Final Evaluation Report

Your Details	
Full Name	Maria Gimena Pizzarello
Project Title	If you plant it, they will come: reconnecting highland grassland habitats for butterflies of the Argentine Pampas
Application ID	37888-1
Date of this Report	27th December 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
Identify highland grassland remnants to be considered "Prime Butterfly Areas".				
Evaluate effects of increasing habitat connectivity through the planting of native host plants and nectar resources typical of pampas highland grassland habitat.				
Promote awareness of the threats faced by the pampas highland grasslands of the Tandilia mountain range and its butterfly communities.				

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

a). We were able to monitor and study the butterfly assemblages present in important habitat sites and seminatural areas surrounding the city of Tandil during one adult flight season from early spring to late summer (October 2022 to April 2023). This allowed us to identify Prime Butterfly Areas located within the city of Tandil, and some of these sites included land currently used as public green spaces/parks. This was of interest to us, because we consider these sites to be of upmost importance, as they are where citizens/tourists interact with the surrounding natural environment, particularly since most pampas habitat present in the Tandilia Mountains are located on private lands, where everyday people do not have access.

b). We were able to work with schools and other organisations in order to create habitat for butterflies, and in the process were able to bring about discussions related to the conservation of butterflies and other wildlife of the Tandilia Mountains. Some of the school yards where we planted the butterfly gardens are located relatively close to seminatural areas of pampas highland grassland, and we feel that this allows for the butterflies to quickly respond to host plant and nectar resources present in the planted gardens.

c). We were able to forge very important relationships with different people in the community, and our outreach has grown considerably since the beginning of the project. We established a network of interested schools and organisations in order to promote awareness of the threats faced by the pampas highland grasslands of the Tandilia Mountains and its butterfly communities. This was achieved by contacting and getting to know dedicated teachers and educators (school librarians, etc.) who actively sought out and participated in the butterfly gardens, as well as through participation in other activities, such as extension activities (Extensión Universitaria) promoted by the university groups with which we collaborate (Sendero Pampa, UNICEN; Yuyeras silvestres, UNICEN; ARCA, ECOSISTEMAS, UNICEN), and which are

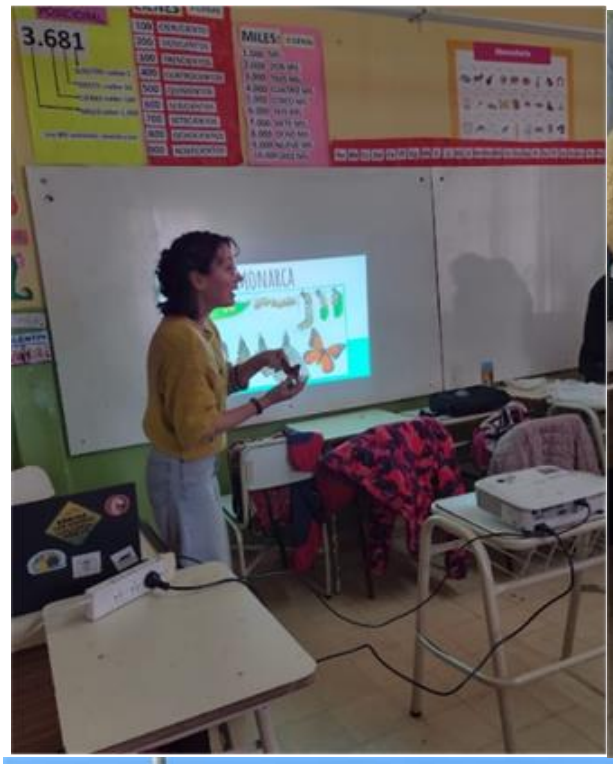
geared towards engaging citizens who are not necessarily directly tied to the university. We were able to reach more people in our community sometimes by word of mouth, as more people participated in the project, and this helped us to gain momentum and expand our project community.

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

A difficulty that we faced was the timing of the school year in our southern hemisphere, since teachers are generally interested in integrating the activities that we carry out with the students with their core curricular activities. In Argentina, the school year starts during the end of the austral summer in March, and ends during the beginning of the austral summer, towards the end of December. Since the optimal time for seeing adult butterflies is in the late spring and summer seasons, and the development of plant aerial structures is also most important during these times of year, this pushed some activities of our project towards December. Due to this timing of the school year, we delayed the completion of the project a little bit, in order to be able to carry out some of our activities during the more favourable butterfly activity season.

