

López-González, C., Presley, S. J., Lozano, A., Stevens, R. D. and Higgins, C. L. 2014. Ecological biogeography of Mexican bats: the relative contributions of habitat heterogeneity, beta diversity, and environmental gradients to species richness and composition patterns. – Ecography doi: 10.1111/ecog.00813

Supplementary material

Supplementary material

Appendix 1 - Climate categories and abbreviations used in canonical correlation analysis. Classification follows that of Köppen modified by García (1981) as included in CONABIO (1998). Abbreviations follow category names.

- 1 Humid, semi-warm - (A)C(fm). Mean annual temperature greater than 18°C, temperature of coldest month below 18°C, temperature of warmest month greater than 22°C. Rainfall throughout the year, precipitation of driest month greater than 40 mm, percent of winter rain less than 18% of annual precipitation.
- 2 Humid, semi-warm - (A)C(m). Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month less than 40 mm; percent of winter rain 5 to 10.2% of annual total.
- 3 Humid, semi-warm - (A)C(m)(f). Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month greater than 40 mm, percent of winter rain greater than 10.2% of annual total.
- 4 Sub-humid, semi-warm - (A)C(w₁). Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month less than 40 mm, precipitation/temperature (P/T) index 43.2 to 55, percent of winter rain 5% to 10.2% annual total.
- 5 Sub-humid, semi-warm - (A)C(w₂). Mean annual temperature greater than 18°C,

- temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month less than 40 mm, P/T index greater than 55, percent of winter rain 5% to 10.2% of annual total.
- 6 Sub-humid, semi-warm - (A)C(w₀). Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month less than 40 mm, P/T index less than 43.2, percent of winter rain 5% to 10.2% of annual total.
 - 7 Sub-humid, semi-warm - (A)C(w₀)x'. Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, rainfall of driest month less than 40 mm, percent of winter rain greater than 10.2 % of annual total.
 - 8 Humid, warm - A(f). Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Rainfall throughout the year, rainfall of driest month greater than 40 mm, percent of winter rain greater than 18% of annual total.
 - 9 Humid, warm - Am. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm, percent of winter rain 5% to 10.2% of annual total.
 - 10 Humid, warm - Am(f). Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm, percent of winter rain greater than 10.2% of annual total.
 - 11 Humid, warm – A(w₁). Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm; P/T index 43.2 to 55.3. Percent of winter rain 5% to 10.2% of annual total.

- 12 Sub-humid, warm – $A(w_1)(x')$. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm; percent of winter rain greater than 10.2% of annual total.
- 13 Sub-humid, warm – $A(w_2)$. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm, P/T index greater than 55.3, percent of winter rain 5% to 10.2% of annual total.
- 14 Sub-humid, warm – $A(w_o)$. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, rainfall of driest month less than 60 mm, P/T index less than 43.2, percent of winter rain 5% to 10.2% of annual total.
- 15 Semi-arid, warm - $BS_1(h')(x')$. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Rains throughout the year, percent of winter rain greater than 18% of annual total.
- 16 Semi-arid, warm - $BS_1(h')w$. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
- 17 Semi-arid, semi-warm - $BS_1h(x')$. Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Rains throughout the year, percent of winter rain greater than 18% of annual total.
- 18 Semi-arid, semi-warm - BS_1hw . Mean annual temperature greater than 18°C, temperature of coldest month less than 18°C, temperature of warmest month greater

- than 22°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
- 19 Semi-arid, temperate - BS₁k(x'). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, percent of winter rain greater than 18% of annual total.
 - 20 Semi-arid, temperate - BS₁kw. Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
 - 21 Arid, warm – BS₀(h')w. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
 - 22 Arid, semi-warm – BS₀hw. Mean annual temperature 18°C to 22°C, temperature of coldest month less than 18°C, temperature of warmest month greater than 22°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
 - 23 Arid, temperate – BS₀k(x'). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Rains throughout the year, percent of winter rain greater than 18% of annual total.
 - 24 Very arid, warm - BW(h')w. Mean annual temperature greater than 22°C, temperature of coldest month greater than 18°C. Summer rains, percent of winter rain 5% to 10.2% of annual total.
 - 25 Very arid, semi-warm - BW_hs. Mean annual temperature greater than 18°C, temperature of coldest month below 18°C, temperature of warmest month greater than 22°C. Winter rains, winter precipitation greater than 36% of annual total.
 - 26 Very arid, semi-warm - BW_hw. Mean annual temperature greater than 18°C,

temperature of coldest month below 18°C, temperature of warmest month greater than 22°C. Winter rains, winter precipitation 5% to 10.2% of annual total.

