



Angiosperm Weeds Diversity and Medicinal Uses in Seven Selected Maize Fields at Puthia Upazila of Rajshahi District, Bangladesh

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Abstract

Angiosperm weeds diversity in seven selected maize fields of Puthia upazila of Rajshahi district, Bangladesh was carried out from November 2016 to December 2017. A total of 65 weed species under 62 genera belonging to 29 families were collected and identified. Asteraceae, Amaranthaceae, Acanthaceae, Euphorbiaceae, Fabaceae, Solanaceae were found as dominant families with high species diversity. Among the identified species, *Anagallis arvensis* L., *Centella asiatica* (L.) Urban, *Desmodium triflorum* (L.) Candolle, *Exacum pedunculatum* L., *Sonchus asper* (L.) Hill, *Glinus oppositifolius* L. and *Uraria picta* (Jacq.) Desv. ex DC. were found as rare species. Forty five (45) medicinal plants have been documented with their uses for the treatment of more than 39 diseases. For each species scientific name, local name, family name and medicinal uses were provided.

Keywords: Maize fields, weed diversity, medicinal uses, Puthia, Rajshahi, Bangladesh

INTRODUCTION

A weed is a plant which considered undesirable in a particular situation, "a plant in the wrong place". Taxonomically, the term "weed" has no botanical significance, because a plant that is a weed in one context is not a weed when growing in a situation where it is in fact wanted, and where one species of plant is a valuable crop plant, another species in the same genus might be a weed, such as a wild bramble growing among cultivated loganberries. Many plants that people widely regard as weeds also are intentionally grown in gardens and other cultivated settings, in which case they are sometimes called beneficial weeds. The term weed also is applied to any plant that grows or reproduces aggressively, or is invasive outside its native habitat (Janick, 1979).

While the term "weed" generally has a negative connotation, many plants known as weeds can have beneficial properties. A number of weeds, such as the dandelion (*Taraxacum*) and lamb's quarter are edible, and

their leaves or roots may be used for food or herbal medicine. Burdock is common over much of the world, and is sometimes used to make soup and medicine in East Asia (Burdock Root, 2015). Some weeds attract beneficial insects, which in turn can protect crops from harmful pests. Weeds can also prevent pest insects from finding a crop, because their presence disrupts the incidence of positive cues which pests use to locate their food. Weeds may also act as "living mulch", providing ground cover that reduces moisture loss and prevents erosion. Weeds may also improve soil fertility; dandelions, for example, bring up nutrients like calcium and nitrogen from deep in the soil with their tap root, and clover hosts nitrogen-fixing bacteria in its roots, fertilizing the soil directly. The dandelion is also one of several species which break up hardpan in overly cultivated fields, helping crops to grow deeper root systems. Some garden flowers originated as weeds in cultivated fields and have been selectively bred for their

garden-worthy flowers or foliage. An example of a crop weed that is grown in gardens is the corn cockle, (*Agrostemma githago*), which was a common weed in European wheat fields, but is now sometimes grown as a garden plant (Preston and Dines, 2002).

The importance of studying angiosperm weed species diversity and medicinal uses has been realized and carried out in Bangladesh by Rahman *et al.* (2007), Rahman *et al.* (2008), Rahman *et al.* (2013), Rahman (2013), Rahman and Akter (2013), Rahman *et al.* (2014), Rahman and Gulshana (2014), Rahman and Rahman (2014), Rahman *et al.* (2015), Rahman and Parvin (2015), Roy *et al.* (2016), Sultana and Rahman (2016) and Uddin *et al.* (2014). The present research was undertaken to record the diversity of weed species and their medicinal uses if any in maize fields of Puthia Upazila of Rajshahi District, Bangladesh.

MATERIAL AND METHODS

Study area: Puthia is an Upazila of Rajshahi District in the Division of Rajshahi, Bangladesh. The area encompasses is about 192.64 sq km, located in between 24°20' and 24°31' North Latitudes and in between 88°42' and 88°56' East Longitudes. It is bounded by durgapur (Rajshahi) and Baghmara upazilas on the North, Chorghat and Bagatipara upazilas on the South, Natore sadar upazila on the East, Paba and Durgapur upazilas on the West. Total population is 188864; male 97810, female 91054; Muslim 176519, Hindu 10371, Buddhist 829, Christian 40 and others 1150. Indigenous communities such as Santal, Oraon and Mahali belong to this upazila (BPC, 2001).

