

Wild Edible Plants of Thane District, M.S. India**Prachi Kshirsagar¹ and Prabha Bhogaonkar²**1. Department of Botany,
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Anjangaon Surji, Amravati, Dist. M.S**Abstract:**

Present study deals with wild edible plants used by rural folk of Thane district, Maharashtra. The survey resulted in reporting 44 plant sp. belonging to 22 families, used regularly by villagers. Plant part used, mode of use and period of availability, was noted. Any religious and medicinal significance mentioned by people also noted.

Key words: Wild edibles, Thane Distt., Rural folk.

Introduction:

From ancient times plants have been used as a source of food, shelter, clothing, medicine, gum, resin, oil, etc. Wild plants make important contribution to the life of rural and tribal communities. They play significant role in meeting requirements of local people living in remote areas. Jain et al (1991) reviewed the Indian ethnobotanical literature published till 1990s and listed species under 616 genera of which one or even more species are edible. Another notable work 'A Status Report of All India Coordinated Research Project on Ethnobiology', conducted by Ministry of Environment and Forests, Govt. of India recorded about 3900 wild plant species used as edible (Anonymous, 1994). Since last three decades many ethnobotanists of Maharashtra are working to document the wild edibles of the state. Chauhan (2004) reported 310 plant species utilized by Katkari tribals in Pune district, including wild edibles. Bhogaonkar and Rajgure-Gulhane (2015) reported 125 wild edible species from 11 districts of Vidarbha region. Kshirsagar (2010) documented 149 wild edible plants from four districts of North Maharashtra. Jadhav et al (2011) reported 50 wild edibles from Kolhapur district. Kshirsagar et al (2012) reported 56 edible species used in rural and tribal area of Buldhana district. Reddy (2012) reported 61 wild edibles from Chandrapur district. Datar and Upadhye (2016) documented 142 species of wild edible plants consumed across Northern region of Western Ghats. Bhogaonkar and Saudagar

(2017) reported 73 wild edible species from Gadchiroli district.

Some earlier survey work is also available from Thane district. Oak et al (2015) found 54 wild sp. utilized as food by tribal women of Thane District. Mohadkar and Patil (2023) noted 40 wild edible fruit plants used by tribals of Shahapur taluka. Patil and Mohadkar (2024) found 23 wild tuberous species consumed as food by tribals of Thane district. Chothe et al (2014) found fruits of 5 wild species processed by tribals of Jawhar area.

For present study Thane district was selected. Recently reorganization of Thane district has been done. Previously Thane Distt. had 15 talukas. On August, 1, 2014 it was split into 2 districts – Thane and Palghar. Presently Thane district includes seven talukas - Thane, Kalyan, Murbad, Bhiwandi, Shahapur, Ulhasnagar and Ambarnath. Remaining 8 talukas are under Palghar district.

Material and Methods:

Five small villages locally called as 'Pada' from four talukas were selected for survey. They are 1. Phalegaon, Taluka Kalyan (Population 2263) 2. Atkoli, Taluka Bhivandi (Population 463), Khoste, Taluka Shahapur (Population 571), 4. Aghai, Taluka Shahapur (Population 1171) and 5. Talavali, Taluka Murbad (Population 1887). Population is as per 2011 census. All are remote villages, where people still are using wild vegetables as routine practice. Thirty women from age group 21- 74 yrs. were interviewed. Meetings were arranged with Small Savings Groups, GramPanchayat members and Atma Malik members of Aghai. Local names of plants used, recipes of preparation, season / period of availability of part

used, religious, medicinal or otherwise use were noted. Plants used were collected from nature with the help of locals and identified using standard floras (Sharma et al. 1996, Naik 1998, Singh et al. 2000, Singh et al. 2001). For recent nomenclature International Plant names Index and Plants of the World Online (PWO) were referred.

Results and Discussion :

Recipes – Different recipes were found to be used. Mostly the methods of preparation are simple. In some cases, special methods are adopted to remove unwanted components present.

