

DATA PAPER

NeoBat Interactions: A data set of bat–plant interactions in the Neotropics

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Abstract

Data papers and open databases have revolutionized contemporary science, as they provide the long-needed incentive to collaborate in large international teams and make natural history information widely available. Nevertheless, most data papers have focused on species occurrence or abundance, whereas interactions have received much less attention. To help fill this gap, we have compiled a georeferenced data set of interactions between 93 bat species of the family Phyllostomidae (Chiroptera) and 501 plant species of 68 families. Data came from 169 studies published between 1957 and 2007 covering the entire Neotropical Region, with most records from Brazil (34.5% of all study sites), Costa Rica (16%), and Mexico (14%). Our data set includes 2571 records of frugivory (75.1% of all records) and nectarivory (24.9%). The best represented bat genera are *Artibeus* (28% of all records), *Carollia* (24%), *Sturnira* (10.1%), and *Glossophaga* (8.8%). *Carollia perspicillata* (187), *Artibeus lituratus* (125), *Artibeus jamaicensis* (94), *Glossophaga soricina* (86), and *Artibeus planirostris* (74) were the bat species with the broadest diets recorded based on the number of plant species. Among the plants, the best represented families were Moraceae (17%), Piperaceae (15.4%), Urticaceae (9.2%), and Solanaceae (9%).

Plants of the genera *Cecropia* (46), *Ficus* (42), *Piper* (40), *Solanum* (31), and *Vismia* (27) exhibited the largest number of interactions. These data are stored as arrays (records, sites, and studies) organized by logical keys and rich metadata, which helped to compile the information on different ecological and geographic scales, according to how they should be used. Our data set on bat–plant interactions is by far the most extensive, both in geographic and taxonomic terms, and includes abiotic information of study sites, as well as ecological information of plants and bats. It has already facilitated several studies and we hope it will stimulate novel analyses and syntheses, in addition to pointing out important gaps in knowledge. Data are provided under the Creative Commons Attribution 4.0 International License. Please cite this paper when the data are used in any kind of publication related to research, outreach, and teaching activities.

KEYWORDS

bats, Chiroptera, chiropterophily, chiropterochory, databases, frugivory, mutualism, nectarivory, networks, Phyllostomidae, pollination, seed dispersal

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The complete data set is available as Supporting Information and is also available in Zenodo at <https://doi.org/10.5281/zenodo.4894176>.

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SUPPORTING INFORMATION

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