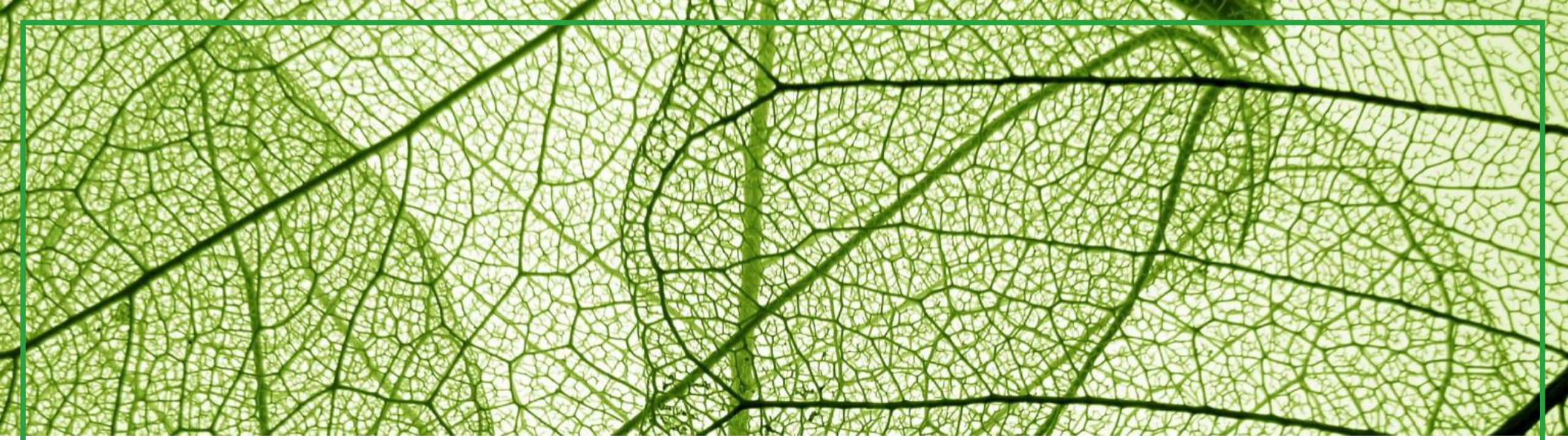

The World Archives of Species Perception

Understanding human perception in biodiversity conservation

Tuan Nguyen, prof. dr. Robert Malina, prof. dr. Maarten Vanhove

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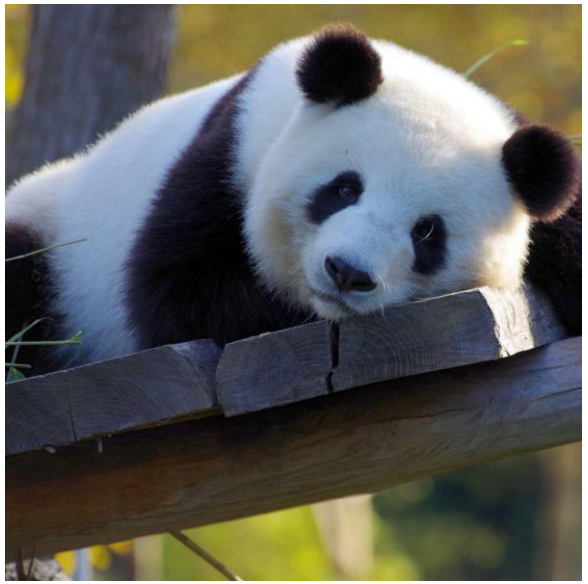
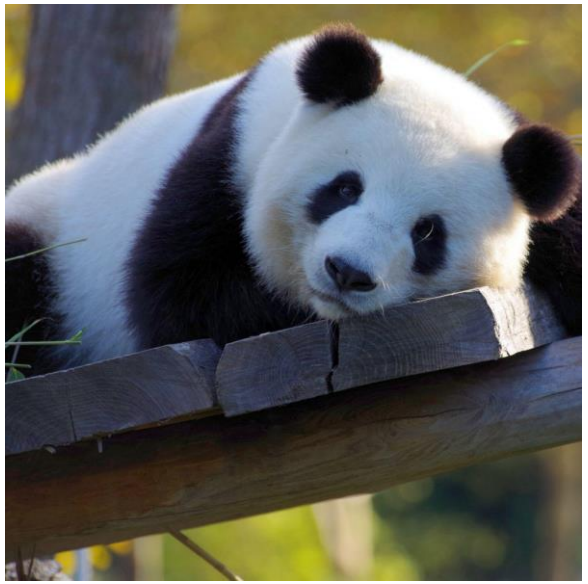
Which species among these would you like the most?





appealing	♡♡♡	♡♡	♡ / □
ecological importance	❀	❀❀	❀❀
support for conservation	$$$	$$	$

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World Archives of Species Perception (WASP) project

Human perception

- Such phenomenon of disproportionate attention for certain species are not only present in the general public, but also among professional scientists and policymakers
- It is an important driving force behind human interactions with species

- Different theories tried to explain this phenomenon, such as the Biophilia Hypothesis (Kellert & Wilson, 1993) or Non-human Charisma (Lorimer, 2007)
- Yet, we know very little about the mechanisms underlying human perception, and to what extent this can support or hinder biodiversity conservation

Our main research interests

1. To explore how the general public perceive a diverse range of species, and
2. To understand the extent to which public perception can influence human decisions, such as biodiversity conservation

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Research roadmap

1. Construct database
2. Empirical analysis
3. Expansion

Construct the first global, open-access database on public perception

- Publish a peer-reviewed article on the WASP survey methodology
- Build a web-based survey platform
- Collect perception data (13,000+ observations)

2023-2024

- Exploratory data analysis
- Theory and hypothesis testing
- New indices on species perceived values
- Apply machine learning in species trait-based analysis to predict the values of other species

2024 - 2025

Expand the research domain on public perception

- Promote the use of WASP's novel open-access databases by the scientific community
- Upgrade the web-based platform into a citizen-science platform

