Medicinal Importance of Rice Crop Weeds in Banswada Region. Kamareddy District, Telangana, India

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Abstract— **Plants are playing great diversity, to help entire globe for sustainable development. In that some plants get more usage some plants are getting less usage. So less usage of plants are called weeds. Weeds also play key role in their life cycle; some weeds are more useful for fodder and medicinally. In Telangana state more rice fields are cultivated, in the same Banswada region also, when we visited rice fields so many of weeds also reported. The present investigation on Banswada region is explored intensively for a period of 6 months converting all the season during 2022-2023 and a total of 19 species *Echinochloa colona, Panicum sp, Echinochioa crus galli, Cynodon dectylon, Chloris barbata, Leptochloa chinensis, Ammania baccifera, Commelina benghalensis, Phyla nodiflora, Marselia quadrifolia, Ryellia tuberse, Phylanthes nururi, Monochoria vaginalis, Cynotis axillaris, Centella asiatica, Eclipta prostrate, Nastridiu indicum, Fimdristylis milliacea, Rotala densiflora,* reported. They belongs to 12 families. The available studies, some weeds are provided highly medicinal value, production of secondary metabolites and fodder. Weeds are used in traditional medicinal systems like ayurveda, sidda, unani and homeopathi practices.**

Key Words: Rice crop weeds, medicinal importance, Banswada-region

INTRODUCTION

Weeds are no strangers to man. They have been there ever since farmer started to cultivate crops about 10,000 BC and undoubtedly recognized as a problem from the beginning. Any plant in the field other than his crop became weed. Again the characters of certain weed species are very similar to that of wild plants in the region. Some of the crops for example including the wheat of today are the derivatives of wild grass. Man has further improved them to suit his own taste and fancy. Even today they are crossed with wild varieties to transfer the desirable characters such as drought and disease resistance. So the weeds are to begin with essential components of native and naturalized flora but in course of time these plants are well placed in new environment by the conscious and unconscious efforts of man. Hence, it is considered that many weeds principally originated from two important and major arbitrarily defined groups. One method is by men man's conscious effort. second method is by invasion of plants into man created habits.

In the world there are 30,000 weed species, out of these 18,000 sps cause damage to the crops. Johor Toll first coined the term weed in 1931 in the book "Horse Hoeing Husbandry".

Weeds are plants which grow where they are not wanted (Jethro Tull, 1731). Weeds can also be referred to as plants out of place. Weeds are unwanted or undesirable plants compete with crops for water, soil nutrients, light and space (CO_2) and thus reduce crop yields. Estimated that in general weeds because 5% loss to Agricultural production in most developed countries, 10% loss in less developed countries and 25% loss in least developed countries.

REVIEW OF LITERATURE

Agriculture is the major source of livelihood for nearly half of the Indian population. However, the productivity of crops is much lower than many countries and needs enhancement to produce 400 million tons of food grains for meeting food demands of a population of 1.7 billion by 2050. Diverse climatic conditions in India fever the most adopted weeds to prevail and cause severe crop yield losses. Weeds also degrade quality of the produce, raise cost of production; harder and serve as alternate hosts to several insect pests and diseases. *Parthenium hysterophorus L., Phalaris* minor *Retz, Leptochloa chinensis* (L.) *Nees, Echinochloa* species, weedy rice, *Lantana camara L., Chromolaena odorata* (L.) R.M.

King & H Rob. *Mikania micrantha* Kunth., are a few of many major weeds of concern currently in India. Weed management in India is critical to improve crops productivity by minimizing weeds caused crop yield losses and to alleviate other adverse effects of weeds in different ecosystems. In spite of the progress made in evolving weed management technologies for different crops and other ecosystems, weeds continue to be a concern in varying ecosystems.

The real challenges of Indian weed research are: managing weeds in small farms; non availability of labour and mechanical tools; inadequate information on weed biology and shifts in weed flora; herbicide resistant weeds; lack of understanding on the impact of climate change on weeds and weed control; popularizing integrated weed management with herbicides use by ensuring safe use to avoid adverse effect on human health, environment and avoid weeds developing herbicide resistance and prevention of entry and management of alien invasive weeds. The greatest opportunity of Indian weed science is the potentiality of appropriate weed management technologies to substantially improve the crops productivity. Thus, weed scientists have a greater role to play in the development, popularization and adoption of location specific effective, economical and eco-friendly weed management technologies for different ecosystem s of India (Abdusslam Elmogasapi et al. 2020).

