The role of chemical communication in mate choice and family life: Evolutionary biology and behavioral ecology meets chemical ecology

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Recognition and communication are essential processes in biological systems, from immune response to community dynamics. However, most theoretical and empirical investigations of evolutionary biologists and behavioral ecologists have focused on visual and acoustic signaling, even though chemical communication is the most ancient and widespread form of communication. Therefore, there are many open questions concerning the design, information content and reliability of chemical signals as well as their importance in mate choice. By presenting data from crickets and beetles, I will demonstrate in the first part of my talk that sexual selection can affect the quantity and complexity of chemical signals and that pheromones can inform about a mate’s quality and influence mate choice. The second part of my talk will be devoted to chemical recognition and communication mechanisms involved in structuring family life of insects. I will show that chemical cues and signals mediate sophisticated mating tactics of parents by reliably reflecting their reproductive state and furthermore, play an important role in protecting the offspring from competitors.

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Seminar Room Mondi 2, Central building, 1st floor