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Ethno taxonomical Importance of the Plants near Tapti River at Historical Shahi Qila Fort in District Burhanpur, Madhya Pradesh, India

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Abstract – The Tapti River flows in central India from East to West, between the Godavari and Narmada Rivers. The River is supposedly named after the goddess Tapti, the daughter of Surya Deva, the Sun God, who according to legend founded the kuru Dynasty when she married king samvarna. It inters East Nimar at a distance of 12mile (193Km). From the sources (Multai near Betul). A total of 94 species belonging to 90 genera and 41 families have been reported from near Tapti River at historical Shahi Qila fort in District Burhanpur, Madhya Pradesh, India. Ethnotaxonomically most important families are Monocots-2(Liliaceae- 3 species and poaceae- 3 species) and dicots families – 37 (Apocynaceae- 4 species, Asclepidaceae – 2 species, Annonaceae – 1 species, Amaryllidaceae – 1 species, Asteraceae – 2 species, Arecaceae – 1 species, Amarnthaceae – 1 species, Acanthaceae – 1 species, Anacardaceae – 1 species, Caesalpinoideae – 5 species, Casurinaceae – 1 species, Cactaceae – 1species, Convolvulaceae -2 species, Combretaceae – 1species, Cruciferae- 1 species, Caricaceae – 1 species, Cupressaceae -1 species, Cannaceae-1 species, Euphorbiaceae-8 species, Labiatae-2 species, lamiaceae-1 species, Lythraceae-1 species, Leguminosae-1 species, Mimosodeae-3 species, Myrtaceae-3 species, Malvaceae-2 species, Nymphiceae-2species, Orchidaceae-1 species, Moraceae-2 species, papilionaceae-2 species, Moringaceae-1 species, Rhanaceae-1 species, Solanaceae-5 species, Umbelliferae-1 species, Verbenaceae-2 species, Malphigaceae-2 species, Magnoliaceae-1 species, Zygophyllaceae-1 species,Piperaceae-1species etc.) (see images of Ethnotaxanomic flora 1-9 4 , Table no. 1-2 & Graph no.1) Tapti River is under increasing pressure due to drought, erosion and over exploitation, pollution, enchroachment by human activity. The above factors have causes reduction in number of Ethnotaxanomical species as well as wetland area. So these area need conservation of aquatic and wetland species, because wetland is the are which supports aquatic, amphibians and terrestrial life forms. Present study signifies Ethnotaxanomical importance of the plants species occur near Tapti River at historical Shahi Qila fort in district Burhanpur, Madhya Pradesh, India.

Keywords: Ethnotaxonomy, Historical Shahi Qila fort Flora, Tapti River, Burhanpur, Madhya Pradesh, India.

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1. INTRODUCTION

A number of terms are used in varied areas of Ethnobotanical research, such as Ethnotaxanomy, deals with the naming and classification of plants and their cultivators by human societies in their language. The Ethnobotany was first coined by Harsh berger in 1895. The abstract relationship of man with plants includes faith in the good or bad powers of plants, taboos, avoidances, sacred plants, workship and folklore. The Shahi Qila was a majestic palace in Burhanpur, located to the east of the Tapti River. Little except ruins remain of the palace. However, the parts that still stand display amazing works of sculpture and exquisite carvings. History of the Shahi Qila states that it was originally built by the Farooqui rulers and resided by Shah Jahan, at a time when he was the governor of Burhanpur. Shah Jahan became so fond of the fort that it was here, in Shahi Qila that he establishes his court for the first three years of his ascending the throne.Shah Jahan spent a considerable time in this city, and helped add to the Shahi Qila. Diwan-i-Aam and Diwan-i-Khas were built on the terrace of the Qila. (images 1-6).

Images 1-6: Burhanpur the cultural heritage city, study area & location near Tapti River at Historical Shahi Qila in District Burhanpur, M.P., India.

