

Final Evaluation Report

Your Details	
Full Name	Luis Raúl Martínez García
Project Title	Baseline research for the conservation of wild bee-plants interaction networks in intensive agriculture landscapes, Lake Chapala basin, Mexico
Application ID	36842-1
Date of this Report	July 15, 2023

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Characterization of landscape-attributes				All the metrics have been compiled for each landscape. The outcomes of the participatory mapping are currently being constructed. We consider this stage to be more than successful.
Better understanding of how wild-bee communities and their ecological-interactions are modulated by landscape attributes.				Currently, we are actively engaged in the statistical modelling process to understand how the features of each landscape influence the diversity of native bees. The data collection for the majority of the variables presented in the first update has been successfully completed for each landscape. As we move forward, the statistical modelling for these initial sampling stages is scheduled to take place in the last week of July 2023.
Taxonomic and functional identification of wild bees in the study area.				The taxonomic identification of native bee specimens has been carried out by taxonomist Philippe Sagot from Ecosur, San Cristóbal de las Casas, Chiapas, Mexico. The identification of functional traits has been conducted by a team of approximately four individuals at Ecosur and INECOL.
Taxonomic identification of plants associated to ecological and socio-cultural values of study area.				Due to the lack of taxonomic collection, identification has been carried out partially, remotely, and in some cases, done by botanists. At this moment, we are planning the collection of plant specimens for October 2023.
Training at least 2 bachelor's and 1 master's students.				Until now we have trained 11 bachelor's students. We expect to receive one master's student in further sampling moments.
Science popularization through workshops about value of plant-bee				A total of 12 workshops, hikes and talks have been carried out to fulfil this objective in different institutions,

<p>interactions.</p>			<p>municipalities, and communities (please see attached photographs): Community hike for the recognition of native vegetation and understanding of ecological communities. Ecological Community Los Guayabos, March 2022 (Figure 1). "Agriculture, Wild Bees, and the Dominant Paradigm. And What's the Use of Those Weeds?" Talk for the 40th anniversary of the Ecological Community Los Guayabos, Zapopan, 2022. Community hike for the recognition of native bees, Ecological Community Los Guayabos, April 2022 (Figure 2). World Bee Day Talk at the Michin Aquarium, organized by the National Commission of Protected Natural Areas (CONANP), May 2022 (Figure 3). Participation in the Photography Contest "Nature and Society" during the 17th INECOL Student Colloquium "New Paradigms in Conservation," October 2022 (Figure 4). Participation in the "Symposium: Agriculture and Pollinators," organised by the Ministry of Agriculture and Rural Development (SADER) for the National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP) initiative, February 2023 (Figure 5). "Our Other Bees," talk, and photo exhibition at Los Colomos Park, Guadalajara, March 2023 (Figure 6). "Urban Flora Care: More Relevant Than We Imagine," talk as part of the training for personnel from Parks and Gardens in the municipality of Zapopan, March 2023 (Figure 7). "Our Other Bees," talk, and photo exhibition at the Ecological Community Los Guayabos, Zapopan, May 2023 (Figure 8). "Human and Non-Human Habitat: Bees, Parks, and Cities of Life," at the 4th International Congress on Habitat and Sustainability. Technological Institute and Higher Studies of the West, Jesuit</p>
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			<p>University of Guadalajara (ITESO), 2023 (Figure 9).</p> <p>"Biodiversity and Native Bees. And What's the Use of Those Weeds?" Talk at the Tapalpa Cultural Center, on World Environment Day, 2023 (Figure 10).</p> <p>"Our Other Bees," talk and photo exhibition at Tapalpa Cultural Center, June 2023 (Figure 11).</p>
Generation of a wild-bee and plant catalogue with local key-actors			<p>We already have photographic material, but we plan to photograph the progress of the taxonomic collection between November and December 2023.</p>
Photography contest			<p>We changed this for a series of three galleries exhibition in different municipalities, and participation of one contest. See the "Science popularisation through workshops about value of plant-bee interactions" section.</p>
Story contest.			<p>Not yet, we expect to launch the first story contest in April 2024.</p>
Radio-shorts in local media			<p>We began a training process for the creation of content at La Coyotera Community Radio. We will continue with the process in the short term (following months) (Figure 12).</p>
Development of a manual for good agricultural practices and land-use schemes for the maintenance and conservation of wild-bee communities and their associated plants that have ecological or socio-cultural value.			<p>As we continue to form the local stakeholders council (currently comprising eight stakeholders from eight of the 20 registered study areas), we are eager to complete the participatory phase and progress with the drafting process. The literature review has already been carried out, yielding valuable insights and practical ideas that allow us to propose effective methods for the maintenance and conservation of pollinators and their host plants through the implementation of good agricultural practices (Figure 13).</p>
Development of good research practices on bees in the neotropics.			<p>We expect to deliver this product by the end of 2024, once the project in its field phase comes to an end.</p>
Establishment of a base protocol to identify the level of vulnerability of			<p>Although the protocol has not been fully developed, we have half of the information to start building the initial</p>

wild bees.			models and design the proposal for identifying the vulnerability of wild bees.
Identification and evaluation of possible bees from Lake Chapala basin, to be listed in conservation categories according to their vulnerability-level, eco-morphological attributes (Functional-traits), and their role in ecological-interaction-network.			We have a list of some bees with potential new distribution in the project region. After this, we would need to subject them to evaluation under the IUCN categories. To do this, I attended the Red List training in December 2022. We expect to release a list of these bees by the year 2025 when the project completes all its study phases (Figure 14).
Protocol for monitoring native-bees.			While the protocol has not been written yet, the work presented at the Congress in ITESO was the first step in designing a monitoring network at the metropolitan scale (see attached figures).

