

Wild foods used by tribal people of Rampachodavaram Division, Alluri Sitaramaraju District, Andhra Pradesh, India

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Abstract

The main aim of the present study was to document the wild plants used by tribal people in Rampachodavaram Division, Alluri Sitaramaraju District, Andhra Pradesh. A total of 50 species belong to 39 and 28 families were documented as wild plants used for various purposes. These wild resources have enormous prospective benefits to humankind. The ever-increasing population and climate change over the years have contributed substantially to the pressure on plant resources leading to their decline or loss in nature. Hence, there is an immediate need to develop suitable conservation strategies for proper utilization and sustainability of these important resources.

Keywords: Wild foods; Tribal people; Rampachodavaram Division; Alluri Sitaramaraju District

1. Introduction

Wild foods are important for food security and nutrition while trees and forests are vital for their role in the provision of ecosystem services to agriculture [1]. Globally, the food resource from the forests tend to contribute only a small amount of caloric energy (0.6%) of the world's food supply [2], but plays a significant role in diet diversity and nutrition [3]. The importance of wild edible resources for the food and nutrient security of rural poor and tribal communities in India are also well recognized [4] and it is estimated that 600 plant species are known to have food [5]. Out of the 15,000 species of angiosperms reported from India, 1000 species are used directly or indirectly as foodstuff [6] and from the Kerala part of the Western Ghats itself a total of 5094 species of flowering plants were reported [7]. The documentation of wild edibles from different tribes in India has been carried by various authors [8-14]. Wild edible fruits are one of the important non-timber forest products widely collected and used by them. Tribals in the remote areas always depend on wild food products more than the cultivated ones [15]. The main objectives of the present investigation are collection, identification and documentation of the wild food plants used by primitive tribal of Rampachodavaram Division, Alluri Sitaramaraju District, and Andhra Pradesh.

2. Material and methods

Several field trips were undertaken in tribal area of Rampachodavaram division, Alluri Sitaramaraju district, Andhra Pradesh during 2021-2022. The information was gathered after discussions with several tribal persons, village head, elder women and other local informants. Repeated interviews through questionnaires were made in different villages to authenticate the information. Plant specimens were collected and identified with regional floras [16-19]. All the specimens were deposited in herbarium of Botany Department, Andhra University (AUH), Visakhapatnam and the collected information on wild plants was analysed.

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Table 1 Wild foods used by tribal people in Rampachodavaram, Alluri Sitaramraju Raju District, Andhra Pradesh

Scientific name	Family	Habit	Parts	Mode of uses	Tribes
<i>Alocasia fornicata</i> (Roxb.)Schott.	Araceae	Herb	Tuber	Boiled tubers are eaten	Bagatha
<i>Alternanthera paronychioides</i> St. Hil.	Amaranthaceae	Herb	Leaves	Leafy vegetable	Mali
<i>Alternanthera sessilis</i> (L.) DC.	Amaranthaceae	Herb	Leaves	Leafy vegetable	Konda Dora
<i>Amorphophalus paenofolius</i> (Dennst.) Nicolson	Arecaceae	Herb	Leaves	Used as a curry	Valmiki
<i>Aponogeton echinatus</i> Roxb	Aponogetonaceae	Herb	Tuber	Boiled tubers are eaten	Gadaba
<i>Arisaema tortuosum</i> (Wall) Schott & Endl.	Araceae	Herb	Tuber	Corm eaten cooked	Gadaba
<i>Bambusa arundinacea</i> (Retz.) Roxb.	Bombacaceae	Tree	Young shoots	Used as curry	Gadaba
<i>Cansjera rheedii</i> Blanco	Opiliaceae	Shrub	Leaves	Used as curry	Kotia
<i>Caralluma adscendens</i> R.Br.	Asclepiadaceae	Herb	Stem	As chutney	Khondu
<i>Caralluma attenuata</i> Wt.	Asclepiadaceae	Herb	Stem	Used as a curry	Bagatha
<i>Ceropegia tuberosa</i> Roxb.	Asclepiadaceae	Herb	Tuber	Boiled tubers are eaten	Mali
<i>Chlorophytum laxum</i> R.Br	Liliaceae	Herb	Tuber	Tuber eaten cooked	Konda Dora
<i>Cocculus hirsutus</i> (L.) Diels	Menispermaceae	Climber	Leaves	Used as a curry	Valmiki
<i>Colocasia esculenta</i> (L.) Schott. & Endl.	Araceae	Herb	Leaves	Leafy vegetable	Gadaba
<i>Costus speciosus</i> (Koen.) Sm.	Costaceae	Herb	Tuber	Used as chutney	Porja
<i>Cucurbita maxima</i> Duchesne	Cucurbitaceae	Climber	Leaves	Leaf vegetable	Nuka Dora
<i>Curculigo orchiodes</i> Gaertner	Hypoxidaceae	Herb	Root	Roots made into Drink	Kotia
<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Climber	Tuber	Boil tubers are eaten	Khondu
<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Climber	Tuber	Boil tubers are eaten	Bagatha
<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Climber	Tuber	Boil tubers are eaten	Mali
<i>Dioscorea tomentosa</i> Spreng.	Dioscoreaceae	Climber	Tuber	Boil tubers are eaten	Konda Dora
<i>Diospyros chloroxylon</i> Roxb.	Ebenaceae	Tree	Fruit	Ripe fruits are edible	Valmiki
<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Tree	Fruit	Ripe fruits are edible	Gadaba
<i>Diospyros perigrina</i> (Gaertn.) Guerke	Ebenaceae	Tree	Fruit	Ripe fruits are edible	Porja
<i>Ficus racemosa</i> L.	Moraceae	Tree	Fruit	Fruits are eaten raw	Porja
<i>Flacourtia indica</i> (Burm. f.) Merr.	Salicaceae	Tree	Fruit	Fruits are eaten raw	Porja
<i>Grewia flavescens</i> Juss.	Tiliaceae	Shrub	Fruit	Fruits are eaten raw	Khondu
<i>Grewia hirsuta</i> Vahl	Tiliaceae	Tree	Fruit	Fruits are eaten raw	Bagatha
<i>Grewia tiliaefolia</i> Vahl	Tiliaceae	Tree	Fruit	Fruits are eaten raw	Mali

