

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Dataset containing the small mammal species included in the analyses.

File Name: Supplementary Data 2

Description: List of small mammal species excluded due to distribution data characteristics.

File Name: Supplementary Data 3

Description: Number and proportion of species and climatic specialists and superspecialists for each small mammal order.

File Name: Supplementary Data 4

Description: Number and proportion of specialist and superspecialist species with respect to overall numbers for each small mammal order.

File Name: Supplementary Data 5

Description: Number of species and climatic specialists and superspecialists for each rodent family.

File Name: Supplementary Data 6

Description: Number of species and climatic specialists and superspecialists for each chiropteran family.

File Name: Supplementary Data 7

Description: a) Summary statistics for diversification rate (DR) estimates across small mammal orders. b) Wilcoxon test results (p-values) comparing DR estimates among small mammal orders for each phylogeny.

File Name: Supplementary Data 8

Description: a) Summary of median values for DR estimates of generalists (0) and specialists (1) per climatic zone across small mammal orders and overall. b) Summary of median values for DR estimates of generalists* (0) and superspecialists (1) per climatic zone across small mammal orders and overall. c) Summary of

median values for DR estimates of generalists (0), specialists (1), and superspecialists (2) per climatic zone across small mammal orders and overall.

File Name: Supplementary Data 9

Description: a) Wilcoxon test results (p-values) comparing DR estimates between generalists (0) and specialists (1) across small mammal orders and overall. b) Wilcoxon test results (p-values) comparing DR estimates between generalists* (0) and superspecialists (1) across small mammal orders and overall. c) Wilcoxon test results (p-values) comparing DR estimates among generalists (0), specialists (1), and superspecialists (2) across small mammal orders and overall.

File Name: Supplementary Data 10

Description: a) Summary of median values for DR estimates by specialisation category (0 = generalist, 1 = specialist) across rodent families. b) Summary of median values for DR estimates by specialisation category (0 = generalist*, 1 = superspecialist) across rodent families. c) Summary of median values for DR estimates by specialisation category (0 = generalist, 1 = specialist, 2 = superspecialist) across rodent families.

File Name: Supplementary Data 11

Description: a) Wilcoxon test results (p-values) comparing DR estimates between generalists (0) and specialists (1) across major rodent families. b) Wilcoxon test results (p-values) comparing DR estimates between generalists* (0) and superspecialists (1) across major rodent families. c) Wilcoxon test results (p-values) comparing DR estimates among generalists (0), specialists (1), and superspecialists (2) across major rodent families.

File Name: Supplementary Data 12

Description: a) Summary of median values for DR estimates by specialisation category (0 = generalist, 1 = specialist) across chiropteran families. b) Summary of median values for DR estimates by specialisation category (0 = generalist*, 1 = superspecialist) across chiropteran families. c) Summary of median values for DR estimates by specialisation category (0 = generalist, 1 = specialist, 2 = superspecialist) across chiropteran families.

File Name: Supplementary Data 13 Description: a) Wilcoxon test results (p-values) comparing DR estimates between generalists (0) and specialists (1) across major chiropteran families. b) Wilcoxon test results (p-values) comparing DR estimates between generalists* (0) and superspecialists (1) across major chiropteran families. c) Wilcoxon test results (p-values) comparing DR estimates among generalists (0), specialists (1), and superspecialists (2) across major chiropteran families.

File Name: Supplementary Data 14

Description: Phylogenetic generalized least - squares (PGLS) model estimates for species -level diversification rates (DR, response variable) explained by specialization indices (a,b) and species life - history traits (c) across datasets.

File Name: Supplementary Data 15

Description: Generalised linear model (GLM) estimates for family -level diversification rates (DR, response variable) across the AC -tree and Upham -tree phylogenies.

File Name: Supplementary Data 16

Description: Phylogenetic generalised least - squares (PGLS) model estimates for family - level species richness across the AC -tree and Upham -tree phylogenies.

File Name: Supplementary Data 17

Description: Family -level lineage ages for Rodentia and Chiroptera derived from the AC -tree and Upham -tree phylogenies.