

Edible weeds of tribals of Jharkhand, Orissa and West Bengal

Rekha Sinha* & Valeria Lakra

Directorate of Extension Education, Birsa Agricultural University, Kanke, Ranchi 834 006, Jharkhand

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An extensive survey was carried out among ten ethnic groups in Jharkhand, Orissa and West Bengal of eastern India to document edible plants, which grow as weeds in their agricultural and non-agricultural fields. Data were collected through PRA exercises and interview schedules covering 8 districts, 10 community development blocks and 12 villages. The study identifies 43 species of weeds belonging to 36 genera and 26 families that are commonly consumed by the tribal population as per their availability. The habit, season as well as place of procurement and edible part of these plants have been discussed.

Key Words: Edible weeds, Tribals, Jharkhand, Orissa, West Bengal, *Santhal*, *Sounti*, *Gond*, *Juang*, *Kol*, *Bhumiz*, *Oraon*, *Munda*, *Kharwar*, *Chero* tribes

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India has a variety of tribal population, reflecting its great ethnic diversity. Eastern India comprises Bihar, Jharkhand, West Bengal, Orissa, eastern Uttar Pradesh, eastern Madhya Pradesh and Assam, where majority of tribals reside. Majority of tribal population of Jharkhand, Orissa and West Bengal lives in forest ecosystems and has its own socio-cultural pattern, traditions and typical food practices. Settled agriculture does not provide them sufficient food due to indifferent land situation and as most of them are farmers belonging to deficient category they depend on natural food resources. Vegetables eaten are mainly of leafy variety, which grow as wild weeds. It has become their habit and till date, these edible plants are integral part of their diet. During rainy and summer season, when the vegetables are in short supply, people collect various species of edible weeds from their agricultural and non-agricultural fields to supplement their staple food. The range of these types of foods used by the tribals varies from locality to locality depending on the availability of resources. These edible weeds play a significant role in the food security of tribals^{1,2}, but no systematic information is yet available. Keeping this in mind, an investigation was conducted to document such edible weeds of tribals with food security orientation.

Methodology

The study was conducted in Jharkhand, Orissa and West Bengal from 2001-2002. Two districts from West Bengal (Purulia and Midnapur), 3 districts from Orissa (Kheonjhar, Mayurbhanj and Dhenkanal) and 3 districts of Jharkhand (Ranchi, West Singhbhum and Latehar) were selected covering 8 districts, 10 community development blocks and 12 villages (Fig. 1). 25 families from each selected villages inhabited by 10 types of tribal groups; *Santhal*, *Sounti*, *Gond*, *Juang*, *Kol*, *Bhumiz*, *Oraon*, *Munda*, *Kharwar* and *Chero* were selected randomly for data collection. Data was collected through a combination of tools and technique of questionnaire, PRA, focused group interview and discussion.

Enumeration

During survey, 43 species of weeds (Fig. 2-7) recognized as important food plants of tribals of the study area (Table 1) are enumerated below:

Alternanthera sessilis Br. (Amaranthaceae), Local names: *Garundi arak* (*Santhal*); *Saronchi* (*Oraon*); *Salanti* (*Bhumiz*)

A prostrate and rooting much branched herb, mostly found in wet places, waste and cultivated fields during rainy season. Young plants are consumed as vegetable by all tribes.

*Corresponding author



Fig. 1 Location map of study area



Fig. 2 *Vicia hirsuta* Koch.



Fig. 3 *Polygonum plebejum* R. Br.



Fig. 4 *Celosia argentea* Linn.



Fig. 6 *Portulaca oleracea* Linn.



Fig. 5 *Medicago lupulina* Linn.



Fig. 7 *Euphorbia granulata* Forsk.

Amaranthus viridis Linn. (Amaranthaceae) Local names: *Jangli chaurai*, *Bhaji sag* (Oraon); *Marshi sag* (Gond, Bhumiz); *Lotiya sag* (Santhal)

An erect much branched, glabrous 30-60 cm high, annual herb found in cultivated grounds. Leaves and young shoots are consumed by all tribes.

Asphodelus tenuifolius Cavan. (Liliaceae), Local names: *Jangali Lahsun* (Kharwar and Chero)

An annual weed found in cultivated land and often associated with crops like potato, wheat and gram in rabi season. Kharwar and Chero tribes eat leaves as vegetable.

