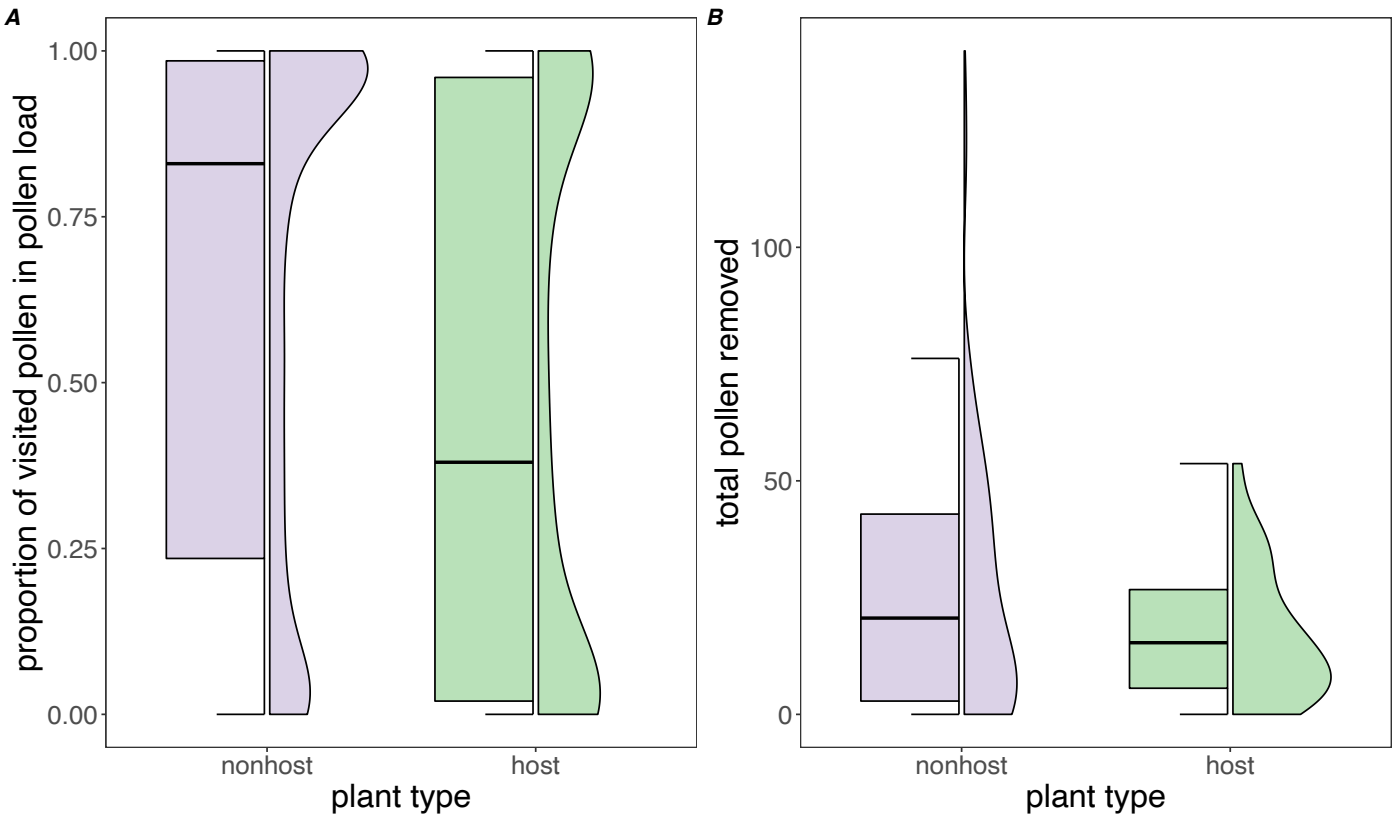

Figure 1. Box and violin plots comparing how much pollen generalist bees collect from plants used by specialists ('host' plants, green) and from plants not used by specialists ('nonhost' plants, purple). The plots show that when individual bees from generalist species visit plants used by specialist bees, they collect similar amounts of pollen from the plant as when they visit other plants (A); Similarly, generalist bees as a whole remove similar amounts of pollen in aggregate from plants used by specialists as from those not used by specialists (B). For the boxplots, the boxes encompass the first and third quartiles of the data and the thick black line is the median. The plot whiskers extend to 1.5 times the interquartile range.

