

Wild edible plants of Chandrapur district, Maharashtra, India

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Chandrapur district is blessed with nature having about 3810 sq. km. forest cover, which accounted for 35.75% of the total geographical area of the district. The population of the district mainly comprises of tribal, rural and people from other states such as Andhra Pradesh, Madhya Pradesh, Orissa and Chhattisgarh, which made diverse food habits in the district. Present work deals with the study of different wild edible plant species used by tribal and rural people from Chandrapur district of Maharashtra state. It reveals information about various edible parts of 61 plant species (dicot & monocot) which includes corms, tubers, leaves, flowers, fruits and seeds. Collection and utilization of wild edible plants provide seasonal food security and become source of income to the local people.

Keywords: Edible plants, Food habits, Rural people, Food security, Wild Resources.

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Introduction

Human race always depends on nature either directly or indirectly for food, clothes, shelter and medicine. Now-a-day due to improvement of knowledge and technology, we obtain our food through agricultural practices. However, if we observe the initial days of civilization and evolution of agriculture, all the food plants were discovered from their natural resources time to time. Still there are large numbers of plant species, which can be used to fulfill nutrition requirement of growing population of the world. Tribal are the part of nature, they fulfill most of their needs from wild resources. They got knowledge of wild edible plants traditionally. This traditional knowledge is useful to develop new food sources. Exploration of natural resources and documentation of traditional knowledge is necessary. Several attempts have been made to list out the wild edibles of Maharashtra^{1,2} and India³⁻¹⁰. Present work is an attempt to explore the traditional knowledge of wild edible plants of Chandrapur district of Maharashtra state.

Chandrapur is the easternmost district of the Maharashtra state, located between 18° 41' to 20° 50' north latitudes and 78° 48' to 80° 55' east longitudes (Plate 1). The district is bounded by Nagpur, Bhandara and Wardha on the northern side,

Yavatmal on the western side, Gadchiroli on the eastern side and Adilabad district of the Andhra Pradesh on the southern side. It is situated in the Wainganga and Wardha river basin. It occupies an area of 10,655 sq. km which constitutes 3.72% of the total area of the state and had population of 20,71,101 (population census, 2001) mainly comprises rural, tribal and people from other states such as Andhra Pradesh, Madhya Pradesh, Orissa and Chhattisgarh¹¹. Gond is the major tribe of the district, lives in small groups in forest and also well settled in developed urban places. The rural gonds are either farmers or agriculture labour.

The major food of the local people is wheat, rice and red gram. In addition to this, the tribal people and other people such as farmer's women and labour collect various plants from forest, cultivated fields, barren lands and field boundaries for edible purpose. They use these plants for themselves and sell in local markets.

Materials and Methods

Daily practices of various tribal and local people were observed and the plants collected by them were noted down. The same plants were collected from the field and identified with the help of floras¹²⁻¹⁶. Further conversation made with different tribal and rural people to know more about the edible plants and their food preparations.

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Results and Discussion

This paper is the result of long time observation and detailed study of life style of tribal and native people of Chandrapur district. It includes information on about 61 plant species (Table 1, Plate 2) comprising 51 dicot species and 10 monocot species. The countryside recipe includes all the parts such as

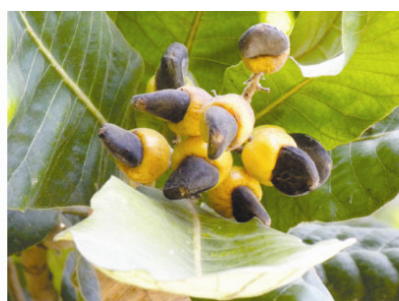
roots, leaves, stem, flowers, fruits and seeds, but the use of fruits is more where as roots is restricted to few species only (Figures 1-3). These species were collected by local people from forest, cultivated fields and barren lands. Some species, viz. *Emblica officinalis* Gaertn., *Mangifera indica* Linn., *Syzygium cumunii* (Linn.) Skeels., *Tamarindus indica* Linn.,



