

# Optimizing the Monitoring of Urban Fruit-Bearing Flora with Citizen Science: An Overview of the Pomar Urbano Initiative

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## Abstract

The "Pomar Urbano" (Urban Orchard) project focuses on the collaborative monitoring of fruit-bearing plant species in urban areas throughout Brazil.

The project collected a list of 411 fruit-bearing plant species (Soares et al. 2023), both native and exotic varieties found in Brazil. This list was selected from two main sources: the book *Brazilian Fruits and Cultivated Exotics* (Lorenzi et al. 2006) and the book series *Plants for the Future*, which includes volumes specifically dedicated to species of economic value in different regions of Brazil, namely the South (Coradin et al. 2011), Midwest (Vieira et al. 2016), Northeast (Coradin et al. 2018) and North (Coradin et al. 2022). To ensure broad geographic coverage, the project spans all 27 state capitals of Brazil. The data collection process relies on the [iNaturalist Umbrella and Collection projects](#). Each state capital has a single collection project, including the fruit-bearing plant species list, and the locality restriction to that specific city. For example, the collection project [Pomar Paulistano](#) gathers data from the city of São Paulo. The [Umbrella a Project](#) Urban Orchard was set to track data from all 27 collection projects.

We firmly believe that these fruit-bearing plant species possess multifaceted value that extends beyond mere consumption. As such, we have assembled a dynamic and

multidisciplinary team comprising professionals from various institutions across Brazil in a collaborative effort that encompasses different dimensions of biodiversity value exploration and monitoring, especially phenological data.

One facet of our team is focused on creating products inspired by the diverse array of Brazilian fruit-bearing plants. Their work spans across sectors of the creative industry, including fashion, painting, and graphic design to infuse these natural elements into innovative and sustainable designs (Fig. 1 and Fig. 2).

A group of nutrition and health scientists in conjunction with communication and marketing professionals is working to produce engaging media content centered around food recipes that incorporate Brazilian fruits (Fig. 3). These recipes primarily feature the fruit-bearing plants most frequently observed on *iNaturalist* in the city of São Paulo, allowing us to showcase the local biodiversity while promoting culinary diversity. Some of these recipes are based on the book *Brazilian Biodiversity: Flavors and Aromas* (Santiago and Coradin 2018). This book is an extensive compendium of food recipes that use fruits derived from native Brazilian species.

## Keywords

nature-based products, biodiversity monitoring, fruit-bearing plants, exotic plants, native plants

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## Conflicts of interest

The authors have declared that no competing interests exist.

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## Endnotes

- \*1 A localized print on a porcelain cup inspired by the Night Blooming Cactus flower, discovered during a research survey in the city of São Paulo. Created by a group of Fashion Design students from Centro Universitário Belas Artes de São Paulo, under the supervision of Maria Carolina Garcia.
- \*2 Print for a tablecloth inspired by the guava tree flower, using the traditional technique of Brazilian Chita. Created by Luciana Mendonca, a student of Interior Design at the Centro Universitário Belas Artes de São Paulo under the supervision of Maria Carolina Garcia.
- \*3 Recipe production: Ana Maria Bertolini, Gabriela Rigote, Natalie Marinho Dantas  
Photo: Gabriela Rigote



Figure 1.  
Orchid Cactus (*Epiphyllum oxypetalum*) flower print mug<sup>\*1</sup>.



Figure 2.  
Guava blossom (*Psidium guajava*) print tablecloth<sup>+2</sup>.



Figure 3.

Green salad with passion fruit (*Passiflora* sp.) sauce and a taioba (*Xanthosoma taioba*) tortelli with guava (*Psidium guajava*) sauce\*<sup>3</sup>