Appendix S4: Robustness analysis with species that occur at both high and low-quality landscapes

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Given that bird species pool are slightly different in both regions (see Appendix 1), the results we found comparing both high- and low-quality landscapes could be confounded by groups os species that respond differently but doesn't occur at both regions. In order to check for the robustness of our results, we performed separate analysis with only those species that occur in both regions, **57 forest specialists** (61.3% of all specialists) and **64 forest generalists** (73.6% of all generalists), and compared them with the results presented in the main text with all species.

The analyses were done with the combined trait models, the same presented at Figure 2 and 3 in the main text.

We found that even with the same groups of species analyzed, we get very similar results for the differences between high- and low-quality matrix landscapes, which reinforce that the drawned inferences regarding habitat loss responses remains the same regardless of the exclusion of 'unique' species in a given a region.

1. Datasets

Separating only species that occur at both regions.

Table S4.1: Checking the number of species in all 4 assemblages datasets.

assemblage	N_of_species
High-quality specialists	57
Low-quality specialists	57
High-quality generalists	64
Low-quality generalists	64

2. Local and landscape forest cover effects

Comparing effect sizes and 95% IC for fixed effects forest cover a local and landscape scale for each dataset: the original and the subsets of the same species (1). We see that estimates almost didn't change with the dataset.

