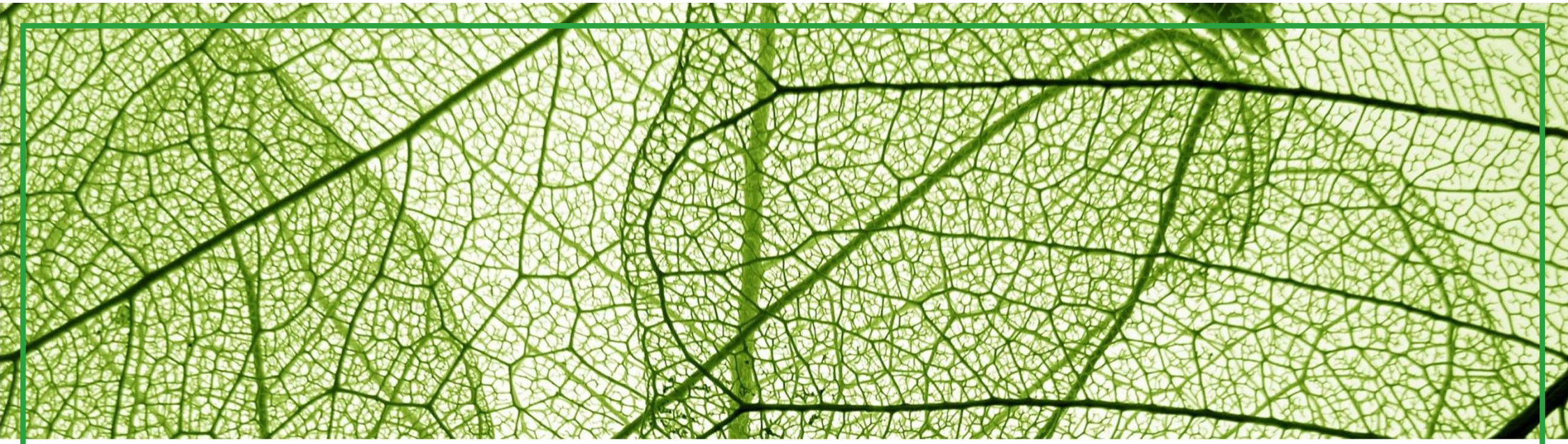

A participative approach to prioritise actions for parasite red listing

Vanhove MPM, Kmentová N, Dahdouh-Guebas F,
Di Nitto D, Hugé J, Gobbin TP

IUCN SSC PARASITE Specialist Group

natural sciences .be

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Parasite conservation

- Relatively recent field
- Parasite red listing even more recent:
  IUCN SSC Parasite Specialist Group since 12.2023
- Metazoan parasites of animals
- Needs are clear – what are priorities?

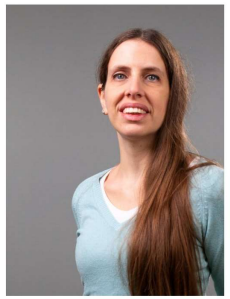
IUCN SSC PARASITE Specialist Group

fwo Research Foundation Flanders
Opening new horizons


Mackenzie L. Kwak
Co-Chair


Skylar Hopkins
Co-Chair


Maarten Vanhove
Steering Committee Member for Europe


Tiziana Gobbin
Programme Officer


Stephanie Godfrey
Steering Committee Member for Oceania


Chi-Chien Kuo
Steering Committee Member for Asia


Nico Smit
Steering Committee Member for Africa


Chelsea Wood
Steering Committee Member for North America

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Methods

- Workshop “Red List assessment and its potential for parasite conservation”
  - at Hasselt University (Belgium) on 2024 May 6th-7th
  - audience of experts: parasitologists and conservationists

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Methods

- Adapted **Nominal Group Technique** (NGT) to gain group consensus
  Manera et al., 2019