2025 -

WASP Methodology

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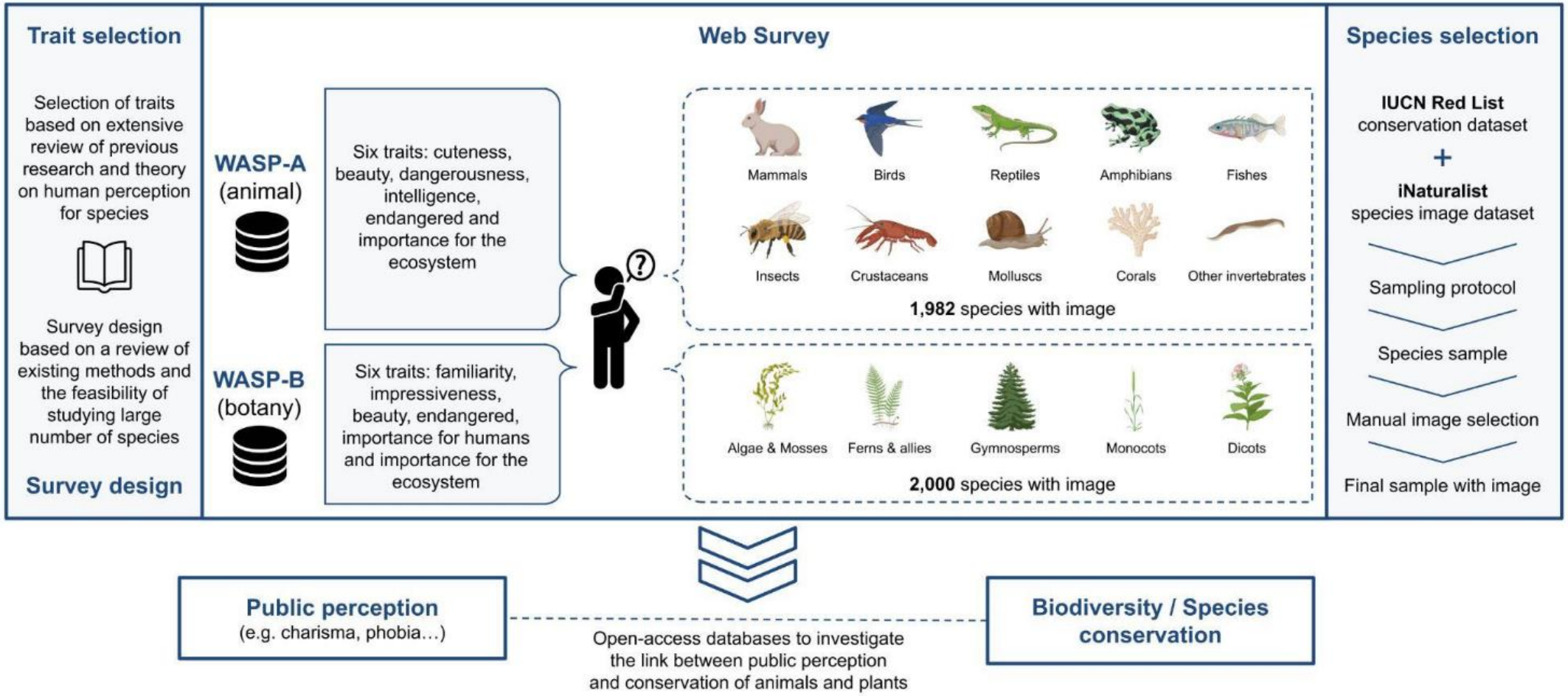
WASP Methodology



Tuan Nguyen, Robert Malina, Ilias Mokas, Antonis Papakonstantinou, Orestes Polyzos, Maarten P M Vanhove, WASP: the World Archives of Species Perception, *Database*, Volume 2023, 2023, baad003, https://doi.org/10.1093/database/baad003

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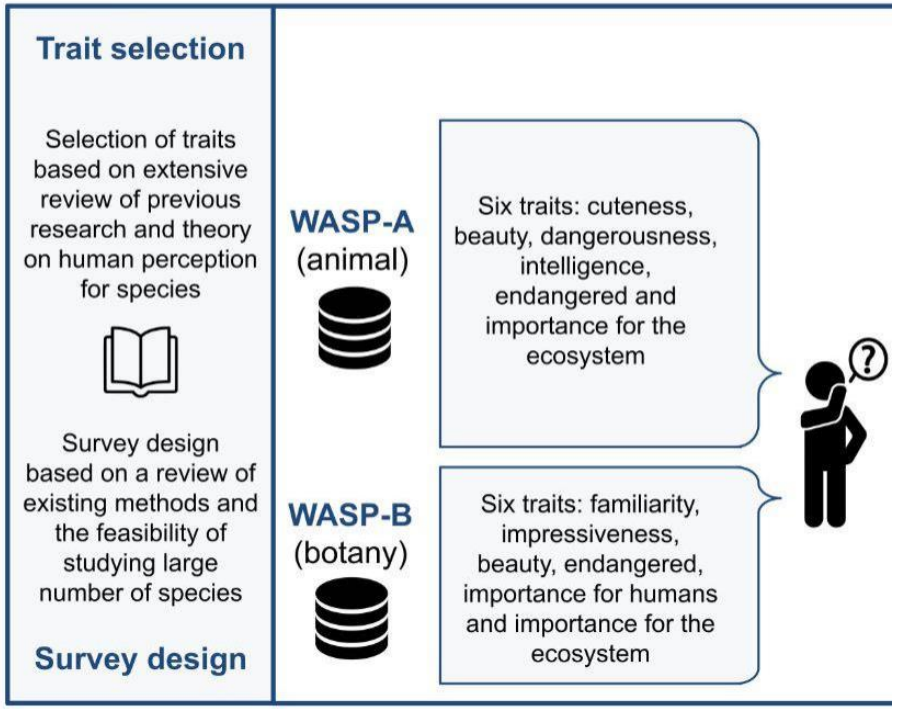
WASP Methodology



