

Uses of data: Climate change and IPBES

Josef Settele

Helmholtz-Centre for Environmental Research - UFZ,
Halle, Germany

Josef.Settele@ufz.de



HELMHOLTZ
ZENTRUM FÜR
UMWELTFORSCHUNG
UFZ



IPBES

**Intergovernmental Science-Policy
Platform on Biodiversity and
Ecosystem Services**



www.ipbes.net

What is IPBES?

- Intergovernmental Platform on Biodiversity and Ecosystem Services
- Overall objective: *To provide policy relevant knowledge on biodiversity and ecosystem services to inform decision making*
- Established in April 2012, Panama
- 125 member countries
- Secretariat hosted in Bonn



IPBES-1 (Jan 2013, Bonn)



IPBES-2 (Dec 2013, Antalya)

The 4 functions of IPBES

IPBES was established with four agreed functions:

• Knowledge generation	Identify knowledge needs of policymakers, and catalyse efforts to generate new knowledge
• Assessment	Deliver global, regional and thematic assessments, and promote and catalyse support for sub-global assessment
• Policy support tools	Identify policy relevant tools/methodologies, facilitate their use, and promote and catalyse their further development
• Capacity building	Prioritize key capacity building needs, and provide and call for financial and other support for priority needs



ipbes

IPBES Plenary: 4th Session

Pollinators, Pollination and Food Production

Deliverable 3a



www.ipbes.net

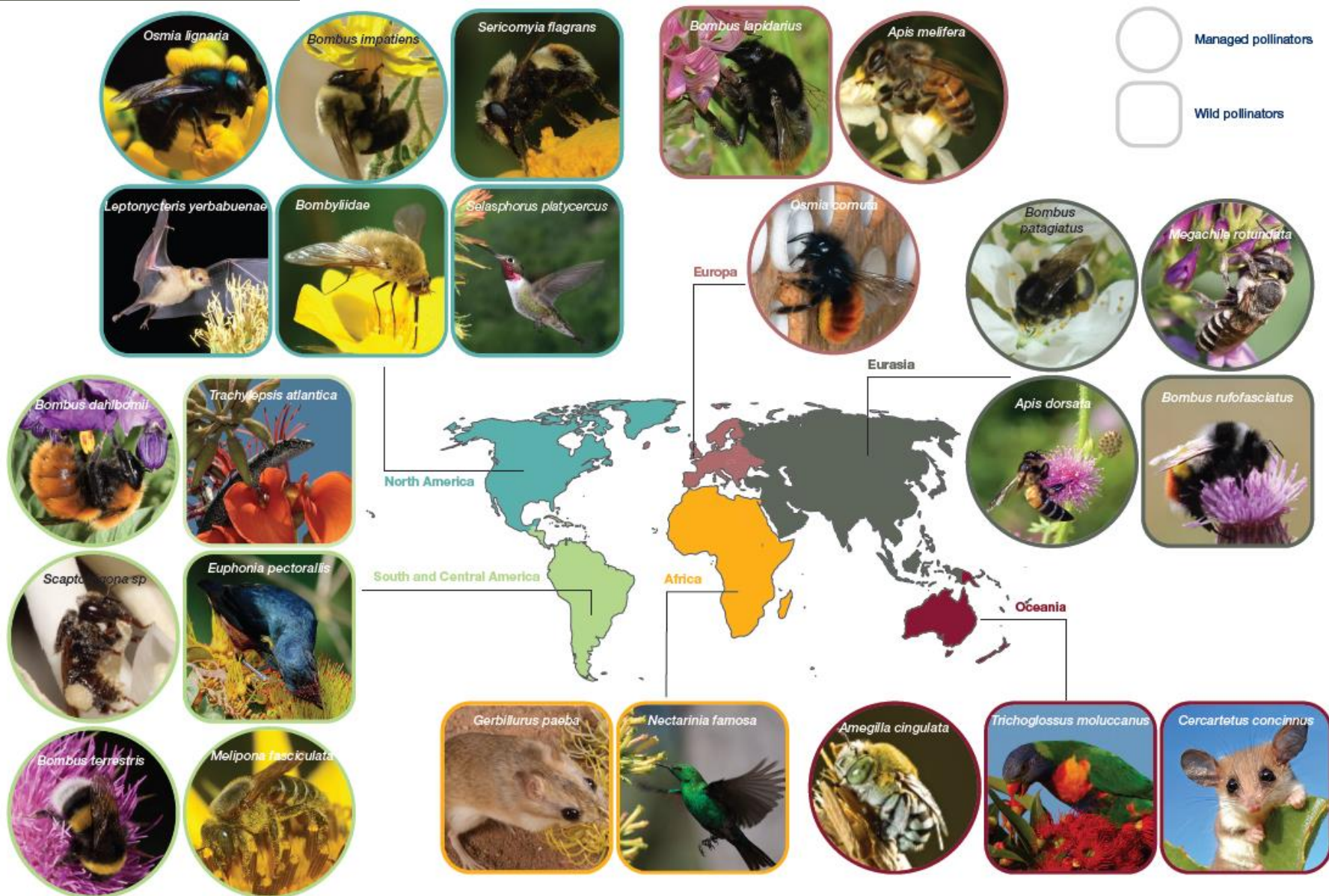
Pollinators are diverse



Pollinators are diverse



Pollinators are diverse



Wide range of benefits

- Almost **90%** of the world's flowering plants
- More than **75%** of leading food crops
depend, at least in part on animal pollination

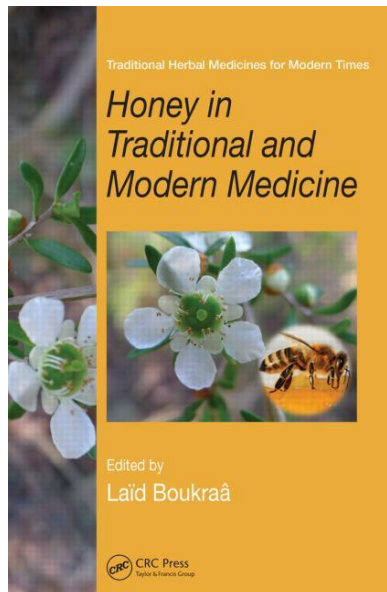


www.shutterstock.com · 142929526



Many values beyond food

- Medicines, biofuels, fibres and construction materials



Honey



Canola



Cotton



Eucalyptus

- Sources of inspiration for art, music, literature, religion and technology

Causes of declines

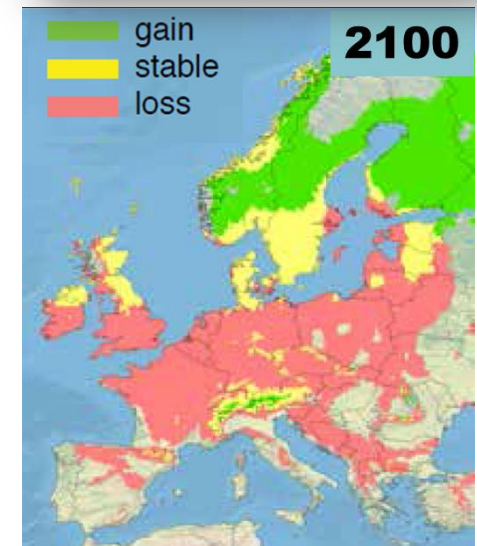
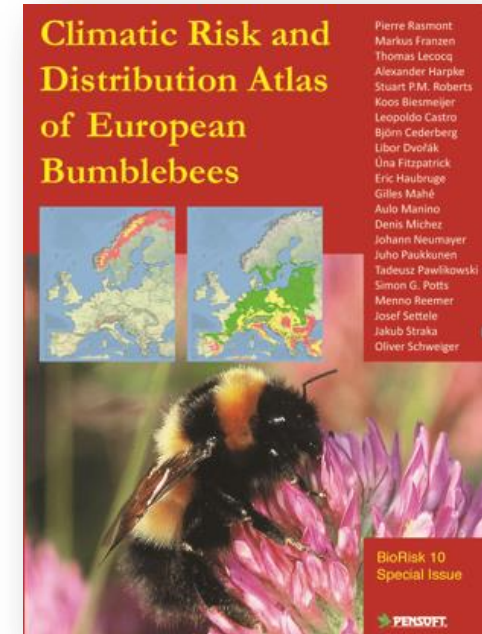
- Multiple threats to pollinators:
 - Land use change
 - Intensive agricultural management
 - Pesticides
 - Genetically Modified (GM) crops
 - Pathogens
 - Climate change
 - Invasive alien species
 - Interactions
- Often difficult to link specific drivers to observed declines