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

This project was largely built around getting to know and becoming involved with different stakeholders within our local community. We led workshops in the schools where the butterfly gardens were planted prior to their implementation, so that the teachers could integrate the gardens with their core curricular activities. These workshops were ongoing throughout the duration of the project, as teachers from different school years required different approaches and asked for different types of activities, depending on the subject matter that they teach. We participated in and carried out multiple field outings during the springtime, which included organisations from the local community, a local NGO, and an environmental science group led by teachers (C.E.A.D., Centro de Educación Ambiental para Docentes, which we learned about thanks to a participating school). These outings consisted of trail walks centred around the recognition of butterfly and native plant species present in highland grassland remnant patches where monitoring had previously been carried out and were open to the entire community.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5. Are there any plans to continue this work?

Yes, we plan to continue working with our project community (including the different schools and organisations), as well as continuing with our butterfly monitoring efforts. Working with such a variety of individuals has been really rewarding, and building community has allowed us to also learn a lot from the people we met and built relationships with. New opportunities arose while carrying out this project, and we plan to pursue these new interactions. For example, towards the end of the project, we participated in a gathering of one of the local community vegetable gardens.

Upon visiting their space, we realised that it was an important site for planting a butterfly garden, since pollination is an important contribution that native insects bestow upon vegetable food gardens, and we were able to take native host plants and nectar providing plants to the neighbours who work in that community vegetable garden. We later found out that there are multiple community vegetable gardens in Tandil and feel that they may be great spaces with which to share the importance of conservation actions such as planting native host plants and nectar resources for butterflies and other native pollinators. Also, I am studying the ecology and conservation of butterfly assemblages present in remnant patches of pampas highland grasslands of the Tandilia Mountains and in peri-urban and urban green spaces as a part of my doctoral studies. This project allowed us to have a baseline study of the butterfly populations and species present (both grassland specialists, and generalist species), as well as the interactions that they have with native host plants and nectar resources, and we will continue to study these species as a model for conserving the pampas highland grasslands in the Tandilia Mountains. We remain in contact with all participating schools and will continue to give talks and carry out activities with the teachers that we met while carrying out this project. Along with continuing with the talks and activities in schools, we plan on continuing with the nature walks with our collaborating organisations as well, as these activities are ongoing.

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

We presented our preliminary results (poster format presentation) in the VII Congreso Nacional de Conservación de la Biodiversidad which was held in April 2023 in Puerto Iguazú, Misiones, Argentina. All of the information regarding butterfly monitoring and population studies and the importance of native plants in public green areas for butterfly conservation will also be presented in my doctoral dissertation. We plan on publishing the work related to the butterfly gardens in a scientific journal such as Conservation Evidence. Apart from this type of academic communication, we have already given several talks both in the participating schools and in the university (Universidad Nacional del Centro de la Provincia de Buenos Aires, UNICEN), regarding the importance and the effects of planting native host plants and nectar resources for biodiversity conservation, particularly that of native pollinators such as butterflies. These talks were also a central part of our trail walks in nature, which we

shared with different community organisations, and which were open to the community as a whole.

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

Upon carrying out this project, we learned from people in our community network of a small piece of land that belongs to the Municipality, and that neighbours are actively trying to declare as a small natural public park for the city of Tandil. We monitored the butterfly populations as well as the native host plants and nectar resources present on this land and found many interesting species. We feel that the next steps would involve discussing public green areas of the city of Tandil with public authorities, in order to be able to promote natural public parks (such as the

