

## 评估的物种数量与描述的物种总数的关系，以及按主要生物群组划分的受威胁物种数量。

**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.**

	评估描述的物种数量 <sup>1</sup>	到2022年评估的物种数量	到2022年评估的描述物种的百分比 (IUCN红色清单2022-1版)	到2022年受威胁物种的数量	2022年受威胁物种的估计百分比 (IUCN红色清单2022-1版)		
	Estimated Number of described species <sup>1</sup>	Number of species evaluated by 2022 (IUCN Red List version 2022-1)	% of described species evaluated by 2022 (IUCN Red List version 2022-1)	Number of threatened species <sup>2</sup> by 2022 (IUCN Red List version 2022-1)	Estimated % threatened species in 2022 (IUCN Red List version 2022-1) <sup>2,3,4</sup>		
					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)
<b>VERTEBRATES</b>							
Mammals <sup>5</sup>	6,577	5,969	91%	1,337	23%	26%	37%
Birds	11,162	11,162	100%	1,409	13%	13%	13%
Reptiles	11,690	10,150	87%	1,845	18%	21%	33%
Amphibians	8,463	7,316	86%	2,515	35%	41%	51%
Fishes	36,248	24,356	67%	3,548	Insufficient coverage		
Subtotal	74,140	58,953	80%	10,654			
<b>INVERTEBRATES</b>							
Insects	1,053,578	12,161	1.2%	2,291	Insufficient coverage		
Molluscs	84,528	9,017	11%	2,384	Insufficient coverage		
Crustaceans <sup>6</sup>	80,122	3,197	4%	745	Insufficient coverage		
Corals	5,574	846	15%	232	Insufficient coverage		
Arachnids	110,615	441	0.40%	251	Insufficient coverage		
Velvet Worms	210	11	5%	9	Insufficient coverage		
Horseshoe Crabs	4	4	100%	2	50%	100%	100%
Others	157,543	904	0.57%	152	Insufficient coverage		
Subtotal	1,492,174	26,581	2%	6,066			
<b>PLANTS<sup>7</sup></b>							
Mosses <sup>8</sup>	21,925	282	1.3%	165	Insufficient coverage		
Ferns and Allies <sup>9</sup>	11,800	747	6%	288	Insufficient coverage		
Gymnosperms	1,113	1,046	94%	436	42%	42%	44%
Flowering Plants	369,000	59,222	16%	23,551	Insufficient coverage		
Green Algae <sup>10</sup>	12,382	16	0.1%	0	Insufficient coverage		
Red Algae <sup>10</sup>	7,480	58	0.8%	9	Insufficient coverage		
Subtotal	423,700	61,371	14%	24,449			
<b>FUNGI &amp; PROTISTS<sup>11</sup></b>							
Lichens	17,000	86	0.5%	62	Insufficient coverage		
Mushrooms, etc.	120,000	511	0.4%	222	Insufficient coverage		
Brown Algae <sup>10</sup>	4,485	15	0.3%	6	Insufficient coverage		
Subtotal	141,485	612	0.4%	290			
TOTAL	2,131,499	147,517	7%	41,459			

## 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. 表一中描述的物种数量应谨慎使用，因为这些数字并不总是所有分类群的最新数据。表中目前所显示的数字的来源如下。
- Threatened species are those listed as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU). 濒危物种是指被列为极度濒危 (CR)、濒危 (EN) 或易危 (VU) 的物种。
- 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). 如果一个组中<80%的物种已被评估，则未提供受威胁物种百分比的数据，因为这些组别的覆盖范围不足。对于那些完全或几乎完全评估过的群体（例如，哺乳动物、鸟类、两栖动物和裸子植物），才有可能提供可靠的受威胁物种百分比数据。
- 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. 对于那些完全或几乎完全评估的群体 (>80% 的被评估物种)，可以计算出受威胁物种的百分比，但受威胁物种的实际数量往往是不确定的，因为不知道数据不足 (DD) 物种是否真的受到威胁。因此，我们提供了一个百分比范围：较低的估计值=受威胁的现存物种百分比（如果所有的DD物种都没有受到威胁）；最佳估计值=受威胁的现存物种百分比（如果DD物种与数据充足的物种同样受到威胁）；最高估计值=受威胁的现存物种百分比（如果所有DD物种都受到威胁）。如果报告需要单一数字，应使用最佳估计数字。
- The number of described and evaluated mammals excludes domesticated species like sheep (*Ovis aries*), goats (*Capra hircus*), Dromedary (*Camelus dromedarius*), etc. 描述和评估的哺乳动物数量不包括驯化的物种，如绵羊 (*Ovis aries*)、山羊 (*Capra hircus*)、单峰驼 (*Camelus dromedarius*) 等等。
- 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. 2022. v. 1.9, released 1 April 2022. [www.mammaldiversity.org](http://www.mammaldiversity.org). American Society of Mammalogists. Accessed 22 June 2022.  
The ASM Biodiversity Committee stewards the Mammal Diversity Database, an updatable and online database of mammal taxonomic and biodiversity information. Partly based on Wilson, D.E. and Reeder, D.M. (eds). 2005. *Mammal Species of the World*, 3rd Edition. John Hopkins University Press, Baltimore (available at <https://www.departments.bucknell.edu/biology/resources/msw3/>), updated using the IUCN Red List and other literature. The IUCN Red List deviates from Wilson and Reeder (2005), especially in cases where there are alternative taxonomic treatments; in such cases the Global Mammal Assessment coordinating team working with the relevant IUCN SSC Specialist Group advise on which treatment to follow. A number of differences and deviations are also based on new revisions and published papers that have appeared since the accounts in Wilson and Reeder (2005) were published. There are a number of recently described species which are currently under review and hence these are not included in the numbers cited here.