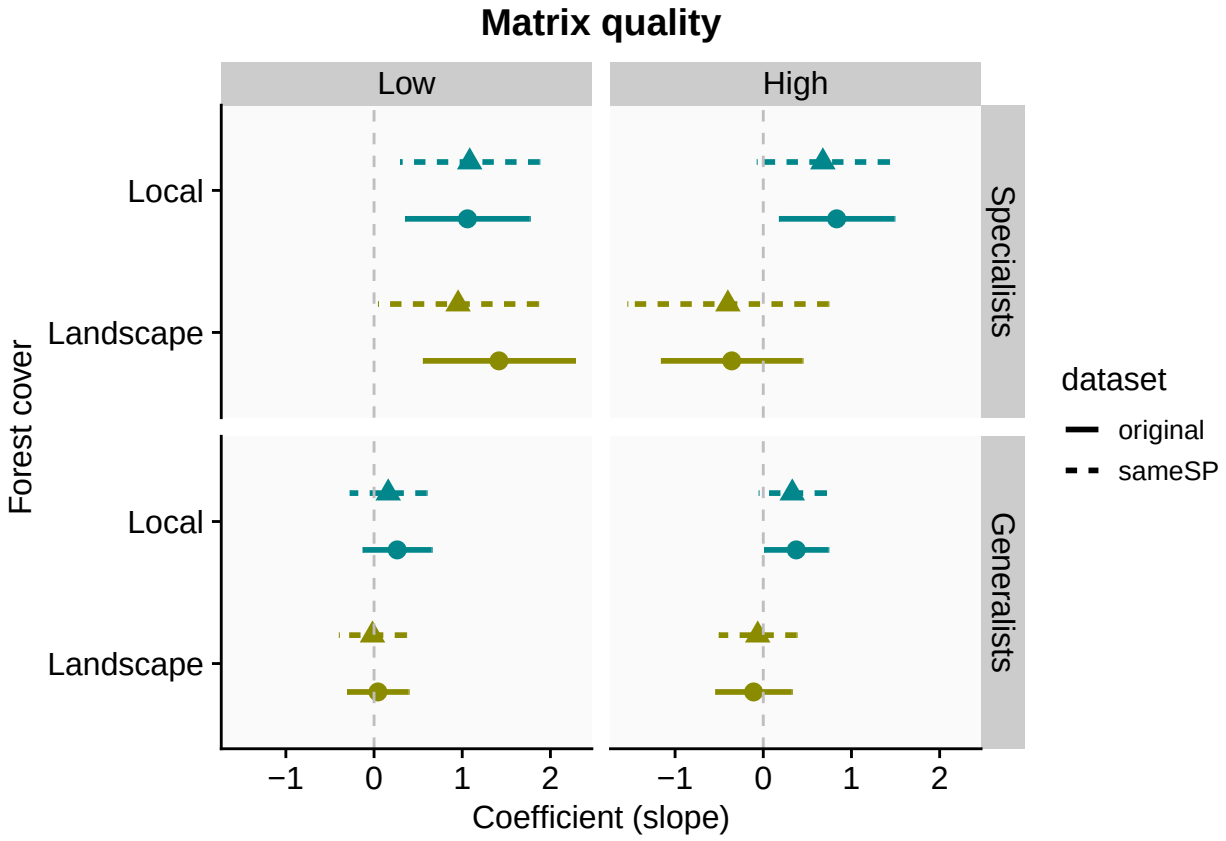

Figure S4.1: Comparing effect sizes (and 95 percent confidence intervals) for forest cover at local and landscape scale for both datasets: original with all species (triangles and continuous lines) and the subset of species that occur at both regions (circles and dashed lines).

3. R^2 models

Comparing partial R^2 of the models' terms in both datasets, the original and the subsets of the same species (2). Qualitatively, we see that R^2 almost didn't change with the dataset, expect for specialists in low-quality matrix landscapes where fixed effects (trait*env) decreased from 22% to 17%.

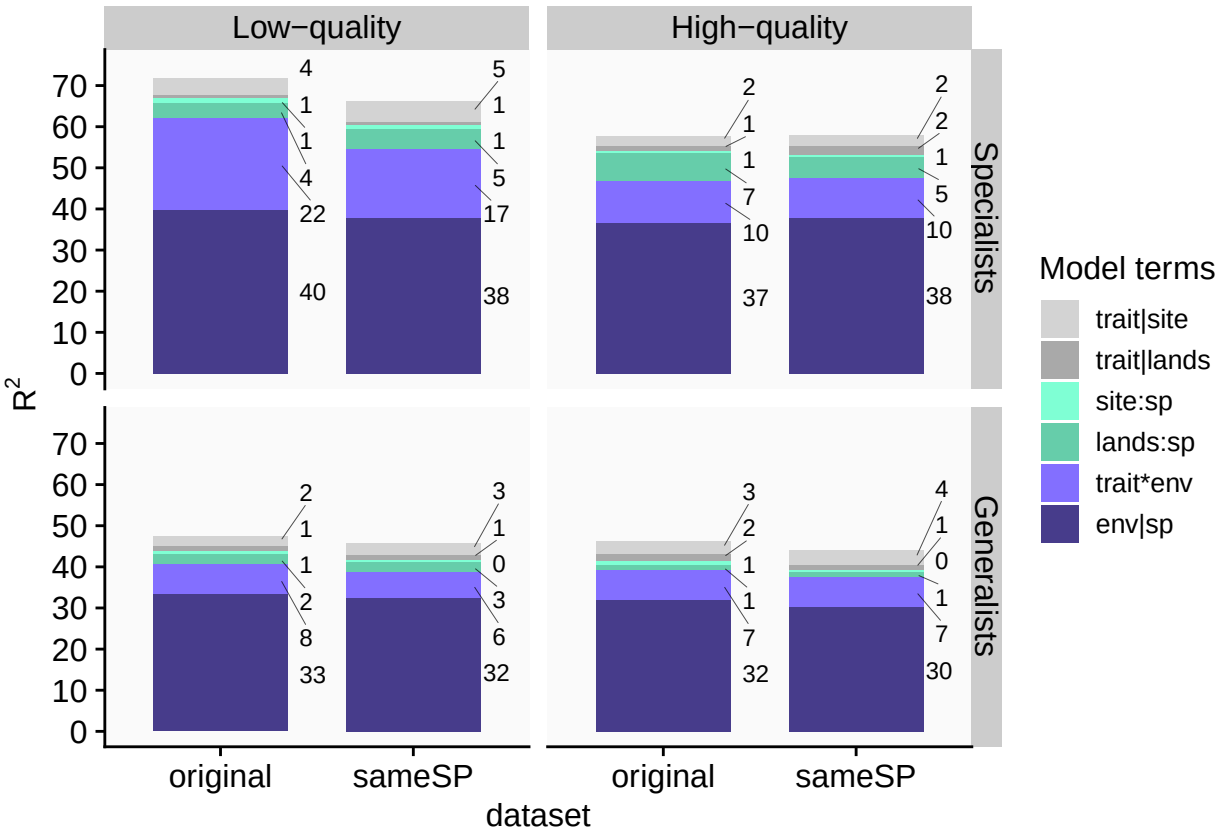

Figure S4.2: Comparing partial R-squares for models terms in both datasets: original with all species (left) and the subset of species that occur at both regions (right).