Asteracantha longifolia Nees. (Acanthaceae), Local names: *Koil khara*; *Gokhul Janum* (Santhal)

An erect herb, commonly found along ditches and in marshes. All tribes of the area consume the leaves as vegetable.

Aerua lanata Juss. ex Schult. (Amaranthaceae), Local names: *Lopung* (Bhumiz); *Lopong arak* (Santhal)

A sub-erect, diffuse or prostrate herb, commonly found in open lands. Bhumiz and Santhal tribes eat leaves as vegetable.

Alternanthera amoena (Lemaire) Vass. (Amaranthaceae), Local names: *Madranga* (Juang and Sounti)

A prostrate branched herb, found in cultivated and uncultivated field during summer and rainy seasons. Juang and Sounti tribes consume young plants.

Amaranthus spinosus Linn. (Amaranthaceae), Local names: *Kanta bhaji* (Oraon); *Janum ara* (Munda); *Januma* (Kol)

An erect herb with axillary spines, found in rainy and summer seasons in cultivated fields. Leaf and tender shoots are eaten by all tribes.

Boerhaavia diffusa Linn. (Nyctaginaceae), Local names: *Ohoic arak* (Santhal)

A diffused herb, very common in grassy waste places. Santhals eat leaves as vegetable.

Centella asiatica Linn. (Umbelliferae), Local names: *Chauke ara* (Munda); *Mukha arkha* (Oraon)

A variable herb with long creeping stem rooting at the nodes, found in wet places throughout the year mainly in rainy and spring seasons. Whole plants are eaten as vegetable by Oraon and Munda tribes.

Chenopodium album Linn. (Chenopodiaceae), Local names: *Betua Sag*; *Bhatua-arak* (Santhal); *Khartua sag*

An erect or ascending herb, 30-90 cm high, commonly grows as weed along with rabi crops. Leaves are eaten as sag by all tribes.

Cassia tora Linn. (Caesalpiniaceae), Local names: *Chakunda*; *Chekor sag* (Kharwar); *Chakoara* (Santhal)

An erect herb, very common in waste ground during rainy season. Leaves are eaten as vegetable by all tribes.

Cleome viscosa Linn. (Cleomaceae), Local names: *Hurhura*, *Hurhuria* (Bhumiz); *Namkani* (Santhal); *Sirioarkho* (Oraon); *Ganeragapa* (Juang)

An erect, pubescent, glandular herb, available in rainy season, found in cultivated and uncultivated fields. Young plants are consumed by all tribes.

Commelina benghalensis Linn. (Commelinaceae), Local names: *Kenna* (Oraon, Munda); *Kansaree* (Bhumiz); *Naladdo arkha* (Oraon)

Very common in kharif season, found in cultivated and uncultivated fields. Leaves are consumed by all tribes.

Celosia argentea Linn. (Amaranthaceae), Local names: *Ninga*, *Lahenga*, *Sirgiti* (Santhal); *Silwari* (Kharwar); *Khukari* (Munda); *Kima arkha* (Oraon)

A common annual weed, abundant in cultivated fields particularly in upland paddy crops. Tender plants are eaten by all tribes.

Corchorus olitorius Linn. (Tiliaceae), Local names: *Birnarcha* (Santhal); *Koha chanch* (Oraon); *Pat sag* (Munda, Bhumiz)

An herb abundantly found in upland during rainy season. Oraon, Munda, Santhal and Bhumiz tribes consume leaves.

Celosia cristata, Linn. (Amaranthaceae), Local name: *Kokro pump* (Oraon)

An herb, commonly found in upland during rainy season. Oraon tribe consumes leaves.

Cyanotis axillaris Roem. and Sch. (Commelinaceae), Local name: *Tena arkha* (Oraon)

An annual creeping herb, very common in rice fields and other wet places. Oraon tribe consumes leaves.

Digera alternifolia, Aschers. (Amaranthaceae), Local name: *Kari Gandhari* (Santhal) A common weed of cultivated fields and mostly found with kharif season crops. Santhals consume young plants.

Euphorbia granulata Forsk. (Euphorbiaceae), Local name: *Kantha arak* (Santhal)

A small herb with minute leaves, found in low lands during rainy season. *Santhals* consumes young plants.

Gynandropsis gynandra (Linn.) Briq. (Capparidaceae), Local names: *Seta Kata arak* (*Santhal*); *Charmai* (*Kol, Munda*); *Jharmuni* (*Bhumiz*); *Bilikuji* (*Gond*)

Foetid smelling annual weed of waste places, open field, etc. Young plants are consumed by *Kol, Santhal, Juang, Bhumiz, Munda* and *Gond* tribes.

