



Floristic Biodiversity of Kharif Weeds in Ahmednagar

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ABSTRACT

Present work is result of intensive, systematic collections made in the different parts of Ahmednagar during 2019-2020. During the present 39 angiospermic plants were collected. The work done so far on the flora of Ahmednagar by Pradhan & Singh (1999), is not giving the correct and detailed account of weeds in the region. the several plants are growing as weeds in the waste places of town are used in different systems of medicines. Aim of the present work is to prepare a data on the weed plants of Ahmednagar and to highlight their utility aspect. Such a studies may give the correct idea about the usefulness of plants which grow in the vicinity.

Altogether 39 weed plants have been enumerated and it includes botanical name, synonyms, family, local name, phonological data and locality. As far as weed flora is concerned the families like, Asteraceae with 9 species is on top, Fabaceae represents 8 weed species holds second position, Acanthaceae is on third position with 7 species while the families Convolvulaceae and Euphorbiaceae are having 5 species each. Several families are representing single species. Total 39 species of the weeds collected are being used in the different systems of medicines for treating different ailments. The aim behind these studies is to prepare a detailed account of the weed flora of Ahmednagar with emphasis on the aspect of the weed plants.

INTRODUCTION

The simplest and most common definition of weed is 'any plant growing where it is not wanted'. This statement contains one very important and central idea about weeds, which is that they are exclusively associated with man and his activities.

A more explicit definition of weed is provided by Baker(1965) "A plant is a weed if in any specified geographical area its populations grow entirely or predominantly in situations markedly disturbed by man (without, of course being deliberately cultivated plants).

Weed biology is a subject embracing many disciplines including ecology, physiology, and genetics and nobody can be equally expert in all of these. Of the many people all over the world who devote their whole time to the study of weeds, most are concerned directly or indirectly with weed control. The control of weeds is naturally an extremely important subject in its own right. The particular purpose of this work is to introduce weeds mainly as a biological phenomenon a group of plants with a fascinating history and worthy of study for their own sakes.

The present work will give an details about the weed plants and some of their utilities for mankind. Because there is no doubt about their importance to man and because nearly everybody is familiar with at least some examples it is in one way fairly easy to write about weeds. Amongst the problems of approaching such a large subject, however, is the sheer number of plants amounting to no more than a few hundred species is composed of weeds. However, as soon as examples of their activities are discussed names multiply and tend to confuse those not familiar with the plants. Therefore, efforts has been made to keep an absolute minimum the number of plants referred to. Most of these are found in the Ahmednagar town and nearby areas.

THE PROBLEMS AND IMPORTANCE OF WEEDS

Problem of weeds on a worldwide basis is enormous. The sophisticated agricultural methods employed in much of developed and developing countries tend to prevent the problem, especially since some of our more spectacular weeds have been controlled up to the extent. But the problem is still very much with us, however, as the enormous annual bill of herbicides and the considerable crop losses due to uncontrolled weeds will testify. In areas without access to herbicide technology a very significant part of the physical process of cropping is still devoted to the persistent task of weed removal.

Weeds cause losses and inconvenience to man in many ways but the one to which attention is most often directed is loss of crop yield. Such losses are extremely difficult to estimate, especially since diseases due to fungi, bacteria and viruses also deplete yields, as do insects and other pests. A difference between these sources of loss is that weeds do most of the damage whilst the crop is growing, at the same time as many diseases and pests can also cause serious losses after harvest in spite of the difficulties, estimates of crop losses have been made for a wide variety of crops and Cramer (1954), "history of weeds is the history of man". The plants, which we call today as weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon as artificially disturbed sites become available to them. There must always have been small local areas of disturbance due to natural causes such as rivers, but another likely possibility is that many plants of open habitats survived this period in the regions near sea shore or on higher mountain slopes where open conditions were maintained by the general physical environment. The advantage of such situations is that they are more or less permanent, whilst it is characteristic of other types of open habitat that the ecological succession proceeds relatively rapidly to give a closed community. Under modern conditions weeds and plants with weedy characteristics are frequently the pioneers of secondary successions caused by man-made or natural disturbances of the environment, but in many cases this weedy phase is quite brief.

When man first appeared on the scene he was nomadic hunter but even by this mode of life he undoubtedly affected the environment although locally and transiently, wherever there are men there is rubbish. Anderson (1954) points out that the rubbish heaps of primitive man were an ideal site for the establishment of weeds, and it seems extremely probable that it was from amongst the plants growing around his rubbish heaps that man began unconsciously to select his first crop plants. With the later development of the more settled life of the planter, rubbish heaps would tend also to be site for the propagation and maintenance of the weedy species gathered with the crop and thrown away later. There is also ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present day weeds thus have a long history in India, but a great many other were introduced form other parts of the world much later by

successive groups of colonizers. The examples of the weeds came from outside are *Parthenium hysterophorus*, *Cassia* sps., *Echornia* sps., etc.

