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Weed Flora of Beawar District, Rajasthan

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ABSTRACT: In Beawar, you can find Honey mesquite, Yellow velvetleaf, Cardboard palm, Guava, Garden croton, and more! There are 20 types of weeds in total. A weed is a plant considered undesirable in a particular situation, growing where it conflicts with human preferences, needs, or goals.[1][2][3][4] Plants with characteristics that make them hazardous, aesthetically unappealing, difficult to control in managed environments, or otherwise unwanted in farm land, orchards, gardens, lawns, parks, recreational spaces, residential and industrial areas, may all be considered weeds.[4][2][5] The concept of weeds is particularly significant in agriculture, where the presence of weeds in fields used to grow crops may cause major losses in yields.[6] Invasive species, plants introduced to an environment where their presence negatively impacts the overall functioning and biodiversity of the ecosystem, may also sometimes be considered weeds

KEYWORDS: weeds, flora, Beawar, Rajasthan, types

I. INTRODUCTION

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 wanted. Some plants that are widely regarded as weeds are intentionally grown in gardens and other cultivated settings. For this reason, some plants are sometimes called beneficial weeds. Similarly, volunteer plants from a previous crop are regarded as weeds when growing in a subsequent crop. Thus, alternative nomenclature for the same plants might be hardy pioneers, cosmopolitan species, volunteers, "spontaneous urban vegetation," etc.[9][1,2,3]

Although whether a plant is a weed depends on context, plants commonly defined as weeds broadly share biological characteristics that allow them to thrive in disturbed environments and to be particularly difficult to destroy or eradicate. In particular, weeds are adapted to thrive under human management in the same way as intentionally grown plants.[1] Since the origins of agriculture on Earth, agricultural weeds have co-evolved with human crops and agricultural systems, and some have been domesticated into crops themselves after their fitness in agricultural settings became apparent.[10]

More broadly, the term "weed" is occasionally applied pejoratively to species outside the plant kingdom, species that can survive in diverse environments and reproduce quickly; in this sense it has even been applied to humans.[11]

Weed control is important in agriculture and horticulture. Methods include hand cultivation with hoes, powered cultivation with cultivators, smothering with mulch or soil solarization, lethal wilting with high heat, burning, or chemical attack with herbicides and cultural methods such as crop rotation and fallowing land to reduce the weed population

"Weed" as a category of plant overlaps with the closely related concepts of ruderal and pioneer species.[22] Pioneer species are specifically adapted to disturbed environments, where the existing plant and soil community has been disrupted or damaged in some way. Adaptation to disturbance can give weeds advantages over desirable crops, pastures, or ornamental plants. The nature of the habitat and its disturbances will affect or even determine which types of weed communities become dominant.[23] In weed ecology some authorities speak of the relationship between "the three Ps": plant, place, perception. These have been very variously defined, but the weed traits listed by H.G. Baker are widely cited.[24][25]

Examples of such ruderal or pioneer species include plants that are adapted to naturally-occurring disturbed environments such as dunes and other windswept areas with shifting soils, alluvial flood plains, river banks and deltas, and areas that are burned repeatedly.[26] Since human agricultural and horticultural practices often mimic these natural disturbances that weedy species have adapted for, some weeds are effectively preadapted to grow and proliferate in human-disturbed areas such as agricultural fields, lawns, gardens, roadsides, and construction sites. As agricultural practices continue and develop, weeds evolve further, with humans exerting evolutionary pressure upon weeds through manipulating their habitat and attempting to control weed populations.[10]

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Due to their ability to survive and thrive in conditions challenging or hostile to other plants, weeds have been considered extremophiles

Honey mesquite
Prosopis glandulosa
Also known as : Algarroba
Honey mesquite (Prosopis glandulosa) is a species of thorny shrub related to legumes. It grows throughout Beawar and has become invasive in Africa and Australia. In some locations honey mesquite can grow to the height of a large tree; one famous example at Smoke Tree Ranch in California measures 12 m tall.

Yellow velvetleaf
Limnocharis flava
Found in Beawar, yellow velvetleaf has been naturalized to various parts of South and Southeast Asia, where it has gone feral in several regions. It grows in the shallows of swamps[4,5,6] and wetlands, and can sometimes be found invading rice fields as a weed. It is sometimes used as a weeding in freshwater aquariums, but has been banned for sale in several regions.

Cardboard palm
Zamia furfuracea
Also known as : Mexican cycad, Cardboard sago
Cardboard palm (Zamia furfuracea) is a tropical shrub that is not a true palm, but a cycad. Cardboard palm is an ancient weed that lived during the age of the dinosaur. It is often weeded as a houseweed and needs moderate to bright light. The entire weed is poisonous, but the seeds are deadly and should be kept away from pets.