**Birds** – Handbook of the Birds of the World and BirdLife International. 2021. Handbook of the Birds of the World and BirdLife International digital checklist of the birds of the world. Version 6. Available at: [http://datazone.birdlife.org/userfiles/file/Species/Taxonomy/HBW-BirdLife\\_Checklist\\_v6\\_Dec21.zip](http://datazone.birdlife.org/userfiles/file/Species/Taxonomy/HBW-BirdLife_Checklist_v6_Dec21.zip). Accessed: 23 June 2022

**Reptiles** – Based on the figures (as of November 2021) provided by The Reptile Database compiled by Peter Uetz and Jiri Hošek. Available at: <http://www.reptile-database.org>. Accessed: 23 June 2022. For current total number of species on this website, see <http://reptile-database.reptarium.cz/>

**Amphibians** – Frost, D.R. 2022. *Amphibian Species of the World: an Online Reference*. Version 6.1 (23 June 2022). 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). 2022. *Eschmeyer's Catalog of Fishes: genera, species, references* (<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>). Electronic version accessed: 06 June 2022.

## 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 21 July 2021.

**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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 05 August 2021.

**Molluscs** – MolluscaBase (2022). MolluscaBase. Available at <http://www.molluscabase.org>. Accessed: 23 June 2022.

**Corals** – Corals fall under the phylum Cnidaria and are primarily in the class Anthozoa (orders Alcyonacea, Antipatharia, Corallimorpharia, Helioporacea, Scleractinia, although there are some in the class Hydrozoa (family Milleporidae). The number of described living species reported here are from 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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed: 23 June 2022

**Arachnids (spiders, scorpions, etc)** – 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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 21 July 2021.

**Velvet Worms (Udeonychophora)** — Oliveira, I.S., Hering, L. and Mayer, G. (2006-2022). The Onychophora Website. Digital resource at <http://www.onychophora.com/index.htm>. Accessed 23 June 2022. 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: 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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 04 March 2021.

**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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 24 November 2021).

## 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](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](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](https://stateoftheworldsplants.org/2017/report/SOTWP_2017.pdf).

## Fungi & Protists

**Lichens** - The estimated total number of lichen species currently ranges between 17,000 (Chapman 2009) and 28,000 (Thell *et al.* 2012). The figure presented in Table 1a will be updated as soon as a more accurate figure can be confirmed.

Chapman, A.D. 2009. *Numbers of Living Species in Australia and the World*, 2nd edition. Australian Biological Resources Study, Canberra. Available at: <http://www.environment.gov.au/biodiversity/abrs/publications/other/species-numbers/2009/04-04-groups-fungi.html#lichen>. Accessed 02 September 2010.  
Thell, A., Crespo, A. Divakar, P.K., Kärnefelt, I., Leavitt, S.D., Lumbsch, H.T. and Seaward, M.R.D. 2012. A review of the lichen family Parmeliaceae - history, phylogeny and current taxonomy. *Nordic Journal of Botany* 30(6): 641-664

**Mushrooms, brackets, rusts, smuts, jelly fungi, etc.** - Ascomycota and Basidiomycota (excluding the lichenised species).

Kirk P.M. (2019). *Species Fungorum* (version Oct 2017). 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](http://www.catalogueoflife.org/annual-checklist/2019). Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-884X. Accessed 24 November 2021

**Green (Charophyta, Chlorophyta), Red (Rhodophyta) and Brown (Ochromytha) Algae** – From Guiry, M.D. and Guiry, G.M. 2022. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>. Accessed on 23 June 2022. For taxonomy search, see <https://www.algaebase.org/browse/taxonomy/>