

Table 1a: Number of species evaluated in relation to the overall number of described species, and numbers of threatened species by major groups of organisms.

| | Estimated Number of described species ¹ | Number of species evaluated by 2024 (IUCN Red List version 2024-1) | % of described species evaluated by 2024 (IUCN Red List version 2024-1) | Number of threatened species ² by 2024 (IUCN Red List version 2024-1) | Estimated % threatened species in 2024 (IUCN Red List version 2024-1) ^{2,3,4} | | |
|--|--|--|---|--|--|--|--|
| | | | | | Lower estimate (threatened spp. as % of extant evaluated species) | Best estimate (threatened spp. as % of extant data sufficient evaluated species) | Upper estimate (threatened and DD spp. as % of extant evaluated species) |
| VERTEBRATES | | | | | | | |
| Mammals ⁵ | 6,701 | 5,983 | 89% | 1,338 | 23% | 26% | 37% |
| Birds | 11,195 | 11,195 | 100% | 1,354 | 12% | 12% | 13% |
| Reptiles | 12,162 | 10,309 | 85% | 1,844 | 18% | 21% | 33% |
| Amphibians | 8,744 | 8,011 | 92% | 2,873 | 36% | 41% | 47% |
| Fishes | 36,863 | 27,972 | 76% | 3,927 | Insufficient coverage | | |
| Subtotal | 75,665 | 63,470 | 84% | 11,336 | 18% | 21% | 31% |
| INVERTEBRATES | | | | | | | |
| Insects | 1,053,578 | 12,718 | 1.2% | 2,415 | Insufficient coverage | | |
| Molluscs | 86,859 | 9,111 | 10% | 2,451 | Insufficient coverage | | |
| Crustaceans ⁶ | 90,531 | 3,213 | 4% | 747 | Insufficient coverage | | |
| Corals | 5,623 | 831 | 15% | 252 | Insufficient coverage | | |
| Arachnids | 95,894 | 774 | 0.81% | 272 | Insufficient coverage | | |
| Velvet Worms | 222 | 11 | 5% | 9 | Insufficient coverage | | |
| Horseshoe Crabs | 4 | 4 | 100% | 2 | 50% | 100% | 100% |
| Others | 157,543 | 1,090 | 0.69% | 174 | Insufficient coverage | | |
| Subtotal | 1,490,254 | 27,752 | 2% | 6,322 | | | |
| PLANTS⁷ | | | | | | | |
| Mosses ⁸ | 21,925 | 327 | 1.5% | 181 | Insufficient coverage | | |
| Ferns and Allies ⁹ | 11,800 | 821 | 7% | 321 | Insufficient coverage | | |
| Gymnosperms | 1,113 | 1,059 | 95% | 451 | 43% | 43% | 44% |
| Flowering Plants | 369,000 | 68,704 | 19% | 26,367 | Insufficient coverage | | |
| Green Algae ¹⁰ | 13,960 | 17 | 0.1% | 0 | Insufficient coverage | | |
| Red Algae ¹⁰ | 7,523 | 78 | 1.0% | 9 | Insufficient coverage | | |
| Subtotal | 425,321 | 71,006 | 17% | 27,329 | | | |
| FUNGI & PROTISTS¹¹ | | | | | | | |
| Mushrooms, etc. | 156,313 | 794 | 0.5% | 328 | Insufficient coverage | | |
| Brown Algae ¹⁰ | 4,683 | 18 | 0.4% | 6 | Insufficient coverage | | |
| Subtotal | 160,996 | 812 | 0.5% | 334 | | | |
| TOTAL | 2,152,236 | 163,040 | 8% | 45,321 | | | |

NOTES:

- The numbers of described species in Table 1a should be used with caution as these are not always be up to date for all taxonomic groups. The sources used for the figures currently shown in the table are listed below.
- Threatened species are those listed as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU).
- Where <80% of species within a group have been evaluated, figures for % threatened species are not provided because there is insufficient coverage for these groups. It is only possible to provide reliable figures for % threatened species for those groups that are completely or almost completely evaluated (e.g., mammals, birds, amphibians and gymnosperms).
- The percentage of threatened species can be calculated for those groups that are completely or almost completely evaluated (>80% of species evaluated), but the actual number of threatened species is often uncertain because it is not known whether Data Deficient (DD) species are actually threatened or not. Therefore, a range of percentages is provided: **lower estimate** = % threatened extant species (if all DD species are not threatened); **best estimate** = % threatened extant species (if DD species are equally threatened as data sufficient species); **upper estimate** = % threatened extant species (if all DD species are threatened). If a single figure is required for reporting purposes, the best estimate figure should be used.
- The number of described and evaluated mammals excludes domesticated species like sheep (*Ovis aries*), goats (*Capra hircus*), Dromedary (*Camelus dromedarius*), etc.
- Crustaceans include six classes: Branchiopoda (fairy shrimp, clam shrimp, etc.); Cephalocardia (horseshoe shrimp); Malacostraca (crabs, lobsters, shrimp, woodlice, etc.); Maxillopoda (barnacles, copepods, etc.); Ostracoda (seed shrimp) and Remipedia (remipedes)
- The plant numbers **DO NOT** include species from the 1997 IUCN Red List of Threatened Plants (Walter and Gillett 1998) as those assessments used the pre-1994 IUCN system of threat categories. Hence the numbers of threatened plants in Table 1b are much lower when compared to the 1997 results. When reporting on threatened plants, the results from the current web version of The IUCN Red List should be combined with the 1997 Plants Red List. Since there have been many taxonomic changes for plant species since 1997, careful comparison of the current and 1997 species lists will be needed when combining these results to avoid double-counting.
- Mosses include the true mosses (Bryophyta), the hornworts (Anthocerotophyta), and liverworts (Marchantiophyta).
- The ferns and allies include club mosses and spike mosses (Lycopodiopsida), quillworts (Isoetopsida), horsetails (Equisetopsida) and ferns (Marattiopsida, Polypodiopsida and Psilotopsida).
- Seaweeds are included in the green algae (Chlorophyta, Charophyta), red algae (Rhodophyta), and brown algae (Ochrophyta).
- Many of the described species in these groups are not eligible for assessment on the IUCN Red List as they are considered micro-organisms.

Sources for Numbers of Described Species:

Vertebrates

- Mammals** – Mammal Diversity Database. 2024. v. 1.12.1, released 30 January 2024. www.mammaldiversity.org. American Society of Mammalogists. Accessed 20 May 2024.
- Birds** – Handbook of the Birds of the World and BirdLife International. 2024. Handbook of the Birds of the World and BirdLife International digital checklist of the birds of the world. Version 8.1. Available at: https://datazone.birdlife.org/userfiles/file/Species/Taxonomy/HBW-BirdLife_Checklist_v81_Jan24.zip. Accessed: 20 May 2024.
- Reptiles** – Based on the figures (as of March 2024) provided by The Reptile Database compiled by Peter Uetz and Jiri Hošek. Available at: <http://www.reptile-database.org>. Accessed: 20 March 2024. For current total number of species on this website, see <http://www.reptile-database.org/db-info/SpeciesStat.html>

Amphibians – Frost, D.R. 2024. Amphibian Species of the World: an Online Reference. Version 6.2 (30 May 2024). Electronic Database accessible at: <https://amphibiansoftheworld.amnh.org/index.php>. American Museum of Natural History, New York, USA. doi.org/10.5531/db.vz.0001.

Fishes – Based on Frick, R. Eschmeyer, W.N. and Van der Lan, R. (eds). 2024. Eschmeyer's Catalog of Fishes: genera, species, references (<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>). Electronic version accessed: 20 May 2024.

Invertebrates

Insects – Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L., eds. (2019). Species 2000 & ITIS Catalogue of Life, 2019 Annual Checklist. Digital resource at <http://www.catalogueoflife.org/annual-checklist/2019/info/totals>. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 20 May 2024.

Molluscs – MolluscaBase (2024). MolluscaBase. Available at <http://www.molluscabase.org>. Accessed: 20 May 2024.

