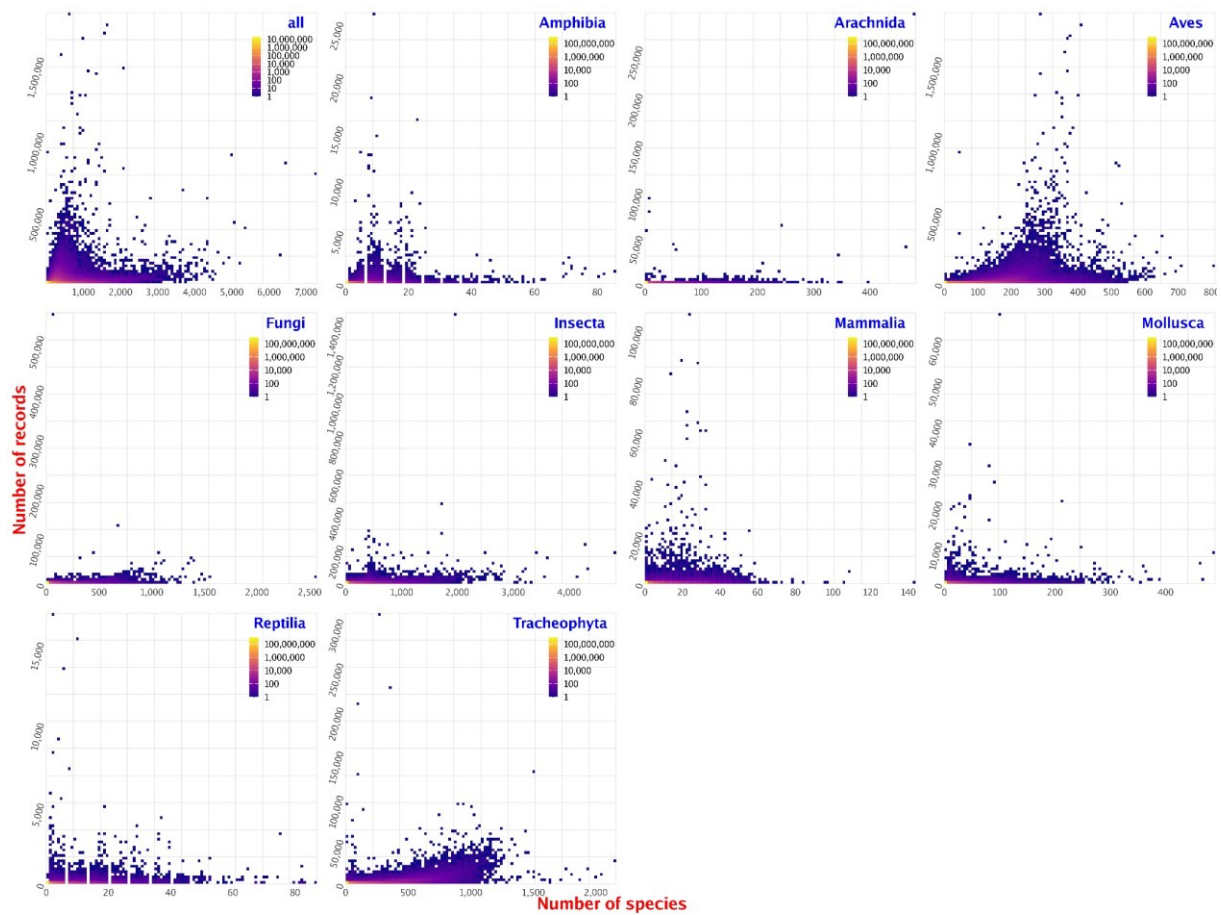
