



Silent Earth

AVERTING THE INSECT APOCALYPSE

DAVE GOULSON

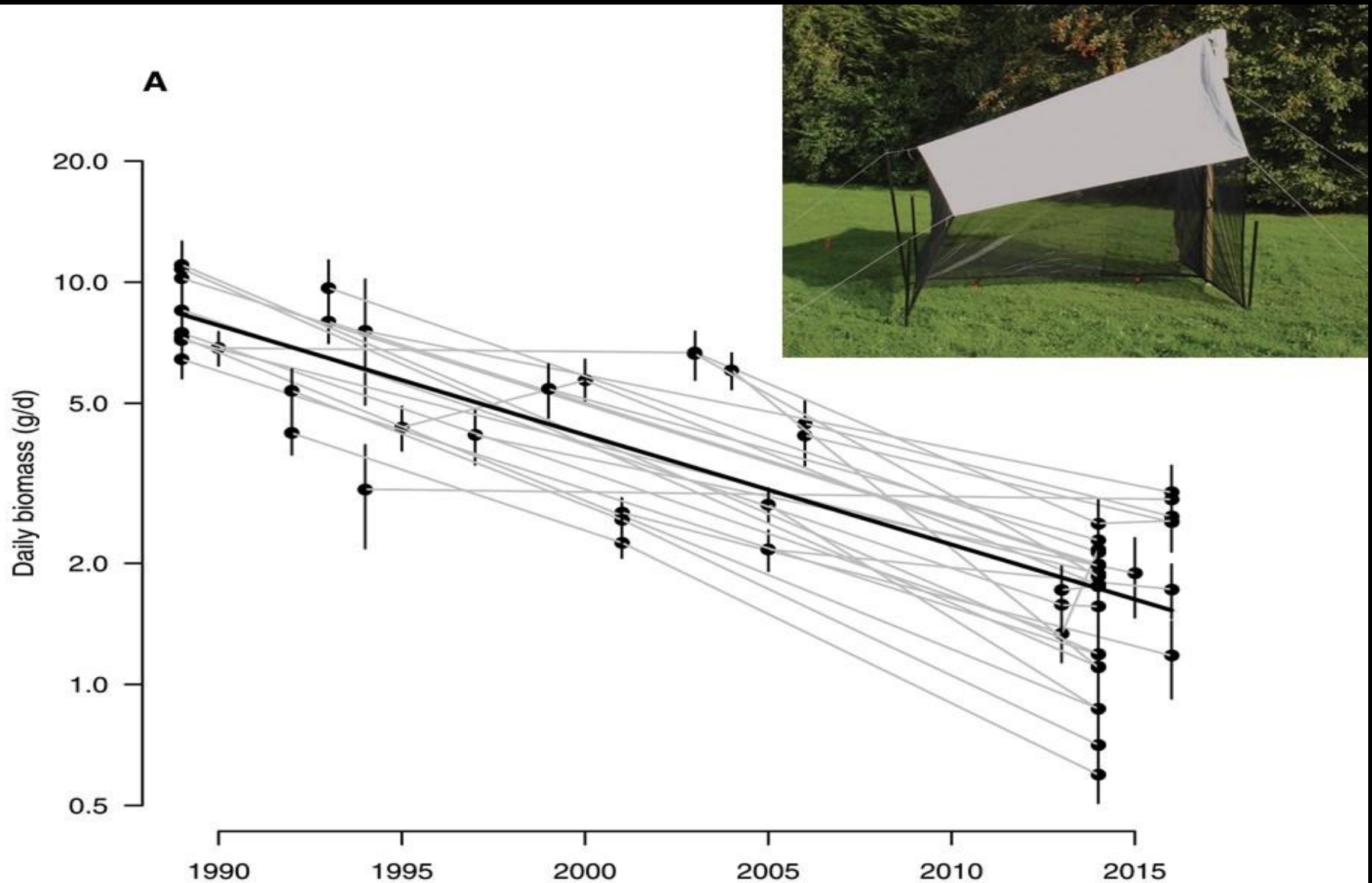
University of Sussex
@DaveGoulson





Catch per day (grams of insects) in Malaise traps deployed at 63 sites in Germany between 1989 and 2014.