Survey method: Diversity of angiosperm weeds growing in seven selected maize fields was carried out from November 2016 to December 2017. A survey on the determination of the location of different species was made and a list was prepared to be acquainted with the plants available in the selected area. All the species were noted and time to time the areas were visited to see when they flowered. For the morphological study, different types of species were examined carefully in order to see if there was any variation or not. They were collected at flowering stages and herbarium specimens were prepared as vouchers. In this practice standard method was followed (Alexiades, 1996). Medicinal information was also recorded. A total of 65 informants having an age range 20-66 years were interviewed using semi-structured interviewing method. Among them 27 were female and rest 38 were male. Regular field studies were made in the

study area during the study period. The information about the plants used for various diseases was gathered through interviews and discussion with the elderly people, medicine men and traditional medical practitioners were also consulted.

Plant Identification: The major collected materials were identified and described up to species with the help of Hooker (1961), Prain (1963), Kirtikar and Basu (1987), and Ahmed *et al.* (2007-2009) were consulted. For the current name and up-to-date nomenclature Pasha and Uddin (2013) and Huq (1986) were also consulted. All the collected plant specimens were kept in the Herbarium, Department of Botany, and University of Rajshahi, Bangladesh.

RESULTS AND DISCUSSION

Based on this study, diversity of weed species in seven selected maize fields of Puthia upazila of Rajshahi district, Bangladesh was made that included 65 species under 62 genera and 29 families. Asteraceae, Amaranthaceae, Euphorbiaceae, Acanthaceae, Fabaceae, Solanaceae and Poaceae were dominant families with high species diversity (Figure-1). Distribution of weed species in the families shows variation. Asteraceae is represented by 14 species. Poaceae is represented by 5 species. Amaranthaceae and Euphorbiaceae are represented by 4 species. Acanthaceae, Fabaceae and Solanaceae are represented by 3 species in each. Chenopodiaceae, Convolvulaceae, Molluginaceae, Lamiaceae, Polygonaceae are represented by 2 species. A single species in each was recorded by 16 families (Table 1). The survey recorded maximum 93.84% species in field-4 followed by field-1 (89.23% species), field-6 (87.69% species), field-3 (86.15% species), field-7 (84.61% species), field-2 (83.07% species) and field-5 (81.53% species) (Figure-2). Dicot species were more prominent than monocot. *Ageratum conyzoides* (L.) L., *Blumea lacera* (Burm.f.) DC. in Wight, *Chenopodium album*, *Cirsium arvense* (L.) Scop, *Cynodon dactylon* (L.) Pers, *Euphorbia hirta* L., *Leucas aspera* (Willd) Link, *Mollugo pentaphylla* L., *Oplismenus compositus* (L.) P. Beauv., *Vicia sativa* L. were abundant weed species in seven selected maize fields.

The collected information is comparable with the result of other studies in Bangladesh and abroad. A total of 56 weed species belonging to 17 families was identified in five different rice field around Vanurталuk of Villupuram district, Tamil Nadu, India (Nithyaand Ramamoorthy, 2015). Twenty four weed species under 22 genera and 14

families were studied in 9 crop fields in West Bengal, India (Mondal and Hossain, 2015). A total of 40 plant species were growing as weeds in rice fields of Kashmir Valley, which belonged to 27 genera in 19 families (Hassan *et al.*, 2015). A total of 71 weed species belonging to 65 genera and 32 families were recorded in wheat field of Rajshahi district, Bangladesh (Rahman *et al.*, 2014b). A total of 73 weed species belonged to 66 genera and 32 families are documented in paddy field of Rajshahi district, Bangladesh (Rahman and Rahman, 2014). A total of 37 weed species belonged to 36 genera and 20 families are documented in Mulberry field of Rajshahi University Campus, Bangladesh (Rahman and Mamun, 2017). A total of 23 species of 13 families were identified as weeds of wheat fields from five different localities of village Qambar, District Swat, Pakistan