Since man began to create disturbed environments on a large scale it is clear that enormous new possibilities have been opened up for weeds, and it is a striking fact that many weeds which are a serious problem in areas in which they have spread are relatively harmless in the places from which they were introduced.

Another phenomenon which has been recorded a number of times is that of a plant which has been known for a considerable time in one area and which relatively suddenly breaks out that area as a weed.

As final note it is worth re-emphasizing the point mentioned earlier, that some weedy plants were certainly selected by primitive man as crops. Amongst crops though to be have been selected and evolved from weedy ancestors are potatoes, carrots, sunflowers, barley, oats and rye; the weedy grass *Aegilops* is known to be an ancestor of modern wheat varieties. Thus weeds can be important to man in many ways, not all of them disadvantageous.

What Weeds Do?

In the general sense in which we have been using word 'weed' it is clear that what weeds do is to interfere in some way with man's use of land. The main thing which comes to mind is the interference by weeds with the growth of crops, which leads to an effect on yield, but there are other effects of weeds which are also important, though perches less obvious. Before looking in more detail at some of the effects of weeds there is one question of terminology, which it will be useful to mention. The word 'interference' in the previous paragraph was chosen deliberately for the purpose, though it is also very common for the word 'competition' to be used in relation to the effect of weeds on crop plants. There is a real difficulty here, because when a physiologist speaks of 'competition' in the biological sense there is an implicit understanding that what is meant is competition for something some factor provided by the environment which is limited in some way such that if one organism obtains it another organism is thereby deprived of it. It may well be that many weed/crop situations are like this, and there are occasions when it seems appropriate to speak in these terms, but very often what one is faced with is complex situation in which it is far from clear what is being competed for, and indeed whether 'competition' in the strict sense is taking place at all. With and other difficulties in mind Harper (1961) proposed that the more general term 'interference' should normally be used in relation to the effects of organisms on one another simply because it has a rather general meaning which is equally understood by biologists of different disciplines.

Various effects of weeds

Weeds may affect man's agricultural activities in many different ways, some of which are outlined below: Weeds may be parasitic upon crop plants. This property is not of significance, though there are few species of parasitic or semi parasitic parts of the world however examples being the species of *Striga*, *Cuscuta* sps. and the *Lepidagathis*, parasitic on sorghum and maize in India and parts of the United States.

Weeds may be unpalatable, nutritionally poor or many cause tainting of animal products, even if they are not actually poisonous.

The wild onion (*Allium Vineale*), for example, causes unacceptable flavors in meat and milk. The palatability of hay and silage may be seriously affected by some weeds.

Serious infestations of weeds may cause damage to or at least interference with the functioning of farm machinery at harvest of other times knotgrass, which has long wiry stems, which spread, close to the ground, is a good example of a weed causing this sort of difficulty.

Even if the yield of a crop is not reduced its value may be seriously affected by the presence of weeds.

This is especially likely to be true of crops grown for seed, where contamination by weeds greatly increases the cost of the cleaning operations needed. In some cases crops contaminated with more than a specified proportion of certain weeds are not acceptable as seed crops at all. Another example of this type of effect is the presence of black nightshade (*Solanum nigrum*) in crops of peas grown for the canning of freezing industries. The fruits of this plant are very much the same size and shape as peas, and as they are somewhat poisonous is an unacceptable contaminant of the harvested crop. This is a good illustration of a problem unique to a highly mechanized industry, since when peas were grown on a relatively small scale and sold in the pods there was no possibility of black nightshade's being a factor in the quality of the crop.

Weeds may act as hosts for diseases and pests which effect crop plants some specialized weeds may be important in blocking drainage ditches and channels (TINKER, 1974). Weeds may affect many man made environments other than strictly agricultural land.

Aims- 1) Aim of present work is to Study Floristic Biodiversity of Kharif Weeds in Ahemadnagar
2) To study utility of weed

Material and Method

Study Area:

Ahmednagar district, the district of Maharashtra state is located in the center of state between 18⁰ 2' to 19⁰ to 9' north latitude and 73⁰ g' to 75⁰ 5' east longitude. For present floristic study, the area of Ahmednagar town with 96 sq km area of jurisdiction of Municipal Corporation has been considered.

Ahmednagar town, headquarter of Ahmednagar district, has been famous since medieval times. Malik Ahmed, the founder of the Nizamshahi dynasty of Ahmednagar, founded it in 1494. He named the town after his own name, Ahmed. During those days, Ahmednagar was to be the capital of Nizamshahi kingdom of Ahmednagar and till 1817 it was main center of administration of southern India. it was ruled by Moguls up to 1759 and till 1817 it was under the Peshwas. The famous Ahmednagar forte is associated with the 1942 Quit India National Movement.

Ahmednagar is situated in the river 'Sina', tributary of river Bhima which originates in Bhimashankar. Thought the district experiences varied topography, climate and soils in different parts but the major area of Ahmednagar town is flat and dry. Soil in the area is coarse shallow to medium black. This area surrounding the town is fertile Agricultural tract. As such there is no any main river passing the area except Sina the tributary of river Bhima which now a days remains drier for major period of the year. Ahmednagar enjoys the general climate pattern of most tropical cites of North Maharashtra and Central India with generally dry and pleasant temperature during the most part of the year. The maximum temperature rises up to 47⁰ C in the month of May and minimum

temperature recorded to far is up to 2-3⁰ C in the month of December. The area experiences an average annual rainfall is between 500-700 mm.