Hallmann et al. 2017 PlosONE



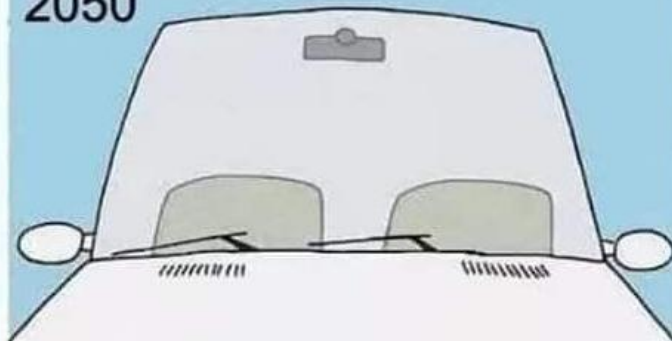
1990



2020

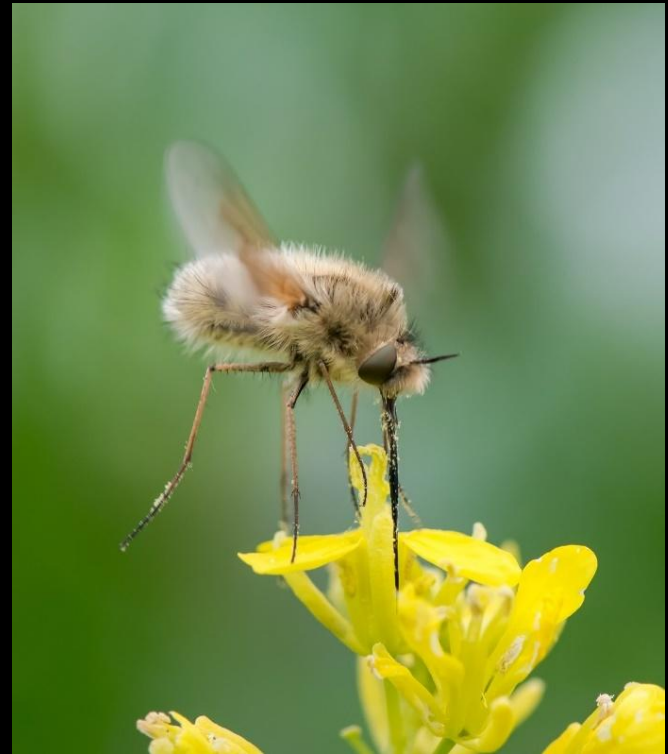
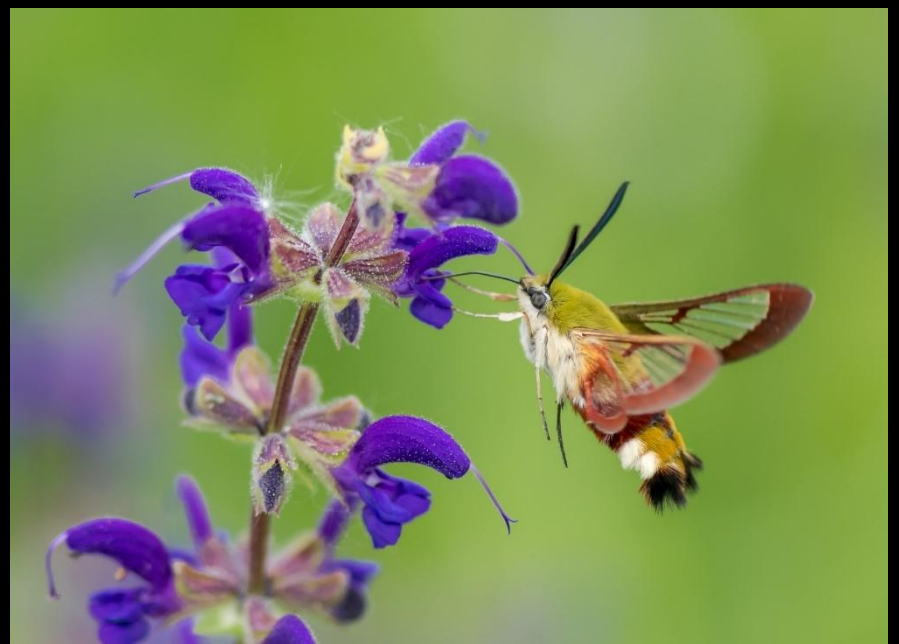


