**SUPPLEMENTARY DATA**

**How effective are conservation areas to preserve biodiversity in Mexico?**

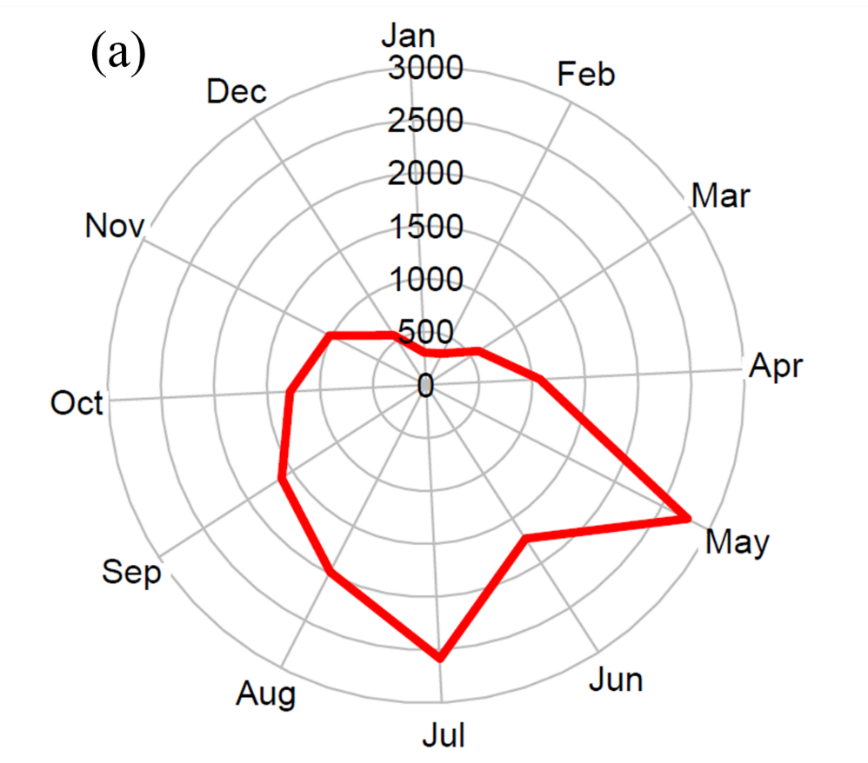
Armando Falcón-Brindisa, Jorge L. León-Cortésa\*, Marytania Montañez-Reynaa

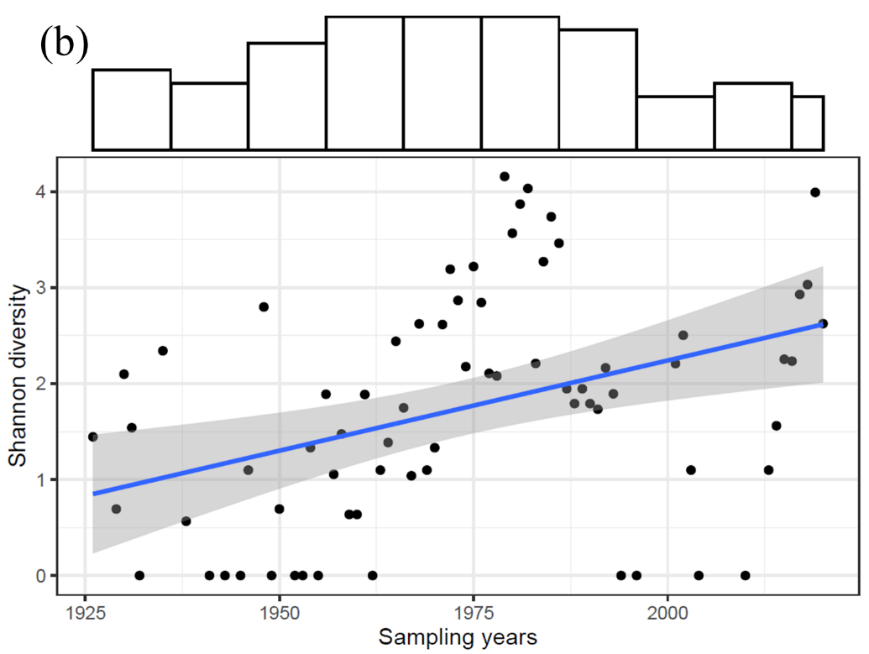
aDepartamento de Conservación de la Biodiversidad, El Colegio de la Frontera Sur. Carretera Panamericana & Periférico Sur S/N, 29290. San Cristóbal de las Casas, Chiapas, Mexico.