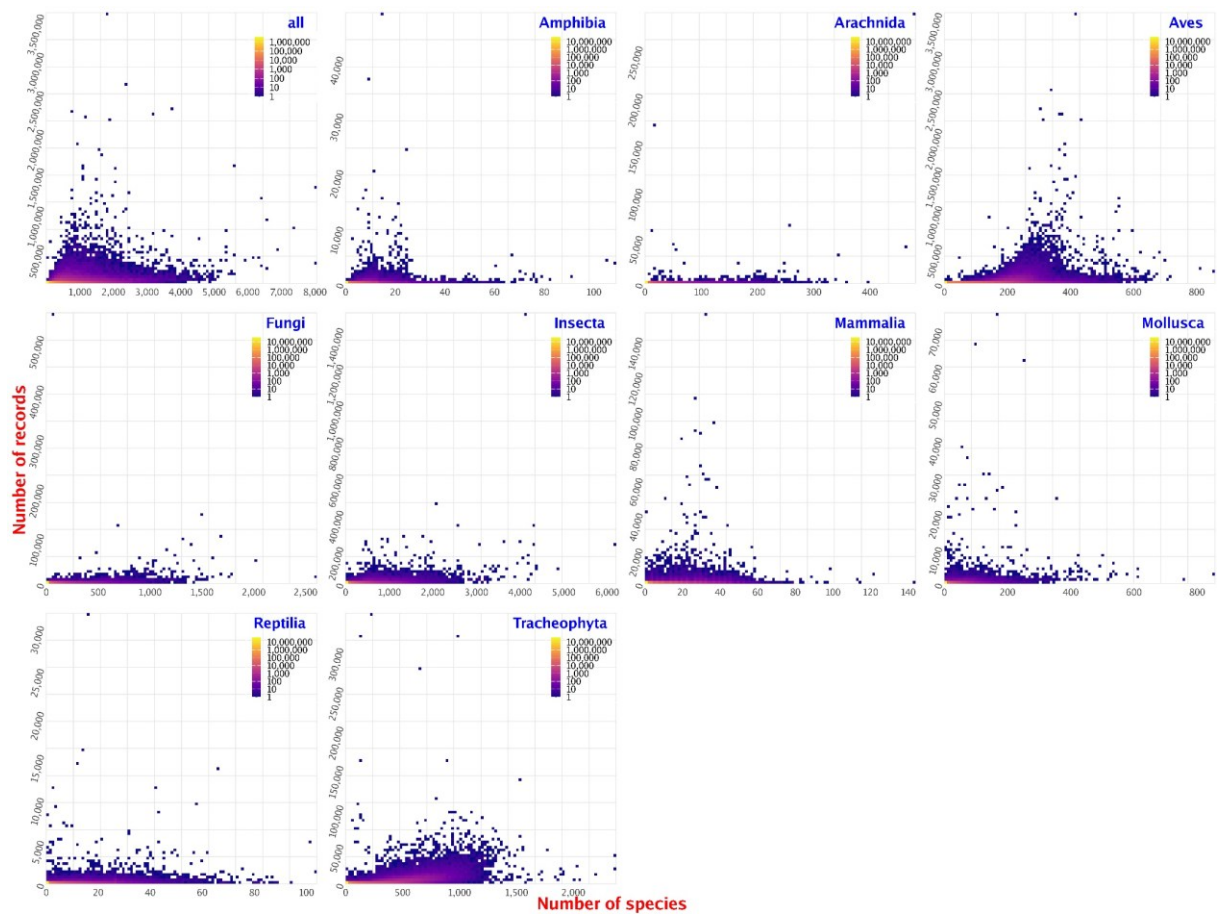