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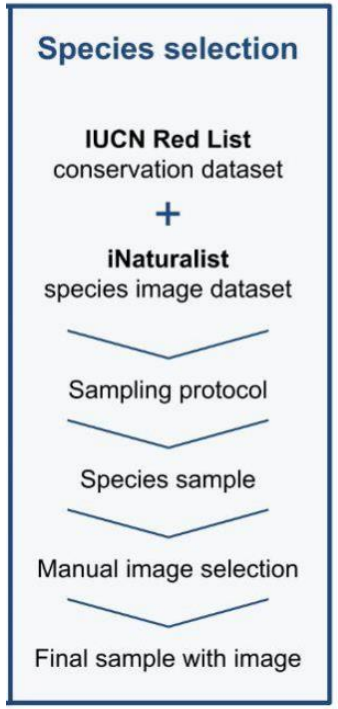
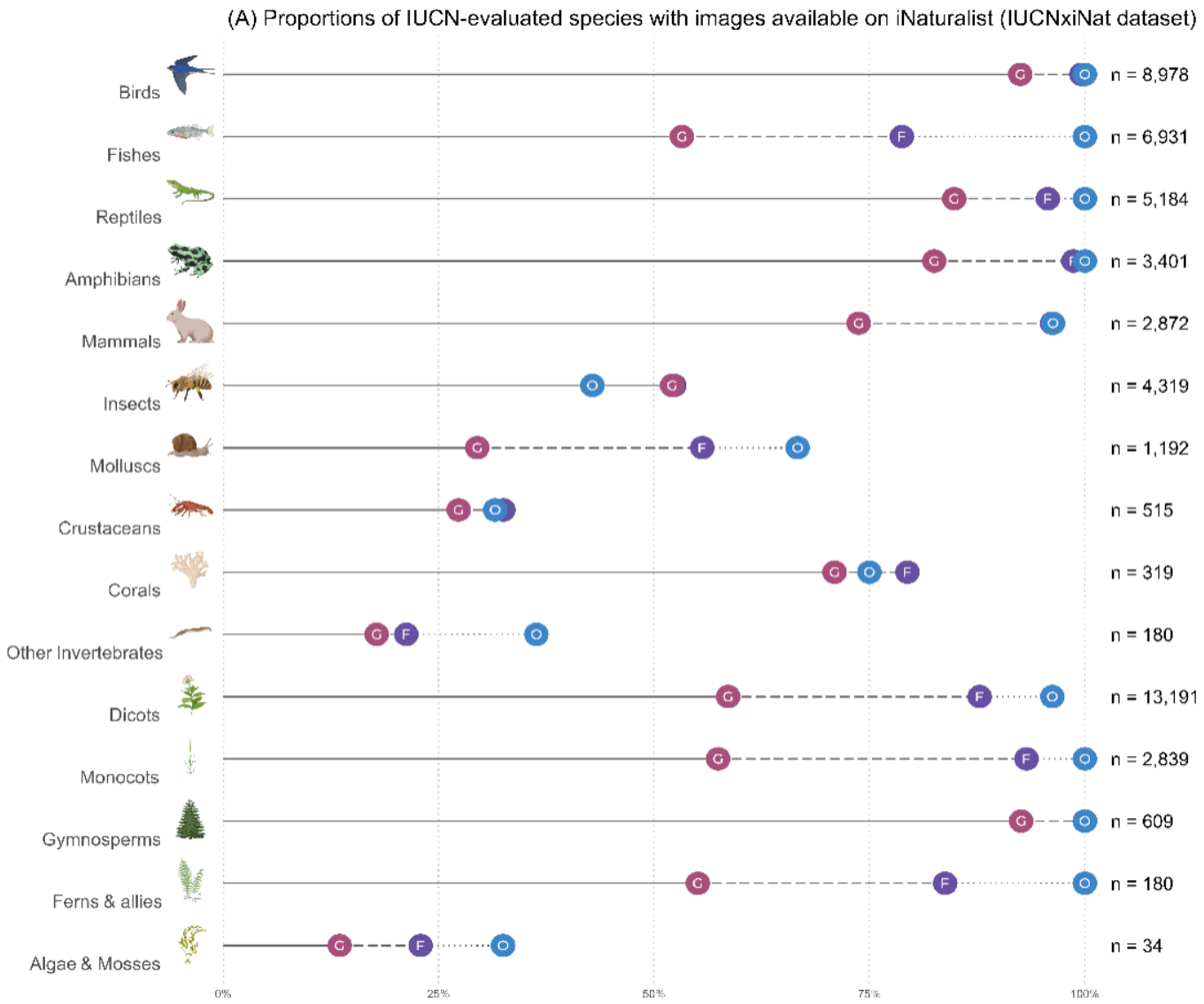
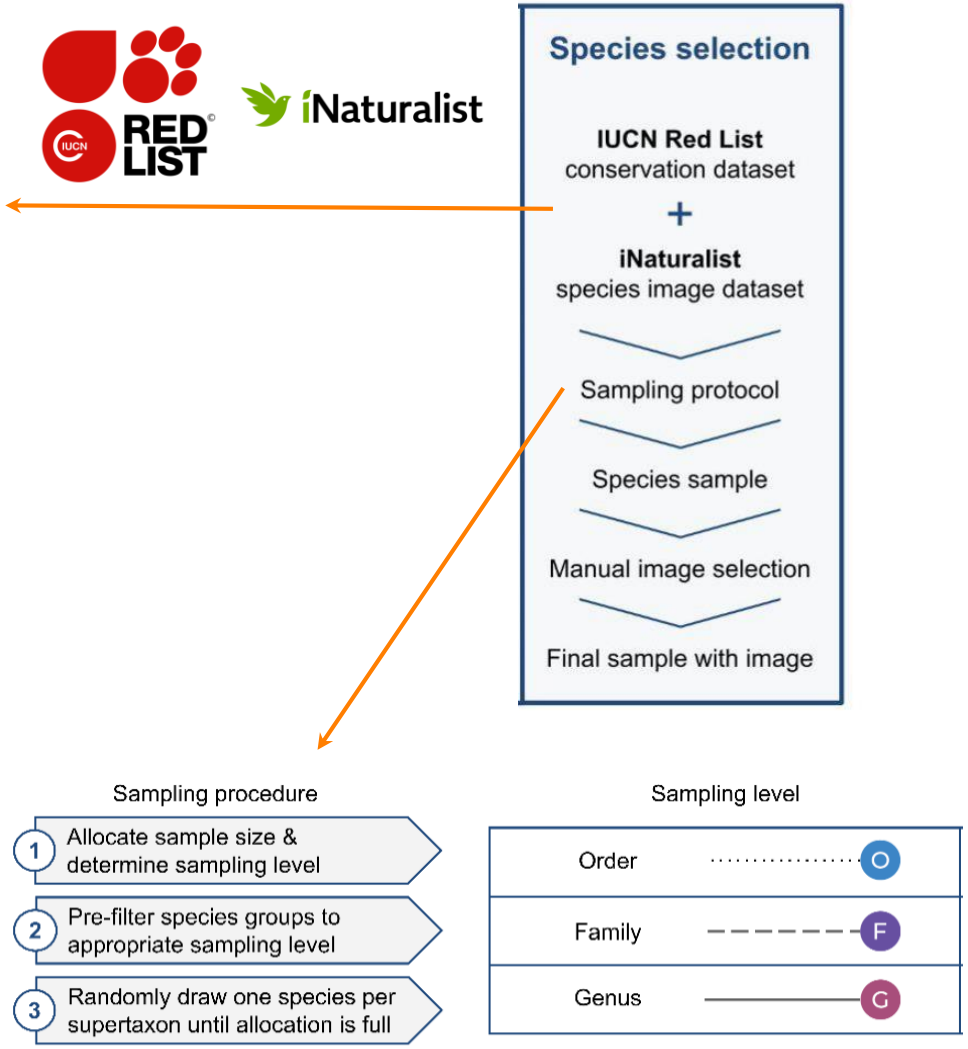


WASP Methodology





WASP Methodology

Selected image

(c) hhpersen
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Criteria

Mandatory

- Single adult organism
- Clearly visible from background
- Major bodyparts shown

Additional

- Alive
- Fine details
- Lateral view
- Naturalistic background

Unqualified images

(c) laurajabriela
some rights reserved (CC BY-NC)

(c) François-Xavier Taxil
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(c) Timothy Gerla
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no rights reserved