- I - Oil is heated in cooking pan and mustered seeds and jeera added. Few pieces of green chili, garlic paste, cut onion allowed to be there in hot oil for few minutes and red chili powder added. Then cut vegetable is mixed with this, required amount of salt added and cooked. Powder of groundnut seeds can be added as per taste.
- II - Vegetable is cooked as above (no groundnut powder added), as it gets finely cooked, small amount of chana dal flour is mixed and pan covered; allowed to cook on low fire.
- III - Cut vegetable is boiled with water, water discarded and vegetable made as per choice.
- IV - Cut vegetable is boiled with 'chinch'(tamarind) to remove oxalates that cause itching of throat. Water discarded and vegetable prepared.
- V - Sufficient amount of chopped onion is added in hot oil with garlic and green chili pieces and shallow fried till becomes brown. Then red chili powder, turmeric powder and cut vegetable added and allowed to cook.
- VI - Tur dal (pigeon pea) is cooked, made into paste and kept aside. Cut vegetable is steam cooked and mixed with paste of cooked tur dal. Oil is heated in a cooking pot, mustered and jeera seeds, pieces of green chili, garlic, red chili powder and turmeric added. Then mixture of cooked dal and vegetable added with some amount of water and needed salt. Allowed to boil. As per taste tamarind paste and jaggery may also be added.
- VII - oil is heated in cooking pan, mustered and jeera seeds added; then powder of red chili, turmeric and dhanian powder added. Now seeds of vegetable are mixed with this and allowed to cook. As it gets cooked it is ready to eat; called 'usal'.

Grated onion and coconut shallow fried in oil and some amount of water is added to cooked seeds and allowed to boil to make curry.

In all recipes oil is heated till mustered and jeera seeds crackle.

Any recipe if is specific to the vegetable is given along with the specific species only.

Most of the vegetables noted here are wild. However, few are cultivated ones, but the part used is not the marketed one or the routinely used.

Amaranthus viridis L. (Amaranthaceae) - 'Math'. Leaves are made into vegetable (Recipe I).

August - Dec. Frequent in open situations and forest edges.

Amorphophallus bulbifer Blume (Araceae) - 'Karande'. Whole bulbils without cutting are boiled and eaten during 'Rishipanchami' fasting. (Bulbils are present on petiole at the base of lamina and on rachis.) Vegetable of bulbils also made. Tubers and petioles are used to make vegetable (Recipe IV).

Leaves appear in June - July.

Amorphophallus campanulatus Decne. (Araceae) - 'Suran'. Large tubers are selected; chopped and made into vegetable (Recipe IV).

Tuber pieces are steam cooked, mixed with black gram (udid) flour, chili powder, garlic paste and salt. Small boluses are made and sun dried. They are called 'Sandage'. Used to make vegetable any time throughout the year.

Available in wild in hilly areas; also cultivated in plains.

Amorphophallus commutatus (Schott.) Engl. (Araceae) - 'Shevali'. Young inflorescences are collected (at maturity flowers produce very offensive odour). Spathe and portion of female flower is removed; rest of the inflorescence is used to make vegetable (Recipe I).

Inflorescences are sun dried. Pieces of inflorescences are mixed with soaked chana dal or tur dal and vegetable made. It is favored food of the locals.

April - Oct.

Leaves are dried and stored. Vegetable of these leaves is given to treat dysentery/ amoebic dysentery.

Artiplex hortensis L. (Amaranthaceae) - 'Chandan batva'. Leaves used as vegetable (Recipe I, II and VI).

July - Nov. Wild; cultivated in some parts of Maharashtra.

Bauhinia variegata L. (Fabaceae) - 'Koral, Karula'. Vegetable of young leaves (Recipe I) is favored one because of its nice, unique taste - somewhat like fenugreek.

Throughout the year.

Bauhinia racemosa Lam. (Fabaceae) - 'Shida'. Buds and flowers used after removing anthers. Boiled in water with salt, water discarded and vegetable made (Recipe III).

April - Oct.

Canavalia gladiata (Jacq.) DC. (Fabaceae) - 'Abai, Aabi'. Young pods are split, inner white membrane removed and vegetable prepared (Recipe I). Seeds are collected from mature pods and 'Usal' prepared (Recipe VII); either dry or with curry.

Nov. - Dec.

