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Research Article

Wild vegetable plants of Mantha district Jalna, Maharashtra, India

Priyanka M. More and Rajesh S. Gaikwad

Swami Vivekanand Senior College, Mantha District, Jalna (M.S.), India-431501.
Email: priyankam8466@gmail.com.
Corresponding author: drrsgaikwad@gmail.com.

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Abstract

Wild vegetable plants are an important component from the perspective of tribal diet. wild vegetable provides food security as well as source of income for local people in different season. Present investigation concerns with survey, identification and documentation of edible plants from local people of Mantha taluka of Jalna district, Maharashtra. This study revealed that 07 wild vegetables belong to 05 different families consumed by people of this area.

INTRODUCTION

Wild edible plants are existing in the forests, protected areas, rural domicile sites, wetlands and grasslands which can be used as food through appropriate means of collection, preparation and preservation (Haraldson,1978).The edible wild plants are greatly valued throughout the Himalayan region and serve in important source of non-conventional food for indigenous communities. Wild edible plants also constitute the part of natural vegetation and maintain the ecological balance of nature (Fahey, 2005). Most wild vegetables are grown naturally without proper cultivation technique in forest area, specifically during monsoon season and collected by tribal people. Various reports also noted that many wild edibles are nutritionally rich and can supplement nutritional requirements, especially vitamins and micronutrient. The most important point is that wild leafy vegetables have more valuable food ingredients than the cultivated common leafy vegetables. These wild leafy vegetables supply nutrients during the rainy season when there is a shortage of cultivated green leafy vegetables and other vegetable resources (Lubdha and Rode, 2023) and also a source of macro and micro elements due to their high water content (Sundriyal and Sundriyal, 2004). In conclusion, socio economic survey of wild medicinal plants indicates that, rural people depends on wild edible fruits for various purposes like food, medicinal and mainly use it for direct consumption.

Present work defines diversity of wild vegetable plants across the Mantha tehsil in Jalna district. Maharashtra India. Present data helps in the conservation and management of wild vegetables plants. Efforts are needed to create awareness towards the use of wild vegetables plants to enhance the demand. Increase demand will encourage people to increase the area under cultivation for sustainable development and empowerment of local communities.

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MATERIALS AND METHODS.

The present study was carried out in the Mantha tehsil in Jalna district. Maharashtra India. Four sampling sites were selected for the present study viz. Akani, Kendhali, Limbona, Vidolli is represented by coordinates 19°38′48″N 76°23′07″E. The total geographical area of village is 1071 Hectars. Survey was conducted in the rural and tribal area.

The plants specimens were collected from various fields and places according to their blooming seasons and vegetation. The collected plants were noted by respective collection number.

The plants were brought to the laboratory and processed for herbarium specimens. Plants were identified with the help of relevant scientific literature (Diwakar and Sharma, 2000 Sharma *et al.*, 1996, Naik, 1998, Singh and Karthikeyan 2000, Singh *et al.*, 2001). Identified voucher specimens were deposited in herbarium of Department of Botany, Swami Vivekanand Senior College Mantha district Jalna, (M.S) India.

RESULTS AND DISCUSSION

It is clear from results summarized in table 1 that 07 wild vegetables plants were recorded from study area viz. *Amaranthus spinosus, Coccinia grandis, Launea procumbens, Momordica dioca, Sesbania grandiflora, Portulaca oleraceae, Portulaca quadrifida.*

It is interesting to note that 05 wild vegetables plants were densely present in study area A, B,C and D viz. *Amaranthus spinosus, Sesbania grandiflora, Momordica dioca, Portulaca oleraceae, Launea procumbens* as compared with other plants, result were mentioned in table 2. It is reported by several research workers that many of the plant species have been reported for edible purpose by different workers from various parts of the country (Basu and Mukherjee, 1996, Nadanakunjidam, 2003). The plant parts used were tuber, leaves, flowers, fruits and whole plant for food supplement. Vegetables play an important role in human diet. A diet rich in vegetables and fruits is considered healthy and supposed to reduce the possible risk of various diseases (Robinson, 1990). These wild vegetables provide a cheap source of protein (Chauhan *et al*., 2014). (Theng and Gaikwad, 2022) Studied and concluded that, 32 species of vegetables of 24 families were recorded from this study area, majority of them are herbs followed by climbers, shrub and trees. Most of the species belongs to Amaranthaceae and Fabaceae (3 species each) followed by Moraceae, Asteraceae and Portulucaceae (2 species each) while remaining families are with one species each

Table 1. List of wild vegetable plants of Mantha, Jalna district

Sr. No	Botanical Name	Family	Common Name	Plant Part
1	*Amaranthus spinosus L*	Amaranthaceae	Tandulja	Leaves
2	*Coccinia grandis L*	Cucurbitaceae	Tondali	Fruit
3	*Launea procumbens L*	Asteraceae	Pathri	Leaves
4	*Momordica dioca*	Cucurbitaceae	Kartule	Fruit
5	*Sesbania grandiflora*	Fabaceae	Hadga	Flower
6	*Portulaca oleraceae*	Portulacaceae	Ghol	Whole plants
7	*Portulaca quadrifida*	Portulacaceae	Chival	Whole plant

