# European Red List of Insect Taxonomists

The European Red List of Insect Taxonomists provides the first assessment of the status and capacity of taxonomic expertise in Europe for the class Insecta. The methodology is based on the principles of the IUCN Red List of Species<sup>™</sup> assessment and builds upon two approaches:

- A quantitative analysis of taxonomic papers published in scientific journals during the last decade.
- A survey and self-declaration campaign among entomologists, providing a detailed overview of the taxonomic capacity for each insect order and for each European country.

Overall, taxonomic capacity is threatened or eroded for 41% and 34% of the insect orders at the European and EU levels, respectively. Professional details of more than 1,500 experts who declared themselves as insect taxonomists were compiled. There is substantial variation in the number of insect orders covered by taxonomists among countries and no country has full capacity.

IUCN Red List of Threatened Species™

Least Concern (LC)

Extinct (EX)

Critically Endangered (CR)

Endangered (EN)

Vulnerable (VU)

Near Threatened (NT)

Taxonomists

Eroded Capacity (ER)

Critically Low Capacity (CL)

**European Red List of** 

Inadequate Capacity (IN)

Poor Capacity (PO)

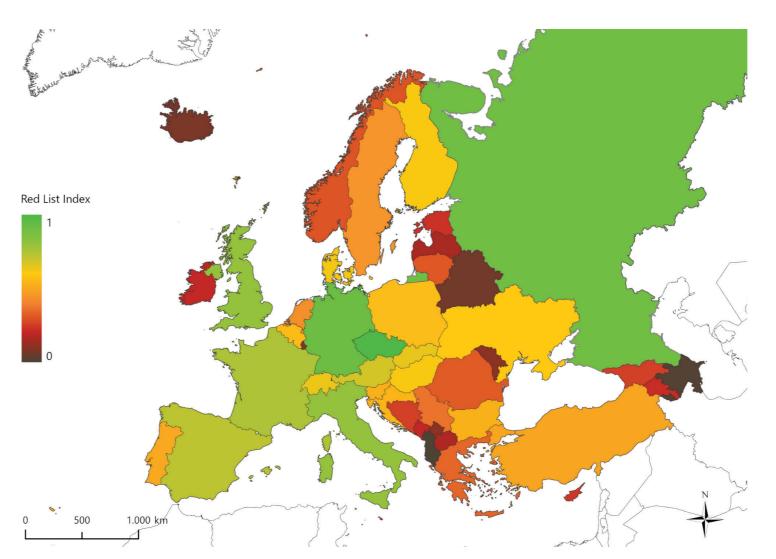
Moderate Capacity (MO)

Adequate Capacity (AD)

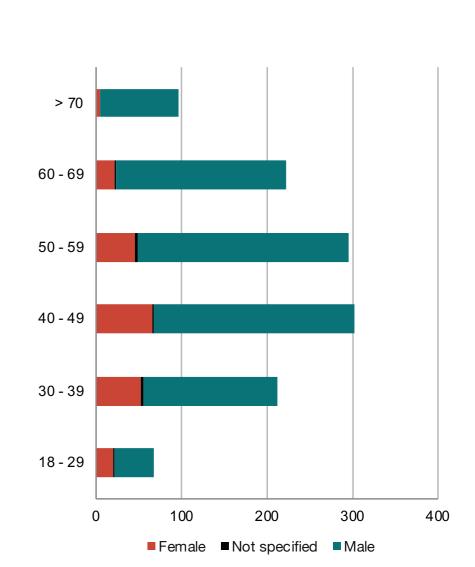
Equivalences of the Red List categories used in the IUCN Red Lists of Threatened SpeciesTM and the Red List of Taxonomists.

Order	Common Name	Europe	EU
Archaeognatha	Bristletails	AD	AD
Zygentoma	Silverfishes / Firebrats	AD	AD
Ephemeroptera	Mayflies	AD	AD
Odonata	Dragonflies / Damselflies	AD	AD
Plecoptera	Stoneflies	AD	AD
Embioptera	Footspinners	CL	ER
Zoraptera	Angel Insects	AD	AD
Dermaptera	Earwigs	PO	РО
Mantodea	Mantises	MO	AD
Blattodea	Cockroaches	IN	IN
Isoptera	Termites	AD	AD
Phasmida	Stick Insects	PO	МО
Grylloblattodea	Ice Crawlers	IN	IN
Mantophasma- todea	Gladiators	AD	AD
Orthoptera	Grasshoppers / Crickets	PO	МО
Psocodea	Lice	IN	IN
Thysanoptera	Thrips	IN	IN
Hemiptera	True Bugs	PO	РО
Megaloptera	Alderflies / Dobsonflies	AD	AD
Raphidioptera	Snakeflies	AD	AD
Neuroptera	Net-winged Insects	AD	МО
Coleoptera	Beetles	PO	РО
Strepsiptera	Stylopses	AD	AD
Hymenoptera	Bees / Wasps / Ants	MO	МО
Trichoptera	Caddisflies	MO	МО
Lepidoptera	Butterflies / Moths	РО	РО
Mecoptera	Scorpionflies	AD	AD
Diptera	Flies / Mosquitoes	РО	РО
Siphonaptera	Fleas	AD	AD

Red List assessments for taxonomic capacity by insect order for Europe and the EU.



Overview of the taxonomic capacity in European countries based upon the Red List Index (colour gradient corresponds to the Red List Index value between 0 and 1, where "0" means Eroded Capacity (ER) and "1" means Adequate Capacity (AD)).



Gender and age distribution of European taxonomists.

# Recommendations

### Strategic recommendations (STR) - providing the framework to foster taxonomy

- A. Funding requirements and allocation: to provide targeted and long-term funding specifically directed at sustaining and increasing taxonomic capacity across Europe.
- B. Policy development: to integrate the essential role of taxonomists into policy formulation and implementation at the EU and national level.

### Science recommendations (SCI) - reinforcing the far-reaching impact of taxonomy

- A. Knowledge: to ensure the continuous overview of the available taxonomic capacity including periodically reassessing the European Red List of Insect Taxonomists and expanding the approach to other species groups.
- B. Capacity: to increase taxonomic capacity through dedicated knowledge exchange, education, training and development opportunities for professional taxonomists.
- C. Networking: to promote networking among taxonomists, including by maximising the use of modern technologies in research, publishing, and knowledge exchange.

## Societal recommendations (SOC) - engaging society in taxonomy

- A. Recognition and awareness: to increase the understanding and acknowledgement of the importance of taxonomic expertise by using effective means of public communication.
- **B. Engagement:** to actively engage citizen science initiatives in insect taxonomic research in order to maximise the synergies and in supporting efficient research and cost-effective monitoring of biodiversity.







