Abundance of small mammals in the Atlantic Forest (ASMAF): a data set for analyzing tropical community patterns

MARCOS S. L. FIGUEIREDO,1,12 CAMILA S. BARROS,1 ANA C. DELCIELLOS,1 EDU B. GUERRA,1 PEDRO CORDEIRO-ESTRELA,2 MAJA KAJIN,3 MARTIN R. ALVAREZ,4 PAULO H. ASFORA,5 DIEGO ASTUA,6 HELENA G. BERGALLO,3 RUI CERQUEIRA,1 LENA GEISE,5 ROSANA GENTILE,7 CARLOS EDUARDO V. GRELLE,1 GILSON E. IACK-XIMENES,8 LEONARDO C. OLIVEIRA,9,10 MARCELO WEKSLER,11 AND MARCUS V. VIEIRA1

Abstract. Local abundance results from the interaction between populational and environmental processes. The abundance of the species in a community is also one of the most basic descriptors of its structure. Despite its importance, information about species abundances is fragmentary, creating a knowledge gap about species abundances known as the Prestonian Shortfall. Here we present a comprehensive data set of small mammal abundance in the Atlantic Forest. Data were extracted from 114 published sources and from unpublished data collected by our research groups spanning from 1943 to 2017. The data set includes 1,902 records of at least 111 species in 155 localities, totaling 42,617 individuals represented. We selected studies that (1) were conducted in forested habitats of the Atlantic Forest, (2) had a minimum sampling effort of at least 500 trap-nights, and (3) contained species abundance data in detail. For each study, we recorded (1) latitude and longitude, (2) name of the locality, (3) employed sampling effort, (4) type of traps used, (5) study year, (6) country, and (7) species name with (8) its respective abundances. For every locality, we also obtained information regarding its (9) ecoregion, (10) predominant vegetation type, and (11) biogeographic subdivision. Whenever necessary, we also (12) updated the species names as new species were described and some genera suffered taxonomic revision since the publication. The localities are spread across the Atlantic Forest and most of the small mammal species known to occur in Atlantic Forest are present in the data set, making it representative of communities of the entire biome. This data set can be used to address various patterns in community ecology and geographical ecology, as the relation between local abundance and environmental suitability, hypothesis regarding local and regional factors on community structuring, species abundance distributions (SAD), functional and phylogenetic mechanisms on community assembling.

Key words: abundance; Atlantic Forest; community structure; marsupials; rodents; small mammals; species composition.

The complete data sets corresponding to abstracts published in the Data Papers section in the journal are published electronically as Supporting Information in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1002/ecy.2005/suppinfo

Manuscript received 26 April 2017; revised 24 August 2017; accepted 30 August 2017. Corresponding Editor: W. K. Michener. 12 E-mail: mslfigueiredo@gmail.com