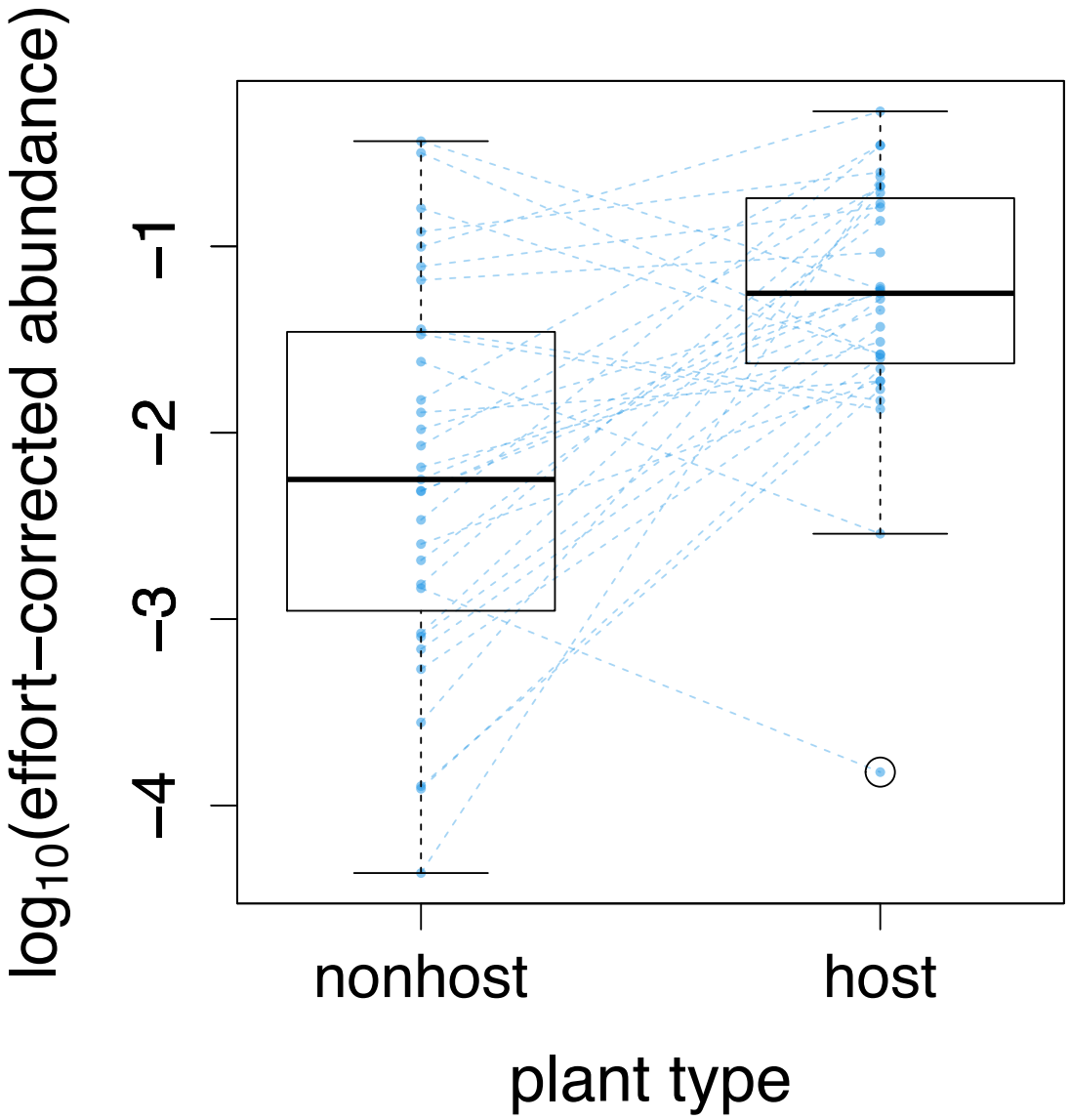

Figure 2. Effort-corrected abundance (log-transformed) by plant type. Each plant genus is represented by a blue circle, and dotted blue lines connect plants hosting specialist bees with their non-host close relatives. The boxes encompass the first and third quartiles of the data and the thick black line is the median. The plot whiskers extend to 1.5 times the interquartile range and the larger black circle represents an outlier.