The Surya Putri Kuwari Holy Tpti River flows to the west from Historical Burhnapur. Burhanpur is glorified by nature having various holy ponds (Triveni sangam of Tapti , Utawali and Mona River) and elevated satpura hills. The entire forest area , exquisite water falls (Mahal Gurara, Jammupani) and rich biodiversity make this place a great destination for both religious place a great destination for both religious minded people and the researchers. Little attention has been paid to the systemic study of aquatic and wetland plants of india. An account of Hydrophytic plants of India was published by Biswas and Calder (1936) and Subramanyam (1962). Recently Cooke (1966) published a volume on aquatic and wetland plants of India. In Madhya Pradesh Maheswari (1960), Tiwari (1960), Choudhary and Upadhyay (2009) and Annand et al,(2012) undertook the taxanomic study of aquatic angiosperms.

2. MATERIALS AND METHODS

In The present study monthly field observations were undertaken in near Tapti River at Historical Shahi Qila fort in Disrict Burhanpur, Madhya Pradesh, India from 2015-16. Plain are is also studied here. Qualitative and quantitative analysis of ethinotaxanomical important plants was done by following the methodology of Mishra (1974). The

collected specimens were identified with the aid of floras (Cook ,1966), Khanna (1993-2001)and other sources. The collected specimens were pressed and herbarium was prepared followed (Jain and Rao ,1977). All specimens were deposited in the department of Botany , S.G.J.Quaderia College, Burhanpur, (M.P), india. (see images of ethnotaxonomic flora 1-94, table no.1-2 & Graph no.01)

Image no.1 – Amaltas (Cassia fistula)

Image no.2 – Arandi (Ricinus communis)

Image no.3 – Babool (Acacia arobica)

Image no.4 – Imli (Tamarindus Indica)

Image no.5 – Casurina (Casurina-equisitifolia)

Image no. 6 – Jamun (Syzygium cuminii)

Image no.7 Aak (Calotropis procera)

Image no.8 Karonda (Carissa spinarum)

Image no.9 – Ashwgand (Withania somnifera)

Image no.10 – Lazwanti (Minosa pudica)

Image no.11 – Satawar (Asparagus recemosus)

Image no.12 – Gudhal (Hibiscus rosa synansis)

Image no.13 – Kala datura (Stramonium alba)

Image no.14 – Amarbel (Cuscuta reflexa)

Image no.15 – Gokru (Tribulus terresteris)

Image no.16 – Tulsi (Ocimum sanctum

Image no.17 – Bhata (Solanum melongena)

Image no.18 – Safed Musli (Chlorophytum tuberosum)

Image no.19 – Kankarwa (Clitoria turnata)

Image no.20 – Baas (Dendrocalamus strictus

Image no.21 – Doob ghass Cynadon dactylon

Image no.22 – Ghass (Pennicum Indiccum)

Image no.23 – Gulmohar (Delonix regia)

Image no.24 – Neebu (Citrus lemonia)

Image no.25 – Nagfani (Opuntia dillenii)

Image no.26 – Ber (Zizyphus moureitiana)

Image no.27 – Mithi Neem (Murraya koenigii)

Image no.28 – Willayati Babool (Parkinsonia aculeota)

Image no.29 – Willayati Imli (Pithecolobium dulce)

Image no.30 – Shehtoot (Morus alba)

Image no.31 – Munga (Moringa elleffera)

Image no.32 – Sitafal (Annona squamosa)

Image no.33 – Selfund (Euphorbia nivulia)

Image no.34 – Sheeshum (Dalbergia latifolia)

Image no.35 – Deshi Badam (Terminalia catappa)

Image no.36 – Neem (Azadirachta Indica)

Image no.37 – Neelgiri (Eucalyptus teretecornis)

Image no.38 – Peepal (Ficus religiosa)

Image no.39 – Badh (Ficus bengalensis)

Image no.40 – Sagoon (Tectona grandis)

Image no.41 – Jangli Tulsi (Ocimum basilicum)

Image no.42 – Bhatkattiya (Solanum zanthocarpum)