Capparis brevispina DC. (Capparaceae) - 'Wahgate'. Skin of fruit is very hard; is removed before cutting and vegetable made (Recipe II). Some times it is made by adding soaked chana dal. Only young fruits are used. The vegetable is consumed especially while breaking the fast of 'Ashadhi Ekadashi'.

July - August (Collected only from wild; has very good market value).

Carrisa carandus L. (Apocynaceae) - 'Karonda, Karvand'. Young and mature fruits are made into pickle. Ripe fruits are steam cooked and then mixed with sufficient sugar or jaggery and again cooked. This can be stored for months together.

Jan. - April.

Celosia argentic L. (Amaranthaceae) - 'Kurdu'. Leaves made into vegetable (Recipe I); tastes somewhat bitter.

Aug.- Jan.

Chlorophytum tuberosum (Roxb.) Baker (Asparagaceae) - 'Kawali'. Leaves made into vegetable (Recipe I); the vegetable is especially made on Mondays in the month of 'Shravan'.

June - Sept.

Clerodendrum serratum (L.) Moon. (Verbenaceae) - 'Bharangi'. Young leaves and shoots, and flowers all are used to make vegetable (Recipe III). Supposed to be useful on rheumatism.

July - Dec.

Colocasia esculenta (L.) Schott. (Araceae) - 'Alu, Taro'. Leaves along with petiole are taken. Before making vegetable skin of petioles is removed as it contains lots of oxalates. Petioles and leaves are cut

and vegetable made (Recipe IV) either in cooked Tur dal or Chana dal flour.

Entire leaves are smeared with tamarind paste and steam cooked. Gram flour is made into thick paste; red chili powder, dhaniya powder and salt added. Cooked leaves are smeared with this paste, rolled and steam cooked. This 'Alu vadi' is made especially on 'Gauri and Ganapati' pooja; also as testy delicacy.

Root stocks tuberous, also used to make vegetable mixed with tamarind or tomato. Jaggery added to balance the sourness.

Available throughout the year. Found in ponds; also sometimes grown in house yards. In nature two varieties are found - one with green petiole and other with purple-red. Green coloured variety is preferred since, the other one produces severe itching.

Dendrocalamus strictus (Roxb.) Nees (Poaceae) - 'Bamboo komb'. Sprouts and very young shoots are collected. They are cut into pieces and boiled in water, without covering the pot. Water discarded and vegetable made (Recipe I).

August - Nov.

Dioscorea alata L. (Dioscoreaceae) - 'Kon'. Skin of tubers removed and tubers cut into slices. Wood ash or cow dung ash is mixed with water and boiled (ash mixed with water is called 'Rakhadi'; -rakh = ash). Cut vegetable added and again allowed to boil. Then the pot is covered and slices are allowed to be in hot 'rakhadi' for the whole night. In the morning slices are taken out, thoroughly washed and again boiled with water and salt. Boiled slices are eaten as such or with chatney of green chili. Very testy food; but should be eaten in limited quantity. Over eating may result in 'Vat' (joint pain, arthritis).

June - July. Tubers can be stored.

Dioscorea bulbifera L. (Dioscoreaceae) - 'Karande, Kadu karande'. Bulbils are boiled in water, water discarded (otherwise will taste bitter). 'Usal' of boiled bulbils is made (Recipe VII).

Boiled bulbils are eaten with pinch of salt on 'Rishipanchami' fasting day.

July - Nov.

D. alata and D. bulbifera preparations are specifically made on second day of 'Diwali' i.e. 'Balipratipada'.

Dioscorea pentaphylla L. (Dioscoreaceae) - 'Telpat'. Female inflorescence, leaves and young shoots are boiled in water with salt. Water discarded and vegetable made (Recipe I). Both male and female

inflorescences are edible. But male inflorescence is not boiled, it is fragrant and eaten as such.

Leaves July - Oct. Inflorescence Sept. - Oct.

Ficus racemosa L. (Moraceae) - 'Umber'. Raw fruits boiled in water, water discarded and vegetable made (Recipe III). Ripe fruits eaten as such; tastes like 'Anjeer' (Figs- **Ficus carica** L.).

Feb. - June.