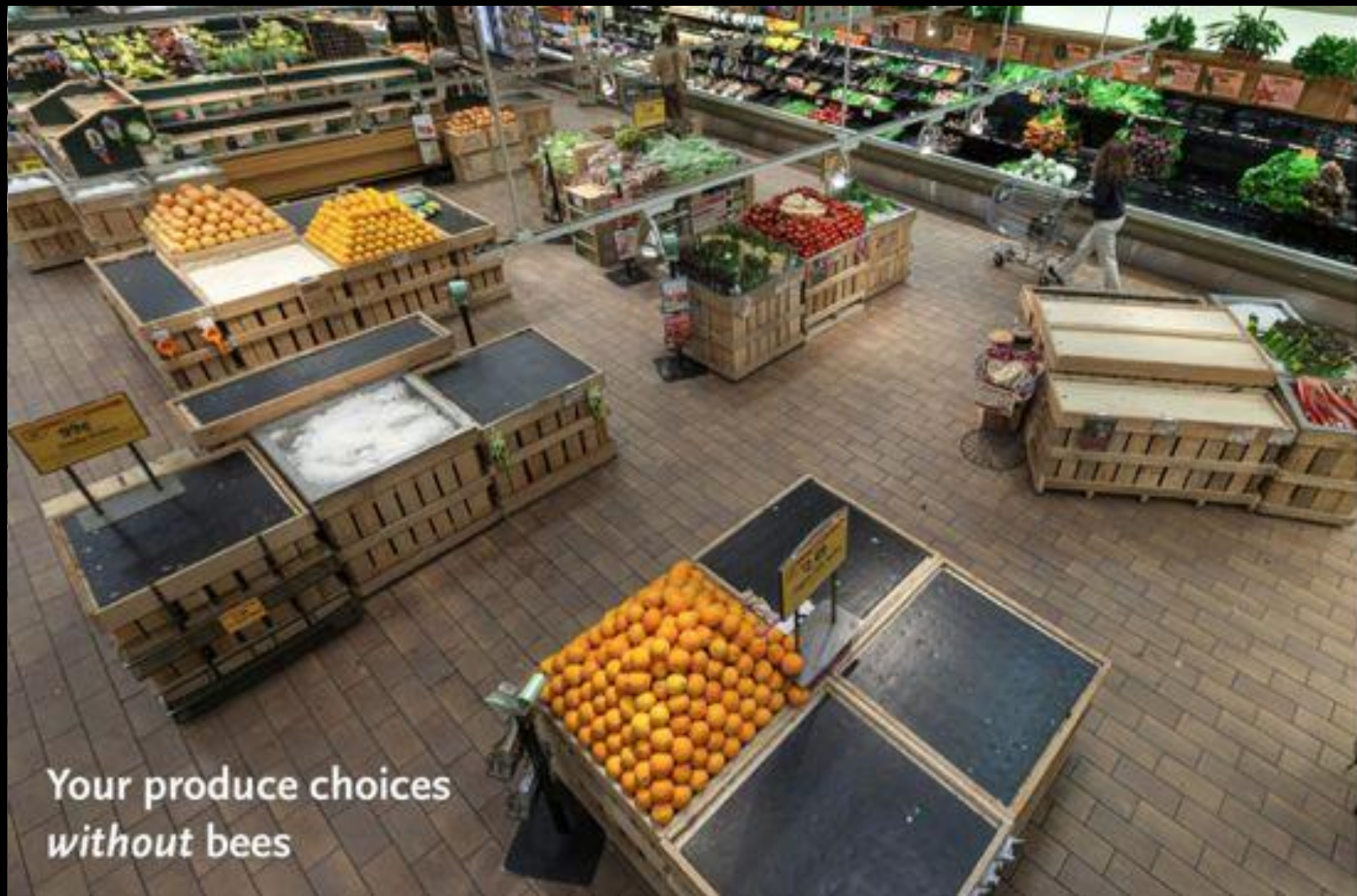
2050











Your produce choices
without bees

Causes of insect declines?

