**Data and metadata for the manuscript:**

IN A NEOTROPICAL PERIURBAN PARK, FRUIT SELECTION BY BIRDS SEEMS TO BE A RANDOM PROCESS

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The data for this project is contained in eight spreadsheets:

|  |  |
| --- | --- |
| File name (in alphabetic order) | Content |
| fruit\_spectrophotometer.xlsx | Fruit spectrophotometer data |
| leaf\_spectrophotometer.xlsx | Leaf spectrophotometer data |
| bird\_abundance.xlsx | Bird abundance data |
| bird\_bill\_width.xlsx | Bird bill data |
| bird\_mass.xlsx | Bird mass data |
| fruit\_abundance.xlsx | Fruit abundance data |
| fruit\_diameter.xlsx | Fruit diameter data |
| fruit\_nutritional\_content.xlsx | Fruit nutritional content data |

**fruit\_spectrophotometer.xlsx**

Fruit spectrophotometer data

This file is composed of 55 sheets (5 records per species). Sheets’ tabs are labeled by species, e.g., Cestru01=*Cestrum* sp. record #1, Cestru02=*Cestrum* sp. record #2, etc. We determined the reflectance of each plant species by collecting spectrophotometry values of five different fruits and five different leaves per plant species. We used an Ocean Optics USB2000 spectrophotometer with the SpectraSuite software (Ocean Optics Inc., Largo, Florida, USA), and calculated both values using the R package Pavo (Maia et al. 2013). With the exception of one non-passerine species, we used the visual model of the European starling (*Sturnus vulgaris*). For the single galliform species of this study, the plain chachalaca (*Ortalis vetula*), we used the reference values of the Indian peafowl (*Pavo cristatus*). All the chromatic and achromatic values are represented in Just Noticeable Difference (JND) units.

Plant species codes:

|  |  |
| --- | --- |
| *Phoenix canariensis* | Phocan |
| *Myrsine coriacea* | Myrcor |
| *Witheringia stramoniifolia* | Witstr |
| *Conostegia xalapensis* | Conxal |
| *Phoradendron* sp. | Phorad |
| *Solanum umbellatum* | Solumb |
| *Rubus adenotrichus* | Rubade |
| *Ficus benjamina* | Ficben |
| *Syzygium samarangense* | Syzsam |
| *Citharexylum mocinnoi* | Citmoc |
| *Cestrum* sp*.* | Cestru |

Spreadsheet column labels:

|  |  |  |
| --- | --- | --- |
| Column label | Units | Notes |
| A Chromatic value | JND | See notes above for the calculation of both values |
| B Achromatic value  | JND | See notes above for the calculation of both values |

**leaf\_spectrophotometer.xlsx**

Leaf spectrophotometer data

This file is organized like the previous one: it is composed of 55 sheets (5 records per species). Sheets’ tabs are labeled by species, e.g., Cestru01=*Cestrum* sp. record #1, Cestru02=*Cestrum* sp. record #2, etc. We determined the reflectance of each plant species by collecting spectrophotometry values of five different fruits and five different leaves per plant species. We used an Ocean Optics USB2000 spectrophotometer with the SpectraSuite software (Ocean Optics Inc., Largo, Florida, USA), and calculated both values using the R package Pavo (Maia et al. 2013). With the exception of one non-passerine species, we used the visual model of the European starling (*Sturnus vulgaris*). For the single galliform species of this study, the plain chachalaca (*Ortalis vetula*), we used the reference values of the Indian peafowl (*Pavo cristatus*). All the chromatic and achromatic values are represented in Just Noticeable Difference (JND) units.

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Maia R., C. M. Eliason, P. P. Bitton, S. M. Doucet and M. D. Shawkey 2013. Pavo: An R Package for the analysis, visualization and organization of spectral data. Methods in Ecology and Evolution 4: 609–613.

**bird\_abundance.xlsx**

Bird abundance data

We obtained presence-absence and abundance data from two different 800-m long by 40-m wide transects (total area=3.2 ha) as part of a long-term study at the UV-CCAD (ERI, unpublished data). Although transects are much longer than the sampling plots of this frugivory study, they cover two out of the three plots of this study and we consider them an appropriate measure of bird presence and abundance. We surveyed these transects biweekly during the same months of our frugivory study and recorded bird species present as well as the number of individuals per species. Transect surveys were done approximately from 7:00–9:00 h.