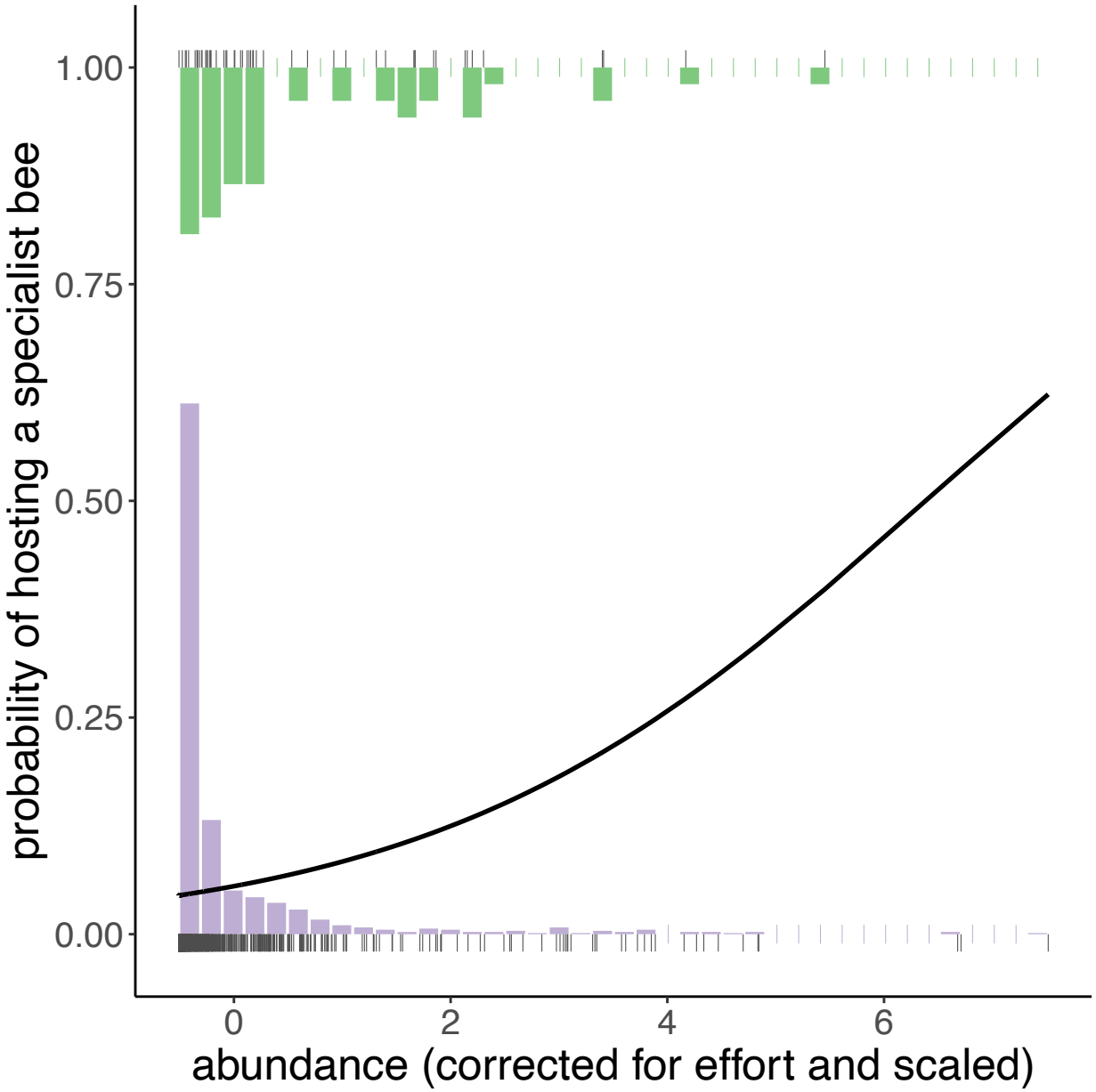

Figure 3. The relationship between a plant's abundance and the probability it hosts at least one specialist bee species. The black line shows the model prediction, the tick points the data, and histograms represent the proportion of observations within each abundance bin for each plant type (specialist host [green] vs. non-host [purple]). Data points located at one on the y-axis represent plants that host at least one specialist bee species, and points located at zero represent plants that do not.

