

CHAPTER I

INTRODUCTION

Background and problem statement

Ants are social insects belonging to the Family Formicidae, in the Order Hymenoptera. They are species-rich, diverse and abundant in various habitat types. There are 16 subfamilies, about 300 genera and about 15,000 described species and subspecies of ants worldwide (Shattuck, 1999). They have been reported as comprising a major component of biodiversity and distribute in general area and closely in ecosystem especially in tropical zone.

In consequence of their high diversity, ant communities have proven to be useful in many ways: soil health integrity, biological control agent in agriculture, and bio-indicator in agroecosystem.

On the other hand, ants cause problems primarily when they forage in buildings for food or water and when they construct nests in buildings and gardens. A few species will occasionally attack electrical wiring, apparently being attracted to either the insulation or the magnetic fields produced by the wires. In these situations extensive damage has occurred. Several species of ants pose serious health threats to people who are sensitive to their stings. In general, ants are mainly a nuisance pest rather than a health problem.

In Thailand, some entomologists have predicted that there are around 100,000 species of insects and about 800 to 1,000 species estimated are ants (Wiwatwitaya and Rojanawongese, 2001). Most of them are the forest ants, some species are found in urban areas i.e., communities and industrial sectors.

The most studies on ants have been undertaken, species diversity of ants in forest areas of Thailand was investigated. But there are few studies on ants in urban area in Thailand. This study mainly aims to investigate species diversity of the ants in urban area, Bangkok. Three public parks, Suan Luang Rama IX, Queen Sirikit Park and Lumpini Park, are chosen to be the study sites.

Objectives

1. To study diversity of ants in public parks of Bangkok.
2. To study relationship between ant diversity and environmental factors in each site.

Scope of study

1. The ground-dwelling ants and the ants on the trees are the populations which will be studied.
2. Research variables
 - 2.1 Independent variables are study sites, seasons and environmental factors
 - 2.2 Dependent variables are species richness and species composition
3. Research sites consist of three public parks such as Suan Luang Rama IX, Queen Sirikit Park, and Lumpini Park.
4. Duration of research
Ant sampling periods were carried out during March 2003 and February 2004.

Hypothesis

Ant species diversity in terms of species richness, abundance, and species distribution will relate to study sites and environmental factors.

Expected benefits

1. To understand ant distribution in the public parks of Bangkok.
2. To obtain new database of species diversity of ants in Bangkok.
3. To obtain valuable information for public park management.
4. To obtain new knowledge and database for control tramp species.

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