Armando Falcón-Brindis: armandofalcon123@gmail.com

Jorge L. León-Cortés: jleon@ecosur.mx (Corresponding author)

Marytania Montañez-Reyna: tania59@live.com.mx



****

**Fig 1.** Erebidae sampling through time in Mexico. (a) Historical temporal (months) collecting efforts; (b) changes in species diversity across sampling years in Chiapas.



**Fig 2.** Number of endemic species of Erebidae per state.

Table 1. Proportion of Erebidae species and records across climatic classification from Chiapas. Codes follow the modifications of Köppen´s climatic classification (García 2004).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Climate | Sub-type code | Area km2 | Records | % records | Species | % species |
| Semi-warm | (A)C(fm) | 0.07 | 0 | 0.0 | 0 | 0.0 |
|  | (A)C(m) | 70.71 | 552 | 19.6 | 103 | 23.2 |
|  | (A)C(m)(f) | 78.26 | 170 | 6.0 | 95 | 21.4 |
|  | (A)C(w1) | 12.49 | 193 | 6.9 | 45 | 10.1 |
|  | (A)C(w2) | 4.91 | 47 | 1.7 | 35 | 7.9 |
|  | **TOTAL** | **166.45** | **962** | **34.2** | **278** | **62.6** |
| Tropical | A(f) | 133.49 | 103 | 3.7 | 58 | 13.1 |
|  | Am | 473.8 | 496 | 17.6 | 185 | 41.7 |
|  | Am(f) | 16.98 | 45 | 1.6 | 32 | 7.2 |
|  | Aw1 | 13.35 | 22 | 0.8 | 18 | 4.1 |
|  | Aw2 | 24.98 | 70 | 2.5 | 46 | 10.4 |
|  | Aw2(x') | 0.06 | 2 | 0.1 | 2 | 0.5 |
|  | Awo | 34.44 | 113 | 4.0 | 59 | 13.3 |
|  | **TOTAL** | **697.13** | **815** | **30.2** | **400** | **90.1** |
| Dry | BS1(h')w | 0.01 | 0 | 0.0 | 0 | 0.0 |
| Temperate | C(f) | 0.007 | 0 | 0.0 | 0 | 0.0 |
|  | C(m) | 8.44 | 656 | 23.3 | 64 | 14.4 |
|  | C(m)(f) | 0.94 | 20 | 0.7 | 17 | 3.8 |
|  | C(w1) | 1.07 | 13 | 0.5 | 3 | 0.7 |
|  | C(w2) | 48.4 | 317 | 11.3 | 102 | 23.0 |
|  | Cb'(m)(f) | 0.001 | 0 | 0.0 | 0 | 0.0 |
|  | Cb'(w2) | 0.004 | 3 | 0.1 | 3 | 0.7 |
|  | **TOTAL** | **58.89** | **1009** | **35.8** | **189** | **42.6** |