Loss of habitat

Pesticides

Foreign diseases

Climate change

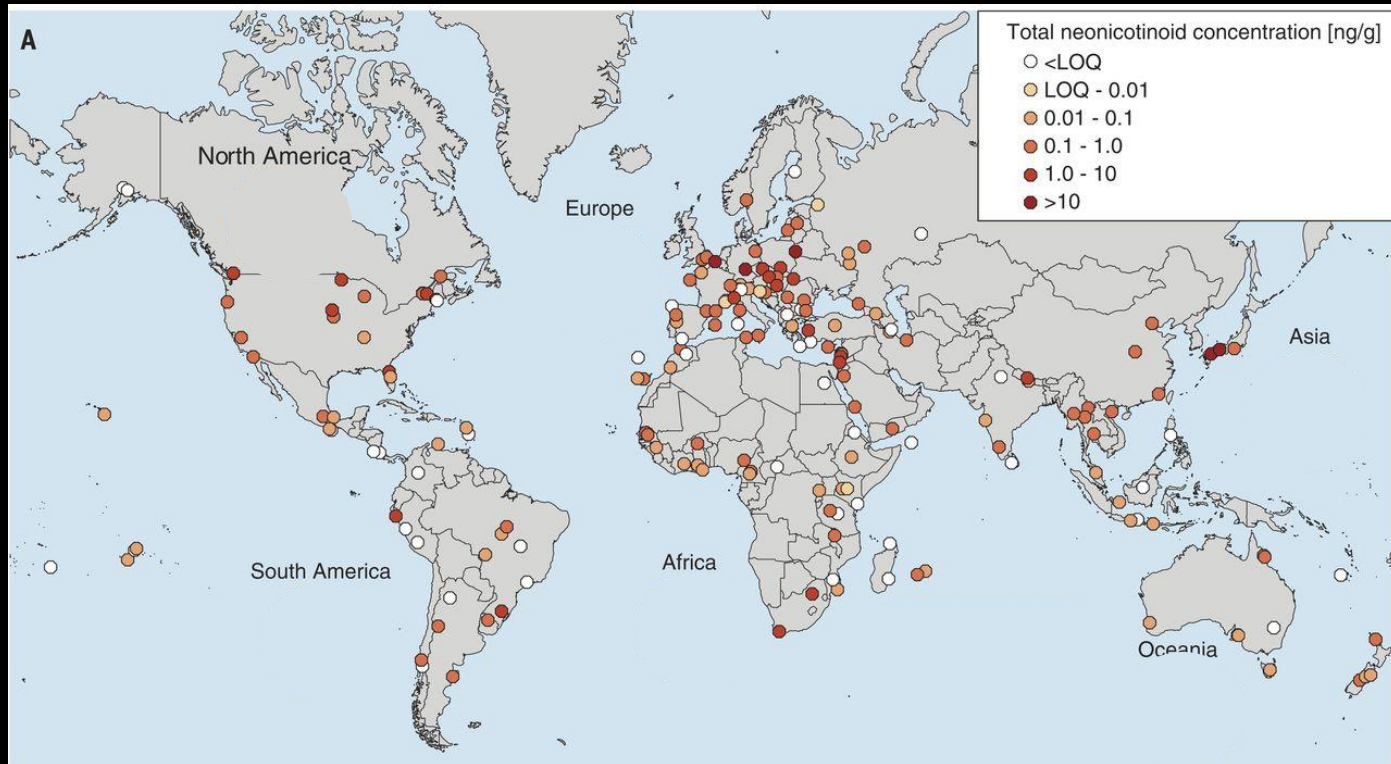
Fertilizers

Light pollution

???????????



Neonicotinoid insecticides in honey



Mitchell et al. 2017 Science 358: 109-111

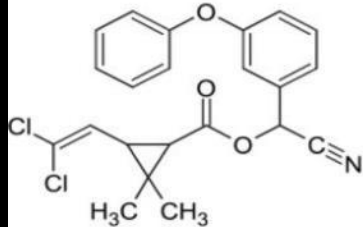
Limited / monotonous floral resources

Lack of alternative forage may increase exposure to pesticides

Poor diet compromises immunity

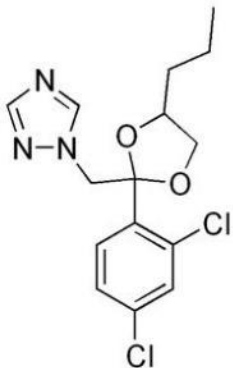
Immune response energetically costly

Pyrethroids



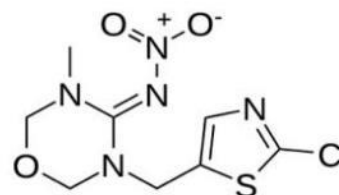
Fungicides increase toxicity

EBI Fungicides



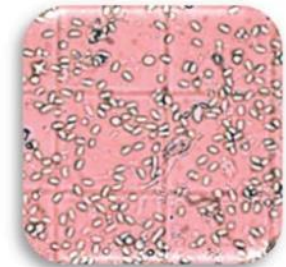
Fungicides act synergistically to increase toxicity