As regards the botanical explorations in Ahmednagar, several people have made notable contributions, such as Billore and Hemadri (1972), Santapau (1951), Santapau and Irani (1962), Wadhwa (1970), Puri (1956-57) Rolla Rao (1960) Janardhanan (1964) most of these works resulted in enrichment of the Herbaria except few publication, like Shirke (1978). Hooker et al (1872-1897) Cooke (1909-1917) have recorded plants from Ahmednagar district in their publications. However, extensive works for the flora of the Ahmednagar district has been done by Pradhan and Singh (1999). In spite such a extensive works present investigations indicates that the plant wealth of Ahmednagar city area has not been given enough emphasis and needs more attention.

Vegetation

Vegetation of the area has undergone tremendous change during the past four decades or so. Earlier, entire area around the old city was having notable wild flora. During expansion of the city major natural vegetation was destroyed but however due to the plantation of the various plants for avenues, in the parks, gardens, traffic squares, in back yards of houses, the green cover could be retained up to some extent. In the plantation introduced plants constitute major share of vegetation within the city. Most of the open places, waste places and farm lands in outskirts of city harbor quality vegetation.

Avenue tree species include *Millingtonia hortensis*, *Jacaranda mimosifolia*, *Caesalpinia pulcherrima*, *Azadirachta indica*, *Acacia aunculiformis*, *Grevillea robusta*, *Cassia fistula*, *Delonix regia*, *Polyalthia longifolia*, *Samanea saman*, *Peltaforum ferruginum*, *Ficus benghalensis*, *Ficus glomerata*, *Ficus religiosa*, *Pongamia Pinnata*, *Spathodia companulata*, *Terminalia arjuna*. Some other plants usually employed for butification are *Homsiodia sanguinea*, *Tecoma stans*, *Caesalpinia Pulcherrima*, *Nerium indicum*, *Poinciniaregia*, *Roystonea persica*, etc.

The wild flora is mostly represented by scrubs and weeds. Few tree species present are *Acacia nilotica* ssp. *indica*, *Pithocellobium duice*, *Dalbergia sissoo*, *Melia azadirach*, *Eugenia jambolina*, *Albizia lebbek*, *Cassia fistula*, *Ficus religiosa*, *Ficus benghalensis*, *Ficus glomerata*, *Terminalia arjuna*, *Erythrina indica*, with shrub species like *Ricinus communis*, *Withania somnifera*, *Calotropis gigantea*, *Cryptostegia grandiflora*, *Adhatoda vesica*, *Ziziphus mauritiana* and herbaceous elements like *Indigofera linifolia*, *Ageratum conyzoides*, *Altermanthera tanella*, *Cleome gynandra*, *Euphorbia hirta*, *Tridax procumbens*, *Datura innoxia*, *Chrozophora prostrate*, *Boerhavia diffusa*, *Cassia sophera*, *Cassia tora*, etc. *Cynadon dactylon*, *Dichanthium Kuntzeana*, *Pennisetum* species are common grasses.

Climbers and trailers are mainly represented by *Dipocyclos palmatus*, *Pergularia daemia*, *Cardiospermum halicacabum*, *Cissampelos pareira*, *Coccinia grandis*, *Lpoemia carica*, *Lpoemia nil*, *Argyrea speciosa*, *Passiflora edulis*, *Tinospora cordifolia* etc,

The commonly occurring parasites like *Cuscuta reflexa*, *Dendrophoe falcate* are common.

The marshy and aquatic vegetation is represented by *Hydrilla verticillata*, *Ceratophyllum demersum*, *Bacopa monnieri*, *Typha angustata*, *Eichhomia crassipes*, etc.

Methodology:

The data presented here is based on extensive collections made in the different parts of Ahmednagar town and nearby areas during 2004-2006. During the fieldwork 3-4 voucher specimens of each host plant were collected and numbered. The voucher specimens were made mostly at flowering or fruiting stage and poisoned before preparing herbarium by following standard methods (Jain and Rao, 1977). Plants characters were noted in the field. Collected plant specimens were identified with the help of keys to the families, genera and species provided in reputed floras like Cooke (1958), Singh et al (2000), Pradhan and Singh (1999), etc.

Altogether 76 weeds plants have been enumerated and it includes botanical name, available synonyms, family, local name, phonological data, locality of the plant, which is followed by the notes. Finally available medicinal uses of the weed plants have been furnished which are based on the Jain, 1991, Chopra et al 1956 & 1969, Ambasta, (1992) and Kapoor, (2001), Taxonomic notes have been taken from the wills (1973) and Naik et al (2000).

