

## Study on the monthly changes of *Perkinsus* infection in Komsae Bay, Chullabukdo, Korea

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### ABSTRACT

*Perkinsus* sp. has been identified as responsible organism for the decrease in Manila clam production along the west and south coast of Korea. Monthly investigation on infection intensity and pathology of *Perkinsus* infected Manila clam population was carried out in Komsae Bay located in the west coast during February and December 1999. About one hundred clams were collected each month for the analysis. Infected clams were incubated in fluid thioglycollate media over a week, stained with iodine solution, digested with 2 M NaOH and the number of *Perkinsus* present in an individual recorded. Histological slides were also prepared from infected clams and their pathologic symptoms were examined using a microscope.

Trophozoites of *Perkinsus* sp. were dominantly distributed on gills and epithelia of digestive glands however a few numbers could be detected at siphons and foot tissues. Heavily infected clams often exhibited white spots on mantle and foot tissues due to the inflammatory reaction of the hemocytes, forming nodules. Trophozoites were also found along the connective tissues of follicles during spawning season indicating that *Perkinsus* sp. may disturb reproduction of the clam. Total number of *Perkinsus* sp. in an individual clam varied from none to 9,550,000 with a monthly mean of 279,663 to 2,198,558 during the course of study. The number of *Perkinsus* sp. in the clam was found to lowest during July and August when unusually low salinity was recorded in this area due to the heavy rain. Highest monthly infection intensity in terms of total number of *Perkinsus* sp. in clam was observed in February, when water temperature recorded as lowest during the study. Small size of clams with shell length of ten mm or less were not infected with *Perkinsus* sp. It was concluded that *Perkinsus* infection in Manila clam is in part controlled by changes in salinity and clam growth; low salinity environment minimize infection intensity while the clams get more *Perkinsus* as they grow.

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