



## Folk herbal practices among Toda tribe of the Nilgiri Hills in Tamil Nadu, India.

S. Rajan<sup>1\*</sup>, M. Jayendran<sup>2</sup>, M. Sethuraman<sup>2</sup>

1. Survey of Medicinal Plants and Collection Unit, 112, Government Arts College Campus, Ooty- 643 002, TN.

2. Division of Medical Anthropology, Tribal Research Center, Tamil University, Thanjavur- 613 005. TN, India.

### Abstract:

**Objectives:** To examine ethno-medicobotany of Toda tribe in the Nilgiri hills of South India. **Materials and methods:** Ethnobotanical field survey and personal discussion methods have been made use of in the collection of data. **Results and discussion:** A list of 32 botanicals (30 dicots and 2 monocots) plants belonging to 31 genera, 29 families and 32 species are employed for therapeutic purposes by the Toda tribe of Nilgiri hills, South India. The *Parmelia caperata* a type of moss paste is applied to wounds caused by animal bites for healing. In analyzing ethno-medicobotanical information, we present here data on various ethnomedicinal claims and method of applications to treat a host of ailments are underlined here. A short description of plants, their habitat, family and local names are also summarized here.

**Key words:** Ethno-medicobotany, Toda tribe, Nilgiri hills, South India.

### 1. Introduction

The Nilgiri hills venerated as “THE BLUE MOUNTAINS” is a treasure-trove for medico-ethnobiological and anthropological studies. It has prismatic plants propagating both native and exotic flora of good medicinal value. The annual rain fall of the Nilgiri district ranges from 1600 - 1800 mm which gives support to the growth of evergreen rainforest. The rich diversity of medicinal herbs and other interesting floristic elements in this region is note-worthy.

The district comprises all in all six primitive ethnic groups of pivotal anthropological interest.

They are Todas, Kotas, Kurumbas, Irulas, Paniyas and Kattunayakas. The total tribal population of the district was 25,048 [1] of which Toda population constitutes 1600 persons. It is apparent in the earlier studies that these groups have lived in the western ghats from 700 BC [2] and in the Nilgiris from 1200 BC. [3]

In contemporary times, there is a resurgence of interest in medico-ethnobotanical data in reference to non-literate primitive communities. A great deal of research activity dwells on ethnobotany of simple folk groups [4]. Many studies concerning the medico-

\* Corresponding author

E.mail: srajan@rediffmail.com

ethnobotany of Toda tribe in the Nilgiri hills have been attempted in the past [5-10].

The purpose of this work is to top up useful data by providing additional information about time-honored plant remedies which are still popular with them. Against this background, it is felt necessary to undertake this study on the Toda tribe.

## 2. Ethnography

Todas constitute one of the six primitive hill tribes of the Nilgiri district. They are professional dairymen, pastoralists and lacto-vegetarians. The community has two subdivisions namely *Tarthar* and *Teiveli* and each division has ten and five clans respectively. They tenaciously maintain their rich folk cultural heritage and religious identity. They worship sacred buffaloes and dairymen.

The main occupation of Toda men is to farm semi-wild buffaloes and women engage themselves as house-keepers and in needle work activities. Todas possess good knowledge of medicinal herbs and flowers. The interesting and possibly significant aspect of Toda tribe is that sacred buffaloes play a symbolic role in all the phases of Toda life. They live in traditional houses called "Munds".

## 3. Methodology

The data have been collected on ethno-medico-botany of Toda tribe living in the Nilgiri hills of South India. In analyzing ethnobotanical data, we present here information about 32 plants belonging to 31 genera, 29 families and 32 species that are widely used by the Toda tribe in their traditional system. The input furnished here is based on our field surveys carried out on them during the months of May – August, 2002. The settlements included in the present study are Garden mund, Bikahatty mund, Muthanad mund, Neergassh mund, Pudu mund and Taranad mund.

