10th ANeT International Conference 2015

Network for the Study of Asian Ants

23 – 26 October, 2015, University of Kelaniya, Sri Lanka

**Oral presentation: O9**

# Annual fire resilience of ground-dwelling ant communities in Hiraodai Karst Plateau grassland in Japan

*Shingo Hosoishi[1]*, Wattanachai Tasen[1, 2], Sang-Hyun Park[1], Anh Le Ngoc[1, 3], Yuzuru Kuboki[1, 4] and Kazuo Ogata[1]*

*[1]Institute of Tropical Agriculture, Kyushu University, 6-10-1 Hakozaki, Higashi-ku, Fukuoka, 812-8581 Japan*

*[2]Department of Forest Biology, Faculty of Forestry, Kasetsart University, Bangkok, 10900 Thailand*

*[3]Department of Entomology, Hanoi University of Agriculture, Hanoi, Vietnam*

*[4]2-12-2 Kiyota, Yahata Higashi-ku, Kitakyushu, 805-0034 Japan*

## Abstract

The fire resilience of ground-dwelling ant assemblages in a grassland subjected to annual fire management was investigated from March to October in 2010. Study sites consisted of three burnt sites (3 × 40 m × 40 m) and three unburnt sites (3 × 40 m × 40 m) in the grasslands on the Hiraodai Karst Plateau in Fukuoka Prefecture, Japan. Ground-dwelling ants were sampled by Winkler extraction (240 samples) from leaf litter and soil and collected at 10 days, and 1, 2, 3 and 6 months of post-fire. Thirty three ant species belonging to 25 genera in six subfamilies were collected from the burnt and unburnt sites. Eight out of 29 species were restricted to burnt sites, while four out of 25 species were restricted to unburnt sites. Non-metric multidimensional scaling and analysis of similarities revealed that the ant assemblages observed in the burnt sites at 10 day and 1 month post-fire were clearly separated from the assemblages observed at 2, 3 and 6 month post-fire. The results suggested that the ground-dwelling ant fauna in the study area as highly resilient to fire at 2 month post-fire and that annual fire regime did not have a marked effect on the species richness of ants.

**Key words:** conservation, disturbance, fire, management, resilience

* *Corresponding Author*