

Study on Naturally Growing Herbs of Padampur City and It's Functioning of Amaranthaceae Family

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Key Words: Padampur, Herbs, Amaranthaceae, family, Soil

Introduction

Padampur is a City and a municipality, just 39 km from Sri Ganganagar city in Sri Ganganagar District in the Indian state of Rajasthan. The city was named after Rajkumar Padam Singh of royal family of Bikaner.

Geography: Located in southwest of the Ganganagar district, the city has an average elevation of 165 metres (541 ft). There is no direct railway link to the city. The nearest main railway station is at Sri Ganganagar, approximately 40 kilometres (25 mi) away, or Gajsingh Pur, which is 20.5 kilometres (12.7 mi) away and connected by a four lane highway. There is 132 KV grid substation which is being upgraded to 220 KV near the village. The public transport system of the Rajasthan Government provides basic transportation facility to the people.

Demography: Padampur had a population of about 163000.^[1] Males constitute 53% of the population and females 47%. Padampur has an average literacy rate of 64%, higher than the national average of 59.5%: male literacy is 70%.

The demographics of Padampur show evidence of a large and ethnically diverse people. The area is mostly inhabited by Hindus and Sikhs. Major languages spoken are Punjabi and Bagri. The area continues to be the gateway for legal work for the nearby villages. As of 2012 the area has been categorized in 20 wards circle headed by ward member of that area selected by the residents of the ward.

Climate: The climate of Padampur varies to extreme limits. The average temperature in summer reaches around 41° Celsius and in winter around 26 °C. The temperature shots up to 50° in June. The average annual rainfall is only 200 mm (7.9 in) per annum. Lack of rain and irrigation affect the income of farmers of the villages of Padampur.

Soils Quality: Surface soil of the farmer's field from different villages of Padampur Mandi of Sri Ganganagar district, were taken randomly to a depth of 01-17 cm in U shape with the help of Khurpi. Each soil sample was mixed thoroughly and about a half kilogram of composite sample from farmer's fields was analyzed. The physical properties of soil viz. bulk density by core method, particle density by pycnometer method and water holding capacity was measured following the procedure of Klute and Dirksen. Soil pH and electrical conductivity (EC) of the soil samples in soil: water suspension was measured using a glass electrode in a digital pH meter and systronics electrical conductivity meter, respectively. Organic carbon was determined by wet digestion method of Walkley and Black, available N by Alkaline permanganate method, Available P by colorimetric method using sodium bicarbonate, Available K by ammonium acetate extraction method, Available S by turbidimetric method and exchangeable Ca, and Mg by complexometric titration method

Material Collection:

Field area included for this survey is 8-10 km. Periphery of Padampur city. Several field trips were conducted to collect information. Information also collected from local people, farmers and students.

Main Species with their Family Name and Botanical Name:

S.No.	Botanical name	Common Name	Family	Flowering and Fruiting
1.	<i>Achyranthes aspera</i>	Chirchita, Uno kanto	Amaranthaceae	Aug. - Dec.
2.	<i>Amaranthus viridis</i>	Jungli chauli	Amaranthaceae	Through out the year
3.	<i>Amaranthus spinosus</i>	Kante wali chauli	Amaranthaceae	Aug. - Nov.
4.	<i>Argemone mexicana</i>	Satyanasi	Papavaraceae	January -April
5.	<i>Arnebia hispidissima</i>	Ram bui	Boraginaceae	Sept. - March
6.	<i>Artemisia scoparia</i>	Bana	Asteraceae	Oct. - Feb.
7.	<i>Boerhaavia diffusa</i>	Punarnava, Santi	Nycataginaceae	Through out the year

8.	Chenopodium album	Bathua	Chenopodiaceae	Oct. - Feb.
9.	Citrus lanatus	Matiro	Cucurbitaceae	Aug. - Dec.
10.	Citrullus colocynthis	Tumbo	Cucurbitaceae	Through out the year
11.	Convolvulus deserti	Santari	Convolvulaceae	Aug. - Nov.
12.	Cucumis callosus	Kachri	Cucurbitaceae	Aug. - Nov.
13.	Cannabis sativa	Bhang	Cannabinaceae	January - April
14.	Echinops echinatus	Unt kantara	Asteraceae	Dec. - April
15.	Euphorbia hirta	Dudhi	Euphorbiaceae	Through out the year
16.	Euphorbia prostrata	Dudhi	Euphorbiaceae	Through out the year
17.	Gisekia pharnacoides	Balu-ka-sag	Molluginaceae	Aug. - Nov.
18.	Launaea procambens	Jangli gobi	Asteraceae	Sept. - April
19.	Portulaca oleracea	Luni, Kulfo	Portulacaceae	June - Aug.
20.	Solanum surattense	Ringani	Solanaceae	March - July
21.	Solanum nigrum	Makoi	Solanaceae	Through out the year
22.	Sonchus asper	Kalijibi	Asteraceae	Oct. - Feb.
23.	Tribulus terrestris	Kanti, Gokhru	Zygophyllaceae	Aug.- Oct.