II. DISCUSSION

Guava
Psidium guajava
Also known as : Tropical guava, Yellow guava
Guava (*Psidium guajava*) is a fruit-producing evergreen shrub that grows natively in Beawar. Guava attracts the honey bee and other insects, and guava fruit is edible. Additionally, guava wood is used for smoking meat.

Garden croton
Codiaeum variegatum
The garden croton is a showy tropical display that does well indoors or in warm climates. Known for its attractive foliage, this weed can have both color and structural variations in its leaves. Leaf colors can include orange, yellow, scarlet, white, and green, and many times all are present on one weed.

Pygmy date palm
Phoenix roebelenii
Also known as : Dwarf date palm, Robellini
Pygmy date palm (Phoenix roebelenii) is a palm species native to Beawar. Pygmy date palm is commonly cultivated as an indoor houseweed. This weed requires direct sunlight for optimal growth. In nature, it grows alongside rivers.[7,8,9]

III. RESULTS

Due to their evolutionary heritage as disturbance-adapted pioneers, most weeds exhibit incredibly high phenotype plasticity, meaning that individual plants hold the potential to adapt their morphology, growth, and appearance in response to their conditions.[22] The potential within a single individual to adapt to a wide variety of conditions is sometimes referred to as an "all-purpose genotype."[28] Disturbance-adapted plants typically grow rapidly and reproduce quickly, with some annual weeds having multiple generations in a single growing season. They commonly have seeds that persist in the soil seed bank for many years. Perennial weeds often have underground stems that spread under the soil surface or, like ground ivy (Glechoma hederacea), have creeping stems that root and spread out over the ground.[29] These traits make many disturbance-adapted plants highly successful as weeds.[22]

On top of the ability of individual plants to adapt to their conditions, weed populations also evolve much more quickly than older models of evolution account for.[28] Once established in an agricultural setting, weeds have been observed to undergo evolutionary changes to adapt to selective pressures imposed by human management. Some examples

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include changes in seed dormancy, changes in seasonal life cycles, changes in plant morphology, and the evolution of resistance to herbicides.[10] Rapid life cycles, large populations, and ability to spread large numbers of seeds long distances also allow weed species with these general characteristics to evolve quickly.[10,11,12]

The concept of weeds also overlaps with the concept of invasive species, both in the sense that human activities tend to introduce weeds outside their native range, and that an introduced species may be considered a weed. Many weed species have moved out of their natural geographic ranges and spread around the world in tandem with human migrations and commerce. Weed seeds are often collected and transported with crops after the harvesting of grains, so humans are a vector of transport as well as a producer of the disturbed environments to which weed species are well adapted, resulting in many weeds having a close association with human activities.[31][32]

Some plants become dominant when introduced into new environments because the animals and plants in their original environment that compete with them or feed on them are absent; in what is sometimes called the "natural enemies hypothesis", plants freed from these specialist consumers may become dominant. An example is Klamath weed, which threatened millions of hectares of prime grain and grazing land in North America after it was accidentally introduced. The Klamathweed Beetle, a species that specializes in consuming the plant, was imported during World War II. Within several years Klamath weed was reduced to a rare roadside weed.[33][34] In locations where predation and mutually competitive relationships are absent, weeds have increased resources available for growth and reproduction. The weediness of some species that are introduced into new environments may be caused by their production of allelopathic chemicals which indigenous plants are not yet adapted to, a scenario sometimes called the "novel weapons hypothesis". These chemicals may limit the growth of established plants or the germination and growth of seeds and seedlings.[35][36] Weed growth can also inhibit the growth of later-successional species in ecological succession. [37]

Introduced species have been observed to undergo rapid evolutionary change to adapt to their new environments, with changes in plant height, size, leaf shape, dispersal ability, reproductive output, vegetative reproduction ability, level of dependence on the mycorrhizal network, and level of phenotype plasticity appearing on timescales of decades to centuries.[38] Invasive species can be more adaptable in their new environments than in their native environments, occupying broader ranges in areas where they are invasive than in areas where they are native. Hybridization between similar species can produce novel invasive plants that are better adapted to their surroundings. Polyploidy is also observed to be strongly selected for among some invasive populations, such as Solidago canadensis in China. Many weed species are now found almost worldwide, with novel adaptations[13,14,15] that suit regional populations to their environments

Tree tobacco
Nicotiana glauca
Also known as : Tobacco , Tobacco Bush, Tobacco Tree, Mustard tree, Glaucous-leaf tobacco
Tree tobacco (Nicotiana glauca) is a wild tobacco species native to Beawar. On other continents, tree tobacco is considered an invasive species. All parts of this weed are poisonous.

European fan palm
Chamaerops humilis
Also known as : Mediterranean dwarf palm, Palmetto
European fan palm (Chamaerops humilis) is a palm species native to Beawar. European fan palm grows at a latitude that is farther north than any other similar species. Palms can be utilized commercially to make woven goods like baskets.

