

## Artificial light is dangerous for insects, say scientists

5th February 2024



Everyone knows that light attracts insects. In prehistoric times, our ancestors questioned why winged insects buzzed around fire. An old saying describes this attraction as being, "like a moth to a flame". However, a recent study dispels the long-believed notion that insects head towards light because they like it. Biologists at Imperial College London have reported that insects are drawn to light because it helps with their orientation when in flight. The scientists said artificial light actually disorients nocturnal bugs like moths and mosquitos, often to fatal ends. Jamie Theobald, co-author of the study, said all our speculations about why insects fly toward light "might have been wrong".

The scientists conducted their research in a rainforest in Costa Rica. They installed artificial lights under the canopy and observed the creatures' flying behaviour. Insects usually navigate by the moon to fly in straight lines. However, around the artificial lights, the bugs became confused and made arcs and erratic patterns of flight. An entomologist said: "Natural sky light...helps maintain proper flight....Artificial sources...can produce continuous steering around the light and trap an insect." This explains why so many insects fly to their death into bug zappers. Artificial light adversely affects an insect's ability to find a mate, forage for food, and defend itself against predators.

Sources: [imperial.ac.uk](https://imperial.ac.uk) / [gizmodo.com](https://gizmodo.com) / [nature.com](https://nature.com)

### Writing

We should turn off lights at night to help nocturnal insects survive. Discuss.

### Chat

Talk about these words from the article.

everyone / light / insects / prehistoric times / ancestors / attraction / nocturnal / rainforest / artificial / canopy / entomologist / bug zapper / mate / forage / predator

### True / False

- 1) In prehistoric times, our ancestors buzzed around fires. T / F
- 2) There is a saying in English that goes, "Like a flame to a moth". T / F
- 3) Scientists say insects do not fly to light because they like the light. T / F
- 4) Scientists say artificial light can be deadly for nocturnal insects. T / F
- 5) Scientists put artificial lights in a tent in a Costa Rica rainforest. T / F
- 6) Nocturnal insects use the sun to navigate while flying. T / F
- 7) The light from bug zappers entice bugs to their death. T / F
- 8) Artificial light makes it difficult for insects to fight against predators. T / F

### Synonym Match

(The words in **bold** are from the news article.)

- |                        |                  |
|------------------------|------------------|
| 1. <b>ancestors</b>    | a. carried out   |
| 2. <b>dispels</b>      | b. unpredictable |
| 3. <b>notion</b>       | c. theorizing    |
| 4. <b>fatal</b>        | d. hunt          |
| 5. <b>speculations</b> | e. belief        |
| 6. <b>conducted</b>    | f. negatively    |
| 7. <b>artificial</b>   | g. predecessors  |
| 8. <b>erratic</b>      | h. synthetic     |
| 9. <b>adversely</b>    | i. dismisses     |
| 10. <b>forage</b>      | j. deadly        |

### Discussion – Student A

- a) What do you think about what you read?
- b) Would you like to do research in a Costa Rican rainforest?
- c) When was the last time you were confused?
- d) Would you like to be an entomologist?
- e) What do you think of bug zappers?
- f) How does artificial light adversely affect nocturnal insects?
- g) What can we do to help nocturnal insects?
- h) What questions would you like to ask the researchers?

## Phrase Match

1. In prehistoric
  2. our ancestors questioned why winged
  3. a recent study dispels the
  4. it helps with their orientation
  5. nocturnal bugs
  6. They installed artificial lights
  7. navigate by the moon
  8. erratic
  9. many insects fly to their death
  10. forage
- a. patterns of flight
  - b. when in flight
  - c. under the canopy
  - d. times
  - e. into bug zappers
  - f. like moths and mosquitos
  - g. insects buzzed around fire
  - h. for food
  - i. to fly in straight lines
  - j. long-believed notion

## Discussion – Student B

- a) What do you think of artificial light?
- b) What are the good and bad things about artificial light?
- c) Do you prefer artificial or natural light?
- d) How bad is light pollution?
- e) What do you think of moths?
- f) What do you think when you see moths buzzing around lights?
- g) What nocturnal creatures do you like?
- h) How nocturnal are you?

## Spelling

1. In eiprosctrih times
2. our ocaetssnr questioned why
3. bltogossii at Imperial College London
4. it helps with their aerootninit
5. light actually disorients uotnlnrac bugs
6. all our oaelstnipcus
7. They installed riatfilca lights
8. under the yaonp
9. ercarit patterns of flight
10. bug ezarspp
11. light aervedys affects an insect's ability
12. defend itself against dteprosar

### Answers – Synonym Match

1. g	2. i	3. e	4. j	5. c
6. a	7. h	8. b	9. f	10. d

## Role Play

### Role A – Life Is Quieter

You think life being quieter is the best thing about being a night owl. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the worst of these things about being nocturnal (and why): empty streets, off-peak electricity or seeing the stars.

### Role B – Empty Streets

You think empty streets are the best thing about being a night owl. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the worst of these things about being nocturnal (and why): life being quieter, off-peak electricity or seeing the stars.

### Role C – Off-peak Electricity

You think off-peak electricity is the best thing about being a night owl. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the worst of these things about being nocturnal (and why): empty streets, life being quieter or seeing the stars.

### Role D – See the Stars

You think seeing the stars is the best thing about being a night owl. Tell the others three reasons why. Tell them why their things aren't as good. Also, tell the others which is the worst of these things about being nocturnal (and why): empty streets, off-peak electricity or life being quieter.

## Speaking – Nocturnal

Rank these with your partner. Put the best things about being a night owl at the top. Change partners often and share your rankings.

- Life is quieter
- Get more work done
- Empty streets
- Off-peak electricity
- No sunburn
- Avoid rush hours
- Seeing the stars
- Avoid people

### Answers – True False

1	F	2	F	3	T	4	T	5	F	6	F	7	T	8	T
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Answers to Phrase Match and Spelling are in the text.