

*Oecologia Australis* 22(2) 2018

**IS SPECIES GEOGRAPHIC OVERLAP CONSTANT ACROSS LATITUDE? A**

**HOMAGE TO E. H. RAPOPORT**

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## **Material suplementar 1.** Lista das publicações analisadas no estudo.

### **Supplementary material 1. Summary of analyzed publications.**

- Abba, A. M., Tognelli, M. F., Seitz, V. P., Bender, J. B., & Vizcaíno, S. F. 2012. Distribution of extant xenarthrans (Mammalia: Xenartha) in Argentina using species distribution models. *Mammalia*, 76(5), 123–136.
- Acosta, L. E., & Guerrero, E. L. 2011. Geographical distribution of *Discocyrtus prospicuus* (Arachnida: Opiliones: Gonyleptidae): Is there a pattern? *Zootaxa*, 3043, 1–24.
- Almeida, P. S. D., Sciamarelli, A., Batista, P. M., Ferreira, A. D., Nascimento, J., Raizer, J., Andrade-Filho, J.D. & Gurgel-Gonçalves, R. 2013. Predicting the geographic distribution of *Lutzomyia longipalpis* (Diptera: Psychodidae) and visceral leishmaniasis in the state of Mato Grosso do Sul, Brazil. *Memórias do Instituto Oswaldo Cruz*, 108(8), 992–6.
- Amaro, G., & de Moraes, E. G. F. 2013. Potential geographical distribution of the red palm mite in South America. *Experimental and Applied Acarology*, 60(3), 343–355.
- Anderson, R. P., Peterson, A. T., & Gómez-Laverde, M. 2002. Using niche-based GIS modeling to test geographic predictions of competitive exclusion and competitive release in South American pocket mice. *Oikos*, 98(1), 3–16.
- Andreou, V., Neteler, M., Rocchini, D., Provensal, C., Levis, S., Porcasi, X., Rizzoli, A., Lanfri, M., Scavuzzo, M., Pini, N., Enria, D., & Polop, J. 2014. Estimating Hantavirus risk in southern Argentina: a GIS-based approach combining human cases and host distribution. *Viruses*, 6(1), 201–222.
- Arboleda, S., & Peterson, A. T. 2012. Spatial and temporal dynamics of *Aedes aegypti* larval sites in Bello, Colombia. *Journal of Vector Ecology*, 37(1), 37–48.
- Baranzelli, M. C., Johnson, L. A., Cosacov, A., & Sérsic, A. N. 2014. Historical and ecological divergence among populations of *Monttea chilensis* (Plantaginaceae), an endemic endangered shrub bordering the Atacama Desert, Chile. *Evolutionary Ecology*, 28(4), 751–774.
- Barbosa, F. G., Pillar, V. D., Palmer, A. R., & Melo, A. S. 2013. Predicting the current distribution and potential spread of the exotic grass *Eragrostis plana* Nees in South America and identifying a bioclimatic niche shift during invasion. *Austral Ecology*, 38(3), 260–267.
- Barros, F. S. M., de Siqueira, M. F., & da Costa, D. P. 2012. Modeling the potential geographic distribution of five species of *Metzgeria* Raddi in Brazil, aiming at their conservation. *The Bryologist*, 115(2), 341–349.
- Batista, T. A., & Gurgel-Gonçalves, R. 2009. Ecological niche modelling and differentiation between *Rhodnius neglectus* Lent, 1954 and *Rhodnius nasutus* Stål, 1859 (Hemiptera: Reduviidae: Triatominae) in Brazil. *Memorias do Instituto Oswaldo Cruz*, 104, 1165–1170.
- Bernardo-Silva, J., Martins-Ferreira, C., Maneyro, R., & Freitas, T. R. O. 2012. Identification of Priority Areas for Conservation of Two Endangered Parapatric Species of Red-bellied Toads Using Ecological Niche Models and Hotspot Analysis. *Natureza & Conservação*, 10, 207–213.
- Bonaccorso, E., Koch, I., & Peterson, A. T. 2006. Pleistocene fragmentation of Amazon species' ranges. *Diversity and Distributions*, 12, 157–164.
- Bonatelli, I. A., Perez, M. F., Peterson, A. T., Taylor, N. P., Zappi, D. C., Machado, M. C., Koch, I., Pires, A. H. C., & Moraes, E. M. 2014. Interglacial microrefugia and diversification of a cactus species complex: Phylogeography and palaeodistributional reconstructions for *Pilosocereus aurisetus* and allies. *Molecular Ecology*, 23(12), 3044–3063.
- Botero-Delgadillo, E., Páez, C. A., & Sanabria-Mejía, J. 2013. Discovery of two new localities for Todd's Parakeet *Pyrrhura picta caeruleiceps* using distribution models: Enhancing knowledge of a little known Neotropical bird. *Ardeola*, 59(2), 237–252.
- Buermann, W., Saatchi, S., Smith, T. B., Zutta, B. R., Chaves, J. A., Milá, B., & Graham, C. H. 2008. Predicting species distributions across the Amazonian and Andean regions using remote sensing data. *Journal of Biogeography*, 35, 1160–1176.
- Cadena, C. D., & Cuervo, A. M. 2009. Molecules, ecology, morphology, and songs in concert: How many species is *Arremon torquatus* (Aves: Emberizidae)? *Biological Journal of the Linnean Society*, 99, 152–176.
- Cadena, C. D., & Loiselle, B. A. 2007. Limits to elevational distributions in two species of emberizine finches: Disentangling the role of interspecific competition, autoecology, and geographic variation in the environment. *Ecography*, 30(4), 491–504.
- Camargo, A., Werneck, F. P., Morando, M., Sites, J. W., & Avila, L. J. 2013. Quaternary range and demographic expansion of *Liolaemus darwinii* (Squamata: Liolaemidae) in the Monte Desert of Central Argentina using Bayesian phylogeography and ecological niche modelling. *Molecular Ecology*, 22(15), 4038–4054.
- Campos-Krauer, J. M., & Wisely, S. M. 2011. Deforestation and cattle ranching drive rapid range expansion of capybara in the Gran Chaco ecosystem. *Global Change Biology*, 17, 206–218.
- Carnaval, A. C., Hickerson, M. J., Haddad, C. F., Rodrigues, M. T., & Moritz, C. 2009. Stability predicts genetic diversity in the Brazilian Atlantic Forest Hotspot. *Science*, 323(1), 785–789.
- Carolan, K., Garchitorena, A., García-Peña, G. E., Morris, A., Landier, J., Fontanet, A., Gall, P., Texier, G., Marsollier, L., Gozlan, R. E., Eyangoh, S., Seen, D., & Guégan, J. F. 2014. Topography and land cover of watersheds predicts the distribution of the environmental pathogen *Mycobacterium ulcerans* in aquatic insects. *PLoS neglected tropical diseases*, 8(11), 1–13.
- Carrasco, M. F., & Barón, P. J. 2010. Analysis of the potential geographic range of the Pacific oyster *Crassostrea gigas* (Thunberg, 1793) based on surface seawater temperature satellite data and climate charts: The coast of South America as a study case. *Biological Invasions*, 12, 2597–2607.
- Collevatti, R. G., Telles, M. P. C., Nabout, J. C., Chaves, L. J., & Soares, T. N. 2013. Demographic history and the low genetic diversity in *Dipteryx alata* (Fabaceae) from Brazilian Neotropical savannas. *Heredity*, 111(2), 97–105.
- Collevatti, R. G., Terribile, L. C., Oliveira, G., Lima-Ribeiro, M. S., Nabout, J. C., Rangel, T. F., & Diniz-Filho, J. A. F. 2013. Drawbacks to palaeodistribution modelling: the case of South American seasonally dry forests. *Journal of Biogeography*, 40(2), 345–358.
- Collevatti, R. G., Ribeiro, M. S. L., Souza Neto, A. C., Franco, A. A., Oliveira, G. D., & Terribile, L. C. 2012. Recovering the demographical history of a Brazilian cerrado tree species *Caryocar brasiliense*: Coupling ecological niche modeling and coalescent analyses. *Natureza & Conservação*, 10(2), 169–176.
- Corbalán, V., Tognelli, M. F., Scolaro, J. A., & Roig-Juñent, S. A. 2011. Lizards as conservation targets in Argentinean Patagonia. *Journal for Nature Conservation*, 19, 60–67.
- Costa, G. C., Nogueira, C., Machado, R. B., & Colli, G. R. 2010. Sampling bias and the use of ecological niche modeling in conservation planning: A field evaluation in a biodiversity hotspot. *Biodiversity and Conservation*, 19, 883–899.
- Costa, M. D. S. G., de Carvalho Batista, R., & Gurgel-Gonçalves, R. 2014. Predicting geographic distributions of *Phacellodomus* species (Aves: Furnariidae) in South America based on ecological niche modeling. *Acta Scientiarum*, 36(3), 299–306.
- Crego, R. D., Nielsen, C. K., & Didier, K. A. 2014. Climate change and conservation implications for wet meadows in dry Patagonia. *Environmental Conservation*, 41(2), 122–131.
- Dantas, M. A. T., Xavier, M. C. T., de Melo França, L., Cozzuol, M. A., de Souza Ribeiro, A., Figueiredo, A. M. G., Kinoshita, A., & Baffa, O. 2013. A review of the time scale and potential geographic distribution of *Notiomastodon platensis* (Ameghino, 1888) in the late Pleistocene of South America. *Quaternary International*, 317, 73–79.
- Dátillo, W., Falcão, J. C., & Teixeira, M. C. 2012. Predictive model of distribution of *Atta robusta* Borgmeier 1939 (Hymenoptera: Formicidae):

- subsidies for conservation of a Brazilian leaf-cutting ant endangered species. *Studies on Neotropical Fauna and Environment*, 47(3), 193–201.
- Araújo, C. B., Marcondes-Machado, L. O., & Costa, G. C. 2014. The importance of biotic interactions in species distribution models: A test of the Eltonian noise hypothesis using parrots. *Journal of Biogeography*, 41, 513–523.
- De Barros, F. S. M., De Aguiar, D. B., Rosa-Freitas, M. G., Luitgards-Moura, J. F., da Costa Gurgel, H., Honório, N. A., Arruda, M. E., Tsouris, P., & Vasconcelos, S. D. 2007. Distribution summaries of malaria vectors in the northern Brazilian Amazon. *Journal of Vector Ecology*, 32(2), 161–167.
- Moraes Weber, M., Stevens, R. D., Lorini, M. L., & Grelle, C. E. V. 2014. Have old species reached most environmentally suitable areas? A case study with South American phyllostomid bats. *Global Ecology and Biogeography*, 23(11), 1177–1185.
- de Siqueira, M. F., Durigan, G., de Marco Júnior, P., & Peterson, A. T. 2009. Something from nothing: Using landscape similarity and ecological niche modeling to find rare plant species. *Journal for Nature Conservation*, 17(1), 25–32.
- De Thoisy, B., Matheus, S., Catzeffis, F., Clément, L., Barrioz, S., Guidez, A., Donato, D., Cornu, J. F., Brunaux, O., Guitet, S., Lacoste, V., & Lavergne, A. 2014. Maripa Hantavirus in French Guiana: Phylogenetic Position and Predicted Spatial Distribution of Rodent Hosts. *American Journal of Tropical Medicine and Hygiene*, 90(6), 988–992.
- Dias-Silva, K., Moreira, F. F. F., Giehl, N. D., Nobrega, C. C., & Cabette, H. S. R. 2013. Gerromorpha (Hemiptera) of eastern Mato Grosso State, Brazil: Checklist, new records, and species distribution modeling. *Zootaxa*, 3736(3), 201–235.
- Diniz-Filho, J. A., Collevatti, R., Chaves, L., Soares, T., Nabout, J. C., Rangel, T. F., Melo, D., Lima, J., & Telles, M. 2012. Geographic shifts in climatically suitable areas and loss of genetic variability in *Dipteryx alata* (“Baru” Tree; Fabaceae). *Genetics and Molecular Research*, 11(2), 1618–1626.
- Donalisio, M. R., & Peterson, A. T. 2011. Environmental factors affecting transmission risk for hantaviruses in forested portions of southern Brazil. *Acta Tropica*, 119, 125–130.
- Embret, D., Reichle, S., Larrea-Alcázar, D. M., Cortez, C., Muñoz, A., Gonzales, L., Montaño, R., Aguayo, R., Domic, E., Padial, J. M., Maldonado, M., Caballero, P., & Guerrero, M. 2011. Priority areas for amphibian conservation in a neotropical megadiverse country: The need for alternative, non place based, conservation. *Biodiversity and Conservation*, 20(7), 1557–1570.
- Escalante, T., Linaje, M., Illoldi-Rangel, P., Rivas, M., Estrada, P., Neira, F., & Morrone, J. J. 2009. Ecological niche models and patterns of richness and endemism of the southern Andean genus *Eurymetopum* (Coleoptera, Cleridae). *Revista Brasileira de Entomologia*, 53(3), 379–385.
- Escobar, L. E., Peterson, A. T., Favi, M., Yung, V., Pons, D. J., & Medina-Vogel, G. 2013. Ecology and geography of transmission of two bat-borne rabies lineages in Chile. *PLoS Neglected Tropical Diseases*, 7(12), e2577.
- Faguia, J. C., Cabrera, E., & Gonzalez, V. H. 2013. The effect of highly variable topography on the spatial distribution of *Aniba perutilis* (Lauraceae) in the Colombian Andes. *Rev. Biol. Trop.*, 61(1), 301–309.
- Faleiro, F. V., & Loyola, R. D. 2013. Socioeconomic and political trade-offs in biodiversity conservation: a case study of the Cerrado Biodiversity Hotspot, Brazil. *Diversity and Distributions*, 19(8), 977–987.
- Feeley, K. J., & Silman, M. R. 2011. Keep collecting: accurate species distribution modelling requires more collections than previously thought. *Diversity and Distributions*, 17(6), 1132–1140.
- Fernández, D. C., Zambrano, G. G., & Gonzalez, V. H. 2010. Comportamiento de nidificación, notas taxonómicas y distribución potencial de *Paratrigona eutaeniata* (Hymenoptera: Apidae, Meliponini). *Revista Colombiana de Entomología*, 36(2), 325–332.
- Ferraz, K. M. P., Peterson, A. T., Scachetti-Pereira, R., Vettorazzi, C. A., & Verdade, L. M. 2009. Distribution of capybaras in an agroecosystem, Southeastern Brazil, based on ecological niche modeling. *Journal of Mammalogy*, 90(1), 189–194.
- Ferraz, K. M. P. M. B., Siqueira, M. F., Alexandrino, E. R., & Luz, D. T. A. 2012. Environmental suitability of a fragmented and heterogeneous landscape for forest bird species in south-eastern Brazil. *Environmental Conservation*, 39(4), 316–324.
- Ferraz, K. M. P. M. D. B., Ferraz, S. F. D. B., Paula, R. C. D., Beisiegel, B., & Breitenmoser, C. 2012. Species distribution modeling for conservation purposes. *Natureza & Conservação*, 10(2), 214–220.
- Ferrer-Paris, J. R., Sánchez-Mercado, A., Rodríguez-Clark, K. M., Rodríguez, J. P., & Rodríguez, G. A. 2014. Using limited data to detect changes in species distributions: Insights from Amazon parrots in Venezuela. *Biological Conservation*, 173, 133–143.
- Ferro, V. G., Lemes, P., Melo, A. S., & Loyola, R. 2014. The reduced effectiveness of protected areas under climate change threatens Atlantic Forest tiger moths. *PLoS ONE*, 9(9), 1–10.
- Fitzpatrick, M. C., Weltzin, J. F., Sanders, N. J., & Dunn, R. R. 2007. The biogeography of prediction error: why does the introduced range of the fire ant over-predict its native range? *Global Ecology and Biogeography*, 16, 24–33.
- Foley, D. H., Linton, Y. M., Ruiz-Lopez, J. F., Conn, J. E., Sallum, M. A. M., Póvoa, M. M., Bergo, E. S., Oliveira, T. M. P., Sucupira, I., & Wilkerson, R. C. 2014. Geographic distribution, evolution, and disease importance of species within the Neotropical *Anopheles albitalis* Group (Diptera, Culicidae). *Journal of Vector Ecology*, 39(1), 168–181.
- Fonseca, R. L., Guimarães Jr, P. R., Morbiolo, S. R., Scachetti-Pereira, R., & Peterson, A. T. 2006. Predicting invasive potential of smooth crotalaria (*Crotalaria pallida*) in Brazilian national parks based on African records. *Weed Science*, 54(3), 458–463.
- Forero-Medina, G. E. R. M. A. N., Cardenas-Arevalo, G., & Castaño-Mora, O. V. 2012. Habitat modeling of Dahl's Toad-Headed turtle (*Mesoclemmys dahli*) in Colombia. *Herpetological Conservation and Biology*, 7(2), 313–322.
- Fresia, P., Silver, M., Mastrangelo, T., De Azeredo-Espin, A. M. L., & Lyra, M. L. 2014. Applying spatial analysis of genetic and environmental data to predict connection corridors to the New World screwworm populations in South America. *Acta tropica*, 138, S34–S41.
- Giacomin, L. L., Kamino, L. H. Y., & Stehmann, J. R. 2014. Speeding up the discovery of unknown plants: a case study of *Solanum* (Solanaceae) endemics from the Brazilian Atlantic Forest. *Bol. Mus. Biol.*, 35, 121–135.
- Giannini, T. C., Acosta, A. L., da Silva, C. I., de Oliveira, P. E. A. M., Imperatriz-Fonseca, V. L., & Saraiva, A. M. 2013. Identifying the areas to preserve passion fruit pollination service in Brazilian Tropical Savannas under climate change. *Agriculture, Ecosystems and Environment*, 171, 39–46.
- Giannini, T. C., Acosta, A. L., Garofalo, C. A., Saraiva, A. M., Alves-dos-Santos, I., & Imperatriz-Fonseca, V. L. 2012. Pollination services at risk: bee habitats will decrease owing to climate change in Brazil. *Ecological Modelling*, 244, 127–131.
- Giannini, T. C., Saraiva, A. M., & Alves-dos-Santos, I. 2010. Ecological niche modeling and geographical distribution of pollinator and plants: A case study of *Peponapis fervens* (Smith, 1879) (Eucerini: Apidae) and *Cucurbita species* (Cucurbitaceae). *Ecological Informatics*, 5(1), 59–66.
- Gibbons, R. E., Barrio, J., Bravo, G. A., & Alza, L. 2011. Assessing the geographic range of Black-fronted Ground-Tyrants (*Muscisaxicola frontalis*) using extrazonal and winter range occurrence records and ecological niche modeling. *Journal of Field Ornithology*, 82(4), 355–365.
- Giles, J., Peterson, A. T., & Almeida, A. 2011. Ecology and geography of plague transmission areas in northeastern Brazil. *PLoS Neglected Tropical Diseases*, 5(1), e925.
- Giovaneli, J. G., Araujo, C. O., Haddad, C. F., & Alexandrino, J. 2008. Modelagem do nicho ecológico de *Phyllomedusa ayeaye* (Anura: Hylidae): previsão de novas áreas de ocorrência para uma espécie rara. *Neotropical Biology and Conservation*, 3(2), 59–65.
- Giovaneli, J. G., de Siqueira, M. F., Haddad, C. F., & Alexandrino, J. 2010. Modeling a spatially restricted distribution in the Neotropics: How the size of calibration area affects the performance of five presence-only methods. *Ecological Modelling*, 221(2), 215–224.
- Giovaneli, J. G., Haddad, C. F., & Alexandrino, J. 2008. Predicting the potential distribution of the alien invasive American bullfrog (*Lithobates*