Table 2. Local Status of wild vegetable plants in the study area

Sr. No	Botanical Name	Study Area				Latitude	Longitude.
		Area A	Area B	Area C	Area D		
1	*Amaranthus spinosus L*	+++	+	++	++	19.657896^0	76.343684^0
2	*Coccinia grandis L*	++	++	++	++	19.657887^0	76.343778^0
3	*Launea procumbens L*	++	++	+++	+	19.697927^0	76.360332^0
4	*Momordica dioca*	+	+++	++	+++	19.657887^0	76.343778^0
5	*Sesbania grandiflora*	+++	+	+++	--	19.697407^0	76.360389^0
6	*Portulaca oleraceae*	+	+++	+	+	19.674761^0	76.326532^0
7	*Portulaca quadrifida*	--	++	+	++	19.657887^0	76.343778^0

--= Absent, + = Present, ++ = Moderately present, +++ = Densely present

Study area -A (Akani), Study area –B (Kendhali), Study area –C(Limbona), Study area- D (Vidolli).

Amaranthus spinosus, Sesbania grandiflora, Momordica dioca, Portulaca oleraceae, Launea procumbens

Taxonomical description of wild vegetables.

Botanical Name : *Amaranthus spinosus L.* Tandulja

Taxonomical description.

An annual herb reproducing by seed only. Distinguished by flowers and pairs of spiny bracts that occur in the leaf axils. Mature plants are erect, branched and may grow to 1.2 m tall. Stems are angled in cross section, reddish, fleshy and bear many spines. Leaves are alternate, ovate-rhombic to lanceolate sometimes with sparse hairs on the lower surface and most with a pair of long, straight spines at the base. Flower heads are either a long terminal spike or clumped at the leaf axils in the lower part of the plant (Naik, 1998).

Botanical Name : *Coccinia Grandis*.

Taxonomical description.

Glabrous, climbing herbs; stem angular; tendrils slender. Leaves broadly ovate, 5-10 cm across, 5-angled or 3-5 lobed, cordate at base. Flowers axillary, solitary. Males flowers; Calyx tube campanulate; teeth ovate. Corolla white; lobes shorter than the tubes. Female flowers; Calyx and corolla as in male. Staminodes 3. Style slender; stigma papillose. Fruits ellipsoid, red when ripe. Seeds oblong, yellowish (Naik,1998).

Botanical Name : *Launea Procumbins*

Taxonomical description.

Procumbent herbs; stem upto 35 cm or more long, with yellow juice. Leaves in a basal rosette, obovate-oblong, 8-24 x 3.5-8 cm, narrowed at base, pinnately lobed; lobes obtuse. Heads solitary or clustered, along terminal, sub-racemose inflorescence. Involucral bracts 3-seriate. All florets with pale yellow, 2-3 dentate ligules (Naik, 1998).

Botanical Name : *Momordica Dioca*

Family.Cucurbitaceae

Taxonomical description.

Climbers; roots tuberous. Stem glabrous. Tendrils simple. Leaves ovate-reniform, 4-10 cm across, cordate at base, 3-5 lobed. Male flowers solitary; bracts sessile. Calyx tube short; teeth linear-lanceolate. Corolla yellow; lobes oblong. Female flowers solitary. Fruits ovoid, 3-5 cm long, echinate, red on ripe. Seeds ovoid, emarginated (Naik, 1998).

Botanical Name : *Sesbania Grandiflora*

Family : Fabaceae.

Taxonomical description.

Trees, reaching upto 10 m height. Leaves pinnate, upto 30 cm long. Leaflets 10-30 pairs, oblong-elliptic, 1.5-3 x 0.5-1.5 cm, rounded or subcordate at base, rounded at apex. Flowers in few-flowered, axillary, short racemes; bracts minute, hairy. Calyx campanulate, glabrous, toothed. Corolla glabrous. Pods, green, glabrous. Seeds many (Naik, 1998).

Botanical Name: *Portulaca Olaraceae*

Family: Portulacaceae.

Taxonomical description.

Prostrate herbs, succulent; stem reddish, upto 40 cm long. Leaves obovate to spathulate. Flowers in terminal clusters; bracteoles ovate-acuminate. Sepals ovate-triangular, keeled. Petals yellow, obovate-oblong. Stamens 7-12. Capsules obovoid, green. Seeds black, reniform (Naik, 1998).

Botanical Name : Portulaca quadrifida

Family : Portulacaceae

Taxonomical description.

Annual succulent herb, growing from a swollen taproot. Stem is full and reddish, up to 25 cm long, often rooting at the nodes. Leaves are fleshy, lanceolate, elliptic-oblong, rarely cordate-ovate, up to 10 × 4 mm, often much smaller, flattened on both surfaces with numerous whitish hairs on the stipular. Inflorescence is terminal, solitary of 2-4. Flowers are yellow to orange, sometimes pink or purplish, almost free. Petals of 4, rarely 5; stamens 8-12 (Naik ,1998).

CONCLUSION.

This study helps in the popularization of wild vegetable status and encourages peoples to use traditional vegetables as a source of food and nutrition which ultimately results in their increase consumption and market demands as alternative dietary source of human diet in future

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Photo1: Interviews of local farmers and collection of wild vegetables plants.

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