Interim Report for three activities supported by SDCOS, for 2017

1. US$3,500.00 - “Integrated Strategy for the Restoration and Conservation of Epiphytic Orchidaceae in the Southeast of Mexico”

2. US$1,580.00 - “Guide for the Sustainable Management of Epiphytic Orchids in Southeast Mexico”

3. US$1,580.00 – “Formation and Training of a Select Group of Young Orchid Researchers and Enthusiasts for the Southeast of Mexico”

Dra. Anne Damon
El Colegio de la Frontera Sur (ECOSUR)
Carretera Antiguo Aeropuerto km 2.5
Tapachula,
Chiapas, México, C.P. 20700
adamon@ecosur.mx

Rossioglossum grande (Lindl.) Garay & G.C.Kenn.

Cycnoches ventricosum Bateman

- In each case, I begin the report with the information submitted in the original proposal.
- I include images of examples of various documents that were used to formalize the process, such as signed lists of assistance, and the maps of the areas dedicated to CaféOrquídea. I also include a selection of photographs. If SDCOS require the complete set of documents and photographs, I will send the originals by post.
- This is a first, interim report, various aspects have yet to be completed

1. INTEGRATED STRATEGY FOR THE RESTORATION AND CONSERVATION OF EPIPHYTIC ORCHIDACEAE IN THE SOUTHEAST OF MEXICO

US$3,500.00

Evidence: Photographs and data - presentation of proposal in various communities, training workshops for communities that commit to the CaféOrquídea program, delivery and planting of native tree species, tall varieties of Arabica coffee, and epiphytic orchids compatible with coffee. Forum for discussion between the participants of the program CaféOrquídea

INTRODUCTION

The southeast of Mexico includes the two most biodiverse states in the country, Chiapas y Oaxaca. It remains uncertain exactly how many plant species there are in southeast Mexico and Central America, and work continues to that end with the Flora Mesoamericana project. The generation and dissemination of knowledge concerning the presence, distribution, conservation status, ecological requirements and management of plant species, and the training and motivation of people, especially young people, community leaders and inhabitants of priority and protected areas, will increase our chances of preserving not only the plants, but also their ecosystems, for the next generations.

Deforestation, destruction of ecosystems and illegal extraction, fueled by over population, poverty and misguided or corrupt politics are the principal causes of orchid extinction in southeast Mexico and the rest of the world. Many of our orchids now depend upon inaccessible areas or being just too small and “ugly” to attract the attention of traffickers and enthusiasts. A further aspect, and particularly important in the southeast of Mexico, is the question of coffee production. The original traditional coffee plantations, with their fantastic diversity of native trees that were left standing to shade the coffee plants, provided a safe haven for virtually all of the elements of the original biodiversity, from microorganisms and small insects, to birds, mammals, bryophytes, herbs, lianas and other epiphytes. During almost one and a half centuries, extensive areas of traditional coffee plantations maintained the livelihoods of the people and at the same time maintained environmental and climatic integrity; all that is now being eroded, and the orchids that had adapted to living on the coffee plants and shade trees are disappearing.

Faced with extinctions of this magnitude, the response of the scientific community has usually been to complete lists of species and carry out the mass propagation of charismatic species, neither of which really addresses the fundamental problems and thus have limited impact. There have been considerable advances in the knowledge base regarding taxonomy and phylogeny, some aspects of ecology, and the commercial production of orchids, but despite all that investment positive action and results have been few.

I have been working in the southeast of Mexico for 23 years, starting with research into the biological control of the coffee berry borer, where I became very interested in coffee as an agroecosystem. From 1998 I have been working on various aspects of the ecology, conservation and sustainable exploitation of orchids, culminating in the design of an **Integrated Strategy for the Restoration and Conservation of Epiphytic Orchidaeae in the Southeast of Mexico**, which consists of three main areas:

1. **The Living Collection of the Orchids of Soconusco** which represents a safe place long term for the conservation, study and propagation of native orchid species. In collaboration with a taxonomy specialist from Oaxaca and various students, we are about to publish the definitive list of the orchids registered in the Tacaná-Boquerón region which

is designated as a priority conservation area by CONABIO (National Commission for the Knowledge and Use of Biodiversity), and which comprises a major part of the Soconusco region. Examples of approximately 65% of the 322 species registered for the Soconusco region are maintained in the living collection. Of the remaining 35%, many are probably now extinct in the region, as we have never seen them; some are epiphytes that have proved impossible to maintain within the environmental conditions available in the two sites where the living collection is housed; and most are terrestrial species, a subgroup to which I have not dedicated much time.

