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ECOLOGICAL STUDIES OF FAMILY ASTRACEAE OF BRAJ-BHOOMI, INDIA

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Abstract—*The Systematic identification of 93 species belonging to 60 genera, occurring in Braj Bhoomi followed by their general ecology viz. habit, habitat and phenology has been recorded.*

Keywords*: Asteraceae, Braj Bhoomi, Ecology.*

1. INTRODUCTION

Braj Bhoomi has been considered as a structural entity on the basis of topography, climate, soil, geography and socio-cultural profile. The region within the golden triangle of Delhi- Jaipur- Agra, covering an area of about 3,800 sq.km. Its line touches Palwal (Haryana) in North, Gwalior (Madyapradesh) in South, Bharatpur (Rajasthan) in East, Ehta (Uttarpradesh) in West. Its covered cities like Agra, Mathura, Firozabad, Mainpuri, Ehta, Etawah, in U.P, Bharatpur, Dholpur in Rajasthan, Gwalior, Morena, Bhind in M.P. and Hodel, Palwal in Haryana. The forest and vegetation of Braj-Bhoomi has been broadly classified and categorized into three types depending upon the three major zones: Semi- arid type, Sub tropical humid type, and Tropical Savana (Summer Dry) type forest. These forests provide sufficient vegetational diversity and rich environmental condition for the growth of Asteraceous flora.

Family Asteraceae is one of the largest family of flowering plants comprising about 25,000 species and 1600 genera (Galigari & Hing 1996; Hind and beentje 1996). In India, the family is represented by about 1052 species under 161 genera (Hajra 1995). In Braj Bhoomi the family Asteraceae was studied number of workers (Duthi 1929; Ranjan 2005; Siddiqui M Badruzamana 2004).

2. STUDY AREA

The study was conducted in Braj region (Braj-bhoomi), a part of the Ganges – Yamuna Doab region. The study Area is dry tropical deciduous type Maximum and minimum temperature recoded in winter and summer were 24^0C and 1^0C and 49^0C and 27^0 C, respectively and average relative humidity (RH) was 54.8%.Study area has Semi-arid and Sub tropical humid climatic region. The vegetation comprises mostly Tropical thorny and dry deciduous type.

3. RESULT AND DISCUSSION

Table 1: Table is Showing Habit, Habitat and phenology of Asteraceae plant species

S. No.	Name of Species	Habit	Habitat	Phenology
1.	*Acanthospermum hispidum*	Herb	Terrestrial	November - April
2.	*Adenostema lavenia*	Herb	Aquatic	October - January
3.	*Ageratum conyzoides*	Herb	Terrestrial	Throughout year
4.	*Ageratum haustonianum*	Herb	Terrestrial	Throughout year
5.	*Amberboa romosa*	Herb	Terrestrial	January - April
6.	*Anthemis cotula*	Herb	Terrestrial	April - June
7.	*Artemisia japinica*	Herb	Terrestrial	July - January
8.	*Bidens bipinnata*	Herb	Terrestrial	August - January
9.	*Bidens pilosa*	Herb	Terrestrial	November - January
10.	*Bidens sulphurea*	Herb	Terrestrial	October - January
11.	*Blainvillea acmella*	Herb	Terrestrial	September - January
12.	*Blumea bifoliata*	Herb	Terrestrial	December - May
13.	*Blumea eriantha*	Herb	Terrestrial	March - January