- catesbeianus*) in Brazil. *Biological Invasions*, 10(5), 585–590.
- Gomez, J. J., Túnez, J. I., Fracassi, N., & Cassini, M. H. 2014. Habitat suitability and anthropogenic correlates of Neotropical river otter (*Lontra longicaudis*) distribution. *Journal of Mammalogy*, 95(4), 824–833.
- González, C., Paz, A., & Ferro, C. 2014. Predicted altitudinal shifts and reduced spatial distribution of *Leishmania infantum* vector species under climate change scenarios in Colombia. *Acta Tropica*, 129(1), 83–90.
- Graham, C. H., Silva, N., & Velásquez-Tibatá, J. 2010. Evaluating the potential causes of range limits of birds of the Colombian Andes. *Journal of Biogeography*, 37(10), 1863–1875.
- Peña-Gómez, F. T., Guerrero, P. C., Bizama, G., Duarte, M., & Bustamante, R. O. 2014. Climatic niche conservatism and biogeographical non-equilibrium in *Eschscholzia californica* (Papaveraceae), an invasive plant in the Chilean Mediterranean region. *PLoS ONE*, 9(8), 1–8.
- Gurgel-Gonçalves, R., & Cuba, C. A. C. 2009. Predicting the potential geographical distribution of *Rhodnius neglectus* (Hemiptera, Reduviidae) based on ecological niche modeling. *Journal of medical entomology*, 46(4), 952–960.
- Gurgel-Gonçalves, R., & Silva, R. B. 2009. Analysis of the geographical distribution of *Psammoletes bergrothi* (Hemiptera: Heteroptera: Reduviidae: Triatominae) in South America, with new records of *Psammoletes tertius* Lent & Jurberg. *Zootaxa*, 2033, 41–48.
- Heibl, C., & Renner, S. S. 2012. Distribution models and a dated phylogeny for Chilean *Oxalis* species reveal occupation of new habitats by different lineages, not rapid adaptive radiation. *Systematic Biology*, 61(5), 823–834.
- Henry, P. Y., & Aznar, J. C. 2009. Eco-climatic correlates of occurrences of the White-throated Hawk (*Buteo albogularis*) and the Cinereous Harrier (*Circus cinereus*) in central Ecuador. *Ornitología Neotropical*, 20, 511–521.
- Jakob, S. S., Martinez-Meyer, E., & Blattner, F. R. 2009. Phylogeographic analyses and paleodistribution modeling indicate Pleistocene in situ survival of *Hordeum* species (Poaceae) in southern Patagonia without genetic or spatial restriction. *Molecular Biology and Evolution*, 26(4), 907–923.
- Jiguet, F., Barbet-Massin, M., & Henry, P. Y. (2010). Predicting potential distributions of two rare allopatric sister species, the globally threatened *Doliornis cotingas* in the Andes. *Journal of Field Ornithology*, 81(4), 325–339.
- Judith, C., Schneider, J. V., Schmidt, M., Ortega, R., Gaviria, J., & Zizka, G. 2013. Using high-resolution remote sensing data for habitat suitability models of Bromeliaceae in the city of Mérida, Venezuela. *Landscape and Urban Planning*, 120, 107–118.
- Kershaw, F., Waller, T., Micucci, P., Draque, J., Barros, M., Buongermini, E., Pearson, R. G. & Mendez, M. 2013. Informing conservation units: Barriers to dispersal for the yellow anaconda. *Diversity and Distributions*, 19, 1164–1174.
- Kumar, S., Neven, L. G., & Yee, W. L. 2014. Assessing the potential for establishment of western cherry fruit fly using ecological niche modeling. *Journal of Economic Entomology*, 107(3), 1032–1044.
- Lanfri, S., Di Cola, V., Naretto, S., Chiaraviglio, M., & Cardozo, G. 2013. Understanding the ecological niche to elucidate spatial strategies of the southernmost Tupinambis lizards. *Amphibia-Reptilia*, 34, 551–565.
- Lemes, P., & Loyola, R. D. 2013. Accommodating species climate-forced dispersal and uncertainties in spatial conservation planning. *PLoS ONE*, 8(1), e54323.
- Lemes, P., Melo, A. S., & Loyola, R. D. 2014. Climate change threatens protected areas of the Atlantic Forest. *Biodiversity and Conservation*, 23(2), 357–368.
- Lessmann, J., Munoz, J., & Bonaccorso, E. 2014. Maximizing species conservation in continental Ecuador: a case of systematic conservation planning for biodiverse regions. *Ecology and Evolution*, 4(12), 2410–2422.
- Lim, B. K., Peterson, A. T., & Engstrom, M. D. 2002. Robustness of ecological niche modeling algorithms for mammals in Guyana. *Biodiversity and Conservation*, 11, 1237–1246.
- Lima-Ribeiro, M. S., Nogués-Bravo, D., Terribile, L. C., Batra, P., & Diniz-Filho, J. A. F. 2013. Climate and humans set the place and time of Proboscidean extinction in late Quaternary of South America. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 392, 546–556.
- Loiselle, B. A., Howell, C. A., Graham, C. H., Goerck, J. M., Brooks, T., Smith, K. G., & Williams, P. H. 2003. Avoiding pitfalls of using species distribution models in conservation planning. *Conservation Biology*, 17(6), 1591–1600.
- Loiselle, B. A., Jørgensen, P. M., Consiglio, T., Jiménez, I., Blake, J. G., Lohmann, L. G., & Montiel, O. M. 2008. Predicting species distributions from herbarium collections: does climate bias in collection sampling influence model outcomes? *Journal of Biogeography*, 35, 105–116.
- Lötters, S., Van der Meijden, A., Rödder, D., Köster, T. E., Kraus, T., La Marca, E., Haddad, C. F. B., & Veith, M. 2010. Reinforcing and expanding the predictions of the disturbance vicariance hypothesis in Amazonian harlequin frogs: A molecular phylogenetic and climate envelope modelling approach. *Biodiversity and Conservation*, 19(8), 2125–2146.
- Loyola, R. D., Lemes, P., Brum, F. T., Provete, D. B., & Duarte, L. D. 2014. Clade-specific consequences of climate change to amphibians in Atlantic Forest protected areas. *Ecography*, 37(1), 65–72.
- Loyola, R. D., Lemes, P., Faleiro, F. V., Trindade-Filho, J., & Machado, R. B. 2012. Severe Loss of Suitable Climatic Conditions for Marsupial Species in Brazil: Challenges and Opportunities for Conservation. *PLoS ONE*, 7(9), e46257.
- Lumbreras, A., Molina, J. A., Benavent, A., Marticorena, A., & Pardo, C. 2014. Disentangling the taxonomy and ecology of South American *Ranunculus* subgen. *Batrachium*. *Aquatic Botany*, 114, 21–28.
- Marini, M. Á., Barbet-Massin, M., Martinez, J., Prestes, N. P., & Jiguet, F. 2010. Applying ecological niche modelling to plan conservation actions for the Red-spectacled Amazon (*Amazona pretrei*). *Biological Conservation*, 143(1), 102–112.
- Marini, M. Á., Barbet-Massin, M., Lopes, L. E., & Jiguet, F. 2009. Predicted climate-driven bird distribution changes and forecasted conservation conflicts in a neotropical savanna. *Conservation Biology*, 23(6), 1558–1567.
- Marino, J., Bennett, M., Cossios, D., Iriarte, A., Lucherini, M., Pliscoff, P., Sillero-Zubiri, C., Villalba, L., & Walker, S. 2011. Bioclimatic constraints to Andean cat distribution: a modelling application for rare species. *Diversity and Distributions*, 17(2), 311–322.
- Marques, I., Draper, D., Riofrío, L., & Naranjo, C. 2014. Multiple hybridization events, polyploidy and low postmating isolation entangle the evolution of neotropical species of *Epidendrum* (Orchidaceae). *BMC Evolutionary Biology*, 14(1), 1–14.
- Martínez, J. J., & Di Cola, V. 2011. Geographic distribution and phenetic skull variation in two close species of *Graomys* (Rodentia, Cricetidae, Sigmodontinae). *Zoologischer Anzeiger*, 250(3), 175–194.
- Martinez, P. A., Martí, D. A., Molina, W. F., & Bidau, C. J. 2013. Bergmann's rule across the equator: A case study in *Cerdocyon thous* (Canidae). *Journal of Animal Ecology*, 82(5), 997–1008.
- Mateo, R. G., de la Estrella, M., Felicísimo, Á. M., Muñoz, J., & Guisan, A. 2013. A new spin on a compositionalist predictive modelling framework for conservation planning: A tropical case study in Ecuador. *Biological Conservation*, 160, 150–161.
- Mateo, R. G., Felicísimo, Á. M., Pottier, J., Guisan, A., & Muñoz, J. 2012. Do stacked species distribution models reflect altitudinal diversity patterns? *PLoS ONE*, 7(3), e32586.
- Mateo, R. G., Croat, T. B., Felicísimo, Á. M., & Muñoz, J. 2010. Profile or group discriminative techniques? Generating reliable species distribution models using pseudo-absences and target-group absences from natural history collections. *Diversity and Distributions*, 16, 84–94.
- Mateo, R. G., Felicísimo, Á. M., & Muñoz, J. 2010. Effects of the number of presences on reliability and stability of MARS species distribution models: The importance of regional niche variation and ecological heterogeneity. *Journal of Vegetation Science*, 21, 908–922.
- McPherson, T. Y. 2014. Landscape scale species distribution modeling across the Guiana Shield to inform conservation decision making in Guyana.

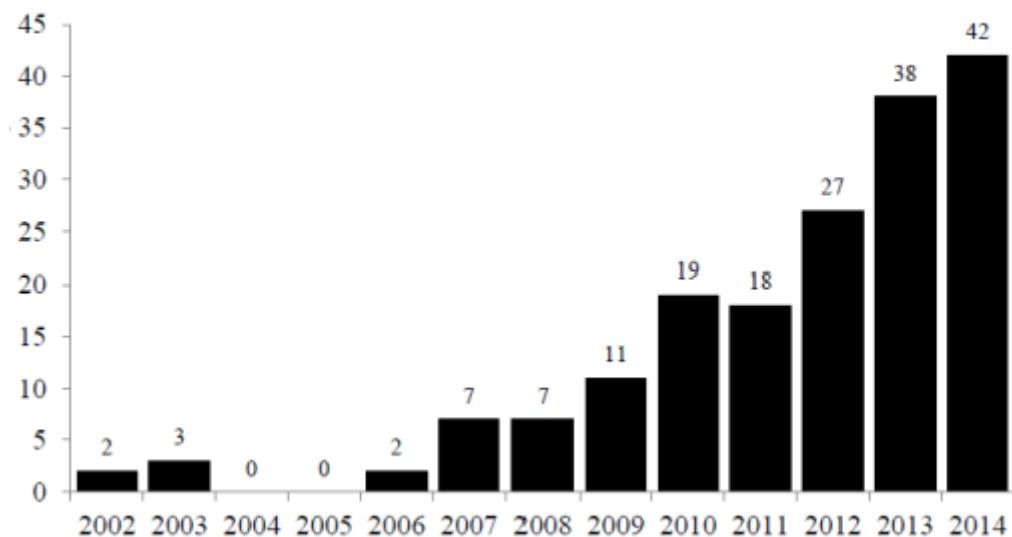
- Biodiversity and Conservation, 23, 1931–1948.
- Mesquita, P. C. M. D., Pinheiro-Mesquita, S. F., & Pietczak, C. 2013. Are common species endangered by climate change? Habitat suitability projections for the royal ground snake, *Liophis reginae* (Serpentes, Dipsadidae). North-Western Journal of Zoology, 9(1), 51–56.
- Meyer, A. L., Pie, M. R., & Passos, F. C. 2014. Assessing the exposure of lion tamarins (*Leontopithecus* spp.) to future climate change. American Journal of Primatology, 76(6), 551–562.
- Minoli, I., Morando, M., & Avila, L. J. 2014. Integrative taxonomy in the *Liolaemus fitzingerii* complex (Squamata: Liolaemini) based on morphological analyses and niche modeling. Zootaxa, 3856(4), 501–28.
- Montecino, V., Molina, X., Kumar, S., Castillo, M. L., & Bustamante, R. O. 2014. Niche dynamics and potential geographic distribution of *Didymosphenia geminata* (Lyngbye) M. Schmidt, an invasive freshwater diatom in Southern Chile. Aquatic Invasions, 9(4), 507–519.
- Moratelli, R., de Andreazza, C. S., de Oliveira, J. A., & Cordeiro, J. L. P. 2011. Current and potential distribution of *Myotis simus* (Chiroptera, Vespertilionidae). Mammalia, 75(3), 227–234.
- Morato, R. G., de Barros, K. M. P. M., de Paula, R. C., & de Campos, C. B. 2014. Identification of priority conservation areas and potential corridors for Jaguars in the Caatinga Biome, Brazil. PLoS ONE, 9(4), 1–11.
- Murray-Smith, C., Brummitt, N. A., Oliveira-Filho, A. T., Bachman, S., Moat, J., Lughadha, E. M., & Lucas, E. J. 2009. Plant diversity hotspots in the Atlantic coastal forests of Brazil. Conservation Biology, 23(1), 151–163.
- Nabout, J. C., Soares, T. N., Diniz-Filho, J. A. F., De Marco Júnior, P., Telles, M. P. D. C., Naves, R. V., & Chaves, L. J. 2010. Combining multiple models to predict the geographical distribution of the Baru tree (*Dipteryx alata* Vogel) in the Brazilian Cerrado. Brazilian journal of Biology, 70(4), 911–919.
- Nabout, J. C., Caetano, J. M., Ferreira, R. B., Teixeira, I. R., de Freitas, A., & Sueli, M. (2012). Using correlative, mechanistic and hybrid niche models to predict the productivity and impact of global climate change on maize crop in Brazil. Natureza & Conservação, 10(2), 177–183.
- Nakazato, T., Warren, D. L., & Moyle, L. C. 2010. Ecological and geographic modes of species divergence in wild tomatoes. American Journal of Botany, 97(4), 680–693.
- Nicola, M. V., Sede, S. M., Pozner, R., & Johnson, L. A. 2014. Phylogeography and palaeodistribution modelling of *Nassauvia* subgenus *Strongyloma* (Asteraceae): exploring phylogeographical scenarios in the Patagonian steppe. Ecology and Evolution, 4(22), 4270–4286.
- Nóbrega, C. C., & De Marco, P. 2011. Unprotecting the rare species: a niche-based gap analysis for odonates in a core Cerrado area. Diversity and Distributions, 17(3), 491–505.
- Nori, J., Akmentins, M. S., Ghirardi, R., Frutos, N., & Leynaud, G. C. 2011. American bullfrog invasion in Argentina: Where should we take urgent measures? Biodiversity and Conservation, 20, 1125–1132.
- Nunes, M. F. C., Galetti, M., Marsden, S., Pereira, R. S., & Townsend Peterson, A. 2007. Are large-scale distributional shifts of the blue-winged macaw (*Primolius maracana*) related to climate change? Journal of Biogeography, 34, 816–827.
- Oliveira, H. R., & Cassemiro, F. A. 2013. Potenciais efeitos das mudanças climáticas futuras sobre a distribuição de um anuro da Caatinga *Rhinella granulosa* (Anura, Bufonidae). Iheringia, 103(3), 272–279.
- Oliveira, M. D., Hamilton, S. K., Calheiros, D. F., Jacobi, C. M., & Latini, R. O. 2010. Modeling the potential distribution of the invasive golden mussel *Limnoperna fortunei* in the Upper Paraguay River system using limnological variables. Brazilian Journal of Biology, 70(3), 831–840.
- Oliveira, M. D., Hamilton, S. K., & Jacobi, C. M. 2010. Forecasting the expansion of the invasive golden mussel *Limnoperna fortunei* in Brazilian and North American rivers based on its occurrence in the Paraguay River and Pantanal wetland of Brazil. Aquatic Invasions, 5(1), 59–73.
- Ortega-Andrade, H. M., Rojas-Soto, O., & Paukar, C. 2013. Novel data on the ecology of *Cochranella mache* (Anura: Centrolenidae) and the importance of protected areas for this critically endangered glassfrog in the Neotropics. PLoS ONE, 8(12), 1–13.
- Ortíz-Yusty, C., Restrepo, A., & Páez, V. P. 2014. Distribución potencial de *Podocnemis lewyana* (Reptilia: Podocnemididae) y su posible fluctuación bajo escenarios de cambio climático global. Acta Biológica Colombiana, 19(3), 471–481.
- Pacheco, S., Malizia, L. R., & Cayuela, L. 2010. Effects of climate change on subtropical forests of South America. Tropical Conservation Science, 3(4), 423–437.
- Palaoro, A. V., Dalosto, M. M., Costa, G. C., & Santos, S. 2013. Niche conservatism and the potential for the crayfish *Procambarus clarkii* to invade South America. Freshwater Biology, 58(7), 1–13.
- Pedrana, J., Bustamante, J., Rodriguez, A., & Travaini, A. 2011. Primary productivity and anthropogenic disturbance as determinants of Upland Goose *Chloephaga picta* distribution in southern Patagonia. Avian Science, 153, 517–530.
- Peralvo, M., Sierra, R., Young, K. R., & Ulloa-Ulloa, C. 2007. Identification of biodiversity conservation priorities using predictive modeling: an application for the equatorial pacific region of South America. Biodiversity and Conservation, 16(9), 2649–2675.
- Pereira, J. M., Almeida, P. S. D., Sousa, A. V. D., Paula, A. M. D., Machado, R. B., & Gurgel-Goncalves, R. 2013. Climatic factors influencing triatomine occurrence in Central-West Brazil. Memórias do Instituto Oswaldo Cruz, 108(3), 335–341.
- Pereira-Garbero, R., Barreneche, J. M., Laufer, G., Achaval, F., & Arim, M. 2013. Mamíferos invasores en Uruguay, historia, perspectivas y consecuencias. Revista Chilena de Historia Natural, 86(4), 403–421.
- Peterson, A. T., Scachetti-Pereira, R., & Kluza, D. A. 2003. Assessment of invasive potential of *Homalodisca coagulata* in western North America and South America. Natural History, 3, 1–7.
- Peterson, A. T., & Shaw, J. 2003. *Lutzomyia* vectors for cutaneous leishmaniasis in Southern Brazil: Ecological niche models, predicted geographic distributions, and climate change effects. International Journal for Parasitology, 33, 919–931.
- Pinto, C. M., Marchán-Rivadeneira, M. R., Tapia, E. E., Carrera, J. P., & Baker, R. J. 2013. Distribution, abundance and roosts of the fruit bat *Artibeus fraterculus* (Chiroptera: Phyllostomidae). Acta Chiropterologica, 15(1), 85–94.
- Pliscott, P., Luebert, F., Hilger, H. H., & Guisan, A. 2014. Effects of alternative sets of climatic predictors on species distribution models and associated estimates of extinction risk: A test with plants in an arid environment. Ecological Modelling, 288, 166–177.
- Politis, G. G., Prates, L., Merino, M. L., & Tognelli, M. F. 2011. Distribution parameters of guanaco (*Lama guanicoe*), pampas deer (*Ozotoceros bezoarticus*) and marsh deer (*Blastocerus dichotomus*) in Central Argentina: Archaeological and paleoenvironmental implications. Journal of Archaeological Science, 38(7), 1405–1416.
- Poo-Muñoz, D. A., Escobar, L. E., Peterson, A. T., Astorga, F., Organ, J. F., & Medina-Vogel, G. 2014. *Galictis cuja* (Mammalia): an update of current knowledge and geographic distribution. Iheringia. Série Zoologia, 104(3), 341–346.
- Porto, T. J., Carnaval, A. C., & da Rocha, P. L. B. 2013. Evaluating forest refugia models using species distribution models, model filling and inclusion: a case study with 14 Brazilian species. Diversity and Distributions, 19(3), 330–340.
- Prates-Clark, C. D. C., Saatchi, S. S., & Agosti, D. 2008. Predicting geographical distribution models of high-value timber trees in the Amazon Basin using remotely sensed data. Ecological Modelling, 2, 309–323.
- Premoli, A. C., Quiroga, M. P., Mathiasen, P., & Kitzberger, T. 2012. Ecological niche modeling meets phylogeography to unravel hidden past history of key forest genera in plant geography: *Podocarpus* and *Nothofagus*. Natureza & Conservação, 10(2), 160–168.
- Premoli, A. C., Mathiasen, P., & Kitzberger, T. 2010. Southern-most *Nothofagus* trees enduring ice ages: Genetic evidence and ecological niche retrodiction reveal high latitude (54° S) glacial refugia. Palaeogeography, Palaeoclimatology, Palaeoecology, 298, 247–256.

- Quintana, M., Salomón, O., Guerra, R., Lizarralde De Grosso, M., & Fuenzalida, A. 2013. Phlebotominae of epidemiological importance in cutaneous leishmaniasis in northwestern Argentina: risk maps and ecological niche models. *Medical and Veterinary Entomology*, 27, 39–48.
- Quiroga, M. P., Pacheco, S., Malizia, L. R., & Premoli, A. C. 2012. Shrinking forests under warming: Evidence of *Podocarpus parlatorei* (pino del cerro) from the subtropical andes. *Journal of Heredity*, 103(5), 682–691.
- Ramírez, F., Afán, I., Hobson, K. A., Bertellotti, M., Blanco, G., & Forero, M. G. 2014. Natural and anthropogenic factors affecting the feeding ecology of a top marine predator, the Magellanic penguin. *Ecosphere*, 5(4), 1–21.
- Ramirez-Villegas, J., Cuesta, F., Devenish, C., Peralvo, M., Jarvis, A., & Arnillas, C. A. 2014. Using species distributions models for designing conservation strategies of Tropical Andean biodiversity under climate change. *Journal for Nature Conservation*, 22(5), 391–404.
- Renison, D., Cuyckens, G. A., Pacheco, S., Guzmán, G. F., Grau, H. R., Marcora, P., Robledo, G., Cingolani, A. M., Dominguez, J., Landi, M., Bellis, L., & Hensen, I. 2013. Distribución y estado de conservación de las poblaciones de árboles y arbustos del género *Polylepis* (Rosaceae) en las montañas de Argentina. *Ecología Austral*, 23, 27–36.
- Riul, P., Targino, C. H., Júnior, L. A., Creed, J. C., Horta, P. A., & Costa, G. C. 2013. Invasive potential of the coral *Tubastraea coccinea* in the southwest Atlantic. *Marine Ecology Progress Series*, 480(3), 73–81.
- Rivera-Ortíz, F. A., Oyama, K., Ríos-Muñoz, C. A., Solórzano, S., Navarro-Sigüenza, A. G., & Arizmendi, M. D. C. 2013. Habitat characterization and modeling of the potential distribution of the Military Macaw (*Ara militaris*) in Mexico. *Revista Mexicana de Biodiversidad*, 84, 1200–1215.
- Rosa-Freitas, M. G., Tsouris, P., Peterson, A. T., Honório, N. A., Barros, F. S. M. D., Aguiar, D. B. D., Gurgel, H. C., Arruda, M. E., Vasconcelos, S. D., & Luitgards-Moura, J. F. 2007. An ecoregional classification for the state of Roraima, Brazil. The importance of landscape in malaria biology. *Memorias do Instituto Oswaldo Cruz*, 102(3), 349–357.
- Särkinen, T., González, P., & Knapp, S. 2013. Distribution models and species discovery: the story of a new *Solanum* species from the Peruvian Andes. *PhytoKeys*, 20(31), 1–20.
- Schiaffini, M. I., Martín, G. M., Giménez, A. L., & Prevosti, F. J. 2013. Distribution of *Lyncodon patagonicus* (Carnivora, Mustelidae): changes from the Last Glacial Maximum to the present. *Journal of Mammalogy*, 94(2), 339–350.
- Scholte, R. G., Carvalho, O. S., Malone, J. B., Utzinger, J., & Vounatsou, P. 2012. Spatial distribution of *Biomphalaria* spp., the intermediate host snails of *Schistosoma mansoni*, in Brazil. *Geospatial Health*, 6(3), 95–101.
- Serra, B. D. V., De Marco Jr, P., Nóbrega, C. C., & Campos, L. A. O. 2012. Modeling potential geographical distribution of the wild nests of *Melipona capixaba* Moure & Camargo, 1994 (Hymenoptera, apidae): Conserving isolated populations in mountain habitats. *Natureza & Conservação*, 10(2), 199–206.
- Shcheglovitova, M., & Anderson, R. P. 2013. Estimating optimal complexity for ecological niche models: A jackknife approach for species with small sample sizes. *Ecological Modelling*, 269, 9–17.
- Silva, D. P., Aguiar, A. J., Melo, G. A., Anjos-Silva, E. J., & De Marco, P. 2013. Amazonian species within the Cerrado savanna: new records and potential distribution for *Aglaea caerulea* (Apidae: Euglossini). *Apidologie*, 44(6), 673–683.
- Silva, D. P., Gonzalez, V. H., Melo, G. A., Lucia, M., Alvarez, L. J., & De Marco Jr, P. 2014. Seeking the flowers for the bees: Integrating biotic interactions into niche models to assess the distribution of the exotic bee species *Lithurgus huberi* in South America. *Ecological Modelling*, 273, 200–209.
- Silvestro, V. A., Carrara, R., & Flores, G. E. 2012. Redescripción y consideraciones biogeográficas de dos especies de *Scotobius* (Coleoptera: Tenebrionidae) de ambientes montanos del centro de Argentina y Chile. *Revista de la Sociedad Entomológica Argentina*, 71, 191–202.
- Simó, M., Guerrero, J. C., Giuliani, L., Castellano, I., & Acosta, L. E. 2014. A predictive modeling approach to test distributional uniformity of Uruguayan harvestmen (Arachnida: Opiliones). *Zoological Studies*, 53(1), 1–13.
- Soley-Guardia, M., Radosavljevic, A., Rivera, J. L., & Anderson, R. P. 2014. The effect of spatially marginal localities in modelling species niches and distributions. *Journal of Biogeography*, 41(7), 1390–1401.
- Solomon, S. E., Bacci Jr, M., Martins Jr, J., Vinha, G. G., & Mueller, U. G. 2008. Paleodistributions and comparative molecular phylogeography of leafcutter ants (*Atta* spp.) provide new insight into the origins of Amazonian diversity. *PLoS One*, 3(7), e2738.
- Soria-Auza, R. W., Kessler, M., Bach, K., Barajas-Barbosa, P. M., Lehnert, M., Herzog, S. K., & Böhner, J. 2010. Impact of the quality of climate models for modelling species occurrences in countries with poor climatic documentation: a case study from Bolivia. *Ecological Modelling*, 221, 1221–1229.
- Sousa-Baena, M. S., Garcia, L. C., & Peterson, A. T. 2014. Knowledge behind conservation status decisions: Data basis for “Data Deficient” Brazilian plant species. *Biological Conservation*, 173, 80–89.
- Strange, J. P., Koch, J. B., Gonzalez, V. H., Nemelka, L., & Griswold, T. 2011. Global invasion by *Anthidium manicatum* (Linnaeus) (Hymenoptera: Megachilidae): assessing potential distribution in North America and beyond. *Biological Invasions*, 13(9), 2115–2133.
- Sangermano, F., & Eastman, J. R. 2012. A GIS framework for the refinement of species geographic ranges. *International Journal of Geographical Information Science*, 26(1), 39–55.
- Terribile, L. C., Lima-Ribeiro, M. S., Araújo, M. B., Bizão, N., Collevatt, R. G., Dobrovolski, R., Franco, A. A., Guilhaumon, F., Lima, J. S., Murakami, D. M., Nabout, J. C., Oliveira, G., Oliveira, L. K., Rabelo, S. G., Rangel, T. F., Simon, L. M., Soares, T. N., Telles, M. P. C., & Diniz-Filho, J. A. F. 2012. Areas of climate stability of species ranges in the Brazilian cerrado: Disentangling uncertainties through time. *Natureza & Conservação*, 10(2), 152–159.
- Terribile, L. C., Anacleto, T. C. S., Silva-Junior, N. J., & Diniz-Filho, J. A. F. 2007. Potential geographic distribution of the coralsnake *Micrurus decoratus* Jan, 1858 (Serpentes, Elapidae) in the Atlantic Rain Forest of Brazil. *Arquivos do Museu Nacional*, 65(2), 217–223.
- Thode, V. A., Silva-Arias, G. A., Turchetto, C., Segatto, A. L. A., Mäder, G., Bonatto, S. L., & De Freitas, L. B. 2014. Genetic diversity and ecological niche modelling of the restricted *Recordia reitzii* (Verbenaceae) from southern Brazilian Atlantic forest. *Botanical Journal of the Linnean Society*, 176(3), 332–348.
- Tocchio, L. J., Gurgel-Gonçalves, R., Escobar, L. E., & Peterson, A. T. 2015. Niche similarities among white-eared opossums (Mammalia, Didelphidae): Is ecological niche modelling relevant to setting species limits? *Zoologica Scripta*, 44(1), 1–10.
- Tognelli, M. F., Abba, A. M., Bender, J. B., & Seitz, V. P. 2011. Assessing conservation priorities of xenarthrans in Argentina. *Biodiversity and Conservation*, 20, 141–151.
- Valencia, J. H., Vaca-Guerrero, G., & Garzon, K. 2010. Natural history, potential distribution and conservation status of the Manabi Hognose Pitviper *Porthidium arcosae* (Schatti & Kramer, 1993), in Ecuador (Squamata: Viperidae: Crotalinae). *Herpetozoa*, 23, 31–43.
- Vasconcelos, T. S. 2014. Tracking climatically suitable areas for an endemic Cerrado snake under climate change. *Natureza & Conservação*, 12(1), 47–52.
- Vasconcelos, T. S., Rodríguez, M. Á., & Hawkins, B. A. 2012. Species distribution modelling as a macroecological tool: a case study using New World amphibians. *Ecography*, 35(6), 539–548.
- Vedel-Sørensen, M., Tovaranonte, J., Bocher, P. K., Balslev, H., & Barfod, A. S. 2013. Spatial distribution and environmental preferences of 10 economically important forest palms in western South America. *Forest Ecology and Management*, 307, 284–292.
- Velez-Liendo, X., Strubbe, D., & Matthysen, E. 2013. Effects of variable selection on modelling habitat and potential distribution of the Andean bear