Jussiaea repens Linn. (Onagraceae), Local names: *Nal Kimaro* (*Oraon*); *Machali sag* (*Chero*)

Herb growing on the margins of tanks, Don lands, etc. *Oraon* and *Chero* tribes consume leaves.

Limnophila gratioloides R. Br. (Scrophulariaceae), Local names: *Chottor arkha* (*Oraon*); *Nanha Hemcha* (*Santhal*)

A common small plant growing in masses in marshy or damp places. Available throughout the year. *Oraon* and *Santhal* tribes consume tender plants.

Leucas aspera Spreng. (Labiatae), Local name: *Guma* (*Chero and Kharwar*)

An annual weed of *rabi* season, commonly found in the fields of wheat, maize and arhar crops. *Chero* and *Kharwar* tribes eat tender young plants.

Leucas cephalotes Spreng. (Labiatae), Local names: *Pitta sag* (*Oriya*); *Dhrup sag* (*Munda*); *Orarak* (*Santhal*); *Kointho* (*Kol and Juang*)

An erect herb, commonly grows with kharif crops. Leaves are eaten by all tribes.

Limnophila conferta Benth. (Scrophulariaceae), Local names: *Muchari* (*Oraon*); *Hemcha sag* (*Santhal*)

A weed of rice fields and watery places. Leaves are eaten by all tribes.

Medicago lupulina Linn. (Papilionaceae), Local names: *Tiring, Ghipari* (*Munda*)

An annual weed of wheat, and pea fields as well as other *rabi* crops. *Munda* tribe eats young plants.

Marsilea minuta Linn. (Marsiliaceae), Local names: *Susni* (*Santhal*); *Sunsunia* (*Oraon*)

An herb of wet places. Leaves are eaten by all tribes.

Melochia corchorifolia Linn. (Sterculiaceae), Local name: *Thuiak* (*Santhal*)

An under shrub, found in waste places and in bunds of rice fields. *Santhal* tribe eats leaves.

Oxalis corniculata Linn. (Geraniaceae), Local names: *Tandi chatom arak* (*Santhal*); *Netho sag* (*Oraon*)

A small, annual or perennial herb commonly found in gardens. *Oraon* and *Santhal* tribes consume leaves.

Portulaca oleracea Linn. (Portulacaceae), Local names: *Kulfa, Balbalia, Motauric, Alang Galgala* (*Santhal*); *Dali Ara* (*Kol*)

A prostrate or erect, sub-succulent herb of rainy season, commonly found in open grounds. All tribes of study area consume young plants as vegetable.

Polycarpon loeflingiae Benth. (Caryophyllaceae), Local name: *Gima Sak* (*Santhal*) Prostrate, diffusely branched herb, commonly found in damp places, cultivated field of rice and damp edges of ponds. Leaves are eaten by *Santhal* tribe.

Polygonum plebejum R. Br. (Polygonaceae), Local names: *Pok arkha, Chimti sag* (*Oraon*); *Mooze-ara* (*Munda*); *Munia a, Pimpari* (*Kol*)

A prostrate herb with small pink flowers in the axils, common *rabi* weed found on banks, in waste ground, cultivated field and pastures. Young plants are consumed by all tribes.

Pergularia extensa N.E. Br. (Asclepiadaceae), Local name: *Mousi* (*Kharwar and Chero*)

It is a twining herb, flowers pale white, small in short cluster, commonly found in the village hedges, and flowers during October to December. *Kharwar* and *Chero* tribes eat leaves and flowers.

Polygonum glabrum Willd. (Polygonaceae), Local name: *Sauri-arak* (*Santhal*)

A herb, found on the edges of tanks and watercourses, growing in mud. *Santhals* consumes young tender plants.

Portulaca quadrifida Linn. (Portulacaceae), Local name: *Suni ara* (*Kol*)

A prostrate, creeping herb, common every where in open places during rainy season. *Kol* and *Munda* tribes consume leaves.

Rumex maritimus Linn. (Polygonaceae), Local name: *Jangli palak* (*Bhumiz, Oraon*) A stout erect annual herb of summer season. *Bhumiz* and *Oraon* tribes consume leaves.

Rungia parviflora Nees. (Acanthaceae), Local names: *Kawoa sag* (*Oraon*); *Hasa arak* (*Santhal*)

A prostrate herb of pastures and harvested field of low land rice. *Santhal* and *Oraon* tribes consume young plants.