MATERIALS AND METHODS

Field study in the present investigation on Banswada division is explored intensively for a period of 6 months converting all the season during 2022-2023 and a total of 19 species field numbers comparing 62 specimens were collected. The exploration trips were conducted covering all parts of Banswada region. Every plant was collected in triplet placates either with flowering or fruiting stage and every attempt was made to study the habitat, habit, colour, of the flower, flowering and fruiting season, frequency of distribution. Relative abundance, local names, economic importance of the individual species information on medicinal uses of some plants were collected and investigated field numbers were given for every specimen collected and all the above information was recorded carefully in the field itself and was taken in collecting small herbs, aquatic species, etc.

Herbarium preparation

The collected specimens were poisoned, pressed, dried and stitched on herbarium sheets according to the mythology described in the specimens were collected in well-tired thick polythene bags. Dry alcohol – mercuric chloride method was adopted in poisoning the specimens. The whole plants in case of grasses and, and small herbs not exceeding 50 cm or twinges were dipped in saturated solution of mercuric chloride in ethyl alcohol. Immediately they were placed in between blotting papers with the help of iron plant pressers. After 24 hours, blotting papers were changed and the specimens were spread specimens were changed once again into dried blotting papers and tired in iron pressers. This process of changing was continued until the specimens were completely dried. The poisoned pressed and dried specimens were pasted with glue on a standard herbarium sheet only one specimen form the collected quadruplicates was pasted on the herbarium sheet, while the rest were kept as stock. Department of Botany Page15 Labels with relevant information such as name of the plant, family locality, altitude, date of collection and collectors name were affixed on the right hand bottom corner of the mounted sheet.

RESULTS AND DISCUSION

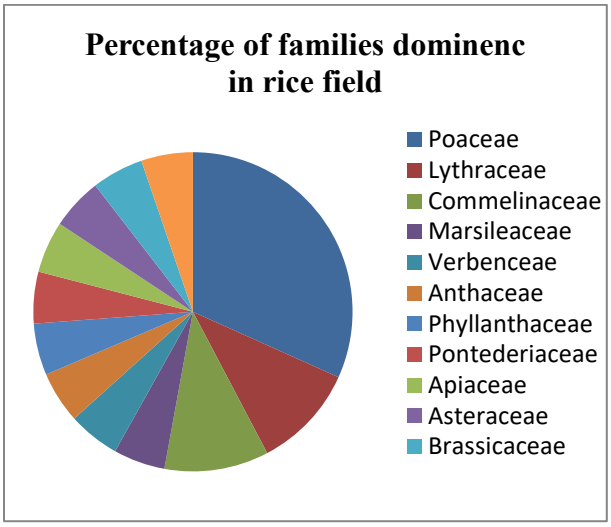
Rice weeds and medicinal importance

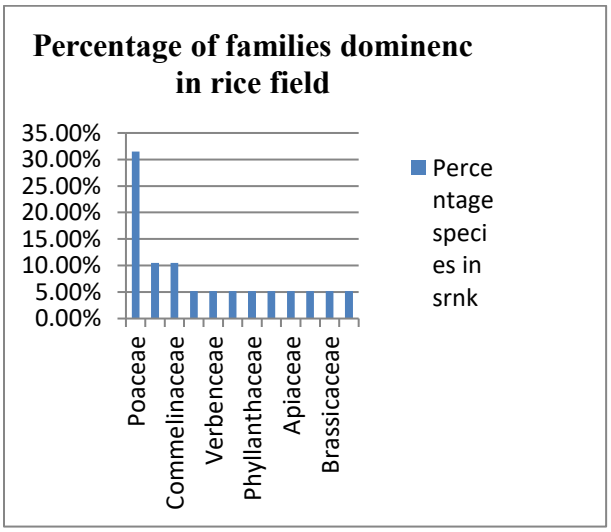
S. No	Weed Common Name	Scientific Name	Family	Medicinal Uses
01	Jungli	*Echinochloa colona*	Poaceae	Used in Ayurveda for many ages to treat various digestion related issues.
02	Panic grass	*Panicum sp*	Poaceae	Ant rheumatic, cough, Medicine, Pulmonary aid, and throat aid.
03	Cocksp ur	*Echinochioa crus galli*	Poaceae	Treatment of weak heart combined with high bold pressure.
04	Bermu da grass	*Cynodon dectylon*	Poaceae	It is used to Alzheimer's disease, improving memory, anxiety.
05	Windm ill grass	*Chloris barbata*	Poaceae	It provides food sources for small animals and birds.