Plate 1— Map of Chandrapur district



Holarrhena pubescens



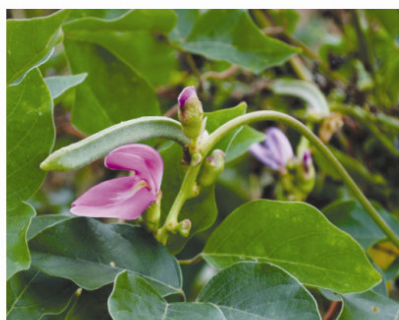
Semecarpus anacardium



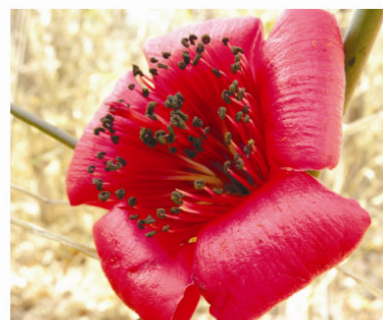
Ziziphus oenoplia



Madhuca longifolia



Cannavalia gladiata



Bombax ceiba

Plate 2 — Some common edible fruits of Chandrapur district

Table 1— Edible plant species

S. No.	Botanical name	Vernacular name	Family	Part used	Recipe	General habitat	Availability	Remark
1	<i>Aegle marmelos</i> (Linn.) Corr.	Bel	Rutaceae	Ripe fruit	Eaten raw or prepare soft drink	Field boundaries, near temples, forest	Local collection, weekly markets	Unripe fruits are astringent
2	<i>Amaranthus spinosus</i> Linn.	Math Bhaji	Amaranthaceae	Leaves	Cooked as vegetable	Fields	Local collection, weekly markets	
3	<i>Ammannia baccifera</i> Linn.	Dhan bhaji	Lythraceae	Young leaves	Cooked as vegetable	In rice fields before field preparation	Local collection	Mature leaves are not edible
4	<i>Amorphophallus campanulatus</i> (Roxb.) Blume	Suran	Araceae	Corm	Cooked as vegetable	Field boundaries, barren land, home gardens	Local collection, weekly markets	It causes throat irritation in some people
5	<i>Annona reticulata</i> Linn.	Ramphal	Annonaceae	Ripe fruit	Eaten raw	Forest, home gardens	Local collection, sell in villages	
6	<i>Annona squamosa</i> Linn.	Sitafal	Annonaceae	Ripe fruit	Eaten raw	Forest, cultivated	Local collection, commercialized	
7	<i>Anogeissus latifolia</i> (DC.) Wall. ex Bedd.	Dhawda	Combretaceae	Gum	Dried eaten raw, in sweet preparations	Forest	Local collection	
8	<i>Asparagus racemosus</i> Willd.	Shatawari	Liliaceae	Roots	Cooked as vegetable	Forest, waste lands	Local collection	
9	<i>Azadirachta indica</i> A. Juss.	Nimboni	Meliaceae	Fully ripe and fallen fruits	Eaten raw	Forest, villages and roadside	Local collection	Unripe fruits are bitter
10	<i>Basella rubra</i> Linn.	Bacchali kooora	Basellaceae	Leaves	Cooked as vegetable	Field boundaries, houses	Local collection, sell in villages	
11	<i>Bauhinia racemosa</i> Lamk	Kondal	Caesalpiniaceae	Young leaves	Cooked as vegetable	Forest	Local collection	
12	<i>Boerhaavia diffusa</i> Linn.	Tagres/ Ghetuli	Nyctaginaceae	Leaves	Cooked as vegetable	Waste lands	Local collection	
13	<i>Bombax ceiba</i> Linn.	Katesawar	Bombacaceae	Flower	Cooked as vegetable	Forest, field boundaries	Local collection	
14	<i>Borassus flabellifer</i> Linn. Tadi		Arecaceae	Young and germinating fruit. Sago produced by incision in inflorescence	Eaten raw	Field boundaries, wasteland	Local collection. Sold in villages	Mature fruit is hard to digest. Excessive consumption is problematic
15	<i>Bridelia retusa</i> Spreng.	Kakai	Euphorbiaceae	Ripe fruit	Eaten raw	Forest	Local collection	
16	<i>Buchanania lanzan</i> Spreng.	Char	Anacardiaceae	Seed	Eaten raw	Forest	Local collection, sell in villages	

Contd:

Table 1— Edible plant species —Contd

S. No.	Botanical name	Vernacular name	Family	Part used	Recipe	General habitat	Availability	Remark
17	<i>Cannavalia gladiata</i> (Jacq.) DC.	Chemma kaaya	Fabaceae	Green fruit	Cooked as vegetable	Field boundaries, barren land	Local collection	Mature fruit is indigestible
18	<i>Canthium parviflorum</i> Lamk	Katbor	Rubiaceae	Ripe fruit	Eaten raw	Field boundaries, forest	Local collection	
19	<i>Cassia fistula</i> Linn.	Rela	Caesalpinaceae	Flower	Cooked as vegetable	Forest	Local collection	
20	<i>Cassia occidentalis</i> Linn.	Marha (Bacca)	Caesalpinaceae	Pods	Cooked as vegetable	wasteland	Local collection	
21	<i>Cassia tora</i> Linn.	Tora/Tarota	Caesalpinaceae	Young leaves	Cooked as vegetable	Waste lands	Local collection	Mature leaves are not edible
22	<i>Celosia argentea</i> Linn.	Kukudda	Amaranthaceae	Young leaves	Cooked as vegetable	Fields	Local collection	
23	<i>Coccinia grandis</i> (Linn.) Voigt	Jangli kundru	Cucurbitaceae	Young, ripe fruit	Cooked as vegetable or raw	Waste lands, road side	Local collection	
24	<i>Colocasia esculenta</i> (Linn.) Schott.	Dhopa	Araceae	Corm, petiole	Cooked as vegetable, different preparations along with the Bengal gram flour	Water bodies, stagnant water	Local collection, weekly markets	
25	<i>Dendrocalamus strictus</i> (Roxb.) Nees	Kavil	Poaceae	Young shoots	Cooked as vegetable	Forest, field boundaries	Local collection	
26	<i>Digera muricata</i> (Linn.) Mart.	Chenchali koora	Amaranthaceae	Leaves	Cooked as vegetable	Weed of cultivated fields	Local collection, sell in villages	
27	<i>Dioscorea bulbifera</i> Linn.	Mataru	Dioscoreaceae	Stem tubers	Roasted, boiled as vegetable	Forest, home garden	Local collection, weekly markets	
28	<i>Diospyros melanoxylon</i> Roxb.	Tembhurni	Ebenaceae	Ripe fruit (fresh & dried)	Eaten raw	Field boundaries, forest	Local collection, sell in villages	Unripe fruits are astringent in taste
29	<i>Emblica officinalis</i> Gaertn.	Awla	Euphorbiaceae	Mature fruit	Eaten raw, jams and pickles prepared	Forest, cultivated	Local collection, commercialized	
30	<i>Emilia sonchifolia</i> (Linn.) DC.	Makka	Asteraceae	Leaves	Cooked as vegetable	Forest	Local collection	
31	<i>Ficus benghalensis</i> Linn.	Wad	Moraceae	Ripe Fruit	Eaten raw	Forest, villages	Local collection	
32	<i>Ficus racemosa</i> Linn.	Umber	Moraceae	Ripe Fruit	Eaten raw	Forest, waste lands	Local collection	
33	<i>Flacourtia indica</i> (Burm.f.) Merr.	Karai	Flacaurtiaceae	Ripe fruit	Eaten raw	Forest	Local collection	