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Species selection

IUCN Red List
conservation dataset

+

iNaturalist
species image dataset

Sampling protocol

Species sample

Manual image selection

Final sample with image

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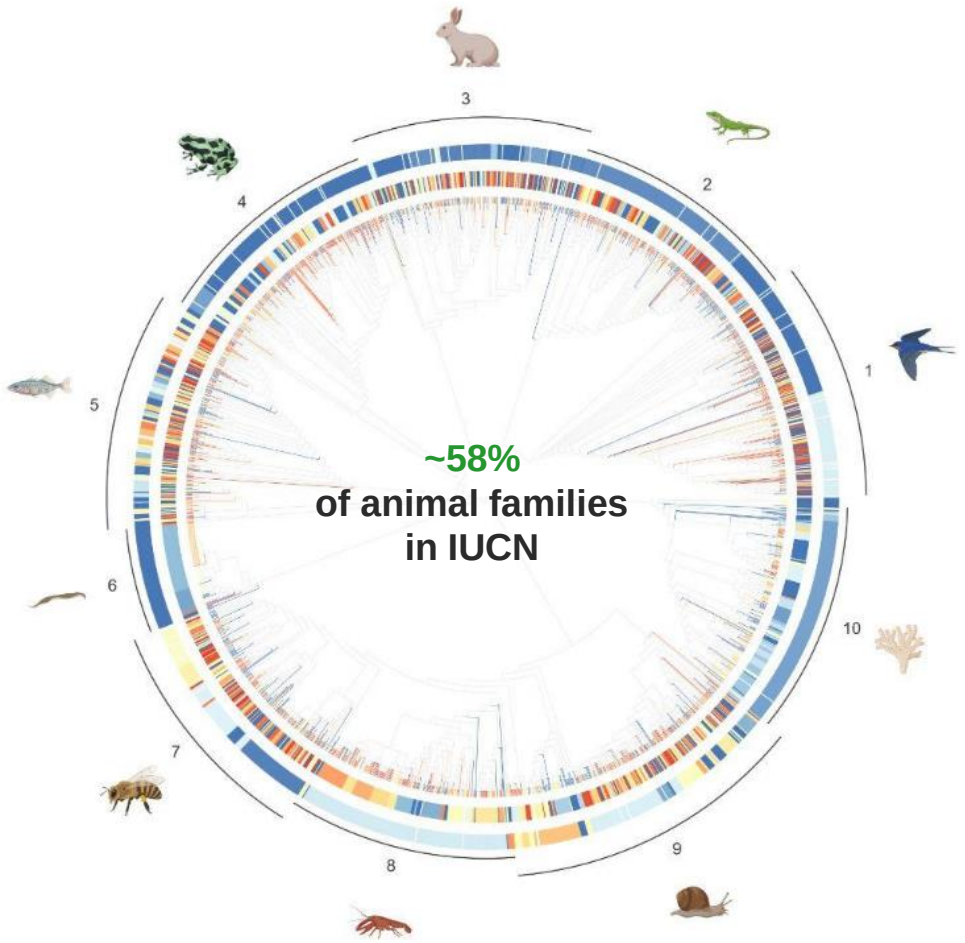
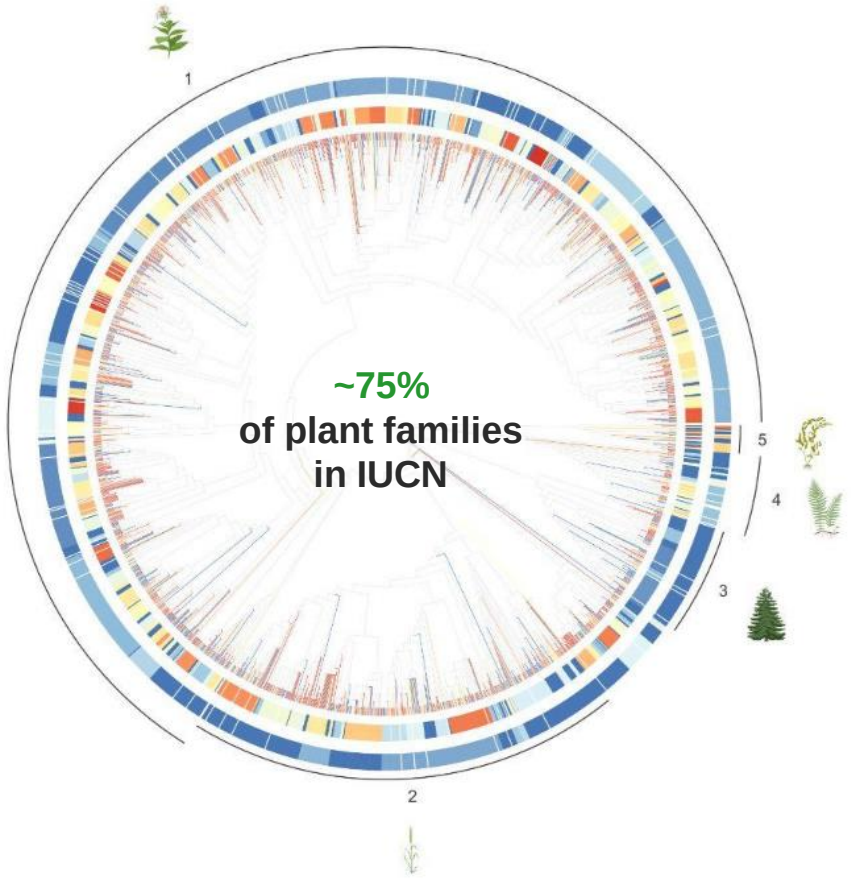
Final species samples with images





Taxonomic representativeness

0% 100%

Circular layers

Tree tips: % species / genus
1st layer: % genus / family
2nd layer: % family / order

WASP-A

1. Birds
2. Reptiles
3. Mammals
4. Amphibians
5. Fishes
6. Other invertebrates
7. Insects
8. Crustaceans
9. Molluscs
10. Corals

WASP-B

1. Dicots
2. Monocots
3. Gymnosperms
4. Ferns
5. Algae & Mosses

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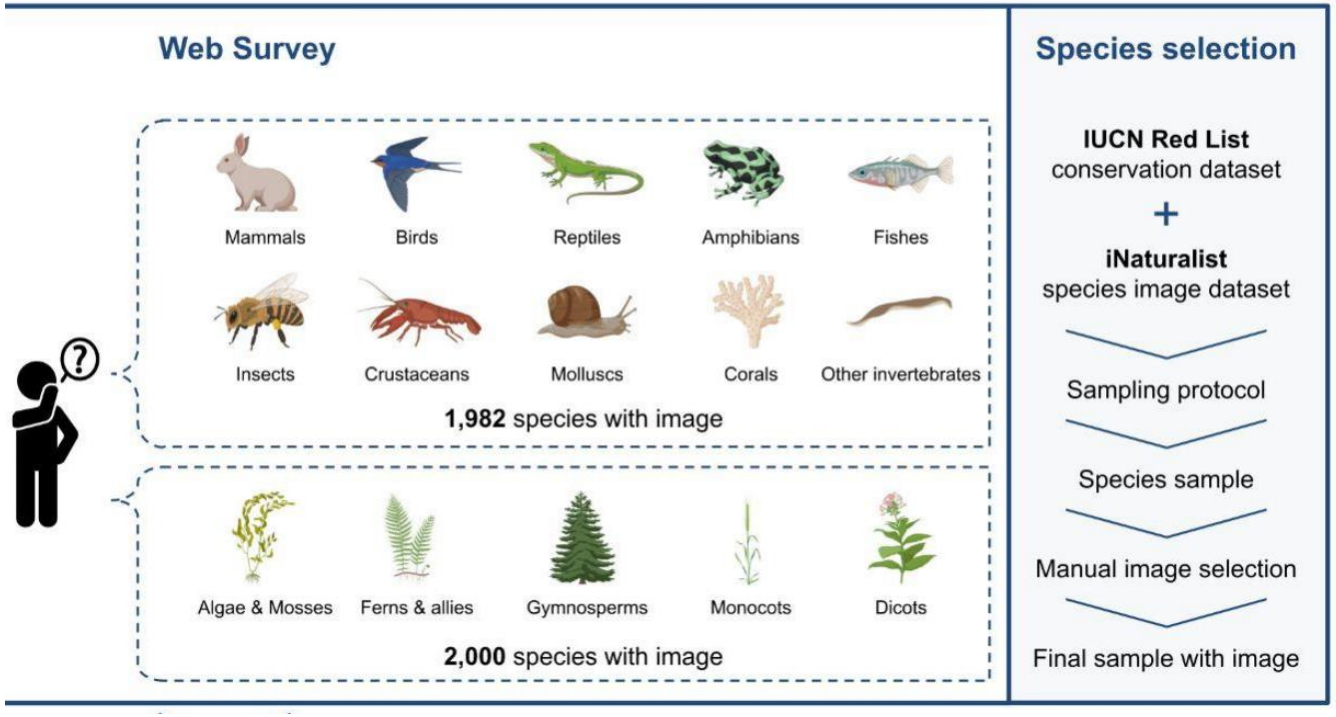
WASP Methodology