In the enumeration, the correct name of the species is followed by its local name and family. A succinct description of the plants is also furnished for easy reference. The tribal name is abridged as 'T'. The voucher specimens of all plants have been deposited in the herbarium at the Survey of Medicinal Plants and Collection Unit (SMPCU), Udhaga-mandalam, for future reference.

## 4. List of phyto-remedies

*Achyranthes bidentata* Blume T.: *Kithoop* [AMARANTHACEAE] An erect herb or sub shrub. Leaves opposite, decussate, oblanceolate, sparsely hirsute along the nerves on both sides. Flowers pink. Fruit a utricle; single seed.

The leaf paste is applied to wounds for rapid healing.

Specimen Examined: Rajan, 7537 dated: 14.7.2002.

*Ageratum conyzoides* Linn. T.: *Kedsthoor* [ASTERACEAE] An erect herb. Leaves opposite, broadly ovate to obovate. Flowers white. Fruit an achene's sparsely scabrous.

The tender leaf juice is smeared on wounds for healing.

Specimen Examined: Rajan, 7536 dated: 14.7.2002.

*Anaphalis wightiana* DC. [ASTERACEAE]: An erect herb. Leaves alternate, elliptic covered with white wool, base obtuse. Flowers white tinged when fresh with pink or yellow. Fruit an achene's with white hairy.

The leaf paste is laid on the swollen parts to reduce edema.

Specimen Examined: Rajan, 7794 dated: 2.8.2003.

*Arisaema leschenaultii* Blume T.: *Puthuasak* [ARACEAE] An erect, bulbous herb. Leaves single with long petiole, elliptic- oblong to

obovate – lanceolate. Flowers greenish with white strips. Fruit a berry 2-3 seeded.

The whole plant extract is a useful external application for antiseptic purposes in buffaloes. The fruits are toxic according to their folk belief.

Specimen Examined: Rajan, 7537 dated: 14.7.2002.

*Asclepias curassavica* Linn. T.: *Thoor* [ASCLEPIADACEAE]. An erect, branched herb. Leaves opposite decussate, lanceolate. Flowers red. Fruit a follicle, tapering at both the ends; seeds winged, coma silky.

The leaf extract is employed as a remedy for wound healing purposes.

Specimen Examined: Rajan, 7795 dated: 2.8.2003.

*Berberis tinctoria* Leschen. T.: *THIKMUI* [BERBERIDACEAE]. A shrub or small tree. Leaves obovate, entire or with a spiny teeth, glabrous, purplish when young. Flowers yellow. Fruit a sausage-shaped berry, purple when ripe.

The leaf extracts of both *B. tinctoria* and *Rubus ellipticus* (Rosaceae) are orally given to relieve fever and gastric discomfort.

Specimen Examined: Rajan, 7793 dated: 2.8.2003.

*Beta vulgaris* Linn. T.: *Beetroot* [CHENOPODIACEAE]. An erect, annual or biennial tuberous herb. Leaves ovate to oblong-ovate, bract linear. Flower many greenish.

According to their folk medical system, the roots are useful for haematinic purposes.

Specimen Examined: Cultivated.

*Centella asiatica* (Linn.) Urban T.: *Kudivsva* [APIACEAE]. A prostrate herb. Leaves simple in rosettes, orbicular-reniform. Flowers purplish. Fruit a mericarp laterally flattened.

The whole plant extract is a refrigerant. It is also useful for treating reeling symptoms.

Specimen Examined: Rajan, 7682 dated: 29.12.2002.

*Ceropegia ciliata* Wight T. : *AFEHL* [ASCLEPIADACEAE]. A small tuberous herb. Leaves linear – lanceolate or lanceolate, hairy on both the surfaces. Flowers pale purple. Fruit a follicle paired, cylindrical.

The juice of the whole plant is used for treating fever.

Specimen Examined: Rajan, 7776 dated: 29.7.2003.

*Ceropegia pusilla* Wight & Arn. T.: *Kafehl* [ASCLEPIADACEAE]. An erect, small tuberous herb. Leaves crowded with small linear bracts at the base. Flowers dark purplish brown with dark purple, white ciliate. Fruit a follicle, swollen in the middle.