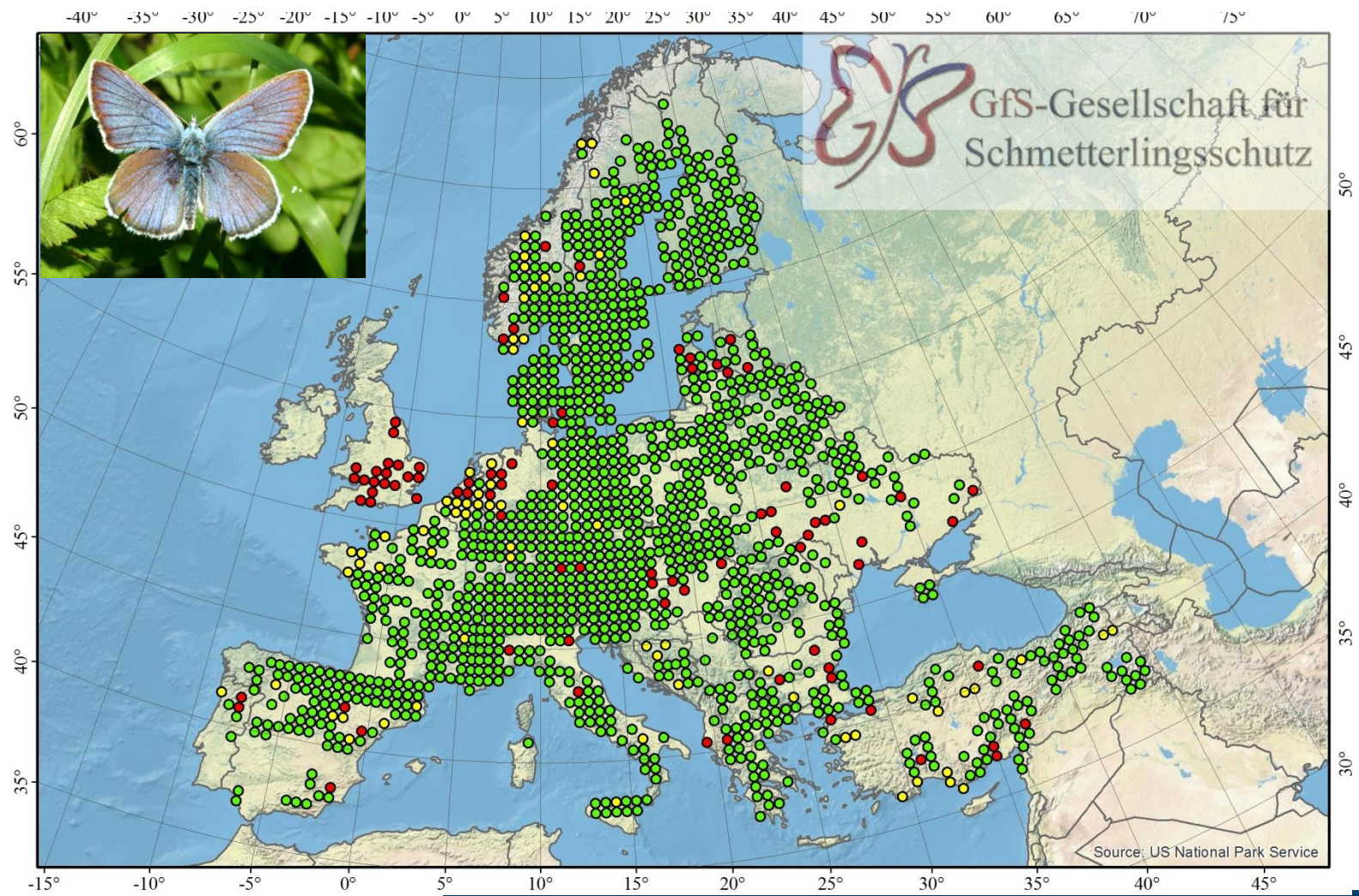
Climate change

Risks

- For some pollinators (e.g. bumblebees):
 - Range changes
 - Altered abundance
 - Shifts in seasonal activities
 - Risk of disruption of future crop pollination
- Climate shifts across landscapes may exceed species dispersal abilities



