



HERBACEOUS FLORA OF WEEDS GROWING AT ARAI HILL, PUNE

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Weeds are wildy growing plants grows along the roadsides, hills, mountains, grasslands and forests. This work was conducted to study the different weed species composition growing at ARAI Hill, Pune. The dominant weeds are from the family Asteraceae, Caesalpinaceae, Amaranthaceae, Lamiaceae. The dominating species of grasses are *Heteropogon contortus* (L.) P. Beauv, *Melanocenthris jacquemontii* Jaub. & Spach *Themeda triandra* and *Apluda mutica* L. Herbaceous flora of weeds was recorded for three years. Luxuriously growing species are *Alternanthera sessilis* (L.) DC. *Crotalaria hebecarpa* (DC.) , *Justicia simplex* D. Don. Rudd, *Hyptis suaveolens* (L.) , *Parthenium hysterophorus* L., *Rungia repens* (L.) Nees Poit, *Sopubia delphinifolia* (L.) Don, *Spermacocce articularis*, *Spermacocce stricta* L.F., *Striga densiflora* (Benth.), *Synedrella nodiflora* (L.) Gaertn, and *Cassia uniflora* Mill. Weeds have ecological role in the environment. They play important role in biogeochemical cycle.

Keywords: Herbaceous flora, weeds, dominating species, ARAI hill Pune.

Introduction

The weeds are the unwanted troublesome plants. They are troublesome for wanted crops, but have ecological significance. They grow in crop field, waste land, roadside, forest in or on the water bodies. Weeds when grow in the crop field, the act as a competitor for light, space, nutrients and water, but when they grow on hills, maintain prevent soil erosion. (Cocannouer, J. A. 1964). They reduce the yield. Pathogens in the form of micro-organisms take support of the weeds as a host. They can complete their life cycle in adverse aconditions very effectively than the cultivated crop. Weeds support many ecosystem services. (Marshall et. al. 2003, Eraud. et. al. 2015, Requier et.al. 2015, Rollin t. al. 2016). Weeds acts as an indicators of the presence and quality of ground water (Chikishev, 1965). The present study was conducted to know the herbaceous flora of weeds growing on ARAI hill. ARAI known as the Automotive Research Association of India. Arai Tekdi is the highest point in the city of Pune, from where the entire horizon of the city can be enjoyed. Forest department has done some plantations work on hill. There is one quarry in which aquatic weeds grow. Water gets trapped in the small t renches and pits in this quarry. Due to quarry, small wetland ecosystem is created, serve the purpose of bird diversity. Many bushes and trees give shelter to the birds and insects.

Materials and Methods

ARAI hill is located in Pune district, Maharashtra. The study of herbaceous weed species was carried out for three years. The frequent visit was carried out to record the important characters of weed flora and their families were recored. The digital herbarium of all the fresh plant specimens prepared. The plants are identified by using flora (Cook,

1958, Yadav and Sardesai (), Ingalhallikar, 2001, Naidu (2012).

Result:

Weeds have a vital role in ecosystem. They protect and restore soil that has been left exposed. Weeds growing on hill have their role in carbon sequestration. They absorbs carbon dioxide from the air and converts it into plant tissue. After completing life cycle plants dies, or shed its leaves and undergoes degradation in biogeochemical cycle. During this process part of carbon dioxide is returned to the atmosphere and part of it remains in the soil as stabilised organic matter.

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Table No.1: Ethnobotanical survey in Pinguli area.

