

# DIVERSITY OF LADYBIRD BEETLES (COLEOPTERA: COCCINELLIDAE) IN GARDENS IN THE CITY OF SÃO PAULO, BRAZIL

Erika Alvarenga Badaró<sup>1</sup>, Francisco Jorge Cividanes<sup>2</sup>, Tamara Machado da Silva<sup>3</sup>, Guillermo González<sup>4</sup>, Terezinha Monteiro dos Santos-Cividanes<sup>2</sup>

<sup>1</sup>Escola Professora Adelaide Teresa Lopes Cimonari, Rua Sargento Claudiner Evaristo Dias, 10, 3385150, São Paulo, SP., Brazil. E-mail: erikalvarenga2013@gmail.com; <sup>2</sup> Instituto Biológico, Avenida Bandeirantes, 2419, 14030-670, Ribeirão Preto, SP., Brazil.; <sup>3</sup>Instituto Biológico, Master's Student of the Postgraduate Program Plant and Animal Health, Food and Environmental Safety in the Agribusiness, Avenida Bandeirantes, 2419, 14030-670, Ribeirão Preto, SP., Brazil ; <sup>4</sup> Sociedad Chilena de Entomologia, Santiago, Chile.

## INTRODUCTION

Coccinellids (Coleoptera: Coccinellidae) are known as ladybirds and inhabit different types of habitats, such as gardens, crops, forests, and woods. In urban gardens, these small predatory beetles act as biological control agents of insect pests on ornamental and fruit plants. However, citizens are generally unaware of the contribution of coccinellids to the ecologically sustainable development of these areas. To evaluate the ladybird fauna in urban areas, a survey of these beetle species was carried out in gardens located in public squares and parks in São Paulo city, São Paulo state, Brazil.

## MATERIAL AND METHODS

The survey was carried out in gardens located in public squares and parks in São Paulo city, São Paulo state, Brazil. Ladybirds were hand-collected from shrubs and trees present in five gardens located in the districts of Anália Franco, Tatuapé, and Vila Formosa, between January and June 2022. The plant species that were sampled consisted of fruit plants: acerola (*Malpighia emarginata* DC.), blackberry (*Morus nigra* L.), red guava (*Psidium guajava* L.), Rio Grande cherry (*Eugenia involucrata* DC.), pitanga (*Eugenia uniflora* L.), red mombin (*Spondias purpurea* L.) and ornamental plants: hibisco (*Hibiscus rosa-sinensis* L.), rose of sharon (*Hibiscus syriacus* L.) and golden dewdrop (*Duranta erecta* L.).



*Cycloneda sanguinea*



*Olla v-nigrum*



*Eriopis connexa*



*Harmonia axyridis*



*Psyllobora confluens*



The separation by ladybird species

## RESULTS

In fruit and ornamental plants located in gardens in São Paulo city, 212 specimens of ladybirds were recorded (Table 1).



*Chilocorus nigrita*



*Harmonia axyridis*



*Cycloneda conjugata*

Table 1. Occurrence of ladybirds species in public squares and parks in the eastern region of the São Paulo city, Brazil.

Locality	Species	Ladybirds Quantifying
Marquês de Nazaré Square	<i>Harmonia axyridis</i>	25
	<i>Cycloneda conjugata</i>	4
	<i>Hippodamia convergens</i>	2
Vereador Abel Ferreira Avenue	<i>Henosepilachna vigintioctopunctata</i>	48
	<i>Azya luteipes</i>	3
	<i>Chilocorus nigrita</i>	2
Ceret Park	<i>Harmonia axyridis</i>	5
	<i>Harmonia axyridis</i>	72
Santa Lucia Street	<i>Azya luteipes</i>	5
	<i>Cryptolaemus monstrouzieri</i>	9
	<i>Psyllobora confluens</i>	12
Manoel Borges de Sousa Nu Square	<i>Harmonia axyridis</i>	18
	<i>Olla v-nigrum</i>	5
	<i>Cycloneda conjugata</i>	2
Total		212

## CONCLUSION

In public squares and parks in the eastern region of the São Paulo city, 10 species were collected: the entomophagous ladybirds *Azya luteipes*, *Cycloneda conjugata*, *Chilocorus nigrita*, *Hippodamia convergens*, *Olla v-nigrum*, *Harmonia axyridis*, *Eriopis connexa* and *Cryptolaemus monstrouzieri*; the mycophagous species *Psyllobora confluens* and the phytophagous, *Henosepilachna vigintioctopunctata*.