

# SEMINAR

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## Geographic divergence in polyandry and sperm competition

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Sexual selection is recognized as a major driving force underlying biodiversity, with a plethora of comparative and experimental studies documenting its role in the diversification of male traits across the animal kingdom (e.g. conspicuous ornaments; armaments; courtship behavior etc.). However, it is surprising how little is known about the diversification of female remating behavior (henceforth “polyandry”) seeing as it is a principal determinant of the intensity of sexual selection on males. For instance, when females remate frequently (with different males), both pre-mating and postcopulatory sexual selection can be intense; when females do not remate or do so infrequently, sexual selection on males may be weak. Hence, when populations vary in female remating frequency, the intensity of selection on the sexes should also vary, resulting in divergence reproductive traits and possibly barriers to gene flow between populations. Here, I present the results of a research program to investigate the causes and consequences of variation in polyandry in the sepsid fly, *Sepsis punctum* (Sepsidae; Diptera) on a wide geographic scale. This species exhibits exceptional intraspecific variation in polyandry: European (EU) females mate more frequently than do North American (NA) females. This divergence is accompanied by a difference in mating behavior (NA males have a abdominal courtship that is absent in EU) as well as the only known within-species reversal in sexual size dimorphism (EU: males larger than females; NA: females larger than males). Using this unique system, I take an experimental approach to study the adaptive significance of variation in polyandry and its role in the diversification of critical biological traits and the consequent implications for sexual isolation.