Table 2. Proportion of Erebidae species and records across conservation polygons in Chiapas.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Conservation category | Name/class | Area (km2) | Records | % records | Species | % species |
| PNA | Bonampak | 43.5 | 35 | 1.2 | 23 | 5.2 |
|  | Cañón del sumidero | 217.8 | 28 | 1.0 | 11 | 2.5 |
|  | Cañón del Usumacinta | 461.2 | 0 | 0.0 | 0 | 0.0 |
|  | Cascada de Agua Azul | 25.8 | 1 | 0.0 | 1 | 0.2 |
|  | Chan-Kin | 121.8 | 0 | 0.0 | 0 | 0.0 |
|  | El Triunfo | 1191.7 | 1101 | 39.1 | 108 | 24.3 |
|  | La Encrucijada | 1448.6 | 0 | 0.0 | 0 | 0.0 |
|  | La Sepultura | 1673.1 | 5 | 0.2 | 4 | 0.9 |
|  | Lacan-Tun | 618.7 | 0 | 0.0 | 0 | 0.0 |
|  | Lagunas de Montebello | 64.25 | 58 | 2.1 | 44 | 9.9 |
|  | Metzabok | 0.33 | 0 | 0.0 | 0 | 0.0 |
|  | Montes Azules | 33.1 | 2 | 0.1 | 2 | 0.5 |
|  | Nahá | 38.4 | 7 | 0.2 | 3 | 0.7 |
|  | Palenque | 17.7 | 17 | 0.6 | 15 | 3.4 |
|  | Playa de Puerto Arista | 2.1 | 0 | 0.0 | 0 | 0.0 |
|  | Selva El Ocote | 1012.8 | 38 | 1.3 | 25 | 5.6 |
|  | Volcán Tacaná | 63.7 | 2 | 0.1 | 2 | 0.5 |
|  | Yaxchilán | 26.2 | 0 | 0.0 | 0 | 0.0 |
|  | Z.P.F. | 1775.4 | 5 | 0.2 | 4 | 0.9 |
|  |  | **TOTAL** | **1298** | **46.1** | **187** | **42.1** |
| TPR | Bosques mesófilos de Chiapas1 | 2222.0 | 11 | 0.4 | 11 | 2.5 |
|  | El Manzanillal | 606.0 | 0 | 0.0 | 0 | 0.0 |
|  | El Momón-Montebello | 2446.0 | 188 | 6.7 | 99 | 22.3 |
|  | El Mozotal | 311.0 | 23 | 0.8 | 16 | 3.6 |
|  | El Triunfo-La Encrucijada-Palo Blanco | 5786.0 | 1153 | 40.9 | 123 | 27.7 |
|  | Huitepec-Tzontehuitz | 252.0 | 2 | 0.1 | 2 | 0.5 |
|  | La Chacona-Cañón del Sumidero | 589.0 | 19 | 0.7 | 9 | 2.0 |
|  | Lacandona2 | 12988.0 | 460 | 16.3 | 171 | 38.5 |
|  | Lagunas de Catazajá-Emiliano Zapata | 1197.0 | 0 | 0.0 | 0 | 0.0 |
|  | Selva espinosa Alto Grijalva-Motozintla | 177.0 | 0 | 0.0 | 0 | 0.0 |
|  | Selva Zoque-La Sepultura | 11319.0 | 9 | 0.3 | 7 | 1.6 |
|  | Tacaná-Boquerón | 574.0 | 41 | 1.5 | 13 | 2.9 |
|  |  | **TOTAL** | **1906** | **67.7** | **317** | **71.4** |

1High diversity of Lepidoptera and relictual populations. 2Harbors the richest butterfly diversity across the country.

Table 2. Continued.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Conservation category | Name/Class | Area (km2) | Records | % records | Species | % species |
| TPS | Medium | 13005 | 322 | 11.4 | 129 | 29.1 |
|  | High | 19635 | 608 | 21.6 | 129 | 29.1 |
|  | Extreme | 5355 | 1346 | 47.8 | 259 | 58.3 |
|  |  | **TOTAL** | **2168** | **76.9** | **374** | **84.2** |
| PRS | Medium | 1773 | 22 | 0.8 | 20 | 4.5 |
|  | High | 7676 | 38 | 1.3 | 29 | 6.5 |
|  | Extreme | 7310 | 637 | 22.6 | 137 | 30.9 |
|  |  | **TOTAL** | **697** | **24.7** | **165** | **37.2** |
|  |  |  |  |  |  |  |