Description of Family of Amaranthaceae:

Achyranthes aspera: Describe:

- **Habit:** A wild, perennial, erect herb.
- **Stem:** Herbaceous but woody below, erect, branched, cylindrical, solid, angular, hairy, longitudinally striated, nodes and internodes are prominent, green but violet or pink at nodes.
- **Leaves:** Ramal and cauline, simple, exstipulate, opposite or obovate, entire, acute or acuminate, hairy all over, unicostate, reticulate.
- **Inflorescence:** A spike with reflexed flowers arranged on long peduncle.
- **Flowers:** Bracteate, bracteolate, bracteoles two, shorter than perianth, dry, membranous and persistent, sessile, complete, hermaphrodite, actinomorphic, pentamerous, hypogynous, small, spinescent, green.
- Bracts ovate, persistent, awned.
- Perianth made up of 5 tepals, polyphyllous, imbricate or quincuncial, green, ovate to oblong, persistent.
- Androecium made up of 10 stamens, out of which 5 are fertile and 5 are scale-like, fimbriated, sterile staminodes, both alternating with each other, fertile stamens are antiphylous, monadelphous, filaments slightly fused at the base, ditheous, dorsifixed or versatile, introrse.
- **Gynoecium:** it is bicarpellary, syncarpous, superior, unilocular, ovule one, basal placentation, style single and filiform, stigma capitate.
- **Fruits:** Oblong utricle
- **Seeds:** Endospermic with curved embryo, 2 mm long, oblong black.
- **Flowering and Fruiting time:** September to April



Benefits: It is very useful in dropsy, piles, boils and for colic in children.

- It is also used as a cure for cough.

Uses: The juice of this plant is a potent ingredient for a mixture of wall plaster, according to the Samarāṅgaṇa Sūtradhāra, which is a Sanskrit treatise dealing with Śilpaśāstra (Hindu precepts of art and construction).

It is one of the 21 leaves used in the Ganesh Patra Pooja done regularly on Ganesh Chaturthi day.

Traditional medicine: A. aspera has been used in folk medicine in countries including Australia.

The plant is used in Ayurvedic Medicine The 1889 book The Useful Native Plants of Australia records that this plant was found "in all the tropical and sub-tropical regions of the

old world. The herb is administered in India in cases of dropsy. The seeds are given in hydrophobia, and in cases of snake-bites, as well as in ophthalmia and cutaneous diseases. The flowering spikes, rubbed with a little sugar, are made into pills, and given internally to people bitten by mad dogs. The leaves, taken fresh and reduced to a pulp, are considered a good remedy when applied externally to the bites of scorpions. The ashes of the plant yield a considerable quantity of potash, which is used in washing clothes. The flowering spike has the reputation in India (Oude) of being a safeguard against scorpions, which it is believed to paralyse. (Drury.)"

Convolvulus deserti:

The family Convolvulaceae (bindweed or morning glory) are a group of about 60 genera and more than 1.650 species of herbs, shrubs and rarely trees, (Austin and Zosimo, 1996). It is temperate and tropical regions range of habitats (Heywood, Turkey, belong to 33 species (36 were distributed in Turkey 1988). *Convolvulus oleifolius* Pamp./*Surmeli yayilgan* (Güner et al., 2012) is a woody based perennials, shrublets or shrubs and distributing rocky and stony slopes, macchie areas, phrygana and sand dunes near the sea in Aegean and Mediterranean regions in Turkey (Aykurt and Sümbül, 2010). This kind of response leads to ecotype differentiation (Amzallag et al., 1993). Understanding the physiological bases of salinity adaptation could help us to improve and select crops tolerant of and/or adapted to different habitat. In the present study, some morphological and physiological differences between *C. oleifolius* var. *deserti* in littoral-epilittoral and interior vegetation zones of Apostol Island in Bodrum-Turkbuku-Mugla are presented.



Amaranthus spinosus:

Dye use: In Khmer language, it is called pti banlar and in Vietnamese dền and its ash was historically used as a grey cloth dye.

Food use: Like several related valued food plant in Africa. It is where it is called phak khom. In Kerala. In Sanskrit, it is as food in the Philippines, where it is this plant, known as massaagu in been used in the diet of dishes such as mas huni. In Mexico, it labelled Quelite quintonil in Mexican called "Katanote". In Manipuri, it is used as food in stir-fry and in broths mixed with other vegetables. In Mauritius it is called "Brède malbar". The seeds are eaten by many songbirds.



species, *A. spinosus* is a valued also in Thai cuisine, Tamil, it is called mullik called tanduliyaka. It is used called kulitis. The leaves of the Maldivian language, have the Maldives for centuries in is among the species markets. In Bangladesh it is called "Chengkrook" and is

Traditional medicine: In the folk medicine of India, the ash of fruits of *Amaranthus spinosus* is used for jaundice. Water extracts from its roots and leaves have been used as a diuretic in Vietnam.

Conclusions:

The survey revealed that solanaceae, asteraceae, euphorbiaceae and amaranthaceae are common families of the study area. *Achyranthes aspera*, *Amaranthus viridis*, *Euphorbia hirta*, *Launaea procumbens*, *Sonchus asper* are common species in the study area.

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