**OR114**
*Commitment in social life, sex and symbiosis*
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Hamilton s rule shows that positive relatedness can induce cooperation, but kin selected behaviours remain conditional as long as relatedness varies. The rule can therefore not explain the evolutionary origins of morphologically differentiated castes that are either unmated for life or destined to permanently rely on distinct helpers for breeding. Such fundamentally novel and irreversible social arrangements appear to have come about by absolute life-time commitments. This logic applies to eusociality (two strictly monogamous parents) and the origins of eukaryote multicellularity (two gametes committed to a single zygote allowing somatic differentiation), and likely also to the origin of the eukaryote cell (obligate commitment between a single mitochondrial clone and a single nucleated host cell). The facultative versions of these novel stages of complexity belong to previous, not the new domains of social evolution that emerged after major evolutionary transitions. We can further extend this logic to evolutionarily derived forms of eusociality. For example, *Megalomyrmex* guest ants function as a mercenary soldier caste for colonies of *Sericomyrmex* host ants because the guest ant colony is life-time committed to a single host colony. Eusocial elaborations such as fungus-farming in ants and termites are also characterized by life-time commitments between a single insect family and a single clone of fungus, which makes these mutualisms unusually robust no matter whether the fungal symbiont is vertically or horizontally acquired.