



Ca' Foscari
University
of Venice

Many species of insects such as those of ants, bees and wasps organize themselves into societies with sophisticated levels of organization, communication and division of labour, paralleling and sometimes surpassing our own societies. We therefore have a natural curiosity to understand how these tiny insects with small brains can achieve such feats of social organization. What are the rules that govern their lives and how does a bee or a wasp know what to do when? Can we really understand them and what can we learn from such understanding as we might achieve? The science of ethology makes attempts to demystify the workings of insect societies. In this talk I will illustrate the results of such an endeavour, taking the example of the efforts of my research group to understand the workings of the primitively eusocial wasp *Ropalidia marginata*, widely distributed in peninsular India. My goal will not merely be to summarize our current knowledge of this matter and convey the product of our research but even more to describe the process of our science, our methodology and the logic that drives our experiments. I will conclude by reflecting on what we can learn from insect societies and argue that understanding our fellow social creatures helps us to reflect on how and why we live our lives the way we do and thus leads to a better understanding of ourselves.

Info

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Can we understand an insect society, and why should we care?

Raghavendra Gadagkar

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Centre for Ecological Sciences, Indian Institute of Science
President, Indian National Science Academy, Delhi

Aula Baratto, Ca' Foscari
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Raghavendra Gadagkar

Raghavendra Gadagkar obtained B.Sc (Hons) and M.Sc. in Zoology from Bangalore University and Ph.D. in Molecular Biology from the Indian Institute of Science, Bangalore, India. During the past 25 years he has established an active school of research in the area of Animal Behaviour, Ecology and Evolution. The origin and evolution of cooperation in animals, especially in social insects, such as ants, bees and wasps, is a major goal of his research. By identifying and utilizing crucial elements in India's biodiversity, he has added a special Indian flavour to his research.

Gadagkar is now President, Indian National Science Academy, New Delhi, and JC Bose National Fellow at the Centre for Ecological Sciences, Indian Institute of Science, Chairman, Centre for Contemporary Studies, IISc, Honorary Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Indian Institute of Science Education and Research, Kolkata and Indian Institute of Science Education and Research, Mohali, Non-Resident Permanent Fellow of the Wissenschaftskolleg (Institute for Advanced Study) in Berlin. He has published over 250 research papers and articles and two books. His book entitled *Survival Strategies* (Harvard University Press, USA, 1997 and Universities Press, Hyderabad, 1998), explains recent advances in behavioural ecology and sociobiology to a general audience. His more technical book entitled *The Social Biology of Ropalidia* (Harvard University Press, USA, 2001) summarizes over twenty years of his research aimed at understanding the evolution of eusociality. His research work has been recognized by a number of awards including the Shanthi Swarup Bhatnagar Prize, B.M.Birla Science Prize, Homi Bhabha Fellowship, B.P. Pal National Environment Fellowship on Biodiversity, the Third World Academy of Sciences award in Biology and H.K.Firodia award. He is an elected fellow of the Indian Academy of Sciences, the Indian National Science Academy, the National Academy of Sciences, India, the Academy of Sciences for the Developing World (TWAS), Foreign Associate of the National Academy of Sciences, USA and, the German National Science Academy Leopoldina. He is the recipient of DSc (hc) of the University of Burdwan, West Bengal in 2015.

He is or has been on the editorial boards of several national and international scientific journals, including the board of reviewing editors of *Science*. He has delivered over 500 invited lectures in universities, institutes, schools and colleges in India and abroad. He was invited to USA as the Michener Lecturer and by the Royal Society to deliver a public lecture in London, on the occasion of India day and has delivered plenary lectures at a number of national and international conferences. He is, or has been, a member of a number of national and international professional scientific bodies and government and non government advisory committees including the International Council for Science (ICSU) and the Scientific Advisory Committee to the Cabinet, Government of India.

As the founder chair of the Centre for Contemporary Studies, Gadagkar has initiated a new experiment that endeavours to engage some of the best practitioners of different disciplines in the human sciences, such as philosophy, sociology, economics, law, literature, poetry, art, music, cinema etc. and aims to forge meaningful interaction between the natural and human sciences with special focus on understanding the diverse research methodologies of different disciplines and create opportunities to rethink the foundations of our own disciplines.

Programme

Welcome address

Michele Bugliesi

Rector

Ca' Foscari University of Venice

Introduction

Massimo Warglien

Professor of Behavioural Economics

Ca' Foscari University of Venice

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Discussion and closing remarks