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ALGAE IN THE BIOTIC ASSOCIATIONS

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ABSTRACT

Algae are the gems of the plant kingdoms; they have the variety of the ranges and the many kinds of the features of the taxonomical values. Algae are famous for the many kinds of the associations in the nature, although many of the algae are the free living, but in some of the cases they are intermingling with many kinds of the other organisms. The associations of the algae with the other organisms are very fruitful kind of the association in the nature. Some of them are typical of the lichens world and the other of them are the mycorrizaeh harbours the large rain forest of the world. kinds of the nature, algae play a very wide role in the aquatic and the terrestrial kinds the food web, algae interact with the other organism with the verily of the way, theses association are collectively are called as the biotic associations like the patches of the sea weeds accumulates in the amphipods and they are the region for the growth of the addition to that other animal there. In addition to that hungry protozoa also eats on the algae for the various kinds of the nutrition, many algae lives on the symbiotic association of the prokaryotes, protists, fungi, animal and the viruses. Herbivores also eats on the Varity of the sea algae some of them are the ciliates and the flagellates, amoebae and the herbivores rotifers, crustacean's are the main which are responsible for the many kinds of the biotic associations. Algae grows as the epibionts means as on the surface of them nay kinds of the organisms, some of them grows as the endobionts within the tissue of the other organism, algae also grows in the form of the mutualism associations and many more plant associations. Overall this review articles shows the some of the aspects of the algae associations and there various kinds of the association in the nature, some of them the association are very useful and some of them are detrimental to that kinds of the ecosystem, however severe pathogenic kinds of the algae association has never been seen in the nature. Algae are marvellous kinds of the organism in the nature and they are the gems of the plant world., they have the all variations the pigments and the all pigments are utilised for the

formation of the many kinds of the foods. The variations in reproductive cycles are landmarks in the evolution of the divergence of the cladistic in the differ lines of the development of the organism in the earth.

KEYWORDS: Algae, symbiotic associations, mutualism, food webs, association's. pigments.

INTRODUCTION

Algae the pioneers of the all life forms of the earth, life diverge from them in the different cladisteces. Algae play a multiple roles in the aquatic and terrestrial foods webs, a food webs is the model that illustrates the feeding interaction occurring among diverse kinds of the organism in the ecosystem.'[1]

In the last century the concepts of the aquatic food web has become very popular since peoples has observed the severe and the many kinds of the unknown interactions. Some of the eukaryotic algae function as the predators in the foods webs; the predators ingest the whole f the organism oar the other body part of the organism. Many of the algae are the baetrivores, since they ingest the many kinds of the bacteria for the feeding purposes. Some of the saprophytic algae also ingest the dead organisms matter for the feeding purposes'.[1] Most of the photosynthesis algae are the phototrophs since they are able to photosyntheses own. Living algae also produces many kinds of the organismal products which are dies in the nature, since they produces' the microbial loops in the food webs.[2][3][4]

Figure 1: Food links of the algae in the ecosystem.

Algae are involved on the variety of the symbiotic kinds of the associations, they are in very close and the in the vicinity of the many of the associations. Theses organism may be the protests, bacteria's, fungi and the other animals and many kinds of the plants. The partner involve in the symbiotic association may have the negative, positive and of the interaction. and the neutralism. algae that lies in the cells of the other cells association forms the closes kinds of the endosymbiossis, this endosymbiosis has convert the evolution of the algae in the different lines of the evolution and they are responsible of the formation of the endosymbiosis theory of the organelles of the algae.[5][6][7]

Parasites of the organism which drains the nutrition from the living hosts, the parasites cause the dieses symptoms are termed as the pathogens. parasitic relationships are very valuable for the food webs, aquacultures, agricultures and the human health.[1]

Epibionts grows on the surface of the other organisms, endobionts grows on the tissues of the other organism. Epibionts are the organism which spends the many parts of the life cycles on the surface of the other organism. Many of the algae grows on the surface of the many kinds of the bacterial bio films, other algae protozoan's, plants and the zooplanktons, on the surface of the other animals such as the kerbs, fiches, turtles, whales, tree sloths, however by the study it is not clear that how much kinds of the beneficial association of these epibionts have on the animals, but the large and the detailed study needs for the careful observation and the analysis of the organism. In some of the cases it has been revealed that these kinds of the association are the majority of the symbiotic kinds of.[1][2][3]

The best example of the epibionts are the genera of the dinoflagelllates are the genus *Gyrodiniu*m, which lives as the epibionts on the radiolarians and the on the foraminifera.[4][5][6]

Upto the 20000 dinoflageltes occupy the surface of the genus of the dinoflagaaltes, even on the single cell the number can be up to the 20000.

In some of the cases the epibionts, are so strong's they cover the all the surfaces the whole of the organism and they overgrows of the organism growths. One common examples of this the euglenoids *Colacium vesiculasium*, which grows on the surface of the crustaceans *Daphania*.[1]

Several hundred colonise are attached on the carbohydrate stalked of the organism.[1][2]

Epizoic algae are those algae which live as the epibionts of the other animals.

In aquatic systems the surface of the plants, weeds and the sea weeds are coated with the algae. Theses algae produce about the 22 percent of the primary production of the algae.

Algae are involved in the wide Varity of the mutulistic kinds of the associations.

Lichens are stable, self supporting associations between the green algae and the fungi, the fungal portion called as the Mycobionts, phyocbionts is the portions of the algae in the

lichens. The degree of the mutualism varies among the organisms, A number of the liver worts, horn worts, mosses, ferns, cycads; angiosperms species are closely associated with the nitrogen fixing bacteria. Typically species of the *Nostoc*. Nitrogen fixing Bactria also occurs in the pteridophytes *Azolla*.

CONCLUSION

These kinds of the symbiotic associations are very useful for the overall growth of the algae, since algae lives in the habitat which are devoid of the suitable substratum and sometime the adverse condition of the habitat are also responsible for the less development of the algae. So the endosymbiotc kinds is the association in the nature is very valuable for the perpetuation of the algae in the nature and there great protection. This is the short review articles for the algae and there association in the other host tissues, however along and the detailed issuers can be written on these aspects. This mini review is very valuable for the students of the algal study.

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