Received: 26 February 2017 | Accepted: 22 May 2017
DOI: 10.1111/2041-210X.12831

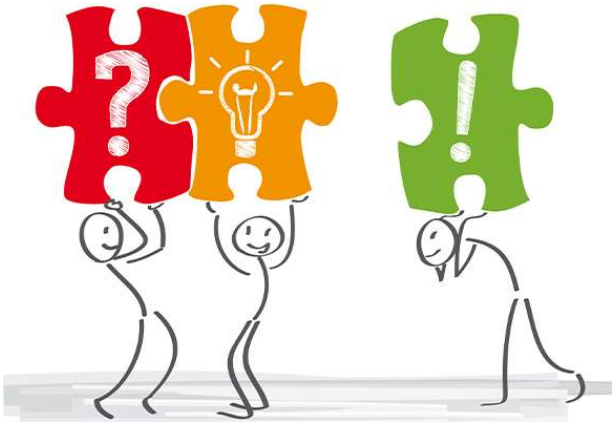
QUALITATIVE METHODS FOR ELICITING JUDGEMENTS FOR DECISION MAKING

Methods in Ecology and Evolution | BRITISH ECOLOGICAL SOCIETY

The nominal group technique in ecology & conservation: Application and challenges

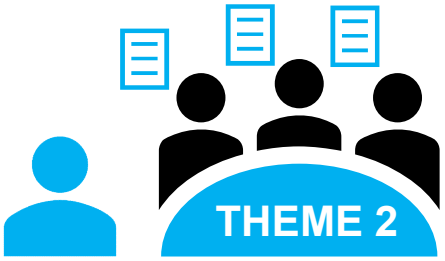
Jean Hugé[1,4,5,6] | Nibedita Mukherjee[1,2,3]

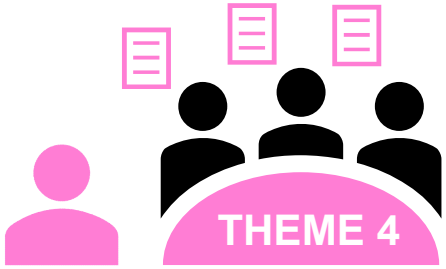
- **5 themes**,
  defined based on inputs from 3 conservationists:
  - **Threats** on parasites, on hosts, on the environment
  - **Complex life cycles**: different life stages in hosts/environments
  - **Global, national and regional scales**
  - **Data** availability and uncertainty
  - **Perceptions and ethics**

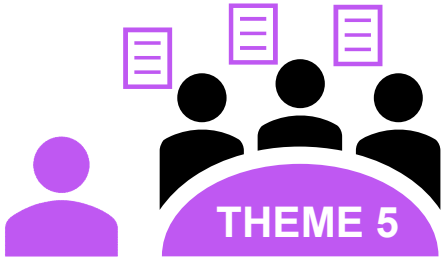


Methods

- 1st NGT phase (real-life)
  → to determine 5 priority challenges & solutions per theme
- For each theme:
  each participant proposed 3 challenges on their own and anonymously







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Methods

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- For each theme:
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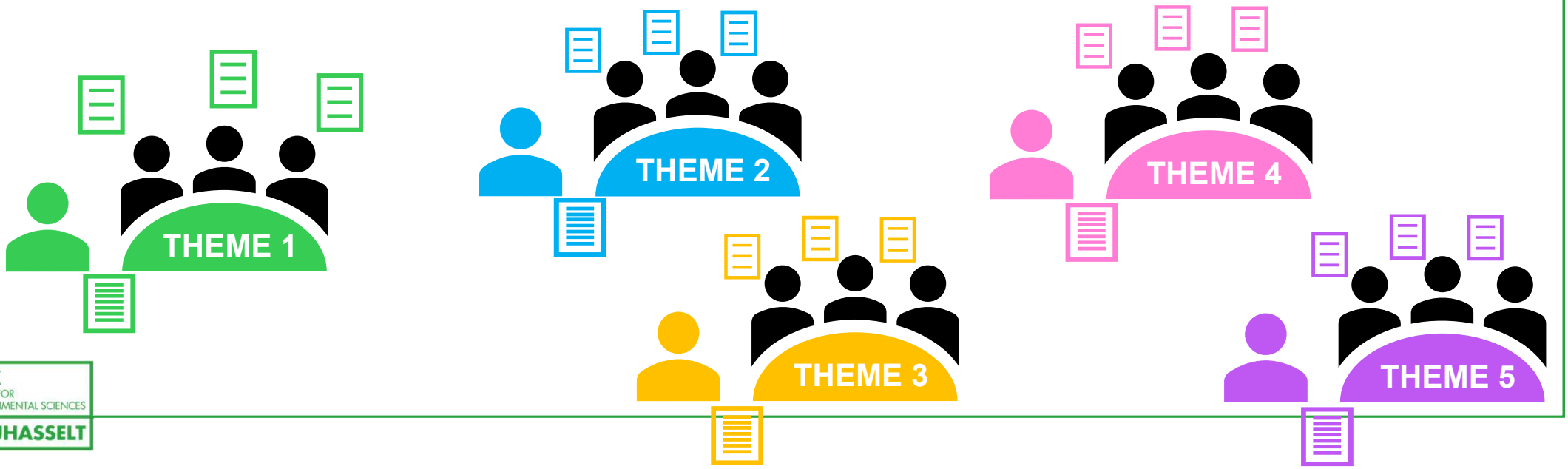
  moderators lumped these challenges (with participants' agreement)