(Akhter and Hussain, 2007). A total of 73 weed species belonging to 65 genera and 27 families were recorded in sugarcane field of District Banu, Khyber Pakhtunkhwa, Pakistan (Khan *et al.*, 2012). Twenty-two weed species belonging to 12 families were found dominant in greengram and blackgram in Haryana, India (Punia *et al.*, 2013). A total of 39 weed species belonging to 37 genera and 19 families were recorded in mixed winter crop of Uttar Pradesh, India (Singh *et al.*, 2012). A total of 58 weed species were recorded in wheat field of Nowshera District Rajouri (J & K), India (Dangwal *et al.*, 2011). So far the information available, no published data recorded on the angiosperm weed species in the maize fields of Puthia Upazila of Rajshahi district, Bangladesh. The present study will also help in identifying the major angiosperm weeds for further investigation.

Table 1. Angiosperm weeds diversity in seven selected maize fields of Puthia upazila, Rajshahi

Sl. No	Scientific name	Family name	Local name	Fields						
				1	2	3	4	5	6	7
1	<i>Acalypha indica</i> L.	Euphorbiaceae	Muktajhuri	+	-	+	+	-	+	-
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Apang	-	-	+	-	-	+	+
3	<i>Ageratum conyzoides</i> (L.) L.	Asteraceae	Ochunti	+	+	-	+	-	+	+
4	<i>Alternanthera sessilis</i> (L.) R. Brown ex Candolle	Amaranthaceae	Chanchi	+	+	+	+	+	+	-
5	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kantanotey	+	+	+	+	+	+	+
6	<i>Amaranthus viridis</i> L.	Amaranthaceae	Shaknotey	+	+	+	+	+	+	+
7	<i>Ammania bacifera</i> L.	Lythraceae	Janglimendi	+	+	-	+	-	+	+
8	<i>Argemone mexicana</i> L.	Papaveraceae	Sialkata	+	+	+	+	+	+	+
9	<i>Anagallis arvensis</i> L.	Primulaceae	Anagalis	+	-	-	-	-	-	-
10	<i>Axonopus compressus</i> L.	Poaceae	Carpetghas	+	+	+	+	+	+	+
11	<i>Barleria prionitis</i> L.	Acanthaceae	Kanta-janti	+	+	+	+	+	+	-
12	<i>Blumea lacera</i> (Burm.f.) DC. in Wight	Asteraceae	Kukshim	+	+	+	+	+	+	+
13	<i>Centella asiatica</i> (L.) Urban in Mart.	Apiaceae	Thankuni	+	+	-	+	-	+	+
14	<i>Cirsium arvense</i> (L.) Scop.	Asteraceae	Shial-kanta	+	-	+	+	+	+	+
15	<i>Cleome viscosa</i> L.	Capparaceae	Hurhuria	-	+	+	+	+	+	+
16	<i>Chenopodium album</i> L.	Chenopodiaceae	Batuasak	+	+	+	+	+	+	+
17	<i>Chenopodium ambrosioides</i> L.	Chenopodiaceae	Banbatua	+	+	+	+	+	+	+
18	<i>Commelina benghalensis</i> L.	Commelinaceae	Kanshira	+	+	-	+	+	-	-
19	<i>Coccinea grandis</i> (L.) Voigt.	Cucurbitaceae	Telakucha	-	+	+	+	+	+	+
20	<i>Colocasia esculenta</i> (L.) Schott.	Araceae	Kochu	+	-	+	+	+	-	+
21	<i>Cyperus rotundus</i> L.	Cyperaceae	Muthaghas	+	+	+	+	+	+	+
22	<i>Chrozophora plicata</i> (Vahl.) A. Juss. ex Spreng	Euphorbiaceae	Khudi-okra	+	+	-	+	-	+	+
23	<i>Croton bonplandianum</i> Baill.	Euphorbiaceae	Banjhal	-	+	+	+	+	+	+
24	<i>Clerodendrum viscosum</i> Vent.	Verbenaceae	Bhat	+	-	+	+	+	+	+
25	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Durbaghas	+	+	+	+	+	+	+
26	<i>Desmodium triflorum</i> (L.) Candolle	Fabaceae	Kalilata	+	+	+	+	-	+	+
27	<i>Evolvulus nummularius</i> (L.) L.	Convolvulaceae	Evolvulus	+	+	+	+	+	+	+
28	<i>Eclipta alba</i> (L.) Hassk	Asteraceae	Kalokeshi	-	+	+	+	+	+	+
29	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Dudhiya	+	+	+	+	+	-	+
30	<i>Exacum pedunculatum</i> L.	Gentianaceae	Exacum	+	+	-	+	-	+	+
31	<i>Elusine indica</i> (L.) Gaertn.	Poaceae	Chapra	+	-	+	+	+	+	+
32	<i>Fumaria officinalis</i> L.	Fumariaceae	Ban-salpa	+	+	+	+	+	+	-
33	<i>Gnaphalium pulvinatum</i> Delile.	Asteraceae	Bara kamra	+	+	+	+	+	+	+
34	<i>Grangea maderespatana</i> (L.) Poir.	Asteraceae	Namuti	+	+	-	+	+	+	+