Contd

Table 1— Edible plant species —Contd

S. No.	Botanical name	Vernacular name	Family	Part used	Recipe	General habitat	Availability	Remark
34	<i>Holarrhena pubescens</i> (Buch.-Ham.) Wall.	Kuda	Apocynaceae	Flower	Cooked as vegetable	Forest, barren land	Local collection, weekly markets	
35	<i>Ipomoea aquatica</i> Forssk.	Karembua/ Panbhaji	Convolvulaceae	Leaves	Cooked as vegetable	Ponds	Local collection	
36	<i>Lantana camara</i> Linn.	Ghaneri	Verbanaceae	Ripe fruits	Eaten raw	wasteland	Local collection	
37	<i>Limonia acidissima</i> Linn.	Kawat	Rutaceae	Ripe fruit	Eaten raw, prepared chatni	Forest	Local collection, weekly markets	
38	<i>Madhuca longifolia</i> (Koen.) Macbr.	Mauha	Sapotaceae	Flower (fresh/dried)	Eaten raw, different preparations and local drinks	Forest, roadside, field boundaries	Local collection	
39	<i>Mangifera indica</i> Linn.	Amba	Anacardiaceae	Fruit	Eaten as raw, in curries, pickles, juice	Forest, cultivated	Local collection, commercialized	Oil from epicarp cause irritation, swelling
40	<i>Manilkara hexandra</i> (Roxb.) Dub.	Khirmi	Sapotaceae	Ripe fruit	Eaten raw	Forest openings, along nallahs	Local collection, sell in villages	Unripe fruits contain sticky milky sap
41	<i>Momordica dioica</i> Roxb.	Katwal	Cucurbitaceae	Green fruit	Cooked as vegetable	Field boundaries, Forest (spread on bushes)	Local collection, available in weekly markets	
				Mature seed	Eaten as raw			
42	<i>Nelumbo nucifera</i> Gaertn.	Kamal	Nelumbonaceae	Thalamus	Eaten raw, cooked as vegetable	Ponds	Local collection	
43	<i>Opuntia elatior</i> Mill.	Nagphani	Cactaceae	Ripe fruit	Eaten raw	Hedges	Local collection	
44	<i>Oryza rufipogon</i> Griff.	Dev bhat	Poaceae	Seed	Cooked similar as rice	Ponds and puddles	Local collection	
45	<i>Oxalis corniculata</i> Linn.	Tipani	Oxalidaceae	Leaves	Cooked as vegetable	Moist places	Local collection	
46	<i>Phaseolus radiatus</i> Linn.	Jangli moog	Fabaceae	Young pods, Seeds	Eaten raw, boiled and roasted	wasteland, fields and boundaries		
47	<i>Pheonix sylvestris</i> (Linn.) Roxb.	Sindi	Arecaceae	Ripe fruit. Sago produced by incision in inflorescence	Eaten raw	Forest opening, field boundaries, pond boundaries	Local collection, sell in villages	Excessive consumption is problematic
48	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Chichbilai	Mimosaceae	Aril of seed	Eaten raw	Villages and roadside	Local collection, sell in villages	

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Table 1— Edible plant species —Contd

S. No.	Botanical name	Vernacular name	Family	Part used	Recipe	General habitat	Availability	Remark
49	<i>Portulaca oleracea</i> Linn.	Ghol bhaji	Portulacaceae	Whole plant	Cooked as vegetable	Weed of cultivated fields	Eaten raw	
50	<i>Portulaca quadrifolia</i> Linn.	Bhui chavli	Portulacaceae	Whole plant	Cooked as vegetable	Weed of cultivated fields	Local collection	
51	<i>Semecarpus anacardium</i> Linn.	Bibba	Anacardiaceae	Ripe fruit	Eaten raw	Forest	Local collection	Seed oil cause swelling and skin irritation
52	<i>Smilax sp.</i>	Ram datun	Smilacaceae	Young shoots	Cooked as vegetable	Forest	Local collection	
53	<i>Syzygium cumunii</i> (Linn.) Skeels.	Jambhul	Myrtaceae	Ripe fruit	Eaten raw	Forest, home garden, road sides	Local collection, commercialized	
54	<i>Tacca leontopetaloides</i> (Linn.) O. Kuntze	Dev kanda	Taccaceae	Root	Cooked as vegetable	Forest, field boundaries	Local collection	
55	<i>Tamarindus indica</i> Linn.	Chinch	Caesalpiniaceae	Young leaves, flower, young fruit, ripe fruit, seeds	Cooked as vegetable; pulp extract used along with vegetables and pulses. Seeds roasted and used as supari	Forest, cultivated, road side	Local collection, commercialized	
56	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Behda	Combretaceae	Kernels of Drupe	Eaten raw	Forest, rarely in villages	Local collection, sell in villages	
57	<i>Trapa natans</i> Linn.	Shingada	Trapaceae	Seed	Eaten raw or cooked	Ponds	Local collection, sell in villages	
58	<i>Woodfordia fruticosa</i> (Linn.) Kurz	Zilbuli/Dhayti	Lythraceae	Flower	Cooked as vegetable	Forest openings, waste lands	Local collection	
59	<i>Ziziphus glaberrima</i> (Sedgw.) Sant.	Goti	Rhamnaceae	Fruit	Eaten raw	Forest	Local collection,	
60	<i>Ziziphus oenoplia</i> (Linn.) Mill.	Yeroni	Rhamnaceae	Ripe fruit	Eaten raw	Forest openings	Local collection, sell in villages	Unripe fruits are astringent
61	<i>Ziziphus mauritiana</i> Lamk	Bor	Rhamnaceae	Semi ripe and ripe fruit	Eaten raw	Field boundaries, home garden, cultivated, forest	Local collection, commercialized	

