

A comprehensive overview of Carinthia's endangered fauna: review of the Red List of endangered animals of Carinthia

Helmut Zwander

The book *Red List of Endangered Animals of Carinthia* [1], published by the Publishing House of the Natural Science Association for Carinthia, is the first state-wide assessment of the conservation status of Carinthia's fauna, based on the criteria of the International Union for Conservation of Nature (IUCN). This extensive monograph, led by project manager Christian Komposch (ÖKOTEAM Graz) and involving 78 authors, provides detailed information on species frequency, distribution (both horizontal and elevational), habitat use, and biology across Carinthia.

The zoological scope of this work encompasses 8,468 species from 28 animal groups, including fish and lampreys (Pisces & Cyclostomata), amphibians (Amphibia), reptiles (Reptilia), birds (Aves), mammals (Mammalia), snails and mussels (Gastropoda & Bivalvia), scorpions (Scorpiones), pseudoscorpions (Pseudoscorpiones), harvestmen (Opiliones), spiders (Araneae), palpigrades (Arachnida: Palpigradi), Branchiopods (Crustaceae: Anostraca & Nostraca), freshwater crayfish (Malacostraca: Decapoda), stoneflies (Plecoptera), dragonflies (Odonata), grasshoppers and mantises (Orthoptera & Mantodea), leafhoppers and planthoppers (Auchenorrhyncha), true bugs (Heteroptera), neuropterids (Neuropterida), ground beetles (Carabidae), rove beetles (Staphylinidae), bees and bumblebee (Anthophila), ants (Formicidae), caddisflies (Trichoptera), butterflies (Lepidoptera), and scorpionflies (Mecoptera).

Notably, this publication marks the first risk classification for pseudoscorpions (Pseudoscorpiones) in Austria and provides the first regional account of the arachnid group of palpigrades (Palpigradi) in any Red List worldwide. It stands as a zoological inventory and a milestone in the documentation of Carinthia's current fauna, far beyond its significance as a risk classification. The authors also highlight a concerning "erosion of species knowledge," which poses a significant bottleneck for future taxonomic work, underlining the urgency of sustaining expertise in this critical field.

While the publication details the dire situation of many species, it also offers numerous solutions and recommendations for ecological measures to improve conservation outcomes. This dual approach makes it a valuable resource not only for conservation professionals but also for educators, interested laypersons, and nature enthusiasts, thanks to its accessible species profiles, high-quality photographs, and detailed distribution maps. The publication is further enriched by its thoughtful graphic design, including custom icons for each animal group, and its unique photographic material that not only portrays the species with unparalleled quality but also presents the various experts involved in a highly personal and engaging manner.

The results are dramatic: 4,180 taxa, or 49% of all documented species in Carinthia, are classified as at high risk of extinction. Specifically, 458 taxa are "Regionally extinct or lost," 787 species are "Critically endangered," 945 species are "Endangered," and 1,604 species are "Vulnerable." Main threats to Carinthia's fauna include intensive agriculture and forestry, the use of environmental toxins, hydraulic engineering, the energy industry,



urban sprawl, and climate change. The state of Carinthia bears particular responsibility for 369 endemic and subendemic species, such as the Koralpen harvestman (*Siro franzi*) and the Obir cave ground beetles (*Anophthalmus bernhaueri* and *Anophthalmus gobanzi obirensis*), which have limited distributions and require focused conservation efforts.

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Overall, the Red List of Endangered Animals of Carinthia is more than a sobering account of species at risk; it is a testament to the rich biodiversity of the region and an urgent call to action for its preservation.

ORIGINAL TITLE:

- [1] C. Komposch (ed.), *Rote Liste gefährdeter Tiere Kärntens*, Naturwissenschaftlicher Verein für Kärnten, Klagenfurt am Wörthersee, 1072, ISBN 978-3-85328-099-7, 2023.

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BACK TO CONTENT