For reference work libraries of Agharkar Research Institute, National Chemical Laboratory, Pune and New Arts, Commerce and Science, Ahmednagar were consulted. For information on medical properties of plants Jain (1991) and Kapoor, (2001) were consulted.

ENUMERATION**PAPAVERACEAE*****Argemone mexicana L*****Family:** Papaveraceae**Vernacular name:** pivala dhotra, bilayat**Flowering & Fruiting:** throughout the year.

Erect annual herbs, stem prickly with yellow latex. leaves sessile ablancoolate spirus dented, flowers solitary accros terminal surrounded by small leafy bracts.

Uses: Boils, ulcer, cough, dropsy, leprosy, inflammation, skin diesaes, jaundice.**PORTULACEAE*****Portulaca oleracea L*****Family:** Ver. Name: ghol**Life cycle:** Annual**Season:** All**Crop associated:** irrigated & garden crops**Soil:** All**Uses:** leafy vegetables**MALVACEAE*****Sida cordifolia*****Family:** malvaceae**Life cycal :** Annual

Season : All

Crop associated: garden crops& west land

Uses: Fodder

OXALIDACEAE

Oxalis corniculata L

Family: Oxalidaceae

Ver. Name: Ambushi

Life cycle: perennial

Season: All

Crop associated: irrigated & garden crops

Soil type: Medium to heavy

FABACEAE

Indigofera linifolia

Family: Fabaceae

Ver.Name: Godhadi

Season : Aug-Dec

LEGEUMINACEAE

Psoralea carylifolia L

Family: Legeuminoceae

Ver. Name: Bawach

Life cycle: Annual

Season: Kharif

Crop associated: irrigated & garden crops

Soil: Heavy

RHAMNACEAE

Zizipus rotundifolia Lamk

Family: Rhamnaceae

Ver. Name: Ran bor

Life cycle: perennial

Season: All

LAMIACEAE

Leucas aspera

Family : Lamiaceae

Ver name : Tamba, Dudhani

Season: Kharip



ASTERACEAE***Acanthospermum hispidum* Dc****Family :** Asteraceae**Vernacular Name:** agya**Flowering & Fruiting:** August to Feb

Much branched annual herbs, tall, all parts covered with soft hairs, leaves opposite sessile or sub sessile, ovate, cuneate at base, acute heads solitary, axillary, ray floriate with yellow ligulate corollas, female bracts oblanceolate. Limb of the corolla long, pale yellow. Central florets with tubular corollas, hairy outside pale yellow.

Uses: Antibacterial, antifungal, skin diseases fever.***Ageratum conyzoides* L****Family:** Astereceae**Vernacular name:** osadi,burandu**Flowerig & Fruting:** July-feb

Annual herb, erect, hairy, leaves ovate ,more or less hairy on both sides , apex subacute, flowers in heads small in dense corymbs, white or pale blue, common throughout along road sides, waste places & forests edges.

Uses- Fodder***Lagascea mollis* Cav****Family:** Asteraceae**Ver.name:** koriyapatta**Flowering & Fruitng :** July- Dec

Annual herbs,slender,laxly branched ,villose,leaves ovate,upper surface coarsely hairy,lower surface densly silky ,acute at apex,margins entire or serrulate.

Uses: cuts,wounds,ear complains.***Parthenium hysterophorus* L****Family:** Asteraceae**Ver. Name :** congress**Flowering & Fruiting:** Sept – Dec

Erect, profusely branched leafy herbs,stem fistular,leaves sessile,radical & alternate pinnately divided,broadly serrate,peduncle in terminals,lax corymbose,marginal floretes female,central florete male.

Uses: nasal blocks in cold***Tridax procumbens* L****Family :** Asteraceae**Ver. Name :** Dagdi pala,ek dandi

Flowering & Fruiting : Throughout the year

Annual or perennial ,erect or procumbent herbs,branched at base,leaves opposite,ovate or lanceolate,margins serrate to coarsely incised,dentate or trilobed,heads heterogamous,ray yellow.

Uses: Anticeptic,dlisters,cuts & wounds.
shaped,cottony pubescent.

Sonchus arvensis L**Family:** Asteraceae**Ver. Name:** Mhatari**Life cycle:** Annual**Season:** Rabi**Crop associated:** Peas,vegetables,garden crops**Soil type:** All types

Erect, perennial herb. Leaves chiefly in basal rosette. Heads
cottony pubescent, cymose
inflorescence. All flower yellow

Uses: cattle feed***Xanthium strumarium L*****Family :** Asteraceae**Ver. Name:** Gokhru**Life cycle:** Annual**Season:** Kharif**Crop associated:** waste lands,road side**Soil type:** Medium to heavy**CONVOLVULACEAE*****Convolvulus arvensis L*****Family:** Convolvulaceae.**Ver. Name:** Chand vel**Life cycle:** Annual**Season:** All**Crop associated:** Wheat,chick pea,pea,garden crops**Soil type:** Medium to heavy**Uses:** Roots & Rhizoms used as purgative***Ipomoea purpurea*****Family:** Convolvulaceae.**Ver. name:** Garvel**Life cycle:** perennial

