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TRADITIONAL PISCICIDAL PLANTS UTILISED BY THE TRIBAL'S IN BASTAR REGION (CHHATTISGARH)

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ABSTRACT:

The paper deals with the identification and documentation of the fish stupefying plants used by the tribal's of Bastar region (Chhattisgarh). A total of 13 plant species belonging to 11 families were used to poison the fishes by the tribal's. The result suggests that the natural stupefy agents are far more safe and economical than the utilisation of harmful synthetic chemicals which can eventually enter in the human food chain. The Scientific names, Local names and Family names of these plant species, along with the parts used and the mode of usage are enumerated.

KEY WORD: *Bastar, Jungle, Hamaldasta, Poisons, Stupefying, Traditionally, Tribal.*

INTRODUCTION:

Fishes are one of the main constituent of the tribal's food in Bastar region from the ancient times. Traditional fishing with nets remains the main technique utilised among the tribal's in Bastar. Apart from catching fishes from the nets; Tribal's uses many fish stupefying poisons of natural origin for catching fishes from ancient times in the region. Plant poisons are extracted from flowers, bark, pulp, seeds, fruits, roots, leaves and even the entire plant[3, 4]. According to F.A.O., more than 60,000 plant species are used for various purposes all over the world[1]. Approximately 1,190 pure chemical substances extracted from higher plants are used in medicine throughout the world[2]. The paper deals with the various plant poisons used the tribal's of Bastar for stupefying the fishes; by documenting the traditional knowledge and practices, we can preserve the traditional culture and indigenous techniques of the

tribal's of Bastar for the utilisation and acquaintance of the future generations.

STUDY AREA:

The Chhattisgarh state is spread over in an area of 135,187 km^2 which constituted 4.1% of land area and 8.4% of forest cover of the country. Bastar is the southernmost district of the Chhattisgarh state; it is situated about 600 meters above sea level. The district has an average population of 1,411644 as per the 2011 census. Of the total population 86 % are rural population in which more than 70 per cent are tribal people

MATERIALS AND METHODS:

The present study was under taken to assess the identification and documentation of the fish stupefying plants used by the tribal's of Bastar region (Chhattisgarh). To achieve the objective, the standard surveys were conducted around the district during Feb2013-July2013. Data on the various plant species and their utilisation techniques and fish poisoning methods employed by the tribal's in Bastar region were obtained through interviews conducted on the tribal fishermen as well as through visits and surveys in the Forest villages.

RESULTS AND DISCUSSION:

Information on 13 plant species belonging to 11 families is enumerated along with Vernacular names, Families, Used parts and Utilisation techniques. Mainly species with tree origin were found to be main category from which the plant poisons were extracted; out of 13 documented species 7 were found to be of tree habit. Besides tree species bark and seeds were the main plant parts for the extraction of plant poisons. In accordance with the systematic classification, the plants of family belonging to the Fabaceae and Apocynaceae were found maximum, which are used stupefying fishes by the tribal's. The study provides comprehensive information on the fish stupefying poisons of natural origin and traditional utilisation practices by the tribal's of Bastar region.

The main aim of this documentation is to compile the information of various indigenous tradition techniques and plants used in it; which the state and the country should get attention and the information can be disseminated to the new generation and can be used finding the further various alternatives of the synthetic poisons which can be harmful to human life; which will also provide importance to utilisation of natural products for a healthy living.

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Table 1: Enumeration of plant

Sr No.	Plant Name	Local Name	Family	Habit	Part Used	Utilisation
1.	*Achyranthes aspera* Linn	Lathzeera (**H**), Circita (**G**)	Amaranthaceae	Herb	Whole plant	Plants were bundled together and were grinded in mortar & pestle (Hamaldasta), the juice extracted is used as piscicide.
2.	*Carica papaya* L.	Papita (**Hi**); Pepe	Caricaceae	Tree	Leaves	The sap obtained from the leaves of the trees is used for the poison effect on fishes.

Sr No.	Plant Name	Local Name	Family	Habit	Part Used	Utilisation
3.	*Cassia occidentalis* L.	Cecenda (**H**); Koretemtem (**G**); Tagres	Caesalpiniaceae	A small Shrub	Bark	The thin bark from the shrub is scratched out and are pounded under stone, the juice obtained is utilised for the poison effect.
4.	Colocasia esculenta L.	Kochai ghuiyaa (**H**); Pechi (**G**); Gaathi	Araceae	Herb	Root	The juice of obtained from the roots of these vine are used as piscicide from the ancient times in Bastar by the tribal's. It is believed to be the one the first piscicide used the local tribal's.
5.	*Costus speciosus* (Koen.) Sm.	Besemati (**G**); Keukanda (**M**)	Costaceae	A stout herb	Root	Tubers are crushed into water for Poisoning fishes.
6.	*Holarrhena antidysenterica* L.	Kudai (**H**); Dudhi, Kutri, Kutaj (**Hi**)	Apocynaceae	A deciduous shrub to small tree	Stem bark	The juice obtained from the bark of the trees is used for the poison effect on fishes.
7.	*Luffa aegyptiaca* Mill.	Dorka (**H**), Dundul, Khosa, Torai (**Hi**)	Cucurbitaceae	Herb	Unripe fruits	The decayed unripe fruits are used as piscicide.
8.	*Madhuca indica* Gmel.	Garang, Idukmara, Idum (**M**); Mahu, Moda, Tora (**H**); Mahua (**Hi**)	Sapotaceae	Tree	Seeds	Oil obtained from the seeds (tora) of the fruits is used as piscicide. It is the mainly used fish poison utilized in Bastar