- in Bolivia. International Association for Bear Research and Management, 24(2), 127–138.
- Vogler, R. E., Beltrmino, A. A., Sede, M. M., Gregoric, D. E. G., Núñez, V., & Rumi, A. 2013. The giant African snail, *Achatina fulica* (Gastropoda: Achatinidae): Using bioclimatic models to identify South American areas susceptible to invasion. American Malacological Society, 31(1), 39–50.
- Waltari, E., Schroeder, R., McDonald, K., Anderson, R. P., & Carnaval, A. 2014. Bioclimatic variables derived from remote sensing: assessment and application for species distribution modelling. Methods in Ecology and Evolution, 5(10), 1033–1042.
- Zeballos, H., Medina, C., Pino, K., Mejía-Ríos, A., & Pari, A. 2012. La liebre europea *Lepus europaeus* (Lagomorpha: Leporidae) una especie invasora en el Perú. Revista Peruana de Biología, 19(3), 267–273.
- Zeilhofer, P., Cezar, A., Tôrres, N. M., Almeida Jácomo, A. T., & Silveira, L. 2014. Jaguar *Panthera onca* habitat modeling in landscapes facing high land-use transformation pressure-findings from Mato Grosso, Brazil. Biotropica, 46(1), 98–105.
- Zimbres, B. Q., de Aquino, P. D. P. U., Machado, R. B., Silveira, L., Jácomo, A. T., Sollmann, R., Tôrres, N. M., Furtado, M. M., & Marinho-Filho, J. 2012. Range shifts under climate change and the role of protected areas for armadillos and anteaters. Biological Conservation, 152, 53–61.
- Zizka, G., Schmidt, M., Schulte, K., Novoa, P., Pinto, R., & König, K. 2009. Chilean Bromeliaceae: diversity, distribution and evaluation of conservation status. Biodiversity and Conservation, 18(9), 2449–2471.

**Material suplementar 2.** Número de publicações analisadas e ano de publicação. A busca por artigos foi realizada em janeiro de 2015, ano que não consta no gráfico.

*Supplementary material 2. Number of papers per year of publication. Papers were searched in January 2015, which was not shown in the graph.*



**Material suplementar 3.** Lista de temas e objetivos apresentados nos estudos analisados ordenados pelo número de artigos.

*Supplementary material 3. List of subjects and objectives presented in the analyzed papers. They were ordered by the number of papers.*

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**Tema: Padrão de distribuição geográfica** N = 40

Objetivos:

Testar a utilização de variáveis ambientais específicas e/ou de diferentes escalas espaciais na estimativa da distribuição geográfica de espécies N = 9

Identificar padrões de riqueza, endemismo e/ou diversidade. N = 8

Avaliar a estrutura filogeográfica e a história de diversificação de espécies N = 6

Testar a hipótese de áreas de refúgio no último glacial N = 4

Verificar se o padrão de distribuição geográfico das espécies é uniforme ou disjunto N = 2

Testar se a competição intraespecífica limita a distribuição de espécies N = 2

Estimar a distribuição de espécies em diferentes períodos históricos N = 4

Testar a relação idade de linhagens e amplitude de distribuição geográfica N = 1

Testar a hipótese Eltoniana N = 1

Avaliar a potencialidade de estabelecimento de uma espécie de planta cultivável em diferentes regiões N = 1

Estimar a distribuição geográfica de uma espécie durante o inverno N = 1

Estudar os padrões de distribuição das espécies e relacioná-los com variáveis ambientais N = 1

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**Tema: Resposta às mudanças climáticas** N = 33

Objetivos:

Avaliar os efeitos das mudanças climáticas sobre o padrão de distribuição geográfica e/ou de riqueza de espécies N = 20

Investigar o papel das mudanças climáticas históricas sobre a distribuição atual e/ou extinção de espécies N = 5

Prever o impacto das mudanças climáticas sobre a produtividade de espécies cultiváveis N = 1

Mapear a distribuição de patógenos em cenários futuros de mudanças climáticas	N = 1
Definir áreas prioritárias para a conservação que superem os potenciais impactos das mudanças climáticas sobre a distribuição das espécies em décadas futuras	N = 1
Identificação de áreas climaticamente estáveis através do tempo	N = 1
Definir áreas prioritárias para a conservação que superem os potenciais impactos das mudanças climáticas sobre a distribuição das espécies em décadas futuras	N = 1
Identificação de áreas climaticamente estáveis através do tempo	N = 1
Verificar a efetividade de unidades de conservação frente as mudanças climáticas	N = 1
Avaliar a relação entre mudanças climáticas atuais e deslocamento da distribuição geográfica de espécies	N = 1

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**Tema: Estimativa da distribuição geográfica** N = 19

Objetivo:

Estimar a distribuição geográfica <i>per se</i> de espécies	N = 19
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**Tema: Estimativa do nicho ecológico** N = 17

Objetivos:

Investigar a divergência do nicho ecológico entre espécies e a sua associação com eventos de especiação	N = 12
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Caracterizar o nicho ecológico de espécies	N = 2
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Investigar a expansão do nicho de espécies devido a ação antrópica	N = 2
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Avaliar a correspondência do nicho ecológico e da distribuição geográfica entre polinizador e planta hospedeira	N = 1
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**Tema: Invasão de espécies exóticas** N = 16

Objetivo:

Identificar áreas potenciais ou vulneráveis a invasão de espécies exóticas	N = 16
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**Tema: Transmissão de doenças** N = 16

Objetivos:

Estimar a distribuição potencial de patógenos e/ou identificar áreas de risco de transmissão
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de doenças N = 14

Explorar a dinâmica espaço-temporal de vetores de doenças N = 2

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**Tema: Conservação de espécies** N = 15

Objetivos:

Identificar áreas para a conservação de espécies N = 9

Avaliar o status de conservação de espécies N = 3

Verificar a efetividade de unidades de conservação N = 2

Análise dos custos do desenvolvimento de estratégias de conservação N = 1

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**Tema: método de modelagem** N = 9

Objetivo:

Avaliar questões metodológicas relacionadas com o método de modelagem (algoritmos e dados de ocorrência) N = 9

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**Tema: descoberta de espécies** N = 6

Objetivo:

Identificar áreas potenciais para encontrar novas espécies e/ou populações, espécies raras ou pouco conhecidas. N = 6

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**Tema: impacto antrópico** N = 6

Objetivos:

Caracterizar os fatores antrópicos que afetam a amplitude de distribuição de espécies N = 5

Avaliar a adequabilidade ambiental de uma região altamente fragmentada para permanência de espécies específicas no ambiente N = 1

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**Material suplementar 4.** Lista de grupos e variáveis ambientais

selecionadas nos estudos analisados. Elas foram ordenadas pelo número de artigos.

**Supplementary material 4.** Summary of groups and environmental variables selected in the analyzed studies. They were ordered by number of papers.

Climática	N
Temperatura média anual (°C)	110
Precipitação anual (mm)	106
Precipitação sazonal (coeficiente de variação) (%)	97
Temperatura sazonal (desvio padrão *100) (°C)	95
Temperatura mínima do mês mais frio (°C)	89
Amplitude da média diurna (Média do mês (max temp – min temp)) (°C)	86
Temperatura máxima do mês mais quente (°C)	79
Precipitação do mês mais seco (mm)	79
Precipitação do trimestre mais quente (mm)	75
Temperatura média do trimestre mais seco (°C)	73
Precipitação do trimestre mais seco (mm)	73
Amplitude anual de temperatura (°C)	73
Precipitação do trimestre mais úmido (mm)	72
Precipitação do mês mais úmido (mm)	72
Precipitação do trimestre mais frio (mm)	71
Isotermalidade (BIO2/BIO7) (*100) (%)	71
Temperatura média do mês mais úmido (°C)	68
Temperatura média do trimestre mais quente (°C)	68
Temperatura média do trimestre mais frio (°C)	67
Pressão de vapor (Kpa*10)	5
Precipitação média anual (mm)	4
Evapotranspiração potencial (mm)	4
Precipitação mensal de diferentes meses do ano (mm)	3
Nebulosidade ( <i>cloud cover</i> ) (%)	3
Média mensal da temperatura de diferentes meses do ano (°C)	3
Média da temperatura mínima anual (°C)	3
Média da temperatura máxima anual (°C)	3
Frequência de dias chuvosos (dias*10)	3
Umidade relativa do ar (%)	2
Temperatura máxima do mês mais frio (°C)	2
Temperatura da superfície terrestre durante o dia (K)	2
Temperatura da superfície terrestre durante à noite (K)	2
Radiação solar (w/m <sup>2</sup> )	2
Média da temperatura mínima mensal (°C)	2
Umidade do solo (%)	1

Temperatura mínima do mês mais quente (°C)	1
Temperatura mínima mensal (*10 °C)	1
Temperatura média do mês mais quente (°C)	1
Temperatura média diária mensal (°C)	1
Temperatura máxima do trimestre mais quente (°C)	1
Temperatura máxima mensal (*10 °C)	1
Temperatura limite de estresse por calor (28 °C)	1
Radiação solar do mês mais quente (w/m <sup>2</sup> )	1
Precipitação média mensal de diferentes meses do ano (mm)	1
Precipitação média anual (mm)	1
Número de dias secos	1
Número de dias com temperatura média igual ou superior a 8.3 °C	1
Número de dias com temperatura média de 5 °C	1
Média da temperatura mínima do trimestre mais frio (°C)	1
Média da temperatura mínima diária (°C)	1
Média da temperatura máxima do trimestre mais quente (°C)	1
Média da temperatura máxima diária (°C)	1
Média da precipitação mínima anual (°C)	1
Média da precipitação máxima anual (°C)	1
Média da precipitação do trimestre mais úmido (mm)	1
Média da precipitação do trimestre mais frio (mm)	1
Média anual da radiação solar (w/m <sup>2</sup> )	1
Índice ombrotérmico (mm °C <sup>-1</sup> )	1
Frequência de dias com geada (dias)	1
Coeficiente de variação das temperaturas mínimas (%)	1
Coeficiente de variação das temperaturas máximas (%)	1

<b>Topográfica</b>	<b>N</b>
Altitude (m)	69
Declividade (0 a 90°)	34
Aspecto (0 a 360°)	21
Índice Topográfico Combinado <i>CTI</i>	12
Unidades topográficas (vales, encostas e cumes)	1
Índice de unidade topográfica (%)	1
Desvio padrão da topografia	1

<b>Cobertura natural do solo</b>	<b>N</b>
Índice de vegetação por diferença normalizada <i>NDVI</i>	15
Percentual de cobertura de árvores ( <i>tree cover</i> )	7
Índice de Vegetação (derivado das bandas 1-7 do satélite Landsat7-TM)	4
Ecorregiões	4
Formação vegetal	3
Imagens Landsat7-TM e Landsat5-TM (uso de diferentes bandas)	2
Zonas úmidas ( <i>humedales</i> )	1

Zonas amplas de vegetação ( <i>Coarse vegetation zones</i> )	1
Visível e infravermelho próximo – VNIR (diferentes bandas)	1
Percentual de vegetação natural	1
Percentual de floresta	1
Percentual de cobertura de herbáceas	1
Percentual de área de várzea ( <i>floodplain</i> )	1
Infravermelho de ondas curtas <i>SWIR</i> (diferentes bandas)	1
Índice de vegetação por diferença normalizada transformado <i>TNDVI</i>	1
Índice de realce da vegetação <i>EVI</i> (utilização de diferentes bandas)	1
<b>Hidrográficas</b>	
<b>N</b>	
Distância de rios permanentes (m)	6
Direção de acumulação ( <i>flow accumulation</i> )	4
Direção do Fluxo	3
Rios	2
Gradiente de distância da água	2
Tampão ( <i>buffer</i> ) da área de superfície coberta por bacias hidrográficas	1
Largura do rio (m)	1
Comprimento do rio (m)	1
Bacias hidrográficas	1
<b>Pedológicas</b>	
<b>N</b>	
Tipo de solo	9
pH na superfície do solo (-log H <sup>+</sup> )	1
Capacidade de armazenamento de umidade do solo (mm/m)	1
Profundidade efetiva do solo (cm)	1
Proporção de carbono/nitrogênio na superfície do solo (%)	1
Material de origem do solo	1
<b>Indicadoras de ação antrópica</b>	
<b>N</b>	
Cobertura da terra	6
Índice de influência humana	3
Usos da terra	1
Trilhas utilizadas apenas por pessoas	1
Tráfego de barcos	1
Tamanho médio dos fragmentos florestais (ha)	1
Pressão de pesca	1
Percentual de solo descoberto ( <i>bare</i> )	1
Número de fragmentos ( <i>patches</i> ) florestais	1
Média da borda dos fragmentos florestais (m)	1
Estradas utilizadas por veículos	1
Desvio padrão do tamanho dos fragmentos florestais (ha)	1
Densidade média dos fragmentos florestais (m/ha)	1
Densidade de rodovias (Km/200 Km <sup>2</sup> )	1
Densidade de assentamentos (assentamentos/Km <sup>2</sup> )	1

Coeficiente de variação do tamanho dos fragmentos florestais (%)	1
Pôlderes construídos ( <i>polders built</i> ) (%)	1
<b>Aquática</b>	<b>N</b>
Temperatura da superfície do mar (°C)	4
pH da água (-log H <sup>+</sup> )	3
Oxigênio dissolvido (mg/l)	3
Temperatura da água (°C)	2
Sólidos totais em suspensão (mg/l)	2
Índice de saturação de cálcio (calcita)	2
Condutividade elétrica da água (µS/cm)	2
Concentração de cálcio (mg.L <sup>-1</sup> Ca)	2
Salinidade média da água (escala de salinidade prática)	1
Nitratos (mg/l)	1
Média da concentração de silicato (µmol L <sup>-1</sup> )	1
Média da concentração de nitrato (µmol L <sup>-1</sup> )	1
Fosfatos (µg/l)	1
Concentração de Clorofila-a (mg/m <sup>3</sup> )	1
Concentração média de calcita (mol m <sup>-3</sup> )	1
Coliformes totais (número mais provável/1000 ml)	1
Atenuação mínima difusa (m <sup>-1</sup> )	1
<b>Indicador de recurso alimentar</b>	<b>N</b>
Distribuição geográfica de espécies presas para representar comida	2
Concentração de Clorofila-a (mg/m <sup>3</sup> )	2
<b>Outras</b>	<b>N</b>
Índice da área foliar (LAI)	2
Unidades da paisagem	1
Umidade da vegetação e rugosidade	1
Radiação máxima fotossinteticamente disponível (Einstein m <sup>-2</sup> d <sup>-1</sup> )	1
Percentual de áreas protegidas (%)	1
Longitude (graus)	1
Abundância de pinguins (grau de competição intraespecífico por comida)	1
Distribuição geográfica da espécie hospedeira	1
Latitude (graus)	1
Índice ecoclimático	1
Graus de crescimento anual <i>GDD</i> (dias)	1
Complexidade ecossistêmica (dada pela riqueza de espécies)	1
Batimetria (m)	1
Idade geológica de rochas	1
Geologia	1

**Appendix S1** Descriptive statistics of the overlap pattern among species across latitudinal bands within each studied genus

## RODENTIA

### *Microtus*

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
70	5	562944.992	929969.329	60.534
66	5	4278296.250	3502238.789	122.159
62	5	4896237.797	4411555.840	110.987
58	5	1188482.819	3060307.365	38.835
54	8	1000246.519	2857479.740	35.005
50	8	2084807.309	3808003.718	54.748
46	11	3792346.500	4466792.619	84.901
42	11	4340214.681	4801493.445	90.393
38	10	2450539.233	3640533.449	67.313
34	8	578818.842	1671847.812	34.622
30	5	28638.010	436821.838	6.556
26	1	NA	198803.363	0
22	2	6417.327	219244.696	2.927
18	5	13391.205	130926.735	10.228
14	1	NA	21039.669	0
10	NA	NA	NA	NA

### *Neotamias*

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
70	NA	NA	NA	NA
66	1	NA	94920.115	0
62	1	NA	515081.980	0
58	1	NA	883810.698	0
54	2	0	1063552.050	0
50	4	65601.503	1209114.808	5.426
46	7	332753.360	1299113.591	25.614
42	13	876542.201	1436632.891	61.014
38	15	1107195.340	1380362.306	80.210
34	11	107877.090	427700.952	25.223
30	3	0	119706.223	0
26	3	12237.351	113995.616	10.735
22	2	0	25477.968	0
18	NA	NA	NA	NA
14	NA	NA	NA	NA
10	NA	NA	NA	NA

### *Sciurus*

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
70	NA	NA	NA	NA

66	NA	NA	NA	NA
62	NA	NA	NA	NA
58	NA	NA	NA	NA
54	1	NA	59533.426	0
50	3	165419.794	480118.078	34.454
46	3	349213.796	1374885.178	25.399
42	4	7190.083	1784726.305	0.403
38	4	859921.645	2105804.346	40.836
34	5	827022.717	1962925.259	42.132
30	7	495738.958	1212999.460	40.869
26	8	128168.984	395343.041	32.420
22	8	205836.605	510826.234	40.295
18	7	369604.842	918567.738	40.237
14	5	303239.396	598718.229	50.648
10	7	106518.436	679441.366	15.677

## PHYLLOSTOMIDAE

### Anoura

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km <sup>2</sup> )	Proportional overlap (O*)
28	NA	NA	NA	NA
24	1	NA	158056.987	0
20	1	NA	341729.002	0
16	1	NA	350876.250	0
12	4	201924.841	400922.357	50.365
8	5	1466685.580	1875561.214	78.200
4	5	2423818.902	2973182.019	81.523
0	5	584314.650	1290812.374	45.267
-4	5	179159.349	826602.665	21.674
-8	4	262329.040	1034151.253	25.367
-12	4	407830.875	1351917.613	30.167
-16	3	899184.824	2373568.460	37.883
-20	2	841137.377	1864554.423	45.112
-24	2	254146.171	663498.205	38.304
-28	1	NA	126439.245	0
-32.01398	1	NA	622.845	0

### Artibeus

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km <sup>2</sup> )	Proportional overlap (O*)
28	2	9055.048	61060.323	14.830
24	3	101437.683	227381.546	44.611
20	3	517668.689	901606.078	57.416
16	4	532024.591	991223.061	53.674
12	6	475069.125	712806.283	66.648
8	7	2984730.683	2626824.508	113.625
4	5	8563284.669	5035573.200	170.056

0	6	7911140.799	5468701.160	144.662
-4	5	10265081.874	7443399.761	137.909
-8	6	8879197.890	7120993.352	124.690
-12	6	4084077.021	4594551.266	88.890
-16	4	2725021.532	3312710.672	82.260
-20	4	3119059.317	2945499.156	105.892
-24	4	2767543.649	2172215.921	127.406
-28	4	538836.816	819398.342	65.760
-32.01398	1	NA	7645.694	0

### Carollia

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	1	NA	7903.121	0
20	3	177657.056	378682.815	46.914
16	4	834777.675	966673.989	86.356
12	5	969639.422	951274.421	101.931
8	5	2790255.796	2800245.813	99.643
4	3	2511963.814	3153020.841	79.668
0	3	2372229.323	3415114.617	69.463
-4	3	2255583.668	4157958.137	54.247
-8	2	2092353.433	4184706.866	50.000
-12	3	1759369.903	3541320.755	49.681
-16	3	802394.460	2178126.765	36.839
-20	2	226139.213	1159906.419	19.496
-24	2	22047.894	619444.772	3.559
-28	1	NA	383119.414	0
-32.01398	NA	NA	NA	NA

### Dermanura

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	1	NA	10668.426	0
24	3	143410.747	273745.178	52.388
20	4	411995.878	785487.590	52.451
16	4	869635.844	1140294.766	76.264
12	7	378513.278	624672.433	60.594
8	8	2911403.285	2635911.409	110.451
4	6	3715620.856	3622362.076	102.575
0	7	2682594.181	3478869.187	77.111
-4	5	2398040.915	4074485.925	58.855
-8	4	2014399.562	3952423.858	50.966
-12	4	1719968.988	3283564.064	52.381
-16	4	1035449.174	2231540.632	46.401
-20	4	169006.229	561844.146	30.081
-24	1	NA	67053.085	0
-28	NA	NA	NA	NA
-32.01398	NA	NA	NA	NA