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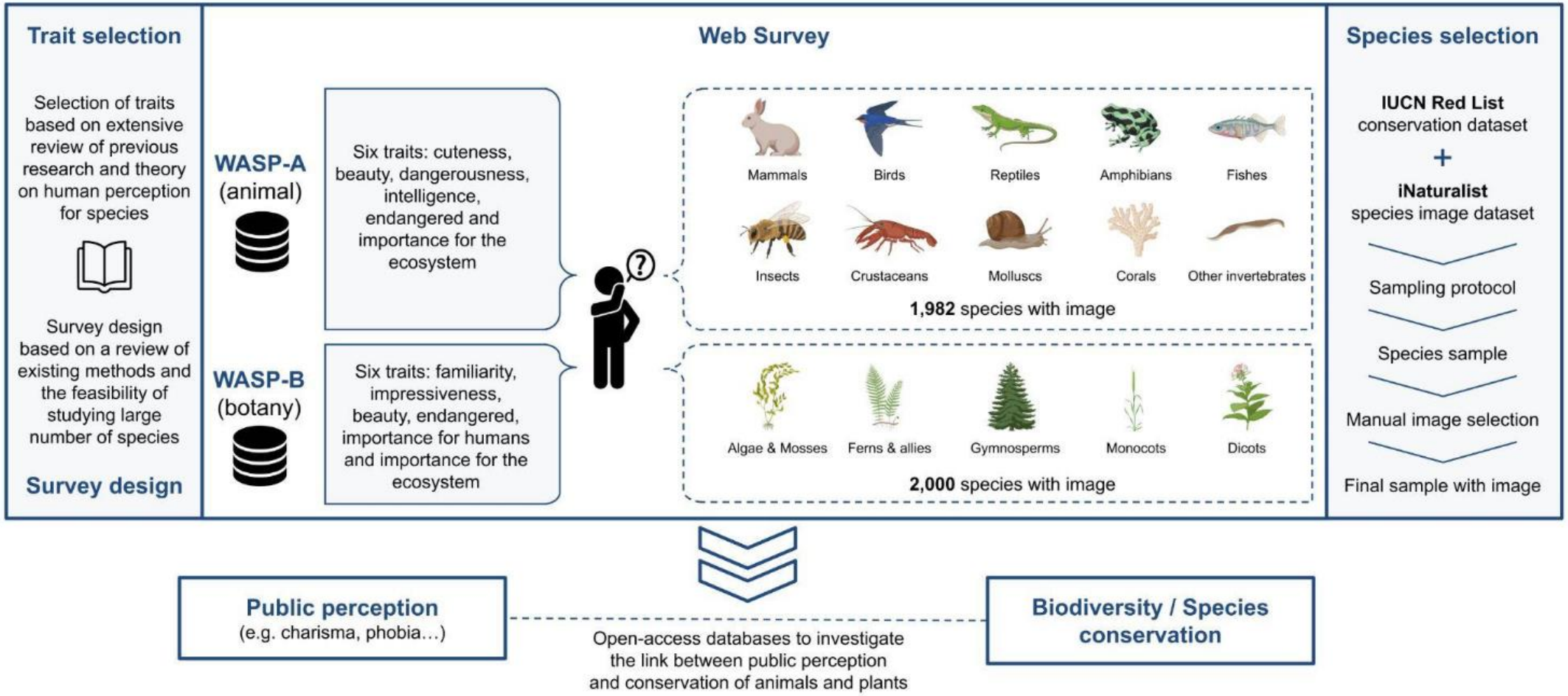

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The online survey

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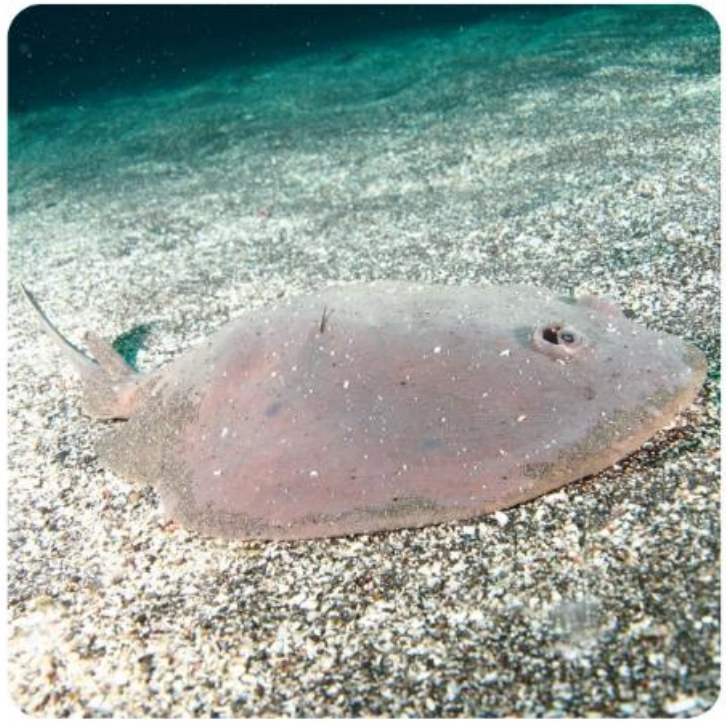
World Archives of Species Perception project

Survey | Project | Team | Contact



Narke japonica

How would you rate this animal in terms of it being

Cute

Dangerous

Intelligent

Beautiful

Endangered

Important for ecosystem

Rate

CONTACT WASP:

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How can the WASP databases be used?