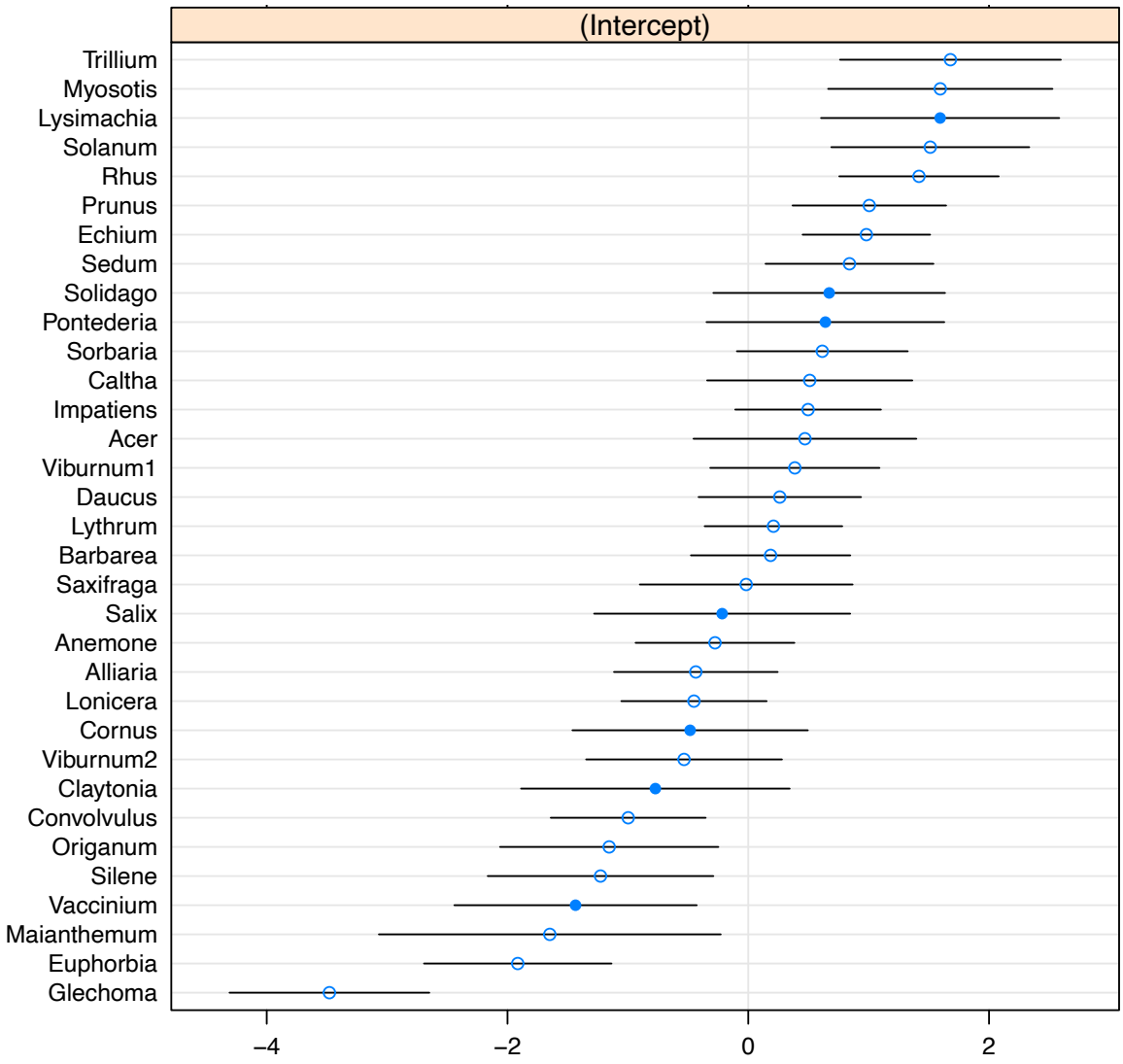

Figure S1. Dotplot depicting the random effect estimate of each plant species from the model of individual bee pollen use. A large estimate suggests that generalist bees visiting the plant tended to collect a lot of pollen from it, whereas a small estimate suggests that they did not. Filled circles represent plants that host specialist bees and open circles represent control plants that do not.