06	Red Sprang letop	*Leptochloa chinensis*	Poaceae	Nil
07	Monarch red stem	*Ammania baccifera*	Lythraceae	It used to ayurveda the herbal extract is a good remedy for tuberculosis and typhoid fever.
08	Bengal day flower	*Commelina benghalensis*	Commelinaceae	As a laxative and to cure inflammations of the skin as well as leprosy.
09	Frog fruit	*Phyla nodiflora*	Verbenceae	The plant used for ulcers, tumours
10	Pepper wort	*Marselia quadrifolia*	Marsileaceae	The young leaves be eaten as greens, added raw to alas or boiled for 10 minutes. The young fruits can be used as a spice.
11	Minnie root	*Ryellia tuberse*	Acanthaceae	It has been used for diuretic, anti diabetic, anti pyretic, anti hypersensitive.
12	Stonebreaker	*Phylanthes nururi*	Phyllanthaceae	Cure for kidney stones.
13	Pickerel	*Monochoria vaginalis*	Pontedeiaceae	Good food soured for aquatic and terrestrial animals.
14	Spreading dayflower	*Cynotis axillaris*	Commelinaceae	Nil
15	Indian penny wort	*Centella asiatica*	Apiaceae	It is used in ayurvedic medicine in India for wound hilling mental disorders and arteriosclerosis.
16	Gunta	*Eclipta prostrata*	Asteraceae	Benefits for hair.
17	Watercress	*Nastridiu indicum*	Brassicaceae	Short-term swelling of the airways in the loony flu arthritis baldness.
18	Lesser fimbridtylis	*Fimdristylis milliacea*	Cyperaceae	It has used in turf.
19	Dwarf Rotala	*Rotala densiflora*	Ythrceae	Used as background plant.

Percentage of families' dominance in rice field

S.No	Family	Plants \ Trees in the family	Percentage species in Banswada region
1	Poaceae	*1.Echinochla colona.* *2.Panicum species.* *3.Echinochloa crus galli.* *4.Cynodon dactylon.* *5.Chloris barbata.* *6.Leptochloa chinensis.*	31.5%
2	Lythraceae	*1.Ammania bacciferia.*	10.5%
		2.Rotala densiflora.	
3	Commelinaceae	*1.commelin bengalensis.* *2.cytisis axillais.*	10.5%
4	Marsileaceae	*1.marselia quadrifollia.*	5.2%
5	Verbenceae	*1.Phylo Nodiflora.*	5.2%
6	Anthaceae	*1.Rucllia tuberose.*	5.2%
7	Phyllanthaceae	*1.Phylanthus niruri.*	5.2%
8	Pontederiaceae	*1.Monochoria vaginalis.*	5.2%
9	Apiaceae	*1.Centellaasiatica.*	5.2%
10	Asteraceae	*1.Eclipta asiatica..*	5.2%
11	Brassicaceae	*1.Nastridium Indicum.*	5.2%
12	Cyperaceae	*1.Fimbristylis miliaceae.*	5.2%





In rice fields total 19 species were reported belongs to 12 families. *Echinochloa colona, Panicum sp, Echinochioa crus galli, Cynodon dectylon, Chloris barbata, Leptochloa chinensis, Ammania baccifera,*

Commelina benghalensis, Phyla nodiflora, Marselia quadrifolia, Ryellia tuberse, Phylanthes nururi, Monochoria vaginalis, Cynotis axillaris, Centella asiatica, Eclipta prostrate, Nastridiu indicum, Fimdristylis milliacea, Rotala densiflora. These families dominance is poaceae 31.5%, Lythraceae 10.5%, Commelinaceae 10.5%, Marsilaceae 5.2%, verbenceae 5.2%, Anthaceae 5.2%, Phyllanthaceae 5.2%, Pontederiaceae 5.2%, Apiaceae 5.2%, Asteraceae 5.2%, Brassicaceae 5.2%, Cyperaceae 5.2% is recorded.

CONCLUSION

The present study mainly focus on rice weed flora, the rice weed flora mainly helps to identification of the general flora. With progress in time the total 19 species were reported. In that some weeds 17 are medicinally important, some are not 2. As per the available studies, some weeds are provided highly medicinal value, production of secondary metabolites and fodder. Weeds are used in traditional medicinal systems like ayurveda, sidda, unani and homeopathi practices. The present study focused on importance of weed and there life cycle recorded. Hence in the present investigation the rice fields reported 19 species belongs to 12 families. In rice fields the *poaceae* family weed species are dominate (31.5%). *Cyperaceae* family weed species are dominating (5.2%).

RECOMMENDATIONS

Public awareness must be increase among the people about weed flora know and share the knowledge about weeds and uses. Identify the medicinal plants, medicinal properties and uses. Conserve the important and endangered plants. Environmental ministry can play a vital role as well as NGOs, Research institutes, and government authorities.

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