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# Biodiversity and the future of global health

**Global Bioeconomy Summit 2018**

19th April 2018, Berlin, Germany

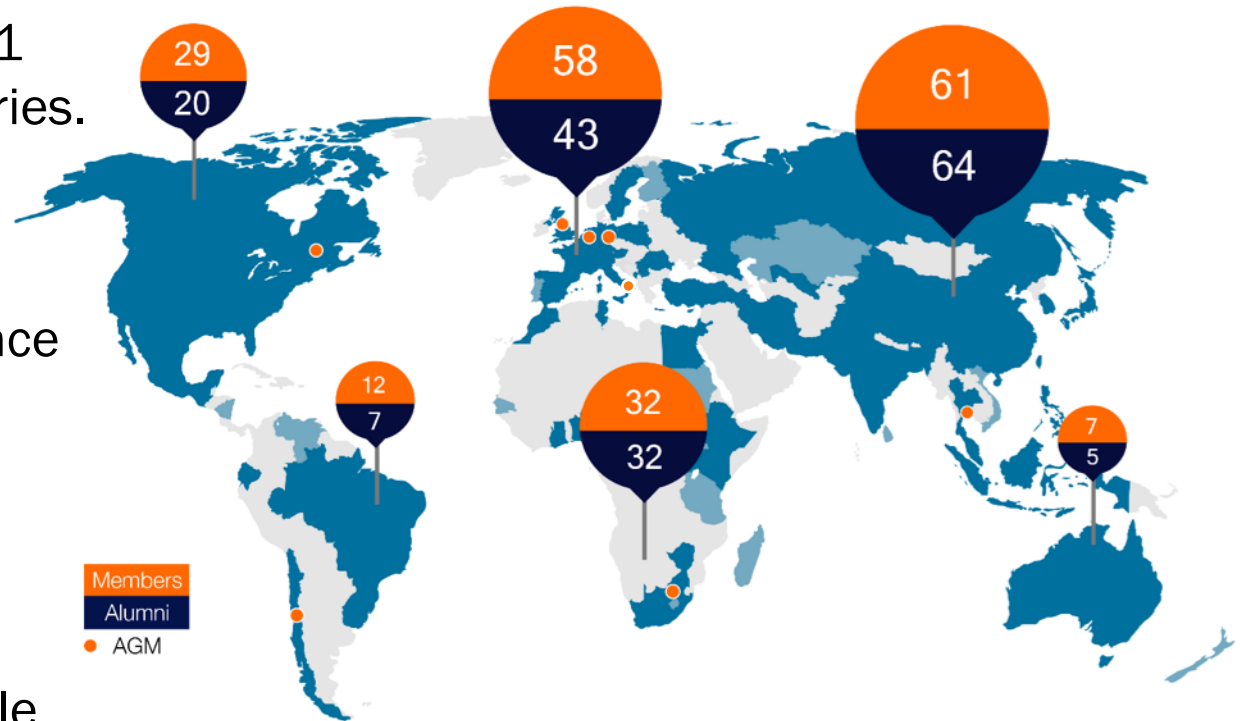
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**Bio2Bio – Biodiversity-to-Biomedicine Working Group**

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- A worldwide network of 200 members and 171 alumni from 77 countries.
- Selection criteria
  - Research excellence
  - Commitment to service/outreach
- Median age ~37y
- 36% female, 64% male
- 5y membership term





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# GYA Vision and Mission

## The voice of young scientists around the world

Support young scientists in career development and independence

Engage in interdisciplinary, international and intergenerational dialogue on scientific issues