Image no. 43 – Bhindi (Abelmoscus esculentus)

Image no. 44 – Pudina (Mentha species)

Image no.45 – Gulab (Rosa damascene)

Image no.46 – Pyaz (Allium sepa)

Image no.47 – Pili Sarsoo (Brassica campestris)

Image no.48 – Bottle brush (Callistemon species)

Image no.49 – Firebus (Hamelia patiens)

Image no.50 – Sadabahar (Vinka rosea)

Image no.51 – Euphorbia (Euphorbia pulchrryma)

Image no.52 – Kaner (Thevelia peruviana)

Image no.53 – Kamal (Nymphia species)

Image no. 54 – Genda (Tagetes erecta)

Image no.55 – Petunia (Petunia species)

Image no.56 – Kagaz ke phool (Polygonum species)

Image no.57 – Mehndi (Lewsonia inermus)

Image no.58 – Satyanashi (Argimone mexikiana

Image no.59 – Makoi (Solanum nigram)

Image no. 60 – Dhaniya (Coriandrum sativum)

Image no.61 – Peeli kaner (Casebella thevetia)

Image no.62 – Palm (Chanaerops humilis)

Image no.63 – Eupohorbia (Euphorbia hirta)

Image no.64 – Papita (Carica papaya)

Image no.65 – Khatti buti (Oxalis cormiculata)

Image no.66 – Chaulai (Amaranthus spinosus)

Image no.67 – Sitab (Ruta graviens)

Image no.68 – Aadusa (Adhatoda vasica)

Image no.69 – Champa (Michelia Champaeca)

Image no.70 – Aam (Mangifera Indica)

Image no.71 – Jaam (Psidium gujava)

Image no.72 – Aaula (Phyllanthus fraternas)

Image no. 73 – Beel (Aegle marnelos)

Image no.74 – Gwarpatha (Aloe vera)

Image no.75 – Nirgundi (Vitex migundol)

Image no.76 – Croton (Codicum varigatum)

Image no.77 – Vidhya (Platyeladus orienpalis)

Image no.78 – Desi Gulab (Rosa Indica)

Image no.79 – Gulab (Rosa domoscena)

Image no.80 – Gulab (Rosa multiflora)

Image no.81 – Lilly (Zephyranthes citring)

Image no.82 – Madhumati (Gelphimia gracilis)

Image no.83 – Falseagave (Furcraea gracilis)

Image no.84 – Kelly (Canna Indica)

Image no.85 – Sultan (Acalypha hispida)

Image no.86 – Kamal (Nymphaea nouchali)

Image no.87 – Hydrilla (Hydrilla verticillata)

Image no.88 Dawal (Pephrosia purpurea)

Image no.89 – Paan (Piper bettle)

Image no.90 – White Dathura (Dathura alwa)

Image no.91 – Ageratum (Ageratum colyzoides)

Image no.92 – Ashoka (Saraca Indica)

Image no.93 – (Phuli, Tridex procumbens)

Image no.94 Suryamukhi (Helianthus annus)

3. RESULT AND DISCUSSION

A total of 94 species belonging to 90 genera and 41 families have been reported from near Tapti River at historical Shahi Qila fort in District Burhanpur, Madhya Pradesh, India. Ethnotaxonomically most important families are Monocots-2 (Liliaceae- 3 species and poaceae- 3 species) and dicots families – 37 (Apocynaceae- 4 species, Asclepidaceae – 2 species, Annonaceae – 1 species, Amaryllidaceae – 1 species, Asteraceae – 2 species, Arecaceae – 1 species, Amarnthaceae – 1 species, Acanthaceae – 1 species, Anacardaceae – 1 species, Caesalpinoideae – 5 species, Casurinaceae – 1 species, Cactaceae – 1species, Convolvulaceae -2 species, Combretaceae – 1species, Cruciferae- 1 species, Caricaceae -1 species, Cupressaceae -1 species, Cannaceae-1 species, Euphorbiaceae-8 species, Labiatae-2 species, lamiaceae-1 species, Lythraceae-1 species, Leguminosae-1 species, Mimosodeae-3 species, Myrtaceae-3 species, Malvaceae-2 species, Nymphiceae-2species, Orchidaceae-1 species, Moraceae-2 species, papilionaceae-2 species, Moringaceae-1 species, Rhanaceae-1 species, Solanaceae-5 species, Umbelliferae-1 species, Verbenaceae-2 species, Malphigaceae-2 species, Magnoliaceae-1 species, Zygophyllaceae-1 species, piperaceae 1 species etc.) (see images of Ethnotaxanomic flora 1-9 4 , Table no. 1-2 & Graph no.1).