Sr No.	Plant Name	Local Name	Family	Habit	Part Used	Utilisation
						region by the tribal's.
9.	*Nerium indicum* Mill.	Kaner (**Hi**)	Apocynaceae	Shrub	Stem	The sap obtained from the stem of the trees is used for the poison effect on fishes.
10.	*Pongamia pinnata* L.	Karanj, Karanji (**H**)	Fabaceae	Tree	Seed	Oil obtained from the seeds (Karanji) is used as piscicide.
11.	*Pterocarpus marsupium* Roxb.	Bijasal (**Hi**); Bija	Fabaceae	Tree	Bark	Juice extracted from the tree bark is used as fish poison.
12.	*Schleichera oleosa* Lour.	Kosamb (**H**); Kusum (**Hi**)	Sapindaceae	Tree	Seed	Seeds are pounded directly into the water and used as fish poison.
13.	*Sterculia urens* Roxb.	Itum, Karat (**G**); Kulu (**H**), Karaya (**Hi**)	Sterculiaceae	Tree	Stem bark	Juice extracted from the tree bark is used as fish poison.

ABBREVIATIONS:

LANGUAGES

D: Dorli
G : Gondi
H : Halbi
Hi: Hindi
M : Maria
T : Telgu

Table 2: CLASSIFICATION ON THE BASIS OF THE HABIT, FOLLOWING RESULTS HAS BEEN FOUND:

Sr no.	FORM / NATURE	N0. Of species	Total no. Of species found
1.	**TREE**	**7**	**13**
2.	**SHRUBS**	**2**	**13**
3.	**HERBS**	**4**	**13**

Table 3: CLASSIFICATION ON THE BASIS OF USAGE OF PLANT PARTS

Sr no.	BASIS OF USAGE (PARTS USED)	N0. Of species	Total no. Of species found
1.	FRUITS	1	13
2.	SEEDS	3	13
3.	LEAVES	1	13
4.	ROOTS	2	13
5.	BARK	4	13
6.	STEM	1	13
7.	WHOLE PLANT	1	13

Table 4: CLASSIFICATION ON THE BASIS OF THE SYSTEMATIC FAMILIES

Sr no.	SYSTEMATIC FAMILY NAME	N0. Of species	Total no. Of species found
1.	AMARANTHACEAE	1	13
2.	APOCYNACEAE	2	13
3.	ARACEAE	1	13
4.	CAESALPINIACEAE	1	13
5.	CARICACEAE	1	13
6.	COSTACEAE	1	13
7.	CUCURBITACEAE	1	13
8.	FABACEAE	2	13
9.	SAPINDACEA	1	13
10.	SAPOTACEAE	1	13
11.	STERCULIACEAE	1	13