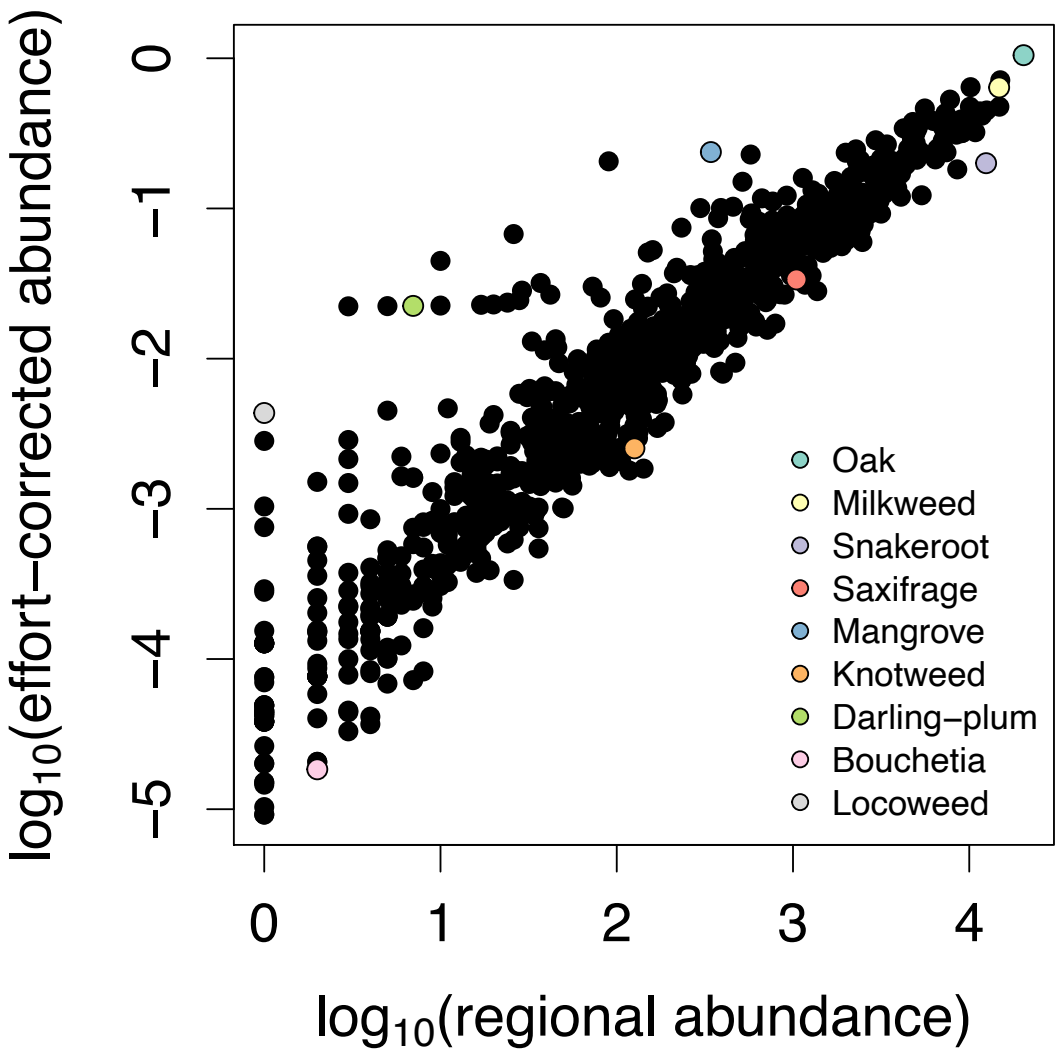

Figure S2. The relationship between regional abundance (number of unique records on iNaturalist) and our measure of effort-corrected regional abundance for each genus. The points that are labelled in color are notable genera or stand-out datapoints, and are presented to allow the reader to calibrate the data against their own impressions of taxon abundance. Common names are used in the legend are for the genera: *Toxicodendron* (Poison ivy), *Quercus* (Oak), *Asclepias* (Milkweed), *Ageratina* (Snakeroot), *Saxifraga* (Saxifrage), *Conocarpus* (Mangrove), *Polygonum (*Knotweed*), Reynosia* (Darling-plum)*, Bouchetia* (Bouchetia)*, Oxytropis* (Locoweed).