14.	*Blumea fistulosa*	Herb	Terrestrial	December - May
15.	*Blumea laciniata*	Herb	Terrestrial	March - January
16.	*Blumea lacera*	Herb	Terrestrial	February - June
17.	*Blumea membranacea*	Herb	Terrestrial	January - May
18.	*Blumea mollis*	Herb	Terrestrial	January - November
19.	*Blumea obliqua*	Herb	Terrestrial	February - May
20.	*Blumea oxyodonta*	Herb	Terrestrial	October - May
21.	*Blumea sonbhadrensis*	Herb	Terrestrial	February - October
22.	*Brachycome iberidifolia*	Herb	Terrestrial	January - February
23.	*Breea arvensis*	Herb	Terrestrial	January - May
24.	*Caesulia axillaris*	Herb	Moist	July - January
25.	*Carthamus tinctorius*	Herb	Terrestrial	February - April
26.	*Carthamus oxyacantha*	Herb	Terrestrial	February - May
27.	*Calendula officinalis*	Herb	Terrestrial	March - May
28.	*Centaurea cyanus*	Herb	Terrestrial	March - May
29.	*Centipeda minima*	Herb	Moist	December - March
30.	*Chrysanthellum americanum*	Herb	Moist	September - January
31.	*Chrysanthellum coronarium*	Herb	Terrestrial	December - April
32.	*Chrysanthemum morifolium*	Herb	Terrestrial	December - April
33.	*Cichorium intybus*	Herb	Terrestrial	March - September
34.	*Cissium verutum*	Herb	Terrestrial	September - January
35.	*Conyza aegypyica*	Herb	Terrestrial	September - May
36.	*Conyza bonariensis*	Herb	Terrestrial	September - February
37.	*Conyza canadensis*	Herb	Terrestrial	August - February
38.	*Conyza japonica*	Herb	Terrestrial	April - July
39.	*Conyza stricta*	Herb	Terrestrial	October - January
40.	*Cotula anthemoides*	Herb	Moist	December - April
41.	*Cotula hemispherica*	Herb	Moist	December - April
42.	*Cyathocline purpurea*	Herb	Moist	December - March
43.	*Dahlia pinnata*	Herb	Terrestrial	December - March
44.	*Echinops echinatus*	Herb	Terrestrial	January - April
45.	*Eclipta prostrata*	Herb	Moist	Throughout year
46.	*Elephantopus scaber*	Herb	Terrestrial	September - November
47.	*Emilia sanchifolia*	Herb	Terrestrial	July - October
48.	*Enhydra fluctuans*	Herb	Aquatic	January - April
49.	*Erigeron sublyratus*	Herb	Terrestrial	April - July
50.	*Eupatrroium adenophorum*	Herb	Terrestrial	January - June
51.	*Eupatrroium riparium*	Herb	Terrestrial	January - May
52.	*Gaillardia pulchella*	Herb	Terrestrial	September - February
53.	*Galinsoga parviflora*	Herb	Terrestrial	September - January
54.	*Galinsoga quadriradiata*	Herb	Terrestrial	December - May
55.	*Gerbera gossyipina*	Herb	Terrestrial	September - November
56.	*Glossocardia bosvallea*	Herb	Terrestrial	August - October
57.	*Glossocardia bidens*	Herb	Terrestrial	September - November
58.	*Ganaphalium luteo-album*	Herb	Moist	January - May
59.	*Ganaphalium pensylvanicum*	Herb	Moist	December - May
60.	*Ganphalium polycaulon*	Herb	Moist	November - February
61.	*Gnaphalium pulvinatum*	Herb	Moist	December - May
62.	*Grangea maderaspatana*	Herb	Moist	December - May
63.	*Guizotia abysinica*	Herb	Terrestrial	November - December
64.	*Helianthus annuus*	Herb	Terrestrial	November - June
65.	*Helianthus cucumerifolius*	Herb	Terrestrial	December - June
66.	*Klenia grandiflora*	Herb	Terrestrial	April - August
67.	*Lactuca sativa*	Herb	Terrestrial	February - May
68.	*Lagascea mollis*	Herb	Terrestrial	October - February
69.	*Launaea asplenifilia*	Herb	Terrestrial	March - October
70.	*Launaea procumberns*	Herb	Terrestrial	March - September
71.	*Matricaria recutita*	Herb	Moist	August - September
72.	*Parthenium hysterophorus*	Herb	Terrestrial	May - March

73.	*Pentanema indicum*	Herb	Terrestrial	November - March
74.	*Pentanema vestitum*	Herb	Terrestrial	January - May
75.	*Pluchea lanceolata*	Herb	Terrestrial	February - June
76.	*Pulicaria angustifolia*	Herb	Terrestrial	November - May
77.	*Pulicaria crispa*	Herb	Terrestrial	November - May
78.	*Pulicaria foliolosa*	Herb	Terrestrial	February - May
79.	*Saussurea heteromella*	Herb	Terrestrial	February - May
80.	*Senecio linifolia*	Herb	Terrestrial	January - July
81.	*Silybum marianum*	Herb	Terrestrial	May - September
82.	*Solidago canadensis*	Herb	Terrestrial	October - January
83.	*Soliva anthemifolia*	Herb	Moist	December - April
84.	*Sonchus asper*	Herb	Terrestrial	October - February
85.	*Sphaeranthus senegalensis*	Herb	Moist	December - April
86.	*Spilanthes ciliata*	Herb	Moist	October - March
87.	*Spilanthes radicans*	Herb	Moist	October - January
88.	*Tagetes erecta*	Herb	Terrestrial	September - April
89.	*Tridax procumbens*	Herb	Moist	Throughout year
90.	*Vernonia cinerea*	Herb	Terrestrial	July - February

4. CONCLUSION

During the Study on family Asteraceae of Braj Bhoomi, India 90 species longing to 57 genera were identified with information like their habit, habitat and its phenology was recorded (Table 1). Out of these 90 species are herbs herbaceous plants among 70 species were terrestrial, 2 species were aquatic and 18 species were grown moist condition.

The phenology shows maximum flowering and fruiting January > February > December. There is a gradual decrease in the flowering and fruiting from the month of February up to the month of July. Thus minimum flowering and fruiting occur during the month of July.

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