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Methods

- 1st NGT phase (real-life)
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- For each theme:
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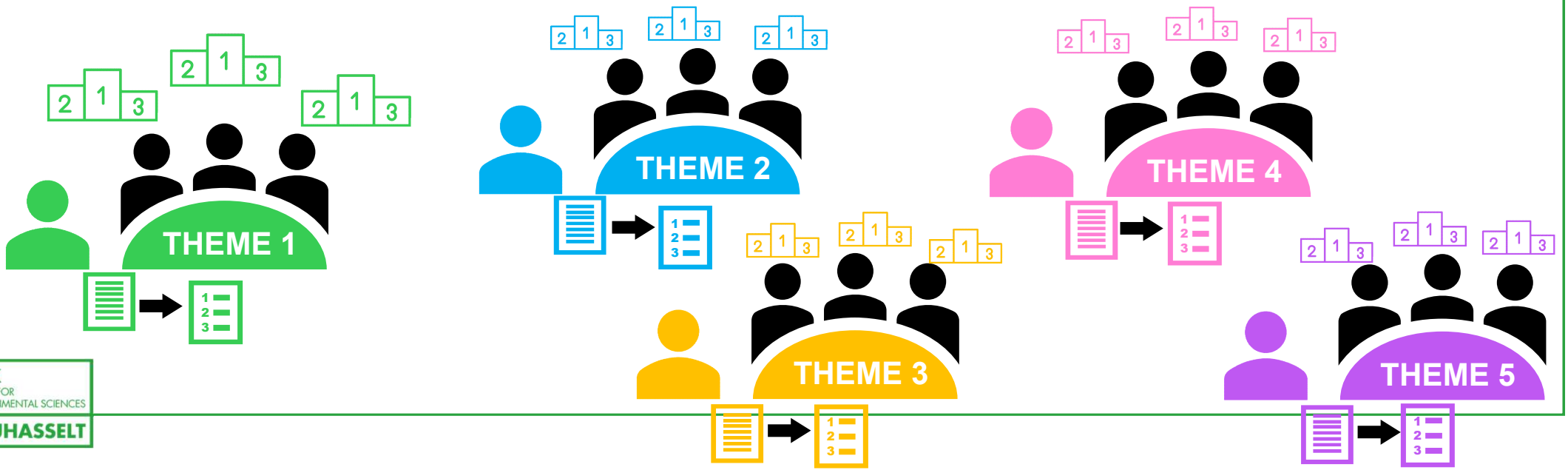
  moderators lumped these challenges (with participant's agreement)
  participants ranked the top-3 challenges independently