4. Predictions for each species local forest cover

Predictions of species occurrence probability with forest cover at the local scale for the species that occur at both regions with models fitted for both datasets: the original and the subsets of the same species for forest specialists (3) and habitat generalists (4). Landscape forest cover was fixed in 30%.

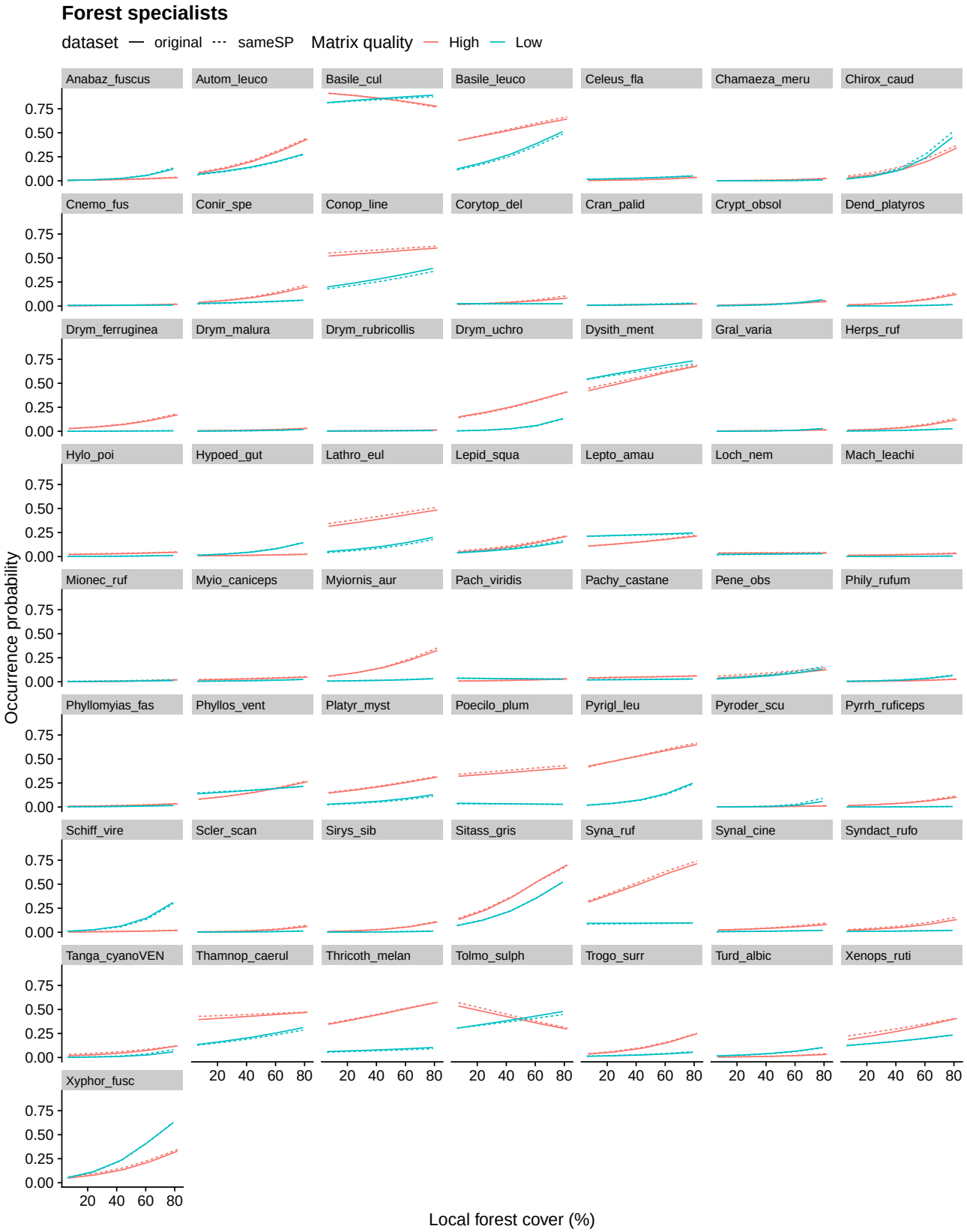

Figure S4.3: Predictions for forest specialist birds.