4. CONCLUSION

Ethnotaxonomical flora near Tapti River at Historical Shahi Qila fort exhibited a heterogenous assemblage of 94 species belonging to 90 genera and 41 families from the area , out of them Euphorbiaceae turned out as dominant family having 08-species followed by Solanaceae with 05-species and Apocynaceae with 04-species (see graph no.01) Tapti River is under increasing pressure due to drought , erosion and over exploitation, pollution , enchroachment by human activity. The above factors have causes reduction in the number of flora as well as wetland area. These area need conservation of aquatic and wetland flora .

The present study provides information in ethnotaxonomical importance of the plant species in burhanpur region. It is clear from the investigation date local people have great expertise with the plants of their own environment.

The occurrence of a number of economically important species has enhanced the conservation as well as socio economic values of the area particularly in view of religious aspect of the area. Furthermore, the over exploitation of species for fuel, medicine, wild edibles and house building may lead to decline of these species from the area. So conservation and cultivation of these plants species with help to maintain the ecological balance, traditional knowledge as well as livelihood security of local inhabitants.

Table 1

Ethnotaxonomically important family found near Tapti River

S. No	Flora Local Name	Total No of Plants	Popular Name Famous Name	Botanical Name	Family
Small Size Trees					
1	Amaltas	02	Amaltas	Cassia fistula	Caesalpinoideae
2	Arandi	01	Arandi	Ricinus communis	Euphorbiaceae
Medium Size Tress					
3	Babool	02	Babool	Acacia arobica	Mimosoideae
Large Size Tress					
4	Imli	01	Imli	Tamarindus Indica	Caesalpinoideae
5	Casurina	20	Casurina	Casurina equisitifolia	Casurinaceae
6	Jamun	01	Jamun	Syzygium Cuminii	Myrtaceae
Bushes					
7	Aak	02	Aak	Calotropis Procera	Asclepiadaceae
8	Karonda(Kakronda)	01	Karonda	Carissa Spinarum	Apocynaeeae
Undergrowth					
9	Ashwgandha	05	Ashwgandha	Withania Somnifera	Solanaeae
10	Lazni	10	Lazwanti	Mimosa Pudica	Mimosoidae
11	satawari	01	Satawar	Asparagus recemosus	Liliaceae
12	Gudhal	01	Gudhal	Hibiscus rosa, Synansis L.sp.pl.	Malvaceae
Small Bushes					
13	Kala Datura	04	Datura	Motel	Solanaceae
14	Amarbel Herbs	01	Amarbel	Cuscuta reflexa	Convolvulaceae
15	Gokru	10	Gokru	Tribulus terresteris terresteris	Zygophyllaceae
16	Tulsi	10	Tulsi	Ocimum Sanctum	Labiatae
17	Bhata (Brinjal)	05	Began	Solanum Melongena	Solanaceae
18	Safed Musli	05	Safed Musli	Chlorophytum tuberosum	Orchidaceae
Climbers					
19	Kankarwa	04	Kankarwa	Clitoria turnata	Papilionaeeae
Bamboo					
20	Bamboo	01	Bamboo	Dendrocalamus strictus	Poaceae
Grass					
21	Duba	-	Doob	Cynadon dactylon	Graminae(poaceae)
22	Common Ghass	-	Ghass	Pennicum Indicum	Poaceae