Sr. No.	Name of the plant species	Family
1	<i>Abutilon indicum</i> (L.) Sweet.	Malvaceae
2	<i>Acalypha indica</i> L.	Euphorbiaceae
3	<i>Acanthospermum hispidum</i> DC.	Asteraceae
4	<i>Achyranthes aspera</i> L.	Amaranthaceae
5	<i>Ageratum conyzoides</i> L.	Asteraceae
6	<i>Ageratum houstonianum</i> Mill	Asteraceae
7	<i>Alternanthera sessilis</i> (L.) DC.	Amaranthaceae
8	<i>Alternanthera triandra</i> Lam.	Amaranthaceae
9	<i>Amaranthus spinosus</i> L.	Amaranthaceae
10	<i>Amaranthus viridis</i> Hook. F.	Amaranthaceae
11	<i>Antigonon leptopus</i> Hook. & Arn.	Polygonaceae
12	<i>Bidens pumilla</i>	Asteraceae
13	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae
15	<i>Cassia tora</i> L.	Caesalpinaceae
14	<i>Cassia uniflora</i> Mill.	Caesalpinaceae
16	<i>Celosia argentea</i> L.	Amaranthaceae
17	<i>Cleome simplicifolia</i> Hook.f. & Thomson	Capparidaceae
18	<i>Coccinea grandis</i> (L.) Voigt	Cucurbitaceae
19	<i>Commelina benghalensis</i> L.	Commelinaceae
20	<i>Commelina forskalii</i> Vahl.	Commelinaceae
21	<i>Crotalaria hebecarpa</i> (DC.) Rudd	Fabaceae
22	<i>Cynotis cristata</i> (Linn.) D. Don.	Commelinaceae
23	<i>Cynotis prostrata</i> (L.) Blume	Commelinaceae
24	<i>Cyperus rotundus</i> L.	Cyperaceae
25	<i>Desmodium gangeticum</i> (L.) DC.	Fabaceae
26	<i>Desmodium triflorum</i> (L.) DC	Fabaceae
27	<i>Eclipta alba</i> (L.) Hassk	Asteraceae
28	<i>Euphorbia geniculata</i> Orteg	Euphorbiaceae
29	<i>Euphorbia hirta</i> L.	Euphorbiaceae
30	<i>Euphorbia microphylla</i> Heyne ex. Roth.	Euphorbiaceae
31	<i>Evolvulus alsinoides</i>	Convolvulaceae
32	(L.) L. <i>Exacum pedunculatum</i> L.	Gentiaaceae
33	<i>Exacum pumillum</i> Griseb.	Gentianaceae
34	<i>Gomphrena decumbens</i> Jacq.	Amaranthaceae
37	<i>Hyptis suaveolens</i> (L.) Poit	Lamiaceae
38	<i>Indigofera cordifolia</i> Heyne. ex Roth	Fabaceae
39	<i>Indigofera linifolia</i> (L.f.) Retz.	Fabaceae
40	<i>Ipomea eriocarpa</i> R. Br.	Convolvaceae
41	<i>Ipomea parasitica</i> (Kunth) G. Don	Convolvaceae
42	<i>Ipomoea cairica</i> (L.) Sweet	Convolvaceae
40	<i>Ipomoea hederacea</i> (L.) Jacq.	Convolvaceae
41	<i>Justicia simplex</i> D. Don.	Acanthaceae
42	<i>Lagasca molis</i> Cav	Asteraceae
43	<i>Lantana camera</i> L.	Verbenaceae
44	<i>Launaea nudicaulis</i> (Linn.) Hook. f.	Asteraceae
45	<i>Lavandula bipinnata</i> (Roth) Kuntze	Asteaceae
46	<i>Lepidogathis cristata</i> Willd.	Acanthaceae
47	<i>Leucas aspera</i> Link	Lamiaceae
48	<i>Linum mysoorensis</i>	Linaceae
49	<i>Ludwigia octovalvis</i> (Jacq.)	Onagraceae
50	<i>Mimosa pudica</i> L.	Mimosaceae
51	<i>Neanotis montholonii</i> (Hook.f.) W.H.Lewis	Rubiaceae
52	<i>Oldenlandia corymbosa</i> L.	Rubiaceae
53	<i>Oxalis corniculata</i> L.	Oxalidaceae
54	<i>Parthenium hysterophorus</i> L.	Asteraceae
55	<i>Passiflora foetida</i> L.	Passifloraceae
56	<i>Phyllanthus niruri</i> L.	Euphorbiaceae
57	<i>Physalis minima</i> L.	Solanaceae
58	<i>Pluchea tomentosa</i> DC. in Wight,	Asteraceae
59	<i>Portulaca oleracea</i> L.	Portulacaceae
60	<i>Portulaca quadrifida</i> L.	Portulacaceae
61	<i>Pulicaria wightiana</i>	Asteraceae
62	<i>Rhamphicarpa longiflora</i>	Scrophulariaceae
63	<i>Rostellularia procumbens</i> (L) Nees	Acanthaceae

