Rodent sperm work together for better results

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Although, sperm are inseminated in millions each sperm goes it alone. However, under some circumstances it might be advantageous for sperm to cooperate with one another. This is especially likely to be the case when females are promiscuous and sperm of one male have to compete against those of rival males.

New research by Dr Simone Immler and colleagues from the University's Department of Animal and Plant Sciences shows that in promiscuous rat and mice, where competition is high, individual sperm cooperate with one another in order to out-compete sperm of rival males.

The research shows that this cooperation is possible only because of to the highly specialised design of rat and mouse sperm. Promiscuous species have a particularly well developed 'hook shaped' sperm head which helps individual sperm to hook up to each other and form a 'group'. These groups of sperm contain five to 100 sperm and they swim faster and stronger than individual sperm which makes them better competitors in the race for the fertilisation of the egg.

Dr Simone Immler said: "It was previously believed that sperm not only competed against rival males but that they also competed against each other in order to fertilise the female egg. However, this research shows that when the pressure from rival males is high, individual sperm will cooperate with one another to ensure that at least one of their siblings successfully reaches the female egg."

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