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ETHNOBOTANICAL STUDY OF SOME IMPORTANT AQUATIC AND MARSHY PLANTS OF ANAND TALUKA OF DISTRICT ANAND, GUJARAT, INDIA

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ABSTRACT:

The present paper reports an ethnobotanical research study conducted during the year 2014-2015. The present paper aim to collect, identify and record some aquatic and semi-aquatic plants used in various ways by local or tribal people in their daily work. The plants were collected from the selected sites of Anand Taluka. Total 42 number of ethnobotanical plant species belonging to 16 families were recorded, which are greatly used by the tribal as well as local people of the surrounding area in various ways in their daily uses. They used the plants in various forms such as food, as fodder, in the preparation of medicines and in domestic uses. The major life forms observed largely embrace herbs, shrubs and climbers. The Bentham and Hooker system of classification was adopted for the present study. Here some important collected plant species are described with their local name, family and brief ethnobotanical uses.

KEY WORD: *Ethnobotanical plants, Taluka, Anand District, Aquatic, Marshy plant.*

INTRODUCTION:

Ethnobotanical study deals with the study of plants and their uses as medicine and in other various ways for the wellbeing of the human in their day to day life. The term Ethnobotany was first of all used by J.W. Harshberger in 1895. According to him "Ethnobotany is a specific discipline of plant science which deals with study about total

interrelationships between plants and ancient man". In other words, ethnobotany is the study of how people of particular culture and area use the native plants in their day today work growing their surrounding areas. As stated by Jain (2001), Ethnobotany deals with the study of natural and traditional interrelationships between man, plants and his domestic animals. The study of botany of primitive human race is known as 'Ethnobotany'. The present paper deals with aquatic and marshy plants. Aquatic and semi aquatic plants are used by tribal people in many ways. Plants used by primitive and aboriginal people since a long term. These people applied traditional knowledge, their skill and practices in the utilization of plants. These people use aquatic and semi aquatic plants as food, fodder, medicines, fuel and in household uses in different ways. The tribal also prepare medicine from the different parts of plants, which is used to cure various diseases. Other than medicines and food such plants also provide many types of material which could be used for construction, matting, bedding and in pulp or paper making.

STUDY AREA:

Anand district is situated in the middle part of Gujarat state. The total area of the district is 2941 sq.km. It comprises 8 Talukas, 381 Panchayats and 1058 villages. Among these 8, Tarapur Taluka is the smallest Taluka whereas Anand is the biggest Taluka by population. The Anand district is very rich in water bodies, which include ponds, lakes, rivers, canals etc. The entire area is drained by the main rivers Mahi and Sabarmati flowing through this district. Among Sabarmati rivers originate from Arvalli hills and draining into the Gulf of Khambhat. Sabarmati river pass very close to the villages Galiyana, Motakalodara and Rinza of Tarapur Taluka. Then after it drain into the Gulf of Khambhat. Mahi river originates from the northern slop of Vindhyas and same as Sabarmati it also drains into the Gulf of Khambhat in Arabian sea. Anand taluka comprises about 44 villages among them majority of villages were visited for the present study purpose.

MATERIAL AND METHODS:

The Ethnobotanical surveys were conducted during the period from July, 2014 to June 2015. The aim of the Ethnobotanical research study was to discover, collect, identify and preserve the aquatic and marshy plants used by tribal as well as local inhabitants as food, fodder, medicine, fuel, fibers and for many more uses. The data were collected from the tribal people through rural review and questionnaire methods. The knowledgeable elder persons were interrogated to collect data on uses of such plants. The information like Local names, plant parts used, methods of consumption were gathered from them regarding to each plant. Total 42 plant specimens were collected during the

present ethnobotanical field visits. The information collected was compared with published literature. Information about medicinal uses and properties was gathered from old and knowledgeable people of the surrounding areas of the study area. The collected species were then dried and preserved using the herbarium techniques. The plants mentioned were identified with the help of various flora and voucher specimens.

ENUMERATION: -

The information regarding ethnobotanical uses is collected from the interactions with local people of the ethnic communities of present study area. 42 plant species are collected from study area. The brief information of such plants is mentioned here. Some of the important plants are described in brief with family, local name and ethnobotanical uses.

Nelumbo nucifera Gaertn **(Nymphaeaceae)**

Locally called as Motu kamal. Tender root stocks, rhizomes or young leaves are used as vegetables. The rhizomes boiled in soups. and curries. Flowers and seeds are eaten raw or cooked.

