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Ethnobotany: Plants use in Fishing and Trapping by Bheel Tribes of Dhar District, Madhya Pradesh, India

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Abstract: ***Present paper investigation was has been carried out during 2017 to 2018. Ethno botanical information was gathered through individual interviews and observation among the tribals. Dhar district is mainly inhabited by different tribal communities and livelihood of these tribal peoples depends mainly upon the land, agriculture, hunting, fishing and collection of food product, bamboo work and labor of any kind. Fishing is an alternative occupation of the Bheel tribes and folk of the study area. They use their indigenous knowledge about plants for local fishing communities easily. Fish traps made of natural conservation using indigenous knowledge system of traditionally employed to catch the fishes in inland water bodies. In addition to agriculture, fishing and trapping are other part of life for the tribal people. Altogether, 18 plants belonging to 18 genera and 15 families were encountered during the study area, which were used as fish poisoning plants. It was found that most of these indigenous fish catching devices made of locally available bio-degradable material and have less construction cost making them reality acceptable among the traditional fishermen.***

Keywords*:* Bheel tribe, Dhar district, fishing, fish poison plants, Madhya Pradesh, trapping

1. Introduction

Dhar district is situated in the south-western part of Madhya Pradesh, India. The study area lies between 22º oo' to 23º 10' Northern latitude and 74º 28' to 75º 42' Eastern longitude. Covering 8153 Sq. Km study area and geographical area of 1214.8 Sq.km. Its population is 2184672 (Census 2011). The tribal people constitute over 83.93 percent of the population. The study area is mostly inhabited by Bheel tribe which comprise of a large number of tribal groups are Bhilala, Barela and Pateliya. Majority of the population live in remote villages and depend on shifting cultivation and forest for their food, shelter and other requirements. Most of the rural communities depend on the wild resources including wild plants; fishes, animals and other meet their food needs in period of food crisis, as well as for additional food supplements. They are many plants in their day to day life and fishing and trapping are other part of their life. The core diet of the inhabitants of the region is Maize, Sorghum, Wheat, Millets, Pulses and a wide variety of local semi-domesticated and wild plants.

Fish poisoning plants uses by local people done by nets, fishing rod, traps and various other indigenous equipments. They are various plants and their product as fish poison for easy catching. These plants are mainly collected from forest and various plant products are reported used in fishing by indigenous people. The tradition of fish catching using plants is an age old practice. It is transmitted from one generation to another informally and verbally. It needs to be studied and documentation of their tradition knowledge on using various plants and their product for fish catching become a must. Keeping the gap in consideration, present study was carried out which provide some important information on the indigenous people. Review of literature being done in Dhar district, Madhya Pradesh, India (Srivastava 1984, 1985; Jain 1991, Jain 2004, Jadhav 2006, 2010; Maheshwari *et al*. 1986; Jain *et al*. 2010; Wagh *et al*. 2010; Alawa *et al*. 2012, 2013, 2016 and Ekka, A. 2016).

2. Methodology

The present work was based on the methodical field survey carried out during 2017 to 2018. Data were collected on seasonal basis, i.e. pre monsoon, post monsoon and winter for both years. Fish poison is very old practice. Tribal people use various fish poison to kill the fishes. Sometime whole plant or paste of seeds, stem or leaves is used for fish poisoning. 18 plants have been observed which are used for fish poisoning in the study area.10 villages were surveyed through periodical tours in tribal localities. Older people are considered repository of traditional knowledge. We are local people ask randomly selected for questionnaire and interviewed to document the ethno botanical knowledge on fishing and standard questionnaire were used. Information was collected after taking consent from the knowledge provides. Fish catching plants used were collected and identified on the basis of scientific names, vernacular names, family and part used. The present communication given results of fish poisonous plants done in south western part of Madhya Pradesh. The plant specimens were collected, identified with the help of Herbarium and Floras (Mudgal *et al*., 1997; Verma *et al*., 1993; Singh *et al*., 2001). Herbarium following standard method (Jain and Rao, 1977).

Traditional fishing practices are more important in the issue of environmental pollution and biodiversity conservation. Tribal used to trap fishes in river water by constructing dam or barrier which is locally called “Pal”. They make the area closed by giving a boundary with the help of stones. Trunk of *Tectona grandis*, *Terminalia bellirica* and *Butea monosperma* large leaves of this plant are also fixed surrounding this trapping basket. Basket is made of Bamboo sticks. Once fishes get enter inside the basket through flowing water, they cannot escape and trapped.

3. Results & Discussion

The present study out of 18 plant species belonging to 18 genera and 15 families were discussed there is a well developed traditional knowledge using plant in fishing and trapping during the study area. Eighteen plants were used as fish poison for easy catch. Combretaceae, Euphorbiaceae and Verbinaceae families' respondent by 6 plants species, while remaining 12 families are represented by one plant each. They used various part of the plant such as leaves, roots, fruits, etc or in combination of these parts for various purposes related to fishing and trapping. Among the different plant parts by fruits, barks, leaves, roots, seeds, oil cake and pulps etc. the collected plant species were grouped as per their habit such as trees, herbs and shrubs. Study area villages along the river banks from fishermen society all activities related with fishing. Many of them are literature but not well educated and are poor. Fishing is mainly done between June to September due to high flow of the river and ponds of November to April. Majority of these plants and their products are toxic to stupefy or killed fishes on the study area have been taken photographs**.**

4. Conclusion

The used as a fish poison plants by tribals are listed in table 1. These plants cause an ethnobatanicaly impotents and fish catching. Most of these plants have medicinal values as well, so storage and further development of their germplasm should be ensured. The data collecting in the study areas are fishing and trapping plants in developing an eco-friendly method to protect fishes from the aquaculture ponds without using chemicals. So there in need to explore environmental friendly toxicants from plants to unconsciousness and catching fish to study area.