Small Size Tress					
23	Gul Mohar	07	Gul Mohar	Delonix regia	Caesalpinoideae
24	Nimbu (citrno)	03	Neebu	Citrus Lemonia	Rutaceae
25	Nagfani	04	Nagfani	Opuntia Dillenii	Cactaceae
26	Baer (Zizipus)	01	Ber	Zizyphus moureitiana	Rhanaceae
27	Mithi Neem	05	Mithi neem	Murraya Koenigii	Miliaceae
28	Willayati Babool	01	Willayati Babool	Parkinsonia Aculeota	Caesalpinoideae
29	Willayati Imli	01	Willayati Imli	Pithecolobium dulce	Papilionaceae
30	Shehtoot	01	Shehtoot	Morus alba	Moraceae
31	Sejha	01	Munga	Moringa elleffera	Moringaceae
32	Sitafal	10	Sitafal	Annona squamosa	Annonaceae
33	Selfund	01	Nivarang	Euphorbia nivulia	Euphorbiaeeae
Medium Size Trees					
34	Sheeshum	08	Sheeshum	Dalberia Latifolia	Papilionateae
35	Deshi Badam	06	Deshi Badam	Terminala catappa	Combretaceae
36	Neem	20	Neem	Azadirachta indica	Meliaeeae
37	Neelgiri	01	Neelgiri	Eucalyptus teretecornis	Myrtaeeae
38	Peepal	20	Peepal	Ficus religiosa	Moraceae
39	Badh	01	Bargad	Ficus bengalensis	Moraceae
40	Saggon	01	Sagoon	Teetona Grandis	Verbenaceae
Medicinal Plants					
41	Jangli Tulsi	10	Jangli Tulsi	Ocimum basilicum	Labiateae
42	Bhat Kattiya	04	Bhat Kattiya	Solanum zanthoearpum	Solanaeeae
43	Bhindi	10	Okra	Abelmosecus eseulentus	Malvaceae
44	Pudina	10	Mentha	Mentha sp.	Lamiaceae
45	Rose	05	Gulab	Rosa damascena	Rosaceae
46	Pyaz	10	Onion	Allium Sepa	Liliaeeae
47	Pili Sarsoo	05	Yellow mustard	Brassica campestris	Cruciferae
Ornamental Plants					
48	Bottle Brush	01	Bottle brush	Callistemon sp.	Myrtaeeae
49	Firebush	03	Firebush	Hamelia patiens	Rubiaceae
50	Sadabahar	10	Sadasuhagan	Vinka rosea	Apocynaeeae
51	Euphorbia	04	Euphorbia	Euphorbia pulchrryma	Euphorbiaeeae
52	Kaner	13	Kaner	Thevelia peruviana(pers)schum	Apocynaeeae
53	Kamal	04	Lotus	Nymphia sp.	Nymphiceae
54	Genda	10	Genda	Tagetes erecta	Asteraceae
55	Petunia	10	Petunia	Petunia sp.	Solanaeeae
56	Kagaz ke phool	10	Kagaz ke phool	Polygonum sp.	Polygoniaceae
57	Mehndi	04	Mehndi Heena	Lewsonia inermus(L.)	Lythraceae
Family					
58	Satyanashi	10	Pilicatai	Arqimone mexsikiana	Papaveraceae
59	Makoli	10	Makoli	Solanum nigram	Solanaceae
60	Dhaniya	02	Dhaniya	Coriandrum sativum	Umbelliferae
61	Peeli Kaner	13	Peeli Kaner	Casebella thevetia (L.)	Apocynaeeae
62	Palm	03	Palm	Chamaerops humilis L.	Arecaceae
63	Euphorbia	04	Euphorbia	Euphorbia hirta	Euphorbiaceae
64	Papita	06	Papaya	Carica Papaya	Caricaceae
65	Khatti Buttti	05	Khatti Butti	Oxalis cormiculata	Euphorbiaceae
66	Chaullai	10	Chaulai	Amaranthus spinosus	Amaranthaeeae
67	Sitab	04	Sitab	Ruta graviens	Rutaeeae
68	Andosa	05	Aadusa	Adhatoda vasica	Aconthaeeae
69	Champa	01	Champa	Michelia champaea Linn	Magnoliaceae
70	Mango	01	Aam	Mangifera indica L.	Myrtaeeae
71	Amrood	02	Jaam	Psidium gujava L.	Anacardiaceae
72	Aaula	02	Aaula	Phyllanthus fraternas	Enphorbiaeeae
73	Beel	01	Beel	Aegle marmelos (L.)	Rutaeeae
74	Gwarpatha	10	Gwarpatha	Aloe vera L. Burm L.	Liliaceae
75	Nirgundi	01	Nirgundi	Vitex- migundol	Verbenaeeae
76	Croton	03	Croton	Codicum Varigatum(L.)BLBijp.	Euphorbiaeeae
77	Vidhya	20	Thuja(Morp ankh)	Platy eladus orientalis(L.)	Cupressaceae
78	Gulab	2	Gulab	Rosa indica L.sp.	Rosaceaae
79	Gulab	1	Gulab	Rosa domoscena Mill.	Rosaceae
80	Gulab	1	Gulab	Rosa multiflora thunb.	Rosaceae
81	Yellow rain lily	20	Yellow rain lily	Zephyranthes citring baker.bot.	Amaryllidaceae
82	Madhumati	04	Madhumati	Gelphimia Gracilis (Bart c)	Malphigaceae
83	Giant	02	False agave	Furcraea gracilis(Barti)	Malphigaceae
84	Kelly	02	Kardal	Canna indica L.sp.pl.	Cannaceae
85	Sultan	05	Sultan	Aealypha hispida Jpg.	Euphorbiaceae
86	Kamal	04	Kamal ka phool	Nymphaea nouchali burm	Nympheae
87	Hydrilla	10	Hydrilla	Hydrilla Verticillata(L.f.)Royle	Hydrocharitaceae
88	Dawal	02	Anjan Lokariya	Tephrosia purpurea(L.) Pres.	Liguminosae
89	Paan	10	Paan	Piper bettle	Piperaceae
90	White Dathura	05	White Dathura	Dathura alba	Solanaceae
91	Ageratum	10	Ageratum	Ageratum colyzoides	Asteraceae
92	Ashoka	05	Ashoka	Saraca Indica	Leguminosae
93	Phuli	20	Phuli	Tridex procumbens	Asteraceae
94	Suryamukhi	01	Suryamukhi	Helianthus annus	Asteraceae