El-Gabbas, A. (2026). **A global, taxon-stratified, high-resolution sampling-effort dataset from GBIF for bias-aware ecological modelling.** Diversity and distributions.

– Supporting figures –



(a)



(b)

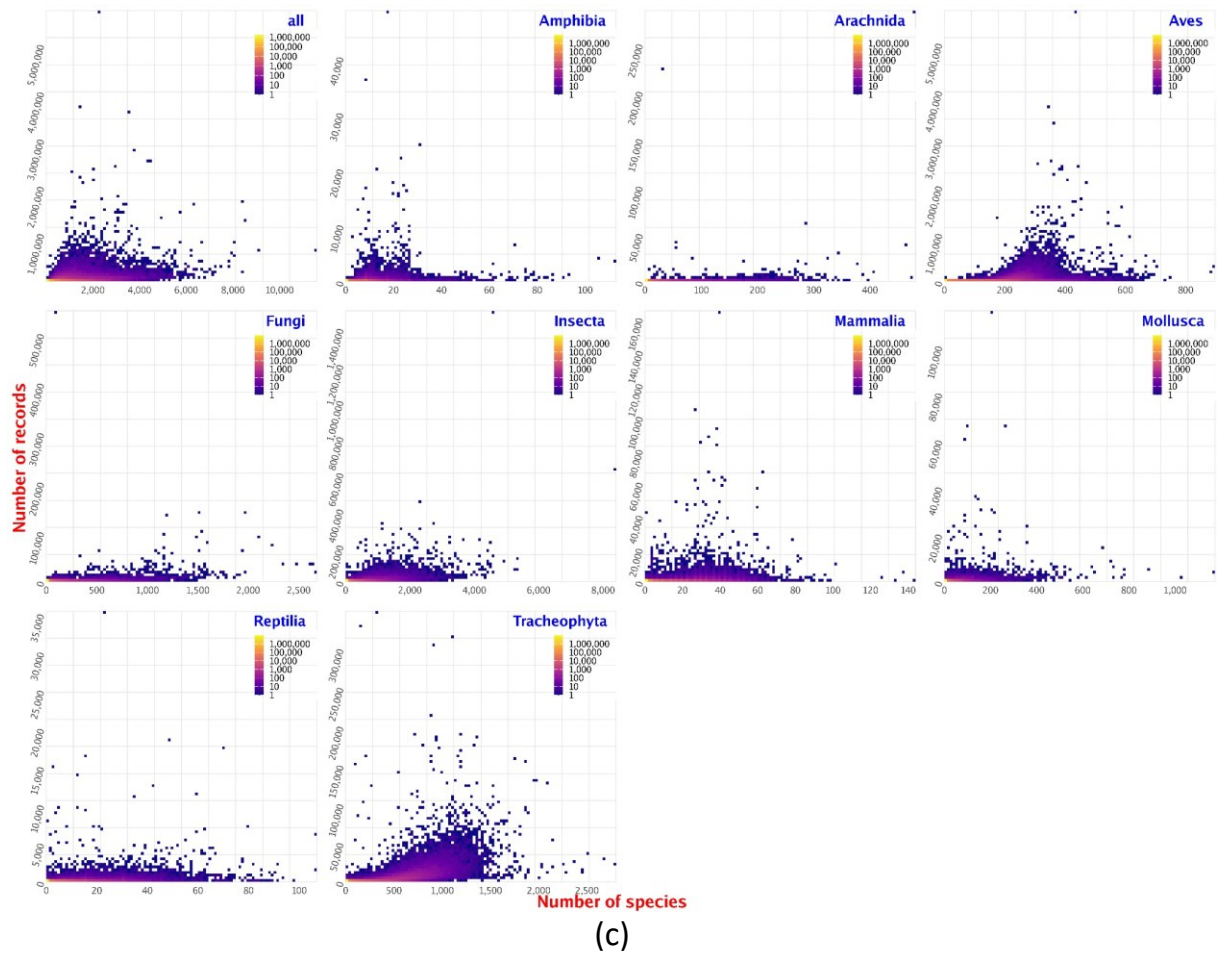


Figure S1: Bivariate frequency distributions of species richness (x-axis) and observation count (y-axis) per grid cell at three spatial resolutions: (a) ~ 1 km; (b) ~ 5 km; and (c) ~ 10 km. Each panel displays a two-dimensional binning (100×100 bins) where colour intensity indicates the frequency of cells with each species-observation combination. Separate sub-panels show patterns for each taxonomic group and all data combined. Note that axis ranges differ among panels to optimise visualisation of group-specific patterns.