2. Describe the three most important outcomes of your project.

a). One of the key accomplishments in this phase of the project has been the successful socialisation, dissemination, and establishment of the groundwork for our field research. It has been a notable challenge to connect with diverse stakeholders from 20 study sites across the vast region of the great Chapala Lake. Creating the solid foundation (the baseline research, like title says) of this project, training 11 individuals, and collecting close to 2,100 specimens of wild bees (with 1,366 taxonomically identified to the species level) are all significant milestones (in academic and non-academic sectors) that highlight our progress and success (Figure 15 to 19).

b). Characterising the landscape through remote environmental attributes, participatory mapping (Figure 13), and all the work involved in its execution is an achievement that, in itself, will produce a series of deliverables we hadn't initially planned for. This includes an additional scientific publication on the socio-environmental, political, and management characterisation of the landscapes across the 20 project sites, a short documentary (which we hope to finance with your support for the next stage), and other small products that can be generated in the near future with the data we have collected so far. Indeed, this is the most extensive data collection effort, not only concerning wild bees in the region but also gathering various types of information to thoroughly characterise the area in many dimensions. In other words, it is a historic effort.

c). Another significant achievement we consider in this phase of the project is that the contacts we've made in each locality are sufficient to establish a restoration and conservation council for the ecosystems in the region. Many of these individuals have an innate interest and valuable experience to share. We hope to receive

support from The Rufford Foundation to complete the field phases, but also to shape this new stage, ensuring autonomous continuity of activities after the official end of the project. The real success at the end will depend on the commitment and willingness of the inhabitants of these ecosystems and landscapes to stay united and restore these landscapes.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

Some unforeseen difficulties we encountered included obtaining certain supplies that were hard to access. Bioquip, the largest supplier of taxonomy products in the USA, closed down, and we had to design entomological nets from scratch and find alternative sources for other supplies. We also do not consider at beginning purchasing some supplies because changing little things in methods, like Eppendorf containers for pollen, or the correct number of pins for wild bee specimens.

We faced some unsuccessful visits to localities. As many communities had limited phone signal and little internet access, some interviews couldn't be conducted on the scheduled day as people forgot, or communication was unclear for those people in communities with limited education.

A few wild bee specimens were damaged during transportation from Guadalajara, Jalisco, to San Cristóbal de las Casas, Chiapas.

The bee labelling process in Guadalajara followed field labelling practices, but it had to be re-planned for Ecosur, resulting in double effort and time wasted for direct taxonomic determination at Ecosur. For the second sampling moment, we plan field labelling parallel to taxonomic determination efforts and final collection labelling.

During the second sampling phase (June-July 2023), our vehicle experienced a fatal engine failure, and we had to unexpectedly hire a local transport service to move half of the team (Figure 20). We covered fuel costs and provided a daily wage (not funded by The Rufford Foundation as expenses had already exceeded the initial plan).

4. Describe the involvement of local communities and how they have benefited from the project.

The involvement of different actors in each community has been a gradual process, with varying degrees of engagement for each case. Some farmers are highly interested and maintain constant communication with us. We have also garnered the attention of ranchers and conventional agriculture entrepreneurs who actively seek out our outreach events, communication of results, and workshops. The true benefit lies in the mutual exchange of experiences and agricultural practices, leading to the development of good practices. Moreover, coming together to marvel and inspire one another fosters the motivation to keep advancing.

For other community members, the significance of pollinators and native vegetation is just beginning to resonate, but they are all amazed to discover previously unknown species that have always lived on their farms.

This newfound discovery is bringing about a shift in operational logic among the producers, a benefit that grows gradually over time, fostering a positive change in the way they view and interact with their environment, and shape the production of our food in a kindlier way with humans and non-humans.

5. Are there any plans to continue this work?

Yes, indeed, we aim to complete the next field phase, replicating what we have done so far by sampling in mid-October 2023 and again in June 2024. We also plan to finalise the interviews and participatory mapping process while establishing the council with the support of The Rufford Foundation. Some deliverables are expected intermittently throughout this year, around mid-2024, by the end of 2024, and in early 2025.