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Methods

- 1st NGT phase (real-life)
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- For each theme:
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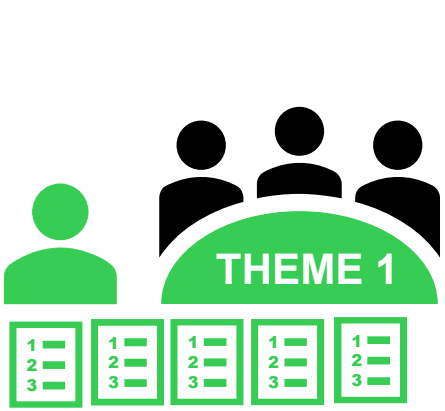
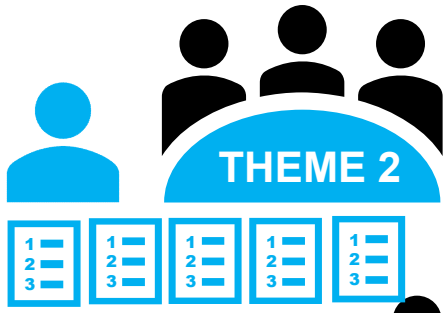
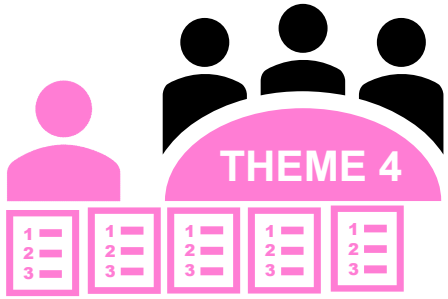
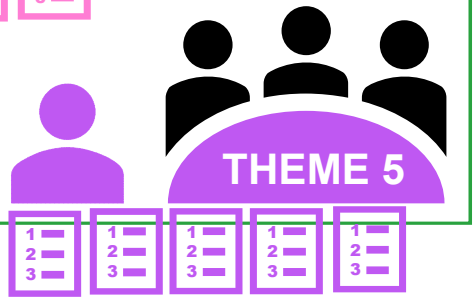
  moderators lumped these challenges (with participant's agreement)
  participants ranked the top-3 challenges independently
- Switch tables









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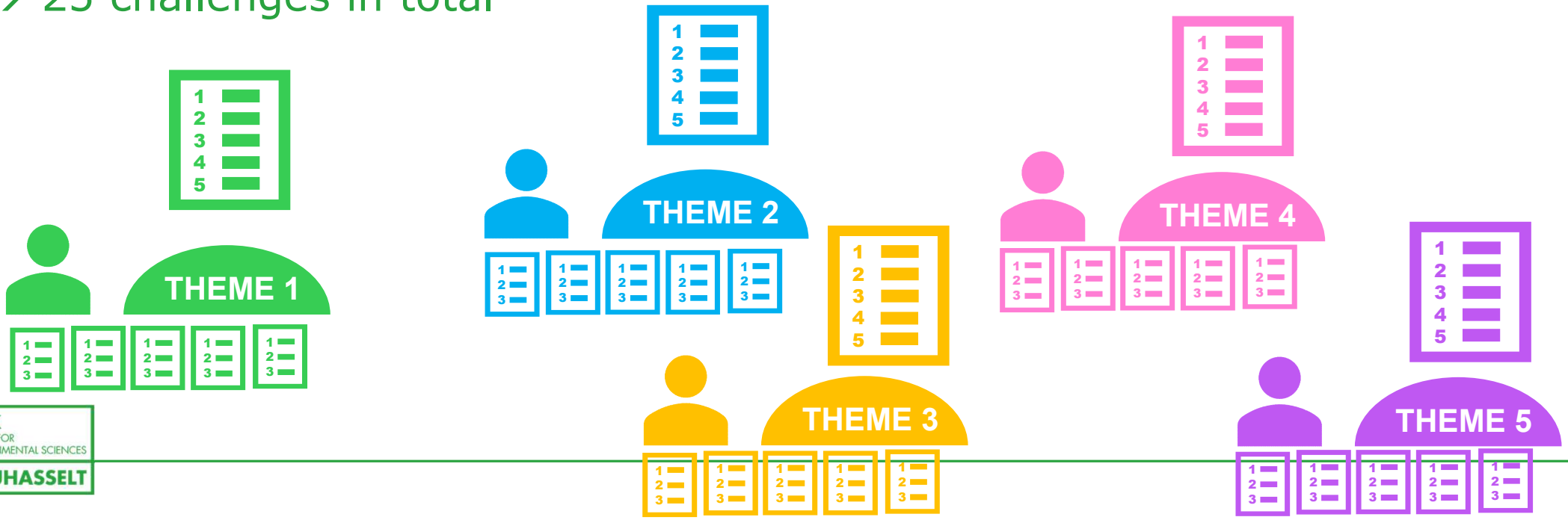
Methods