Crustaceans – Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L., eds. (2019). Species 2000 & ITIS Catalogue of Life, 2019 Annual Checklist. Digital resource at www.catalogueoflife.org/annual-checklist/2019/info/totals. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 20 May 2024; Brandão, S.N., Antonietto, L.S., Nery, D.G., Pereira, J.S., Praxedes, R.A., Santos, S.G. and Karanovic, I. (2024). World Ostracoda Database. Accessed at <https://www.marinespecies.org/ostracoda> on 2024-05-23. doi:10.14284/364

Corals – Corals fall under the phylum Cnidaria and include subclass Octocorallia, and orders Antipatharia, Corallimorpharia and Scleractinia. The number of described living species reported here are from WoRMS Editorial Board (2023). World Register of Marine Species. Available from <https://www.marinespecies.org> at VLIZ. Accessed 2024-05-23. doi:10.14284/170

Arachnids (spiders, scorpions, etc) – Note that in previous IUCN Red Lists, this figure was noted as 110,615, based on information from the Catalog of Life. This is now revised down, also based on Catalog of Life but looking at reported number of accepted species names only. Reference: Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L., eds. (2019). Species 2000 & ITIS Catalogue of Life, 2019 Annual Checklist. Digital resource at www.catalogueoflife.org/annual-checklist/2019. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 23 May 2024.

Velvet Worms (Udeonychophora) — Oliveira, I.S., Hering, L. and Mayer, G. (2006-2024). The Onychophora Website. Digital resource at <http://www.onychophora.com/index.htm>. Accessed 20 May 2024. For number of described species see <http://www.onychophora.com/list.htm>.

Horseshoe Crabs (Merostomata) — Class Merostomata excludes the fossil sea scorpions; only four species are extant today: Boxshall G.A. (2019). WoRMS Merostomata: World List of Merostomata (version 2019-03-05). In: Species 2000 & ITIS Catalogue of Life, 2019 Annual Checklist (Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L., eds.). Digital resource at www.catalogueoflife.org/annual-checklist/2019. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed: 23 May 2024.

Others – "Others" includes all of the invertebrate groups listed in Catalog of Life that are not included in the groups listed above. Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., Nieukerken E. van, Zarucchi J., Penev L., eds. (2019). Species 2000 & ITIS Catalogue of Life, 2019 Annual Checklist. Digital resource at www.catalogueoflife.org/annual-checklist/2019. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 04 December 2023).

Plants

Mosses – Christenhusz, M.J.M. and Byng, J.W. 2016. The number of known plant species in the world and its annual increase. *Phytotaxa*. 261(3): 201-217. <http://dx.doi.org/10.11646/phytotaxa.261.3.1>

Ferns and allies – State of the World's Plants 2017: https://stateoftheworldsplants.org/2017/report/SOTWP_2017.pdf

Gymnosperms – Christenhusz, M.J.M. *et al.* (2011). A new classification and linear sequence of extant gymnosperms. *Phytotaxa*. 19: 55–70 (cited in State of the World's Plants 2017: https://stateoftheworldsplants.org/2017/report/SOTWP_2017.pdf).

Flowering Plants (Magnoliophyta = Magnoliopsida+Liliopsida) – State of the World's Plants 2017: https://stateoftheworldsplants.org/2017/report/SOTWP_2017.pdf.

Fungi & Protists

Mushrooms, lichens, brackets, rusts, smuts, jelly fungi, etc. - all species within kingdom Fungi. Kirk, P. (2023). *Species Fungorum Plus*. In: O. Bánki, Y. Roskov, M. Döring, G. Ower, D.R. Hernández Robles, C.A. Plata Corredor, T. Stjernegaard Jeppesen, A. Örn, L. Vandepitte, D. Hobern, P. Schalk, R.E. DeWalt, K. Ma, J. Miller, T. Orrell, R. Aalbu, J. Abbott, R. Adlard, C. Aedo, *et al.* (eds) Catalogue of Life Checklist (Jan 2023). Royal Botanic Gardens, Kew. <https://doi.org/10.48580/dfrdl-4hj>. **Accessed: 23 May 2024.**

Green (Charophyta, Chlorophyta), Red (Rhodophyta) and Brown (Ochrophytina) Algae – From Guiry, M.D. and Guiry, G.M. 2024. AlgaeBase. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>. Accessed on 20 May 2024. For taxonomy search, see <https://www.algaebase.org/browse/taxonomy/>