6. How do you plan to share the results of your work with others?

As you can see, we have a strong platform and energy for outreach and organising events. In the second half of the year, we have commitments with ITESO and Tec de Monterrey to initiate applied projects with university students. We also have direct commitments with the ejidos to present progress, results, and conduct workshops. The process of Community Radio with La Coyotera continues. We hope to connect with the local TV channels, particularly those focused on culture and science. We have an agenda for scientific outreach galleries in other municipalities of the region, spread across different months. Additionally, we aim to produce the second half of the video to present the project, creating a short documentary. Furthermore, we plan to disseminate partial results at the upcoming Mesoamerican Congress on Native Bees in October this year, as well as other science-related events. Lastly, we intend to publish all relevant scientific findings in various indexed journals. It's remarkable that we have increased the number of expected deliverables without originally seeking such expansion. (<https://www.youtube.com/watch?v=QkFp9ETuXKc>).

7. Looking ahead, what do you feel are the important next steps?

Looking ahead, we believe that acquiring a new vehicle for upcoming fieldwork and securing funds to maintain momentum are crucial steps. Additionally, we prioritise planning for project continuity, strengthening relationships with communities and institutions, diversifying funding sources, enhancing communication and outreach efforts, conducting regular evaluations, and making adjustments as needed, building local capacity, and establishing strategic collaborations with relevant organisations. By addressing these aspects, we aim to meet challenges head-on, exceed expectations, and achieve lasting impact in native wild bee conservation and habitat preservation and restoration.

8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, the logo appeared in the video to introduce the project. The name of The Rufford Foundation was mentioned in the interview conducted by ITESO (Figure 21) about the project. It was also featured in the presentation I gave at the International Congress on Habitat and Sustainability, where I discussed bee monitoring methods, using the case study for cities (relevant to the theme of the conference). (<https://cruce.iteso.mx/financian-proyecto-de-egresado-para-conservacion-de-abejas-en-chapala/>).

9. Provide a full list of all the members of your team and their role in the project.

MSc. Luis Raúl Martínez García - project leader
(<https://www.linkedin.com/in/luisrmtzg/>)

Dr. Carlos Andrés Cultid Medina – advisor. Statistician, data science specialist, ecological analysis and modelling expert. Creator of scientific content on the radio program "The Pollinators on FM".

<https://www.inecol.mx/personal/index.php/diversidad-biologica-del-occidente-mexicano/205-carlos-andres-cultid-medina>

<https://scholar.google.es/citations?user=w6CRgSQAAAAJ&hl=es>

Dr. Rémy Benoit Marie Vandame – advisor. Native bee specialist, collection curation, science, agroecology, and agricultural toxicity.

<https://www.ecosur.mx/academico/rvandame>

Dr. Tlacaelel Aarón Rivera Núñez - internal advisor on public policy, qualitative research, and sociocultural issues

<http://inecol.edu.mx/personal/index.php/redes-academicas/ambiente-y-sustentabilidad/246-tlacaelel-aaron-rivera-nunez>

<https://scholar.google.es/citations?user=O8uWZWMAAAAJ&hl=es>

Dr. Alexandra Maria Klein – external advisor. Ecologist, specialist in ecosystem functioning, multi-trophic interactions with a strong background in pollination ecology, conservation, environment and sustainability.

<https://www.nature.uni-freiburg.de/team-en/klein.en>

https://scholar.google.com/citations?user=8o_zQvQAAAAJ&hl=de

Philippe Sagot – wild-bee taxonomist expert at Ecosur, San Cristobal de Las Casas, Chiapas

<https://www.researchgate.net/profile/Philippe-Sagot>

Juan Marti – audiovisual and post-production director

<https://vimeo.com/migrantefilms>

Marcelo Salazar (@marcelosalazare) – Voice-over artist/narrator, male voice
www.centraldevoces.com

Ing. Pamela Fabiola Gallardo González – second field work team leader

Ing. Aranza Lizeth Ilescas García – field worker

Biol. Fátima Sarahí González Lara – field worker, student

Ing. Angélica María Hernández Mendoza – field worker, student

Biol. Evelyn Jacqueline Andrade Balsamo – field worker, student

Biol. Isreal Pantoja Ocegueda – technical trainer and field worker

Biol. Oscar Daniel Hernández López – field worker, student

Biol. Omar Rentería Martín – insect taxonomist and field worker, student

Biol. Ricardo Lara García – field worker, student

Biol. Alberto Picasso Contreras – field worker and illustrator, student

Biol. Alan González Ramírez – field worker, student

Biol. Marisol Rodríguez – field worker, student

Local collaborators:

Alicia Ceja Acuña (Licho) – farmer, municipality of Tuxcueca

Espiridión Fuentes (Paye) – farmer, municipality of Ixtlahuacán de los Membrillos

Ricardo Reyes – ejido commissioner, municipality of Tizapán el Alto

Alfredo Cárdenas – Farmer, El Refugio, municipality of Tizapán el Alto

Sacarías Cárdenas – Cowherd, Potrero La Pila del Guayabo, municipality of Tuxcueca

Serapio Ruiz – Farmer, municipality of San Luis Soyotlán

Ing. Francisco Salazar – ejido commissioner, municipality of Jocotepec

Rosendo Lamas, Comisario – ejido commissioner Huejotitán, municipality of Jocotepec

Roberto Martínez, Comisario – ejido commissioner Callejón de la Calera, municipality of Cojumatlán de Régules, Michoacán de Ocampo state.