**Glossophaga**

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	1	NA	105245.862	0
24	2	60224.565	243038.461	24.780
20	4	403845.682	786811.264	51.327
16	4	1508077.007	1393413.638	108.229
12	4	548268.749	737989.944	74.292
8	4	1116020.587	1903370.444	58.634
4	3	1411576.978	2440627.470	57.837
0	3	910556.761	2384651.631	38.184
-4	2	605997.011	2662598.167	22.760
-8	2	391650.404	2546862.673	15.378
-12	2	257608.972	2153309.355	11.963
-16	2	4746.465	1488260.305	0.319
-20	1	NA	973414.935	0
-24	1	NA	587938.212	0
-28	1	NA	371469.885	0
-32.01398	1	NA	46807.243	0

**Lonchophylla**

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	NA	NA	NA	NA
20	NA	NA	NA	NA
16	NA	NA	NA	NA
12	2	114112.022	293472.261	38.883
8	3	403934.257	1323639.334	30.517
4	3	279199.779	1537899.436	18.155
0	5	390800.593	1793639.009	21.788
-4	5	270998.308	1862141.635	14.553
-8	4	162889.259	1544322.894	10.548
-12	4	9516.022	1145075.921	0.831
-16	2	0.000	579690.437	0
-20	1	NA	938.831	0
-24	NA	NA	NA	NA
-28	NA	NA	NA	NA
-32.01398	NA	NA	NA	NA

**Lonchorhina**

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	NA	NA	NA	NA
20	1	NA	79144.284	0
16	1	NA	258992.277	0
12	1	NA	182068.738	0

8	4	225277.271	1149658.431	19.595
4	5	1290274.444	2353419.812	54.826
0	4	1027227.863	2473311.949	41.532
-4	3	760227.267	2765872.267	27.486
-8	2	456958.660	2470508.288	18.497
-12	1	NA	1433229.342	0
-16	1	NA	961888.413	0
-20	1	NA	674487.550	0
-24	1	NA	198761.473	0
-28	NA	NA	NA	NA
-32.01398	NA	NA	NA	NA

### Lophostoma

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	NA	NA	NA	NA
20	2	15366.405	65215.641	23.562
16	3	129171.769	369279.344	34.979
12	2	180711.208	436936.703	41.359
8	5	590543.656	1398773.231	42.219
4	5	4185156.827	3707159.051	112.894
0	5	3905674.911	3962091.332	98.576
-4	4	3288392.289	4560585.836	72.105
-8	4	1762553.956	2836528.027	62.138
-12	3	893019.545	1598410.543	55.869
-16	2	220380.178	684497.685	32.196
-20	2	13.704	215748.534	0.006
-24	2	0.000	69094.002	0
-28	NA	NA	NA	NA
-32.01398	NA	NA	NA	NA

### Micronycterus

Latitudinal band (midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	1	NA	10678.041	0
20	2	125171.859	344030.562	36.384
16	4	427726.113	782594.629	54.655
12	5	1573865.369	1134899.138	138.679
8	6	5474577.426	3651305.655	149.935
4	6	8389449.768	5198859.279	161.371
0	7	11950823.025	6551275.055	182.420
-4	7	9728941.951	7933241.704	122.635
-8	6	8098108.127	6480009.081	124.971
-12	5	3655876.356	4356537.669	83.917
-16	5	1729198.373	2910534.744	59.412
-20	4	766145.881	1749724.584	43.787
-24	4	264396.141	590612.516	44.766

-28	1	NA	57891.344	0
-32.01398	NA	NA	NA	NA

### **Platyrrhinus**

Latitudinal band

(midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	NA	NA	NA	NA
24	NA	NA	NA	NA
20	1	NA	39059.555	0
16	1	NA	411205.896	0
12	6	649374.142	685796.324	94.689
8	9	1870671.419	2244414.577	83.348
4	12	3116794.920	3286741.305	94.829
0	12	3039814.745	3435450.000	88.484
-4	11	2677916.814	3724048.097	71.909
-8	9	2562465.736	3686322.000	69.513
-12	8	3873819.228	4052980.754	95.580
-16	8	3334472.995	3388518.153	98.405
-20	7	531512.502	1553682.745	34.210
-24	2	247274.001	887261.692	27.869
-28	1	NA	454208.475	0
-32.01398	1	NA	209174.024	0

### **Sturnira**

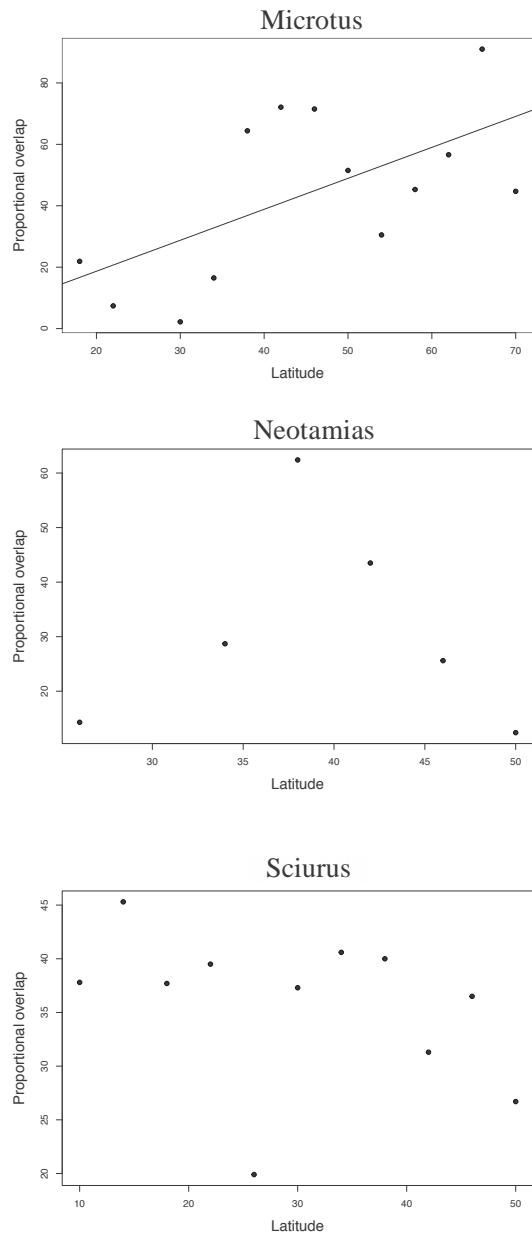
Latitudinal band

(midpoint degrees)	Species richness	Overlap sum	Genus area (km2)	Proportional overlap (O*)
28	1	NA	102011.367	0
24	1	NA	175300.899	0
20	1	NA	455469.224	0
16	1	NA	466322.352	0
12	6	576581.565	668344.610	86.270
8	9	4210281.318	3123001.875	134.815
4	11	3204736.362	3114353.320	102.902
0	11	3515728.775	3654354.738	96.207
-4	11	4469466.464	4929848.918	90.661
-8	8	3800504.709	4887264.661	77.763
-12	8	4348185.953	4650306.316	93.503
-16	6	2771945.717	3558280.570	77.901
-20	6	1050221.290	2128319.223	49.345
-24	4	291883.797	1138588.885	25.636
-28	4	22400.363	569490.625	3.933
-32.01398	1	NA	308552.790	0.0

**Appendix S1** Descriptive of the overlap pattern among species across latitudinal bands within each studied genus and scatterplots depicting such patterns

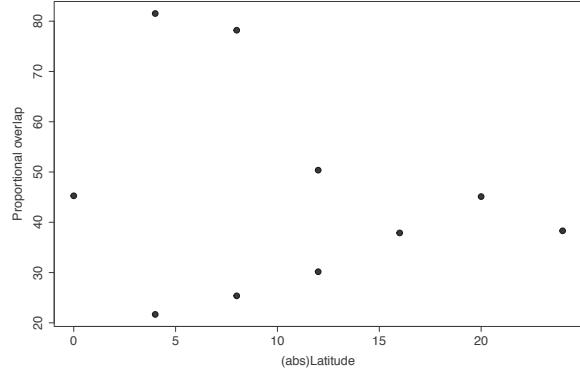
Scatterplots depicting the relationship between species range overlap and latitude for each studied genus. Genera with significant regression and correlation coefficients present fitted lines from adjusted least-squares regressions (Rodentia: *Microtus*; Phyllostomidae: *Artibeus*, *Lophostoma*, *Micronycteris*, *Sturnira*).

**RODENTIA**

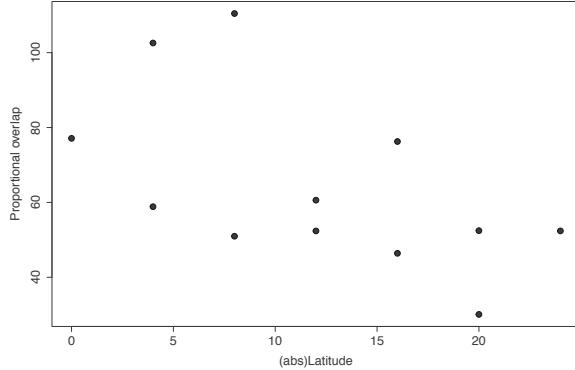


## PHYLLOSTOMIDAE

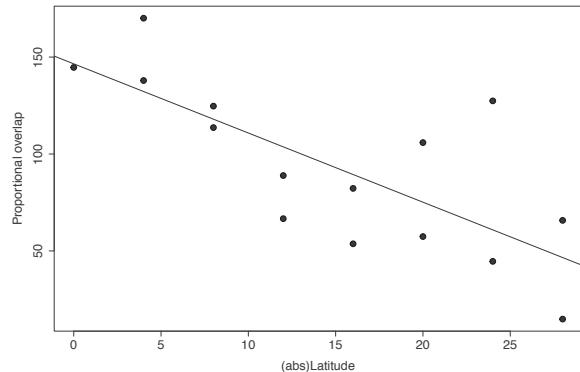
Anoura



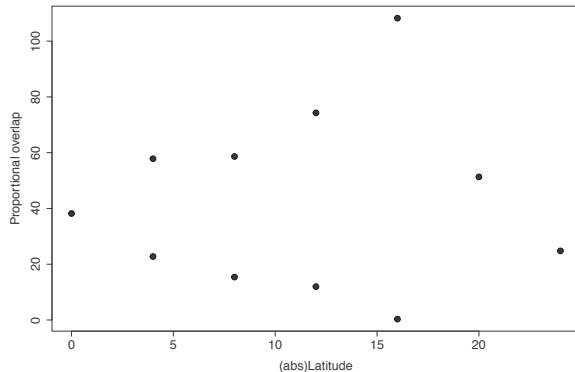
Dermanura



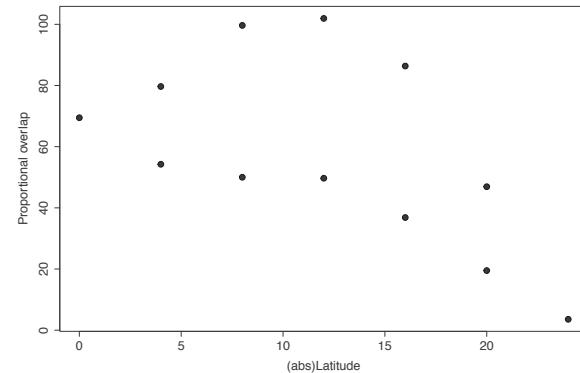
Artibeus



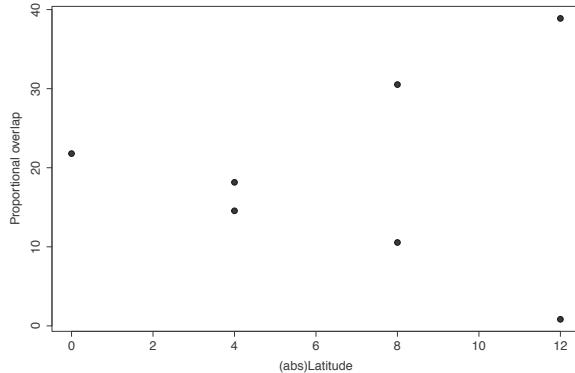
Glossophaga



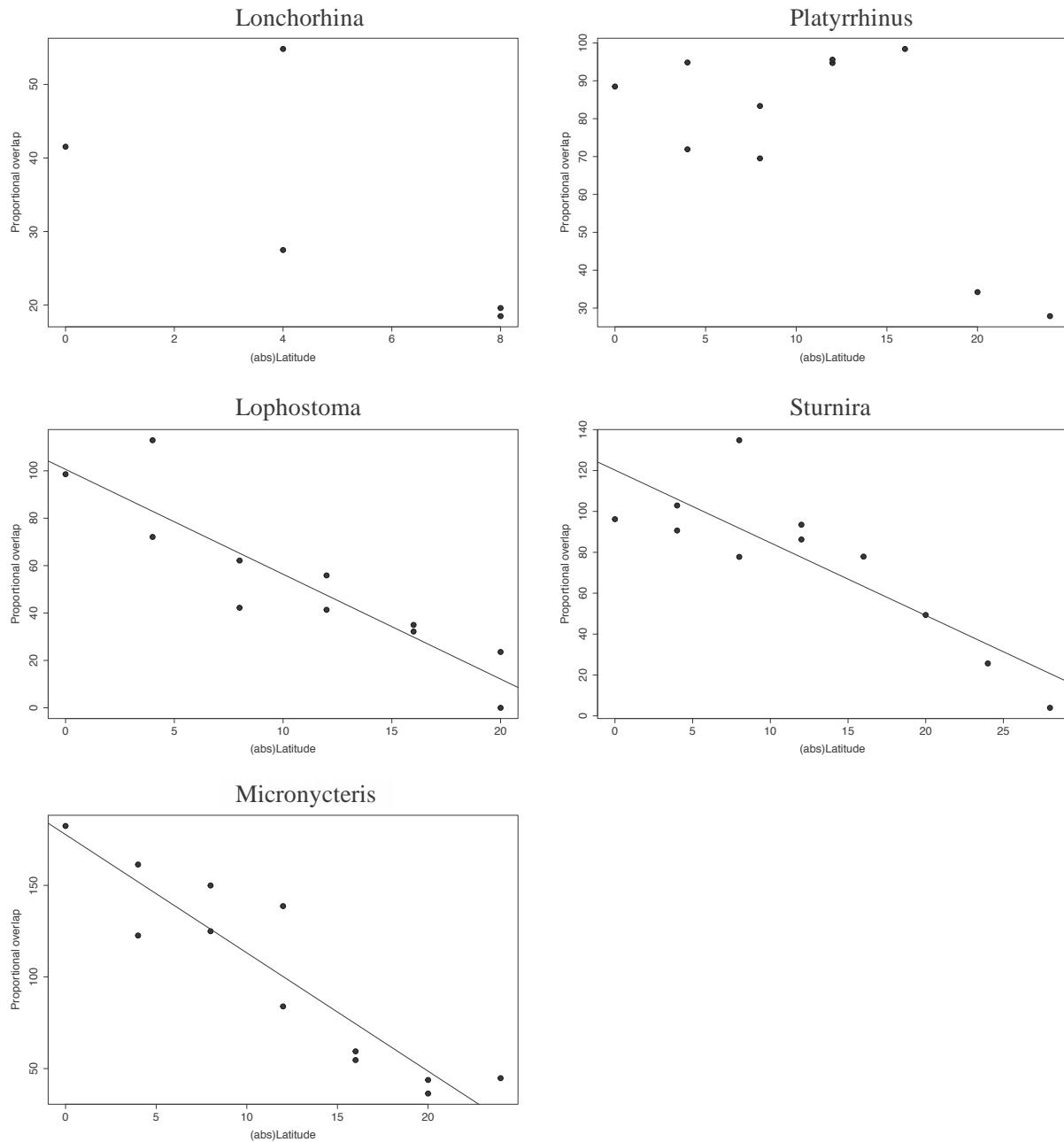
Carollia



Lonchophylla



## PHYLLOSTOMIDAE



**Appendix S2** Simulated linear regression and correlation coefficients ( $R^2$  and  $\rho$ ) for each studied genus

Table S2. Mean linear regression and correlation coefficients between species overlap and latitude across bands for each studied genus derived from 100 iterations of the null model.

Genus	Linear regression			Spearman's rank correlation	
	slope	$R^2$	p-value	$\rho$	p-value
<i>Rodentia</i>					
Microtus	0.173	0.275	0.189	0.153	0.192
Neotamias	-0.019	0.143	0.349	-0.009	0.309
Sciurus	0.003	0.162	0.284	0.089	0.254
<i>Phyllostomidae</i>					
Anoura	-0.468	0.148	0.362	-0.145	0.357
Artibeus	-2.043	0.345	0.195	-0.415	0.199
Carollia	-0.933	0.295	0.236	-0.331	0.236
Dermanura	-0.549	0.225	0.289	-0.111	0.285
Glossophaga	-0.071	0.176	0.337	-0.008	0.333
Lonchophylla	-0.127	0.053	0.434	-0.127	0.408
Lonchorhina	-0.108	0.136	0.362	-0.026	0.377
Lophostoma	-0.984	0.268	0.239	-0.296	0.258
Micronycteris	-2.667	0.422	0.166	-0.514	0.185
Platyrrhinus	-1.464	0.278	0.239	-0.311	0.238
Sturnira	-0.929	0.212	0.206	-0.289	0.215

**Appendix S2** Simulated linear regression and correlation coefficients ( $R^2$  and  $\rho$ ) for each studied genus

Tables describing the null distribution of linear regression and correlation coefficients between species overlap and latitude across bands for each studied genus derived from 100 iterations of the null model.

## RODENTIA

### *Microtus*

Linear regression		Spearman's rank correlation		
<b>slope</b>	<b><math>R^2</math></b>	<b>p-value</b>	<b><math>\rho</math></b>	<b>p-value</b>
-0.238	-0.045	0.500	-0.126	0.683
0.214	-0.042	0.541	0.435	0.094
-0.466	0.157	0.072	-0.465	0.072
-1.141	0.324	0.016	-0.536	0.042
-1.068	0.785	0.000	-0.881	0.000
1.147	0.926	0.000	0.935	0.000
0.095	-0.053	0.631	0.112	0.681
-0.281	0.023	0.270	-0.221	0.427
1.261	0.743	0.000	0.900	0.000
0.420	0.084	0.175	0.319	0.289
0.562	0.152	0.075	0.360	0.171
-0.854	0.219	0.052	-0.437	0.120
-0.324	0.100	0.144	-0.411	0.144
0.388	0.134	0.109	0.427	0.128
-0.622	0.171	0.070	-0.457	0.089
-0.848	0.285	0.019	-0.538	0.034
-0.077	-0.070	0.781	-0.289	0.295
-0.363	0.026	0.255	-0.200	0.456
-1.254	0.330	0.015	-0.704	0.005
0.524	0.313	0.027	0.659	0.017
-0.624	0.076	0.157	-0.318	0.230
0.215	0.033	0.260	0.154	0.617
0.042	-0.081	0.887	-0.086	0.773
0.786	0.336	0.028	0.762	0.006
1.390	0.614	0.002	0.865	0.000
-0.230	0.003	0.329	-0.279	0.333
-0.104	-0.062	0.731	-0.103	0.705
0.458	0.162	0.108	0.364	0.246
-0.188	-0.055	0.582	-0.178	0.542
0.913	0.571	0.002	0.813	0.001
-0.169	-0.048	0.582	-0.126	0.641
0.803	0.436	0.008	0.635	0.020
-0.452	0.162	0.096	-0.495	0.089

-0.063	-0.075	0.898	0.161	0.567
0.048	-0.079	0.824	0.158	0.589
1.125	0.560	0.001	0.741	0.004
-0.514	0.116	0.149	-0.427	0.169
1.607	0.912	0.000	0.945	0.000
-0.254	-0.024	0.422	-0.235	0.417
1.124	0.574	0.002	0.852	0.000
1.202	0.486	0.007	0.692	0.016
1.369	0.798	0.000	0.886	0.000
0.198	-0.050	0.525	0.247	0.415
-0.038	-0.083	0.934	0.046	0.880
1.456	0.839	0.000	0.923	0.000
0.659	0.527	0.002	0.722	0.004
0.834	0.532	0.002	0.722	0.004
0.928	0.574	0.001	0.757	0.002
-1.163	0.519	0.001	-0.806	0.000
-0.357	0.132	0.110	-0.429	0.128
-0.271	-0.003	0.346	-0.318	0.248
-0.186	-0.055	0.578	-0.156	0.594
0.359	0.221	0.051	0.528	0.053
0.697	0.208	0.077	0.501	0.097
0.390	0.175	0.086	0.478	0.101
-1.094	0.422	0.007	-0.675	0.010
0.440	0.406	0.008	0.675	0.010
0.856	0.314	0.027	0.602	0.029
-0.753	0.418	0.004	-0.602	0.014
-0.820	0.365	0.010	-0.645	0.009
3.115	0.791	0.000	0.928	0.000
0.108	-0.059	0.644	0.104	0.712
-0.048	-0.098	0.900	-0.028	0.939
0.065	-0.083	0.785	0.242	0.426
1.059	0.393	0.010	0.739	0.003
0.317	0.128	0.114	0.279	0.333
-0.379	0.031	0.257	-0.327	0.253
1.335	0.845	0.000	0.935	0.000
0.280	0.056	0.207	0.356	0.211
0.514	0.374	0.020	0.559	0.063
0.938	0.710	0.000	0.814	0.000
0.570	0.040	0.230	0.379	0.165
1.491	0.458	0.005	0.565	0.038
-0.367	0.143	0.082	-0.356	0.176
0.492	0.120	0.121	0.484	0.079
-0.625	0.019	0.296	-0.301	0.342

0.472	0.080	0.160	0.474	0.075
-0.440	-0.003	0.346	0.133	0.638
-0.974	0.327	0.015	-0.692	0.004
0.676	0.214	0.063	0.360	0.226
1.491	0.783	0.000	0.868	0.000
0.120	-0.065	0.615	0.249	0.413
0.528	0.280	0.036	0.615	0.029
-0.649	0.439	0.003	-0.641	0.009
-1.103	0.229	0.035	-0.326	0.217
0.558	0.400	0.016	0.650	0.026
0.921	0.749	0.000	0.845	0.000
1.121	0.603	0.001	0.767	0.002
0.861	0.577	0.001	0.779	0.001
-1.168	0.452	0.003	-0.738	0.002
1.014	0.514	0.003	0.622	0.023
1.115	0.804	0.000	0.918	0.000
-0.544	0.069	0.177	-0.361	0.187
0.055	-0.079	0.834	0.011	0.976
0.396	0.310	0.035	0.490	0.110
-1.500	0.725	0.000	-0.911	0.000
-1.155	0.369	0.007	-0.720	0.002
-0.517	0.050	0.219	-0.547	0.046
0.347	0.098	0.137	0.379	0.165
-0.889	0.309	0.018	-0.554	0.035

### Neotamias

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-0.213	0.033	0.276	-0.383	0.245
0.236	0.212	0.075	0.725	0.008
-0.036	-0.095	0.834	-0.282	0.375
-0.332	0.626	0.001	-0.797	0.003
0.273	0.045	0.228	0.549	0.042
-0.290	0.041	0.236	-0.475	0.086
0.862	0.587	0.002	0.704	0.011
0.525	0.614	0.003	0.834	0.001
-0.642	0.382	0.008	-0.763	0.001
-0.391	0.241	0.051	-0.615	0.029
-0.027	-0.074	0.751	-0.066	0.823
-0.731	0.397	0.030	-0.709	0.028
-0.339	-0.048	0.497	-0.021	0.956