<i>Grewia villosa</i> Willd.	Tiliaceae	Shrub	Fruit	Fruits are eaten raw	Konda Dora
<i>Moringa oleifera</i> Gaertn.	Moringaceae	Tree	Leaves	Leafy vegetable	Valmiki
<i>Mucuna pruriens</i> (L.) DC.	Papilionaceae	Climber	Fruit	Unripe fruits roasted	Gadaba
<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Shrub	Leaves	Used in curry	Porja
<i>Nelumbo nucifera</i> Gaertn.	Nymphaeaceae	Herb	Leaves	Used in curry	Nuka Dora
<i>Neptunia oleracea</i> Lour.	Mimosaceae	Herb	Leaves	Used in curry	Nuka Dora
<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	Tree	Fruit	Ripe fruits are edible	Nuka Dora
<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Tree	Fruit	Preparation of pickle	Nuka Dora
<i>Physalis angulata</i> L.	Solanaceae	Herb	Leaves	Leafy vegetable	Mali
<i>Physalis minima</i> L.	Solanaceae	Herb	Leaves	Leafy vegetable	Konda Dora
<i>Pithecellobium dulce</i> (Roxb.) Benth.	Mimosaceae	Tree	Leaves	Used as a curry	Valmiki
<i>Schlechera oleosa</i> (Lour.) Oken	Sapindaceae	Tree	Fruit	Fruits are eaten raw	Gadaba
<i>Schrebera swietenoides</i> Roxb.	Oleaceae	Tree	Fruit	Fruits are eaten raw	Porja
<i>Scutia myrtina</i> (Burm.f.) Kurz	Rhamnaceae	Tree	Fruit	Fruits are eaten raw	Nuka Dora
<i>Securinega leucopyrus</i> (Willd.) Muell.-Arg.	Euphorbiaceae	Tree	Fruit	Fruits are eaten raw	Kotia
<i>Semecarpus anacardium</i> L.f.	Anacardiaceae	Tree	Fruit	Fruits are eaten raw	Kotia
<i>Solanum nigrum</i> L.	Solanaceae	Herb	Fruit	Fruits are eaten raw	Kotia
<i>Solanum virginianum</i> L.	Solanaceae	Shrub	Fruit	Fruits are eaten raw	Kotia
<i>Strychnos potatorum</i> L. f.	Loganiaceae	Tree	Fruit	Fruits are eaten raw	Konda Dora
<i>Tinospora cordifolia</i> (Willd.) Hook.f. & Thoms.	Menispermaceae	Climber	Leaves	Used as a curry	Valmiki
<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Tree	Fruit	Ripe fruits are edible	Gadaba