Holarrhena antidysentrica (Roth.) Wall. (Apocynaceae) - 'Kuda'. Flowers and young pods made into vegetable (Recipe III).

Feb. - June.

Ipomoea aquatica Forsk. (Convolvulaceae) - 'Nalichi bhaji'. Leaves and young stems are used (Recipe I). Vegetable is made on 'Tava' i.e. flat iron pan used to make roti.

Available throughout the year.

Ledbouria revoluta (L.f.) Jessop. (Asparagaceae) - 'Sasakand'. Leaves are made into vegetable (Recipe II & V). The vegetable is offered to Village Goddess ('Gram Devata') before sowing rice. Also offered to 'Sath Devi'- the Goddess of seasonal diseases, especially during rainy season.

June - July.

Flowers greenish-purple; sometimes white flowered variant is also found in nature. But white flowered variant is not used since, leaves are bitter.

Leea macrophylla Roxb. ex Horn. (Leeaceae) - 'Dinda, Sapud'. Leaves are used to make vegetable (Recipe I) or eaten raw.

July - Oct.

Madhuka longifolia (Koen. ex L.) MacBr. (Sapotaceae) - 'Moha, Mahua'. Flowers are sweet in taste. They are steam cooked, mixed with paste of cooked Chana dal and jaggary and again cooked for few minutes. Stuffed sweet roti of this mixture is made, called as 'Mohachi Pura Poli'. Fresh as well as dried flowers are used.

Raw fruits are cut and cooked in pressure cooker with sufficient water (just till it whistles once), water discarded and vegetable made (Recipe I). Ripe fruits eaten raw as such. Seed oil used for cooking. In olden days oil was extracted on commercial basis, now it is only for personal use.

Season of flowers Feb. - April.

Momordica dioica Roxb. ex Willd. (Cucurbitaceae) - 'Kartule'. Leaves and fruits used. Vegetable of young leaves and tender, young shoots made (Recipe I & V). Young fruits are popularly used for vegetable

(Recipe I & V). vegetable of fruits is made by adding soaked Chana dal. Curry of fruits is also made (Recipe VII). Older and mature - ripe - fruits are somewhat bitter.

Vegetable of fruits is especially made to break the fast of 'Ashdhi Ekadashi'.

June - August.

Moringa oleifera Lam. (Moringaceae) - 'Shevaga, Shegat'. Leaves, young shoots, flowers and pods all are edible. Leaves and young shoots are made into vegetable (Recipe I). Pods are steam cooked and then made into curry using grated onion and coconut.

Flowers are steam cooked and mixed with curd. Oil heated, mustard and jeera seeds, green chili pieces, some amount of red chili powder added; this is immediately added to curd mixture. Salt and little amount of sugar added as per taste. This is very tasty preparation.

Available throughout the year. Mostly cultivated in house yards and on bunds of fields and farms.

Oroxylum indicum (L.) Kruz. (Bignoniaceae) - 'Tetu'. Young pods are made into vegetable (Recipe V). Pieces of young pods are mixed with sufficient amount of salt to preserve for the use throughout the year.

May - June.

Small piece (one inch) of dried pod is put into glassful of water and boiled for 10-15 min. This is taken in night and early morning. Useful on back-ache and pain in waist.

Oryza rufipogon Griff. (Poaceae) - 'Dev Bhat'. In olden days seeds were regularly used to make rice. Now because of less availability, used only to make 'Kheer'- a sweet dish. Seeds are soaked for 3-4 hours and then half cooked. This is mixed with sufficient milk and again cooked, then sugar added. This sweet dish is specially made on 'Rishipanchami' as offering to God.

Seeds Dec. - Jan. Usually stored for entire year.

Oxalis corniculata L. (Oxalidaceae) - 'Ambat pitukale'. Leaves are pasted with green chili and salt, little jaggary added. The chatney thus made is very tasty. Vegetable also prepared with cooked Tur dal (Recipe VI).

August - Nov.

Leaves chewed and eaten raw; useful on acidity.

Peucedanum grande C.B. Clarke (Apiaceae) - 'Baphali'. Young leaves are made into vegetable (Recipe I & V).

June - July.

Supposed to be effective on stomach ache.

