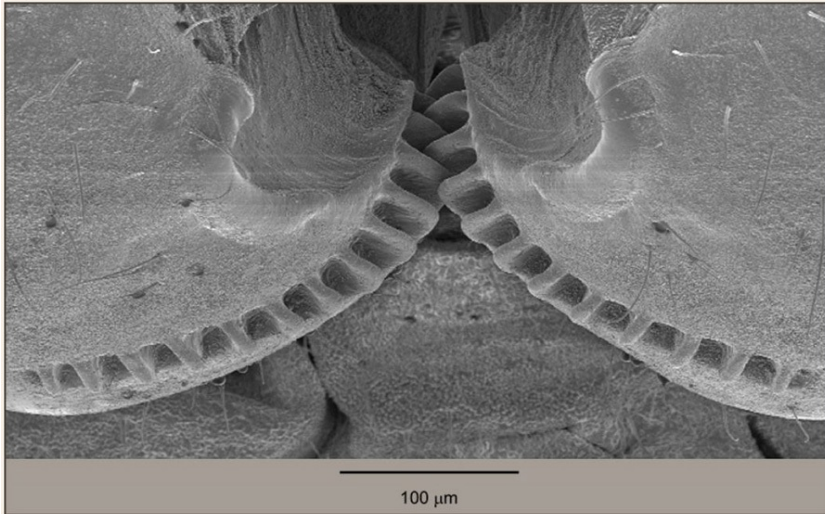
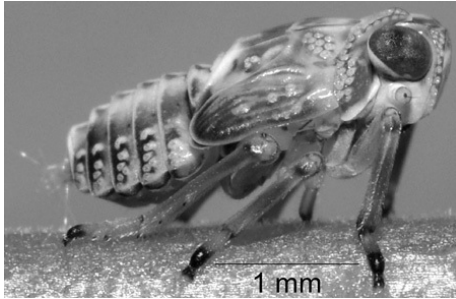


Biological Gears in Leafhoppers



Images courtesy Malcolm Burrows

The first functioning mechanical gears to be discovered in a living organism were reported September 2013 in *Science* by University of Cambridge zoologists. These working biological gears are found in the hind legs of the *Issus coleoptratus* leafhopper nymph. These insects, which mainly hop around on European climbing ivy, are only a couple of millimeters in length, but with one mighty jump they can spring forward more than a meter at a velocity up to 3.9 meters per second. As noted in *Popular Mechanics*, “In 2 milliseconds it has bulleted skyward, accelerating at nearly 400 g’s—a rate more than 20 times what a human body can withstand.”

What is reported is a perfectly functioning, finely tuned, irreducibly complex mechanism for propelling these tiny animals safely through the air until they get big enough to go gearless. At that point, they jettison their gears and move on with their lives. And the information for making this complex mechanism is coded in the DNA of this creature. Evolutionists have no scientifically credible explanation for the origin of that genetic information.

Ten to twelve tiny teeth—just 15–30 millionths of a meter tall—are located on the inner surface of each hind leg. These curved cogs mesh with each other under the abdomen as the insect cocks its legs to jump, forcing the legs to remain in unison as it takes off. The gear cogs remain engaged and roll past each other—at a rate of nearly 50,000 teeth per second—throughout the propulsive movements. The *Issus* leafhopper nymph propels itself forward at nearly nine miles per hour, but if its hind legs didn’t push off at precisely the same time, it would spin out of control. Yet nerve impulses don’t travel fast enough to pull off this feat. The solution God designed for this tiny creature’s locomotive needs is a tiny set of gears.

Excerpts:

<https://answersingenesis.org/evidence-for-creation/design-in-nature/are-biological-gears-evolutionary-training-wheels-for-leafhoppers/>
Are Biological Gears Evolutionary Training Wheels for Leafhoppers? by Dr. Elizabeth Mitchell, September 26, 2013

Watch the action videos at the end of the *Popular Mechanics* article to see the bug jump and an amazing close-up of these tiny God-created gears in action.
<http://www.popularmechanics.com/science/animals/a9449/the-first-gear-discovered-in-nature-15916433/>