3. Results and discussion

The present work revealed a total of 50 edible plant species belong to 39 genus and 29 families which were used by Nine primitive tribes of Rampachodavaram division, Alluri Sitaramraju District as enumerated in Table, 1 in which scientific name of those plants are arranged alphabetically along with vernacular name, part use and mode of utilization of those plants. Majority of the plants were used by Gadaba tribes (8 species), followed by Konda Dora, Kotia, Nuka Dora, Porja and Valmiki each one were used (6 species), Mali (5), Bagatha (4) and few species were used by Kondhu tribes (3) (Fig. 2). Out of the 50 plants majority of the plants parts were fruits (21) followed by leaves (15), tubers (10), Stem (2) and Root and Young shoots were each with (1) species (Fig. 1). Habit wise analysis revealed most of species were trees (19) followed by Herbs (18), Climbers (8) and Shrubs (5). Out of the 28 families the dominated families were Tiliaceae, Solanaceae and Dioscoreaceae each with (4 species) followed by Ebenaceae, Asclepiadaceae and Araceae each with (3 species), Rhamnaceae, Mimosaceae, Menispermaceae, Euphorbiaceae and Amaranthaceae each with (2 species) and remaining seventeen families were each with single species. Most of the Fruits were eaten raw and leaves were used as leafy vegetables. The fruits are used for main meals or adding to traditional dishes, fermented and non-alcoholic beverages. Some wild fruits in the forest are only eaten by locals who know about them. Forest products are the important source of revenue for the tribals. Medicinal plants are now being increasingly used for providing healthcare for rural communities (Jyotish 2009). Edible medicinal plants can provide healthy alternatives to highly processed foods and pharmaceuticals, bringing greater health into our lives (Deshmukh and Waghmode 2011; Narayanan et al. 2011b). Many of the fruits served as ingredients for local traditional breweries (Motlanka et al. 2008) especially fruits of *M. indica*, *S. nigrum*, *S. torvum*, *T. indica*, *Zizyphus mauritiana* etc., certain fruits like *Phoenix loureirii*, *A. monophylla*, *A.*

racemosa, *Citrus aurantifolia* are preserved/pickled for consumption during times of food scarcity. Certain fruit like *M.indica* is used for the preparations of beverages (Pushpangadan et al.2012).

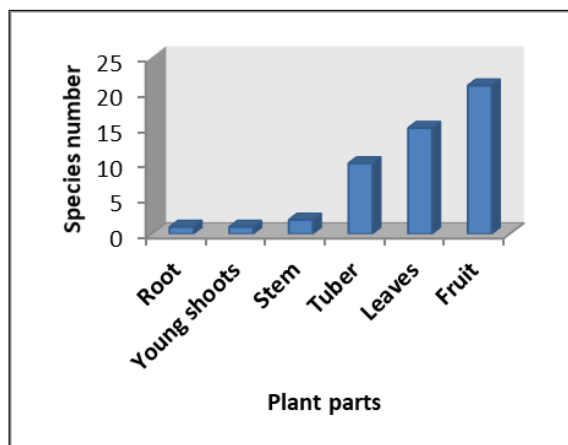


Figure 1 Plant Parts wise analysis of WFP

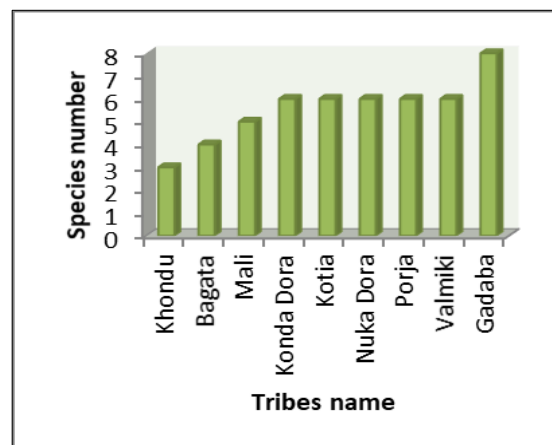


Figure 2 Wild food plants Used by Different tribes

4. Conclusion

The ethnic and local people were used different wild edible plants which were available in their vicinity of various geographical region of the world. The present study also reveals that time has come to include those wild edible plants in daily diet for our survival. This is very important way to reduce food scarcity in the country like India. Some of preferred leafy vegetable can be included for cultivation as alternative crops. Many of the wild foods may not be freely available in future due to over-exploitation, habitat destruction, regular forest fires and invasion of alien exotic species. So, efforts must be taken to conserve wild food plants and also the traditional knowledge for a sustainable management of biodiversity.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they hold no competing interests.

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