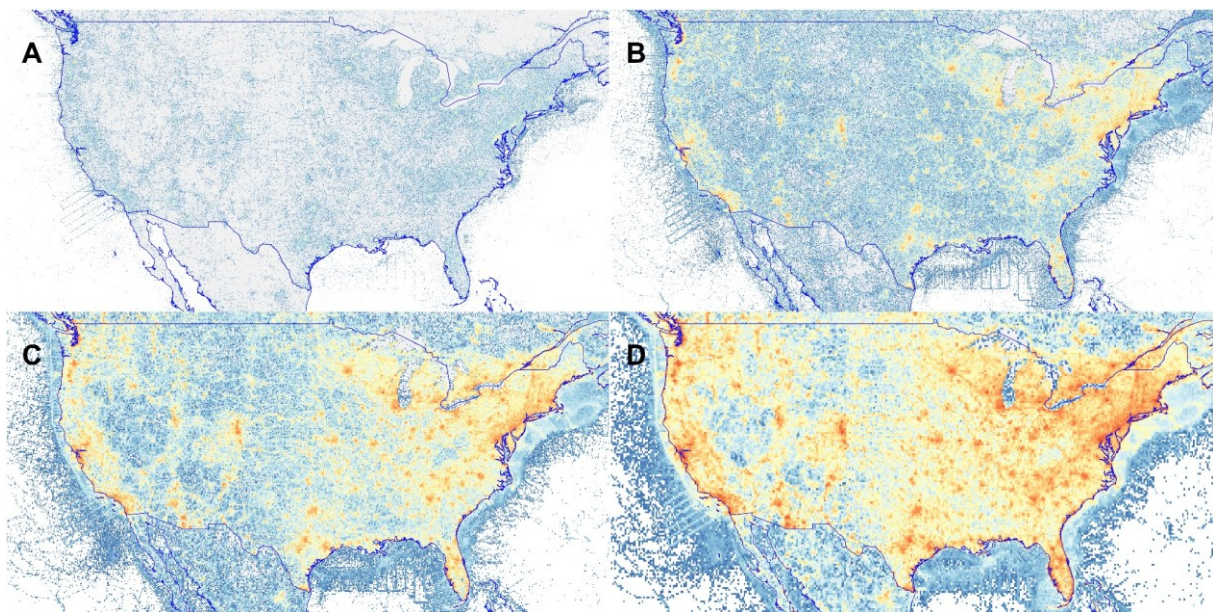
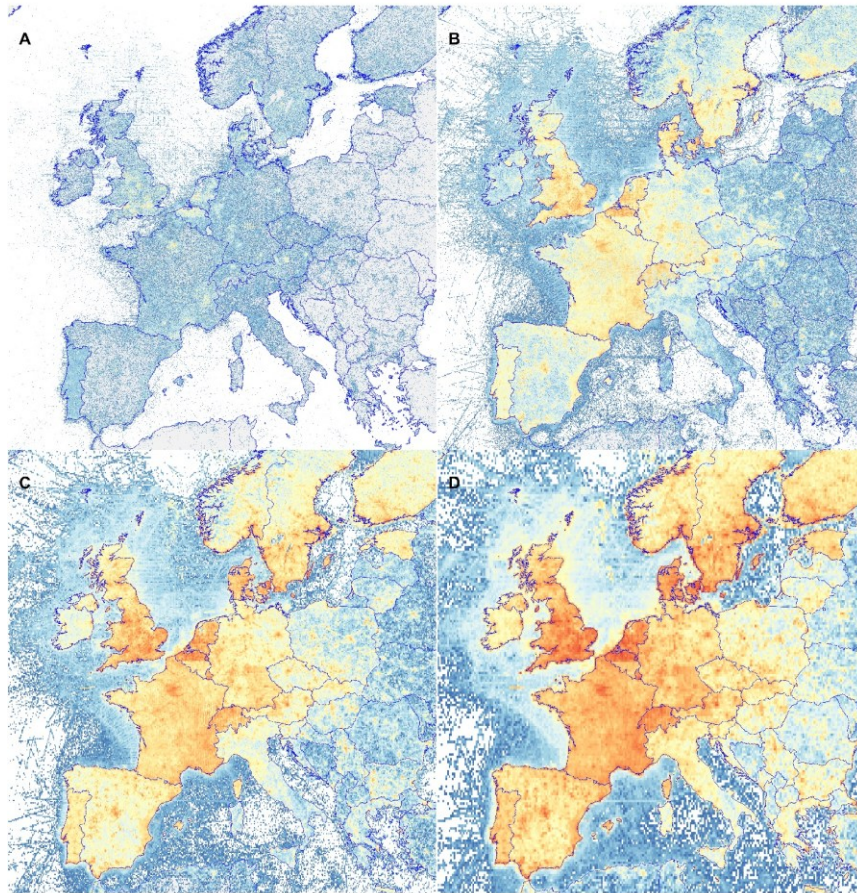


