

First contribution to the Plant-bee (Apoidea) interaction network of 'El Impenetrable' National Park, Chaco, Argentina.

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INTRODUCTION

The Chacoan 'Impenetrable' region encompasses a great diversity, with many endemic and poorly studied species. Among them, bees (Hymenoptera: Apoidea) are important for the ecosystem functioning. In Argentina, five families are represented: Andrenidae, Apidae, Colletidae, Halictidae and Megachilidae; nevertheless, there are few contributions to the study of bee communities and the ecology of plant-pollinator interaction networks in different ecosystems. This work reports the potential interactions between some of the bee species found at 'El Impenetrable' and plant species likely associated to them according to entomopalynological studies.

METHODS

Sampling area: 'El Impenetrable' National Park.

Sampling: The bees were captured in flight or when perched on flowers.

Sample processing: Taxonomic keys and conventional techniques in palynology were employed for the identification of bees and pollen grains.

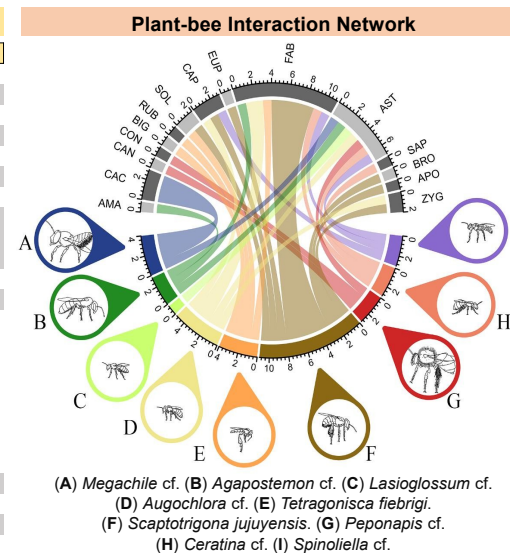
Statistical analysis: The pollen spectrum was determined for each bee taxon. Using Rstudio software, a Chord Diagram was created, and various statistics were determined to observe the plant-bee interaction network.

RESULTS

Bee Diversity		
Family	Tribu	Taxa
Andrenidae	Calliopsini	<i>Spinoliella</i> cf.
	Apini	<i>Apis mellifera</i>
	Ceratinini	<i>Ceratina</i> cf.
Apidae	Eucerini	<i>Peponapis</i> cf.
		<i>Geotrigona argentina</i>
	Meliponini	<i>Scaptotrigona jujuyensis</i> <i>Tetragonisca fiebrigi</i>
	Augochlorini	<i>Augochlora</i> cf.
Halictidae	Halictini	<i>Lasioglossum</i> cf. <i>Agapostemon</i> cf.
	Megachilidae	Megachilini

Statistic Index	
H2=0,76	23,4
Specialized	Cohesive

Plant Diversity	
Family	Taxa
Amaryllidaceae	
Asteraceae	<i>Aspilia</i> sp.
Apocynaceae	
Bignoniaceae	
Bromeliaceae	
Cannabaceae	<i>Celtis</i> sp.
Capparaceae	<i>Capparis</i> sp. <i>Opuntia</i> sp.
Cactaceae	<i>Opuntia anacantha</i> <i>Opuntia elata</i>
Convolvulaceae	<i>Ipomoea</i> sp.
Euphorbiaceae	<i>Sapium haematospermum</i> <i>Acacia aroma</i> <i>Acacia</i> sp. <i>Libidibia paraguariensis</i> <i>Senna obtusifolia</i> <i>Senna</i> sp. Tipo Galactia Caesalpinioideae Faboideae
Rubiaceae	<i>Mitracarpus hirtus</i>
Sapindaceae	
Solanaceae	Tipo Solanum
Zygophyllaceae	<i>Bulnesia</i> sp.



DISCUSSION

Most Diverse Families



Apidae

Halictidae

Both families are the most diverse in the tropical sites (Jiménez 2017).

Most Foraged Families



Asteraceae

Fabaceae

Both families are the most diverse in the tropical sites (Azani *et al.* 2017, Telleria 2009).

Statistic Index

This network tends to be of the specialized and cohesive type, which is expected from a plant-pollinator network. What this means is that the species are highly interrelated, for which any disturbance in the system could affect in a significantly way to some of the species, producing as result the partial or total loss of some of them (Dormann *et al.*, 2009).

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