‘Pittapapada’

1. Leaves trifoliate *Naregamia alata*
2. Leaves simple

2. Leaves in whors

3. Stipules membranous, ... *Malvago pentaphylla* fugacious
4. Stipules acute, scarious, ... *Polycarpaea corymbosa* one nerved

2. Leaves opposite or alternate
4. Leaves subsessile
5. Leaves stipulate *Oldenlandia corymbosa*

4. Leaves petiolated
6. Leaves dissected
7. Leaves bipinnatisect, ... *Glossocardia* segments linear *bosvallea*
6. Leaves entire
8. Leaves obtuse at both, the ends *Justicia procumbens*
8. Leaves acuminate, ovate
9. Leaf base rounded ... *Peristrophe bicalyculata*
9. Leaf base cuneate ... *Haplanthus verticillaris*
Acknowledgements

The Authors are thankful to the Director, M.A.C.S. Research Institute for giving necessary facilities and to Dr. V.G. Vaidya for his useful suggestions.

REFERENCES

Anonymous
Chopra, R.N., Nayar, S.L. and Chopra, I.C.
Cooke, T.
Desai, V.G.
Jain, S.K. and Rao, R.R.
Kirtikar, K.P. and Basu, B.D.
Vaidya Bapalal
Vaidya Bapalal
Wight, Robert

1982 Some controversial drugs in Indian Medicine, Chaukhamba Orientalia, Varanasi.
TAXONOMY OF THE CONTROVERSIAL AYURVEDIC DRUG ‘Pittapapado’

हिंदी सारांश

संरचना औषधि पितपापड़ा का क्षेत्रव्युत्कतात्मक अध्ययन

अनुराध उपाध्याय, एम. एस. कुमारकर एवं श्री. ब्र. बाहरक

“पितपापड़ा” यह आयुर्वेदिक की महत्वपूर्ण वर्तमानक बौद्धिक है। इस वर्तमान के अतिरिक्त निर्धारण के बारे में बहुत ही मशहूर है। पुनः और अन्य प्रकार के इलाजों में निर्मितित छ: वर्तमानिया “पितपापड़ा” नाम से प्राप्त है और सिद्धियों इलाजों के आयुर्वेद डाक्टरों के अनुसार सभी विभिन्न वर्तमानिया उपयुक्त है। संक्षेप में यह उन्मुक्त है कि नामानुषारीया बोम्बावाला, अर्द्धवार ब्यूटिफुलस, हून्वार ब्यूटिफुलस, ओवलनारः एयररिमो, परेंटोफॉकी बायकोजियोम और राज्यों रिपेयर यह: वर्तमानिया “पितपापड़ा” नाम से प्राप्त है। इस सिद्धांत में सभी छ: वर्तमानिया का वर्तमान शरीर के अनुसार वर्णन किया गया है।

पुनः के बाहर विभिन्न विषयों से पारित हैं “पितपापड़ा” कलोंगी नामानुषारीया बोल्सवाला यह है। माहिला संरचना के अनुसार बाहर और वर्तमानिया “पितपापड़ा” नाम से जानी जाती है। यह बाहर वर्तमानिया इस प्रकार है: परिवर्तनीया अलाबा, ब्यूटिफुलस इंटीका, मैसरोयां मेडिकल्स और पॉलिकार्पीया कोर्पोरेशन। यह सभी वर्तमानिया एक दूसरे से अलग पहचाने के लिए उनके बाहरी लक्षण पर आधारित कृती है लेख में दी गयी है।