

TECHNICAL SPOTLIGHT FROM KOREA



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Highlights of Recent Research on the Forest Insect Pests in Korea in Line with the Congress Theme “Frontiers in Forest and Tree Health” at the XXIII IUFRO World Congress in Seoul

Today global changes such as climate change and invasive alien species pose a serious threat to the health of forests as they affect the frequency and period in occurrence of forest insect pests. The effects accelerate invasion of the species, and establish novel associations with insect pests and trees. The massive occurrence not only kills trees but also weakens the native ecological functions of forests. More recently in Korea, the forests are threatened by pest insects such as pine wood nematode, *Obolodiplosis robiniae*, *Lycorma delicatula* as well as conventional invasive insects including pine needle gall midge (*Thecodiplosis japonensis*), *Hyphantria cunea* and *Corythucha ciliata*. Against this background, the Congress theme “Frontiers in Forest and Tree Health” will touch and feature this issue for productive discussion as an integral part of the XXIII IUFRO World Congress in Korea (COEX, Seoul, 23~28 August 2010).

The Korea Forest Research Institute (KFRI) conducted research on the analysis of population dynamics and factors of the pine needle gall midge. This invasive species has been in Korea since the 1920s, and researchers have accumulated the monitoring database on the invasion process and density changes for a long time. Divided into five clusters, the dynamics of the pine needle gall midge was estimated to differ according to temperature, precipitation in April and May, years of invasion. The research found that the density of the species decreased while the parasitism by the parasitic wasp increased, possibly contributing to decline in density of the alien species with the rising invasion year after year.

Research on the recent invasive species of *Obolodiplosis robiniae* and *Lycorma delicatula* is under way. It investigates their living pattern and develops control methods as well as explores the natural enemies and causes of settlement. For *Platypaster robiniae*, the parasitic wasp of *Obolodiplosis robiniae*, a rate of parasitism of more than 50 percent was found; and the natural enemy of *Lycorma delicatula* turned out to be *Anastatus* sp.