Project Update: March 2023

I. Introduction

The stingless beekeeping is the activity that have many problems, such as enviromental and social. For to know the characteristics of stingless beekeeping elements we are applying interviews and vegetation collect. This activity was making since November to January 2023.

II. Fieldwork

We are visiting Redención del Campesino, Tenosique, Mexico. From November 5 2022, the work team travelled to the community and recorded the melliferous flowers for meliponines and began the workshops with the meliponiculturists.

III. Previous results

In November 2022, we spoke with beekeepers and asked them what their needs are with stingless beekeeping and what topics they want to learn. Also, we build work plan, times and dates according to the activities of meliponiculturists.

In the vegetation topic, we travel around the community to watch where the meliponines are get resources (nests, pollen, nectar). We observed that *Trigona fulviventris* is the main stingless bee that is taking advantage of the community's flowers, mainly herbaceous.

Table 1 Relation between flowers and meliponines

Family	**Scientific Name**	**Date**	**Bee presence**	**Bee identified**
Bixaceae	*Bixa orellana*	Nov	Yes	*Melipona beecheii, Melipona solani, Tetragonisca angustula*
Convolvulaceae	*Ipomea purpurea*	Nov	Yes	Trigoniforme
Fabaceae	*Acaciella angustissima*	Nov	Yes	Trigoniforme y *Apis mellifera*
Rubiaceae	*Hamelia patens*	Nov	Yes	Trigoniforme
Asteraceae	*Zinnia peruviana*	Nov	Yes	Trigonofirme
Convolvulaceae	*Ipomea purpurea*	Nov	Yes	Trigoniforme
Rubiaceae	*Ixora coccinea*	Nov	Yes	*Trigona fulviventris*
Boraginaceae	*Ehretia tinifolia*	Nov	Yes	*Trigona fulviventris*
Nyctaginaceae	*Bougainvillea glabra*	Nov	Yes	*Trigona fulviventris*
Asteraceae	*Zinnia elegans*	Nov	Yes	*Trigona fulviventris*
Convolvulaceae	*Ipomea hederifolia*	Nov	Yes	*Trigona fulviventris*
Asteraceae	*Biden pilosa*	Nov	Yes	*Trigona fulviventris*
Acanthaceae	*Ruellia simplex*	Nov	Yes	*Trigona fulviventris*
Fabaceae	*Calliandria tergemina*	Nov	Yes	*Trigona fulviventris*
Lamiaceae	*Clerodendrum*	Nov	Yes	*Trigona fulviventris*
Asteraceae	*Tagetes erecta*	Nov	Yes	*Trigona fulviventris*

Polygonaceae	*Antigonon leptopus*	Nov	Yes	*Trigona fulviventris*
Boraginaceae	*Ehretia tinifolia*	Dec	Yes	*Trigona fulviventris*
Nyctaginaceae	*Bougainvillea glabra*	Dec	Yes	*Trigona fulviventris*
Rubiaceae	*Ixora coccinea*	Dec	Yes	*Trigona fulviventris*
Acanthaceae	NI	Jan	Yes	*Trigona fulviventris*
	Salvia coccinea	Jan	Yes	*Trigona fulviventris*
	NI	Jan	Yes	*Trigona fulviventris*
Fabaceae	*Caesalpinia pulcherrima*	Jan	Yes	*Trigona fulviventris, Trigoniforme, Tetragonisca angustula*
Bignonaceae	*Tecoma stans*	Jan	Yes	*Tetragonisca angustula*
Cleomaceae	*Cleome viscosa*	Jan	Yes	*Trigona fulviventris, Tetragonisca angustula*
Lamiaceae	*Plectranthus barbatus*	Jan	Yes	*Trigona fulviventris*
Euphorbiaceae	*Jatropha integerrima*	Jan	Yes	*Trigona fulviventris*
Malpighiaceae	*Byrsonima crassifolia*	Jan	Yes	*Trigona fulviventris, Tetragonisca angustula*
Rubiaceae	*Ixora coccinea*	Jan	Yes	*Trigona fulviventris*

The one cultivated bee is *Melipona beecheii.* It is difficult to know which is the preferred floral. But we detected that *Melipona* go to Achiote (*Bixa orellana*) and Mimosa (*Mimosa pudica*). During the spring season there are a lot of flowers because the plants are blooming. So, we believe that it is the right moment in which more meliponines can be seen in flight.

In the community nursery the people have two wild nests of meliponines: *Tetragonisca angustula* and *Cephalotrigona zexmeniae.* The people are happy have honeybees and want to learn all about the meliponines.

Trigona fulviventris foraging Ixora coccinea. © José Germain López Santiago

Trigona fulviventris foraging an Asteraceae. © José Germain López Santiago.

Trigona fulviventris foraging a Tagetes erecta. © José Germain López Santiago.

Meliponiculturists participate in the workshop. © José Germain López Santiago.

Melipona beecheii foraging Bixa orellana. © José Germain López Santiago.