Red-tailed bumblebee (*Bombus lapidarius*)

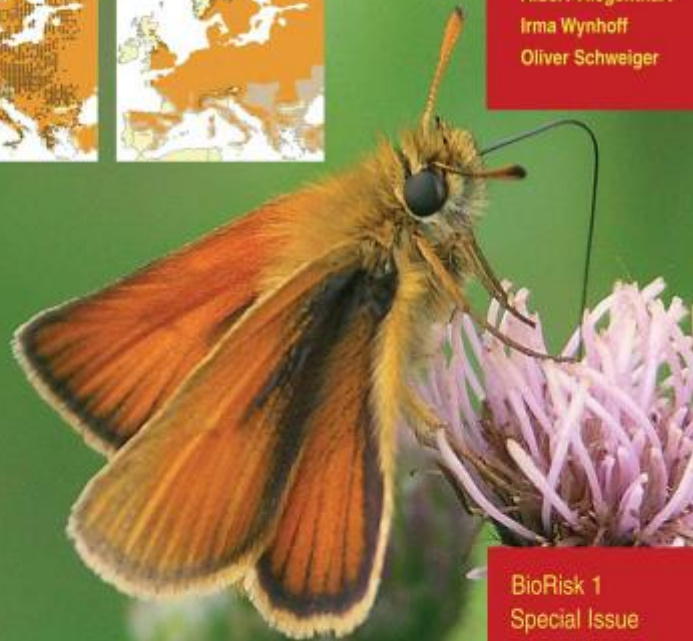


LepiDiv – compiling distribution data for more than just distribution atlases

Martin Wiemers, Alexander Harpke, Oliver Schweiger, Josef Settele

Climatic Risk Atlas of European Butterflies

Josef Settele
Otakar Kudrna
Alexander Harpke
Ingolf Kühn
Chris van Swaay
Rudi Verovnik
Martin Warren
Martin Wiemers
Jan Hanspach
Thomas Hickler
Elisabeth Kühn
Inge van Halder
Kars Velling
Albert Vliegenthart
Irma Wynhoff
Oliver Schweiger



BioRisk 1
Special Issue

 **PENSOFT**



CHAPTER 2

DRIVERS OF CHANGE OF POLLINATORS, POLLINATION NETWORKS AND POLLINATION

Coordinating Lead Authors:

Anikó Kovács-Hostyánszki (Hungary), Jilian Li (China), Jeff Pettis (USA), Josef Settele (Germany)

Lead Authors:

Contributing Authors:

Katherine Baldock (UK), Luc P. Belzunces (France), Scott Black (USA), Tjeerd Blacquiére (The Netherlands), Jordi Bosch (Spain), Panuwan Chantawannakul (Thailand), Lynn Dicks (UK), Mark Goddard (UK), Alexander Harpke (Germany), Rodolfo Jaffé (Brazil), Jens Memmott (UK), Caroline L. Morales

Coordinating Lead Authors:

Anikó Kovács-Hostyánszki (Hungary), Jilian Li (China), Jeff Pettis (USA), Josef Settele (Germany)

Lead Authors:

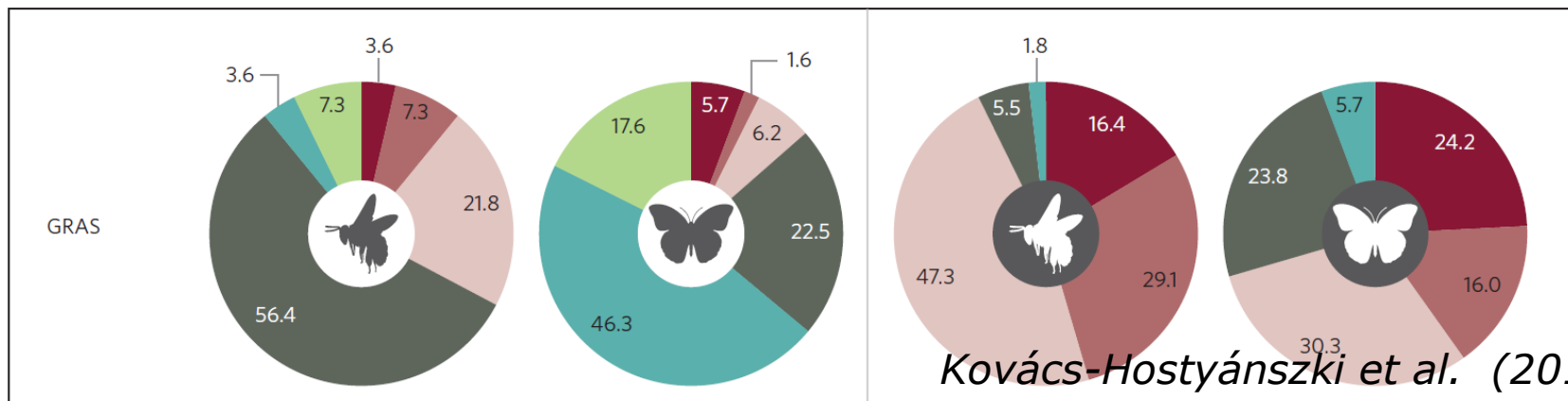
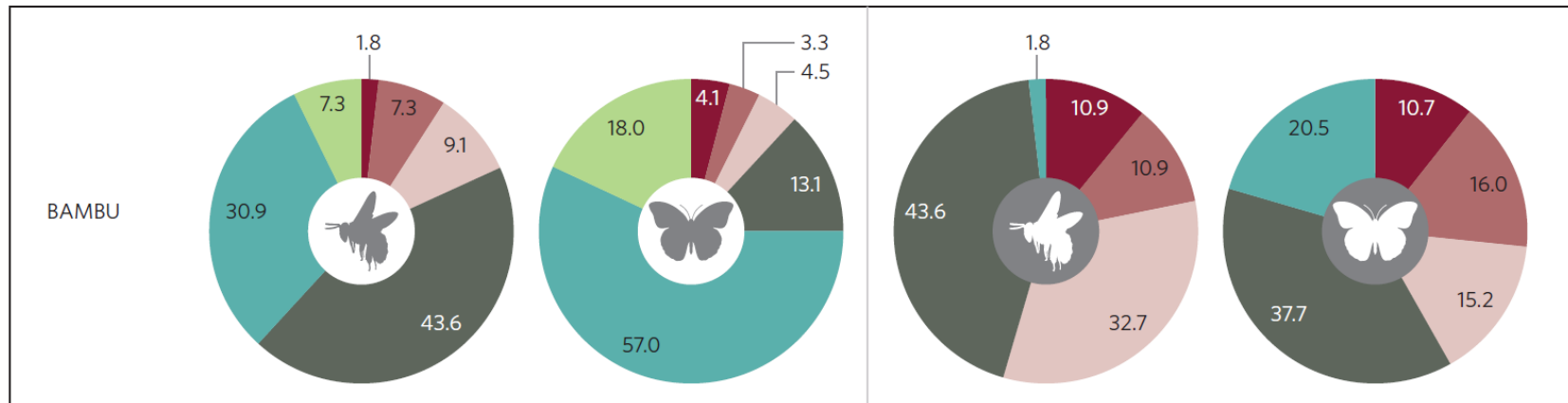
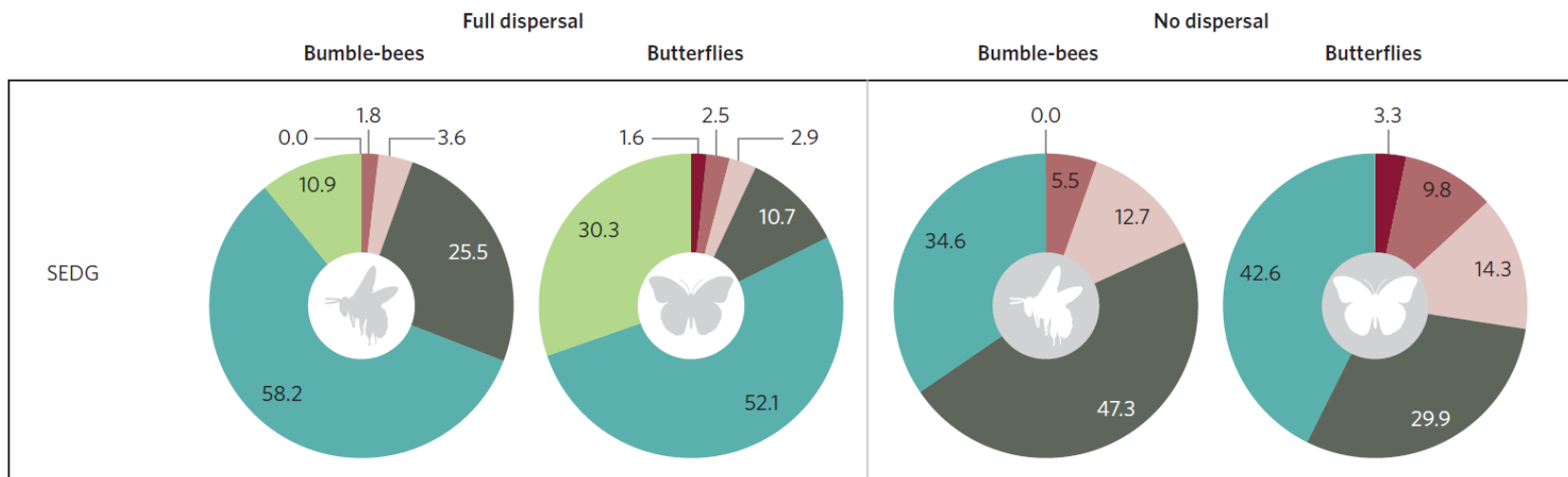
Thomas Aneni (Nigeria), Anahí Espíndola (Argentina), Sih Kahono (Indonesia), Hajnalka Szentgyörgyi (Poland), Helen Thompson (UK), Adam Vanbergen (UK), Rémy Vandame (Mexico)