- 27 Humid, temperate - C(f). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Rains throughout the year, rainfall of driest month greater than 40 mm, percent of winter rain greater than 18% of annual total.
- 28 Humid, temperate - C(m). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, rainfall of driest month less than 40 mm, percent of winter rain 5% to 10.2% of annual total.
- 29 Humid, temperate - C(m)(f). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Rainfall of driest month less than 40 mm. Summer rains, percent of winter rain greater than 10.2% of annual total.
- 30 Sub-humid, temperate - C(w₁). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, rainfall of driest month less than 40 mm, P/T index 43.2 to 55.3, percent of winter rain 5% to 10.2% of annual total.
- 31 Sub-humid, temperate - C(w₁)(x'). Mean annual temperature 12°C to 18°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, rainfall of driest month less than 40 mm, percent winter rain greater than 10.2% of annual total.
- 32 Sub-humid, temperate - C(w₂). Mean annual temperature 12°C to 18°C, temperature

- of coldest month -3°C to 18°C , temperature of warmest month less than 22°C .
 Summer rains, rainfall of driest month less than 40 mm, P/T greater than 55.3,
 percent of winter rain 5% to 10.2% of annual total.
- 33 Sub-humid, temperate - $C(w_2)(x')$. Mean annual temperature 12°C to 18°C ,
 temperature of coldest month -3°C to 18°C , temperature of warmest month less than
 22°C . Summer rains, rainfall of driest month less than 40 mm, P/T greater than
 55.3, percent of winter rain greater than 10.2% of annual total.
- 34 Sub-humid, temperate - $C(w_0)$. Mean annual temperature 12°C to 18°C , temperature
 of coldest month -3°C to 18°C , temperature of warmest month less than 22°C .
 Summer rains, P/T index less than 43.2, rainfall of driest month less than 40 mm,
 percent of winter rain 5% to 10.2% of annual total.
- 35 Humid, semi-cold - $Cb'(m)$. Mean annual temperature 5°C to 12°C , temperature of
 coldest month -3°C to 18°C , temperature of warmest month less than 22°C , rainfall
 of driest month less than 40 mm, percent of winter rain 5% to 10.2% of annual
 total.
- 36 Sub-humid, semi-cold - $Cb'(w_1)$. Mean annual temperature 5°C to 12°C ,
 temperature of coldest month -3°C to 18°C , temperature of warmest month less than
 22°C . Summer rains, P/T index 43.2 to 55.3, rainfall of the driest month less than
 40 mm; percent of winter rain 5 to 10.2% of the annual total.
- 37 Sub-humid, semi-cold - $Cb'(w_2)$. Mean annual temperature 5°C to 12°C ,
 temperature of coldest month -3°C to 18°C , temperature of warmest month less than
 22°C . Summer rains, P/T index greater than 55.3, rainfall of driest month less than
 40 mm, percent of winter rain 5 to 10.2% of annual total.

- 38 Sub-humid, semi-cold - Cb'(w₂)x'. Mean annual temperature 5°C to 12°C, temperature of coldest month -3°C to 18°C, temperature of warmest month less than 22°C. Summer rains, P/T index greater than 55.3, rainfall of driest month less than 40 mm; percent of winter rain greater than 10.2% of annual total.

References

- CONABIO 1998. Climas (clasificación de Köppen, modificada por García). Scale 1:1,000,000. --- Comisión nacional para el conocimiento y uso de la biodiversidad, México.
- García, E. 1981. Modificaciones al sistema de clasificación climática de Köppen. 3rd ed. --- Instituto de Geografía, Universidad Nacional Autónoma de México.