Figure S2. Scale-dependent patterns in observation count (\log_{10} scale) for Western Europe and the USA at four spatial resolutions: (A) ~ 1 km, (B) ~ 5 km, (C) ~ 10 km, (D) ~ 20 km. Warmer colours indicate higher density. Finer resolutions capture strong clustering around urban centres and institutions; coarser resolutions smooth hotspots and show country borders, reflecting national variations in data sharing. Note: each panel uses an independent colour scale; cross-panel comparisons of absolute values are not valid.

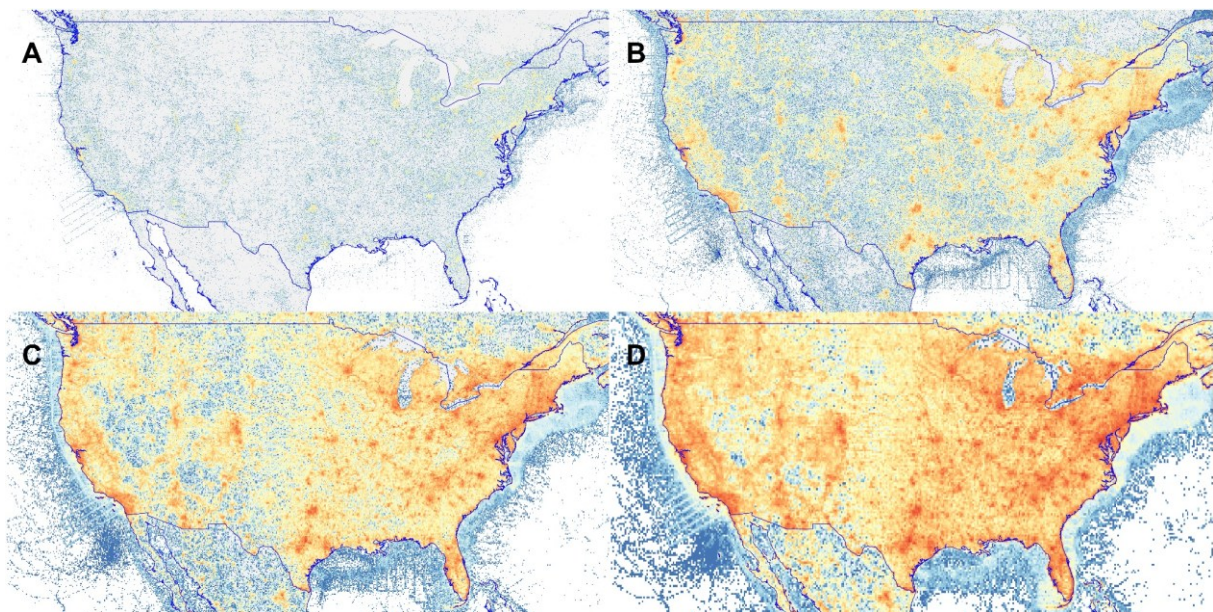
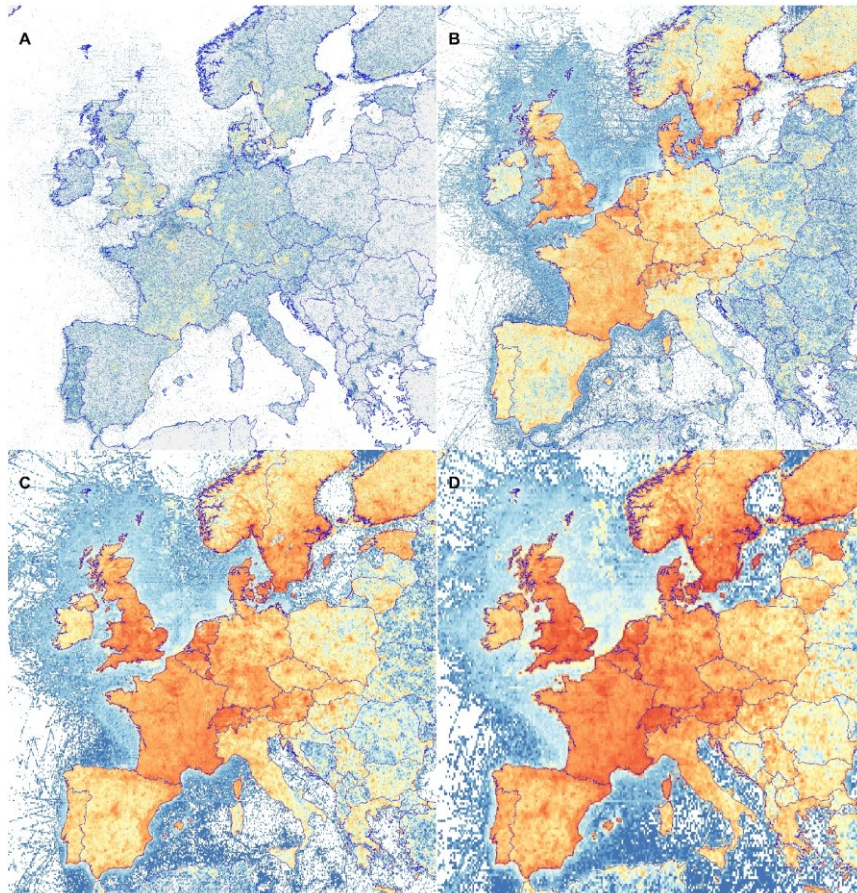