The first attempt to create open-access databases on global perception for a taxonomically diverse range of species

Features	Benefits
Species-level	○ Compatible with a wide range of datasets used in social and natural sciences ○ Allow scoping at species taxonomic level and above
6 perceived traits	○ New insights / indices of human-perceived values for species ○ Study a diverse range of human perception mechanisms (e.g. species charisma, phobia, perception bias etc…) ○ Correlation across perceived traits ○ Comparability across species groups
Global scale with geographic indicators	○ Detect common patterns in perception ○ Comparability across geographical regions
Online platform	○ Large databases that are also expanding over time

Discussion

Digital anthropocene, environmental crises and humans

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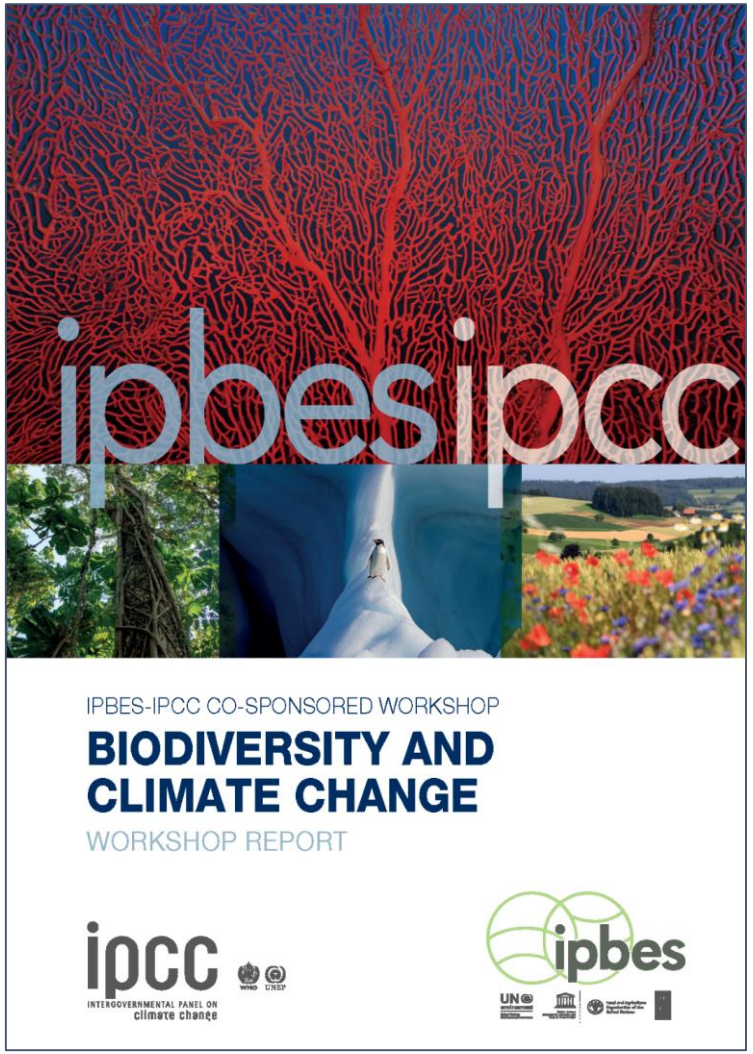
The bigger context…



Climate, biodiversity and human society are tightly intertwined systems

IPBES - IPCC co-sponsored workshop referred to this as the ‘Biodiversity–Climate–Society Nexus’

H.-O. Pörtner et al., (2021). IPBES-IPCC co-sponsored workshop report synopsis on biodiversity and climate change (Version 2). Zenodo. https://doi.org/10.5281/zenodo.5101133

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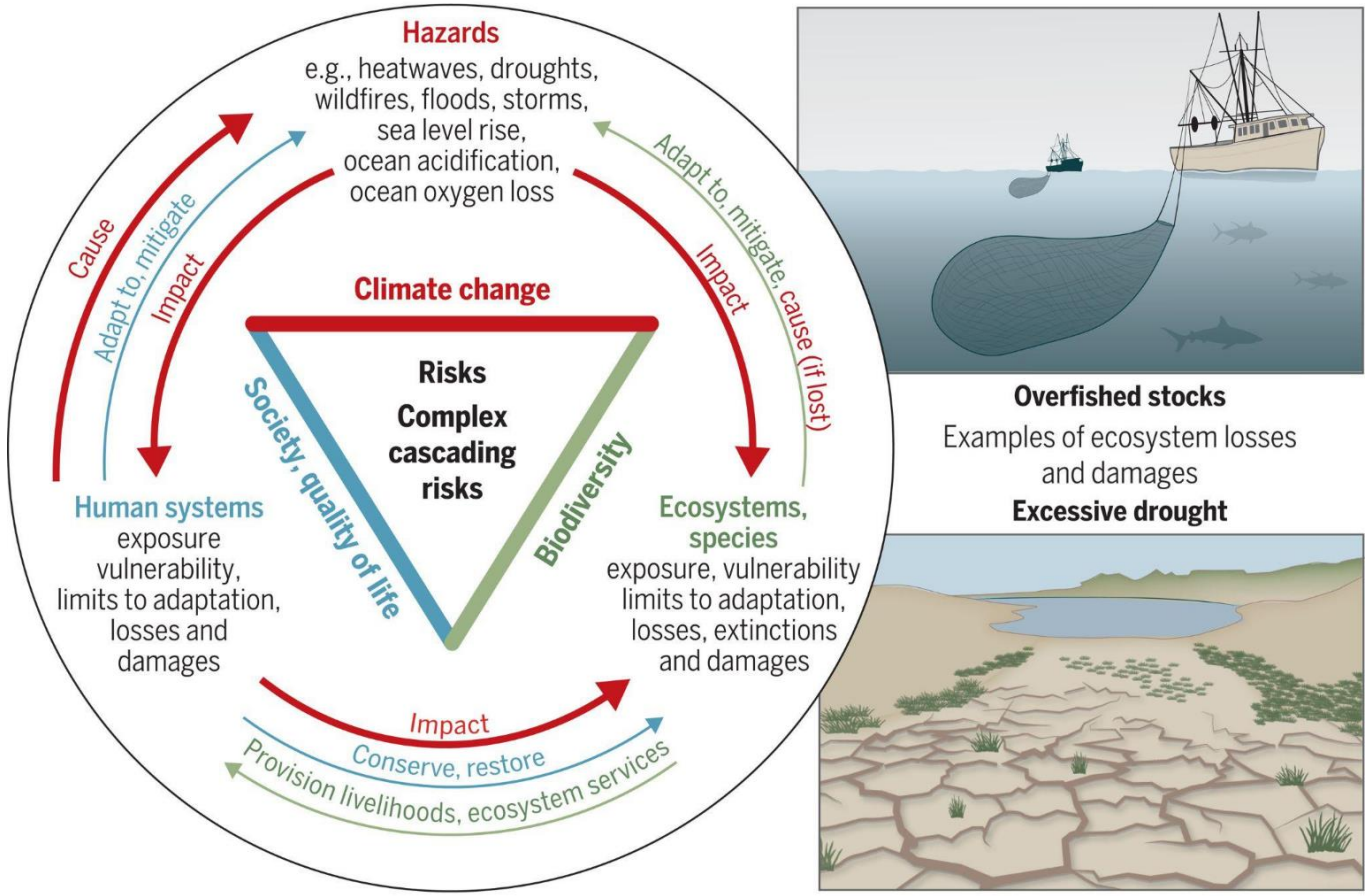
Context