Build science capacity in the developing world

Promote science education and science-policy integration





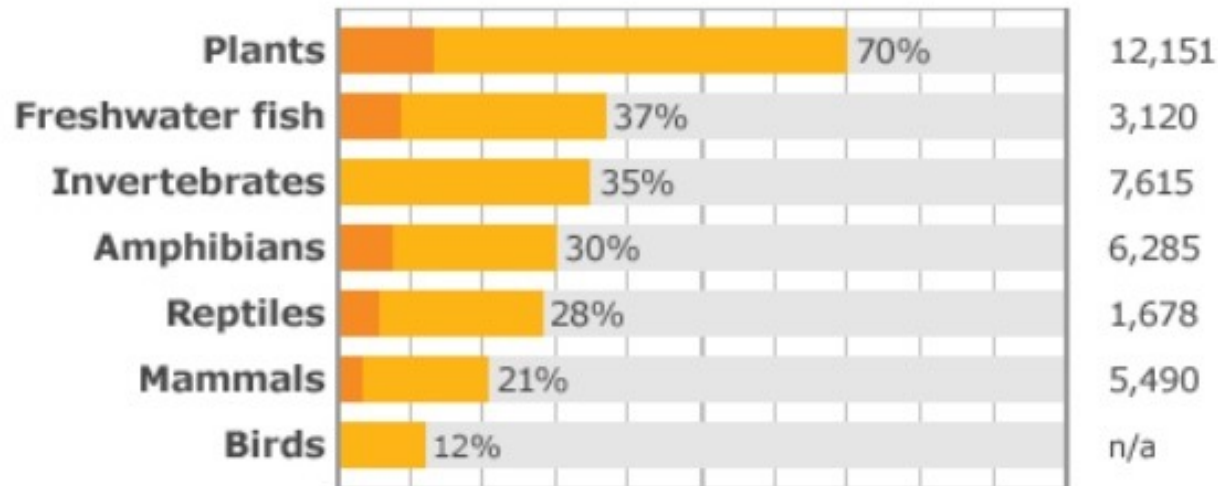
*How does the current dramatic loss of biodiversity affect us?*

## Species under threat globally

% of species assessed so far that are threatened:

**Critically endangered** where known    **Endangered or vulnerable**

Number  
of species  
assessed

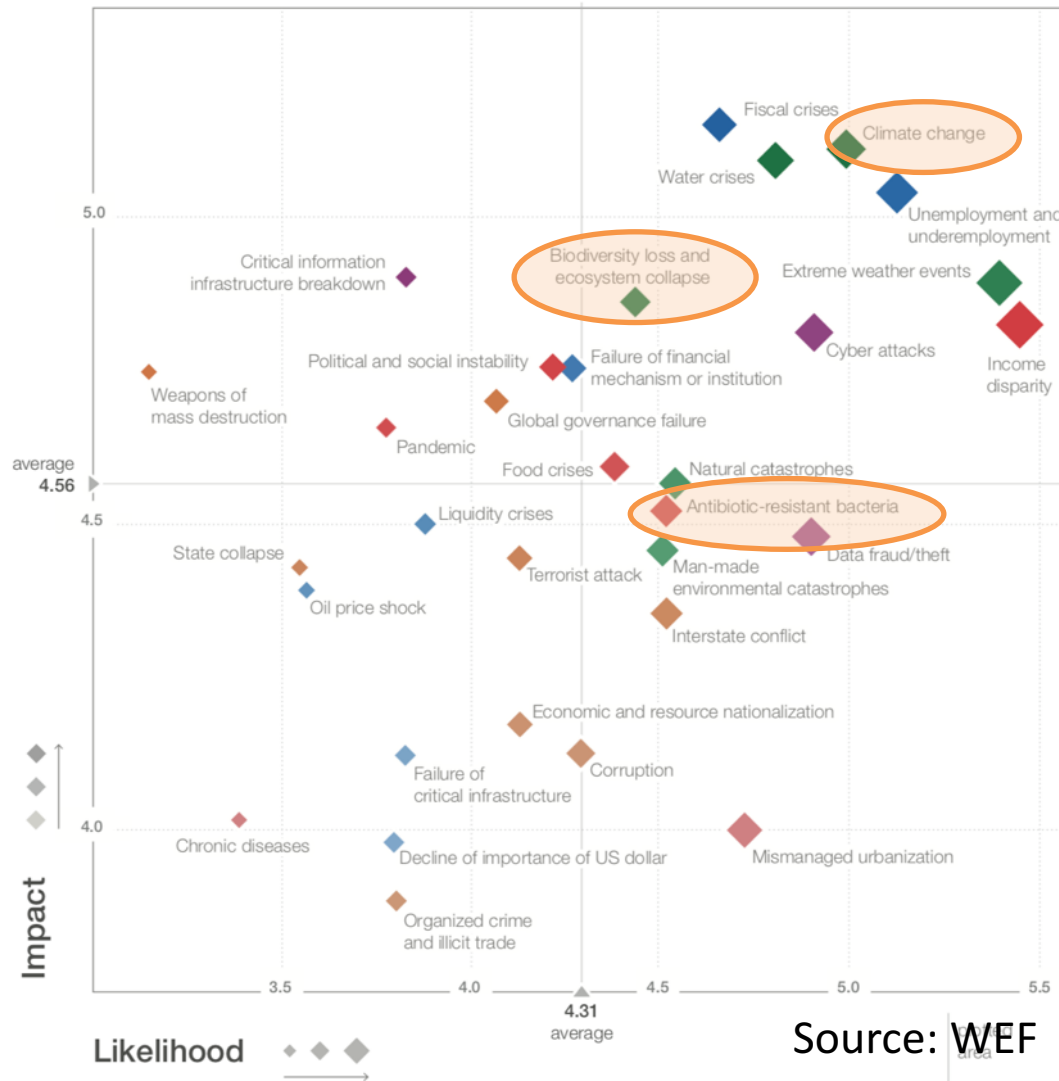


Source: IUCN

**+ millions of single-cell organisms, bacteria, protists**



Figure 1.1: The Global Risks Landscape 2014



## High Risk of **Global Health Crisis** due to

- Global spread of infectious diseases
- Overuse of antibiotics drives resistance
- Lack of novel classes of antimicrobial or antiviral drugs in the last decades

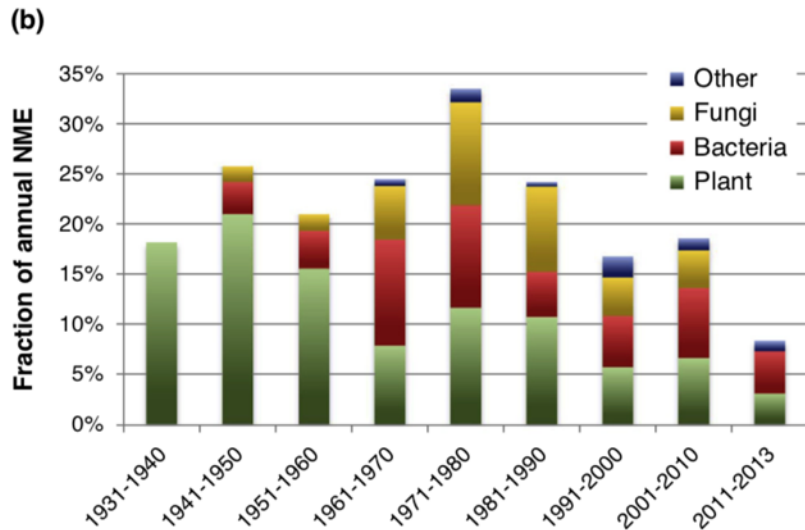
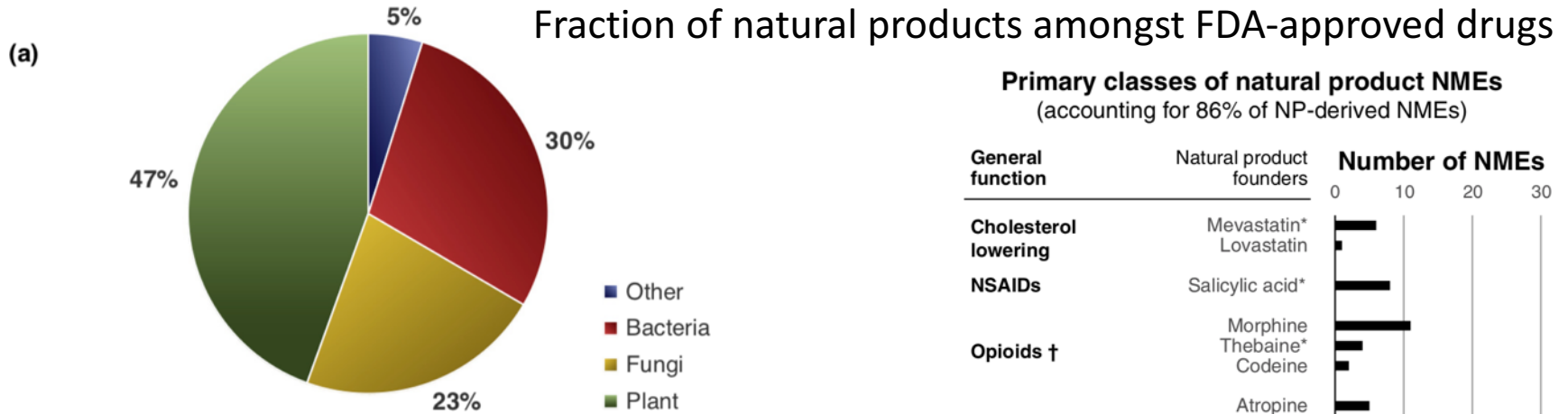
**Chemical diversity** in nature cannot be matched with organic chemistry