FIG .01: BASTAR DISTRICT

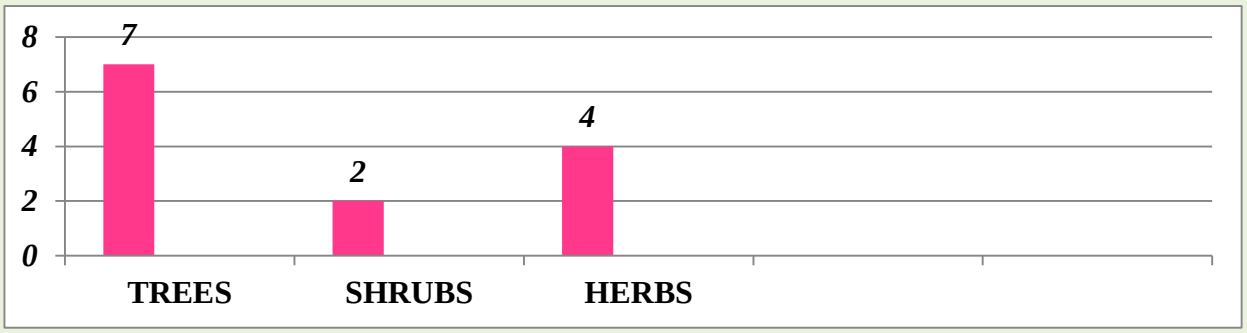

FIG.02: CLASSIFICATION ON THE BASIS OF THE HABIT

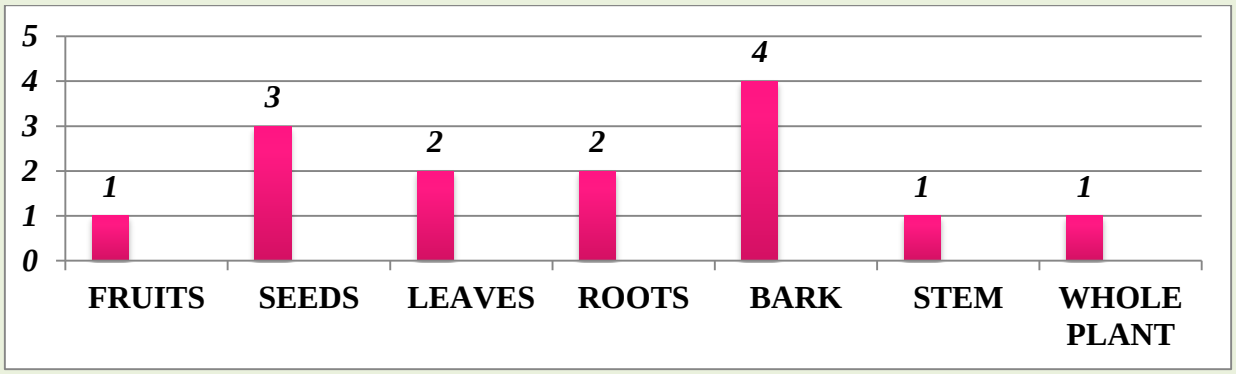

FIG.03: CLASSIFICATION ON THE BASIS OF USAGE OF PLANT PARTS

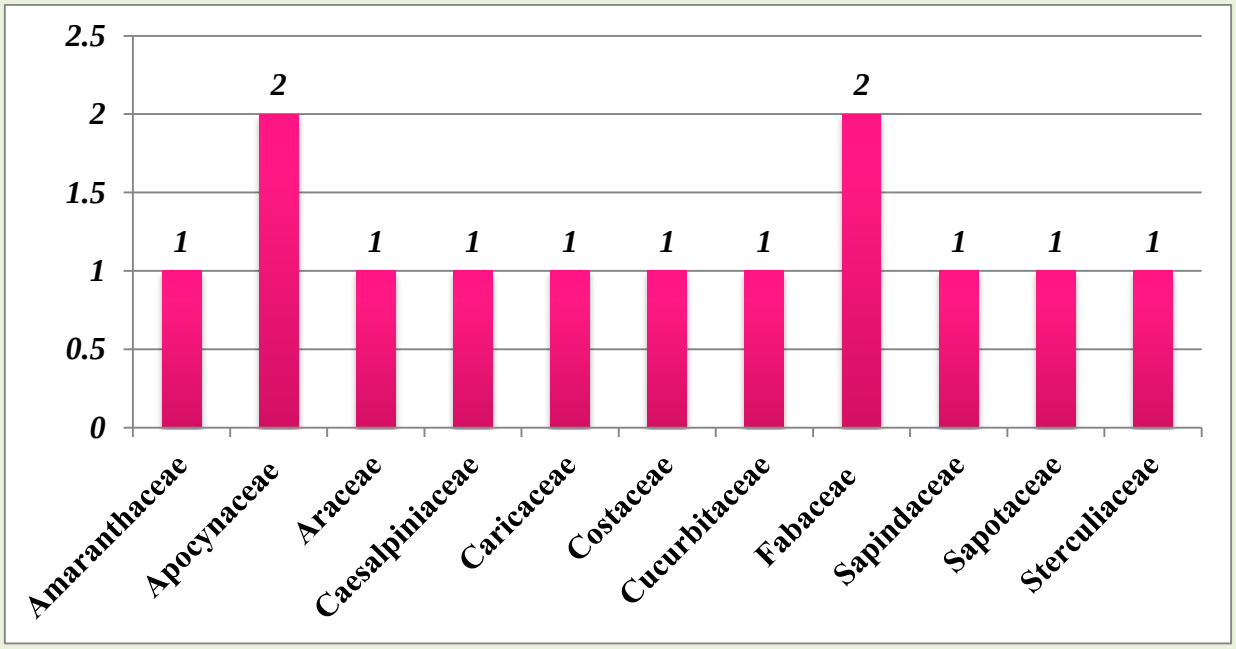

FIG.04: CLASSIFICATION ON THE BASIS OF THE SYSTEMATIC FAMILIES OF THE PLANT SPECIES