Biodiversity-Climate-Society Nexus



H.-O. Pörtner et al., Overcoming the coupled climate and biodiversity crises and their societal impacts. *Science* **380**, eabl4881(2023). DOI:10.1126/science.abl4881

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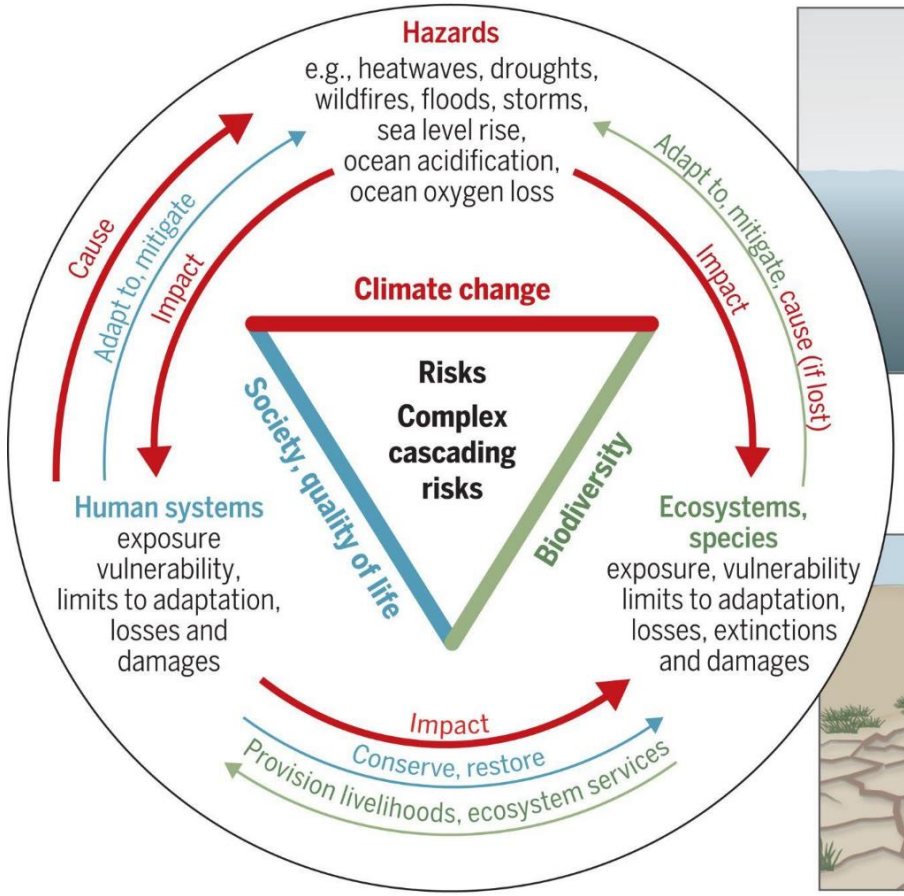
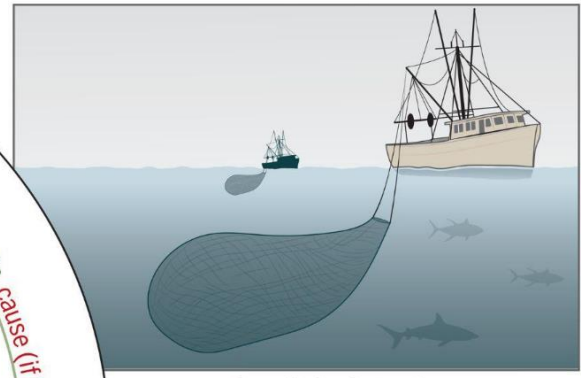
Context

