10th ANeT International Conference 2015
Network for the Study of Asian Ants
23 – 26 October, 2015, University of Kelaniya, Sri Lanka

Oral presentation: O25

Yellow crazy ant, *Anoplolepis gracilipes* (Smith F., 1857), threatens the community of ground-dwelling arthropods in a dry evergreen forest, Thailand

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Abstract

Yellow crazy ant, *Anoplolepis gracilipes*, is a widespread invasive species in tropical regions and may pose a serious threat to native fauna and flora in a region. Comprehensive field observations on its negative impact is scarce. Hence, the ground-dwelling arthropod community in an *A. gracilipes* invaded and uninvaded areas in a dry evergreen forest of Sakaerat Biosphere Reserve in

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Thailand was compared. We set up three, 0.16 ha plots in each area and conducted duplicate sampling of arthropods by a total of 16 pitfall traps fixed in each plot. Trapped ants were identified to the species level whereas other arthropods were identified to the family level and number in each taxon was counted. In the invaded area, we found in a plot an average of 20 arthropod families, comprising an average of 391 individuals. These were significantly or apparently different from those in the uninvaded area, where we found an average of 31 families and 747 individuals. Focusing on ants, the differences between the two areas were more obvious and significant. The most and second-most dominant orders in both areas were Hymenoptera and Coleoptera, respectively while the abundance of the dominant orders were clearly and significantly higher in the *A. gracilipes* uninvaded area. The dominant species of ants showed a greater tendency for higher abundance in the uninvaded area. The results strongly indicated that an invasion of yellow crazy ants may cause both a qualitative and quantitative reduction of the ground-dwelling arthropod community, especially ant community, in the tropical forests.

Key words: Yellow crazy ants, invasion, arthropod community, ant community, dry evergreen forest