

Research on fly sex pays off for undergrad

NATIONAL University of Singapore life sciences undergraduate Martin Chew once found himself skulking around the Botanic Gardens scooping up swan droppings – in the name of research.

Mr Chew, 25, who has spent the last three years studying the sex lives of dung flies, was collecting water-fowl faeces for a particularly picky species to live on.

There are over 250 species of the insect, and some lay their eggs in dung, which forms a moist home for the larvae to develop.

His labour paid off: This month, he will be presenting a paper at the 28th Willi Hennig Society Meeting, an international evolutionary biology conference being held here this year. He will be one of the only undergraduates to present at the annual event.

Mr Chew's paper overturns one key assumption of animal development: That there are trade-offs between body size and elaborate sexual characteristics such as forelegs and genitals. (Male dung-fly forelegs, with their spindles and protrusions, are engineered to deftly pin female flies down during mating.)

Previously, it was assumed that flies which sport fancier legs and private parts must take longer to grow to adult size.

As Associate Professor Rudolf Meier, Mr Chew's adviser, put it: "If you want to be a pretty male fly, you have to develop much longer."

Mr Chew's paper found instead that size does not matter when it comes to certain portions of bug anatomy.

While it is true that the bigger and more complicated a male fly's forelegs, the smaller the rest of the fly, the size and complexity of its genitals have no effect on its body size.

That suggests that the evolutionary recipe for fly genitals is much older – and hence interferes with development less – than the recipe for intricate legs.

The paper has been submitted to a scientific journal.

Mr Chew began studying fly sex as a second-year student, lured by the research opportunity and the prospect of "fly porn".

But his fascination with the subject turned out to be more than a passing snicker – he ended up trekking through jungles in Indonesia collecting specimens, bred flies in the lab, and pored over the ant-size specimens under a microscope for hours.

He said: "The reward is at the end, when the pieces of the puzzle finally fit together."

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