César Covarrubias Andrade – ejido commissioner, Cumuatillo, municipality of Venustiano Carranza, Michoacán

Natividad Godínez – ejido commissioner, municipality of Jamay

Ramón Vergara Chavez – farmer, Huejotitán, municipality of Jocotepec

Salvador Estrada – rancher, San Luis del Agua Caliente, municipality of Poncitlán.

Saúl Jiménez – ejido member, municipality Jamay

Carlos Maldonado – entrepreneur, municipality Poncitlán

Armando Muñoz – ejido member, municipality Poncitlán

Jorge Antonio Rodríguez – ejido commissioner, San Luis, Poncitlán

Arturo Sioridia – municipal delegate, San Juan Tecomatlán, municipality Chapala

Marcelo Raygoza – municipal delegate, Santa Cruz de la Soledad, municipality Chapala

Ramón Vázquez – farmer, La Cañada, municipality Ixtlahuacán de los Membrillos

Delegado José Rodríguez – municipal delegate, Ejido Modelo, Villa Emiliano Zapata, municipality Tizapán El Alto.

10. Any other comments?

We are deeply grateful for the unwavering support and invaluable assistance provided by The Rufford Foundation throughout this journey. Thanks to their belief in our project and commitment to biodiversity conservation, we have achieved significant milestones. As we reach this pivotal moment, we want to express our sincere appreciation for the opportunity to make a positive impact on the preservation of native wild bees and their habitats. Our accomplishments so far inspire us to strive even harder for excellence, and we promise to continue pushing the boundaries of knowledge and conservation efforts. With the continued backing of The Rufford Foundation and our collective dedication, we look forward to unveiling further promising steps in this project's journey, making a lasting difference in the world of pollinator conservation. Thank you, The Rufford Foundation, for being an indispensable partner in this crucial endeavour.



Figure 1. Community hike for the recognition of native vegetation and understanding of ecological communities. Ecological Community Los Guayabos, March 2022.



Figure 2. Community hike for the recognition of native bees, Ecological Community Los Guayabos, April 2022.



Figure 3. World Bee Day Talk at the Michin Aquarium, organized by the National Commission of Protected Natural Areas (CONANP), May 2022.



Figure 3.1. Proof document. World Bee Day Talk at the Michin Aquarium, organized by the National Commission of Protected Natural Areas (CONANP), May 2022.



GOBIERNO DE
MÉXICO



CONACYT
Consejo Nacional de Ciencia y Tecnología



EL INSTITUTO DE ECOLOGÍA, A.C.
OTORGA EL PRESENTE

RECONOCIMIENTO

A

LUIS RAÚL MARTÍNEZ GARCÍA

Por su participación en el Concurso de fotografía
"Naturaleza y sociedad"
durante el XVII Coloquio Estudiantil INECOL
"Nuevos paradigmas en la conservación".

Dr. Héctor Armando Contreras Hernández
Director General, INECOL

Xalapa, Veracruz, 07 de octubre de 2022



Figure 4. Participation in the Photography Contest "Nature and Society" during the 17th INECOL Student Colloquium "New Paradigms in Conservation," October 2022.



GOBIERNO DE
MÉXICO

AGRICULTURA
SECRETARÍA DE AGRICULTURA Y DESARROLLO RURAL

LA SECRETARÍA DE AGRICULTURA
Y DESARROLLO RURAL
OTORGA EL PRESENTE

RECONOCIMIENTO

A

***Luis Raúl
Martínez García***

Por su participación en el evento denominado
"Simposio: Agricultura y Polinizadores"

L:

DRA. SOL ORTIZ GARCÍA

DIRECTORA GENERAL DE POLÍTICAS, PROSPECCIÓN Y CAMBIO CLIMÁTICO
COORDINADORA GENERAL DE LA ESTRATEGIA NACIONAL PARA LA
CONSERVACIÓN Y USO SUSTENTABLE DE LOS POLINIZADORES
(ENCUSP)

CIUDAD DE MÉXICO A 20 DE FEBRERO DE 2023



2023
AÑO DE
**Francisco
VILLA**

Figure 5. Participation in the "Symposium: Agriculture and Pollinators," organized by the Ministry of Agriculture and Rural Development (SADER) for the National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP) initiative, February 2023.



Figure 6. "Our Other Bees," talk, and photo exhibition at Los Colomos Park, Guadalajara, March 2023.