35	<i>Glinus oppositifolius</i> L.	Molluginaceae	Gimashak	+	+	+	+	+	+	+
36	<i>Hemigraphis hirta</i> (Vahl.) T. Anderson.	Acanthaceae	Hemigraphis	+	+	+	+	+	+	+
Sl. No	Scientific name	Family name	Local name	Fields						
				1	2	3	4	5	6	7
37	<i>Heliotropium indicum</i> L.	Boraginaceae	Hatisur	+	-	+	+	-	+	+
38	<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	Kolmishak	+	+	+	-	+	+	+
39	<i>Leucas cephalotes</i> (Roth.) Spreng.	Lamiaceae	Bara halkusa	+	+	+	+	+	+	-
40	<i>Leucas aspera</i> (Willd) Link.	Lamiaceae	Shetodron	+	+	+	+	+	+	+
41	<i>Launaea aspleniifolia</i> (Willd.) Hook. f.	Asteraceae	Tik-chana	+	+	-	+	+	+	+
42	<i>Leptochola punica</i> L.	Poaceae	Monaghas	+	+	+	+	+	+	+
43	<i>Mollugo pentaphylla</i> L.	Molluginaceae	Mollugo	+	+	+	+	+	+	+
44	<i>Mikania cordata</i> (Burm. f.) B.L. Rob.	Asteraceae	Asamlata	+	+	+	+	+	-	+
45	<i>Nicotiana plumbaginifolia</i> Viv.	Solanaceae	Bantamak	+	+	+	+	+	+	+
46	<i>Oxalis corniculata</i> L.	Oxalidaceae	Amrul	+	+	-	+	+	+	-
47	<i>Oplismenus compositus</i> (L.) P. Beauv.	Poaceae	Oplismenus	-	+	+	+	+	+	+
48	<i>Panicum repens</i> L.	Poaceae	Barandaghas	+	+	+	+	+	+	+
49	<i>Phyla nodiflora</i> (L.) Greene.	Verbenaceae	Bhui-okra	+	-	+	+	-	+	+
50	<i>Peperomia pellucida</i> (L.) H.B.K.	Piperaceae	Peperomia	+	+	+	+	-	+	+
51	<i>Polygonum plebejum</i> R. Br.	Polygonaceae	Raniphul	+	+	+	+	-	+	+
52	<i>Portulaca oleracea</i> L.	Portulacaceae	Nuniashak	+	+	+	+	+	-	+
53	<i>Physalis minima</i> L.	Solanaceae	Kapalphutki	-	+	-	+	+	-	+
54	<i>Rumex maritimus</i> L.	Polygonaceae	Banpalong	+	+	+	+	+	+	+
55	<i>Sida cordata</i> (Burm. f.) Borss.	Malvaceae	Junka	+	-	+	+	+	+	-
56	<i>Scoparia dulcis</i> L.	Scrophulariaceae	Bandhoney	+	+	+	+	-	+	+
57	<i>Solanum nigrum</i> L.	Solanaceae	Titbegun	+	+	+	+	-	+	+
58	<i>Sonchus asper</i> (L.) Hill.	Asteraceae	Sonchus	+	+	+	+	+	+	+
59	<i>Spilanthes calva</i> DC. in Wight.	Asteraceae	Surja Kannya	+	+	+	+	+	+	+
60	<i>Synedrella nodiflora</i> (L.) Gaertn.	Asteraceae	Relanodi	+	+	+	+	+	+	+
61	<i>Tridax procumbens</i> L.	Asteraceae	Tridhara	+	+	+	+	-	+	+
62	<i>Uraria picta</i> (Jacq.) Desv. ex DC.	Fabaceae	Uraria	+	-	+	+	+	-	+
63	<i>Vernonia patula</i> (Dryand.) Merr.	Asteraceae	Kuksim	+	+	+	-	+	+	+
64	<i>Vicia sativa</i> L.	Fabaceae	Ankari	+	+	+	+	+	+	+
65	<i>Xanthium indicum</i> Koenig.	Asteraceae	Ghagra, Hagra	+	+	+	+	+	+	-