Contributing Authors:

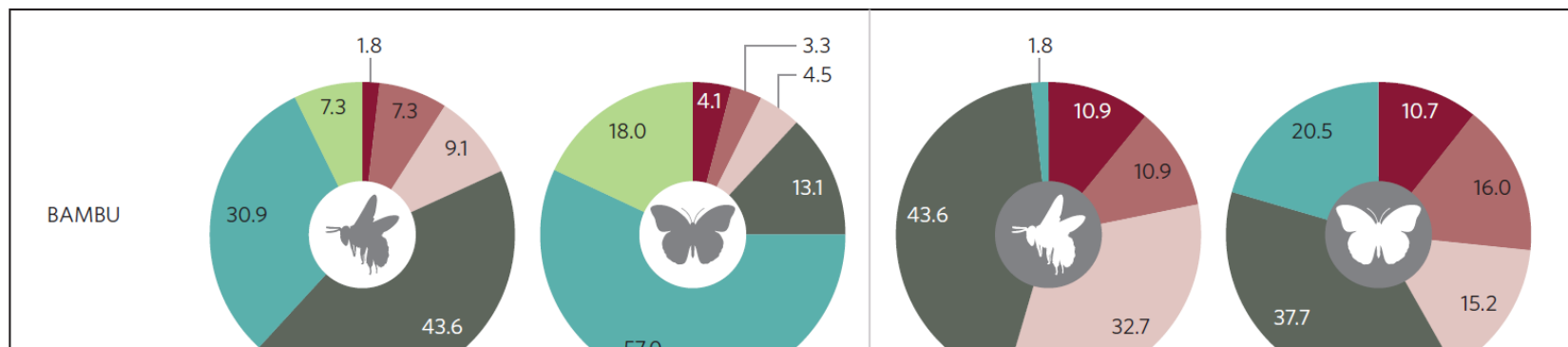
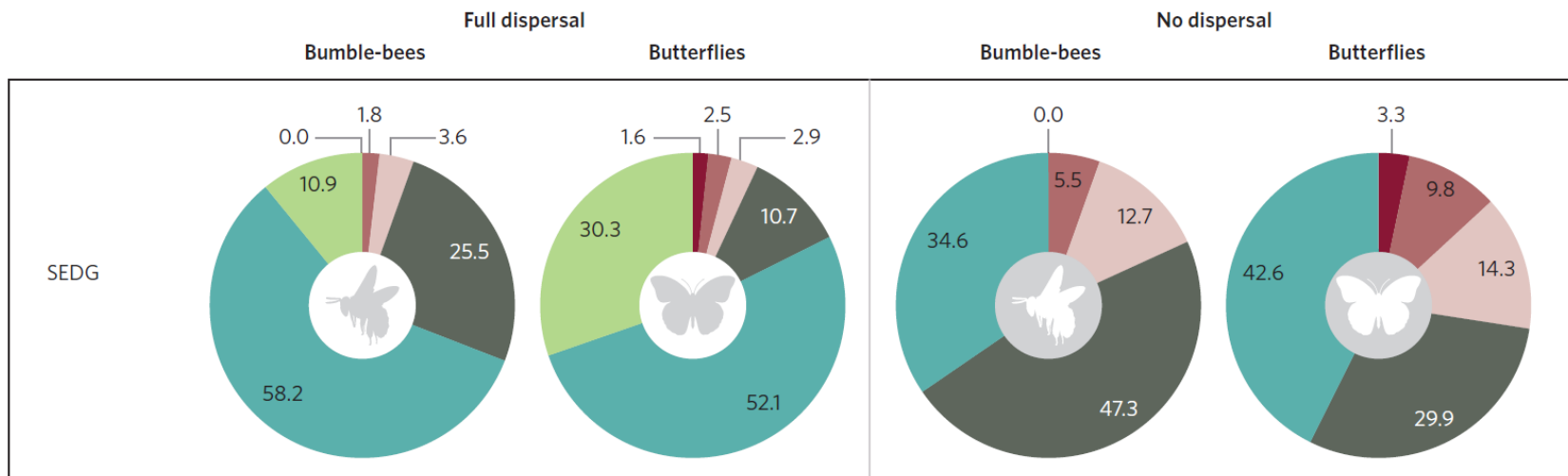
Katherine Baldock (UK), Luc P. Belzunces (France), Scott Black (USA), Tjeerd Blacquièr (The Netherlands), Jordi Bosch (Spain), Panuwan Chantawannakul (Thailand), Lynn Dicks (UK), Mark Goddard (UK), Alexander Harpke (Germany), Rodolfo Jaffé (Brazil), Jane Memmott (UK), Carolina L. Morales (Argentina), Oliver Schweiger (Germany)

Review Editors:

Claire Kremen (USA), Kong Luen Heong (Malaysia), Nigel Raine (Canada)



Kovács-Hostyánszki et al. (2014)



■ Extremely high climate change risk: loss of >95% of grid cells

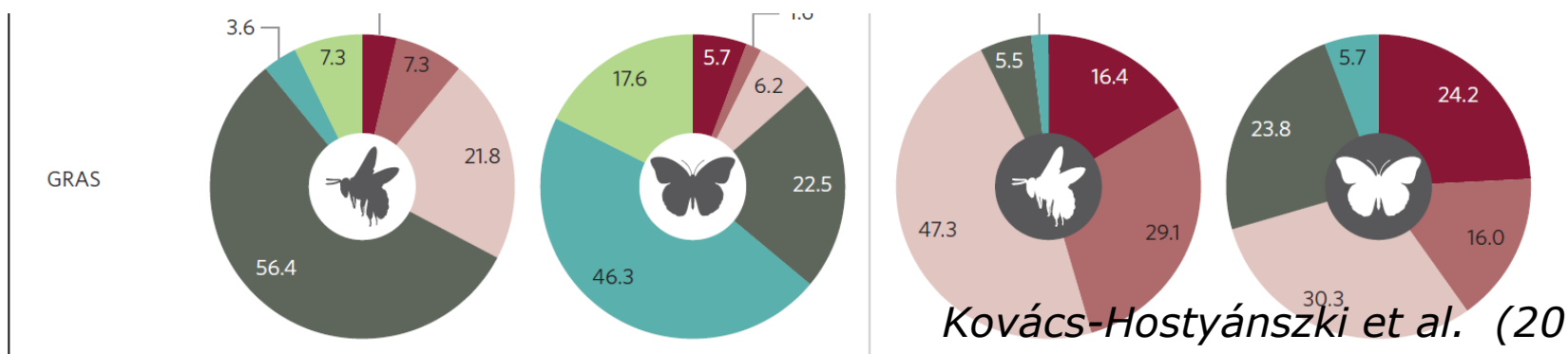
■ Very high climate change risk: loss of 85–95% of grid cells