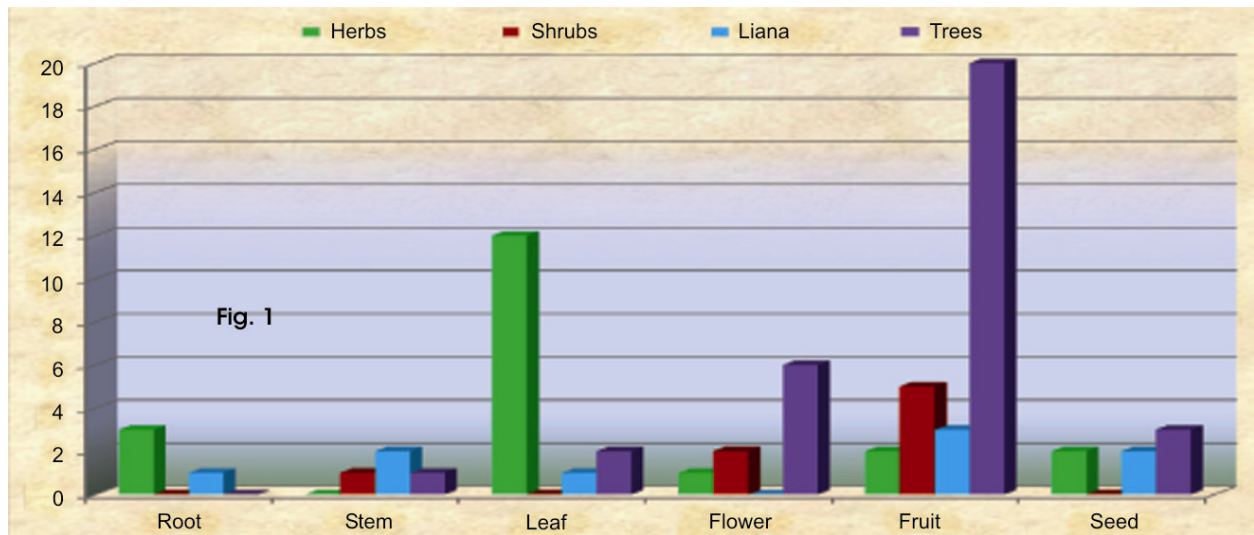


Fig.1— Edible parts of different life forms

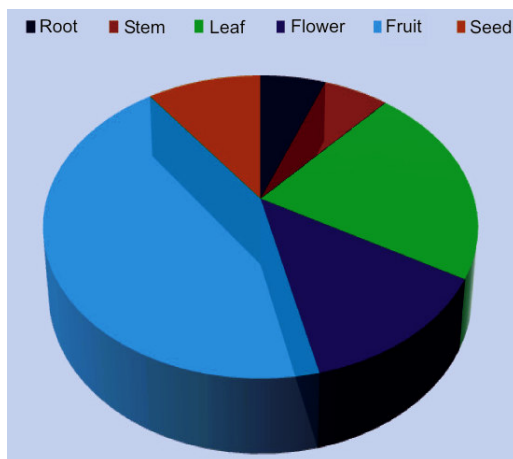


Fig.2— Contribution of different parts

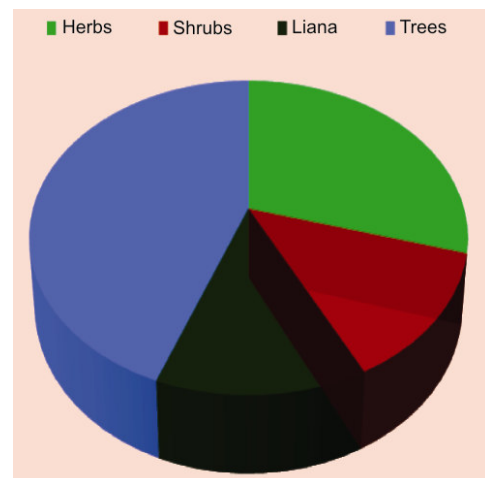


Fig. 3— Contribution of different life forms

Annona squamosa Linn., *Aegle marmelos* (Linn.) Corr. and *Zizipus spp.* are cultivated and available in market at commercial level, but still tribal people collect these plants from their natural sources seasonally. Marketing of *Madhuca longifolia* (Koenig) Macbr. and *Dendrocalamus strictus* (Roxb.) Nees. is strictly prohibited by forest department, hence the tribes collect these species and use locally. Some plants like *Ran moog*, *Katwal*, *Dhanbhaji*, *Math bhaji*, *Bacchali koora* and *Suran* are easily available on field boundaries and as weed in cultivated fields and generally consumed by almost all rural families.