Figure S3. Scale-dependent patterns in species richness (\log_{10} scale) for Western Europe and the USA at four spatial resolutions: (A) ~ 1 km, (B) ~ 5 km, (C) ~ 10 km, (D) ~ 20 km. Warmer colours indicate higher richness. Patterns are qualitatively similar across resolutions but differ in apparent intensity, with coarser grains smoothing local hotspots. Note: each panel uses an independent colour scale; cross-panel comparisons of absolute values are not valid.

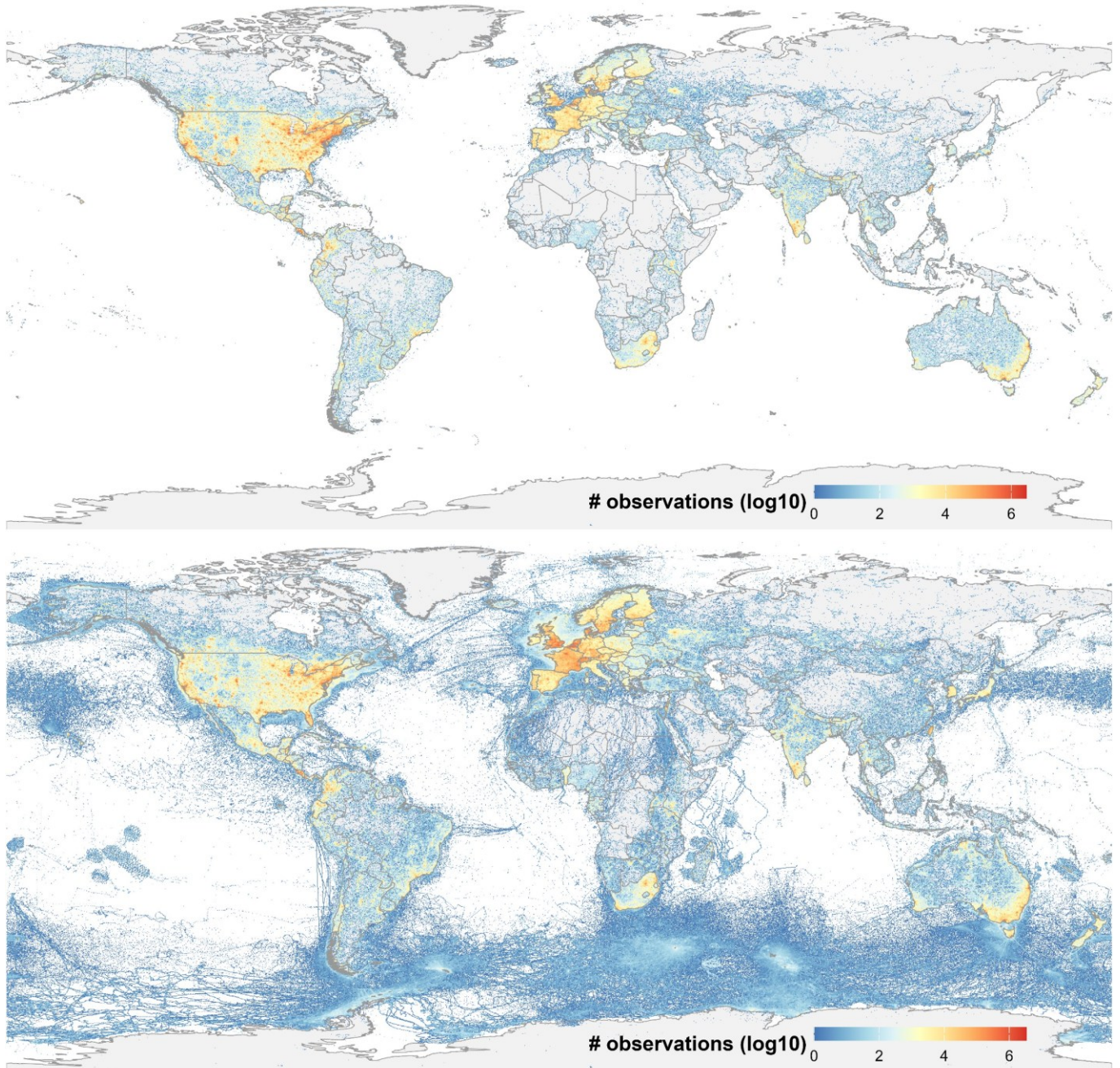
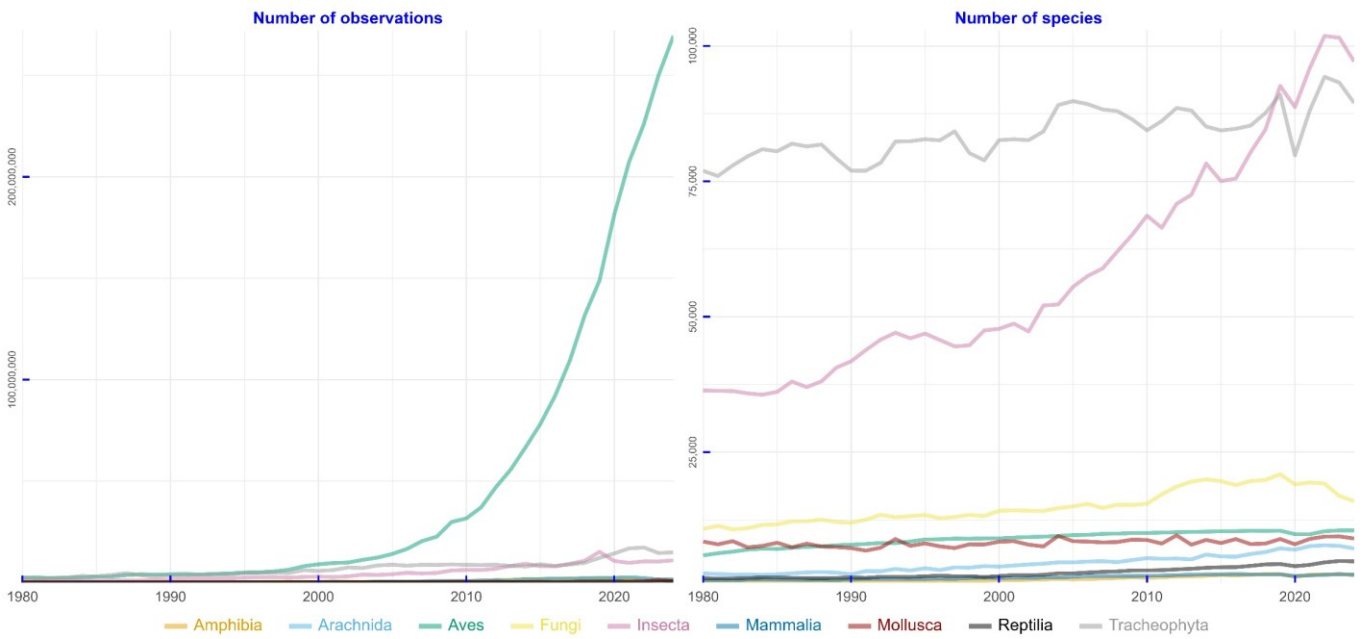
