Interspecific Relation of Pine Needle Gall Midge, *Thecodiplosis japonensis*, to the Outbreak Distribution of Pine Moth, *Dendrolimus spectabilis* in the Jeju Island

T. S. Kwon, Y. J. Chung, Y. S. Park, B. Y. Lee and T. S. Chon[1]

Division of Forest Biology, Korea Forest Research Institute, Seoul, Korea,
[1]Department of Biology, Pusan National University, Pusan, Korea

Recently, the distribution of the two major pest insects in pine trees, pine needle gall midge, *Thecodiplosis japonensis*, and pine moth, *Dendrolimus spectabilis*, have been coincided in pine forests in the Korean peninsula. The two pest insects share the same niche in various aspects: food, habitat and activity season. The competition between two species may be inescapable. The spatial distribution pattern of the two species were investigated in the Jeju island in 1990's. From the global aspect, the area infested by the population of pine moth have been gradually displaced by pine needle gall midge since early 1990's. The investigation in April 1997 showed that the moth population disappeared in the northern (Jeju) and southern (Sugwipo) area, where the midge initially invaded. In contrast in the western and eastern area, where the pine needle gall midge newly invaded, the two species still coexisted in general. The local data in terms of invasion processes also suggested negative relations in spatial occupations between the two species. This indicated the competition between the two insect species might occur throughout invasion process of the midge.