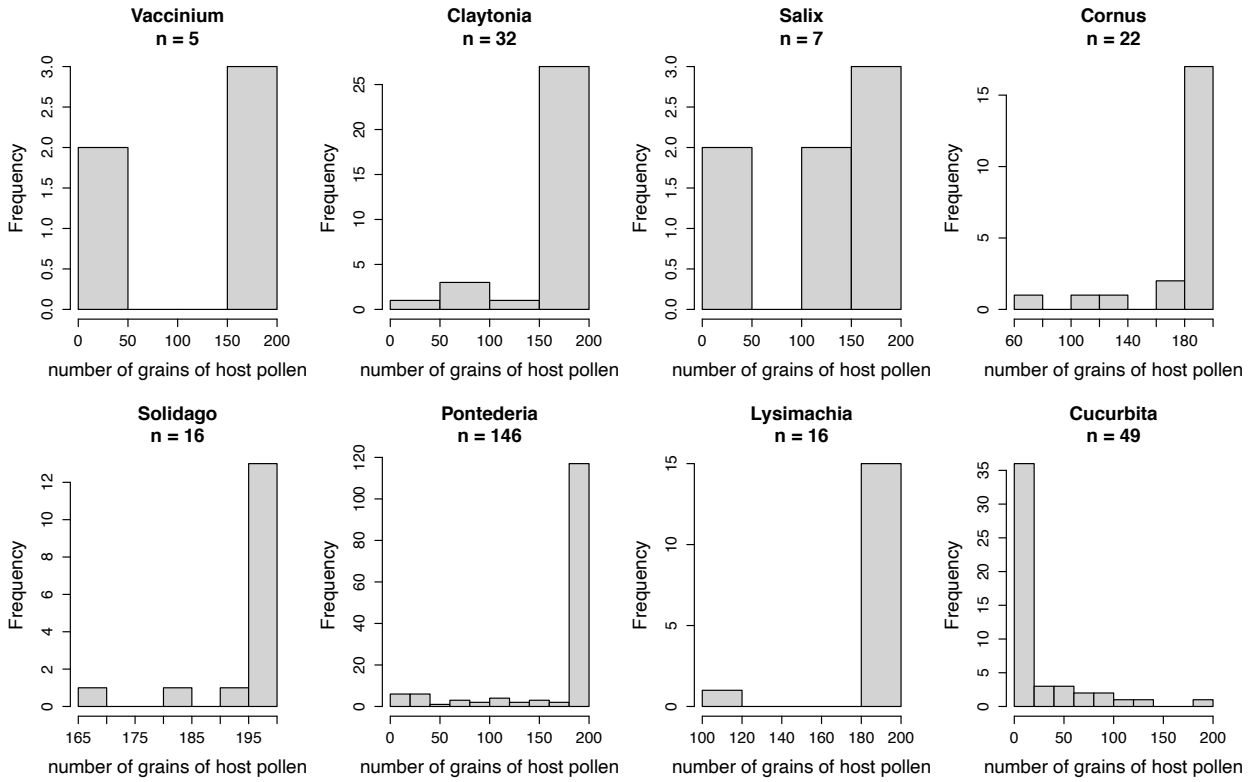

Figure S3. Histograms depicting the distribution of host pollen in the pollen loads of specialist bees visiting their host plants. The x-axis is the number of pollen grains an individual carried of its host plant out of a maximum possible of 200.