0.054	-0.051	0.578	0.215	0.441
0.364	0.018	0.292	0.349	0.242
-0.253	0.183	0.081	-0.410	0.164
1.302	0.553	0.003	0.824	0.001
0.165	-0.047	0.493	0.235	0.463
-0.233	-0.028	0.438	-0.311	0.279
0.046	-0.088	0.865	0.227	0.457
0.167	-0.041	0.485	0.245	0.420
0.243	0.018	0.299	0.308	0.331
0.520	0.469	0.006	0.779	0.002
-0.207	-0.068	0.560	-0.300	0.371
-0.861	0.331	0.015	-0.735	0.002
-0.404	0.338	0.011	-0.544	0.032
0.659	0.718	0.001	0.709	0.028
-0.670	0.662	0.000	-0.864	0.000
0.226	0.095	0.150	0.704	0.005
-0.041	-0.079	0.729	-0.181	0.554
-0.294	0.211	0.048	-0.427	0.113
0.439	0.163	0.085	0.314	0.273
-0.589	0.164	0.135	-0.527	0.123
-0.272	0.201	0.070	-0.533	0.064
0.039	-0.059	0.694	0.106	0.697
0.016	-0.099	0.934	0.018	0.957
0.576	0.282	0.036	0.500	0.085
0.088	-0.095	0.726	0.064	0.860
-0.201	0.050	0.228	-0.347	0.246
-0.033	-0.090	0.915	-0.094	0.760
-0.978	0.151	0.116	-0.329	0.297
0.579	0.409	0.011	0.731	0.006
-0.020	-0.074	0.866	-0.082	0.773
0.001	-0.100	0.998	0.133	0.683
0.281	0.235	0.063	0.683	0.014
-0.006	-0.125	0.979	0.297	0.407
0.168	0.216	0.054	0.504	0.066
-0.038	-0.074	0.750	-0.218	0.454
0.298	0.478	0.008	0.566	0.059
-0.043	-0.098	0.886	-0.056	0.869
1.137	0.693	0.001	0.882	0.001
-0.137	-0.058	0.541	-0.200	0.534
-0.005	-0.077	0.981	0.262	0.346
-0.135	-0.101	0.690	-0.236	0.514
-0.166	-0.096	0.732	0.027	0.946
1.070	0.611	0.002	0.783	0.004

0.639	0.727	0.000	0.829	0.000
0.041	-0.080	0.745	0.011	0.978
-0.740	0.278	0.045	-0.648	0.023
1.100	0.646	0.002	0.809	0.004
0.389	0.226	0.058	0.657	0.015
-0.275	0.093	0.142	-0.473	0.075
0.182	0.126	0.126	0.484	0.097
0.018	-0.070	0.896	0.038	0.888
-0.047	-0.087	0.741	-0.134	0.678
-0.190	0.103	0.151	-0.470	0.105
-0.080	-0.100	0.765	-0.109	0.755
-0.162	0.004	0.319	-0.321	0.226
0.020	-0.099	0.930	-0.078	0.809
0.016	-0.099	0.923	0.105	0.749
-0.109	0.110	0.143	-0.566	0.047
-0.135	-0.031	0.452	-0.329	0.250
-0.872	0.471	0.004	-0.814	0.000
0.062	-0.083	0.703	0.168	0.604
-0.069	-0.096	0.735	-0.050	0.884
-0.072	-0.051	0.531	-0.258	0.394
0.176	0.018	0.294	0.346	0.247
-0.869	0.407	0.015	-0.741	0.008
-0.012	-0.077	0.946	-0.020	0.943
0.317	0.101	0.142	0.536	0.048
0.263	-0.034	0.442	0.472	0.121
-0.434	0.125	0.140	-0.287	0.366
-0.256	0.160	0.078	-0.206	0.462
-0.334	0.360	0.030	-0.588	0.057
0.031	-0.071	0.722	0.060	0.840
-0.439	0.197	0.072	-0.396	0.182
0.108	0.000	0.336	0.311	0.259
-0.181	0.131	0.102	-0.438	0.103
0.490	0.531	0.002	0.771	0.001
0.202	0.367	0.022	0.626	0.029
-0.796	0.469	0.004	-0.789	0.001
-0.598	0.333	0.014	-0.750	0.001
-0.176	-0.008	0.361	-0.492	0.087
-0.050	-0.072	0.803	-0.179	0.524
-0.087	-0.092	0.789	-0.028	0.939
-0.803	0.525	0.007	-0.818	0.004
-0.195	0.256	0.031	-0.553	0.032
0.295	0.180	0.073	0.740	0.003
0.041	-0.088	0.859	0.011	0.972

-0.054	-0.080	0.750	-0.176	0.566
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### **Sciurus**

Linear regression		Spearman's rank correlation		
<b>slope</b>	<b>R<sup>2</sup></b>	<b>p-value</b>	<b>ρ</b>	<b>p-value</b>
-0.254	0.130	0.123	-0.561	0.046
0.089	-0.043	0.524	0.254	0.361
0.296	0.408	0.008	0.745	0.002
0.018	-0.079	0.838	0.460	0.098
0.163	0.019	0.290	0.458	0.116
-0.033	-0.094	0.824	0.071	0.826
0.803	0.566	0.005	0.716	0.013
-0.339	0.213	0.055	-0.507	0.064
0.008	-0.089	0.882	-0.047	0.879
-0.235	-0.011	0.371	-0.558	0.059
-0.019	-0.106	0.849	-0.195	0.565
0.369	0.410	0.008	0.707	0.005
0.006	-0.080	0.859	-0.082	0.780
-1.387	0.720	0.000	-0.870	0.000
0.118	0.069	0.197	0.575	0.040
0.015	-0.018	0.389	0.493	0.123
0.377	0.260	0.052	0.466	0.127
0.055	-0.082	0.691	-0.087	0.788
-0.073	0.041	0.220	0.074	0.785
-0.060	0.105	0.175	-0.474	0.141
0.800	0.398	0.022	0.807	0.003
-0.212	0.504	0.004	-0.729	0.005
0.038	-0.105	0.832	0.086	0.802
0.127	-0.002	0.347	0.051	0.881
0.293	0.285	0.052	0.908	0.000
-0.378	0.261	0.052	-0.624	0.030
0.033	-0.068	0.594	0.213	0.507
0.066	-0.072	0.669	0.153	0.617
-0.363	0.147	0.079	-0.749	0.001
-0.064	-0.103	0.804	-0.124	0.717
-0.808	0.315	0.022	-0.771	0.001
-0.088	-0.135	0.836	-0.033	0.932
-0.241	0.056	0.217	-0.350	0.242
-1.158	0.453	0.004	-0.824	0.000
1.222	0.708	0.001	0.932	0.000
0.067	0.425	0.009	0.673	0.012

-0.382	0.248	0.034	-0.506	0.055
0.251	0.025	0.292	0.260	0.441
0.421	0.612	0.000	0.812	0.000
-0.144	-0.043	0.478	-0.155	0.631
0.115	0.044	0.230	0.385	0.175
0.159	0.103	0.163	0.518	0.084
-0.292	0.110	0.133	-0.639	0.014
0.345	0.585	0.001	0.831	0.000
-0.006	-0.125	0.979	0.340	0.336
-0.097	-0.004	0.348	0.045	0.874
-0.120	0.365	0.017	-0.537	0.058
0.157	0.103	0.164	0.660	0.020
-0.023	-0.090	0.908	0.133	0.665
0.333	0.467	0.006	0.736	0.006
-0.409	0.204	0.045	-0.195	0.470
0.158	0.099	0.146	0.489	0.076
0.405	0.078	0.207	0.560	0.073
-0.070	-0.065	0.581	-0.225	0.482
-0.852	0.407	0.006	-0.477	0.072
0.115	-0.060	0.614	-0.042	0.886
-0.639	0.346	0.012	-0.575	0.025
-0.041	-0.060	0.583	-0.144	0.638
0.274	0.298	0.039	0.605	0.037
-0.185	0.004	0.330	0.294	0.354
0.751	0.652	0.001	0.886	0.000
-0.303	0.215	0.047	-0.455	0.088
-0.414	0.200	0.061	-0.576	0.031
-0.347	0.204	0.052	-0.389	0.152
0.104	-0.065	0.658	0.369	0.194
-0.282	0.074	0.179	-0.236	0.417
-0.233	0.245	0.058	-0.284	0.372
-1.411	0.554	0.001	-0.614	0.015
-0.058	-0.044	0.512	-0.528	0.052
0.473	0.354	0.011	0.554	0.032
-0.026	-0.093	0.810	0.291	0.359
-0.343	0.069	0.208	-0.392	0.208
0.001	-0.077	0.986	0.026	0.926
0.010	-0.068	0.597	0.162	0.615
0.592	0.846	0.000	0.958	0.000
0.185	0.042	0.262	0.358	0.280
0.175	0.199	0.082	0.697	0.012
0.335	0.186	0.119	0.486	0.154
0.155	0.071	0.205	0.520	0.083

0.017	-0.096	0.860	-0.285	0.370
0.259	0.366	0.017	0.825	0.001
0.515	0.311	0.022	0.546	0.043
-0.348	-0.039	0.448	-0.195	0.565
-0.208	0.191	0.076	-0.532	0.061
0.658	0.330	0.038	0.810	0.002
-1.047	0.676	0.000	-0.893	0.000
-0.146	0.061	0.209	-0.504	0.079
-0.051	-0.108	0.870	0.211	0.533
0.916	0.687	0.001	0.846	0.001
0.042	-0.073	0.628	0.034	0.917
-0.467	0.237	0.038	-0.531	0.042
-0.091	-0.001	0.338	-0.367	0.178
0.130	0.155	0.113	0.249	0.435
0.030	-0.025	0.425	0.279	0.334
0.369	0.450	0.004	0.631	0.012
-0.028	-0.037	0.455	-0.377	0.227
0.083	-0.043	0.464	0.339	0.307
0.340	0.050	0.219	0.401	0.155
0.178	0.140	0.093	0.453	0.090
1.116	0.395	0.031	0.657	0.039

## PHYLLOSTOMIDAE

### Anoura

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-3.420	0.687	0.007	-0.776	0.024
-0.594	0.058	0.261	-0.467	0.213
-1.624	0.757	0.003	-0.909	0.002
-0.576	-0.071	0.515	-0.203	0.601
-1.089	0.293	0.061	-0.549	0.100
2.071	0.635	0.011	0.786	0.028
-0.838	0.164	0.120	-0.531	0.093
-1.076	0.107	0.159	-0.617	0.033
-0.062	-0.099	0.910	0.063	0.845
1.180	0.205	0.145	0.310	0.462
0.059	-0.109	0.897	0.023	0.947
0.708	0.408	0.038	0.733	0.031
-1.952	0.011	0.339	-0.339	0.411
-0.467	-0.051	0.533	-0.225	0.459

-2.613	0.763	0.001	-0.827	0.006
0.376	-0.036	0.431	0.340	0.336
-0.026	-0.143	0.979	-0.084	0.831
-2.152	0.603	0.005	-0.716	0.020
0.784	0.436	0.008	0.674	0.012
1.006	0.314	0.086	0.571	0.151
0.163	-0.114	0.785	0.159	0.662
-0.894	0.082	0.232	-0.360	0.342
0.349	0.003	0.336	0.110	0.748
-1.439	0.593	0.026	-0.946	0.001
0.690	0.447	0.029	0.617	0.086
-2.198	0.782	0.000	-0.902	0.000
-0.970	0.385	0.044	-0.689	0.040
-0.933	-0.137	0.563	-0.200	0.714
0.278	-0.123	0.737	0.159	0.683
-0.905	-0.177	0.645	-0.235	0.653
-1.474	0.386	0.044	-0.740	0.023
-0.256	-0.196	0.904	0.036	0.938
-0.390	0.021	0.299	-0.283	0.399
-1.473	0.444	0.030	-0.454	0.220
-0.300	-0.146	0.753	-0.190	0.665
-1.842	0.176	0.144	-0.489	0.181
-1.216	0.675	0.001	-0.771	0.005
2.403	0.828	0.000	0.950	0.000
0.714	0.309	0.035	0.513	0.088
0.288	-0.184	0.808	0.306	0.504
-0.256	-0.114	0.789	-0.006	0.987
-0.201	-0.189	0.841	0.000	1.000
-0.040	-0.124	0.928	-0.043	0.907
-3.505	0.752	0.003	-0.892	0.003
-1.694	0.674	0.002	-0.706	0.023
-0.667	0.198	0.096	-0.539	0.087
-0.645	-0.074	0.479	-0.270	0.558
-1.461	0.608	0.008	-0.866	0.003
0.086	-0.097	0.863	0.018	0.957
-0.813	0.258	0.077	-0.640	0.046
-0.562	0.015	0.334	-0.310	0.462
-0.215	-0.084	0.707	-0.194	0.546
1.642	0.318	0.085	0.619	0.115
-0.538	0.044	0.269	-0.330	0.351
0.581	-0.071	0.491	0.310	0.462
-0.759	-0.064	0.450	-0.429	0.419
0.917	-0.100	0.568	0.455	0.257

-2.043	0.443	0.090	-0.754	0.084
-2.570	0.662	0.005	-0.844	0.004
-2.641	0.569	0.019	-0.764	0.027
0.543	-0.139	0.716	0.096	0.820
0.657	0.001	0.349	0.433	0.250
-2.948	0.157	0.180	-0.533	0.173
0.465	-0.168	0.728	0.250	0.595
-1.544	0.135	0.178	-0.388	0.302
0.376	0.008	0.331	0.413	0.235
-1.295	0.170	0.170	-0.630	0.094
0.624	-0.163	0.707	0.036	0.963
1.147	0.409	0.038	0.706	0.034
0.196	-0.120	0.850	0.146	0.687
-1.412	0.018	0.329	-0.277	0.506
0.154	-0.087	0.665	0.206	0.543
-0.149	-0.496	0.949	-0.200	0.917
-0.621	-0.069	0.487	-0.286	0.501
-4.190	0.656	0.017	-0.771	0.042
0.343	-0.033	0.416	0.445	0.230
-0.219	-0.152	0.792	-0.190	0.665
-0.329	-0.106	0.644	-0.151	0.699
-1.129	0.146	0.168	-0.460	0.213
1.066	0.108	0.203	0.576	0.105
-0.268	-0.077	0.712	-0.202	0.508
-0.317	-0.151	0.786	-0.205	0.627
-0.462	-0.003	0.352	-0.524	0.120
-0.552	0.066	0.223	-0.475	0.140
0.666	0.037	0.252	0.255	0.401
-0.731	0.627	0.004	-0.622	0.055
0.184	-0.195	0.894	0.234	0.613
-0.271	-0.071	0.617	-0.205	0.524
-0.322	-0.062	0.471	-0.095	0.840
-0.086	-0.107	0.855	-0.128	0.708
-1.050	0.100	0.212	-0.496	0.175
-1.774	0.777	0.000	-0.945	0.000
-0.305	-0.149	0.775	0.157	0.711
-0.009	-0.167	0.989	-0.071	0.882
0.675	0.125	0.169	0.584	0.077
-0.290	-0.053	0.500	-0.178	0.600
0.806	0.320	0.052	0.784	0.007
1.565	0.538	0.023	0.738	0.046
0.848	0.021	0.325	0.464	0.247
-1.734	0.329	0.062	-0.698	0.037

### Artibeus

	Linear regression	Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-0.348	-0.086	0.732	-0.028	0.931
-1.878	0.564	0.000	-0.770	0.000
-3.206	0.295	0.049	-0.648	0.031
-2.691	0.550	0.001	-0.769	0.000
-0.106	-0.099	0.927	-0.112	0.728
-0.461	-0.098	0.754	-0.005	0.989
-3.251	0.418	0.010	-0.562	0.046
-2.310	0.602	0.000	-0.782	0.000
-3.404	0.481	0.016	-0.848	0.002
-3.449	0.561	0.001	-0.744	0.001
-2.331	0.400	0.005	-0.730	0.001
0.113	-0.077	0.947	0.043	0.879
-4.839	0.645	0.001	-0.854	0.000
1.085	-0.060	0.582	0.185	0.545
-2.008	0.282	0.036	-0.699	0.008
-0.256	-0.096	0.848	0.063	0.845
-3.650	0.589	0.000	-0.733	0.001
-0.787	-0.054	0.573	-0.199	0.495
-0.360	-0.094	0.816	0.053	0.871
-5.080	0.882	0.000	-0.933	0.000
-3.507	0.481	0.007	-0.457	0.135
-3.111	0.532	0.001	-0.812	0.000
-3.819	0.509	0.008	-0.694	0.018
-2.848	0.657	0.000	-0.828	0.000
-0.478	-0.084	0.646	-0.151	0.658
-5.675	0.886	0.000	-0.984	0.000
-3.660	0.576	0.000	-0.744	0.001
2.918	0.267	0.072	0.638	0.047
-6.317	0.811	0.000	-0.883	0.000
-4.774	0.793	0.000	-0.949	0.000
-3.470	0.866	0.000	-0.970	0.000
-1.552	0.094	0.141	-0.384	0.157
-1.623	0.035	0.242	-0.286	0.302
-3.565	0.402	0.007	-0.650	0.009
-1.917	0.263	0.042	-0.702	0.008
-2.262	0.446	0.003	-0.677	0.004
-0.197	-0.109	0.891	-0.037	0.915

-3.733	0.677	0.001	-0.837	0.001
-1.535	0.253	0.027	-0.544	0.029
-1.414	-0.066	0.526	-0.159	0.662
-2.880	0.456	0.003	-0.738	0.002
0.268	-0.094	0.823	0.127	0.695
0.751	-0.030	0.465	0.235	0.381
-4.901	0.773	0.000	-0.906	0.000
-0.734	-0.024	0.411	-0.411	0.184
-1.513	0.354	0.015	-0.701	0.005
-6.037	0.763	0.000	-0.871	0.000
-4.974	0.883	0.000	-0.956	0.000
-3.751	0.461	0.006	-0.730	0.005
-0.915	0.021	0.270	-0.454	0.077
-4.693	0.847	0.000	-0.909	0.000
-6.398	0.711	0.000	-0.877	0.000
-2.864	0.436	0.016	-0.554	0.077
-4.601	0.622	0.000	-0.824	0.000
0.645	-0.049	0.501	0.218	0.496
1.509	0.020	0.300	0.416	0.204
-0.612	-0.074	0.632	-0.141	0.663
-4.652	0.514	0.002	-0.652	0.008
-4.523	0.769	0.000	-0.881	0.000
-4.526	0.811	0.000	-0.948	0.000
-1.368	0.468	0.008	-0.587	0.045
1.120	-0.003	0.349	0.429	0.164
-2.371	0.136	0.143	-0.361	0.276
-1.565	0.051	0.201	-0.378	0.148
-4.552	0.875	0.000	-0.931	0.000
-0.912	-0.047	0.512	-0.146	0.633
-6.230	0.856	0.000	-0.959	0.000
-3.927	0.782	0.000	-0.881	0.000
-4.441	0.767	0.000	-0.815	0.001
-2.694	0.650	0.000	-0.871	0.000
-2.298	0.452	0.004	-0.743	0.001
-5.113	0.700	0.000	-0.789	0.000
-0.923	-0.026	0.430	-0.194	0.505
-4.051	0.679	0.001	-0.780	0.003
3.239	0.267	0.049	0.591	0.043
1.250	0.035	0.265	0.485	0.110
1.649	0.044	0.258	0.489	0.127
-4.880	0.716	0.000	-0.856	0.000
-1.444	0.052	0.235	-0.007	0.983
-5.769	0.846	0.000	-0.935	0.000

0.866	0.058	0.225	0.464	0.129
2.496	0.123	0.130	0.459	0.115
-1.850	0.156	0.112	-0.503	0.096
2.701	0.118	0.147	0.531	0.076
0.595	-0.098	0.754	0.128	0.708
1.779	0.093	0.175	0.499	0.099
-2.628	0.266	0.050	-0.668	0.018
-0.106	-0.099	0.910	0.028	0.931
-1.317	0.145	0.109	-0.489	0.090
1.287	-0.040	0.454	0.192	0.572
-1.087	-0.022	0.402	-0.190	0.555
-5.589	0.678	0.000	-0.874	0.000
-0.467	-0.090	0.768	-0.127	0.695
-2.783	0.634	0.000	-0.825	0.000
2.759	0.199	0.082	0.615	0.033
-0.971	0.038	0.258	-0.186	0.562
-5.188	0.870	0.000	-0.931	0.000
-2.739	0.534	0.001	-0.715	0.002
-2.307	0.294	0.021	-0.517	0.048
2.624	0.238	0.052	0.599	0.030

### Carollia

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-2.536	0.756	0.000	-0.925	0.000
-0.067	-0.110	0.941	-0.023	0.947
0.506	0.031	0.272	0.281	0.376
-1.359	0.246	0.058	-0.538	0.071
-1.492	0.527	0.005	-0.765	0.004
0.081	-0.081	0.862	0.296	0.304
-1.332	0.353	0.025	-0.411	0.184
0.385	-0.087	0.664	0.320	0.338
0.430	-0.069	0.566	0.333	0.316
-1.001	0.185	0.104	-0.279	0.406
-2.006	0.650	0.003	-0.795	0.006
0.648	-0.018	0.387	0.174	0.610
-1.134	0.152	0.093	-0.434	0.121
-1.014	0.406	0.021	-0.758	0.007
-2.256	0.692	0.000	-0.904	0.000
-1.312	0.665	0.001	-0.844	0.001
1.662	0.334	0.037	0.694	0.018

-2.225	0.854	0.000	-0.940	0.000
-2.311	0.404	0.021	-0.435	0.181
0.517	-0.032	0.427	0.279	0.407
-1.416	0.459	0.013	-0.658	0.028
0.009	-0.111	0.987	-0.242	0.473
-1.361	0.488	0.015	-0.610	0.061
-0.583	0.078	0.184	-0.425	0.147
-2.880	0.826	0.000	-0.787	0.004
-1.163	0.140	0.140	-0.481	0.135
-1.355	0.064	0.240	-0.294	0.410
-3.011	0.792	0.000	-0.832	0.003
0.893	0.013	0.316	0.393	0.232
0.587	-0.005	0.354	0.224	0.442
-0.045	-0.100	0.959	-0.063	0.845
1.667	0.166	0.093	0.364	0.221
1.089	0.181	0.107	0.575	0.064
0.349	-0.135	0.830	0.109	0.780
-0.979	0.246	0.029	-0.384	0.142
0.045	-0.093	0.812	0.011	0.974
-1.251	0.668	0.001	-0.766	0.004
-1.405	0.703	0.001	-0.851	0.001
-0.413	-0.006	0.356	-0.108	0.725
-0.948	0.150	0.117	-0.608	0.036
-2.166	0.900	0.000	-0.982	0.000
-1.797	0.511	0.008	-0.705	0.015
-1.651	0.316	0.042	-0.571	0.067
-2.431	0.700	0.000	-0.898	0.000
-3.334	0.663	0.005	-0.793	0.011
-2.645	0.704	0.000	-0.898	0.000
-3.262	0.920	0.000	-0.961	0.000
-0.764	0.057	0.217	-0.398	0.178
0.544	0.017	0.301	0.355	0.257
-0.670	0.013	0.315	-0.406	0.215
-0.601	-0.028	0.416	-0.165	0.628
-2.456	0.647	0.001	-0.826	0.001
-0.439	-0.038	0.485	-0.184	0.530
-0.844	-0.012	0.372	-0.302	0.367
-0.009	-0.100	0.991	0.123	0.703
1.225	0.226	0.057	0.580	0.038
-0.932	0.035	0.264	-0.282	0.375
0.227	-0.105	0.824	0.160	0.638
-2.477	0.464	0.026	-0.768	0.016
0.517	-0.017	0.388	0.348	0.268