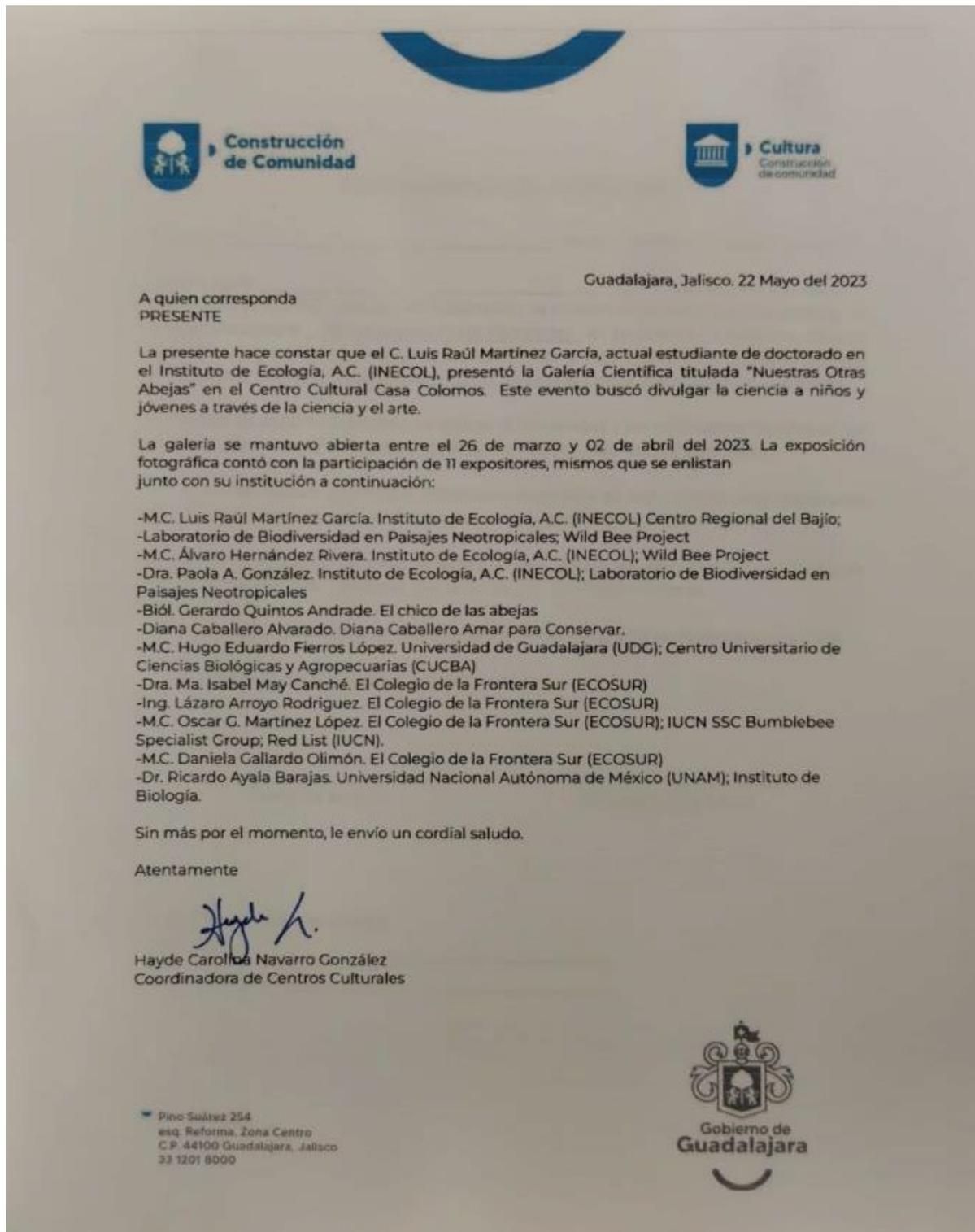


Figure 6.1. Proof document. "Our Other Bees," at Los Colomos Park, Guadalajara, March 2023; document issued by Cultural Centres Coordination, Culture Direction, Guadalajara Government on May 2023.



Figure 7. "Urban Flora Care: More Relevant Than We Imagine," talk as part of the training for personnel from Parks and Gardens in the municipality of Zapopan, March 2023.



Martes 09 de Marzo del 2023.

**CONACYT.
CONSEJO NACIONAL DE CIENCIA Y TECNOLOGÍA.**



PRESENTE:

Respetuosamente me dirijo a usted para hacer constar que el alumno: Luis Raul Martínez García, estudiante de doctorado en el Instituto de Ecología, A. C. (INECOL). CVU: 834985. Asistió a las instalaciones de la Dirección de parques y Jardines del municipio de Zapopan; El día 07 de Marzo del 2023, a impartir el tema sobre el cuidado de flora y polinizadores en centros urbanos. Agradezco de antemano su tiempo y quedo a sus órdenes para cualquier duda o aclaración.



**DIEGO ÁLVAREZ MARTÍNEZ.
DIRECTOR DE PARQUES Y JARDINES ZAPOPAN.**



Figure 7.1 Proof document. "Urban Flora Care: More Relevant Than We Imagine," training talk for personnel from Parks and Gardens in the municipality of Zapopan, March 2023.