Solanum indicum Linn. (Solanaceae), Local names: *Hanjad* (*Munda*); *Kutumba* (*Oraon*); *Anjed* (*Kol*)

A shrub or under shrub, found in waste ground; flowering and fruiting throughout the year. All tribes eat unripe berries as vegetable.

Table 1—Edible weeds of tribals of Jharkhand, Orissa And West Bengal

Scientific Name	Local name	Parts consumed	Consumed by tribes
<i>Aerua lanata</i> Juss.	<i>Lopung</i>	Leaf	<i>Bhumiz & Santhal</i>
<i>Alternanthera amoena</i> (Lemaire) Vass.	<i>Madranga</i>	Young Plant	<i>Juang and Sounti</i>
<i>Alternanthera sessilis</i> Br.	<i>Garundi arak</i>	Young Plant	All tribes
<i>Amaranthus spinosus</i> Linn.	<i>Janum ara</i>	Leaf and tender shoot	All tribes
<i>Amaranthus viridis</i> Linn.	<i>Jangli chaurai</i>	Leaf, young shoot	All tribes
<i>Asphodelus tenuifolius</i> Cavan.	<i>Jangli Lahsun</i>	Leaf	<i>Kharwar & Chero</i>
<i>Asteracantha longifolia</i> Nees.	<i>Koil Khara</i>	Leaf	All tribes
<i>Boerhaavia diffusa</i> Linn.	<i>Ohoic arak</i>	Leaf	<i>Santhal</i>
<i>Cassia tora</i> Linn.	<i>Chakunda</i>	Leaf	All tribes
<i>Celosia argentea</i> Linn.	<i>Lahenga</i>	Tender plant	All tribes
<i>Celosia cristata</i> Linn.	<i>Kokro pump</i>	Leaf	<i>Oraon</i>
<i>Centella asiatica</i> Linn.	<i>Beng sag</i>	Whole Plant	<i>Oraon, Munda</i>
<i>Chenopodium album</i> Linn.	<i>Bathua arak</i>	Leaf	All tribes
<i>Cleome viscosa</i> Linn.	<i>Hurhura</i>	Young Plant	All tribes
<i>Commelina benghalensis</i> Linn.	<i>Kenna Sag</i>	Leaf	All tribes
<i>Corchorus olitorius</i>	<i>Pat sag</i>	Leaf	<i>Oraon, Munda, Santhal and Bhumiz</i>
<i>Cyanotis axillaris</i> Roem. and Sch.	<i>Tena arkha</i>	Leaf	<i>Oraon</i>
<i>Digeria altrnifolia</i> Aschers.	<i>Kari Gendhari</i>	Young plant	<i>Santhal</i>
<i>Euphorbia granulata</i> Forsk.	<i>Kantha arak</i>	Young Plant	<i>Santhal</i>
<i>Gynandropsis gynandra</i> (Linn) Briq.	<i>Seta Kata arak</i>	Young Plant	<i>Kol, Santhal, Juang Bhumiz, Munda and Gond</i>
<i>Jussiaea repens</i> Linn.	<i>Nal kimaro</i>	Leaf	<i>Oraon, Chero</i>
<i>Leucas aspera</i> Spreng .	<i>Guma</i>	Tender young plant	<i>Chero and Kharwar</i>
<i>Leucas cephalotes</i> spreng.	<i>Pitta sag</i>	Leaf	All tribes
<i>Limnophila conferta</i> Benth.	<i>Muchari</i>	Leaf	All tribes
<i>Limnophila gratioloides</i> R. Br.	<i>Chottor arkha</i>	Tender Plant	<i>Oraon</i>
<i>Marsilea minuta</i> Linn.	<i>Sunsunia</i>	Leaf	All tribes
<i>Medicago lupulina</i> Linn.	<i>Ghipari</i>	Young Plant	<i>Munda</i>
<i>Melochia corchorifolia</i> Linn.	<i>Thuiak</i>	Leaf	<i>Santhal</i>
<i>Oxalis corniculata</i> Linn.	<i>Netho sag</i>	Leaf	<i>Oraon & Santhal</i>
<i>Pergularia extensa</i> N.E. Br.	<i>Mousi</i>	Leaf, Flower	<i>Kharwar & Chero</i>
<i>Polycarpon loeflingiae</i> Benth.	<i>Gima sak</i>	Leaf	<i>Santhal</i>
<i>Polygonum glabrum</i> Willd.	<i>Sauri arak</i>	Tender young plant	<i>Santhal</i>
<i>Polygonum plebejum</i> R. Br.	<i>Mooze-ara</i>	Young Plant	All tribes
<i>Portulaca oleracea</i> Linn.	<i>Galgala</i>	Young Plant	All tribes
<i>Portulaca quadrifida</i> Linn	<i>Suni ara</i>	Leaf	<i>Kol and Munda</i>
<i>Rumex maritimus</i> Linn.	<i>Jangli Palak</i>	Leaf	<i>Bhumiz & Oraon</i>
<i>Rungia parviflora</i> Nees.	<i>Kawoa sag</i>	Young plant	<i>Santhal, Oraon</i>
<i>Solanum indicum</i> Linn.	Anjed	Unripe berry	All tribes
<i>Spergula arvensis</i> Linn.	<i>Kharika</i>	Tender Young Plant	<i>Oraon</i>
<i>Trianthema decandra</i> Linn.	<i>Purni</i>	Tender young plant	<i>Juang, Kol and Munda</i>
<i>Trianthema monogyna</i> Linn.	<i>Khapra</i>	Young plant	All tribes
<i>Tridax procumbens</i> Linn.	<i>Manya arkha</i>	Leaf	<i>Oraon</i>
<i>Vicia hirsuta</i> Koch.	<i>Origara</i>	Young plant	<i>Oraon, Kharwar, Chero, & Santhal</i>