+ = Present, - = Absent

Total = 58 54 56 61 53 57 55

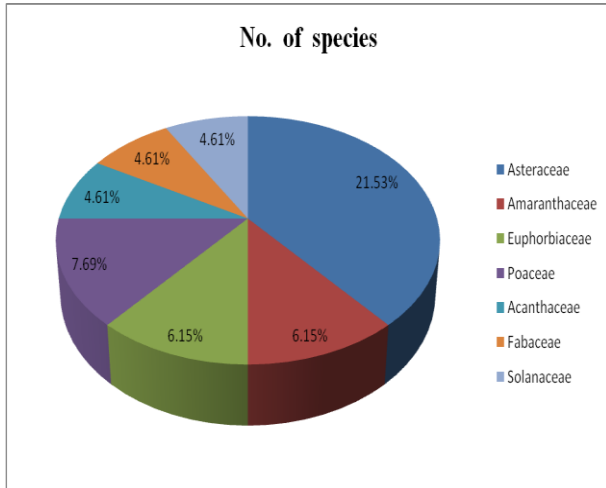


Figure-1: Dominant plant families in the study area.

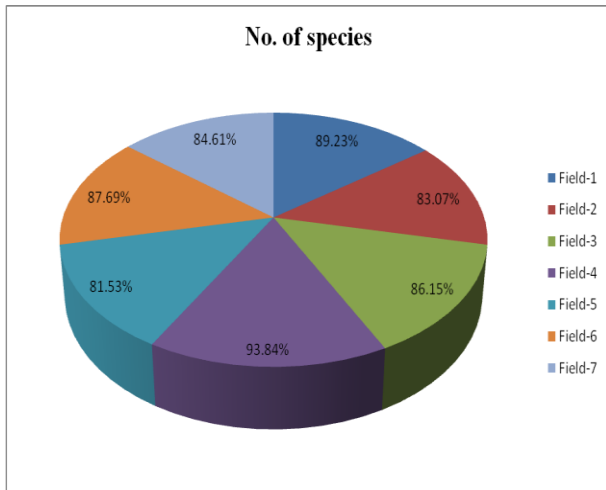


Figure-2: Recorded species diversity in seven selected maize fields.

Medicinally Important Weeds

The important medicinal values of weed species in maize fields of Puthia upazila of Rajshahi district, Bangladesh were highlighted. A total of 45 medicinal weed species belonging to 42 genera were collected and recorded for their use in various ailments. Whole plant (62.22%) are the leading used in a majority medicinal weeds followed by leaves 37.77%, root 26.66%, seed 6.66%, latex 4.44% and bulb 2.22% (Figure-3). These medicinal weeds are used by the local people to cure the following diseases, especially for alopecia, asthma, anemia, cough, cholera, dysentery, earache, eczema, fever, gonorrhoea, headache, herpes, inflammation, jaundice, ophthalmia, scabies, snake-bite, skin diseases, stomachic, ulcers, urinary disorder, wound and others (Table-2). The collected medicinal information of those plant species is in agreement with the result of other studies done in Bangladesh (Ghani, 2003; Yusuf *et al.*, 2009; Anisuzzaman *et al.*, 2007; Khan and Huq, 1975; Alam, 1992; Khan, 1998; Rahman *et al.*, 2010; Rahman *et al.*, 2012; Rahman *et al.*, 2013; Jamila and Rahman, 2016; Islam and Rahman, 2017, Uddin *et al.*, 2006).