- 1st NGT phase (real-life)
  → to determine 5 priority challenges & solutions per theme
- For each theme:
  moderators lumped all challenges across groups
  and retained the 5 challenges with highest ranks

→ 25 challenges in total



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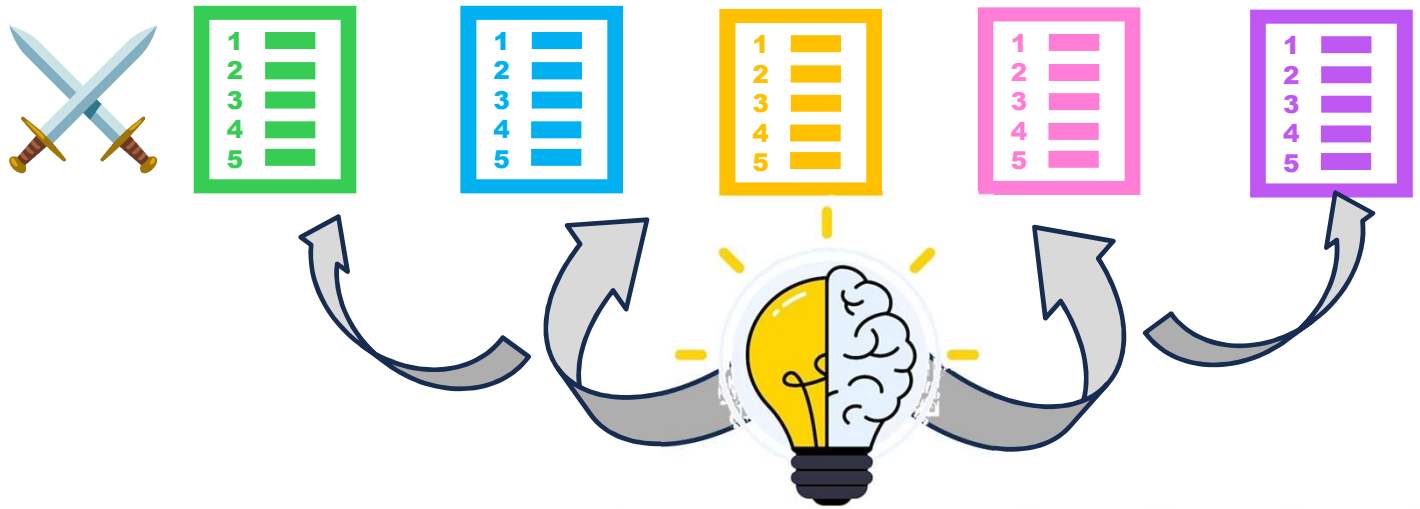
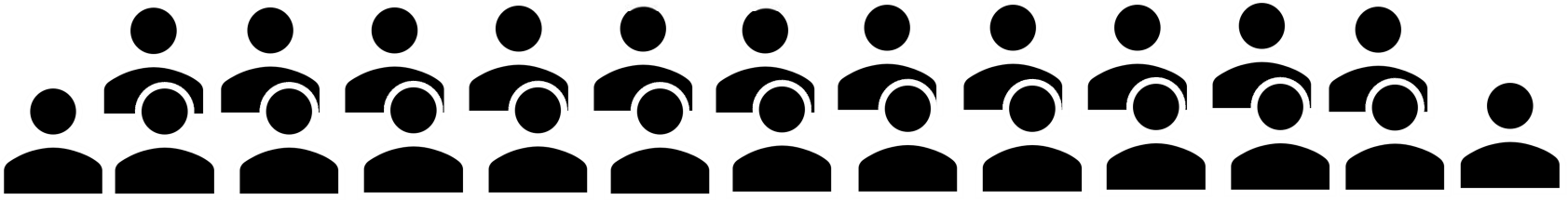
Methods

- 1st NGT phase (real-life)
  → to determine 5 priority challenges & solutions per theme
- Each participant proposed 5 solutions for any of these 25 challenges



