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The role of hybridization in shaping evolutionary divergence

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Speciation is not a linear process, but it can halt, reverse or even speed up by hybridization. Hybridization is not a mere reproductive dead-end, but recent examples show that it can be a major player in the process of speciation and can even introduce adaptive genetic variation. I have studied hybridization in the recently speciated *F. rufa* group wood ants. These species have diverged during the last 500 000 years and several species pairs putatively hybridize. My results show that hybridization between *F. aquilonia* and *F. polyctena* in Southern Finland has resulted in a bizarre situation, where hybridization is favored in the females but selected against in the males. Thus it seems that hybridization has complex consequences in these ants, which at the same time could promote and reverse the early stages of speciation. My current studies aim at identifying those genomic areas and possible genes that have been acquired through hybridization and cause antagonistic selection in haploid and diploid genomes. I have also identified putative hybrid populations between other *F. rufa* group species, which will be used to study the genetic basis of speciation and evolutionary consequences of hybridization. In contrast to their ecological dominance, ants represent little explored systems in the context of speciation. Yet, because of their haplodiploidy and sociality they offer unique advantages to study the genetic basis of species divergence.