ETHNOBOTANICAL STUDIES ON THE WILD EDIBLE PLANTS USED BY THE TRIBALS OF ANAIMALAI HILLS, THE WESTERN GHATS

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ABSTRACT

The present paper deals with the results of a preliminary survey of the wild edible plants used by different ethnic groups in the Anaimalai hills of the Western Ghats in Coimbatore district. Tribals of various ethnic groups dominate the wooded habitat of this hilly region. About 53 plants species belonging to 32 families are used as edible by the tribes. Of these, the leaves of 25 plant species are consumed as green and about 20 wild fruits are consumed raw. The rest of the plant species are used for their tubers, seeds and roots. The plant species, their families, vernacular names, parts used and their mode of usage were also reported.

INTRODUCTION

Three decades from now we shall need to be feeding another 2.5 million people, two fifths more than today (Norman Meyers, 1999). The challenge is not only to increase the food supply, but also the quality of food. Ninety per cent of world’s food supply is provided by about twenty species and only three grasses viz., wheat, rice and corn provide bulk of food supply. Furthermore, the dependence of agriculture upon the use of petrochemicals made a potential impact on the economy of the third world countries like India.

Diet surveys carried out in India have shown that the diets consumed by a large majority of vulnerable groups of the population are inadequate in quantity and quality. Under nutrition and malnutrition are widely prevalent in low-income groups (Swaminathan, 1989). Hence the dawn of the new millennium beckons us in the era of unprecedentated challenges of malnutrition.

But, our country enjoys the benefits of rich and varied flora. Of the 15,000 species of India, over 700 species are used by indigenous peoples for food and medicine (Madhav Gadgil, 1994). The early work on food plants were carried out by Vartak (1959), Darkar et al., (1975) and Gadgil and Vartak (1976). The tribal peoples acquired knowledge of the plant species largely on the basis of trial and error. Their knowledge on wild plants can be used to solve the problem of malnutrition.

Study Area

The present study was undertaken in the tribal villages in Navamalai, Attakatti, Upper Aliyar, Kadamparai and Vaandal in Anaimalai hills of the Western Ghats. The Anaimalai hills is located in Coimbatore District of Tamilnadu State, and lies between 10°32'8" N and 77°4'23" E at an elevation of 1650 to 2100 metres above msl. The rainfall of the study area mainly occurs during south-west (June – August) and north-east (October – December) monsoon. The average annual rainfall for the past
twenty years is as much as 3000mm and the relative humidity ranges from 64 to 82%.

**Materials and Methods**

The ethnobotanical data presented here is the outcome of series of field surveys from December 2002 to March 2003, in the tribal pockets. During this period, many interviews were undertaken in a way to explore the data regarding wild edible plants. Careful notes were taken about the part of the plant used as food and their mode of usage. The collected plants were identified based on the Flora of Madras Presidency (Gamble and Fischer, 1987).

**Enumeration of Data**

The wild plants used as food by the tribal peoples are given under the respective families, which are arranged alphabetically. Under each family, the genera are also arranged in alphabetical order. The data provided here in the following order: Family, Binomial name, Vernacular name, Parts used and the mode of usage (Table-1).

**Results and Discussion**

The diets consumed by a large majority of the population in India are unbalanced and are deficient in protein, vitamin and mineral. The pregnant women and preschool children are commonly affected by iron deficiency, anemia and megaloblastic anemia. The infants and preschool children of low-income groups are generally prone to get kwashiorkor and nutritional marasmus (Swaminathan, 1989). The main reason for these syndromes is the indigent nutrition of iron, folic acid, vitamins ‘B12’, vitamin ‘A’, proteins and indispensable aminoacids. The low cost conventional and unconventional foods can be used to solve the problem of malnutrition.

Generally, green vegetables are the fair sources of carotene, riboflavin, folic acid, ascorbic acid and calcium. Furthermore, studies revealed that some unconventional leafy vegetables such as *Amaranthus spinosus* and *Cassia tora* have fair amount of essential aminoacids such as methionine and cystidine (Shingade and Chavan, 1996). The green vegetables are proved to the protective and cheapest foods.

The data presented here consists of the list of the uses of fifty-three species belonging to thirty-two families, used by the tribal peoples. In this data, about twenty-five plants are used as greens, and about twenty wild fruits are rawly consumed. This data is very helpful for the further studies in dietary diversification for augmenting food and nutrition security. It would also be necessary to undertake comparative study of plants and plant parts eaten by various tribals to bring out more useful information on the use of same plant by different tribes.