The leaf and flower extracts are mixed and taken orally as a remedy for correcting nervous weakness.

Specimen Examined: Rajan, 7677 dated: 29.7.2003.

*Chenopodium ambrosioides* Linn. T.: *Pthoori* [CHENOPODIACEAE]. An erect, strongly aromatic herb. Leaves alternate, oblong-lanceolate. Flowers greenish. Fruit small, globose, and green.

The root extract is useful for febrifugal purposes.

Specimen Examined: Rajan, 7779 dated: 29.7.2003.

*Commelina benghalensis* Linn. T.: *Kogul* [COMMELINACEAE]. A prostrate herb. Leaves ovate or oblong – ovate, lower clustered or one, funnel-shaped. Flowers blue. Fruit a capsule, ellipsoid.

The flowers are useful for treating certain ailments in magico-religious ways.

Specimen Examined: Rajan, 7780 dated: 29.7.2003.

*Coronopus didymus* (Linn.) Smith T.: *Mers* [BRASSICACEAE]. A prostrate annual herb. Leaves pinnatisect. Flowers minute, white or greenish-white. Fruit small, reniform and ovoid.

The paste of whole plant is applied on the forehead for headache.

Specimen Examined: Rajan, 7648 dated: 20.11.2002.

*Curculigo orchioides* Gaertn. T.: *Neliche* [HYPOXIDACEAE]. An erect, small, rhizomatous herb. Leaves lanceolate. Flowers yellow. Fruit small, pericarp membranous.

Root paste is applied externally for treating all types of skin afflictions.

Specimen Examined: Rajan, 5342 dated: 26.6.1996.

*Datura stramonium* Linn. T.: *Yemmuth* [SOLANACEAE]. An erect, bushy herb or subshrub. Leaves lobed. Flowers white. Fruit very spiny, opening in 4-valves.

The tender leaf paste with fruits intact is prepared and applied to anal region as a cure for piles.

Specimen Examined: Rajan, 7809 dated: 9.8.2003.

*Emilia scabra* DC. T.: *Thori* [ASTERACEAE]. An erect herb. Leaves radical, crisped-pubescent, base obtusely auriculate. Flowers pink. Fruit an achene pubescent.

The leaf paste is a good remedy for clearing dark spots in the skin.

Specimen Examined: Rajan, 2526 dated: 29.10.1988.

*Euphorbia rothiana* Spreng. T.: *Kopot* [EUPHORBIACEAE]. An erect, branched herb with milky latex. Leaves alternate below,

whorled above and linear to lanceolate. Flowers greenish. Fruit a capsule.

The latex is applied externally for healing sores. It is also believed to promote hair growth. The whole plant is a good insect repellent.

Specimen Examined: Rajan, 7665 dated: 7.12.2002.

*Galium asperifolium* Wallich T.: *Kurdithol* [RUBIACEAE]. A climbing herb with quadrangular stem. Leaves whorled, oblong-linear, and sessile. Flowers white. Fruit a capsule.

The juice of the whole plant is useful for treating fever.

Specimen Examined: Rajan, 7612 dated: 25.9.2002.

*Glochidion neilgherrense* Wt. T.: *Kokvu* [EUPHORBIACEAE]. A medium-size branched monoecious tree. Leaves alternate, elliptic oblong. Flowers yellow. Fruit a capsule with six stigmatic points.

The stem bark is chewed to get relief from severe toothache.

Specimen Examined: Rajan, 7549 dated: 1.9.2002.

*Gnaphalium polycaulon* Pers. T.: *Neranbu chedi* [ASTERACEAE]. An erect, densely white-pilose herb. Leaves alternate, oblong-spathulate, pilose above, densely so below. Flowers pink. Fruit an achene, shortly beaked; pappus white.

The leaf paste is a useful remedy for healing nerve related injuries.

Specimen Examined: Rajan, 5550 dated: 8.11.1996.