Table 2. Medicinal weeds used by the local people of Puthia upazila of Rajshahi district, Bangladesh

Sl.No.	Scientific name	Family name	Local name	Parts used	Uses
1	<i>Acalypha indica</i> L.	Euphorbiaceae	Muktajhuri	Leaf, root	Tumours, Arthritis, scabies, ringworm, earache.
2	<i>Achyranthes aspera</i> L.	Amaranthaceae	Apang	Root, Seed, Leaf	Cholera, piles, skin disease.
3	<i>Ageratum conyzoides</i> L.	Asteraceae	Ochunti	Whole plant	Cuts, wounds and headache.
4	<i>Alternanthera sessilis</i> (L.) R. Br	Amaranthaceae	Sanchi Shak	Whole plant, root	Relieve tiredness, Chronic liver, gastrointestinal issues and gonorrhoea.
5	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Katanotey	Whole plant, root	Eczema, colic, fevers, urinary troubles, diarrhea and dysentery.
6	<i>Amaranthus viridis</i> L.	Amaranthaceae	Noteyshak	Whole plant, root	Dysentery, constipation.
7	<i>Argemone mexicana</i> L.	Papaveraceae	Shialkata	Whole plant	Skin disease and malaria
8	<i>Barleria prionitis</i> L.	Acanthaceae	Kantajanti	Whole plant, leaf	Hair treatment, fever, skin disease, dental troubles.
9	<i>Blumea lacera</i> (Burn. f.) DC.	Asteraceae	Kucksim	Leaf, root	Fever, cough, headache, dog bite, mouth disease and cholera.
10	<i>Centella asiatica</i> (L.) Urban.	Apiaceae	Thankuni	Whole plant	Vomiting, dysentery.
11	<i>Cirsium arvense</i> (L.) Scop.	Asteraceae	Shailkanta	Root	Toothache and worms.
12	<i>Cleome viscosa</i> L.	Capparaceae	Hurhuria	Whole plant	Malarial fever, dysentery gonorrhoea, and diarrhea.
13	<i>Chenopodium album</i> L.	Chenopodiaceae	Bathua	Whole plant	Stomachache, diarrhea, burns and joint pain.
14	<i>Chenopodium ambrosioides</i> L.	Chenopodiaceae	Chendan	Whole plant,	Skin disease and eczema.