2. The **Program for the Conservation and Sustainable Exploitation of the Orchids of Southeast of Mexico**. Within this area, we include the **UMA**s, which translates to "Units for Environmental Management" and refers to the Mexican legislation that deals with the sustainable exploitation of flora and fauna in danger of extinction (listed in the NOM-ECOL-059). The program includes the creation of the UMA, the construction of orchid galleries to hang the plants, training and long term assessment, the setting up of selected sites for orchid restoration and the training and organization orchid rescue brigades. In rural communities, I have trained people to rescue orchids thrown to the ground by winds, rain, pruning and tree-felling. They select the healthy plants, clean and divide them and place some in the orchid galleries and the rest in the restoration sites, which may be forest fragments or traditional coffee plantations.

3. **CaféOrquídea** is a new proposal to create a commercial category of organic, orchid-friendly coffee and also friendly to other groups of epiphytes and biodiversity in general. This will be integrated into the Program and the Integrated Strategy.

A. WHAT ARE THE GOALS OF YOUR PROJECT?

This proposal consists of a request for US$3,500 to be spent on continuing, extending and improving The Integrated Strategy for the Restoration and Conservation of Epiphytic Orchidaceae in Southeast Mexico, as outlined in the introduction. We need running costs, and setting up costs, which are often precisely those costs that are difficult to cover by means of scientific research proposals and institutional funding.

1. **The Living Collection of the Orchids of Soconusco**

I plan to secure the advances already achieved and then extend and improve the level of maintenance, propagation, presentation and contribution to society of the living collection of Soconuscan orchids. I also hope to be able to increase the collection. The collection is divided between 2 sites, one is the Jardín Botánico Regional del Soconusco (Regional Botanical Garden of Soconusco. RBGS) at 80masl which I initiated in 1993 and continue to develop (against all the odds!), and which now belongs to my institution, ECOSUR. The other site is a small 1 hectare plot at 1,200masl which I bought specifically for the purpose of maintaining the mid-altitude orchids. For research and administrative purposes, this second part of the collection is referred to as an annex of the RBGS, which is registered with the Mexican Association of Botanical Gardens.

Funding is needed for diesel to commute to the collections to give maintenance, for tools and for food and travel costs for volunteers. (I also need funding to pay for a full time horticulturist for the RBGS, but that would exceed the limit offered by your association. I continue to pay the salary of this person and temporary workers, and negotiations continue to find a way for ECOSUR to be able to cover these costs).

2. The **Program for the Conservation and Sustainable Exploitation of the Epiphytic Orchids of Southeast of Mexico**.

In two communities in the Soconusco region, we already have functioning UMAs, orchid galleries, trained orchid rescue brigades and selected restoration sites. However, due to the lack of available funding they are functioning at a minimal and sporadic level.

In one of these groups, however, sons of three of the original members of the group, have started a small business making crafts from orchid flowers produced in the orchid galleries set up in their communities, they make earrings, necklaces, and various ornaments using various drying techniques and resins. This activity replaces the conventional aim of selling plants with flowers, which for various reasons is not a viable option, permits us to maintain and slowly increase the number of plants, and also avoids promoting the idea that flowering orchids are a disposable commodity. In both groups, the participants occasionally make a bit of money by showing visitors round the gallery and restoration sites.

There are now 7 groups that have registered their interest to form part of the program. We need money for diesel to travel to the sites to continue with training and assessment of the 2 original groups and the 7 new ones, and for the renovation of tools, and shade cloth for the new galleries.