*Habenaria longicornu* Lindl. T.: *Salamaestis kizhangu* [ORCHIDACEAE]. An erect, bulbous herb. Leaves cauline, linear-oblong to lanceolate. Flowers white.

The dried bulb powder mixed with milk is given orally for restorative purposes.

Specimen Examined: Rajan, 7569 dated: 14.9.2002.

*Macrotyloma uniflorum* (Lam.) Verdc. (*Kullu*) [FABACEAE]. - *Dolichos biflorus* Lam. A climbing, bushy, annual herb. Leaves pinnate; leaflets ovate – rhomboid. Flowers white, pale violet and purple. Cultivated.

The seed decoction is a useful remedy for treating menstrual discomfort.

Specimen Examined: Part used commercial samples.

*Mahonia leschenaultii* Wall. ex Wight T.: *Thoori* [BERBERIDACEAE]. A shrub or small tree. Leaves in circles at the end of the branches; compound; leaflets ovate, lobbed and spiny. Flowers yellow in dense. Fruit globular.

The bark juice is applied externally for treating dental ailments. The leaf extract is given to women for checking post-natal problem, fever, cold and other complications.

Specimen Examined: Rajan, 7666 dated: 7.12.2002.

*Malaxis densiflora* (A. Rich) Kuntze T.: *Nelnethch* [ORCHIDACEAE]. An erect herb. Leaves long five to seven nerved at the base, acute or acuminate. Flowers purple, fragrant. Fruit a capsule.

The leaf paste is spread on the wound to quicken healing.

Specimen Examined: Rajan, 7397 dated: 5.9.2001.

*Peperomia reflexa* (Linn. f) Hook. & Arn. T.: *Manpanum* [PIPERACEAE]. An erect, small, epiphytic herb. Leaves 4 per node, ovate-rhomboid. Flower (spike) greenish. Fruit a globose berry.

The leaves of this plant and the bark of (*Eugenia jambolana*) are together made into a paste with buttermilk. This extract is taken orally as remedy for fever.

Specimen Examined: Rajan, 7668 dated: 7.12.2002.

*Physalis peruviana* Linn. *Urechithuvar* [SOLANACEAE]. An erect, branched herb. Leaves cordate, velvety, margin sinuate, scarcely lobed. Flowers yellow. Fruit a berry marked with purplish veins.

Leaf paste is smeared on wounds for quick healing.

Specimen Examined: Rajan, 7785 dated: 29.7.2003.

*Rhodomyrtus tomentosa* Wight T.: *Thovutto* [MYRTACEAE]. A small bushy shrub. Leaves lower often in threes, upper opposite, subsessile. Flowers pink. Fruit globular yellowish when mature.

The tender leaf extract in buttermilk is a useful antidysentric remedy.

Specimen Examined: Rajan, 7764 dated: 29.7.2003.

*Ruta chalepensis* Linn. T.: *Thitish* [RUTACEAE]. An aromatic woody herb or sub shrub. Leaves alternate ovate. Flowers yellow. Fruits globose, immature green mature brown. Planted.

The leaf is chewed orally as a remedy for fever.

Specimen Examined: Rajan, 7965 dated: 4.11.2003.

*Solanum anguivi* Lam. var. *multiflora* Chithra comb. Nov. T.: *Ascicithoor* [SOLANACEAE]. An erect, bushy, thorny herb or sub shrub. Leaves ovate, lobed and densely tomentose underneath. Flowers violet. Fruit dark purple.

The decoction of fried fruit powder is orally taken to relieve dental problems.

Specimen Examined: Rajan, 6489 dated:

*Swertia trichotoma* Wall [GENTIANACEAE].:

An erect herb. Leaves opposite, decussate, oblanceolate to elliptic. Flowers bright blue. Common.

The leaf extract serves as a remedy for wormicidal use in animals.

Specimen Examined: Rajan, 7670 dated: 7. 12. 2002.

*Syzygium calophyllifolium* Walp. T.: *Kers*

[MYRTACEAE]. A tall, much-branched, evergreen tree. Leaves broadly elliptic or obovate, obtuse or apex retuse, acute at base. Flowers white. Fruit dark purple, juicy.