Figure 8. "Our Other Bees," talk, and photo exhibition at the Ecological Community Los Guayabos, Zapopan, May 2023.



05/05/2023

Los Guayabos

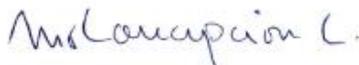
PRESENTE

La presente hace constar que el C. Luis Raúl Martínez García, actual estudiante de doctorado en el Instituto de Ecología, A.C. (INECOL), montó la Galería Científica titulada "Nuestras Otras Abejas", que buscó **divulgar la ciencia a niños y jóvenes** mediante este evento cultural. El evento se llevó a cabo en el marco del día del niño en el mercado comunitario "Guayabate", en la Comunidad Ecológica Los Guayabos, Zapopan. La galería se mantuvo abierta entre 30 de abril y 05 de mayo del 2023.

La exposición fotográfica contó con la participación de 11 expositores, mismos que se enlistan junto con su institución a continuación:

M.C. Luis Raúl Martínez García. Instituto de Ecología, A.C. (INECOL) Centro Regional del Bajío; Laboratorio de Biodiversidad en Paisajes Neotropicales; Wild Bee Project
M.C. Álvaro Hernández Rivera. Instituto de Ecología, A.C. (INECOL); Wild Bee Project
Dra. Paola A. González. Instituto de Ecología, A.C. (INECOL); Laboratorio de Biodiversidad en Paisajes Neotropicales
Biól. Gerardo Quintos Andrade. El chico de las abejas
Diana Caballero Alvarado. Diana Caballero Amar para Conservar.
M.C. Hugo Eduardo Fierros López. Universidad de Guadalajara (UDG); Centro Universitario de Ciencias Biológicas y Agropecuarias (CUCBA)
Dra. Ma. Isabel May Canché. El Colegio de la Frontera Sur (ECOSUR)
Ing. Lázaro Arroyo Rodríguez. El Colegio de la Frontera Sur (ECOSUR)
M.C. Oscar G. Martínez López. El Colegio de la Frontera Sur (ECOSUR); IUCN SSC Bumblebee Specialist Group; Red List (IUCN).
M.C. Daniela Gallardo Olimón. El Colegio de la Frontera Sur (ECOSUR)
Dr. Ricardo Ayala Barajas. Universidad Nacional Autónoma de México (UNAM); Instituto de Biología.

Sin más por el momento, le envío un cordial saludo.



Comunidad Ecológica Los Guayabos

Los Guayabos Comunidad Ecológica ProL. Ángel Leño No 4000 C.P. 45134 Tel. 333 834 3587
Correo electrónico: guayabosmesadirectiva@gmail.com

Figure 8.1. Proof document. "Our Other Bees," talk, and photo exhibition at the Ecological Community Los Guayabos, 2023, May 2023.



Figure 9. "Human and Non-Human Habitat: Bees, Parks, and Cities of Life," at the 4th International Congress on Habitat and Sustainability. Technological Institute and Higher Studies of the West, Jesuit University of Guadalajara (ITESO), 2023.

EL INSTITUTO TECNOLÓGICO
 Y DE ESTUDIOS SUPERIORES DE OCCIDENTE



Por medio del
 DEPARTAMENTO DEL HÁBITAT Y DESARROLLO URBANO
 otorga la presente

CONSTANCIA

a

Luis Raúl Martínez García

Por haber participado como PONENTE del trabajo titulado:

**Hábitat humano y no humano: las abejas, los parques
 y las ciudades de vida**

en el marco del 4º Congreso Internacional del Hábitat y Sustentabilidad.
 Respuestas a los retos del siglo XXI en los entornos de vida y espacios urbanos.
 Tlaquepaque, Jalisco, del 26 al 28 de abril de 2023



Dra. Sarah Alexandra Obregón Davis
 Directora del Departamento del Hábitat
 y Desarrollo Urbano

Figure 9.1. Proof document. "Human and Non-Human Habitat: Bees, Parks, and Cities of Life," at the 4th International Congress on Habitat and Sustainability. Technological Institute and Higher Studies of the West, Jesuit University of Guadalajara (ITESO), 2023.



Figure 10. "Biodiversity and Native Bees. And What's the Use of Those Weeds?" Talk at the Tapalpa Cultural Center, on World Environment Day, 2023.



Figure 10.1. Proof document. "Biodiversity and Native Bees. And What's the Use of Those Weeds?" Talk at the Tapalpa Cultural Center, on World Environment Day, 2023.



Figure 11. "Our Other Bees," talk and photo exhibition at Tapalpa Cultural Center, June 2023.



Figure 11.1. Proof document. "Our Other Bees," talk and photo exhibition at Tapalpa Cultural Center, June 2023.

