Ant Species Richness at selected localities of Bangalore

Sunil Kumar, M[1], Srihari K.T.[1], Padmini Nair[1], Thresiamma Varghese[1] and Raghavendra Gadagkar[1]

1Centre for Ecological Sciences, Indian Institute of Science, Bangalore - 560 012, INDIA

2Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore - 560 064, INDIA

Address for correspondence : PROF. RAGHAVENDRA GADAGKAR Centre for Ecological Sciences, Indian Institute of Science BANGALORE - 560 012, INDIA

Tropical habitats have a rich store of ant diversity. Unfortunately, data on the ants of both natural and man made habitats are poor, especially for the Indian region (Gadagkar et. al. 1993).

This study attempts to begin to assess the ant species richness of Bangalore which is undergoing a great reduction in natural habitats due to industrialisation and urbanisation. The prime objectives of this study are to prepare a partial checklist of ants of Bangalore and to compare ant species richness between selected study sites. Fourteen study sites with different levels and types of vegetation and disturbances were selected for the study. 'All out search' method was adopted. Collections were done for 8 hours in each of these study sites during April-May 1996.

The ants were identified upto the genus level using the taxonomic keys by B. Bolton (Holldobler and Wilson, 1990) for the Oriental region. Further each genus was classified into recognisable taxonomic units (RTU's) based on morphological differences. For convenience, these RTU's are referred to as species.

During this study, 75 ant species belonging to 33 genera and 6 subfamilies were recorded (Table 1). Comparison of ant species distribution between the different study sites revealed that ant species richness was highest at Lalbagh with 54 species and lowest of 20 species at Peenya Industrial area (Table 2). Relatively high ant species richness was recorded at all the study sites with dense vegetation such as Indian Institute of Science, Lalbagh, Cubbon park, Jnana Bharathi Campus, Sankey and Hebbal tanks and agricultural fields. On the other hand, monoculture plantations showed fewer number of ant species. Similarly, ant species richness was low in Peenya industrial area and around urban houses because of little or no vegetation and high levels of disturbance. Roads and pavements showed higher numbers of ant species compared to Peenya Industrial area and urban houses probably because the roads sampled were lined with trees.

We conclude that while ant species richness generally increases with increase in vegetation and declines with increase in disturbances, the environs of Bangalore city harbour a rich ant fauna which deserves further study.

Table 1 Partial checklist of the ant fauna of Bangalore

Sub family	Genus	No. of Species
Ponerinae	Anochetus	3
	Brachyponera	1
	Cerapachys	3
	Diacamma	2
	Leptogenys	2
	Pachycondyla	2
	Platythyrea	1
Dorylinae	Aenictus	1
Pseudomyrmecinae	Tetraponera	3
Myrmicinae	Aphaenogaster	1
	Cardiocondyla	3
	Cataulacus	1
	Crematogaster	3
	Dilobocondyla	1
	Lophomyrmex	1
	Meranoplus	1
	Monomorium	7
	Myrmicaria	1
	Pheidole	4
	Pheidelogeton	1
	Rhoptromyrmex	1
	Smithistruma	1
	Solenopsis	1
	Tetramorium	3
Dolichoderinae	Dolichoderus	1
	Tapinoma	2
	Technomyrmex	2
Formicinae	Acantholepis	4
	Camponotus	8
	Oecophylla	1
	Paratrechina	2
	Polyrhachis	4
	Plagiolepis	3
Total 6	**33**	**75**

Table 2 Ant fauna of the study sites

Study sites	No. of subfamilies	No. of genera	No.of species
Indian Institute of Science	5	25	47
Jnana Bharathi	5	22	43
Lalbagh	5	28	54
Cubbon Park	5	24	41
Sankey & Hebbal Tanks	5	25	52
Peenya Industrial area	3	13	20
Vacant plots	4	15	34
Eucalyptus & Casuarina plantations	4	14	26
Coconut & Pongamia plantations	5	19	37
Mango, Banana & Grapes Orchards	4	13	25
Agricultural fields	4	21	41
Rural houses & mud roads	3	18	32
Urban Houses	3	12	21
Roads & Pavements	5	14	26

* Sampling hours / site = 8

References

Holldobler, B. & Wilson, E.O., *The Ants,* Springer - Verlag.

Gadagkar, R., Chandrashekara, K. & Nair, P. 1993. *Hexapoda* 5(2) :79-94