Season: All

Crop associated: waste lands, roads & river sides

Soil type: All

SOLANACEAE

Datura alba L

Family : Solanaceae

Ver. Name: dhotra

Life cycle: Annual

Season: Kharif

Crop associated: waste land

Soil type: light to Medium

Uses: Medicinal

Physalis minima L

Family : Solanaceae

Ver. Name: Ran popoti

Life cycle: Annual

Season: Kharif

Crop associated: irrigated & waste lands

Soil type: light to Medium

Solanum nigrum L

Family : Solanaceae

Ver. Name : Kangoni

Flowering & Fruiting : May – June

Herbs, leaves broadly ovate, membranous, apex acute, inflorescence sub umbellate cymes, flowers white, berries globose, purplish black.

Uses: Antiseptic, anti dysenteric.

Solanum xanthocarpum

Family : Solanaceae:

Ver. Name: Kate ringni

Life cycle: Annual

Season: Kharif & Rabi

Soil type: All

Uses: Medicinal



AMARANTHACEAE***Achyranthes aspera L*****Family :** Amaranthaceae**Vernacular Name:** Aghada**Flowering & Fruiting :** August to Jan.

Erect Herbs, stems stiff, branches obtuse, four angled pubescent, leaves ovate or broadly elliptic, acute rounded or subcordate at base entire rounded, sub acute or acuminate at apex, flowers numerous on long pubescent rachis of elongating terminal spikes.

Uses: Medicinal: renal dropsis ear complaints , abortive ,colic, cough, child birth, germicide, head ache , laxative

Alternanthera sessilis(l.)DC.**Local name:** chimukata**Med:**

1. *Piles: Curry of plants leaves with *Allium sativum* bulb cloves taken orally once a day until cure.
2. To improve vision: Whole plant crushed and applied over eye lid with cow butter once a day for one week.
3. Indigestion: 20-30ml of leaf extract is taken as a soup before meal in case of indigestion.

Ed: Curry is made by tender stem and leaves.

Alternanthera tanella colla**Family:** Amaranthaceae**Vernacular name:** Reshimkata**Flowering & Fruiting :** Throughout the year

Herbs perennial, stem decumbent, appressedly hairy, leaves in sub equal pairs, ablong ovate or spatulate. flowers in axillary or terminal heads in dense clusters.

Amaranthus viridis L**Family:** Amaranthaceae**Vernacular name:** math**Flowering & Fruiting :** Sept- feb

Herbs, stem erect, leaves ovate or deltoid ovate, cuneate or truncate at base, notched at apex, flowers greenish white, in axillary clusters & axillary & terminal paniculate racemes .

Uses: medicinal: vermifuge centipede bite, digestive.

Celosia argentea L**Family:** Amaranthaceae**Vernacular name :** kurdu

Flowering & Fruiting : Aug – Feb

Herbs,erect or procumbent,leaves broadly ovate,lanciolate,elliptic or linear,inflorsence of dense,terminal spike,flowers white or pink,utricle ellipsoid tapering at the apex into style.

Uses:Fodder

Digera arvensis Forsk

Family: Amaranthaceae

Ver. Name: Kunzaru

Life cycle: Annual

Season: Kharif

Crop associated: Kharif

Uses: Leafy vegetables & as fodder for cattles.

CHENOPODIACEAE***Chenopodium album L***

Family : Chenopodiaceae

Ver. Name : Chandan bathua

Life cycle : Annual

Season: Rabi

Crop associated : Rabi crops

Soil type: Deep black

Uses: Leafy vegetable & fodder for cattles.

EUPHORBIACEAE***Acalypha indica L***

Family:Euphorbiaceae

Vernacular name: Deepmal

Flowering & Fruiting: Aug-Dec

Erect sparsely pubescent, herbs ,stem angular ,leaves broadly ovate ,elliptic ,obtuse at base, serrate acute, pubescent on veins beneath, petioles longer than the blade, flowers erect long spikes.

Uses: Laxative, skin diseases, asthma, cough

Euphorbia hirta L

Family: Euphorbiaceae

Vernacular name: Dudhi

Flowering & Fruiting: July –Dec

Herbs,perennial erect difused or prostrate,branches clothed with spreading hairs,leaves elliptic or ovate-oblong.

Uses: cough & asthma,colic,dysentery,diseases of genito urinary track

Euphorbia geniculata orteg**Family:** Euphorbiaceae**Ver. Name:** Dudhi**Flowering & Fruiting :** July – Dec

Herbs,annual,erect,leaves broadly elliptic or obovate,upper surface glabrous,lower hairy,inflorescence of terminal branched cymes .

Euphorbia thymifolia L (small leaves)**Family:** Euphorbiaceae**Ver. Name:** Dudhni(choti)**Life cycle:** Annual**Season:** Kharif & Rabi**Crop associated:** All irrigated & garden crops**Soil:** All***Phyllanthus amarus Schum & Thone*****Family :** Euphorbiaceae**Ver. Name :** Bhui Awali**Flowering & Fruiting :** July - Nov

Erect herbs,stem terete,smooth,leaves distichous,long branches,entire,apiculate,green above,petioles very short,stipules lanceolate,minute,flower small in leaf axils,pedicel less than 1 mm long.