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Table 1: List of plants used as poison in fishing and trapping

S. No	Scientific name	Family	Local name	Habit	Parts use
1	*Aegle marmelos* (L.) Corr.,	Rutaceae	Belpatra	Tree	Crude pounded fruits as fish poison
2	*Albizzia procera* (Roxb.) Benth	Leguminoceae	Gurad	Tree	Crude pounded bark as fish poison
3	*Annona squamosa* L.,	Annonaceae	Sitafal	Tree	Whole plants and leaves as fish poison
4	*Azadirachta indica* A.Juss.,	Meliaceae	Neem	Tree	Crude pounded bark as fish poison
5	*Balanites aegyptiaca* (L.) Delile	Simaroubaceae	Hingote	Tree	Seed powder as fish poison.
6	*Butea monosperma* (Lam.) Taub.,	Fabaceae	Palas	Tree	Crude pounded bark ,roots and seeds as fish poison
7	*Clerodendrum multiflorum* (Burm.f.) O.Ktze.	Verbinaceae	Arni	Herb	Crude pounded leaves as fish poison
8	*Euphorbia tirucalli L.*	Euphorbiaceae	Dudhi	shrub	Whole plants pulp as fish poison
9	*Gardenia turgida* Roxb.,	Rubiaceae	Gangli	Tree	Crude pounded fruits as fish poison
10	*Gloriosa superba L.*	Liliaceae	Kalihari	Herb	Crude pounded roots as fish poison
11	*Holorrhena antidysenterica* L.	Apocynaceae	Kudha	Herb	Whole plants and leaves as fish poison
12	*Jatropha curcas L.*	Euphorbiaceae	Ratanjot	Herb	Whole plants paste as fish poison
13	*Lannea coromandelica* (Houtt.) Merr.,	Anacardiaceae	Moyen, Moi	Tree	seed powder as fish poison
14	*Madhuca longifolia* (Koen.) Mac.,	Sapotaceae	Mahua	Tree	Crude pounded oil cake as fish poison
15	*Syzygium cumini* (L.) Skeels.,	Myrtaceae	Jamun	Tree	Crude pounded bark as fish poison
16	*Terminalia bellirica* (Gaertn.) Roxb.	Combretaceae	Baheda	Tree	Crude pounded fruits as fish poison
17	*Terminalia cuneata* Roth.	Combretaceae	Arjun	Tree	Crude pounded bark as fish poison
18	*Vitex negundo* L.	Verbinaceae	Nirgudi	Shrub	Whole plants and leaves as fish poison

References

[1] Alawa, K.S. & Ray, S. (2012). Ethno medicinal plants used by tribals of Dhar district, Madhya Pradesh, India. *CIBTech Journal of Pharmaceutical Science*. 1(2-3), 7-15

[2] Alawa, K.S., Ray, S. & Dubey, A. (2013). Dye yielding plants used by by tribals of Dhar district, Madhya Pradesh, India. *Science Research Reporter*.2 (1) 30-32

[3] Alawa, K.S. & Ray, S. (2016). Ethnobotany: Some wild vegetable plant used by by tribals of Dhar district, Madhya Pradesh. *Indian J.Applied & Pure Biology*.31 (1), 65-69

[4] Ekka, A. (2016). Fish poisonous plants used by Oraon Tribes of North-East Chhattisgarh, India. Research Journal of Resent Sciences.5 (ISC-2015), 24-26

[5] Jain, S.P. (2004). Ethno-Medico-Botanical Survey of Dhar district Madhya Pradesh. *Journal of Non-Timber Forest products*. 11 (2), 152-157.

[6] Jain, S.K. and Rao, R.R.. (1977). *A handbook of field and Herberium methods*. Today and Tomorrow Publishers, New Delhi.

[7] Jain, S.K. (1991). Dictionary of Indian folk medicine and Ethnobotany.*Deep Publication*, New Delhi,India.

[8] Jadhav, D. (2006). Plant sources used for the treatment of types of fevers by *Bhil* tribe of Ratlam District, Madhya Pradesh. *J. Econ.Taxon. Bot.* 30 (4), 909-911

[9] Jadhav, D. (2010). Ethno medicinal plants used as antipyretic agents among the *Bhil* tribes of Ratlam District Madhya Pradesh. *Indian forester.* 136 (6), 843-846.

[10] Maheshwari, J.K., Kalakoti, B.S. and Lal, B. (1986). Ethnomedicine of *Bhil* Tribe of Jhabua District, Madhya Pradesh. *Ancient Science of life.* 5, 255-261.

[11] Madgal, V., Khanna, K.K. and Hajra, P.K. (1997). *Flora of Madhy Pradesh*, Vol. II.BSI. Calcutta.

[12] Srivastava, R.K. (1984). Tribals of Madhya Pradesh and Forest Bill of 1980.*Man in India.* 64 [3] 320-321.

[13] Srivastava, R.K. (1985). Herbal remedies used by the *Bhil* of Madhya Pradesh. *Oriental med Kyoto*. Japan, pp. 389-392.
[14] Singh, N.P., Khanna, K.K., Mudgal, V. and Dixit, R.D. (2001). *Flora of Madhya Pradesh*, Vol. III, BSI, Calcatta.
[15] Verma, D.M., Balakrishan, N.P. and Dixit, R.D. (1993). *Flora of Madhya Pradesh*, Vol. I, BSI, Calcatta.
[16] Wagh, V.V. and Jain, A.K. (2010). Ethnomedicinal observations among the *Bheel* and *Bhilala* tribe of Jhabua District, Madhya Pradesh, India. *Ethnobotanical Leaflets.*14, 715-720.