64	<i>Ruellia humilis</i> Pohl ex Nees	Acanthaceae
65	<i>Rungia repens</i> (L.) Nees	Acanthaceae
66	<i>Sesamum indicum</i> L.	Pedaliaceae
67	<i>Sida acuta</i> Burm. f	Malvaceae
68	<i>Sopubia delphinifolia</i> (L.) Don	Scrophylariaceae
69	<i>Spermacoce articularis</i>	Rubiaceae
70	<i>Spermacoce stricta</i> L.F.	Rubiaceae
71	<i>Sphaeranthus indicus</i> L.	Asteraceae
72	<i>Spilanthes acmella</i> auct. non L.	Asteraceae
73	<i>Striga densiflora</i> (Benth).	Orobanchaceae
74	<i>Synedrella nodiflora</i> (L.) Gaertn.	Asteraceae
75	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae
76	<i>Trichodesma indicum</i> L.	Boraginaceae
77	<i>Tricolepis glaberrima</i>	Asteraceae
78	<i>Tridax procumbens</i> L.	Asteraceae
79	<i>Triumfetta rhomboidea</i> Jacq	Tiliaceae
80	<i>Urena sinuata</i> L.	Malvaceae
81	<i>Vicoa indica</i> L. (DC).	Asteraceae
82	<i>Vigna radiata</i> (L.) R. Wilczek	Fabaceae
83	<i>Xanthium strumarium</i> L.	Asteraceae
Grasses-		
84		Poaceae

	<i>Apluda mutica</i> L.	
85	<i>Anthraxon hispidus</i> (Thunb.) Makino	Poaceae
86	<i>Chloris barbata</i> SW.	Poaceae
87	<i>Chrysopogon fulvus</i> (Spreng.) Chiov	Poaceae
88	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae
99	<i>Dicanthium</i> sp	Poaceae
90	<i>Echinochloa colona</i> (L.) Link.	Poaceae
91	<i>Eleusine indica</i> (L.) Gaertner.	Poaceae
92	<i>Enteropogon dolichostachyus</i> (Lagasca) Keng ex Lazarides	Poaceae
93	<i>Eragrostis bifaria</i> (Vahl) Wight	Poaceae
94	<i>Heteropogon contortus</i> (L.) P. Beauv	Poaceae
95	<i>Heteropogon triteceus</i>	Poaceae
96	<i>Melanocenchris jacquemontii</i> Jaub. & Spach	Poaceae
97	<i>Paspalum dialatum</i> Poir.	Poaceae
98	<i>Paspalum distichum</i> auct. nm L.	Poaceae
99	<i>Setaria glauca</i> (L.) P. Beauv.	Poaceae
100	<i>Sporobolus diander</i> (Retz.) P. Beauv.	Poaceae
101	<i>Themeda triandra</i>	Poaceae



Heteropogon triteceus



***Chloris barbata* SW.**



***Eleusine indica* (L.) Gaertner.**














***Heteropogon contortus* (L.) P. Beauv**



***Sporobolus diander* (Retz.) P. Beauv.**



***Echinochloa colona* (L.) Link.**

 <p><i>Setaria glauca</i> (L.) P. Beauv.</p>	 <p><i>Apluda mutica</i> L.</p>	 <p><i>Chrysopogon fulvus</i> (Spreng.) Chiov in bud condition</p>
 <p><i>Chrysopogon fulvus</i> (Spreng.) Chiov flowering</p>	 <p><i>Melanocenchris jacquemontii</i> Jaub. & Spach</p>	 <p><i>Themeda triandra</i></p>
 <p><i>Anthraxon hispidus</i> (Thunb.) Makino</p>	 <p><i>Enteropogon dolichostachyus</i> (Lagasca) Keng ex Lazarides</p>	 <p>Quarry on ARAI hill</p>
 <p>Grassland <i>Heteropogon contortus</i> (L.) P. Beauv donating species of grass</p>	 <p>Grassland give support to many birds (Kingfisher)</p>	