

## Insects pass infections to their progeny through sperm and eggs

The green rice leafhopper is never alone. When a female's egg and a male's sperm fuse into a new cell, that cell is already infected with bacteria. As the newly conceived leafhopper grows from one cell into millions, its internal bacteria—its endosymbionts—go along for the ride. Right from the start, the leafhopper isn't an individual in its own right, but a collection of animal and microbes that live together.

Many insects and other animals inherit endosymbionts from their parents, but almost all of them do so from their mothers. There's good reason for this. An egg cell is big. [A sperm's] streamlined shape is good for swimming, but it's terrible for packaging bacterial heirlooms. That's why males almost never pass on endosymbionts to their kids, while females often do. Sperm just isn't very good packing material.

But try telling that to the green rice leafhopper. This small green bug is a serious pest of rice plants in East Asia, and its cells are filled with at least three species of bacteria. And one of them—*Rickettsia*—can infect the insect's sperm.

**Read the full, original story: [Bug Inherits Microbes From Dad's Sperm](#)**