24 participants



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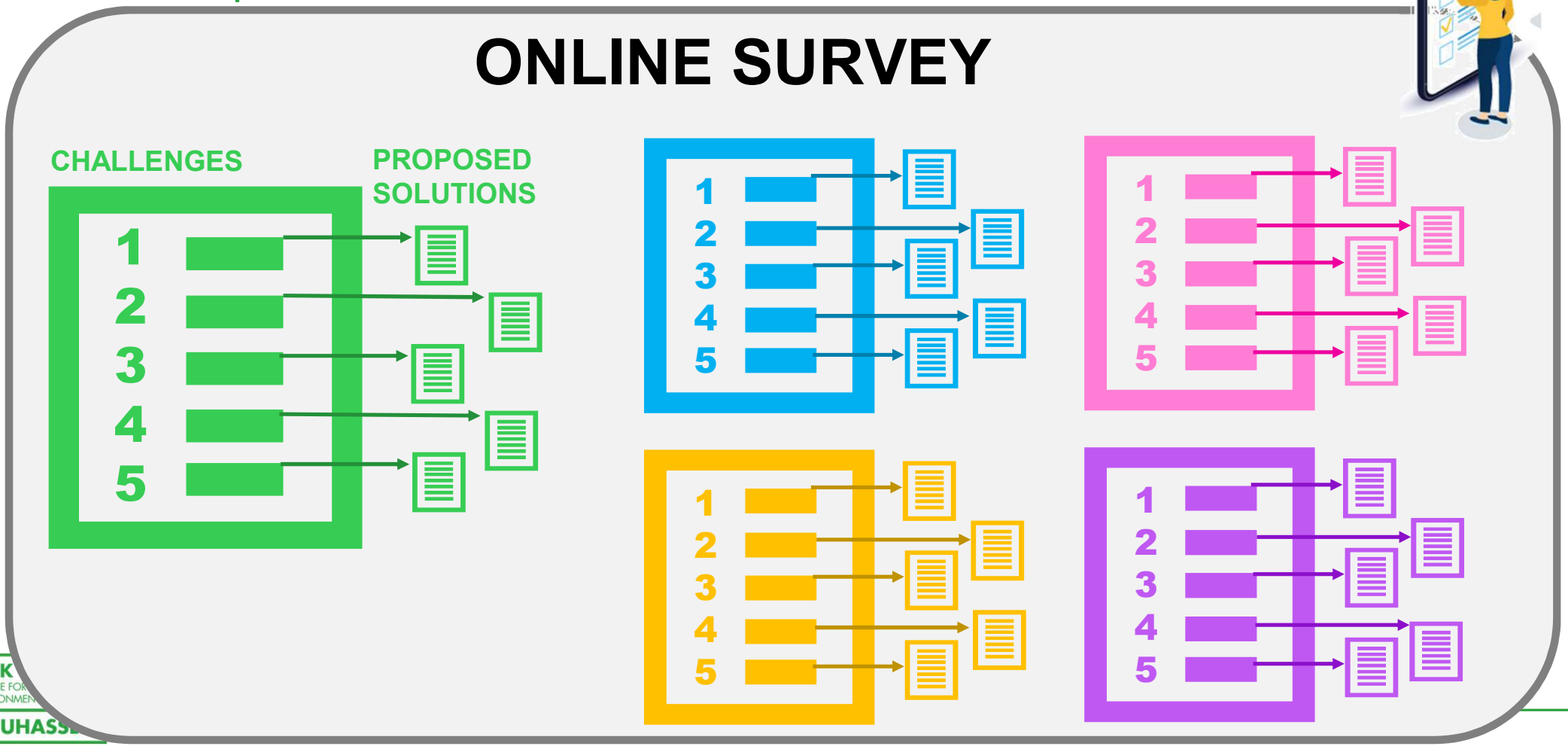
Methods