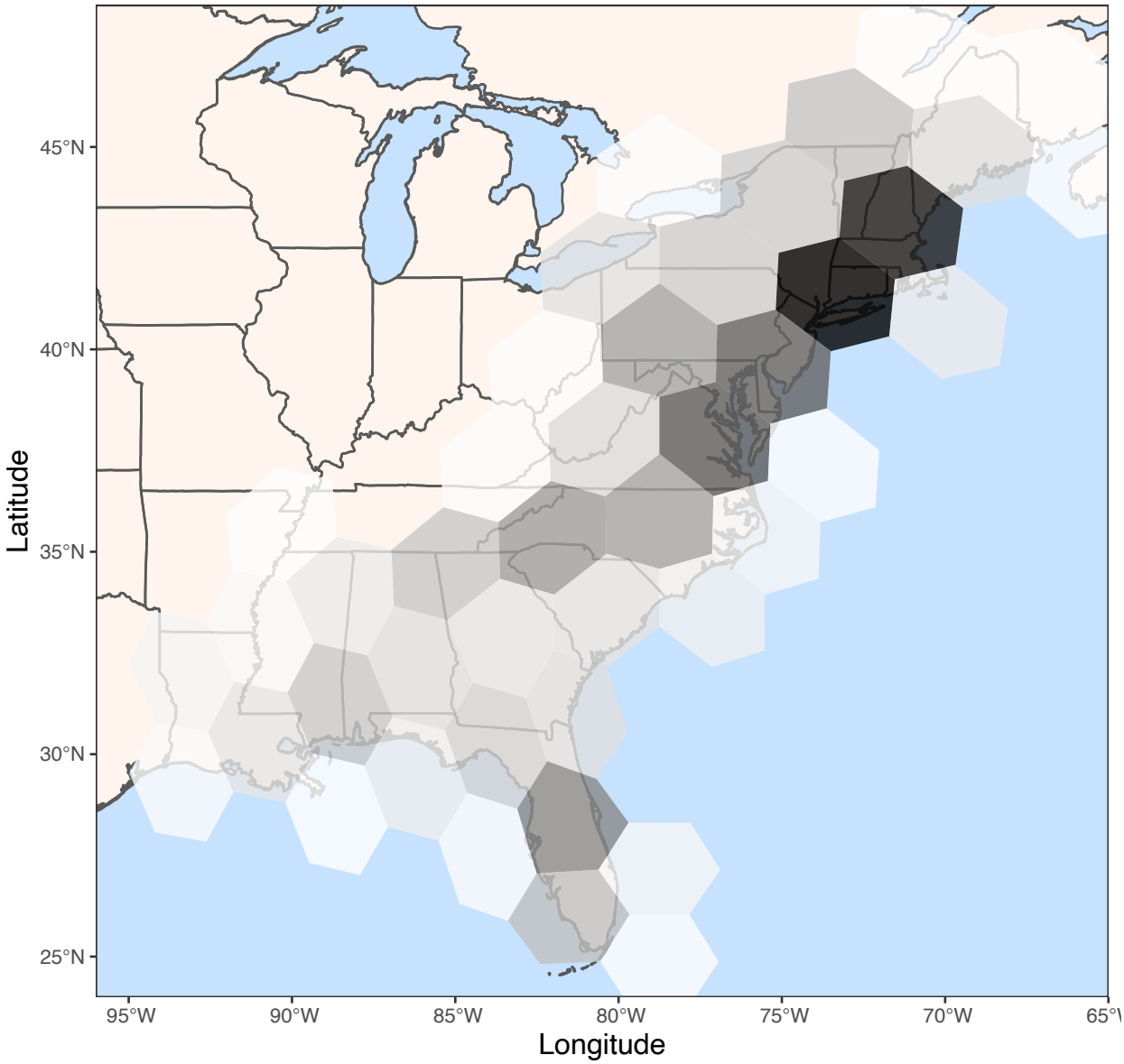

Figure S4. Map of the eastern United States, demonstrating how sampling effort in the iNaturalist dataset is greater in the north than in the south. The shading of the hexagons represents the number of observations in the hexagon, with darker shades corresponding to a greater number of observations.

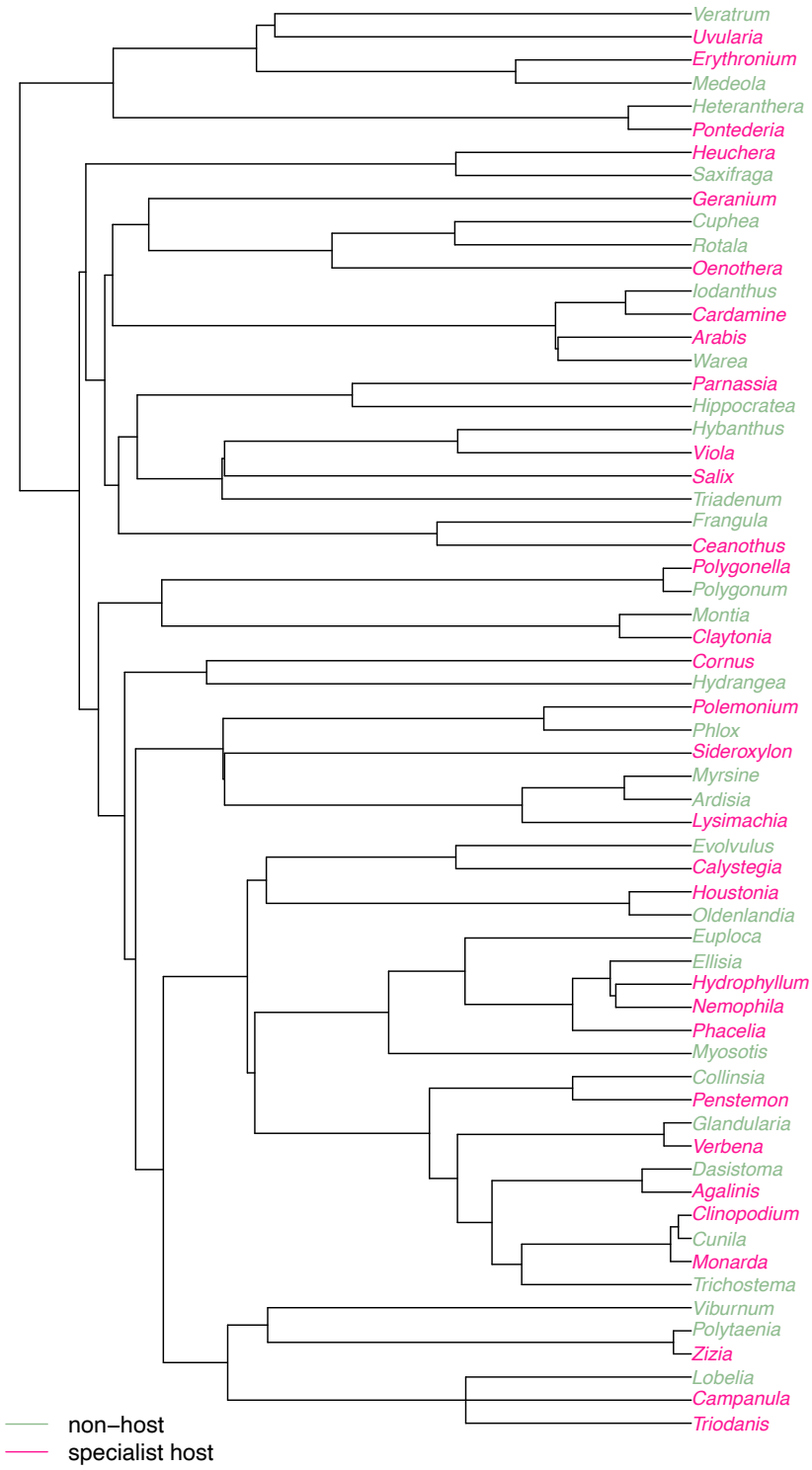

Figure S5. Phylogeny of the plants hosting specialist bees (pink) and their close relatives (green) chosen for the paired analysis.