Table 2

Statistical analysis of Flora near Tapti River at Historical Shahi Qila fort Burhanpur, M.P., India.

S. No.	Group	Families	Genera	Species
1	Dicots	39	84	88
2	Monocots	02	06	06
G.t.		41	90	94

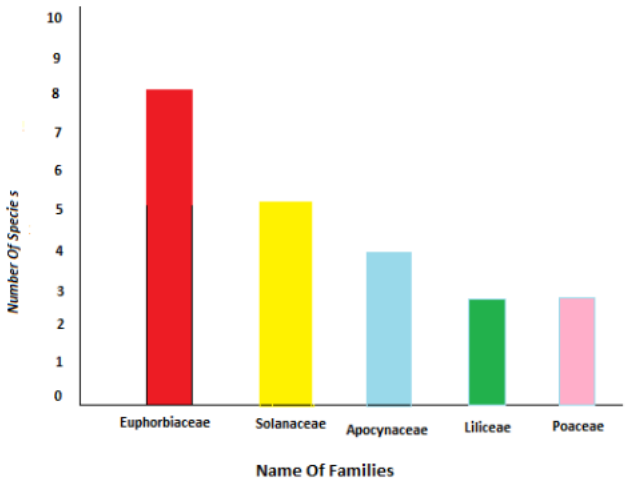

Fig.1 – Dominant families of the sampling sites

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