

LIGHT POLLUTION

Mothless nights

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Credit: PIER / Stone / Getty

Night-time electricity use leads to light pollution. Most moths are nocturnal and react to glowing lights as to the proverbial flame. The 160,000 known moth species play diverse roles in ecosystems and human economies, including as providers of pollination services.

Frank van Langevelde, of Wageningen University, the Netherlands, and coauthors investigated the influence of night-time electric light on moth populations. A population's size — the number of co-existing individuals — determines a species' presence on the ecological stage. Using a comprehensive database, the researchers compared population trends of 481 species of large Dutch moths over the period 1985–2015. Moth populations declined generally during this time.

Considering various species traits, including occurrence in cities, these declines were best explained by nocturnal lifestyle and attraction to artificial light. During these three decades, the Netherlands experienced an increase in 'night-light' coverage.

As the world develops and urbanizes, sustaining moths as we illuminate our streets and cities is a worthwhile challenge. Artificial lighting used strategically, and which is less intense, may ease the impact. A mothless night is its own version of a silent spring.

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