-2.312	0.705	0.001	-0.828	0.002
-1.074	0.098	0.197	-0.318	0.370
-1.293	0.215	0.073	-0.563	0.056
-0.037	-0.083	0.951	-0.057	0.845
0.035	-0.111	0.963	0.370	0.263
-2.203	0.602	0.001	-0.898	0.000
-4.198	0.948	0.000	-0.991	0.000
-2.556	0.826	0.000	-0.937	0.000
-1.210	0.267	0.041	-0.663	0.014
0.385	-0.017	0.384	0.511	0.108
-1.301	0.271	0.048	-0.602	0.038
-3.451	0.739	0.001	-0.875	0.001
-2.512	0.819	0.000	-0.868	0.000
-2.373	0.894	0.000	-0.943	0.000
-2.232	0.831	0.000	-0.920	0.000
-3.992	0.825	0.000	-0.937	0.000
-0.222	-0.116	0.809	0.012	0.973
-0.169	-0.102	0.797	-0.192	0.572
-2.065	0.339	0.028	-0.758	0.004
-2.703	0.687	0.001	-0.824	0.001
1.064	0.043	0.259	0.148	0.664
-2.107	0.704	0.000	-0.843	0.000
-0.279	0.084	0.186	-0.383	0.219
0.041	-0.124	0.938	-0.134	0.713
-1.921	0.287	0.034	-0.535	0.060
0.401	-0.055	0.528	0.021	0.948
0.653	-0.033	0.439	0.394	0.205
0.666	0.028	0.294	0.085	0.815
2.133	0.474	0.008	0.724	0.008
-2.275	0.411	0.015	-0.683	0.014
-2.442	0.733	0.001	-0.896	0.000
-2.332	0.496	0.009	-0.780	0.005
-0.886	0.307	0.036	-0.541	0.069
1.478	0.251	0.080	0.559	0.093
0.410	-0.044	0.482	0.236	0.461
1.624	0.422	0.025	0.784	0.007
0.584	-0.025	0.408	0.119	0.728
-1.405	0.485	0.010	-0.836	0.001
-1.076	0.236	0.062	-0.594	0.042
-0.200	-0.090	0.767	0.000	1.000

## Dermanura

Linear regression		Spearman's rank correlation		
<b>slope</b>	<b>R<sup>2</sup></b>	<b>p-value</b>	<b>ρ</b>	<b>p-value</b>
-2.069	0.180	0.094	-0.595	0.041
2.038	0.358	0.040	0.729	0.017
3.068	0.293	0.027	0.594	0.025
0.694	0.098	0.182	0.356	0.282
1.689	0.022	0.304	0.280	0.432
-0.912	-0.056	0.474	-0.293	0.444
-3.314	0.790	0.000	-0.879	0.000
2.847	0.691	0.003	0.833	0.008
1.876	0.538	0.001	0.853	0.000
-1.376	0.576	0.003	-0.826	0.001
-0.965	0.095	0.150	-0.455	0.102
-1.670	0.320	0.020	-0.643	0.013
-1.658	0.558	0.005	-0.746	0.008
-1.148	0.098	0.127	-0.415	0.110
-0.848	0.011	0.306	-0.166	0.571
-1.810	-0.018	0.385	-0.476	0.243
0.134	-0.110	0.915	0.055	0.873
-0.208	-0.087	0.734	0.109	0.736
-10.342	0.855	0.001	-0.946	0.000
2.287	0.322	0.032	0.573	0.051
0.064	-0.090	0.942	0.030	0.921
2.671	0.876	0.000	0.950	0.000
1.997	0.164	0.120	0.598	0.052
-2.212	0.425	0.013	-0.685	0.014
0.531	-0.057	0.666	0.007	0.978
1.862	0.132	0.110	0.517	0.058
-1.352	0.152	0.144	-0.456	0.185
3.072	0.643	0.002	0.795	0.003
-2.589	0.051	0.270	-0.430	0.248
0.932	-0.038	0.447	0.215	0.526
-1.586	0.135	0.107	-0.460	0.098
-2.078	0.428	0.013	-0.710	0.010
-0.499	-0.061	0.589	-0.202	0.509
-3.120	0.608	0.001	-0.711	0.004
-2.728	0.470	0.002	-0.659	0.005
-2.544	0.574	0.001	-0.757	0.002
0.973	0.077	0.223	0.316	0.374
-2.254	0.366	0.038	-0.598	0.068
-2.085	0.549	0.001	-0.693	0.004
0.083	-0.097	0.878	-0.035	0.913

0.476	-0.051	0.476	0.091	0.802
3.666	0.348	0.055	0.650	0.067
1.972	0.415	0.014	0.643	0.024
-1.048	-0.011	0.371	-0.225	0.532
-1.072	0.106	0.160	-0.295	0.351
0.011	-0.111	0.991	0.151	0.658
-3.608	0.533	0.010	-0.679	0.031
1.373	0.128	0.166	0.571	0.084
0.160	-0.067	0.815	0.115	0.671
1.440	0.035	0.264	0.394	0.205
1.831	0.261	0.043	0.573	0.041
-0.165	-0.124	0.923	0.043	0.907
-3.902	0.728	0.000	-0.925	0.000
0.297	-0.062	0.674	0.144	0.610
0.127	-0.098	0.886	0.144	0.655
0.922	0.092	0.177	0.443	0.149
-0.510	-0.107	0.650	-0.100	0.810
0.634	0.084	0.145	0.456	0.076
0.575	-0.050	0.599	0.250	0.351
0.701	0.035	0.282	0.340	0.336
-2.503	0.751	0.000	-0.896	0.000
0.227	-0.106	0.849	0.114	0.738
-0.185	-0.108	0.877	0.014	0.968
1.684	0.434	0.012	0.735	0.007
-0.252	-0.085	0.806	-0.030	0.921
-1.790	0.432	0.017	-0.728	0.011
-0.877	0.076	0.197	-0.591	0.043
-4.670	0.929	0.000	-0.948	0.000
-5.403	0.731	0.001	-0.954	0.000
-5.078	0.683	0.004	-0.836	0.005
0.151	-0.079	0.831	0.108	0.713
1.319	0.039	0.266	0.306	0.360
-2.655	0.684	0.001	-0.903	0.000
-0.328	-0.068	0.690	0.044	0.881
-0.845	0.171	0.070	-0.285	0.304
-0.362	-0.094	0.822	-0.245	0.442
0.646	-0.082	0.589	0.243	0.498
-0.627	0.064	0.176	-0.423	0.103
0.321	-0.072	0.808	0.129	0.646
-0.466	-0.113	0.781	-0.177	0.624
-3.946	0.707	0.001	-0.911	0.000
-0.699	-0.036	0.442	-0.426	0.192
-0.266	-0.080	0.678	-0.306	0.334

-4.771	0.554	0.003	-0.761	0.004
1.960	0.144	0.170	0.433	0.250
0.680	0.002	0.332	0.331	0.247
-3.241	0.513	0.008	-0.746	0.008
-0.083	-0.090	0.911	0.019	0.950
-4.626	0.778	0.000	-0.856	0.002
-1.713	0.218	0.045	-0.383	0.159
-2.045	0.590	0.000	-0.805	0.000
1.792	0.309	0.044	0.690	0.019
2.164	0.713	0.000	0.915	0.000
1.649	0.094	0.187	0.174	0.610
-0.366	-0.034	0.433	-0.338	0.309
2.060	0.391	0.031	0.669	0.035
-0.103	-0.142	0.960	-0.008	0.983
0.271	-0.118	0.829	0.109	0.763
-1.759	0.400	0.029	-0.599	0.067
-1.456	0.501	0.009	-0.749	0.008

### Glossophaga

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-0.486	0.143	0.137	-0.435	0.181
1.714	0.784	0.000	0.860	0.001
0.528	0.049	0.273	0.435	0.242
0.001	-0.167	0.999	-0.048	0.935
-0.292	-0.051	0.492	-0.426	0.192
0.369	-0.051	0.512	0.028	0.931
-0.613	0.110	0.185	-0.395	0.258
-0.338	-0.183	0.798	-0.214	0.662
0.168	-0.198	0.938	0.236	0.610
0.107	-0.121	0.869	0.146	0.687
0.067	-0.121	0.875	0.243	0.498
-1.854	0.640	0.011	-0.843	0.009
0.660	0.093	0.202	0.286	0.424
1.058	0.240	0.072	0.571	0.067
-0.637	0.178	0.096	-0.556	0.060
0.541	0.125	0.154	0.329	0.324
1.743	0.292	0.027	0.535	0.048
3.805	0.805	0.001	0.954	0.000
2.507	0.803	0.001	0.845	0.004
-0.146	-0.086	0.819	0.143	0.641

-1.574	0.472	0.024	-0.776	0.014
-0.029	-0.124	0.929	-0.140	0.700
-0.232	-0.111	0.758	-0.049	0.893
-0.484	-0.002	0.347	-0.085	0.794
-1.365	0.653	0.002	-0.801	0.003
1.435	0.454	0.028	0.633	0.076
1.623	0.536	0.010	0.801	0.005
-0.111	-0.121	0.870	0.220	0.541
-0.031	-0.110	0.914	-0.092	0.789
-2.729	0.397	0.056	-0.727	0.041
-1.139	0.587	0.004	-0.810	0.003
-0.425	-0.055	0.507	-0.196	0.563
-0.658	0.030	0.274	-0.325	0.303
-1.824	0.421	0.025	-0.813	0.004
0.768	0.184	0.092	0.548	0.065
0.521	0.035	0.249	0.270	0.351
0.593	0.298	0.048	0.498	0.119
0.069	-0.098	0.891	0.197	0.540
-0.316	-0.066	0.552	-0.342	0.303
-0.863	0.253	0.079	-0.427	0.219
2.641	0.693	0.013	0.786	0.048
-0.609	-0.102	0.576	-0.386	0.346
1.966	0.653	0.003	0.790	0.007
0.138	-0.162	0.888	0.167	0.703
-0.188	-0.144	0.742	0.024	0.977
0.053	-0.089	0.896	0.044	0.886
1.322	0.145	0.169	0.617	0.086
2.061	0.418	0.049	0.683	0.062
-0.791	0.115	0.179	-0.396	0.257
-2.447	0.474	0.035	-0.711	0.048
-0.817	0.047	0.253	-0.389	0.237
-0.777	0.072	0.229	-0.359	0.309
-0.543	0.050	0.238	-0.356	0.257
1.034	0.294	0.049	0.708	0.015
-0.796	0.176	0.111	-0.475	0.140
0.658	-0.025	0.402	0.280	0.432
-2.490	-0.072	0.495	-0.339	0.411
-0.874	0.147	0.097	-0.422	0.133
0.332	-0.039	0.449	0.252	0.455
1.444	0.520	0.007	0.721	0.012
-0.900	0.090	0.179	-0.335	0.287
-2.844	0.460	0.027	-0.641	0.063
-0.144	-0.161	0.875	-0.012	0.978

-0.410	-0.047	0.477	-0.274	0.415
0.515	-0.008	0.362	0.429	0.143
-4.179	0.759	0.007	-0.873	0.010
0.122	-0.132	0.801	0.317	0.410
-2.871	0.845	0.000	-0.920	0.000
1.896	0.713	0.003	0.817	0.011
-0.194	-0.113	0.774	0.061	0.867
0.051	-0.165	0.936	0.072	0.866
-1.757	0.534	0.006	-0.778	0.005
-0.335	-0.033	0.439	-0.130	0.687
-0.517	-0.019	0.388	-0.380	0.313
1.706	0.331	0.061	0.700	0.043
-0.384	-0.008	0.362	-0.348	0.268
1.414	0.335	0.036	0.534	0.090
-0.010	-0.111	0.982	-0.064	0.852
0.620	0.160	0.097	0.479	0.098
3.564	0.954	0.000	0.976	0.000
-0.118	-0.140	0.902	0.050	0.898
0.967	0.226	0.132	0.333	0.428
-0.966	-0.035	0.413	-0.250	0.595
-0.060	-0.200	0.975	0.072	0.878
-2.699	0.868	0.000	-0.979	0.000
-1.048	0.250	0.097	-0.510	0.160
-0.384	0.028	0.295	-0.401	0.250
1.033	0.457	0.013	0.838	0.001
-0.395	-0.022	0.403	-0.383	0.219
-0.543	-0.104	0.635	-0.008	0.983
-1.502	0.552	0.005	-0.785	0.004
0.416	-0.041	0.470	0.109	0.736
-0.484	-0.108	0.595	-0.108	0.799
-1.406	0.398	0.022	-0.720	0.012
1.038	0.331	0.048	0.675	0.032
0.099	-0.108	0.879	0.137	0.688
2.605	0.696	0.006	0.857	0.011
-0.616	0.051	0.236	-0.482	0.113
-1.173	0.077	0.255	-0.310	0.462
-0.671	-0.050	0.471	-0.110	0.762

### ***Lonchophylla***

slope	Linear regression		Spearman's rank correlation	
	R <sup>2</sup>	p-value	$\rho$	p-value

0.156	-0.096	0.659	0.177	0.625
-0.287	-0.022	0.396	-0.177	0.624
-0.045	-0.157	0.828	-0.024	0.955
-0.061	-0.154	0.808	-0.270	0.518
-0.530	-0.050	0.437	-0.396	0.379
-0.304	-0.036	0.430	-0.311	0.382
-0.655	-0.064	0.496	-0.592	0.093
0.062	-0.141	0.908	-0.133	0.744
-0.014	-0.145	0.578	-0.338	0.512
-0.740	0.433	0.016	-0.803	0.003
0.523	0.066	0.224	0.388	0.238
0.418	0.041	0.273	0.437	0.206
0.652	0.277	0.083	0.647	0.060
-0.809	0.434	0.045	-0.673	0.068
0.310	-0.109	0.596	0.310	0.462
-0.129	-0.194	0.876	-0.108	0.818
0.171	-0.108	0.595	0.192	0.649
0.054	-0.193	0.869	-0.218	0.638
-2.295	0.452	0.086	-0.812	0.050
0.124	-0.062	0.511	0.383	0.275
0.219	0.104	0.208	0.378	0.316
-0.100	-0.106	0.723	-0.049	0.893
-0.776	0.452	0.020	-0.687	0.028
-0.634	0.710	0.005	-0.857	0.011
-0.670	0.045	0.292	-0.539	0.168
-0.111	0.445	0.061	-0.739	0.058
-0.113	-0.098	0.753	-0.359	0.278
-1.048	0.542	0.004	-0.851	0.000
-0.100	-0.065	0.520	-0.161	0.657
0.190	-0.055	0.456	0.262	0.536
0.005	-0.143	0.992	-0.051	0.897
0.046	-0.138	0.872	0.110	0.777
-0.071	-0.119	0.709	-0.117	0.776
-0.251	0.158	0.158	-0.339	0.372
0.286	0.066	0.251	0.209	0.589
-0.306	-0.083	0.522	-0.323	0.435
-0.159	-0.241	0.872	-0.116	0.827
-0.742	0.215	0.100	-0.385	0.271
0.403	0.726	0.004	0.859	0.006
0.660	-0.039	0.419	0.523	0.229
-0.923	0.233	0.154	-0.487	0.268
-0.684	0.057	0.295	-0.291	0.527
-0.497	-0.123	0.648	-0.133	0.753

-0.160	0.269	0.087	-0.647	0.060
-0.440	0.022	0.313	-0.403	0.282
-0.589	0.304	0.090	-0.627	0.096
-0.266	0.182	0.140	-0.689	0.040
0.296	-0.085	0.559	0.211	0.586
0.425	0.029	0.284	0.624	0.040
-0.128	-0.242	0.884	0.029	1.000
0.199	-0.005	0.365	0.252	0.548
-0.694	0.385	0.019	-0.832	0.001
0.378	-0.136	0.701	0.060	0.887
-0.330	-0.091	0.581	-0.361	0.339
-1.031	0.323	0.064	-0.743	0.022
-0.247	-0.037	0.426	-0.318	0.405
1.561	0.614	0.008	0.883	0.003
-0.111	-0.166	0.719	-0.128	0.784
0.008	-0.166	0.974	0.187	0.658
-0.834	0.601	0.005	-0.875	0.001
0.107	-0.133	0.815	0.355	0.348
-0.052	-0.165	0.919	-0.066	0.876
0.210	0.080	0.252	0.675	0.066
-0.138	-0.151	0.665	-0.234	0.613
1.079	0.018	0.321	0.312	0.413
-0.627	0.046	0.266	-0.303	0.395
-1.062	0.499	0.046	-0.918	0.004
-0.519	0.199	0.110	-0.690	0.027
-0.128	-0.238	0.664	-0.564	0.322
0.049	-0.129	0.776	0.525	0.147
-0.049	-0.122	0.726	0.300	0.437
-0.188	0.244	0.148	-0.739	0.058
-0.432	0.261	0.091	-0.682	0.043
0.917	0.046	0.328	0.657	0.175
-0.237	-0.159	0.847	-0.242	0.563
-0.136	-0.137	0.706	-0.123	0.772
-0.054	-0.161	0.868	-0.084	0.844
-0.430	-0.086	0.563	-0.446	0.228
-0.245	-0.034	0.419	-0.192	0.620
-0.128	-0.174	0.754	-0.136	0.771
0.090	-0.128	0.769	0.332	0.383
-0.422	0.370	0.048	-0.729	0.026
0.221	-0.058	0.496	0.037	0.920
-0.545	0.102	0.251	-0.250	0.595
-0.899	0.069	0.283	-0.400	0.374
0.295	-0.055	0.455	0.262	0.536

0.102	-0.086	0.606	-0.024	0.947
0.196	-0.091	0.543	-0.262	0.536
0.371	0.078	0.207	0.286	0.394
-0.725	0.358	0.069	-0.571	0.151
0.288	-0.041	0.445	0.122	0.737
0.391	-0.033	0.410	0.382	0.398
-0.018	-0.061	0.487	-0.224	0.563
0.421	0.300	0.073	0.683	0.050
-0.517	0.415	0.070	-0.607	0.167
-0.293	-0.003	0.356	-0.185	0.634
0.008	-0.143	0.974	0.243	0.529
0.869	0.301	0.092	0.452	0.267
0.024	-0.166	0.957	-0.167	0.703
0.203	-0.091	0.582	0.317	0.410

### Lonchorhina

Linear regression		Spearman's rank correlation		
<b>slope</b>	<b>R<sup>2</sup></b>	<b>p-value</b>	<b>ρ</b>	<b>p-value</b>
-0.652	0.135	0.177	-0.536	0.137
-0.319	-0.096	0.557	-0.255	0.543
-1.465	0.530	0.025	-0.819	0.013
-0.036	-0.141	0.926	-0.050	0.898
0.086	-0.038	0.436	0.173	0.633
-0.958	0.258	0.093	-0.278	0.468
0.936	0.058	0.214	0.214	0.484
0.456	0.097	0.215	0.367	0.336
0.543	0.268	0.108	0.700	0.053
-0.704	0.035	0.306	-0.301	0.468
-0.884	0.451	0.014	-0.764	0.006
0.192	-0.176	0.763	0.000	1.000
0.252	0.048	0.288	0.190	0.665
0.253	-0.170	0.734	0.144	0.758
-0.019	-0.123	0.902	-0.073	0.841
-4.090	0.916	0.002	-0.971	0.001
0.148	-0.076	0.466	0.383	0.454
-0.164	-0.186	0.821	-0.143	0.783
-0.426	-0.088	0.504	-0.214	0.662
0.955	0.121	0.211	0.491	0.217
-1.394	0.640	0.002	-0.908	0.000
0.357	-0.130	0.602	0.357	0.444
1.493	0.671	0.004	0.820	0.007

1.361	0.578	0.011	0.795	0.010
0.102	-0.186	0.820	0.346	0.448
0.102	-0.120	0.861	-0.122	0.736
-0.870	0.388	0.059	-0.671	0.069
0.573	-0.007	0.367	0.357	0.389
0.218	-0.096	0.658	0.158	0.663
-1.465	0.715	0.003	-0.903	0.001
0.472	0.058	0.276	0.333	0.428
0.495	0.355	0.093	0.714	0.088
-1.754	0.316	0.067	-0.616	0.077
-0.342	-0.117	0.623	-0.357	0.389
0.629	0.494	0.014	0.717	0.020
0.190	-0.076	0.563	0.164	0.650
0.892	0.108	0.223	0.476	0.243
-1.244	0.363	0.067	-0.687	0.060
-1.404	0.367	0.066	-0.611	0.108
0.549	0.035	0.294	0.267	0.493
-0.547	-0.154	0.595	-0.464	0.354
-0.565	0.124	0.188	-0.460	0.213
-0.949	0.072	0.229	-0.350	0.322
-0.382	-0.156	0.682	-0.382	0.398
-0.677	0.253	0.142	-0.649	0.115
0.195	-0.143	0.737	0.167	0.703
0.689	0.166	0.151	0.533	0.148
0.500	-0.102	0.574	0.216	0.608
-3.210	0.955	0.003	-0.949	0.014
-0.948	0.417	0.019	-0.636	0.035
0.269	-0.155	0.678	0.273	0.554
0.092	-0.162	0.884	0.193	0.647
0.443	-0.015	0.378	0.267	0.455
0.002	-0.143	0.996	-0.042	0.915
1.268	0.561	0.020	0.838	0.009
0.778	0.835	0.002	0.845	0.017
0.957	-0.209	0.733	0.353	0.492
0.574	0.142	0.172	0.599	0.088
-0.058	-0.137	0.860	-0.050	0.912
0.148	-0.156	0.821	0.168	0.691
0.517	0.112	0.219	0.683	0.062
-0.182	-0.135	0.614	-0.214	0.662
-0.295	0.016	0.332	-0.194	0.645
-0.376	-0.131	0.677	-0.060	0.887
2.031	0.710	0.011	0.883	0.008
0.197	-0.144	0.744	0.156	0.713

-1.508	0.005	0.369	-0.203	0.700
-0.969	0.357	0.069	-0.470	0.240
-0.097	-0.195	0.895	0.144	0.758
0.602	-0.102	0.535	0.324	0.478
-0.342	-0.009	0.375	-0.450	0.310
-0.941	0.602	0.009	-0.840	0.005
0.568	0.072	0.229	0.353	0.318
-0.878	0.432	0.023	-0.746	0.013
-1.143	0.296	0.094	-0.659	0.076
-0.625	0.182	0.140	-0.385	0.306
0.618	0.195	0.085	0.387	0.214
1.864	0.578	0.004	0.744	0.009
-0.068	-0.228	0.804	0.200	0.714
-0.239	-0.168	0.725	-0.250	0.595
1.606	0.849	0.001	0.905	0.005
1.914	0.409	0.052	0.615	0.105
-0.126	-0.193	0.875	-0.107	0.840
1.348	0.366	0.066	0.738	0.046
0.835	0.059	0.276	0.659	0.076
-0.125	-0.138	0.864	0.042	0.915
-0.368	0.201	0.148	-0.410	0.313
-0.204	0.003	0.352	-0.331	0.423
-0.334	-0.177	0.765	-0.143	0.783
-0.120	-0.130	0.789	-0.148	0.705
0.938	0.169	0.229	0.657	0.175
-0.139	-0.176	0.643	-0.086	0.919
-1.597	0.547	0.014	-0.903	0.001
0.349	-0.092	0.546	0.048	0.935
-1.448	0.458	0.039	-0.699	0.054
-0.850	0.551	0.034	-0.821	0.034
-0.879	0.190	0.155	-0.503	0.204
-1.606	0.290	0.078	-0.734	0.024
-0.744	0.029	0.314	-0.383	0.349
0.392	-0.168	0.726	0.234	0.613