3. **CaféOrquídea** is a new proposal to create a commercial category of organic, orchid-friendly coffee and also friendly to other groups of epiphytes and biodiversity in general.

During the century and a half since coffee was first introduced into the Soconusco region, many orchids had adapted to life in the extensive traditional coffee plantations. Particularly important is the guild, or functional group, of miniature species that had adapted to the twigs and branches of the coffee bushes themselves which originally implied Arabica coffee (*Coffea arabica* L.) and the older varieties such as Márago and Borbón. With the advent of commercialization, dwarf and full sun varieties of Arabica coffee, increasing numbers of plantations of the second quality, orchid-unfriendly Robusta coffee (*Coffea canephora* L.) and more recently the ubiquitous habit of eliminating all moss, lichens and epiphytes from the coffee bushes, orchid diversity has now plummeted to almost zero. In many areas we are now left with bleak, almost treeless plantations with eroded soil and negligible biodiversity, on vulnerable mountain slopes.

We are close to completing research into whether the removal of moss and epiphytes etc., really does improve the harvest as is suggested, whether it damages the coffee bushes, and if there is a net economic gain derived from this activity.

CaféOrquídea is a proposal to develop a new category of specialty or organic coffee that actively promotes the coexistence with orchids and other epiphytes in exchange for a higher price and, long-term, the possibility of limited and controlled ecotourism.

<u>CaféOrquídea consists of a basic set of rules:</u>

- Only Arabica coffee and its varieties
- The plantations must have a diversity of moderately or unpruned shade trees
- The removal of mosses, lichens and epiphytes from the coffee bushes and shade trees is not allowed
- Coppicing, when necessary, must be carried out at a level above 80cm, to conserve part of the epiflora. Furthermore, the renewal of the plantation must be carried out gradually to guarantee sufficient epiphytes and their seeds for recolonization.

- Orchids attached to pruned branches or eliminated coffee bushes and shade trees should be transplanted onto other coffee bushes or trees within the plantation.
- Coffee producers should apply soil conservation techniques.

There are several groups of people interested in this proposal, including indigenous Mam and groups living near or within protected natural areas. To be able to advance with this program, we need money for diesel, basic tools and stationary for basic educational material.

Environmental Education forms a fundamental part of the strategy, and is implicit in the training and long-term assessment that is the basis of the proposal.

B. WHAT METHODS WILL YOU USE TO ACHIEVE YOUR GOALS?

For this proposal, we will not be carrying out sampling techniques and data analysis as such. We will maintain lists of species and numbers of individuals that are rescued by the brigades and those that are planted and maintained in the galleries, restoration sites and CaféOrquídea plantations. From these records, in the future we hope to be able to make recommendations for the management of the various orchid species, taking into account differences in the response to the techniques used, such as host trees or substrates, sun or shade, susceptibility to pests and diseases, flowering times, pollinator(s) etc.

In the case of the Programme for the Conservation and Sustainable Exploitation of the Orchids of Southeast of Mexico, now including the newly conceived CaféOrquídea, the methods employed for achieving the goals set out for the Integrated Strategy for the Restoration and Conservation of Epiphytic Orchidaeae in the Southeast of Mexico involve training and long term assessment (which could also be termed accompaniment). The idea is also to promote organization, independence and autonomy within the groups to break the cycle of dependence upon government or any other type of handout or inducement. However, “handouts” are now part of the culture and many now see this as the only viable *modus vivendi*.

I should stress that one of the techniques that has proven useful for encouraging and capturing the attention of these people, has been the invention of common names for all the orchids. In Soconusco region I found that there was no vocabulary to describe orchids, no verbal way of distinguishing between one species and another and, therefore, no way to accumulate or share information related to specific species. All orchids were either “monte” (anything supposedly not useful to humans; weeds, or wild, nameless plants that grow in natural and uncultivated areas), or “candelaria” (*Guarianthe skinner*i, the most prized and widely known species, and many years ago one of the most abundant species; it is now almost extinct in the region in the wild in Soconusco) which is the generic name for orchid for many people in the region. The names were chosen by the people themselves, or if inspiration failed, by me.