Spergula arvensis Linn. (Caryophyllaceae), Local name: *Kharika (Oraon)*

An annual weed of *rabi* season, commonly found in cultivated fields of gram, pea, etc. *Oraon* tribe consumes tender young plants.

Tridax procumbens Linn. (Compositae), Local name: *Manya arkha (Oraon)*

Herb, abundant in banks, don lands and waste ground. *Oraon* tribe consumes leaves.

Trianthema portulacastrum, Linn. (Alzooaceae), Local names: *Khapra; Kechoa (Kol and Munda)*

A common weed of rainy seasons, found in waste places and uncultivated fields. Young plants are eaten as vegetable by all tribes.

Trianthema decandra Linn. (Alzooaceae), Local name: *Purni (Jung, Kol)*

A succulent herb of *kharif* season. *Juang, Kol and Munda* tribes eat tender young plants

Vicia hirsuta Koch. (Papilionaceae), Local names: *Origara, Chirangi sag (Oraon); Banboot (Chero)*

An annual *rabi* season herb, found in the fields of wheat, gram, pea, etc. *Oraon, Chero, Kharwar and Santhal* tribes consume young plants.

Discussion

All 43 taxa including herbs, the tribals consume shrubs and climbers, which grow as weed in cultivated or uncultivated fields in their respective seasons. Out of these, 26 species are available during rainy season. Among *kharif* weeds, *Cassia tora*, *Portulaca oleraceae*, *Alternanthera sessilis*, *Cleome viscosa*, *Amaranthus viridis*, *Commelina benghalensis*, *Trianthema monogyna*, *Asteracantha longifolia*, *leucas cephalotes*, *Celosia argentea*, *Limnophila conferta*, *Gynandropsis gynandra*, *Marsilea minuta* and *Amaranthus spinosus* are quite popular and eaten by all the tribes during rainy season. During *rabi* season, *Chenopodium album*, *Leucas aspera*, *Medicago lupulina*, *Asphodelus tenuifolius*, *Polygonum plebejum*, *Pergularia extensa*,

Vicia hirsuta and *Spergula arvensis* are available and collected by tribes as per their availability. Besides, few species namely, *Centella asiatica*, *Polycarpon loeflingiae*, *Limnophila conferta*, *Tridax procumbens* and *Jussiaea repens* are available throughout the year. *Centella asiatica*, *Limnophila gratioloides*, *Jussiaea repens*, *Euphorbia granulata*, *Rungia parviflora*, *Limnophila conferta*, *polycarpon loeflingiae* and *Marsilea minuta* are commonly found in marshy and damp places. Earlier, few species, whose wild leaves are consumed by the tribes of Jharkhand and Orissa have been reported^{2,3,4}. The search for novel high quality but inexpensive sources of food has always remained a major concern of all agencies involved in providing adequate food and improving nutritional status of the population. In this context, these indigenous foods of tribals will play a vital role towards food and nutritional security of the nation, as their economic value is beyond dispute.

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