### Lophostoma

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-1.648	0.056	0.239	-0.383	0.245
0.401	-0.041	0.456	0.196	0.563
-1.422	0.403	0.021	-0.673	0.023

2.121	0.511	0.008	0.709	0.014
-3.199	0.539	0.015	-0.836	0.005
0.957	0.131	0.182	0.317	0.410
-1.261	0.414	0.050	-0.833	0.015
-0.376	-0.046	0.489	-0.303	0.339
-2.557	0.813	0.000	-0.952	0.000
-0.377	-0.087	0.610	-0.006	0.987
0.195	-0.105	0.714	-0.067	0.854
-1.483	0.520	0.011	-0.557	0.095
-4.153	0.606	0.008	-0.743	0.022
-0.377	-0.134	0.818	-0.118	0.763
-1.001	0.489	0.007	-0.545	0.067
-1.993	0.259	0.092	-0.447	0.227
-2.169	0.660	0.001	-0.856	0.001
-0.229	-0.078	0.610	-0.082	0.810
-1.654	0.029	0.303	-0.312	0.413
1.932	0.469	0.017	0.638	0.047
-0.278	-0.110	0.751	-0.110	0.763
-0.312	-0.184	0.807	-0.143	0.783
-0.968	0.451	0.028	-0.778	0.014
-1.603	0.206	0.171	-0.450	0.310
-1.478	0.349	0.042	-0.508	0.134
-2.035	0.901	0.000	-0.918	0.000
1.174	0.405	0.015	0.699	0.011
-2.134	0.534	0.010	-0.508	0.134
-0.819	-0.032	0.420	-0.275	0.441
-0.971	0.120	0.145	-0.541	0.069
1.475	-0.004	0.362	0.476	0.243
1.277	0.397	0.022	0.680	0.021
0.588	0.113	0.199	0.183	0.644
-1.287	0.202	0.093	-0.462	0.152
0.760	0.457	0.013	0.703	0.016
0.214	-0.134	0.823	0.117	0.776
-2.146	0.904	0.000	-0.965	0.000
-2.145	0.489	0.007	-0.725	0.008
0.745	-0.026	0.401	0.100	0.810
-2.275	0.549	0.009	-0.816	0.004
-0.088	-0.118	0.831	-0.182	0.614
0.856	0.070	0.246	0.317	0.410
-1.376	0.200	0.127	-0.464	0.208
-2.203	0.214	0.139	-0.410	0.313
2.204	0.567	0.012	0.817	0.011
-2.389	0.661	0.001	-0.833	0.001

-0.502	0.000	0.344	-0.420	0.198
-0.217	-0.120	0.848	0.079	0.828
-1.739	0.771	0.000	-0.902	0.000
-1.102	0.288	0.051	-0.554	0.077
-1.536	0.240	0.072	-0.771	0.005
-3.473	0.828	0.000	-0.958	0.000
-0.813	0.057	0.263	-0.385	0.306
-0.310	-0.046	0.474	-0.160	0.639
0.073	-0.097	0.876	0.144	0.655
0.716	0.008	0.331	0.334	0.345
-1.102	0.199	0.095	-0.371	0.262
-0.822	-0.006	0.355	-0.210	0.472
-1.751	0.509	0.006	-0.698	0.012
-1.276	0.072	0.244	-0.523	0.148
-3.107	0.717	0.001	-0.913	0.000
-0.252	-0.072	0.727	0.011	0.970
1.110	0.300	0.073	0.567	0.121
-1.327	0.324	0.050	-0.644	0.044
-0.202	-0.085	0.650	0.265	0.430
-2.317	0.460	0.009	-0.836	0.001
-4.396	0.661	0.005	-0.797	0.010
-1.013	0.189	0.116	-0.565	0.089
-0.617	-0.067	0.502	-0.300	0.437
0.662	-0.014	0.377	0.326	0.391
-1.912	0.441	0.030	-0.714	0.031
1.176	0.569	0.019	0.905	0.005
-4.867	0.908	0.000	-0.982	0.000
-4.541	0.774	0.000	-0.856	0.002
0.219	-0.137	0.857	0.100	0.797
-1.015	0.149	0.132	-0.575	0.064
0.477	-0.077	0.533	0.151	0.699
-4.353	0.672	0.004	-0.836	0.005
-1.776	0.376	0.047	-0.628	0.070
-1.542	0.161	0.155	-0.496	0.175
-1.006	0.145	0.121	-0.445	0.147
-0.618	0.137	0.129	-0.492	0.104
0.037	-0.124	0.943	0.073	0.841
-3.571	0.654	0.009	-0.764	0.027
-0.001	-0.100	0.998	0.298	0.348
-1.281	-0.022	0.393	-0.263	0.528
-1.673	0.564	0.005	-0.766	0.006
0.312	-0.125	0.747	0.209	0.589
-1.757	0.482	0.023	-0.790	0.011

-1.434	0.451	0.020	-0.744	0.014
0.909	0.186	0.103	0.572	0.066
-1.568	0.591	0.003	-0.824	0.002
-0.834	0.007	0.332	-0.383	0.275
-3.517	0.721	0.001	-0.859	0.001
-1.367	0.163	0.153	-0.437	0.240
-0.115	-0.080	0.859	0.055	0.852
-2.075	0.371	0.048	-0.630	0.069
1.497	0.474	0.017	0.750	0.012
-0.607	-0.037	0.444	-0.183	0.590
-2.785	0.837	0.000	-0.895	0.001

### Micronycteris

Linear regression		Spearman's rank correlation		
<b>slope</b>	<b>R<sup>2</sup></b>	<b>p-value</b>	<b>ρ</b>	<b>p-value</b>
-1.737	0.037	0.260	-0.362	0.247
-2.301	0.326	0.024	-0.688	0.009
-5.201	0.675	0.000	-0.843	0.000
0.108	-0.110	0.935	-0.064	0.852
-2.766	0.347	0.020	-0.544	0.055
-6.253	0.914	0.000	-0.995	0.000
-1.528	0.174	0.087	-0.588	0.034
-2.878	0.729	0.000	-0.949	0.000
-5.097	0.267	0.088	-0.557	0.119
-3.116	0.687	0.001	-0.791	0.002
-2.751	0.324	0.020	-0.630	0.016
-3.393	0.682	0.000	-0.859	0.000
-3.408	0.709	0.000	-0.893	0.000
-0.735	-0.090	0.684	-0.114	0.738
-0.063	-0.111	0.961	-0.078	0.821
0.530	-0.069	0.641	0.196	0.521
0.568	-0.050	0.508	0.232	0.468
0.952	0.008	0.320	0.376	0.228
-4.226	0.954	0.000	-0.979	0.000
-5.246	0.938	0.000	-0.975	0.000
-9.006	0.959	0.000	-0.987	0.000
-2.788	0.553	0.001	-0.746	0.001
-1.720	0.095	0.173	-0.271	0.395
-4.632	0.684	0.001	-0.908	0.000
-2.566	0.776	0.000	-0.917	0.000
-5.405	0.698	0.000	-0.771	0.001

-3.900	0.474	0.011	-0.577	0.063
0.128	-0.098	0.900	0.007	0.983
-3.812	0.856	0.000	-0.931	0.000
3.138	0.319	0.032	0.650	0.022
-3.268	0.321	0.040	-0.586	0.058
-4.484	0.675	0.000	-0.783	0.002
-6.263	0.968	0.000	-0.993	0.000
0.194	-0.107	0.861	0.018	0.957
1.092	-0.062	0.566	0.204	0.525
-0.392	-0.084	0.707	-0.109	0.736
2.772	0.231	0.090	0.590	0.073
-3.781	0.401	0.016	-0.658	0.020
0.869	0.036	0.232	0.230	0.392
0.850	-0.078	0.658	0.236	0.461
5.800	0.846	0.000	0.875	0.001
-6.428	0.933	0.000	-0.985	0.000
-1.675	0.238	0.044	-0.709	0.004
-1.317	-0.045	0.456	-0.164	0.650
-1.465	0.057	0.215	-0.318	0.290
-3.458	0.592	0.003	-0.833	0.001
-3.958	0.287	0.042	-0.606	0.037
-4.000	0.598	0.001	-0.749	0.003
-4.881	0.705	0.000	-0.838	0.000
-3.582	0.646	0.000	-0.789	0.000
-7.301	0.698	0.000	-0.849	0.000
-3.005	0.428	0.017	-0.664	0.026
-0.946	-0.072	0.583	-0.105	0.759
-0.378	-0.091	0.779	0.014	0.965
-0.301	-0.086	0.826	-0.077	0.802
-0.465	-0.026	0.442	-0.117	0.666
-2.002	0.106	0.160	-0.425	0.168
4.189	0.551	0.008	0.772	0.009
-4.357	0.866	0.000	-0.930	0.000
-0.137	-0.109	0.906	0.018	0.957
-1.886	0.146	0.098	-0.486	0.078
-4.276	0.710	0.000	-0.858	0.000
-4.788	0.592	0.003	-0.755	0.007
-4.481	0.838	0.000	-0.925	0.000
-5.519	0.732	0.000	-0.898	0.000
1.513	0.051	0.235	0.464	0.129
-1.643	0.122	0.130	-0.436	0.136
-2.800	0.491	0.007	-0.717	0.009
-2.566	0.171	0.101	-0.475	0.119

-3.393	0.580	0.002	-0.733	0.004
-1.821	0.332	0.029	-0.791	0.002
-1.241	-0.052	0.516	-0.109	0.736
-1.202	0.327	0.012	-0.635	0.008
-1.676	0.023	0.275	-0.249	0.391
-3.691	0.872	0.000	-0.930	0.000
-5.317	0.835	0.000	-0.924	0.000
-3.645	0.531	0.004	-0.791	0.002
-6.306	0.933	0.000	-0.966	0.000
-5.120	0.888	0.000	-0.961	0.000
-1.121	-0.007	0.360	-0.141	0.663
-0.627	-0.072	0.582	-0.100	0.769
-2.815	0.414	0.014	-0.302	0.340
-4.091	0.793	0.000	-0.906	0.000
-4.069	0.645	0.002	-0.806	0.003
-3.461	0.635	0.004	-0.887	0.001
-4.576	0.533	0.004	-0.756	0.004
-1.869	0.484	0.002	-0.683	0.004
-4.357	0.579	0.001	-0.874	0.000
-1.304	-0.032	0.434	-0.232	0.468
-4.883	0.877	0.000	-0.995	0.000
-4.162	0.472	0.012	-0.654	0.029
-5.191	0.486	0.007	-0.701	0.011
-5.969	0.741	0.000	-0.883	0.000
-5.709	0.953	0.000	-0.993	0.000
-3.042	0.789	0.000	-0.910	0.000
-5.336	0.873	0.000	-0.946	0.000
-1.664	0.207	0.077	-0.453	0.139
-6.292	0.823	0.000	-0.941	0.000
-1.113	-0.007	0.360	-0.337	0.283
-3.965	0.850	0.000	-0.868	0.000

### Platyrrhinus

Linear regression		Spearman's rank correlation		
slope	R <sup>2</sup>	p-value	ρ	p-value
-5.802	0.820	0.000	-0.869	0.001
-0.201	-0.096	0.851	-0.018	0.957
1.079	0.007	0.328	0.333	0.316
0.372	-0.065	0.714	0.101	0.721
-4.715	0.826	0.000	-0.889	0.000
-0.389	-0.053	0.627	-0.248	0.354

0.553	-0.061	0.623	0.119	0.684
-0.902	0.102	0.122	-0.466	0.069
-4.223	0.721	0.001	-0.870	0.001
-0.606	-0.034	0.455	-0.224	0.462
-2.562	0.175	0.111	-0.493	0.123
-5.393	0.710	0.000	-0.844	0.001
-1.390	0.210	0.042	-0.477	0.061
-0.042	-0.124	0.953	0.043	0.907
0.461	-0.018	0.400	0.081	0.775
0.963	0.026	0.274	0.191	0.533
-4.433	0.900	0.000	-0.968	0.000
-2.873	0.589	0.001	-0.729	0.005
1.994	0.391	0.023	0.712	0.014
-1.001	0.074	0.169	-0.341	0.213
2.039	0.464	0.009	0.685	0.014
-0.048	-0.100	0.966	0.028	0.931
-1.124	0.002	0.330	-0.223	0.425
-0.620	0.006	0.315	-0.488	0.055
-2.644	0.453	0.004	-0.648	0.009
0.136	-0.123	0.914	0.104	0.776
-5.056	0.565	0.003	-0.766	0.004
-2.499	0.505	0.004	-0.724	0.005
-2.672	0.512	0.001	-0.781	0.000
-2.331	0.430	0.005	-0.676	0.006
0.524	-0.097	0.661	0.201	0.578
-2.199	0.208	0.043	-0.419	0.106
-2.188	0.402	0.007	-0.680	0.005
0.534	-0.062	0.592	0.174	0.570
-0.518	-0.069	0.605	-0.134	0.679
-2.650	0.508	0.003	-0.737	0.003
-3.124	0.385	0.019	-0.668	0.018
-4.969	0.731	0.000	-0.840	0.000
-0.952	-0.026	0.429	-0.312	0.278
-4.756	0.435	0.023	-0.783	0.007
-4.116	0.711	0.000	-0.864	0.000
-6.507	0.903	0.000	-0.987	0.000
-2.707	0.635	0.000	-0.820	0.000
-1.553	0.303	0.037	-0.541	0.069
-2.872	0.378	0.026	-0.639	0.034
-1.958	0.083	0.188	-0.434	0.159
2.100	0.293	0.018	0.619	0.011
0.867	0.068	0.198	0.227	0.457
-0.448	-0.039	0.462	-0.239	0.454

-2.507	0.286	0.035	-0.564	0.045
-0.026	-0.083	0.971	0.157	0.592
-2.133	0.316	0.053	-0.602	0.066
-2.465	0.214	0.055	-0.423	0.132
-2.965	0.656	0.001	-0.882	0.000
0.474	0.035	0.234	0.439	0.089
-2.716	0.456	0.003	-0.766	0.001
3.399	0.601	0.003	0.799	0.003
0.399	-0.051	0.581	0.206	0.460
-2.024	0.124	0.170	-0.396	0.257
-4.058	0.813	0.000	-0.830	0.000
-2.084	0.295	0.021	-0.546	0.035
-3.877	0.712	0.001	-0.860	0.001
2.064	0.310	0.022	0.621	0.018
1.764	0.205	0.079	0.443	0.149
0.211	-0.097	0.868	-0.141	0.662
-0.699	-0.044	0.480	-0.130	0.687
-3.564	0.764	0.000	-0.840	0.001
0.466	-0.028	0.423	0.232	0.468
0.713	-0.049	0.503	0.323	0.305
-3.775	0.709	0.001	-0.892	0.000
-3.600	0.799	0.000	-0.886	0.000
0.034	-0.100	0.976	0.091	0.778
-1.207	0.120	0.159	-0.553	0.078
0.094	-0.124	0.940	0.018	0.960
-1.209	0.207	0.078	-0.337	0.283
-1.212	0.065	0.192	-0.338	0.237
0.506	-0.056	0.591	0.099	0.735
-4.921	0.943	0.000	-0.979	0.000
-0.537	-0.035	0.456	-0.262	0.386
-2.634	0.526	0.003	-0.790	0.001
-2.899	0.591	0.000	-0.754	0.001
1.202	0.070	0.195	0.428	0.144
-0.104	-0.097	0.883	-0.077	0.811
-4.487	0.839	0.000	-0.917	0.000
-0.543	-0.041	0.533	-0.207	0.442
1.199	0.258	0.031	0.537	0.039
-4.216	0.795	0.000	-0.910	0.000
-0.376	-0.048	0.584	-0.195	0.469
-1.578	0.116	0.149	-0.278	0.382
1.302	0.028	0.278	0.436	0.157
-4.500	0.620	0.000	-0.676	0.008
0.388	-0.041	0.530	0.084	0.756

2.362	0.144	0.099	0.480	0.083
0.313	-0.053	0.567	0.130	0.657
-2.539	0.632	0.001	-0.799	0.001
-3.801	0.729	0.000	-0.832	0.000
0.957	-0.048	0.464	0.267	0.455
-3.453	0.587	0.002	-0.791	0.002
-1.804	0.097	0.129	-0.385	0.141
-4.283	0.610	0.001	-0.832	0.000

### Sturnira

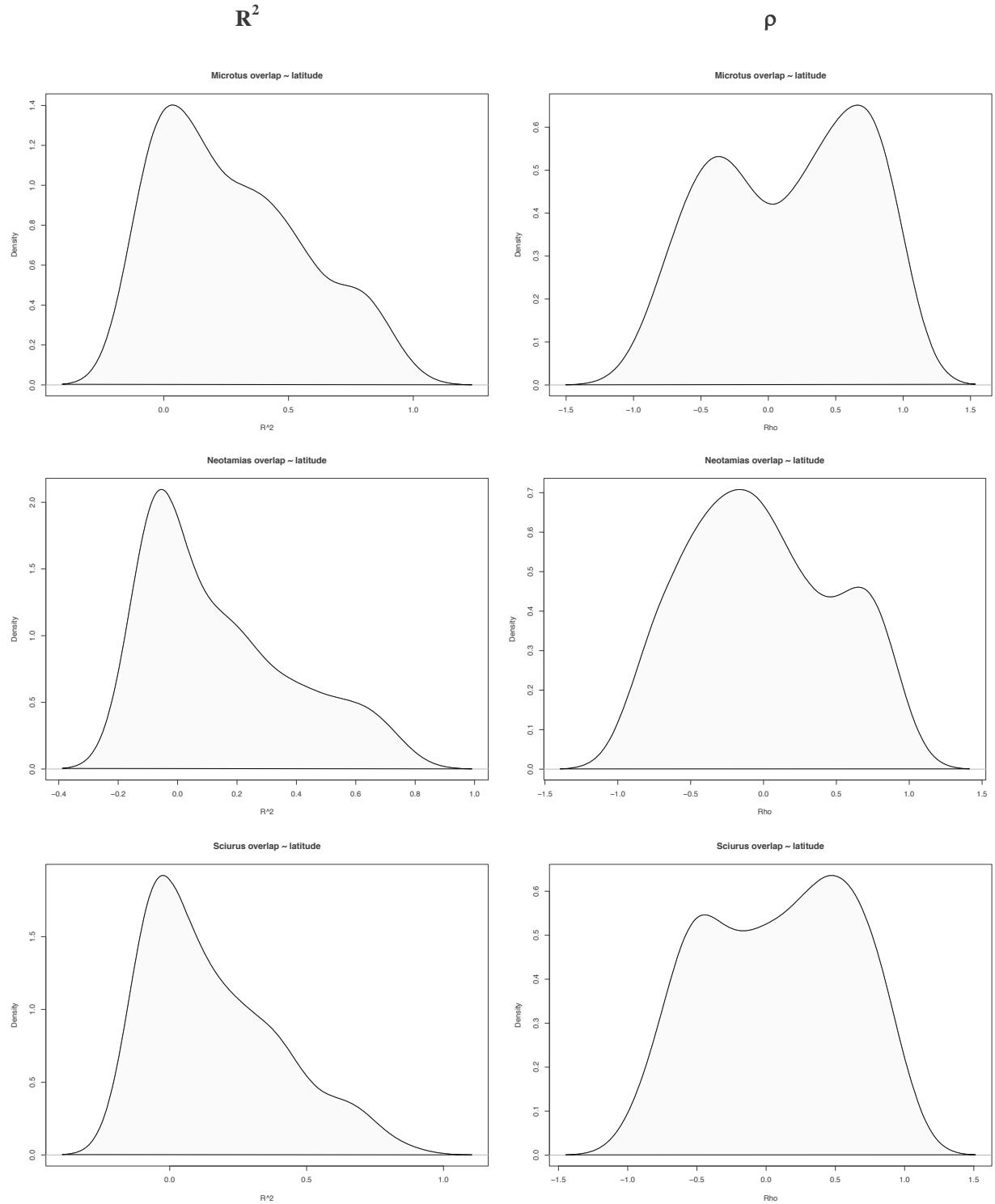
Linear regression		Spearman's rank correlation		
<b>slope</b>	<b>R<sup>2</sup></b>	<i>p</i> -value	<b>ρ</b>	<i>p</i> -value
2.280	0.341	0.027	0.661	0.019
-2.602	0.646	0.000	-0.754	0.001
-0.821	0.027	0.253	-0.226	0.400
-1.492	0.076	0.166	-0.366	0.179
0.710	-0.061	0.592	0.127	0.679
-0.522	0.023	0.264	-0.251	0.348
-0.534	-0.032	0.436	-0.267	0.401
-0.678	0.087	0.141	-0.424	0.101
-2.321	0.528	0.002	-0.785	0.001
4.180	0.615	0.002	0.714	0.009
-2.074	0.133	0.132	-0.479	0.115
-0.582	-0.049	0.543	0.024	0.934
-3.541	0.731	0.000	-0.773	0.005
-2.418	0.704	0.000	-0.763	0.004
-1.655	0.223	0.043	-0.539	0.038
-2.560	0.373	0.016	-0.464	0.110
1.027	-0.019	0.396	0.301	0.317
0.435	-0.055	0.583	0.223	0.443
-4.042	0.814	0.000	-0.861	0.000
-1.769	0.528	0.002	-0.804	0.001
-1.281	0.079	0.182	-0.249	0.413
3.134	0.314	0.022	0.513	0.061
-1.140	0.026	0.275	-0.359	0.228
-0.809	-0.004	0.350	-0.228	0.475
0.337	-0.035	0.494	0.143	0.596
-1.414	0.178	0.058	-0.404	0.121
3.021	0.557	0.008	0.748	0.013
0.471	-0.022	0.425	0.118	0.663
-2.775	0.739	0.000	-0.844	0.000