Neonicotinoids



Pesticide exposure affects disease tolerance and susceptibility

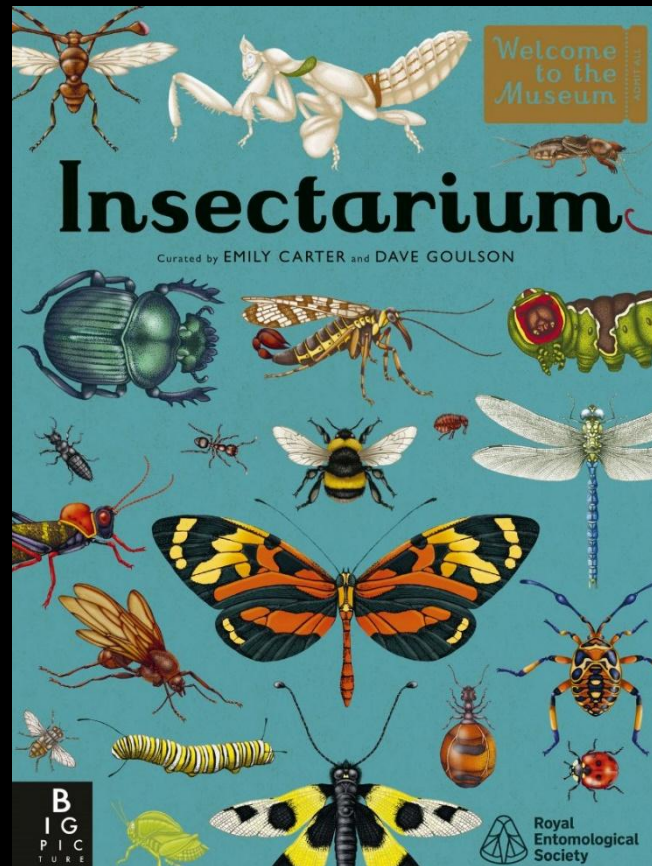
Parasites + Pathogens





Talk: The plight of insects,
and how you can help (May...

3.5K views • 5 months ago



THE SUNDAY TIMES BESTSELLER

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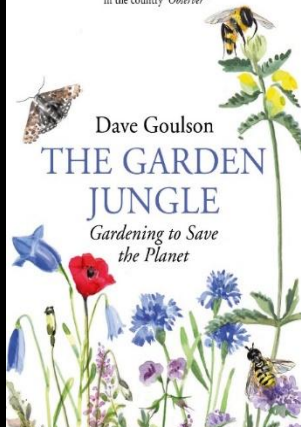
AVERTING THE INSECT APOCALYPSE

'A wake-up call for the world'

ISABELLA TREE,
AUTHOR OF WILDING

THE SUNDAY TIMES BESTSELLER

'Exquisite...should be read by every gardener
in the country' *Observer*



Dave Goulson

THE GARDEN JUNGLE

Gardening to Save
the Planet

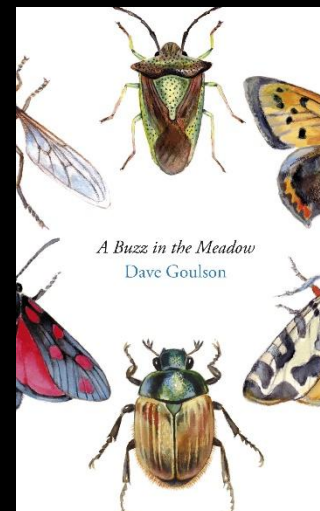
Dave Goulson

GARDENING for BUMBLEBEES

A Practical Guide
to Creating a Paradise
for Pollinators



Bee Quest
Dave Goulson



A Buzz in the Meadow
Dave Goulson



The Sunday Times bestseller



A Sting in the Tale Dave Goulson



My Adventures with Bumblebees

