Pathogenic classification of parasitic diseases in plant.

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Abstract

Infection of plants occurs when spores of the pathogen fall on susceptible host leaves or stems and germinate, each spore producing a germ tube. Tubes grow on the surface of the host until an opening is found. The tube then penetrates the host, spreading branches between the host's cells and forming a hypha within the penetrated tissue. The germ tube of some fungi produces a special compression organ called the aspersorium, from which microscopic needle-like pins compress and pierce the epidermis of the host. After invasion, the mycelium develops in the usual way.

Keywords: Infection, Epidermis, mycelium, Parasitic plants.

Introduction

Many parasitic fungi absorb food from host cells through hypha walls that are pressed against the cell walls of the host's internal tissues. Others produce suckers (specialized absorptive structures) that branch off from the intercellular hypha and enter the cell itself. Austria can be short bulbous projections or large branching systems that occupy the entire cell and are characteristically produced by obligate (that is, always parasitizing) parasites. Some facultative (i.e., occasional parasitic) parasites also produce them. Essential parasites that require a living cytoplasm and require highly specialized nutrition are extremely difficult and often impossible to grow in laboratory culture dishes. Examples of obligate parasites are downy mildew, powdery mildew and rust.

Parasitic plants are classified according to where they attach to the host (root or stem), amount of nutrients required and photosynthetic capacity. Some parasitic plants can locate host plants by detecting volatile chemicals in the air or soil that is emitted by host shoots and roots, respectively. About 4,500 species of parasitic plants are known in about 20 families of flowering plants.

Parasitic behaviour evolved independently about 12–13 times in angiosperms. This is a classic example of convergent evolution. About 1% of all angiosperm species is parasitic and highly host dependent. The Orobanchaceae taxonomic family (which includes the genera *Triphysaria*, *Striges* and *Orobanche*) is the only family to include both parasitic and hemi parasitic species, making it a model group for studying the evolutionary rise of parasitism. The remaining groups include only hemi parasites or animal parasites.

The evolutionary event that led to plant parasitism was the development of historian. The first and oldest historian is thought to resemble those of facultative hemi parasites within *Triphysaria*. In these species, lateral historian develops along the root surface. Subsequent evolution led to the development of terminal or primary historian at the tips of juvenile roots, seen in obligate hemi parasitic species within Striges. Finally, zooparasites, as seen in the genus Orobanche, have always been a form of obligate parasites and evolved through loss of photosynthesis.

To maximize resource utilization, many parasitic plants have evolved self-incompatibility' to avoid infesting themselves. Other plants, such as *Triphysaria*, usually avoid infesting other members of the same species, but some parasitic plants have no such restrictions. Albino redwood is a mutant of Sequoia sempervirens that does not produce chlorophyll. They feed on sugars from neighbouring trees, usually the parent tree where they have grown (due to somatic mutation).

When we think of parasites, we usually think of lower plant species such as bacteria, fungi and nematodes. However, many flowering and seed plants are parasitic on other plants. Parasitic seed plants vary widely in their dependence on hosts. The more independent ones, called hemi parasites or hemi parasites, have chlorophyll and roots and can make their own food. However, dissolved minerals and organic matter are dependent on the host. Others, such as mistletoe, have chlorophyll but are rootless and dependent on the host for minerals and water. is completely dependent on the host for its existence.

Conclusion

Parasitic plants are important obstacles to crop production and productivity, especially in perennial horticultural crops. In addition to their direct influence as modulators of source-sink balances, they are also known vectors of intractable pathogens such as viruses and phytoplasmas. However, plant scientists do not seem to give these multifaceted pests as much or more attention than other pests such as pathogens and insectivores.

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***Received:** 11-Jan-2023, Manuscript No. AAPDDT-23-87427; **Editor assigned:** 12-Jan-2023, PreQC No. AAPDDT-23-87427(PQ); **Reviewed:** 25-Jan-2023, QC No. AAPDDT-23-87427; **Revised:** 26-Jan-2023, Manuscript No. AAPDDT-23-87427(R); **Published:** 27-Jan-2023, DOI: 10.35841/2591-7846-8.1.132*

***Citation:** Zhang R. Pathogenic classification of parasitic diseases in plant. J Parasit Dis Diagn Ther 2023; 8(1):132*

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Citation: *Zhang R. Pathogenic classification of parasitic diseases in plant. J Parasit Dis Diagn Ther 2023;8(1):132*