

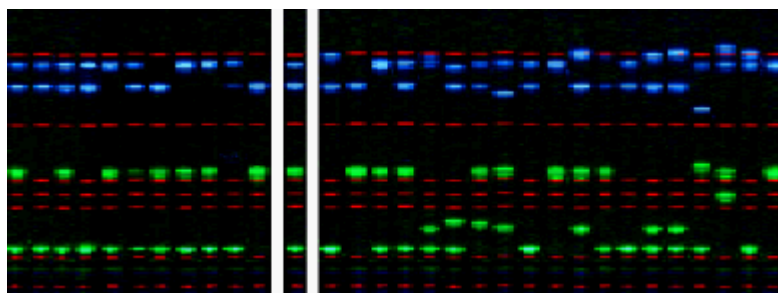
CONSERVATION AND MANAGEMENT OF FOREST ORGANISMS

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Forest ecosystems are composed of various organisms such as plants, animals and insects. Studies in our laboratory are focused on either 1) the basic science for the conservation of biodiversity and understanding interactions among organisms in forest ecosystems, or 2) the applied science that deals with such areas as wildlife management and forest protection. Using ecological and genetic methods, we are studying the plant reproductive ecology, food habits and behavior of animals, effects of browsing on forest vegetation, seed dispersal by animals, insect ecology and utilization patterns of host plants by insects.

Analyses of forest regeneration and biological conservation

For the evaluation of human impact on forest ecosystems and conservation schemes, we study regeneration processes and genetic characteristics of forest plants by means of field works and analysis with a variety of genetic markers.



Parentage analysis of tree with a microsatellite marker

How do deer make changes on vegetation?

In Ashiu Forest Research Station in Kyoto, deer (*Cervus nippon*) impacts has been changing forest floor vegetation drastically. We are trying to clarify the relationships between deer impact and vegetation changes by building several deer exclusions. Indirect effects on insects are also surveyed both inside and outside of large scale deer exclusion.



Vegetation change in deer exclusion

Host selection by ambrosia beetle

The ambrosia beetle *Platypus quercivorus* transports the fungi *Raffaelea quercivora* from trees to trees, which causes serious dieback in Fagaceae tree species (Japanese oak wilt). We are studying the characteristics and distribution of trees attacked by the beetle to clarify their host tree selection process.



Adult male and female of *P. quercivorus* (left, scale in mm) and dead *Quercus crispula* attacked by the beetle (right)



Keywords

Biodiversity, conservation biology, phylogeography, wildlife management, forest entomology, DNA

Recent Publications

2017

- Zhao KK, Wang HF, Sakaguchi S, Landrein S, Isagi Y, Maki M, Zhu, ZX (2017) Development and characterization of EST-SSR markers in an East Asian temperate plant genus *Diabelia* (Caprifoliaceae). *Plant Species Biology* 32: 247-251
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