**Table-1. List of wild edible plants, families, its vernacular names and mode of usage**

| S. No | Binomial Name                | Family        | Vernacular Name | Parts used | Mode of Usage |
|-------|------------------------------|---------------|-----------------|------------|---------------|
| 1.    | *Giesektia phranceonoided*   | Aizoaceae     | Manal keerai    | Leaves     | Greens        |
| 2.    | *Achyranthus bidentata*      | Amaranthaceae | Sennayuruvi     | Leaves     | Greens        |
| 3.    | *Hydrocotyl javanica*        | Apiaceae      | Malai vallarai  | Leaves     | Greens        |
| 4.    | *Centella asiatica*          | *             | Vallarai        | Leaves     | Eaten rawly   |
|   | Scientific Name          | Family        | Common Name                      | Part     | Description               |
|---|--------------------------|---------------|----------------------------------|----------|---------------------------|
| 5 | Carrisa carandus         | Apocynaceae   | Ka;allao                         | Fruits   | Green                     |
| 6 | Gymnema sylvestris      | Asclepiadaceae| Surukurinchan                    | Leaves   | As carminative            |
| 7 | Hemidesmus indicus      | “ ”           | Nannari                          | Roots    | Greens                    |
| 8 | Wattakaka volubilis     | “ ”           | Perunkurinchan                   | Leaves   | Greens                    |
| 9 | Eclipta prostrata       | Asteraceae    | Karippan                         | Leaves   | Greens                    |
| 10| Spilanthes acmella      | “ ”           | Manjal Karisalai                 | Leaves   | Greens                    |
| 11| Phoenix foemfera        | Asteraceae    | Eechai                           | Fruits   | Eaten rawy                |
| 12| Phoenix foemfera        | Begoniaceae   | Kalrani                          | Pith     | Eaten rawy                |
| 13| Cordia monoica          | Boraginaceae  | Pattainmaram                     | Bark     | Substitute for betel nut  |
| 14| Capparis zeylanica      | Capparidaceae | Suduthurari                      | Leaves   | Greens                    |
| 15| Gynandropsis pentaphylla| “ ”           | Velai                            | Leaves   | Greens                    |
| 16| Terminalia chebula      | Combretaceae  | Kadukkai                         | Fruits   | Pickled                   |
| 17| Rivea arnensis          | Convolvulaceae| Musuttai                         | Fruits   | Eaten rawy                |
| 18| Coicinia indica         | Cucurbitaceae | Kovai                            | Fruits   |                         |
| 19| Diplocyclos palmatus    | “ ”           | Iverali                          | Leaves   | Greens                    |
| 20| Solenea amplexeaulis    | “ ”           | Kolankovai                       | Leaves   | Greens                    |
| 21| Discorea sp.            | Dioscoreaceae | Vethalaivalli                    | Tubers   | Cooked                    |
| 22| Acalypha fruticosa      | Euphorbiaceae | Sinni                            | Leaves   | Greens                    |
| 23| Emblica officinalis     | “ ”           | Nelli                            | Fruits   | Pickled                   |
| 24| Euphorbia hirta         | “ ”           | Ammanpucharisi                   | Leaves   | Greens                    |
| 25| Phyllanthus reticulates | “ ”           | Poolan                           | Fruits   | Eaten rawy                |
| 26| Bauhinia racemosa       | Fabaceae      | Aathi                            | Tender leaves | Greens            |
| 27| Cassia auriculata       | Fabaceae      | Aavarai                          | Flower buds | With other greens |
| 28| Cassia occidentalis     | “ ”           | Ponnavarai                       | Leaves   | Greens                    |
| 29| Mucuna priuriiens       | “ ”           | Poonailkali                      | Seeds    | Roasted                   |
| 30| Pithecellobium dulce    | “ ”           | Seenipuli                        | Aril     | Eaten rawy                |
| 31| Pterolobium hexapentalum| “ ”           | Seengai                          | Leaves   | Greens                    |
| 32| Curculigo orchiodes     | Hypoxidaceae  | Nilappanai                       | Tubers   | Cooked                    |
| 33| Leucas aspera           | Lamiaceae     | Thumbai                          | Leaves   | Greens                    |
| 34| Tinospora cordifolia    | Menispermaeae | Seenthi                          | Leaves   | Greens                    |
| 35| Ficus racemosa          | Moraceae      | Athi                             | Fruits   | Pickled with jaggery      |
| 36| Opuntia dilini          | Opuntiaceae   | Sappathikalli                    | Fruits   | Eaten rawy                |
| 37| Bulbophyllum fuscopurpureum| Orchidaceae | Seethaimanjal                   | Bulbils  | Juice with jaggery        |
| 38| Biopphytum sensitivum   | Oxidaceae     | Nintralvaadi                     | Leaves   | Greens                    |
| No.  | Scientific Name               | Family        | Common Name          | Part Used | Notes              |
|------|------------------------------|---------------|----------------------|-----------|--------------------|
| 39.  | *Oxalis corniculata*         |               |                      | “         | Puliyaarai         |
|      |                              |               | Leaves               |           | Greens             |
| 40.  | *Peparomia wightiana*        | Piperaceae    | Kalpirami            | Leaves    | Greens             |
| 41.  | *Satia mertina*              | Rhamnaceae    | Karunchoori          | Fruits    | Eaten rawly        |
| 42.  | *Zizyphus jujube*            | “             | Elanthai             | Fruits    | Eaten rawly        |
| 43.  | *Zizyphus xylopyra*          | “             | Kottaivelanti        | Fruits    | Eaten rawly        |
| 44.  | *Zizyphus oenophida*         | “             | Soori                | Fruits    | Eaten rawly        |
| 45.  | *Lesianthus jackianus*       | Rubiaceae     | Kattukarivepilai     | Fruits    | Eaten rawly        |
| 46.  | *Citrus medica*              | Rutaceae      | Naarahthai           | Fruits    | Pickled            |
| 47.  | *Limmonia acidisima*         | “             | Vila                 | Fruits    | Rawly with Jaggary |
| 48.  | *Toddalia asiatica*          | “             | Milagarani           | Leaves    | Greens             |
| 49.  | *Glyeosmis coeineinensis*    | Sapindaceae   | Parithangi           | Fruits    | Eaten rawly        |
| 50.  | *Scoparia dulcis*            | Scorpulariaceae| Sakkarai Vembu       | Leaves    | Greens             |
| 51.  | *Grewia dioiea*              | Tiliaceae     | Tathachampalam       | Fruits    | Eaten rawly        |
| 52.  | *Grewia hirsute*             | Tiliaceae     | Sakkarai palam       | Fruits    | Eaten rawly        |
| 53.  | *Pouzoulzia zeylanica*       | Urticaceae    | Ponnikeerai          | Leaves    | Greens             |

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