Biodiversity-Climate-Society Nexus

perception ← - - - - - - - - - - → action

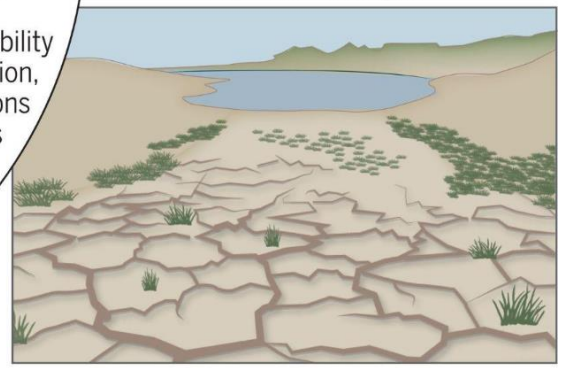




Overfished stocks

Examples of ecosystem losses and damages

Excessive drought



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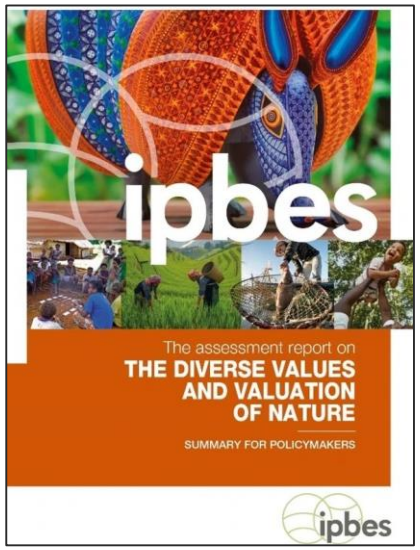
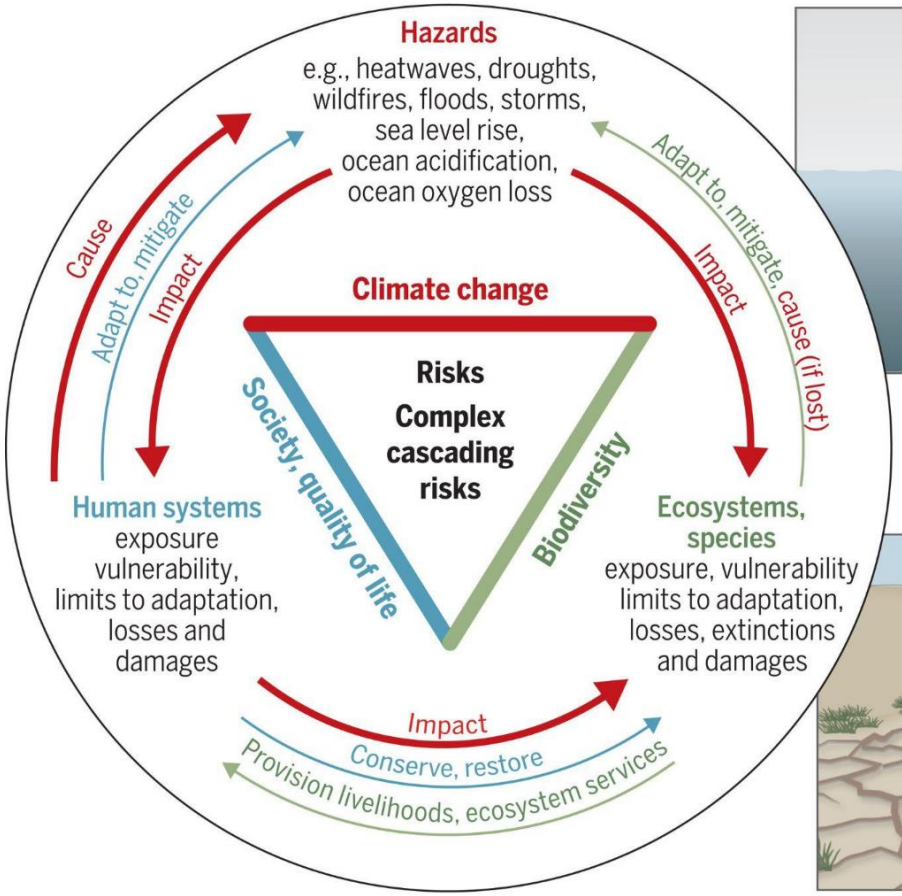
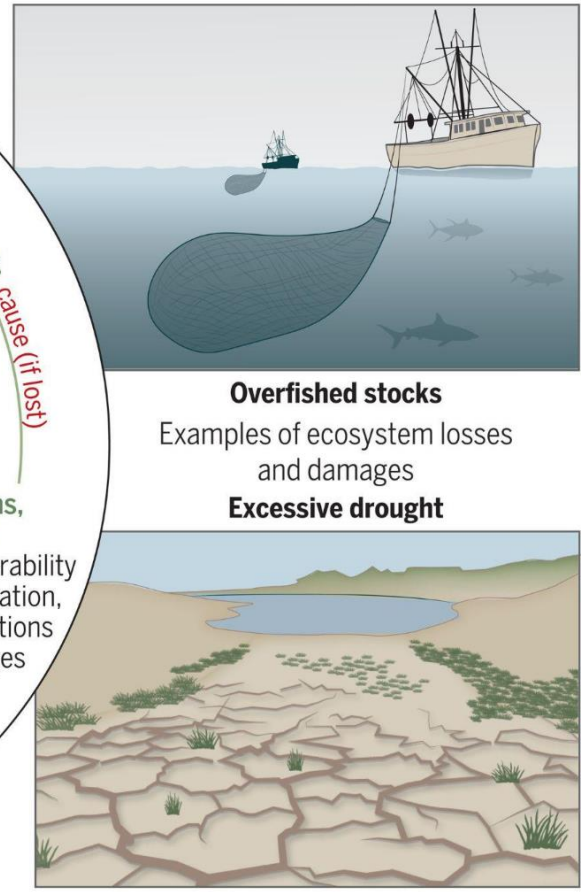
Context

Biodiversity-Climate-Society Nexus



perception ← - - - - - - - - - - → action





Overfished stocks

Examples of ecosystem losses and damages

Excessive drought

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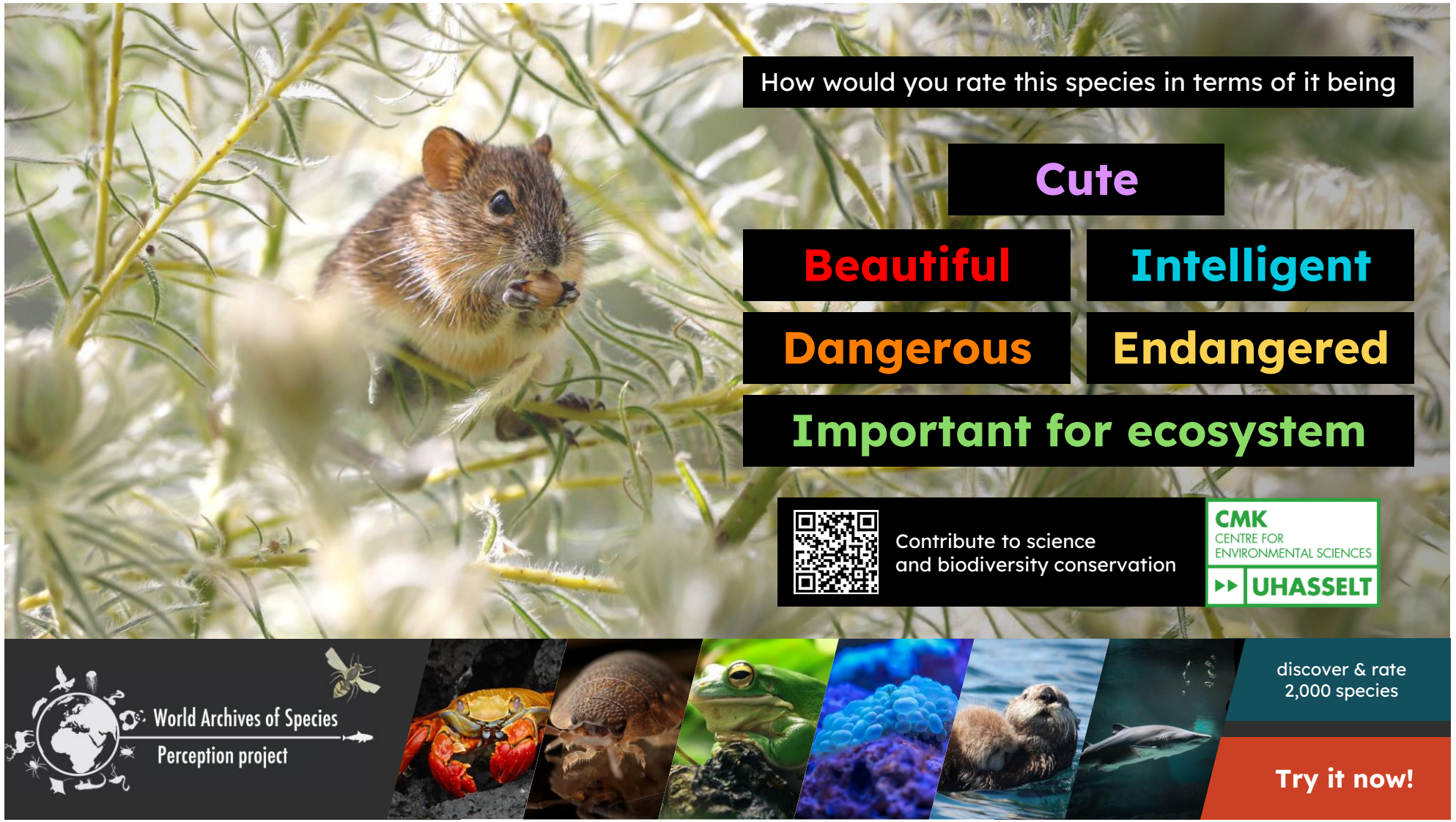
Digital anthropocene

Digital space and technologies provide an opportunity for

+ Leveraging our understanding of the Biodiversity-Climate-Society Nexus (e.g. by providing large-scale data)
+ Motivating societal actions (e.g. community-based practices, citizen-science…)
+ Positively influencing perception change and raising awareness
- (...and vice versa)

Changing perception

Thank you for your attention!



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