one driven by the mentioned local neighbours), as well as expanding our network in order to involve even more people (schools as well as other organisations!). We feel that public urban parks are very important places to promote the preservation of natural environments, as they are placing that citizens and tourists visit for recreation and offer an in situ opportunity for explaining the threats that our natural habitats face, and allow for people to both get to know and connect with the native wildlife and plant species that are present in these urban green spaces. Using these public spaces as a place for presenting and raising awareness for the threats posed by loss of habitat and habitat fragmentation, and other threats, as well as offering options such as the planting of native plant species so as to create habitats for biodiversity, particularly within cities, may be a great option for getting people involved in these conservation actions and for allowing them to connect with nature, in urban settings. We have already spoken with people in charge of Tandil's public green areas but will in the future continue to forge an interaction with them, so as to try to favour planting native and not exotic species in public parks and green areas, as well as trying to favour better etiquette regarding lawn mowing in urban parks, which is generally excessive and indiscriminate. We found that in many urban green spaces the mowing destroyed many host plants, some endemic and forming important populations within the whole highland grassland context. We would like to see if we could change the way the Municipality views the management of its public green spaces, since Tandil is surrounded by so many seminatural remnant patches of highland grassland that its urban green spaces help to connect.

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, we used the Rufford logo in all talks and scientific meetings where we discussed our project and its outcomes. We plan to also acknowledge the foundation in all scientific literature that we publish as a result of this project.

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

Maria Gimena Pizzarello: Project leader, in charge of organizing and carrying out all butterfly monitoring activities, as well as contacting and maintaining communication with the different schools and organizations that collaborated with our project by allowing us to plant butterfly gardens.

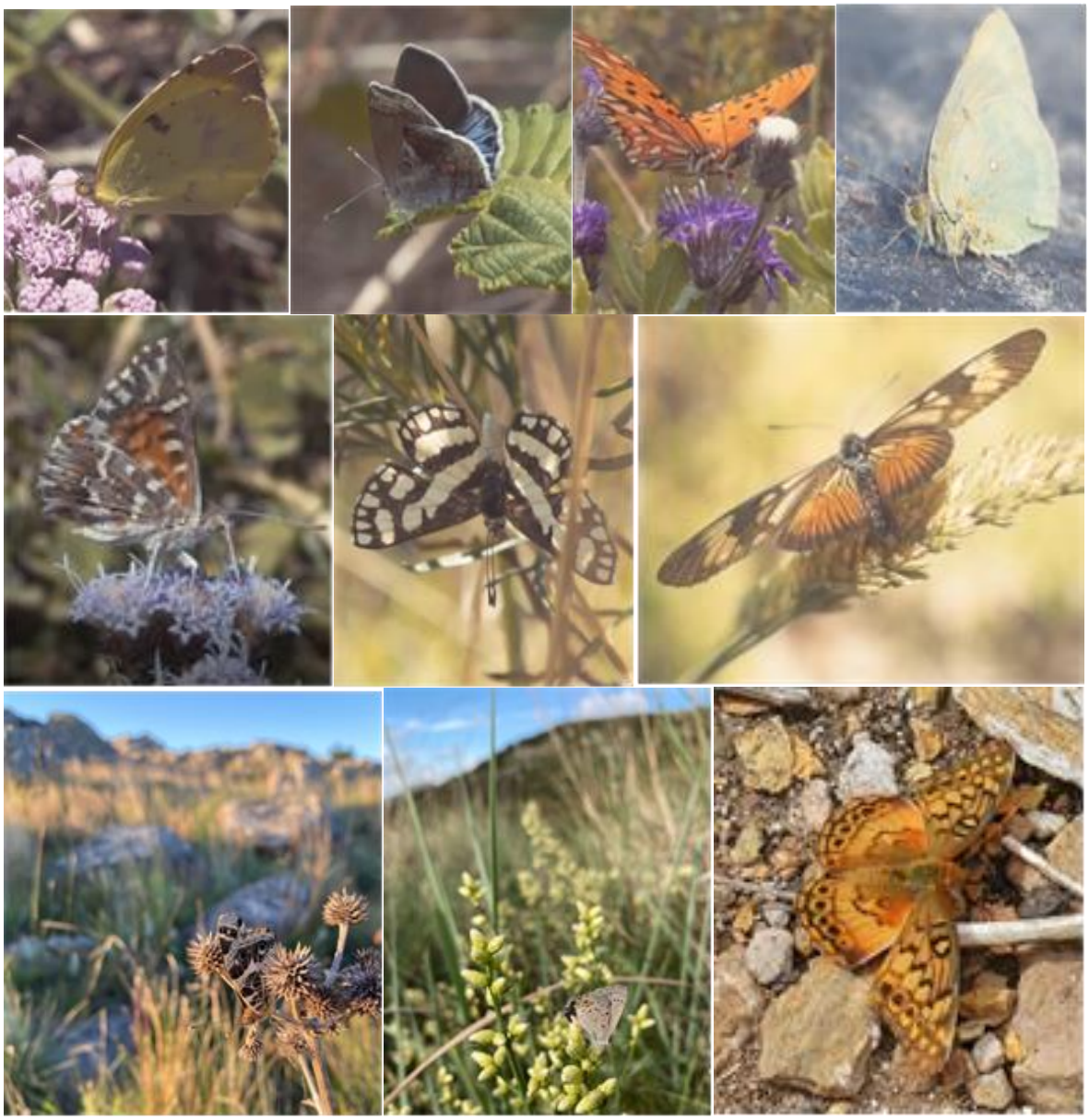
Clara Trofino Falasco: Assisted the project leader, both with the butterfly monitoring activities, as well as with the activities carried out with schools and other community organizations. Clara has a PhD in Biology, and has experience with Conservation Biology, particularly regarding the reproductive success of grassland birds of the highland grasslands of the Tandilia Mountains.