The community groups that have already established UMAs, restoration sites and orchid rescue brigades are:

1. Santa Rita de las Flores. Municipality of Mapastepec. Biosphere Reserve El Triunfo. This was the first group and I started working with them in 1998, with some relapses in between due to lack of funding. The project with this group is accepted by the Director and personal of the CONANP (National Commission for Natural Protected Areas) who manage the El Triunfo Biosphere Reserve. This is the group with the three sons who now have a small business making crafts from orchid flowers. It has been particularly gratifying to see

that the three sons have developed new designs and techniques and recently a young couple have joined them. There are 10 orchid galleries, each measuring approximately 5 x 4 m managed by the families of the original members in their gardens or plots. Furthermore, 40-45 people participate in the Orchid Rescue Brigade and go out into the community lands to rescue orchids after storms or seasonal pruning etc. It should be noted that the proposal CaféOrquídea is not feasible for this community as the coffee plantations are particularly dry and there are naturally very few orchids present.
This group has a Web page, rather out of date as I have little time to manage it, but there are images of the various craft pieces and events, and the history of the group.
Flores, Frutos y Follaje de Santa Rita de las Flores ...
https://www.facebook.com/orquisustentable.santarita

2. Benito Juárez el Plan. Municipality of Cacahoatán. Biosphere Reserve Volcán Tacaná and Priority Terrestrial Area Tacaná-Boquerón. There is 1 orchid gallery, measuring 8 x 4 m, managed communally by the 9 original members and also many of the 42 members of the orchid rescue brigade participate. The project with this group is accepted by the Director and personal of the CONANP who manage the Volcán Tacaná Biosphere Reserve. Some of the members of this group, and other members of the community are interested in the CaféOrquídea proposal

The new groups waiting to receive training and assessment and participate long term are mostly interested in the CaféOrquídea proposal, but will receive the full training package and will be offered the other options within the Program for the Conservation and Sustainable Exploitation of the Orchids of Southeast of Mexico package.

The interested groups are:

3. Jaltenango. Municipality of Ángel Albino Corzo. Biosphere Reserve El Triunfo.
4. Toquián y Las Nubes. Municipality of Unión Juárez. Biosphere Reserve Volcán Tacaná and Priority Terrestrial Area Tacaná-Boquerón.
5. Piedra Parada. Municipality of Unión Juárez. Priority Terrestrial Area Tacaná-Boquerón.
6. Cordova Matasanos. Municipality of Unión Juárez. Priority Terrestrial Area Tacaná-Boquerón.
7. El Retiro. Municipality of Tuzantán. Priority Terrestrial Area Tacaná-Boquerón.
8. San Sarabia. Municipality of Tuzantán. Priority Terrestrial Area Tacaná-Boquerón.
9. Tuzantán (precise location to be defined), Municipality of Tuzantán. Priority Terrestrial Area Tacaná-Boquerón.
All the new groups had already received an introductory visit and have agreed to participate in the program. I carry out this process with the help of Nelson Pérez Miguel, who has worked with me for many years

The second visit consists of each group deciding which, or maybe all, of the activities they wish to participate in: individual galleries, a single communal gallery, restoration site, orchid rescue brigade and CaféOrquídea. Much later on they can decide if anyone is interested and capable of participating in craft production and/or an ecoturism project. In this session they will form a committee, designate roles and tasks, draw up a list of participants and agree on dates for the training sessions.

The third visit consists of a tour of the potential sites for CaféOrquídea, galleries and restoration sites depending on what the group has chosen to do. We will identify the orchids found in each community and teach the group to identify, select, collect and transport, i.e. rescue, the orchids fallen to the ground, on dead branches or trees or in otherwise precarious conditions.

If the group wish to build a gallery, they have to decide how, where and who will build it, and how to pay for it. We have often started with very rustic structures and once the group have proved their interest and commitment we may be able to obtain funding for permanent and attractive metal structures. If they want a restoration site or CaféOrquídea site we decide where, and some or all of the members of the group will choose to form part of the Orchid Rescue Brigade.

