OCCURRENCE AND PATHOLOGY OF A DINOFLAGELLIDA
Amyloodinium ocellatum AND MONOGENEA OF RABBIT FISH Siganus javus
IN RECIRCULATION SYSTEM

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ABSTRACT

Amyloodinium infection of rabbit fish Siganus javus in the mini-hatchery recirculation system appeared suddenly causing high mortality. The parasite developed rapidly in the closed system and might infect the whole fish population within short period with subsequent mortality to the infected fish. Under stereomicroscope, gills of fish were seen infected by massive amount of trophont stage of the parasite. Histopathological analysis of infected tissues showed that parasite caused hyperplasia to almost entire gills, fusion of lamella and eventually disrupting and degeneration of heavy infected tissues. Infection of monogenean Halioitrema sp were also recorded but no significant pathological changes caused by this parasite was observed. The parasite can tolerate wide range of salinity from 20 to 40 ppt, but completely undeveloped in freshwater and very low salinity. In vitro test showed interference of tested chemicals to the development of tomont in high concentration and length of exposure. Strategy to control this parasite should be combination of chemicals, applied regularly, and other prophylaxis methods.

Key words: Amyloodinium, rabbit fish, recirculation system

INTRODUCTION

In closed aquaculture system, protozoan and monogenean parasites very often cause problem, because they can develop directly from larva stage to adult and reproduce in aquaculture system without a need of intermediate hosts to complete its life cycle. Heavy infection may occur within a short period of time and high mortality may follow. Previous studies showed that some monogenean Microcotyle and Pseudohaliotrema infect rabbit fish in culture system (Anshary, 1999) and some other monogenean, like Polylabris sp (identified as Allobivasina sp) in Siganus guttatus in Israel (Paperna, 1984). During acclimatization period, massive infestation of protozoan Amyloodinium sp on siganids maintained in the recirculation systems were suddenly found. The parasite was possibly obtained from natural infection of some siganids and subsequently developed very rapidly within the systems. The parasite apparently has high pathogenicity, so that it can cause high mortality to the infected fish during short period.

The peridenian dinoflagellate Amyloodinium sp is a protozoan parasite, widespread in distribution and can infect over 100 species of marine and brackish water fish (Lauckner, 1984).

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