15	<i>Coccinia grandis</i> (L.) Voigt.	Cucurbitaceae	beto Telakucha	seed Whole plant	Hypertension, diabetes and skin disease.
16	<i>Colocasia esculenta</i> (L.) Schott.	Araceae	Kochu	Whole plant	Vegetable, tonic, diarrhea and alopecia.
17	<i>Cyperus rotundus</i> L.	Cyperaceae	Muthagrahas	Tuber, root	Fever diarrhea, wounds and sores.
18	<i>Chrozophora plicata</i> (Vahl.) A. Juss. ex Spreng.	Euphorbiaceae	Khudi okra	Whole plant	Healing and laxative.
19	<i>Croton bonplandianum</i> Baill.	Euphorbiaceae	Banjhal	Leaf, seed, latex	Eczema and ringworm to cure, cough, cuts and wounds.
20	<i>Clerodendrum viscosum</i> Vent.	Verbenaceae	Bhat	Leaf, root	Asthma, tumors and certain skin diseases, pains and jaundice.
21	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Durbaghas	Whole plant	Stop bleeding and wound, dandruff, and fever.
22	<i>Eclipta alba</i> (L.) Hassak.	Asteraceae	Kalokeshi	Whole plant, leaf	Alopecia, hearing ailments, headache and toothache.
23	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Dudhiya	Whole plant	Diarrhea, galactagogue, piles, lip sore and dysentery.
24	<i>Eleusine indica</i> (L.) Gaertn.	Poaceae	Malankuri	Whole plant	Fracture, liver disorder.
25	<i>Fumaria officinalis</i> L.	Fumariaceae	Ban salpha	Whole plant	Kidney problem, skin problem, intestinal parasites, digestive problem, nausea, acidity vomiting.
26	<i>Grangea maderaspatana</i> (L.) Poir.	Asteraceae	Namuti	Leaf	Stomachic and earache.
Sl.No.	Scientific name	Family name	Local name	Parts used	Uses
27	<i>Glinus oppositifolius</i> L.	Molluginaceae	Ghimashak	Whole plant, leaf	Skin disorders, diarrhea, fever, joint pains and inflammation.
28	<i>Hemigraphis hirta</i> (Vahl.)T. Anderson	Acanthaceae	Buripana	Leaf	A cures ulcer of the mouth and gums
29	<i>Heliotropium indicum</i> L.	Boraginaceae	Hatisur	Whole plant	Wound and skin affection, conjunctivitis and poultice.
30	<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	KalmiShak	Whole plant	Fever, jaundice, arsenic or opium poisoning, eyes drop diarrhea.
31	<i>Leucas aspera</i> (Willd.) Link.	Lamiaceae	Shetadrone	Leaf	Chronic skin eruption, chronic rheumatism.
32	<i>Launaea asplenifolia</i> Hook. f.	Asteraceae	Tikchaina	Root	Galactagogue
33	<i>Mollugo pentaphylla</i> L.	Molluginaceae	Julpapra	Leaf	Asthma and earache
34	<i>Mikania cordata</i> (Burm f.) B.L. Rob.	Asteraceae	Ashamlata	Leaf	Cuts and wounds, gastric ulcer and as local antiseptic, dysentery, gastric ulcers.
35	<i>Oxalis corniculata</i> L.	Oxalidaceae	Amrul	Whole plant	Appetite, fever and dysentery.
36	<i>Peperomia pellucida</i> Kunth.	Piperaceae	Peperomia	Leaf	Headache and fever, abnormal pains, healing cracks.
37	<i>Portulaca oleracea</i> L.	Portulacaceae	Nunia shak	Leaf	Inflammation, burns, wounds and eczema.
38	<i>Sida cordata</i> (Burm.f.) Borss.	Malvaceae	Berela	Whole plant	Joint pain, headache and inflammation, rheumatism, fevers, bloody fluxes, elephantiasis.
39	<i>Solanum nigrum</i> L.	Solanaceae	Titbegun	Whole plant	Skin diseases, ringworm, fever, liver, piles and dysentery.
40	<i>Sonchus asper</i> (L.) Hill.	Asteraceae	Sonpalong	Latex, leaf, whole plant,	Ulcers, warts and inflammatory swellings.
41	<i>Spilanthes calva</i> DC. in Wight.	Asteraceae	Marhatitiga	Leaf, root, whole plant	Toothache, tuberculosis and scabies
42	<i>Synedrella nodiflora</i> (L.) Gaertn.	Asteraceae	Synedrella	Leaf	Athlete's foot, impotence.
43	<i>Tridax procumbens</i> L.	Asteraceae	Tridhara	Leaf	Antiseptic, insecticidal and parasiticidal, bleeding in bruises and cut bleeding in bruises and cuts.
44	<i>Vernonia patula</i> (Dryand.) Merr.	Asteraceae	Kukshim	Whole plant	Herpes, eczema, piles, ringworm, diarrhea, stomachache and malaria.
45	<i>Xanthium indicum</i> Koenig.	Asteraceae	Gaghra	Root, seed, whole	High fever, sores.

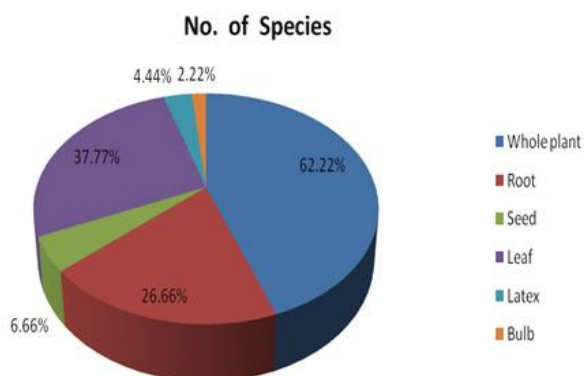


Figure-3: Plant parts used in different diseases.

CONCLUSION

Diversity of angiosperm weeds in the seven selected maize fields was recorded. A total of 65 weed species under 62 genera belonging to 29 families were collected and identified. Asteraceae, Amaranthaceae, Acanthaceae, Euphorbiaceae, Fabaceae, Solanaceae were found as dominant families with high species diversity. Forty five medicinal weed species were recorded for their use in various ailments. Obviously the diversity of weed species used will provide a rich data-base and proper scientific studies on the efficacy of a particular plant may lead to the discovery of herbal medicine.

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