At the end of this third visit each group will be allocated a series of tasks, depending upon how they have chosen to participate:

1. Building a “tarima” or rustic table to receive rescued orchids and work on them together.
2. Carrying out a tour of their plots and community lands to rescue orchids and bring them back to be placed on the “tarimas”.
3. Constructing one or more galleries on the chosen site(s).
4. Collection of certain types of tree bark and/or clay tiles as substrates for the orchids in the galleries.
5. If they have chosen a restoration site and/or CaféOrquídea site, I ask them to make a simple map of the site and list all the tree species and orchids already present.

When they have finished the allocated tasks, the group gets in touch with me to make a date for the next visit, which consists of checking the work done and making corrections and suggestions etc. In the case of the collection of rescued orchids, we arrange a workshop where I teach the group how to identify, select, clean up and divide the orchids into viable units with a minimum of 3 pseudobulbs. From there, there will be another workshop to show the group how to prepare the substrates, attach the orchids and hang them in the galleries, or take them to plant in the restoration site or CaféOrquídea plantation site.

This process will be relatively slow, but it should be possible to complete the whole cycle in one year for the 7 new groups, and achieve a better level of accompaniment for the 2 established groups.

We will investigate the possibility of forming an UMA in each of these sites and will help with the necessary bureaucracy and form filling to register.

C. HOW DOES YOUR PROJECT RELATE TO OUR OBJECTIVES, AS STATED ABOVE?

1. Protect orchids in the wild

I feel there are two main routes towards orchid conservation, and for any other conservation or environmental issue. One is to inform, involve and convince the affected parties and those that are directly involved to participate and make a difference. The other is to inform, involve, and possibly sanction the consumers and drivers of negative actions. The second option is particularly unviable and even dangerous in Mexico due to vested interests and corruption and the fact that the law is totally ignored by all sides; there are no stable, respected, legal mechanisms that can be used to solve these problems.

We can, however, work with rural people who manage large areas of land, and many of whom still have an affinity for, and empirical knowledge of nature and environmental issues, despite heavy pressure exerted by the government and multinationals to eradicate all common sense, independence, application of knowledge and long term vision.

All of the groups considered live in areas important for orchid conservation, and where some native orchids can still be found leading a precarious existence. With the collaboration of these people, who will rescue orchids that would otherwise die, propagate them by vegetative division and return them to selected, suitable habitats such traditional coffee plantations and forest fragments, we hope that in total we will have a considerable impact to reduce the decline of these remaining populations.

Part of the strategy involves helping people to derive a sustainable use from orchids, not as a primary income, but as part of a process of diversification of income generation to reverse the disastrous modern trend to encourage subsistence farmers to depend upon a single highly technified crop, and abandon all their strategies for subsistence and self-sufficiency in rural areas.

2. Establish and maintain organizations that protect orchids and orchid habitat

The Program sets out to form responsible, informed, groups pf people who have the interest, capacity and commitment to intervene in the decline of orchid populations within their community lands, which in this proposal, in all cases are areas of importance for the conservation of biodiversity in general, and orchids in particular.

The long-term assessment, or accompaniment, will ensure that the participants receive constant encouragement, help and advice to overcome obstacles, as well as occasional, small investments for materials etc.

In the case of CaféOrquídea, once the plantations have been selected and adapted and the orchid populations are recovering, with experts from ECOSUR and the world of specialty coffee we will carry out the necessary economic analysis and register CaféOrquídea as a new product.

Rural Soconuscan people are poor and it is important to help them find viable and sustainable options in return for positive stewardship of natural resources, and without falling into the trap of yet again over-exploiting the very resources on which the depend.

3. Conduct studies related to orchid conservation

Linked to this strategy myself and collaborators are carrying out various studies to understand orchid ecology, propagation, pests and diseases, interactions with mycorrhizal fungi, assisted *in situ* germination, and the effect on the coffee harvest of the removal of moss and epiphytes from the trunks and branches of coffee bushes. (Some of these studies are included in the second proposal by AD).