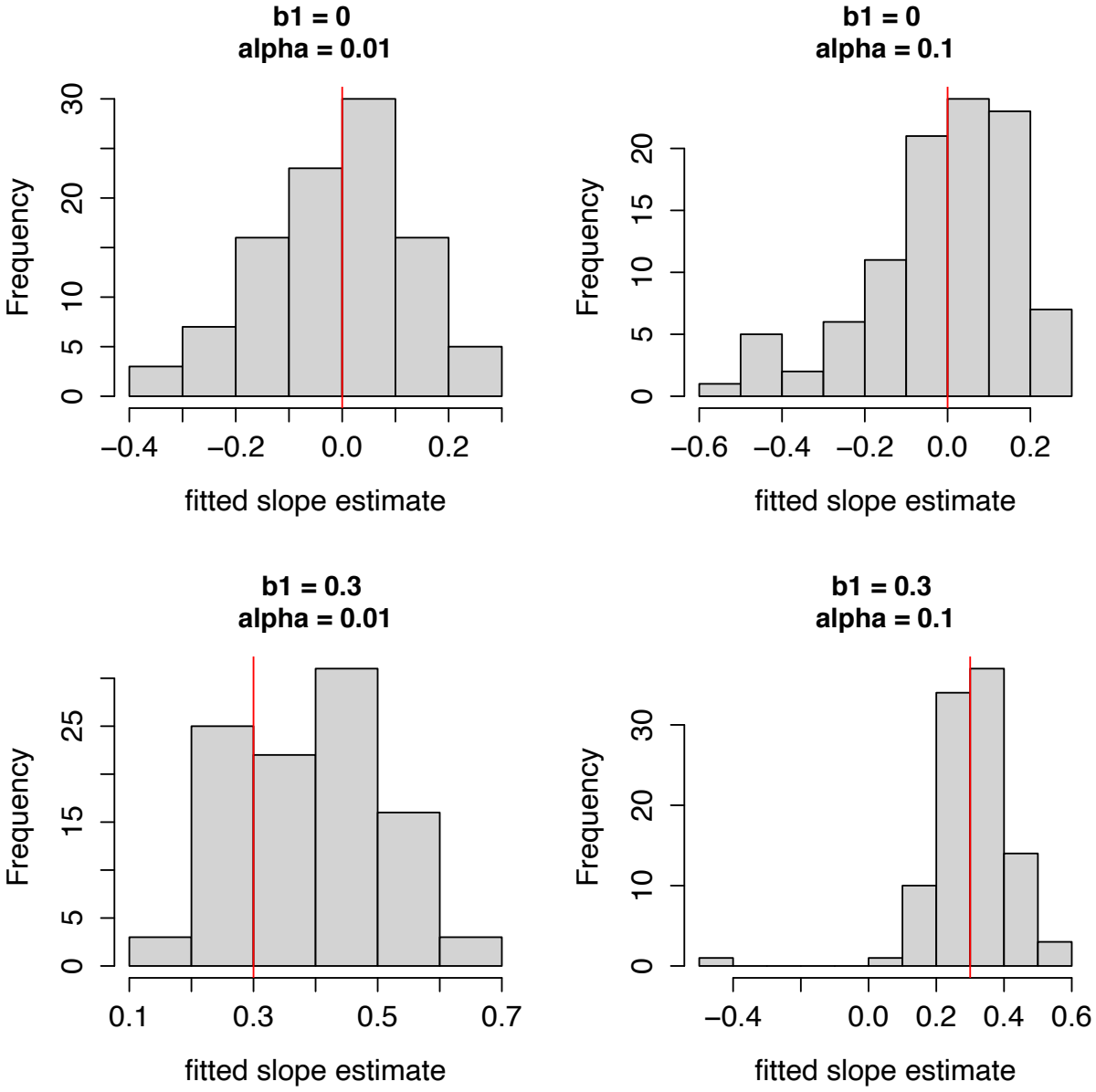

Figure S6. Distribution of the fitted slope estimates from the error analysis simulations, with each graph representing a different parameter combination. The red line shows the true value of the slope coefficient.