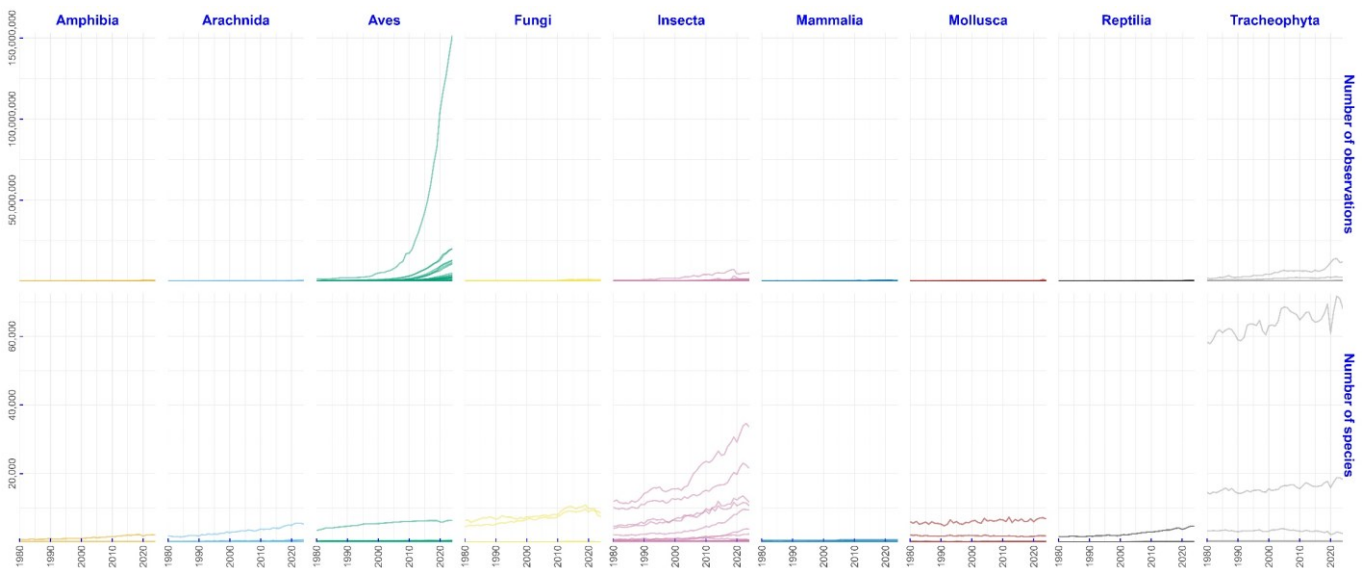


Figure S4. Observation count patterns for Passeriformes only (top) and all data without Passeriformes (bottom); both at 20 km resolution at \log_{10} scale. Despite Passeriformes contributing ~42% of all records, overall spatial patterns remain unchanged after exclusion, indicating that sampling inequality reflects structural biases shared across taxa rather than dominance by a single lineage. See Appendix 2 for taxon-specific maps.



(a)



(b)

Figure S5: Temporal trends in GBIF data mobilisation (1980–2024; linear scale). (A) Annual observations (left) and species counts (right) for nine major taxonomic groups (colour-coded). (B) Annual observations (top row) and species counts (bottom row) for descendant taxa within each group (columns). The linear scale emphasises the dramatic acceleration in bird observations after 2010, particularly among Passeriformes, which peaked at over 150 million records in 2024. See Figure 5 for the \log_{10} -scale version, which reveals trends in less frequently recorded groups.