-0.697	0.008	0.326	-0.429	0.188
0.458	-0.093	0.711	0.324	0.331
-2.736	0.414	0.006	-0.606	0.017
-1.395	0.358	0.008	-0.674	0.004
-0.923	-0.046	0.489	-0.194	0.546
-2.061	0.490	0.002	-0.704	0.003
-1.192	0.036	0.254	-0.409	0.165
-3.204	0.318	0.021	-0.667	0.009
-1.375	0.284	0.024	-0.514	0.050
-1.475	0.081	0.159	-0.408	0.132
-4.269	0.845	0.000	-0.947	0.000
-1.880	0.327	0.019	-0.519	0.057
-1.120	0.102	0.123	-0.401	0.124
-0.984	0.026	0.262	-0.309	0.263
-2.165	0.528	0.002	-0.773	0.001
-2.296	0.348	0.016	-0.621	0.018
-1.830	0.302	0.024	-0.634	0.015
1.502	0.089	0.139	0.315	0.235
-0.620	-0.036	0.499	-0.201	0.455
-1.403	0.152	0.075	-0.541	0.030
2.231	0.211	0.042	0.593	0.016
0.654	-0.021	0.401	0.281	0.376
-2.533	0.330	0.012	-0.565	0.023
0.550	-0.050	0.525	0.229	0.451
-0.803	-0.051	0.556	-0.117	0.690
-1.942	0.416	0.014	-0.685	0.014
-1.927	0.225	0.042	-0.530	0.042
0.634	-0.039	0.474	0.436	0.136
1.054	-0.023	0.407	0.295	0.351
-3.092	0.386	0.006	-0.690	0.003
-3.062	0.782	0.000	-0.893	0.000
1.013	0.071	0.194	0.530	0.062
-0.584	0.013	0.291	-0.217	0.419
-0.393	-0.085	0.715	-0.165	0.608
-0.689	-0.011	0.376	-0.305	0.251
-0.341	-0.037	0.453	-0.144	0.655
-1.477	0.032	0.271	-0.239	0.454
-0.063	-0.090	0.946	0.033	0.914
-2.210	0.335	0.018	-0.569	0.034
-2.044	0.419	0.005	-0.649	0.009
-2.243	0.595	0.000	-0.767	0.001
0.444	-0.057	0.595	0.141	0.630
-0.653	-0.050	0.601	-0.284	0.287

-1.333	0.348	0.009	-0.655	0.006
0.463	-0.057	0.630	0.180	0.522
-0.803	-0.005	0.354	-0.366	0.243
-1.561	0.251	0.039	-0.577	0.031
-0.743	-0.037	0.467	-0.050	0.872
-1.377	0.110	0.113	-0.415	0.110
-0.643	-0.006	0.354	-0.271	0.328
1.663	0.086	0.184	0.444	0.149
-2.660	0.666	0.000	-0.838	0.000
0.417	-0.084	0.710	0.095	0.769
-1.403	0.049	0.250	-0.228	0.500
-0.940	0.021	0.269	-0.305	0.251
-0.376	-0.050	0.527	-0.199	0.515
-4.272	0.952	0.000	-0.978	0.000
-1.092	0.360	0.008	-0.661	0.005
-1.421	0.126	0.127	-0.619	0.024
1.228	-0.027	0.435	0.137	0.640
-1.656	0.299	0.020	-0.582	0.023
-2.726	0.604	0.000	-0.643	0.010
-1.111	0.146	0.089	-0.479	0.071
-2.313	0.395	0.005	-0.661	0.005
-0.642	0.051	0.201	-0.272	0.308
-0.911	0.516	0.005	-0.721	0.008
-1.090	0.189	0.053	-0.534	0.033
-1.079	0.186	0.054	-0.486	0.056
0.977	0.122	0.119	0.402	0.154
-2.314	0.577	0.002	-0.680	0.011
1.429	0.124	0.099	0.441	0.088

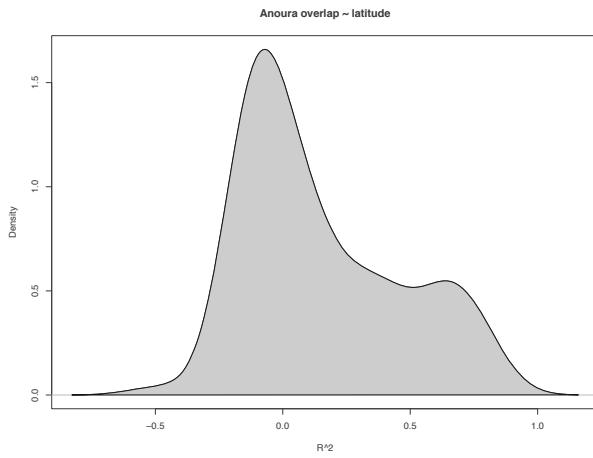
**Appendix S3** Density plots depicting the distribution of simulated coefficients for each studied genus

**RODENTIA**

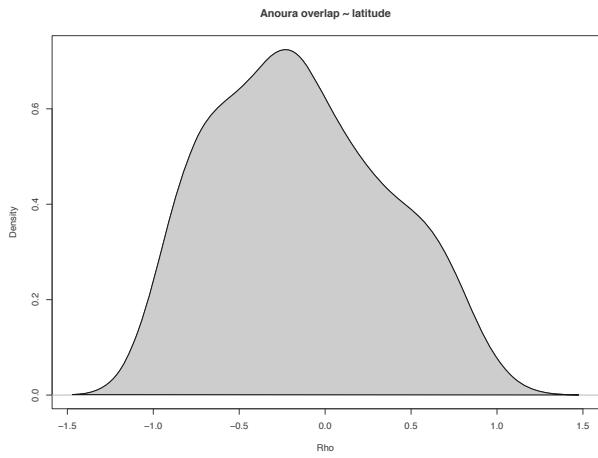


## PHYLLOSTOMIDAE

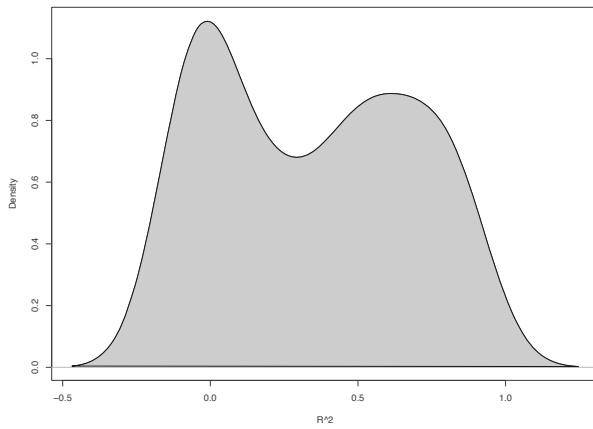
$R^2$



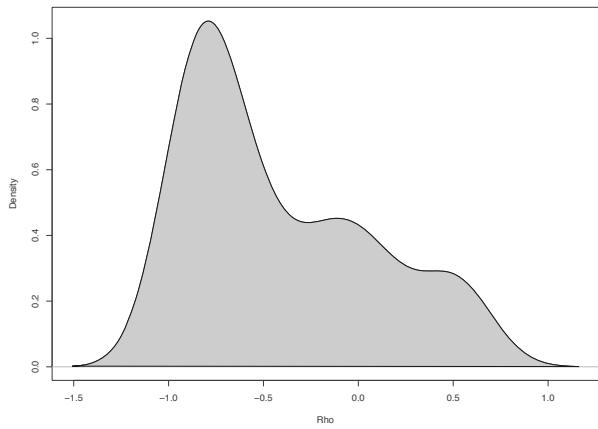
$\rho$



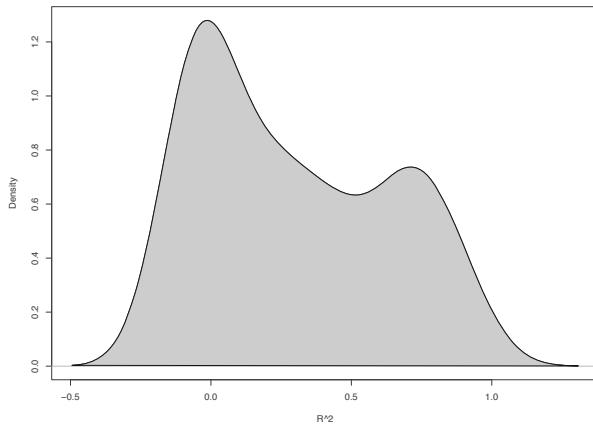
Artibeus overlap ~ latitude



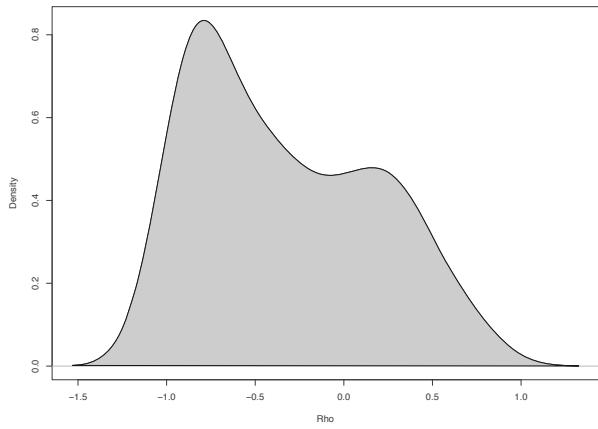
Artibeus overlap ~ latitude

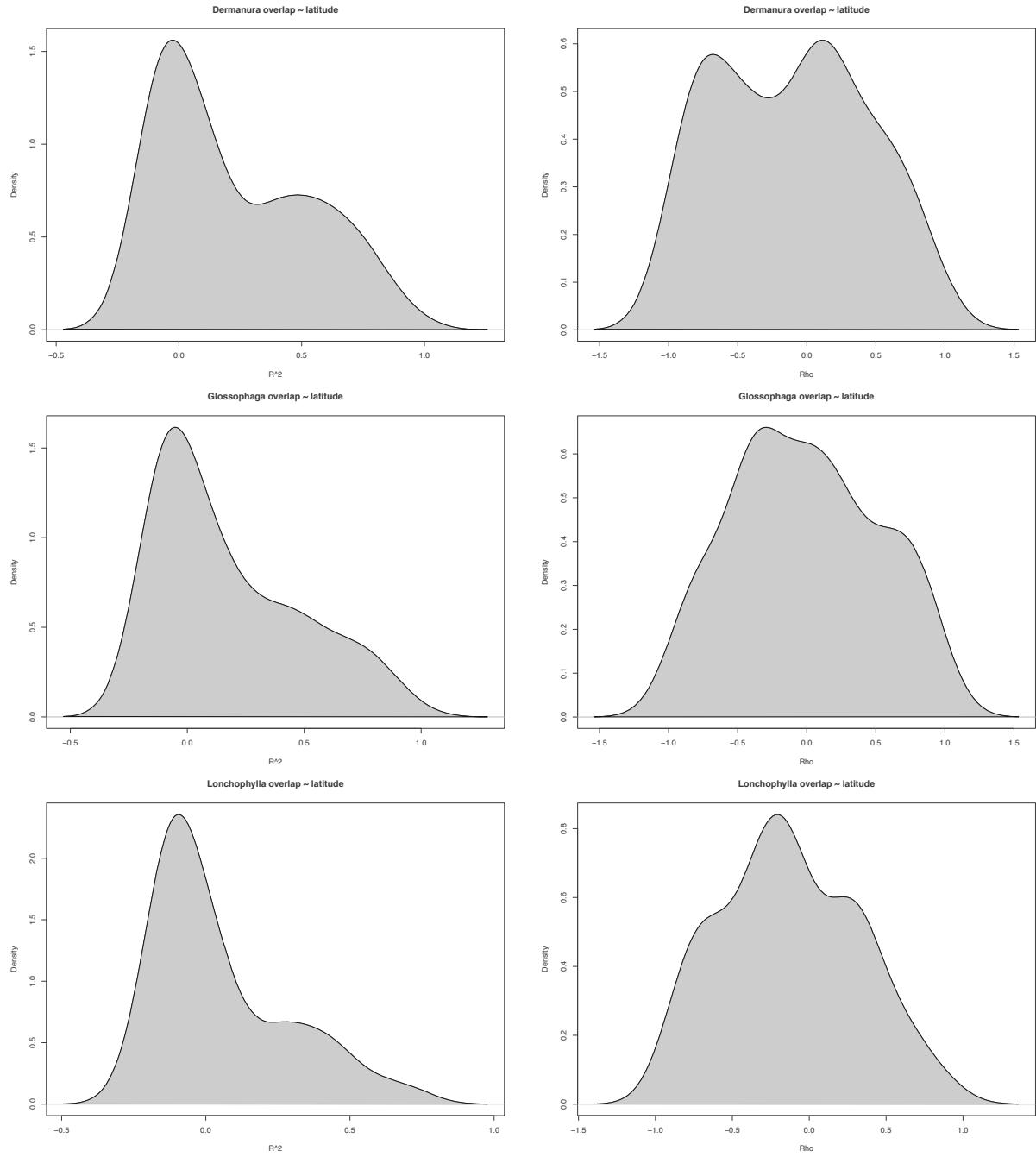


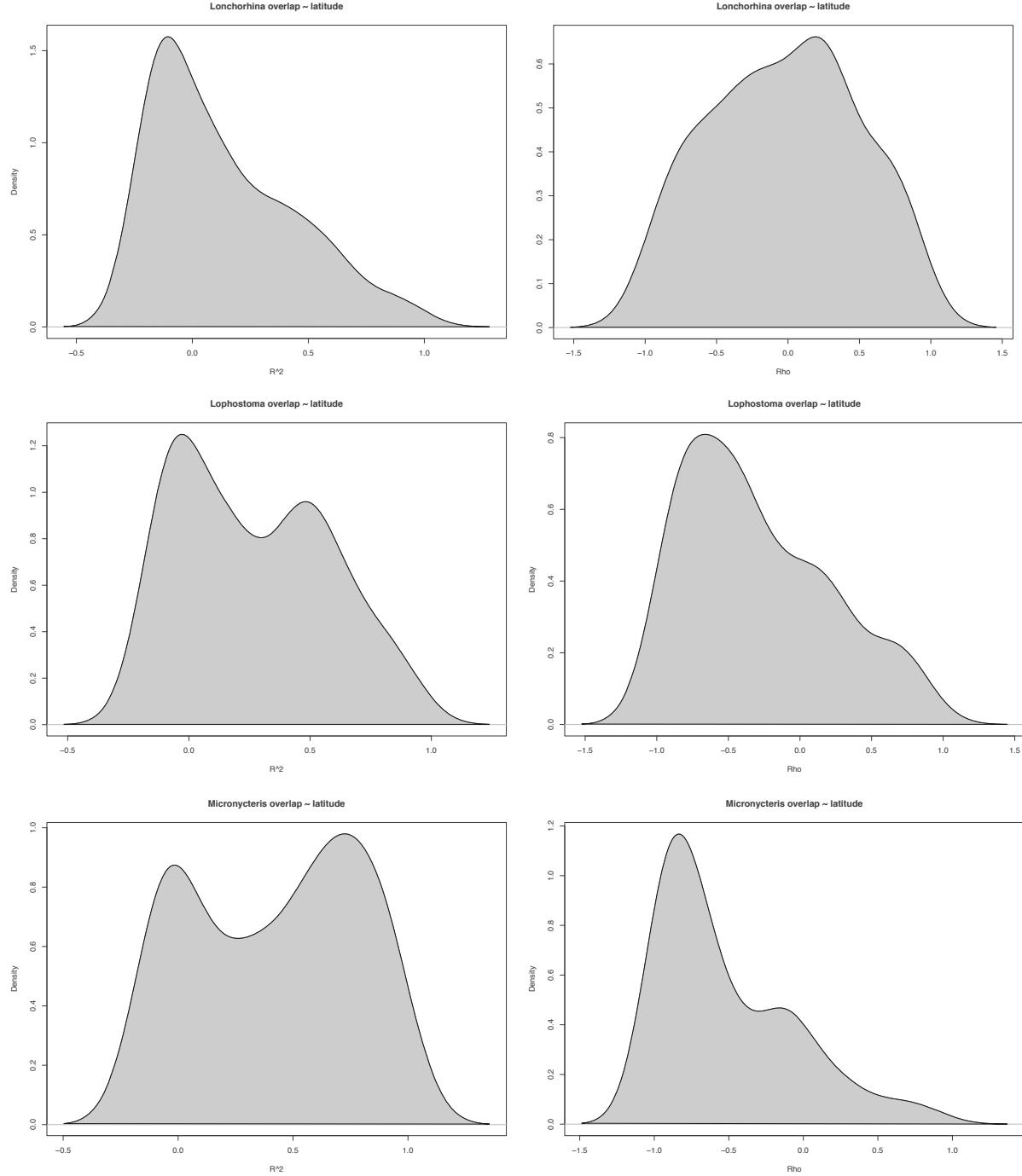
Carollia overlap ~ latitude

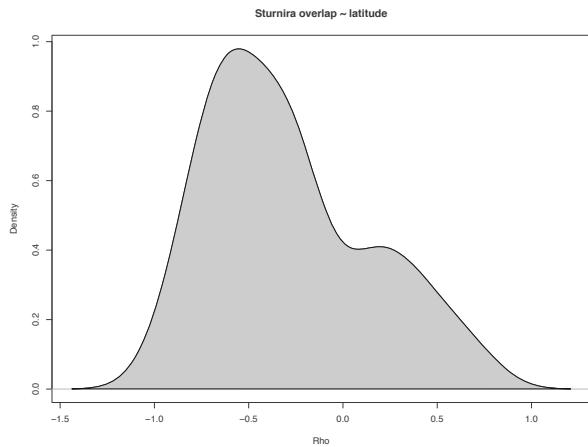
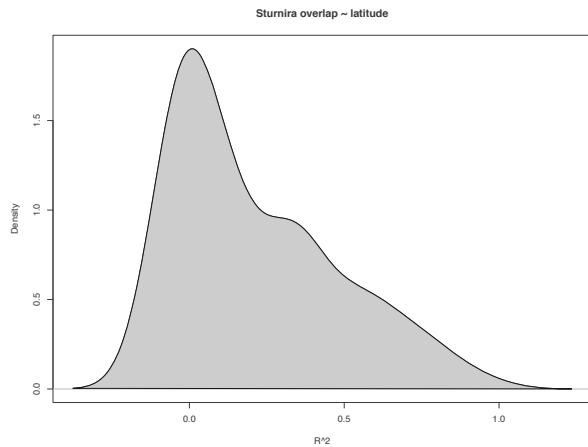
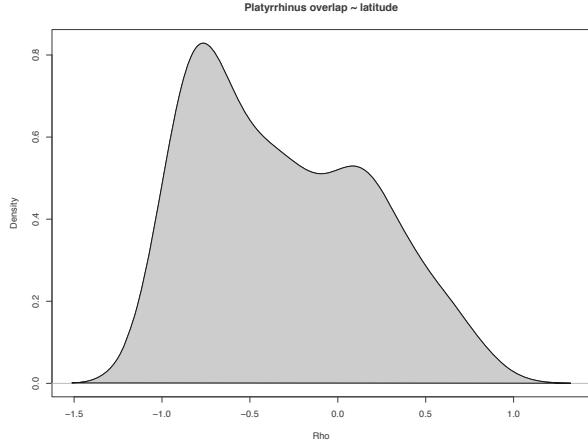
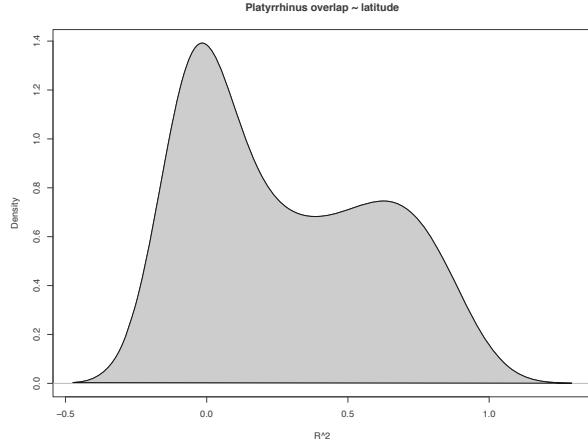


Carollia overlap ~ latitude



$\mathbf{R}^2$  $\rho$ 

$\mathbf{R}^2$  $\rho$ 

$\mathbf{R}^2$  $\rho$ 

**Appendix S4** Latitudinal extent of rodent species and its proportional value relative to the total extent of their genera

### **Microtus**

<i>Species</i>	<i>Latitudinal extent</i>	<i>Proportional extent</i>
<i>Microtus guatemalensis</i>	2.594	0.046
<i>Microtus oaxacensis</i>	0.420	0.007
<i>Microtus quasiater</i>	3.573	0.063
<i>Microtus umbrosus</i>	0.774	0.014
<i>Microtus montanus</i>	19.858	0.349
<i>Microtus californicus</i>	14.328	0.252
<i>Microtus oeconomus</i>	16.543	0.291
<i>Microtus pennsylvanicus</i>	41.312	0.726
<i>Microtus chrotorrhinus</i>	18.836	0.331
<i>Microtus longicaudus</i>	35.928	0.631
<i>Microtus miurus</i>	12.491	0.219
<i>Microtus oregoni</i>	10.207	0.179
<i>Microtus ochrogaster</i>	26.919	0.473
<i>Microtus pinetorum</i>	16.718	0.294
<i>Microtus richardsoni</i>	16.067	0.282
<i>Microtus townsendii</i>	8.976	0.158
<i>Microtus mexicanus</i>	21.513	0.378
<i>Microtus canicaudus</i>	1.812	0.032
<i>Microtus xanthognathus</i>	18.241	0.320

### **Neotamias**

<i>Species</i>	<i>Latitudinal extent</i>	<i>Proportional extent</i>
<i>Neotamias durangae</i>	3.195	0.072
<i>Neotamias quadrimaculatus</i>	2.921	0.066
<i>Neotamias ochrogenys</i>	2.464	0.056
<i>Neotamias siskiyou</i>	3.114	0.070
<i>Neotamias alpinus</i>	1.962	0.044
<i>Neotamias canipes</i>	3.052	0.069
<i>Neotamias umbrinus</i>	9.339	0.211
<i>Neotamias quadrivittatus</i>	5.833	0.132
<i>Neotamias rufus</i>	4.650	0.105
<i>Neotamias amoenus</i>	18.670	0.422
<i>Neotamias sonomae</i>	4.072	0.092

<i>Neotamias speciosus</i>	6.951	0.157
<i>Neotamias minimus</i>	31.799	0.719
<i>Neotamias townsendii</i>	6.912	0.156
<i>Neotamias dorsalis</i>	17.314	0.391
<i>Neotamias bulleri</i>	1.567	0.035
<i>Neotamias palmeri</i>	0.194	0.004
<i>Neotamias senex</i>	7.619	0.172
<i>Neotamias cinereicollis</i>	3.151	0.071
<i>Neotamias obscurus</i>	6.923	0.156
<i>Neotamias ruficaudus</i>	5.567	0.126
<i>Neotamias merriami</i>	6.266	0.142
<i>Neotamias panamintinus</i>	4.209	0.095

## Sciurus

<i>Species</i>	<i>Latitudinal extent</i>	<i>Proportional extent</i>
<i>Sciurus carolinensis</i>	28.295	0.623
<i>Sciurus aberti</i>	18.188	0.401
<i>Sciurus richmondi</i>	1.357	0.030
<i>Sciurus aureogaster</i>	11.551	0.254
<i>Sciurus arizonensis</i>	4.102	0.090
<i>Sciurus flammifer</i>	0.272	0.006
<i>Sciurus pucheranii</i>	0.490	0.011
<i>Sciurus oculatus</i>	4.239	0.093
<i>Sciurus igniventris</i>	2.909	0.064
<i>Sciurus deppei</i>	13.988	0.308
<i>Sciurus granatensis</i>	3.694	0.081
<i>Sciurus griseus</i>	16.755	0.369
<i>Sciurus nayaritensis</i>	12.806	0.282
<i>Sciurus niger</i>	26.838	0.591
<i>Sciurus yucatanensis</i>	5.878	0.129
<i>Sciurus allenii</i>	4.178	0.092
<i>Sciurus variegatoides</i>	8.022	0.177
<i>Sciurus colliae</i>	9.936	0.219