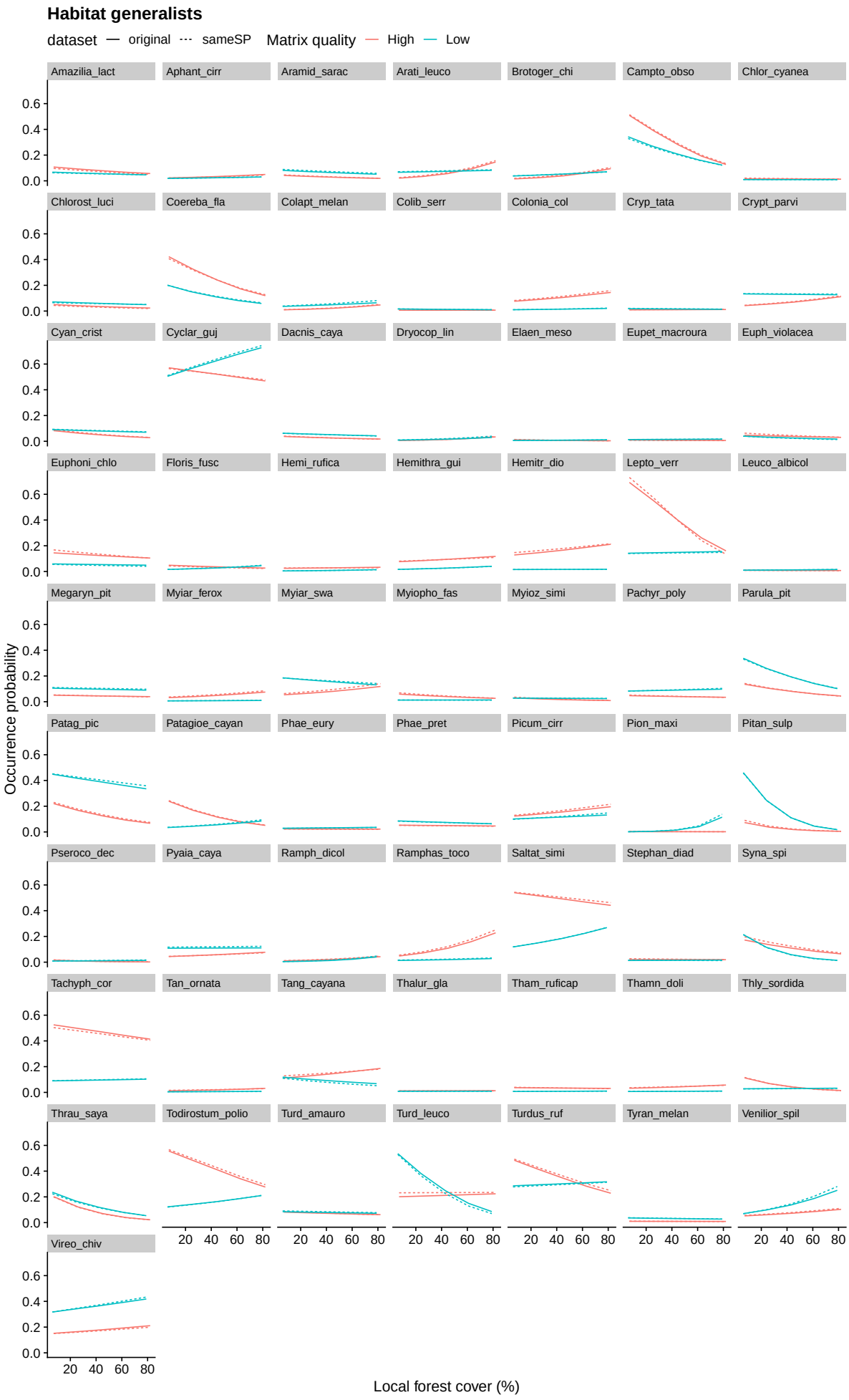

Figure S4.4: Predictions for habitat generalist birds.