Males produce faster sperm for sisters

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(Phys.org) —Mating with relatives, or inbreeding, can be costly to both sexes, and in many species males and females avoid mating with siblings. However, the latest research adds a twist to this story by showing that male guppies produce faster sperm when paired with their sisters.

In the study published in the Royal Society journal *Biology Letters*, Professor Jon Evans, Dr Clelia Gasparini and Honours student Luisa Fitzpatrick from the Centre for Evolutionary Biology, within the School of Animal Biology at The University of Western Australia, exposed male guppies (Poecilia reticulata) to either full sibling or unrelated females to determine whether their courtship and ejaculate expenditure differed.

Consistent with expectation, the authors found that male guppies (a

livebearing freshwater fish) direct less courtship towards their sisters compared to unrelated females.

However, they also found that males produce ejaculates with faster swimming sperm when paired with sisters.

"We interpret this latter finding as evidence for sexual conflict because in guppies females exhibit 'preferences' for unrelated sperm," Professor Evans said. "By producing more competitive sperm when mating with siblings, male guppies may potentially circumvent the females' natural preference to avoid inbreeding."

The researchers suggest the findings may reflect sex-specific responses to inbreeding, whereby males tolerate higher levels of inbreeding than females.

Irrespective of the evolutionary basis for these findings, the research clearly shows that male guppies are capable of recognising their kin and adjust both their courtship and sperm quality accordingly.

More information: Paper: rsbl.royalsocietypublishing.or … .1098/rsbl.2014.0166

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