- 2nd NGT phase

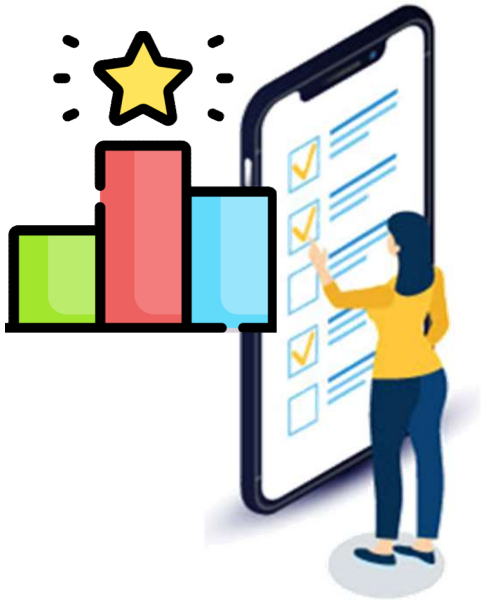


Methods

- 2nd NGT phase (online survey)

  → to prioritize solutions

- 24 contributors ranked the top-3 solutions per each challenge, per each theme



- THREATS -

Challenge 1: Lack of geographical and temporal data.

Rank a top-3 of the following proposed solutions (from 1st most important to 3rd most important). NOT MORE THAN THREE!!

CLICK ANY OPTION TO START RANKING

- Seasonal collection to look at temporal variation in hosts and parasites.
- Natural history collections, old archives and grey literature as source of data (also to keep implementing with new samples/data).
- Working groups at regional or national level to populate a single database.
- Local knowledge or citizen science.
- Expanding research if possible.

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Results - Threats

- **Challenge 1: Lack of geographical and temporal data**
  Natural history collections, old archives and grey literature as source of data (also to keep implementing with new samples/data).
- **Challenge 2: Life cycle complexity**
  Use/develop metrics/protocols taking into account life cycle complexity of parasites.
- **Challenge 3: Differences in threats between hosts and between host/parasites**
  Collaboration between parasite specialists and between parasite and host specialists.
- **Challenge 4: Limitation in funding and resources**
  Take advantage of other projects/fieldwork to share costs and/or work force.
- **Challenge 5: Taxonomy of parasites and hosts**
  Integrative projects that combine expertise.

Results – Complex life cycles

- **Challenge 1: Life cycles are unknown**
  Conduct research specifically targeting on life cycles of parasites in a multidisciplinary way.
- **Challenge 2: Relative importance of different host species in the life cycle and Difference of sensitivity of different life stages to environmental pressures**
  Connecting with experts on host species and looking into host diversity, Red List status.
- **Challenge 3: Taxonomical expertise**
  Training in parasite taxonomy.
- **Challenge 4: Invasive species**
  Parasites should be part of monitoring of hosts with invasive potential.
- **Challenge 5: Difficult to sample and sampling of protected hosts**
  Promote non-invasive sampling to minimize impact on parasite and host populations.

Results – Global, national and regional scale

- **Challenge 1: Taxonomic and regional differences in data quality**
  Linking and standardising taxonomic and distribution databases.
- **Challenge 2: Knowledge about parasite distribution**
  Increased sampling efforts and sharing in publicly accessible databases.
- **Challenge 3: Taxonomic understanding**
  Holistic and systematic sampling of parasites and hosts across space and time: engage host experts to collect parasites.
- **Challenge 4: Differences in data availability**
  Develop a standardised framework/approach to evaluate parasites.
- **Challenge 5: At which level to coordinate?**
  Globally in a standardised manner.

Results – Perceptions and ethics

- **Challenge 1: Why save parasites causing diseases ?**
  Awareness raising about importance of parasites.
- **Challenge 2: Lack of knowledge/Public awareness**
  Integrate in education.
- **Challenge 3: Sampling of endangered hosts (= killing)**
  Non-invasive sampling.
- **Challenge 4: Prioritisation of time, money, energy, species**
  Priority for long-term studies and problem areas.
- **Challenge 5: Colonialism (collaboration, publishing)**
  Invest in local skills training.

