



FOR NOTICE BOARD

INSTITUTE COLLOQUIUM

INDIAN INSTITUTE OF SCIENCE

Prof. Raghavendra Gadagkar

Centre for Ecological Sciences

will deliver a lecture

on

**War and Peace: Conflict & Cooperation in a
Tropical Insect Society**

**on Tuesday, 11th March 2003
at 4.00 p.m. in the Faculty Hall**

THE DIRECTOR

will preside.

All are cordially invited

Coffee/Tea: 5.00 p.m.

Venue: Reception Hall

ABSTRACT

Many insect species live in societies that parallel, if not better, human societies in the sophistication and complexity of their organization, communication, division of labour and even their caste system. How do these insects achieve such social complexity? Why has natural selection favoured social life over solitary life? This is especially paradoxical because most individuals in insect societies function as sterile slaves and help one or a small number of queens to reproduce. It turns out that the most advanced insect societies such as honey bees, ants and termites are not usually the best places to look for answers to these questions; their social evolution has proceeded so far that its origins have become rather obscured. In my quest for the origins of social complexity, I have therefore focussed on *Ropalidia marginata*, a primitively social wasp that appears to be on the brink of sociality. These wasps can lead a solitary life but usually organize themselves into societies of reasonable complexity. Hence they have made it possible to contrast the costs and benefits of social and solitary life and trace the origins of social life in insects. In this colloquium, I will attempt to provide a bird's eye-view of the work I have carried out in collaboration with a large number of students and colleagues, over many years, on the social life of the wasps, their survival and reproductive strategies, their kinship and royal pedigrees, their altruism and nepotism, their castes and their politics... Perhaps the most significant lesson we learn from these wasps is that conflict and cooperation are intimately linked and that maintaining a fine balance between the two is what social life is all about. With warm temperatures and favourable conditions throughout the year, tropical southern India provides a perpetual stage for these wasps to play out their drama of war and peace and indeed for us to explore the *raison d'être* of social life.