Uses : Aphrodisiac,Jaundice**COMMELINACEAE*****Commelina benghalensis L*****Family:** Commelinaceae**Vernacular name :** kena**Flowering & Fruiting:** Sept-Dec

Procumbent herbs with trailing branches,rooting at nodes,branches pubescent lower ones often with scale leaves & cleistogamas flowers,leaves ovate ablong or sub orbicular,in equilateral at base,entire on margins,pubescent at both the surfaces,obtuse petiole short,spath funnel shaped, peduncle very short,or absent,cymes branched one flowered,lower one 1-2 flowered,inner cymes often sterile,petals blue or violate purple.

Uses: liver complains,laxative,emollient,fever,demulcent.***Commelina diffusa*****Local name:** 'Gandologi'.**Family-** Commelinaceae

Herbs; stems diffuse, 30-60 cm long, branches prostrate or subscandent. Leaves 5.0-6.5 x 0.4-

0.7 cm, lanceolate to ovate lanceolate subcordate at base, acuminate at apex. Flowers blue, in

1-3 flowered, spathaceous cymes; spathes 2.5-3.0 cm long, ovate or ovate lanceolate.

Capsules up to 0.8 cm long, oblong beaked, 3 celled. Seeds tuberculate reticulate.

Uses:

Fever: Root decoction 10-15ml given thrice a day for 3 days to treat fever.

Ed- Leaves used as vegetable and also makes pakodi

CYPERACEAE

Cyprus rotundus L

Family: Cyperaceae

Ver. Name: Nut grass, lavalala, nagarmotha

Life cycle: perennial

Soil: All

Crop associated: All irrigated & garden crops

Season: All

Uses: Essential oils (scent), Medicinal & Preparation of agar batties.

POACEAE

Cynadon dictyolon L (Pers)

Family: Poaceae

Ver. Name: Haryali

Life cycle: perennial

Season: All

Crop associated : All irrigated & garden crops

Soil type: Medium to heavy

Uses: feeding for cattles & for control of soil erosion

Heteropogon controrus

Family: Poaceae

Ver. Name: kusali gavat

Life cycle: Annual

Season: Kharif

Crop associated: waste lands

Soil type: Light to Medium

Eragrostis major

Family: Poaceae

Ver. Name: motha chiman chara

Life cycle: Annual

Season: Kharif

Crop associated: irrigated & garden crops

Soil: All

Uses: feeding for cattles

Eragrostis minor

Family: Poaceae

Ver. Name: chota chiman chara

Life cycle: Annual

Season: Kharif

Crop associated: irrigated & garden crops

Soil: All

Use: feeding for cattles

Brachiaria eruciformis

Family: Poaceae

Ver. Name: Shippi

Life cycle: Annual

Season: Kharif

Crop associated: Kharif crops

Soil: All

Uses: feeding for cattles

Setaria glauca (L) Beauv

Family: Poaceae

Ver. Name: Yellow fox tail

Life cycle: Annual

Season: Kharif

Crop associated: Maize,Jowar,Rice.