Results – Data availability and uncertainty

- **Challenge 1: Limited taxonomic expertise**
  More taxonomy capacity building and trainings for collaborators and students.
- **Challenge 2: Data standardization**
  Organising symposia/workshops with taxonomic experts where they would discuss and agree on standards for data acquisition.
- **Challenge 3: Data sharing**
  Centralized, public and standarized platform for data sharing.
- **Challenge 4: Data gaps**
  Valorisation of museum collections and archives (expeditions in musea).
- **Challenge 5: Data quality**
  Increase requirements and standardization for new entries + QC older data.

Conclusions & recommendations

- Featuring ≥2x across most important solutions for priority challenges:
  - taxonomic expertise
  - database/standardisation
  - collaboration with host experts
  - role of collections
  - non-invasive sampling
- Qualitative stakeholder elicitation method for consensus-building
- Involving non-parasitological experts
  → actionable, "atypical" priorities

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Funding


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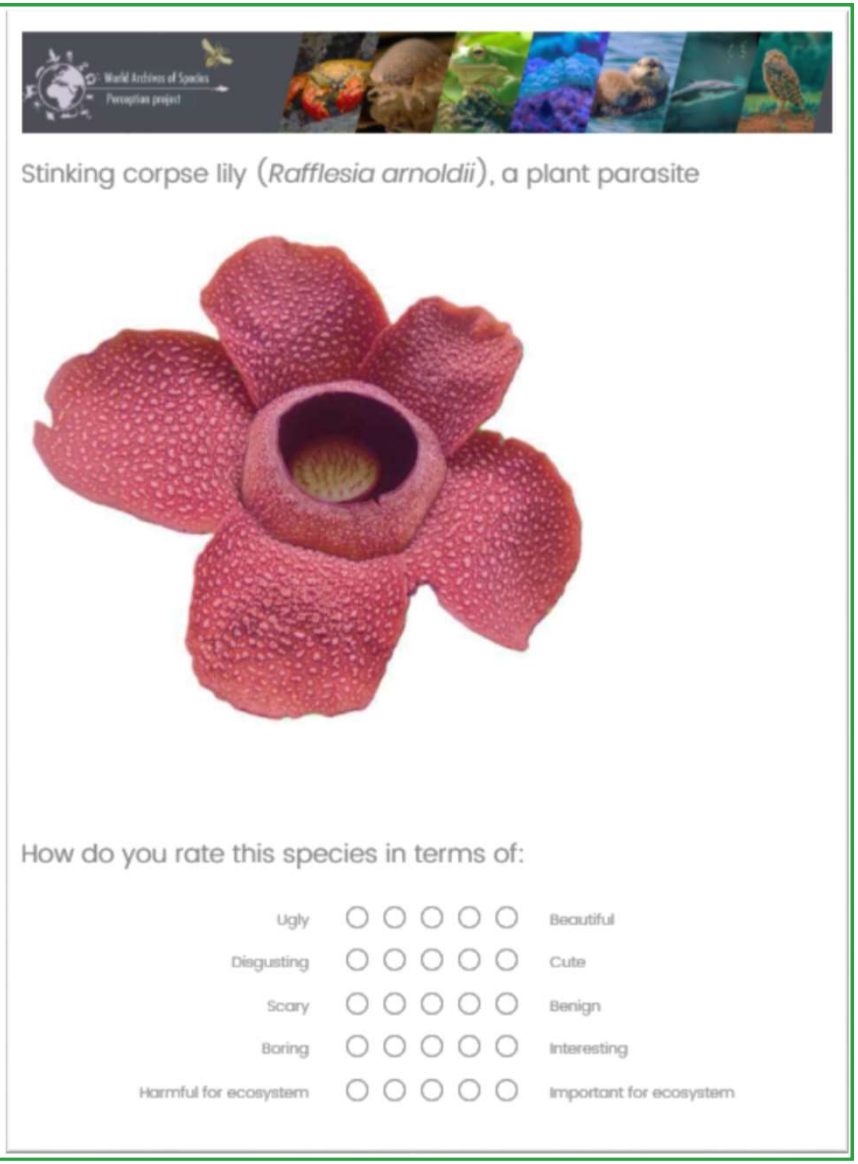
Research Foundation
Flanders
Opening new horizons

WASP-Parasite

- World Archives of Species Perception, spin-off on parasites
- https://tinyurl.com/wasp-parasite



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