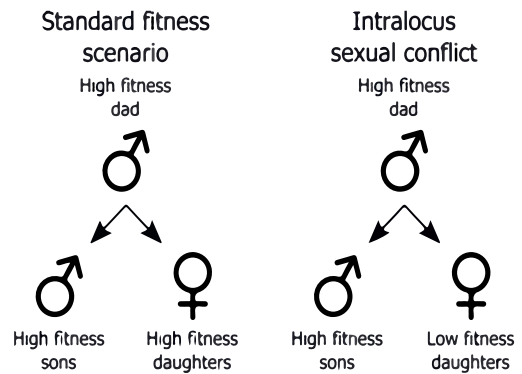


## Detection of intralocus sexual conflict in houseflies

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**M**ales and females are differently affected by selection. This can cause different genetic variants to become selectively favoured in the two sexes, a phenomenon known as intralocus sexual conflict (IASC). That is, genetic variants that increase the fitness of female carriers actually decrease the fitness of male carriers (and vice versa). Theory predicts that IASC plays an important role in the evolution of sex chromosomes. Houseflies have a polymorphic sex determination system, in which different genes (and different chromosomes) can determine the sexual identity of an individual. This system can be exploited to study the evolution of newly-formed sex chromosomes, which enables us to test whether IASC indeed plays a role in sex chromosome evolution. However, to what extent IASC occurs in houseflies is uncertain. Previously we have found that there is genetic variation for female fitness, but to what extent genetic variants which increase female fitness also decrease fitness in males is less certain. In this project, we will determine if IASC occurs in the housefly, and whether or not it has an important influence on male and female fitness. To do so, we will test (1) whether there is variation in fitness between different individuals of the same sex, (2) to what extent this variation is heritable to same-sex offspring, and (3) whether offspring of the opposite sex exhibit inverse fitness effects.



**Methods:** behavioural observations; fitness assays; insect husbandry; life history traits.

**Starting date:** open