Claudio Santiago: Claudio was in charge of organising the logistics of the project, such as preparing all required elements used for butterfly monitoring as well as for the implementation of butterfly gardens.

There were numerous volunteers and individuals from our community that participated in the project, particularly from the different participating school communities, such as teachers, tutors, and librarians, who with enthusiasm helped us coordinate the installations of the butterfly gardens. Also, many different people helped us with the fieldwork related to the study and the monitoring of butterfly species and populations out in the field.

10. Any other comments?

We really enjoyed carrying out this project. It´s amazing how one thing leads to another in the sense that once you start meeting people who are interested, those people present you more interested parties, and a snowball effect takes place. This was both very useful and gratifying, as it allowed us to reach out to more people, helping our butterfly community grow.



Monitoreo de ensambles de mariposas (Superfamilia:Papilionoidea) en pastizales seminaturales y uso de jardines de biodiversidad para fomentar su conservación en la ciudad de Tandil.

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Introducción

Los pastizales de altura del **sistema de Tandilia** (Buenos Aires) son vitales para la región pampeana porque actúan como refugios de biodiversidad. Algunos de los fragmentos más grandes de estos pastizales se encuentran cercanos a la ciudad de Tandil (Buenos Aires, Argentina). El **objetivo** de este trabajo fue monitorear el ensamble de mariposas en fragmentos de pastizales seminaturales para identificar sitios prioritarios a conservar. En el marco de este proyecto también se establecerán jardines de plantas nativas en escuelas y espacios verdes urbanos, para potenciar la conectividad entre estos fragmentos de pastizal.

Materiales y métodos

Se realizaron **cinco muestreos** entre octubre y febrero del 2023 en cuatro pastizales serranos seminaturales cercanos a la ciudad de Tandil. En cada sitio y en cada visita se realizaron cuatro transectas de 500m, registrándose los individuos de cada especie. Posteriormente se calculó la riqueza, diversidad y densidad para cada sitio y cada fecha.

Resultados

Se registraron un total de **1.415 individuos**, pertenecientes a **6 familias** y **41 taxones**. De las especies más abundantes, ***Euptoieta hortensis*** estuvo presente durante todo el periodo de muestreo, mientras que ***Pampasatyrus gyrtone gyrtone*** y ***Thespieus catochra*** fueron registradas recién en febrero y enero, respectivamente. Se registraron especies consideradas sensibles (***Pampasatyrus quies***).

Fig. 1 Ubicación de transectas dentro de relictos de pastizal serrano (zonas verdes) y sitios proyectados (puntos amarillos) para la plantación de jardines de biodiversidad.

Conclusiones

La importancia de conservar estos fragmentos de pastizal radica en la diversidad de los ensambles de mariposas observados. Más allá de funcionar como stepping stones (*corredores no lineales*), los jardines de biodiversidad facilitarán el acercamiento de la comunidad hacia la flora y fauna serrana, potenciando la conservación de mariposas y sus ambientes.

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