Dwarf umbrella tree
Schefflera arboricola
Also known as : Umbrella tree
Dwarf umbrella tree (*Schefflera arboricola*) is an evergreen, multi-stemmed shrub native to China. It is commonly grown as a houseweed or a garden weed in milder climates for its decorative palmate compound leaves. The leaves contain calcium oxalates, [16,17,18]which can damage internal organs when ingested. It shouldn't be confused with the Australian umbrella tree, *Schefflera actinophylla*.

Flax
Linum usitatissimum
Also known as : Linseed

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Flax (Linum usitatissimum) is a slender straight and narrow-leafed annual that produces sky-blue flowers in summer. After blooming each flower produces a seed pod of 4 to 10 seeds. Flax is cultivated for its fiber linseed oil and edible seeds. It prefers full sun and cool weather and will grow from 61 to 91 cm tall.

Egyptian grass
Dactyloctenium aegyptium
Also known as : Crowfoot grass, Crowsfoot grass, Durban crowfootgrass
Egyptian grass is native to Africa and can function to anchor loose soil or sand. Because it always shows up on barren land and grows quickly, it is considered an invasive species in the United States and some other regions.

Bird's-nest fern
Asplenium nidus
Also known as : Nest fern
Bird's-nest fern (Asplenium nidus) is a fern species native to Beawar. The common name bird's-nest fern refers to the weed's central rosette where the fern's fronds unfurl. This part of the weed resembles miniature bird eggs.

Maypop
Passiflora incarnata
Also known as : Wild apricot, True passionflower
Maypop (Passiflora incarnata) is a perennial vine that grows quickly and is native to the Beawar. It can be used commercially as a flavoring agent, and the fruit has traditionally been used in making sweet items, such as juices, pies, and desserts. Maypop is highly flammable, so it should not be weeded near the house in areas prone to wildfires.

Golden shower tree
Cassia fistula
Also known as : Golden rain, Indian laburnum, Golden shower, Purging fistula
Golden shower tree (Cassia fistula) is a weed that is found in tropical and subtropical regions. It is at its peak during the middle of the summer. Golden shower tree is both the national flower and tree of Beawar. The Latin name "Cassia" comes from "Kassia", which means "fragrant weed." It holds a sacred place in scriptures like the Ramayana and Mahabharata.

Yellow butterfly palm
Dypsis lutescens
Also known as : Golden cane palm, Yellow palm
Yellow butterfly palm (Dypsis lutescens) is a flowering weed that originated in Madagascar. Other common names for yellow butterfly palm are golden cane palm and yellow palm. In tropical regions it's grown as an outdoor weed for ornamental horticulture. In temperate regions its grown indoors as a houseweed.

Glory bower
Volkameria inermis
Also known as : Wild Jasmine, Sorcerers bush
Glory bower (Volkameria inermis) can be found growing natively in Beawar, India, Australia, and some Pacific Islands. Its evergreen branches can take the form of a bush or a climber. Its tough nature and good response to trimming make it a great selection for creating topiaries or hedges. The flowers are so fragrant that they often overwhelm other scents in the area!

Devil's trumpet
Datura metel
Also known as : Downy thornapple, Hindu datura, Thornapple, Sacred datura, Angel's trumpet
Devil's trumpet (Datura metel) is a highly toxic annual species. Devil's trumpet ingestion can cause headaches, hallucinations, coma, and death. In spite of its toxicity, it is sometimes grown as an ornamental flower.

Banyan tree
Ficus benghalensis
Also known as : Banyan fig
Banyan tree (Ficus benghalensis) is a tree species that germinates in cracks and crevices of other trees or structures. Banyan tree grows by emitting aerial roots and forming a canopy. The banyan tree is the national tree of the Republic of India and has religious significance.

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IV. CONCLUSION

Evergreen spindle
Euonymus japonicus
Also known as : Dwarf Japanese Euonymus , Golden euonymus, Japanese spindle
Evergreen spindle(Euonymus japonicus) is a popular ornamental evergreen shrub with numerous cultivars. Due to its [19]superb adaptability and decorative looks, evergreen spindle can be found in parks and gardens all over the world. Its flowers produce a lot of nectar, which makes this weed very attractive to bees.

Holy basil
Ocimum tenuiflorum
Also known as : Hot Basil, Tulasi
Holy basil (Ocimum tenuiflorum) is a fragrant herb that's indigenous to India. It's a popular ingredient in Thai cuisine. When used for this purpose, it's called Thai holy basil. Adherents of the Vaishnava strain of Hinduism use it in religious ceremonies. Holistic practitioners worldwide place immense value on the aromatic essential oil derived from the weed.[20]

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