A piece of stem bark is placed in the aching tooth for relief.

Specimen Examined: Rajan, 7662 dated: 20.11.2002.

*Trifolium repens* Linn. T.: *Pulth* [FABACEAE].

A stoloniferous herb. Leaves 3-foliolate; leaflets obovate, notched. Flowers white or light pinkish in globose heads.

The leaf paste is applied to wounds for healing.

Specimen Examined: Rajan, 7996 dated:20.11.2003.

## 5. Conclusion

Todas constitute one of the six primitive hill tribes of Nilgiri hills of South India depend on ambient flora to a larger extent till date for food, medicine and shelter. An explorative ethno-medico botanical survey conducted on them revealed many interesting ethno medical claims in regard to medicinal plants. The data presented here indicate a rich folk knowledge of the study group in reference to various time-honored herbal remedies which are still popular with them.

A list of 32 plant species belonging to 31 genera, 29 families and 32 species are furnished here. Out of 32 plant species surveyed, it is noteworthy to record that *Parmelia caperata* type of moss paste is applied by them to heal wounds caused by animal bites. The overall study sample exhibits that more wild species are sought after by them for medicinal uses. This creates a dual necessity for both cultivation and conservation of therapeutically significant plants.

With the advent of modern medicine, ethnomedical applications in regard to plant drugs have become considerably less in the present day. A model for revitalization of indigenous knowledge, skills, folk beliefs need to be evolved by networking Toda populations living in different settlements of the Nilgiri district is to be planned on priority basis.

A cross-cultural similarity between the Toda tribe and Koruku tribe of Maharashtra is observed concerning the utility of orchid *Habenaria*. The former consume dried bulb powder of *H. longicornu* mixed with milk for restorative purposes while, the later use the bulbs of two allied species namely, *H. grandifloriformis* and *H. gibsonii* for analogous purposes [11]. It is hoped that that these botanicals provide a rich potential for future phytotherapy research development.

## 6. Acknowledgements

SR is thankful to the Director, Central Council for Research in Homeopathy, New Delhi for his encouragement and for providing necessary facilities to carryout this work. MS is grateful to the Vice-Chancellor, Tamil University, Thanjavur, for his valuable support. We thank all Toda informants who helped us this study.

### References

---

1. Anonymous, (1981) Census Reports. Government of India, New Delhi.
2. Gardner P, The Palliyans. (1972) In: M.G. Bicchieri (Ed.). *The Hunterer and Gatherers of Today*, Holt Reinhart and Winston, USA.
3. Hockings P, Paikara. (1975) *Asian Perspectives* 18(1) 26-50.
4. Bhogaonkar PY, Devarkar VD. (2002) *Ethnobot.* 14: 16.
5. Abraham Z. (1981) In: S.K. Jain. (Ed.). *Glimpses of Indian Ethnobotany*. Oxford & IBH Publishing Company: New Delhi; 308-320.
6. Abraham Z. (1990) In: S.K. Jain (Ed.). *Contribution to Indian Ethnobotany*. Scientific Publishers: Jodhpur; 255-260.
7. Mandal SK, Basu SK. (1996) *J. Econ. Tax. Bot. Addl. Ser.* 12: 268-271.
8. Raghunathan K. (1976) *Tribal pockets of Nilgiris recordings of the field study of medicinal flora and health practices*. Central Council for Research in Indian Medicine and Homeopathy, Hyderabad.
9. Rajan S, Sethuraman M. (1992) *Ancient Sci. Life* 12 (1&2) 242 - 244.
10. Rajan S, Sethuraman M, Suresh Baburaj D. (1997) *Ancient Sci. Life* 16(4) 360 - 365.
11. Bhogaonkar PV, Devarkar VD. (2002) Some unique ethnomedicinal plants of Korkus of Malghat Tiger Reserve (Maharashtra), *Ethnobot.* 14: 16-19.