Radermachera xylocarpa (Roxb.) Roxb. ex K. Schum (Bignoniaceae) - 'Khadsingh'. Young pods collected. Rough surface and seeds removed. Pods cut into pieces and boiled in water; left as such overnight. Water discarded in the morning and vegetable made (Recipe I) . Curry of pods made as per recipe VII.

August - Sept.

Senna tora (L.) Roxb. (Fabaceae) - 'Takla'. Terminal leaves of very young plant (next to seedling stage) are collected in rainy season to make vegetable (Recipe I).

June - July.

Supposed to be very effective on rheumatism.

Striga densiflora - Benth. (Scrophulariaceae) - 'Loth'. Vegetable made of vegetative part of the shoot (Recipe I).

August - Nov.

Striga asiatica also found to be collected as 'Loth' and used in the same way.

Improves appetite and taste.

Smithia sensitiva Aiton. (Fabaceae) - 'Kavala'. Vegetable of leaves prepared (Recipe I).

Smithia conferta J. E. Sam also collected as 'Kavala' and used in the same way.

August - Dec.

Vegetable prepared especially on Shravan Mondays.

Spondias pinnata (L.f.) Kurz. (Anacardiaceae) - 'Kakad, Ambada'. Fruits pickled. Young, tender leaves made into vegetable (Recipe I & VI). Pulp of raw fruit used in preparation of vegetable of 'Kavala'.

July - August.

Vegetable is offered to 'Gav Devi' (Godess of Village) before sowing rice.

Tamilnadia ulginosa (Retz.) Triveng. & Sastre (Rubiaceae) - 'Pendhara'. Vegetable of fruits made after removing skin (Recipe I & V). Roasted and boiled fruits eaten.

May - June.

Fruits used on diarrhea and dysentery. Ripe fruits are sun dried and paste given to treat digestive problems. Old yellow fruits are boiled in milk and sun dried, levigated in milk and given to small children.

Following are cultivated vegetables, but the part used is different from the one marketed.

Cicer arietinum L. (Fabaceae) - 'Harbara'. Leaves are used to make vegetable (Recipe II). Leaves are cooked as per recipe I, water added and allowed to boil. To this boiling vegetable chana flour is slowly added while stirring continuously. Allowed to cook for some time (10-15 min.); called 'Pithale'. Is very testy dish.

Dec. - Feb.

Leaves are dried and stored to use for entire year.

In winter season cicer plants are covered with thin cotton cloth in the evening; cloth becomes wet due to dew formed in the night. Cloth taken from plants in the morning and dew collected by squeezing the cloth and stored in bottle. This is given to treat acidity.

Cucurbita maxima Lam. (Cucurbitaceae) - 'Kohale, Kashifal'. Vegetable of young shoots prepared (Recipe I).

Guizotia abyssinica (L.f.) Cass. (Asteraceae) - 'Karal, Khurasani'. Leaves used to make vegetable (Recipe I).

Flowers used to make 'Toran' (decoration of door) on festival days.

Ipomoea batata (L.) Lam. (Convolvulaceae) - 'Ratale'. Leaves and young soots used to make vegetable (Recipe I, II & IV).

Lablab purpurens var. **lignosus** (L.) King (Fabaceae) - 'Waal'. Seedlings are grown. Hypocotyls, cotyledons and first leaf are plucked for vegetable (Recipe I).

Vicia faba L. (Fabaceae) - 'Papdi Waal'. Young shoots used for vegetable (Recipe I).

Recipes used are very simple. Some special methods are used to remove toxic or unwanted components from the plant material. Mostly fresh plants are collected, but in certain cases plant material sun or shade dried and stored.

Present survey has resulted in noting 44 edible species, out of which 38 are wild while 6 are cultivated but the part used is other than the marketed one. Most of the edibles are sold, but not in market. Women sit along road side with small quantities of wild edibles. They do not have weighing pans. Small heaps called 'Wata' (i.e. portion) of edibles are arranged on a piece of cloth. Each 'wata' is sold just for Rs. 20/ only. Some wild edibles are consumed for medicinal benefits also. In fact diversity in wild edibles not only gives variation in diet, but also provides nutritional diversity and medicinal benefits.

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