Cleome gynandra Linn. (**Capparaceae)**

Locally called as Gandhatu**.** Leaves are used as vegetable in scarcity of food. The root is used in scorpion bite and also as insecticides and pesticides. Decoction of seed is given in typhoid fever.

Portulaca oleracea Linn.(**Portulacaceae)**

Locally called as Moti luni. The plant is very good refrigerant and useful in prickly heat and burning sensation. Leaves are used in stomachic, asthma, urinary trouble and piles. Succulent leaves are eaten as vegetables during summer season.

Oxalis corniculata Linn. **(Oxalidaceae)**

Locally called as Navari. The sour and acidic leaves are used by tribal as substitute for Tamarind (Imli). Leaf decoction is given in fever, cough and skin trouble. Leaf paste is applied externally on swelling parts. Infusion of leaves is given to cure eye problem.

Tephrosia purpurea Linn. (**Fabaceae)**

Locally called as Sarpankho. Roots are useful in chronic diarrhea, cough, asthma, and liver complaints. Seeds are used in worm infestation in children.

Eclipta prostrata Linn. (**Asteraceae)**

Locally called as Bhangro. Leaf juice is dropped in to ear to reduce the earache. Leaf juice is used as dye to color the hair black.

Tridax procumbens Linn. (**Asteraceae)**

Locally called as Pardeshi Bhangro. leaves are used as vegetables.

Xanthium strumarium Linn (**Asteraceae)**

Commonly called as Gadariyu. Leaf juice is dropped in ear to relief earache and pus formation. Root infusion is applied on ulcers and burns for fast healing.

Pergularia daemia (Forsk.) **(Asclepiadaceae)**

Commonly called as Chamar dudheli. The fresh leaves are used as substitute of curry leaf.

Nymphoides cristatum (Roxb.) (**Gentianaceae)**

Locally called as Poyana. The long, hollow petiole and flower peduncles are used as playing device by tribal people.

Heliotropium indicum Linn. (**Boraginaceae)**

Locally called as Hathi sundho. Leaves applied to boils, ulcers, wounds and in bites of insects.

Ipomoea aquatica Forsk. (**Convolvulaceae)**

The leaves are applied on swelling. Commonly called as Nada ni vel. The milky juice is useful in stomach disorder. The young shoot and leaves eaten as vegetable.

Ipomoea fistulosa Mart. (**Convolvulaceae)**

Commonly called as Besharmi. The leaves are applied on swelling. The dried stem is used as fuel.

Solanum surattense Burm. (**Solanaceae)**

Commonly called as Bhoyringni. Whole plant is used in chronic bronchitis, asthma and in control of blood pressure. Roots are used in cough, fever, asthma and chest pain.

Hygrophila auriculata Schum. (**Acanthaceae)**

Locally called as Kantashelio. Leaves, roots and seeds are used in jaundice, rheumatism and disease of urinogenital tract.

Phyla nodiflora Linn. (**Verbenaceae)**

Commonly called as Ratvelio. The infusion of the plant applied externally in small boils on the body "Ratava", hence its local name is Ratvelio.

Achyranthus aspera Linn. (**Amaranthaceae)**

Commonly called as Anghedi. The twigs are used to brush the teeth.

Alternanthera sessilis Linn. (**Amaranthaceae)**

Commonly called as Pani ni Bhaji. Leaf paste is applied on dropsy & boils. Leaves are used in night blindness. Leaves are used to wash eyes. Crushed leaves with water given to animal to avoid wideness of stomach "afro".

Chenopodium album Linn. (**Chenopodiaceae)**

Commonly called as Chil ni bhaji. Tender leaves are taken as 'Bhaji'. The leaves are useful in urinary troubles. Tender leaves are taken as 'Bhaji' The whole plant use as fodder.

Polygonum barbatum Linn. (**Polygonaceae)**

Commonly called as Bosi ni jat. The tender leaves are used as vegetable.

Euphorbia hirta Linn. (**Euphorbiaceae)**

Commonly called as Vadi dudhi. Root paste along with honey is given to nourishing mother increase milk production. Latex used in warts and skin disease.

Eichhornia crassipes (Mart.) (**Pontederiaceae)**

Commonly called as Jal kumbhi. The flowers are eaten as vegetable.