Wild fruits such as Tembhorni (*Diospyros melanoxylon* Roxb.), Yeroni [*Ziziphus oenoplea* (Linn.) Mill.], Sindi [*Pheonix sylvestris* (Linn.)

Roxb.], Khirni [*Manilkara hexandra* (Roxb.) Dub.], Char (*Buchanania lanzan* Spreng.) are collected and sold by tribal and labour in villages and local bazaars.

Conclusion

Exploration of natural resources and documentation of traditional and tribal knowledge is need of the time. Present work documented 61 wild edible plant species and gives information on food habits of local people of Chandrapur district.

Out of these most of the species have medicinal properties and keep the tribal and hard working labour people healthy and fit. Further phytochemical and nutraceutical studies of these edible species may provide better nutritional source for future.

References

- 1 Deshmukh BS and Shinde V, Fruits in the wilderness: a potential of local food resource, *Intern J Pharm Biosciences*, 2010, **6** (2), www.ijpbs.net botany.
- 2 Bhogaonkar PY, Marathe VR and Kshirsagar PP, Documentation of wild edible plants of Melghat forest, Distt Amravati, Maharashtra state, India, *Ethnoboil Leaflets*, 2010, **14**, 751-58.
- 3 Arinathan V, Mohan VR, Britto, A John De, Murugan C, Wild edibles used by Palliyars of the western ghats, Tamil Nadu, *Indian J Trad Knowledge*, 2007, **6** (1), 163-168.
- 4 Reddy KN, Pattanaik C, Reddy CS and Raju VS, Traditional knowledge on wild food plants in Andhra Pradesh, *Indian J Trad Knowledge*, 2007, **6** (1), 223-229.
- 5 Sinha R and Lakra V, Wild tribal food plants of Orissa, *Indian J Trad Knowledge*, 2005, **4**(3), 246-252.
- 6 Bandyopadhyay S and Mukherjee SK, Wild edible plants of Koch Bihar district, West Bengal, *Nat Prod Rad*, 2009, **8**(1), 64-72.
- 7 Binu S, Wild edible plants used by the tribals in the Pathanmitta district, Kerala, *Indian J Trad Knowledge*, 2010, **9**(2), 309-312.
- 8 Kayang H, Tribal knowledge on wild edible plants of Meghalaya, Northeast India, *Indian J Trad Knowledge*, 2007, **6**(1), 177-181.
- 9 Ballabh B, Chaurasia OP, Pande PC and Ahmad Z, Raw edible plants of cold desert Ladakh, *Indian J Trad Knowledge*, 2007, **6**(1), 182-184.
- 10 Sankaran M, Prakash J, Sing NP and Suklabaidya A, Wild edible fruits of Tripura, *Nat Prod Rad*, 2006, **5**(4), 302-305.
- 11 Official website of Chandrapur Collector office (india.gov.in).
- 12 Cooke T, Flora of the Presidency of Bombay, Vol. I-III, Botanical Survey of India, Calcutta, 1958.
- 13 Ugemuge NR, Flora of Nagpur Distr, Shree Prakashan, Nagpur, 1986.
- 14 Singh NP and Karthikeyan S, Flora of Maharashtra State–Dicotyledons, Vol. I, Botanical Survey of India (BSI), Calcutta, India, 2000.
- 15 Singh NP, Lakshminarasimhan P, Karthikeyan S and Prasanna PV, Flora of Maharashtra State–Dicotyledons, Vol. II, Botanical Survey of India (BSI), Calcutta, India, 2001.
- 16 Sharma BD, Karthikeyan S and Singh NP, Flora of Maharashtra State–Dicotyledons, Vol. II, Botanical Survey of India (BSI), Calcutta, India, 1996.