WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 5, 312-315. Review Article ISSN 2277– 7105

ZYGOMYCETES FUNGI AMAZING GROUP

Dr. Teena Agrawal*

Assistant Professor, Banasthali University, Niwai.

Article Received on
03 Jan. 2018,

Revised on 24 Jan. 2018,
Accepted on 14 Feb. 2018,

DOI: 10.20959/wjpr20185-11127

***Corresponding Author**
Dr. Teena Agrawal
Assistant Professor,
Banasthali University,
Niwai.

ABSTRACT

Mycology is the sciences of the botanical sciences which are concerned with the all aspects of the fungal biology as well as the cultivation and the propagation of the fungi of the commercial importance. They have the long history from the time of the roman and the babylones. They have been classified various way and they have many of the features of the great taxonomic values. Cumulatively they been grouped as the zygomycetes, Basidiomycetes, Deuteromycetes Ascomycetes. In this review article we are presenting some of the aspects of the class Zygomycetes, which is famous for the formation of the zygospores which is the resting body and they have the coenocytes mycelium, they are the saprophytes as well as the parasites, they produces the many dieases of the commercial values. However many previous workers done the extensive research work on the zygomycetes but in the recent era many more phylogenetic work on the zygomycetes have been done. The group is very valuable from the phyogenetic point of view.

KEYWORDS: Zygomycetes, parasites, saprophytes, taxonomic values, coenocetic mycelium.

INTRODUCTION

Fungi are the heterothallic, they are the important member of the fungal kingdom, they lack the pigments of photosynthesis, so mode of the nutrition of the fungi is the either the saprophytic or the parasitic, fungi cause the dieses in the plant kingdom and they form the branches of the botany termed as the plant pathology. The severe smut, rust, blast and the mildew, whether they are the downy mildew and the powdery mildew they cause the severe epidemics in the remote past. Many of the plant dieses are responsible for the famous outbreaks in the history, like the downy mildew and the powdery mildew of the wheat; late blight of the potato is also is the reason of the several outbreak of the Europe famine, which

causes the displacement of the large population from the country. However whatever may be the written regarding the plant pathology is very less.[1,2,3,5] Her in this review articles we are presenting some of the aspects of the class known as the Zygomycetes. The main features of the zygomycetes are the development of the resting spores known as the Zygospores, the zygospores develops in the resting body known as the zygosporagium, the mycelium is the coenocytic, asexual reproduction by the sporagiospores, absence of the flagellate cells and centrioles, the mycelium of the some of the species of the Zygomycetes consists of the Coenocytic mycelium, the wall of the mycelium is consist of the chitin walls, however in some of the genera the mycelium is very much reduces and they have one or more of the septa, some of the species of the zygomycetes have the capacity to have the dimorphic mycelium.[3,5]

Asexual reproduction is by the sporangiospores and conidia. The mycelium have the typical columellate sporagiospores. The entire mycelium of the Zygomycets has the cleavage septa and they form the minute septa. The sizes of the spores are of the taxonomical values, some time they have been considered as the sporangiola. The sizes of the sporangial are of the great taxonomic values.[3,4,5]

As group the members of the Zygomycetes can be isolated from the Varity of the substrate like the soil, dung and fruit, flower, stored grain and the fleshy organs, mushrooms, invertebrates and the vertebrates.[3,5]

Nutritional values ranges from the saprobes to the facultative week parasitism to specialised parasitism as well as the some of the arthropods, additionally some of the species as the mycorrizal attachments.[5,3]

Additionally some of the species of the Zygomycetes have been called as the sugar fungi. Mucorales is the largest order of the class Zygomycetes, however apart from them about the seven other orders of the zygomycetes also have been listed. Number of the orders is variables according to the different peoples.[1,2,3]

Mucor species have the aseptate mycelium; the mycelium is the well developed. The mycelia have the pores and they lack the additional plugs.[4,5]

Mucrlaes can be separated from other orders of the Zygomycetes by the combination of the asexual and the sexual reproduction structures and they have the non relative specialization from the other structures. The differences between the the structure can be seen relatively.

Most genera of the Mucorales are found on the dung, humid environment, humus and other organic environment, overall they are the saprobes. Some of the genera of the Mucorales are enlisted as the, *Choanephora cucurbitatirum*, is the pathogenic mucorales which attacks the flower and the fruits of the cucurbits and produces considerable damage to the crops.

Rhizopus stolonifers are also causes the soft rot of the potato and they cause the considerable damage at the time of the shipping and the storage.[5]

Mucor racemosus also causes the storage rots of the fruits and the vegetables.[5]

Some genera of the Mucorsales are of the great values they produces the organic acids, and the chemical and the food items, some of the species of the Mucorales are capable of producing the enzymes, such as the amylases, resins, organic acids, and many valuable secondary metabolites.[5]

For examples *the Rhizopus stolonifer* have been used for the production of the acid fumaric acid and some of them have been used for the production of the cortisone. Some of the Mucareous species have been used for the production of the oxalic acid, citric acid, succinic acid, oxalic acid.[1,2,5]

Some of the species of the Mucoracaus fungi produces the coenocytic mycelium, the protoplasmic stream of the mycelium is like the typical of the zygomycetes. Some of the species of the Mucorales also produces the rhizoids, which do the work of the attachment of the fungal mycelium on the surface.

Asexual reproduction

Spore are produces on the short of the sporangia and they are also produced on the sporagiola, the order Mucorales also produces the Homothallic and the heterothallic mycelium, that produces the zygopsores, the mycelium is produces on the zygophores, which produces the zygosporangium, the fusion of the zygosporagium, produces the zygospores.

The order Mucorales are also famous for the discovery of the phenomenon of the heterothallism by the Blakeslee, they discovered the first time that heterothallism like process also occur in the Mucorales.[5]

The order Mucorales have been classified by the various way but in this classification by the Benny and the benzamein, (1993) following families of the orders have been discussed, Mucoracae family, gilberataceae family, dicranophoracae family, sanaceaecfamily, phycomycetacae family, absidacae family, mortierelaceae family, pilobolaceae, chonaehporaace family, thamnidiaceae family, cunnihgmillaceae family, Mycotyphaceae family, syncehpastaraceae family.[5]

CONCLUSION

Overall this is the short review of the zygomycetes and its one order Mucorales, we have presented some of the features of the order as well as the class, well the class have the many more features of the taxonomic and the commercial values, the phylogeny of the order is also of the great values, and it needs the more taxonomic revision as well as the more detailed work so find out the places where the family exist in the natures. Still many habitats exist in the nature where theses fungi have the places and they need the more investigations. This review is valuable for the students who are studying the fungi for the zygomycetes class for the initial purposes.

REFERENCES

1. Zygomycota at the Tree of Life Web Project.
2. Zygomycetes.org.
3. List of all Zygomycetes species from Zygomycetes database by PM Kirk in Catalogue of Life 2008.
4. Mucorales at the US National Library of Medicine Medical Subject Headings (MeSH).
5. Alexopoulos and, introductory mycology, jouhn wiley and sons., Mims 1979.