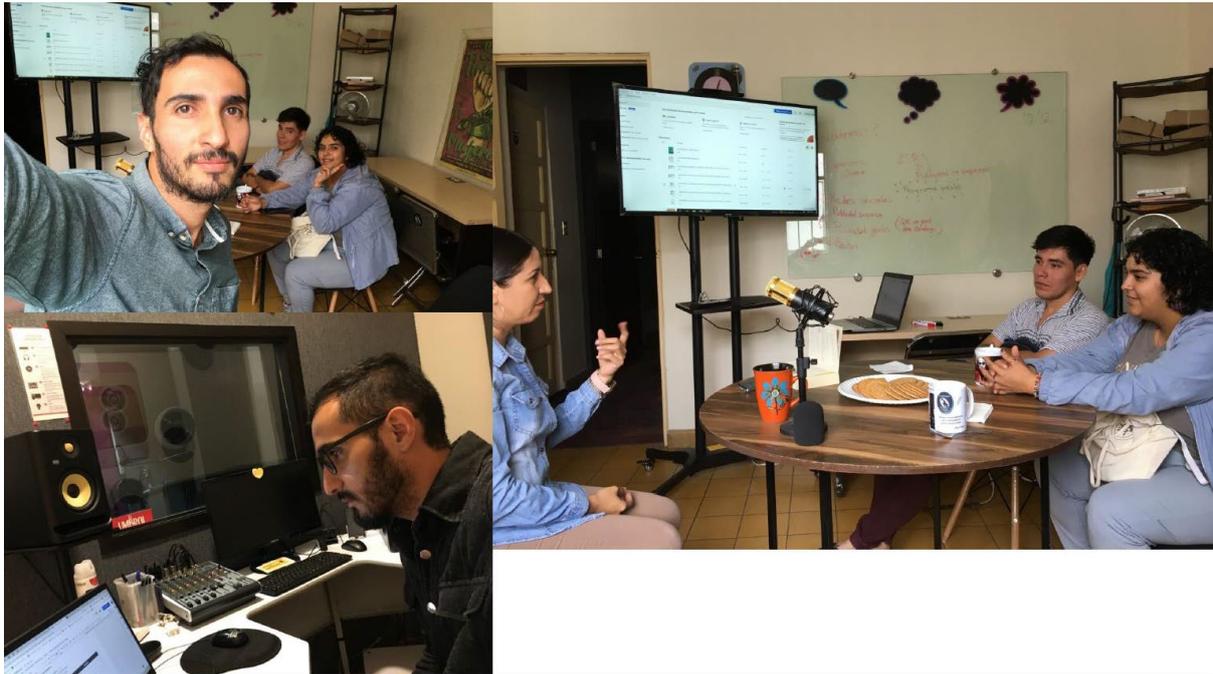


Figure 12. Training process for the creation of content at La Coyotera Community Radio.



Figure 13. Participatory mapping and characterization phase.



Certificate of Attendance

This is to certify that

Luis Raúl Martínez García

has attended as an active participant and has successfully completed the

IUCN Red List Assessor Training

Held December 5th– 8th, 2022

Remotely from the Albuquerque BioPark
and the Indianapolis Zoo

IUCN Red List Trainers:



Monika Böhm
Global Center for Species Survival
Freshwater Coordinator
Indianapolis Zoological Society



Anna Walker
Center for Species Survival New Mexico
Species Survival Officer
New Mexico BioPark Society

Figure 14. Red List training. December 2022.



Figure 15. Sampling pilot training 1. September 2022.



Figure 16. Sampling pilot training 2. April 2023.



Figure 17. Sampling number 1. Team in October 2022.



Figure 18. Sampling number 2. Team in July 2023.