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Date | YYYY-MM-DD | Complete date of transect survey |
| Species | NA | Scientific name of bird species |
| Number individuals | NA | Number of individuals recorded along a transect (total area of transect=3.2 ha) |

**bird\_bill\_width.xlsx**

Bird bill width data

Bird gape opening is a key bird feature that may allow or forbid fruit selection. We collected field measurements of gape width (with a caliper, at the bill’s commissure) from wild birds by capturing them with mist nets. We placed arrays of 10 12×2.5 m nets (30 mm mesh opening) in each sampling plot. The mist netting effort per season was the same (ca. 105 mist net hours) per sampling season, for a total of 210 mist net hours. We used mean gape measurements from either five males or five females (when sex could be determined based on external characters), or simply from 10 individuals trapped for species with similar sexes. In cases where we could not obtain the desired number of measurements, we supplemented those with specimen data from the bird collection of the Museo de Zoología at the Facultad de Ciencias of the Universidad Nacional Autónoma de México.

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Family | NA | Taxonomic family |
| Species | NA | Scientific name of species |
| Bill width | mm | Width of the bill as described above |

**bird\_mass.xlsx**

Bird body mass data

Same as with the previous measurement, dody size is key bird feature that may allow or forbid fruit selection. We collected field measurements of body mass (with an electronic scale) from wild birds by capturing them with mist nets. We placed arrays of 10 12×2.5 m nets (30 mm mesh opening) in each sampling plot. The mist netting effort per season was the same (ca. 105 mist net hours) per sampling season, for a total of 210 mist net hours. We used mean mass measurements from either five males or five females (when sex could be determined based on external characters), or simply from 10 individuals trapped for species with similar sexes. In cases where we could not obtain the desired number of measurements, we supplemented those mass data from published literature (Dunning 2007).

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Family | NA | Taxonomic family |
| Species | NA | Scientific name of species |
| Bill width | mm | Bird mass as described above |

Dunning J. B. 2007. CRC Handbook of avian body masses. 2nd edition. CRC Press, Boca Raton, FL.

**fruit\_abundance.xlsx**

Fruit abundance data

In order to estimate total fruit abundance per plot, we surveyed the sampling sites to estimate the approximate number of fruits per plant per species. These estimations consisted of direct counts of fruits per branch, or in racemes of different sizes, that were later extrapolated to the total number of plants per species found on each plot.

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Species | NA | Plant scientific name  |
| Availability | MA=very high abundanceAA=high abundanceMA=medium abundanceSA=low abundance | Qualitative assessment of abundance |
| Number of fruits | NA | Fruit counts per species per transect |

**fruit\_diameter.xlsx**

Fruit diameter data

For each species, we collected 15 ripe fruits, obtained its mean weight, equatorial diameter (in some particular cases, we used the minimum diameter because of the way those fruits are ingested by birds, e.g., the oval fruits of *Phoenix canariensis*). We only analyzed fruit diameter rather than weight as a proxy for size.

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Family | NA | Taxonomic family |
| Species | NA | Plant scientific name |
| Diameter | mm | Equatorial diameter |

**fruit\_nutritional\_content.xlsx**

Fruit nutritional content data

We estimated the nutritional content of all plant species recorded in this frugivory network by collecting approximately 100 g of ripe, undamaged fruits following the AOAC (1984) protocol. We dried fruits in a stove at 60°C for 3 d to get them ready for analysis. We determined the quantity of lipids using a Soxhlet extractor using petroleum ether as a solvent following the method of the AOAC. To estimate the quantity of carbohydrates, we used the formula to determine nitrogen-free extracts of the AOAC (1984).

Spreadsheet column labels

|  |  |  |
| --- | --- | --- |
| Column label | Unit/format | Notes |
| Family  | NA | Taxonomic family |
| Species | NA | Plant scientific name |
| Carbohidrates | % | % of nutrient in dry fruit |
| Lipids | % | % of nutrient in dry fruit |
| Protein | % | % of nutrient in dry fruit |
| Humidity | % | % of humidity lost during drying of fruits |
| Fiber | % | % of fiber |
| Ashes | % | % of remaining ashes |

AOAC. 1984. Methods of analysis. 14th ed. Association of Official Analytical Chemists, Washington DC.