Soil: All

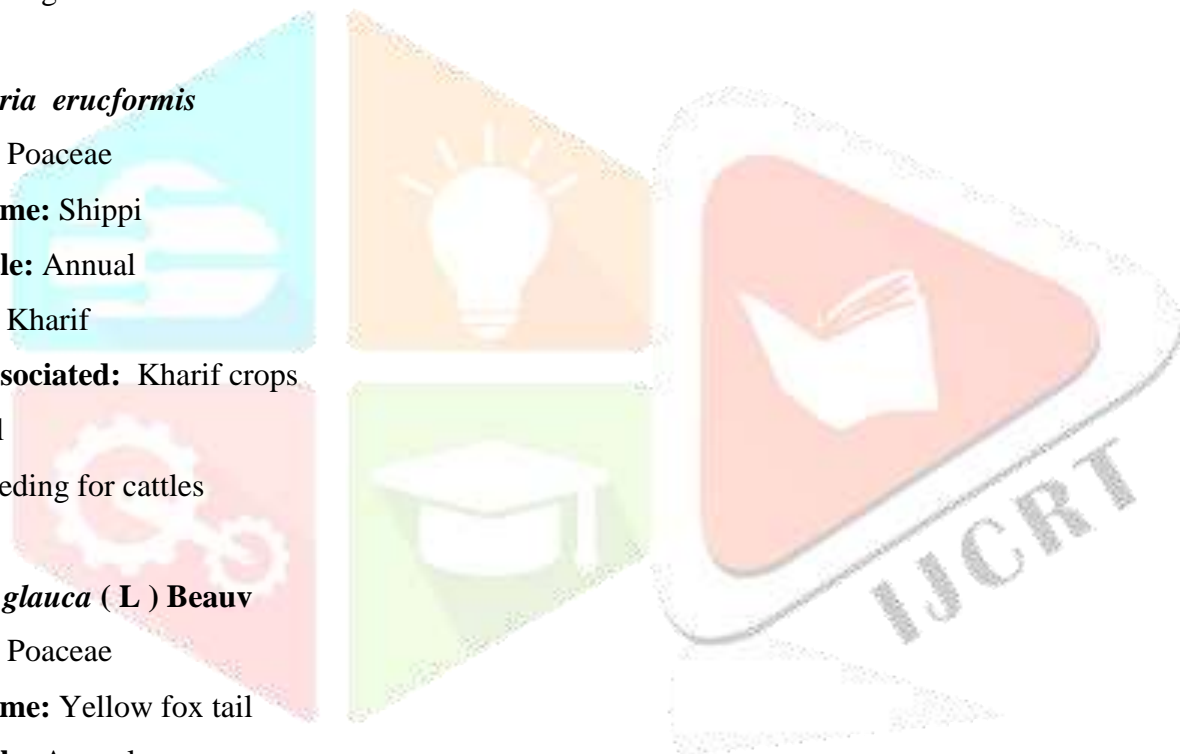


Table.1 Floristic Biodiversity of Kharif Weeds in Ahemadnagar

Sr. No.	Botanical Name	Local Name	Family	Habitat	Phenology (Flowering & Fruiting period)	Utility
1	<i>Acalypha indica L</i>	Deepmal	Euphorbiaceae	Waste land, Bund	R, W	Laxative, skin diseases, asthma, cough
2.	<i>Acanthospermum hispidum Dc</i>	Agya	Asteraceae	Waste land, Bund	R, W	Antibacterial, antifungal, skin diseases fever.
3.	<i>Achyranthus aspera L</i>	Aaghada	Amaranthaceae	Waste land Bund,	R, W	renal dropsis ear complaints abortive ,colic, cough, child birth, germicide, head ache , laxative
4.	<i>Ageratum conyzoides L</i>	Osadi	Asteraceae	Waste land, Bund	R, W	Ailments,headaches,As thma
5.	<i>Alternanthera tanella colla</i>	Reshimkata	Amaranthaceae	Waste land	R, W.S	Antiviral properties
6.	<i>Alternanthera sessilis</i>	Chimutkata	Amaranthaceae	Waste land,	R, W	In digestion, in treatment of piles
7.	<i>Amaranthus viridis L</i>	Math	Amaranthaceae	Waste land	R, W	vermifuge centipede bite,digestive
8.	<i>Argemone maxicana L</i>	Bilayat	Papaveraceae	Waste land	R, W, S	Boils,ulcer,cough,dro psey leprosy,inflammation, skin diesaes,jaundice
9.	<i>Brachiaria erucformis</i>	Shippi	Poaceae	Irrigated crops	R	Feeding for cattles
10.	<i>Celosia argenta L</i>	Kurdu	Amaranthaceae	Crop field	R	diarrhea,eye troubles & sore mouth,blood purifier.

11	<i>Chenopodium album</i>	Chandan bathua	Chenopodiaceae	Waste land, Bund, crop field	R, W, S	Leafy vegetable & fodder for cattels.
12	<i>Commelina benghalensis L</i>	Kena	Commelinaceae	Crop,waste land	R,W	In treatment of fever, liver treatment
13	<i>Commelina diffusa</i>	Gandolgi	Commelinaceae	West land,crop land	R	Leaves used as vegetable
14	<i>Convolvulus arvensis L</i>	Chandvel	convolvulaceae	Crop field	R,w	Roots and rhizomes used as purgative
15	<i>Cynodon dactylon Dub</i>	Durva	Poaceae	Waste land, Crop field, Bund	R, W	feeding for cattles & for control of soil erosion.
16	<i>Cyprus rotundus L.</i>	Lavhala, Nagarmotha	Cyperaceae	Irrigated & garden crops	R,W,S	Essential oils, Medicinal
17	<i>Datura alba</i>	Dhatura	Solanaceae	Waste land	R, W, S	Medicinal use
18	<i>Digera arvensis Forsk</i>	Kunzaru	Amaranthaceae	Waste land, crop field	R	Leafy vegetables & as fodder for cattles
19	<i>Eragrostis major</i>	Motha chimanchara	Poaceae	Irrigated & garden crops	R	Feeding for cattles
20	<i>Eragrostis minor</i>	Chhota chimanchara	poaceae	Irrigated & garden crops	R	Feeding for cattles
21	<i>Euphorbia geniculata orteg</i>	Dudhi	Euphorbiaceae	Waste land, Bund, Crop field		Fodder
22	<i>Euphorbia hirta</i>	Dudhi	Euphorbiaceae	Waste land, Bund, Crop field	R, W, S	cough& asthma,colic,dysentery,diseases of genitourinary track.
23	<i>Euphorbia</i>	Choti	Euphorbiaceae	Irrigated &	R,S,W	Dysentery,stimulant