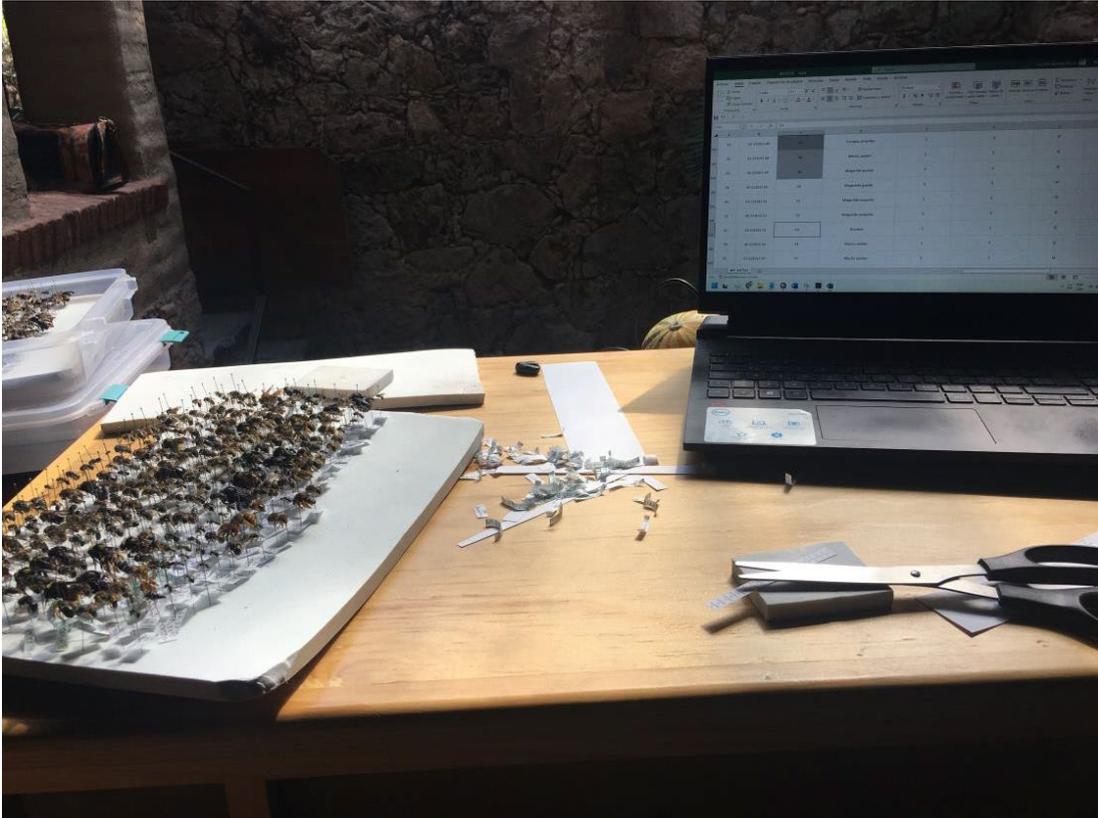


Figure 19. Handling, labelling, and mounting of specimens.



Figure 20. Unforeseen difficulties. Engine failure of main vehicle.

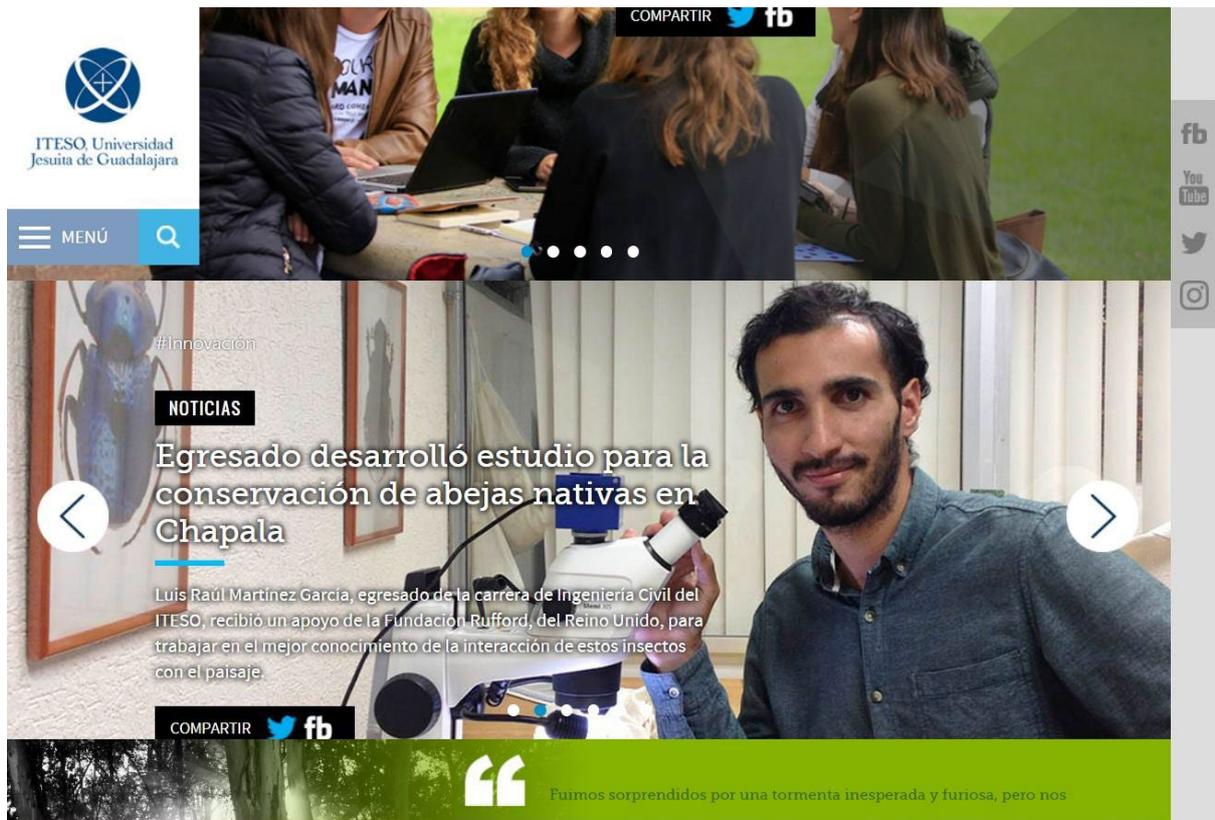


Figure 21. Interview conducted by ITESO: <https://cruce.iteso.mx/financian-proyecto-de-egresado-para-conservacion-de-abejas-en-chapala/>