**Biodiversity is crucial** for drug discovery

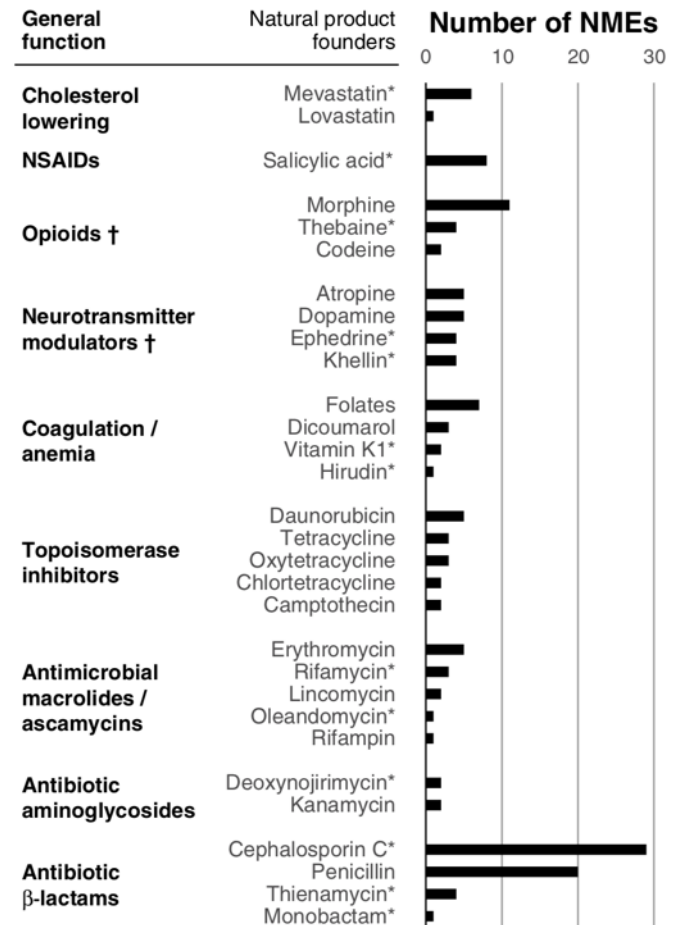




# Natural products are crucial for global health and wellbeing



**Primary classes of natural product NMEs**  
(accounting for 86% of NP-derived NMEs)





- Evaluate the future of global health on the basis of available biodiversity
- Find solutions to preserve, collect, species, natural products, traditional medicine knowledge associated with regional flora and fauna.
- Develop ethical, economical and logistical frameworks to make biodiversity available to drug discovery under transparent, fair and sustainable terms.

***Put a price tag on biodiversity***



We aim to bring together scientists in a global and multidisciplinary team to

- Dialog with policy makers and stakeholders
- Work together with local initiatives to scale-up successful models of sustainable exploitation of biodiversity for drug discovery
- Set up platforms and databases facilitating collection and open access to natural products and knowledge around it