	<i>thymifolia L.</i>	dudhani		garden crops		
24	<i>Heteropogon controrus</i>	Kusali gavat	Poaceae	Waste land	R,W	Rheumatism,wound Diuretic
25	<i>Indigofera linifolia</i>	Godhadi	Fabaceae	Waste land, Bund	R, W	Nervous disorders,liver & kidney diseases
26	<i>Ipomoea perpuria</i>	Garvel	Convolvulacea e	Crop	R,W	Use in Mental disorders
27	<i>Lagascea mollis Cav</i>	koriyapa tta	Asteraceae	Waste land	R	Cuts, wounds, ear complaints
28	<i>Leucas aspera</i>	tamba, Dudhani	Lamiaceae	Waste land& crops	R	Antioxidant, to treat scorpion bite
29	<i>Oxalis corniculata L</i>	Ambush i	Oxalidaceae	Garden crops	R,W,S	Fever,urinary tract infection,pimples
30	<i>Parthenium hysterophorus</i>	Gajarga vat	Asteraceae	Waste land, Bund	R, W, S	nasal blocks in cold.
31	<i>Phyllanthus amarus Schum & Thone</i>	Bhuinan wla	Euphorbiaceae	Waste land, Crop field, Bund	R,W	Aphrodisiac,Jaundice
32	<i>Physalis minima L.</i>	Ranpopa ti	Solanaceae	Waste land	R,W	
33	<i>Portulaca oleracea L</i>	Ghol	Portulacaceae	Irrigated &garden crops	R	Leafy vegetables
34	<i>Psoralea carylifolia L.</i>	Bawach	Leguminaceae	Crop weed, waste land	R	Antioxidant
35	<i>Setaria glauca Beauv.</i>	Chikata	Poaceae	Irrigated crops & waste land	R	Fodder
36	<i>Sida cordifolia</i>	Atibala	Malvaceae	Waste land, Bund,	R, W	Asthama Flu,headach treatment

				crop field		
37	<i>Solanum nigrum</i> <i>L</i>	Kangoni	Solanaceae	Waste land, Bund, crop field	R, W, S	Antiseptic, anti dysenteric
38	<i>Solanum xanthocarpum</i>	Bhui rigani	Solanaceae	Waste land, Bund, crop field	R, W, S	Medicinal uses
39	<i>Sonchus arvensis</i> <i>L</i>	Mhatari	Asteraceae	Waste land, Bund, crop field	R, W, S	cattle feed
40	<i>Tridax procumbens</i> <i>L</i>	Dagdi pala, ek dandi	Asteraceae	Waste land, Bund, crop field	R, W, S	Antiseptic, dlisters, cut s & wounds.
41	<i>Xanthium strumarium</i> <i>L</i>	Gokharu	Asteraceae	Waste land, crop field	R, W	Laxative, tonic, digesti ve
42	<i>Zizipus rotundifolia</i> <i>Lamk</i>	Ranbor	Rhamanaceae	Waste land	R, W	Fruits edible

Table.2 Seasonal And Floristic Biodiversity of Weeds Genus and Species

S. No.	Name of the Family	No. of Genus	No. of Sps.
1.	Asteraceae	7	7
2.	Amaranthaceae	4	6
3.	Poaceae	5	6
4.	Euphorbiaceae	3	5
5.	Solanaceae	3	4
6.	Commelinaceae	1	2
7.	Convolvulaceae	2	2
8.	Chenopodiaceae	1	1
9.	Cyperaceae	1	1
10.	Fabaceae	1	1
11.	Lamiaceae	1	1
12.	Leguminaceae	1	1
13.	Malvaceae	1	1
14.	Oxalidaceae	1	1
15.	Papaveraceae	1	1
16.	Portulacaceae	1	1
17.	Rhamnaceae	1	1
	Total	35	42

Results and Discussions

Present work is result of intensive, systematic collections made in the different parts of Ahmednagar during 2019-2020. During the present 42 angiospermic plants were collected. The work done so far on the flora of Ahmadnagar by Pradhan & Singh (1999), is not giving the correct and detailed account of weeds in the region. As we have already discussed in earlier chapters that the several plants are growing as weeds in the waste places of town are used in different systems of medicines. Aim of the present work is to prepare a data on the weed plants of Ahmednagar and to highlight their utility aspect. Such a studies may give the correct idea about the usefulness of plants which grow in the vicinity.

Altogether 42 weed plants have been enumerated and it includes botanical name, synonyms, family, local name, phonological data and locality. Finally available medicinal uses of the weeds have been furnished.

As far as weed flora is concerned the families like, Asteraceae with 7 species is on top, Amaranthaceae represents 6 weed species holds second position, Poaceae is on third position with 6 species while the family Euphorbiaceae are having 5 species . Several families are representing single species.

Total 42 species of the weeds collected are being used in the different systems of medicines for treating different ailments. There are several species, which have other uses also. This figure gives importance to the plant we consider as weeds. The aim behind these studies is to prepare a detailed account of the weed flora of Ahmednagar with emphasis on the aspect of the weed plants.

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