■ High climate change risk: loss of 70–85% of grid cells

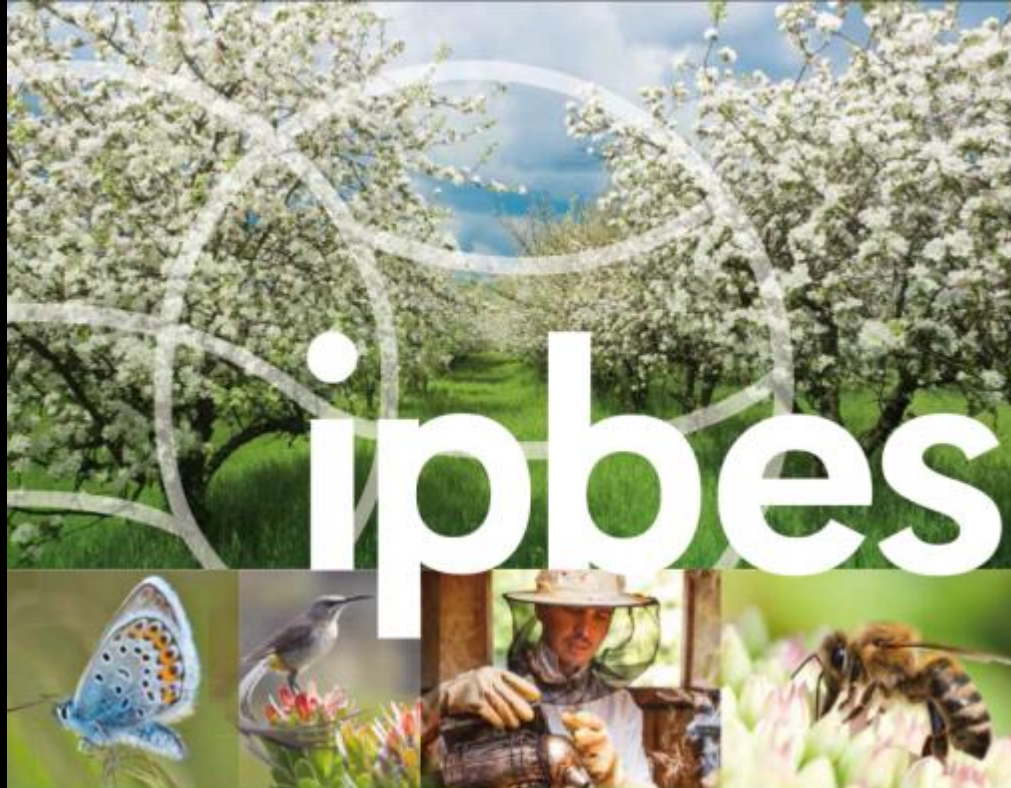
■ Climate change risk: loss of 50–70% of grid cells

■ Lower climate change risk: loss of ≤50% of grid cells

■ Lower climate change risk with net gain of grid cells under full dispersal



Kovács-Hostyánszki et al. (2014)



The assessment report on
**POLLINATORS,
POLLINATION AND
FOOD PRODUCTION**

SUMMARY FOR POLICYMAKERS



The Intergovernmental Platform on Biodiversity and Ecosystem Services







8th Session IPCC
http://

the low-lying developing countries



UNFCCC

VMO

NER

MAURITANIA

MAURITIA

MEXICO

TUNISIA





PREIS DEUTSCHLAND 5,10 €

DIE ZEIT



WOCHENZEITUNG FÜR POLITIK WIRTSCHAFT WISSEN UND KULTUR

Das Schweigen der Politik

Das große
Insektensterben
und warum die
Regierung nichts tut