Commelina benghalensis Linn. (**Commelinaceae)**

Locally called as Motishumliyu. Infusion of leaf is used in leprosy. Young leaves are eaten as vegetable by tribal people

Typha angustata Bory & chaub. (**Typhaceae)**

Commonly called as Gha bhajariyu. The ash of inflorescence effective on wounds and burns. Leaves are used in preparation of strings and stands of pot. Leaves also used in making huts.

Colocasia esculenta Linn. (**Araceae)**

Locally called as Jangli pendaru. Fresh green tender leaves are used as vegetable for increasing milk in mammalian gland. The ash of petiole is mixed with honey and given to cure worm problems

Sagittaria sagittifolia Linn. (**Alismataceae)**

Commonly called as Swamp potato. Plant tubers are used as vegetable.

Cyperus compressus Linn. (**Cyperaceae)**

Commonly called as Chio. Plant is used as fodder.

Cynodon dactylon (Linn.) (**Poaceae)**

Locally called as Darbh. Infusion of plant is given in bleeding of piles, erysipelas, secondary syphilis, coughs, diarrhea and dysentery. Infusion is also effective to stop bleeding at nose. The grass is used in worship.

Paspalum scrobiculatum Linn. (**Poaceae)**

Commonly called as Kodri. The grains are used as food.

Setaria glauca (Linn.) (**Poaceae)**

Locally called as Chipatiu**.** Plant is used as fodder. The seed grains powdered and mix with flour of cereals and used in preparation of bread.

RESULTS AND DISCUSSION:

From the inventory study in the present study area, altogether 42 plant species belonging to 16 families have been documented, which are normally used by local and tribal people. Among the collected plants Poaceae, Asteraceae, Amaranthaceae, Nymphaeaceae, Convolvulaceae, Verbenaceae and Cyperaceae are recorded as dominating families. P.A.Hosmani *et. al.*,(2012) recorded total 20 plant species belonging to 16 families from the study area which are ethnomedicinally important. Alok Ranjan Sahu *et. al.*, (2013) recorded total 117 ethnomedicinally important plant species belonging to 52 families from their study area. The data presented here have been collected from the local inhabitants lived in the study area and surrounding area. The present selected area has the moderate to poor population of tribal communities. The tribal and local people have provided the information regarding to utility of plants. Among the collected plants some important plants are described here in brief.

CONCLUSIONS:

During the survey, it was found that the knowledge regarding to the plants and their uses in various way is limited to a few old knowledgeable people which should be transferred from one generation to the next generation. The study area is moderately rich in aquatic and marshy flowering plants with tradition of ethnobotanical practices among these communities. Therefore, there is a strong need to take necessary steps for the conservation and sustainable use of these plants.

REFERENCES:

Dabgar, P.J (2006), A contribution to the wetland flora of Satlasana Taluka, North Gujarat, *J. Adv. Bio. Sci*, 5: (79-82).

Deshmukh, V.R. and S.P. Rothe (2003), Ethnomedicinal study from melghat tribel region of Amrawati district, Maharashtra, *J.Econ. taxon. Bot.* 27(3) : 582-584.

Ganesan, S. and Kesavan L (2003), Ethnomedicinal plants used by the ethnic group valiyans of Vallimalia Hills, Tamilnadu, India. *J. Econ. Taxon. Bot.* 23(3) : 754-760.

Jain S.K and R. Mitra (1990), Ethnobotany in india : retrospect and prospect. Contribution of Ethnobotany of india Sci., Pub. A.N.D., pp.1-17.

Patel, N. K (2001), Study of Angiospermic plants with relation to phytosociological and Ethnobotanical Study of Danta Taluka (District Banaskantha) Ph. D. Thesis submitted to The North Gujarat University, Patan.

Patel, P.K., Parekh, P.P. and Patel, Illa (2005), Ethnobotanical study of few weed plants of Patan District, North Gujarat. *J. Add. Plant Sci* 18 (ii) : 649-651.

Patel, R.S. (2002), Floristics and Ethnobotanical studies of Ambaji Forest in North Gujarat; Ph D. thesis submitted to Sardar patel University, Vallabh vidyanagar.

Sahu Alok Ranjan et al. (2013) Survey of some important ethno-medicinal plants of sohela block, western odisha, India, *Life sciences leaflets:* 11(2013): 1-9.

Saxena, Arti, (2002), Herbal drugs used by the tribals of Rewa Division. *Int. J. mendel* 19(1-2) : 23-24.

Verma, M., Kumar, A. and Tiwari, M.(2003). Ethnobotanical studies on medicinal plants, *J. Palas. Inst. J. Mendel* 20(3-4): 78.