Researchers find LEDs attract more flying invertebrates than conventional lighting

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LED Lamp with E27 Edison screw. Image: Wikipedia.

A pair of researchers with the New Zealand research institute Scion, has found that flying invertebrates are more attracted to LED lights than to conventional outdoor lighting. In their paper published in the journal, *Ecological Applications,* Stephen Pawson and Martin Bader describe a simple study they carried out to see how attractive lighting was to flying bugs and what they found in doing so.

LEDs are in the news of course, because the trio of researchers that invented the blue-light variety just won the Nobel Prize in physics. Their work has led to LEDs that are bright enough to use in regular lighting applications but use far less energy and last much longer. In this new effort, the research pair suggests that there is a side-effect of LED lighting that might cause ecological problems.

Modern street lights are generally sodium vapor lamps—they're more efficient than most other pre-LED lighting and emit yellow rather than white light. Insects, as we all know are attracted to light, white or yellow, but it seems they are even more attracted to blue light, and that's the kind of light that is generated by LED bulbs—they only look white because of a phosphor coating that stretches much of the light into a longer wavelength. We may not be able to see the blue light, but bugs can.

To find out just how much more attractive moths, flies, etc., find LEDs (as compared to sodium vapor lamps) the researchers set sticky paper next to both types of lights out in a field for a period of time at night, then collected the results and counted how many specimens they'd captured. They found that the paper next to the LEDs had approximately 48 percent more bugs than those next to traditional lighting. This could be a problem they suggest because it could mean LEDs are interfering with food webs or drawing more flying critters into urban areas—in one extreme example they note putting LED lights at seaports could contribute to the spread of invasive species such as gypsy moths.

The researchers also tried the same experiment using different LED brands and types and with different filters but found the results remained the same—the bugs came at all of them in hordes.

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