From the activities mentioned in this proposal, we will generate information that will be very useful for the improvement of the program and the publication of a guide or manual.

4. Educate the public about conservation in general, orchid conservation in particular, and encourage public participation in conservation

The basis of the Program is education, we offer basic, essential information that is easy to assimilate and which relates directly to the activities carried out. We hope that the experience of learning about the natural environment and orchids in particular, rescuing orchids and restoring populations in their communities will be an important experience for

the participants, which could also serve as a model for other threatened or over exploited elements of the biodiversity.

D. HOW WILL THE REQUESTED FUNDS BE USED TO FULFILL YOUR PARTICULAR NEEDS?

I would like to apply for funding with a total of US$3,500, to be divided up as follows:

US$1,000 for diesel for the Nissan pickup with double traction that belongs to the Project (ECOSUR). This will help with travel costs; most of the groups are situated within a radius of 50km, whereas one group (Jaltenango) is 500km away. All groups will receive *in situ* training sessions and then continued assessment.

US$1,800 for assistance with field work and supervision by the technician Nelson Pérez Miguel. This person belongs to the Mam community and has been working with me for nearly 10 years. (He has been paid personally by me, with very occasional short term support from ECOSUR or external projects). He knows the routine and helps with all technical and logistical aspects of the organization, activities and interaction with the groups.

US$700 for tools and materials. We will need several sets of secateurs for cleaning and dividing rescued orchids and for vegetative division within the galleries and restoration sites. We will need rolls of fishing line caliber 50 for tying the orchids to substrates and galvanized wire caliber 12 to hang the plants and substrates from the gallery rooves. The remaining money will be spent on buying a few sections of “Aluminet” shade cloth for the galleries, this shade cloth has proved to be the best for our tropical, humid climate, it does not fill up with algae, it reflects solar heat, gives an excellent quality of light, and does not cause humidity build up in the growing space below.

E. HOW WILL YOU EVALUATE THE SUCCESS OF YOUR PROJECT?

In two of the communities we already have advances and preliminary data that indicate that the program, consisting of training, accompaniment and galleries, restoration sites and orchid rescue brigades, gives positive results. With the addition of more groups that will carry out these activities we should be able to draw conclusions and make recommendations.

Caféorquídea is a new proposal and one year is too short a period to be able to draw conclusions. At the end of one year, we will have preliminary data concerning the number and diversity of orchid species rescued and then planted in the CaféOrquídea sites. Hopefully the data will show that a diversity of threatened orchid species can be rescued and reestablished in this way. However, it will take at least 5 years to be able to conclude that the strategy is successful and viable long-term.

The other important factor to measure success will be the response of the community groups to the process of training and the work carried out. At the end of the year we hope to invite all the groups to participate in a forum, in which they will spend a day sharing information and comparing results, and discussing possible modifications and changes to the methods and procedures.

F. HOW WILL YOU PUBLICIZE THE RESULTS OF YOUR PROJECT?

We will publish our results in newspapers, exhibitions, workshops and academic conferences. If the data are sufficiently consistent, we could consider a scientific publication.

A detailed budget,

Please note that other costs related to this project have been included in the full proposal, such as the printing of a detailed guide to sustainable orchid management, and the setting up and training of a Young Orchid Volunteers group. This proposal is for the basic running costs and extension of the Integrated Strategy for the Restoration and Conservation of Orchidaeae in the Southeast of Mexico.

As mentioned in section D, t I would like to apply for funding with a total of US$3,500 for the one-year project. The costs relate to transport to and from the 9 communities situated at between 50 and 500 km from our base in Tapachula. The payment of the technician Nelson Pérez Miguel is essential for the successful execution of the activities. And finally, certain tools and materials will be needed to carry out the activities (fishing line caliber 50, galvanized wire caliber 12, sections of “Aluminet” shade cloth)

1. RESULTS

Presentation of the proposal CaféOrquídea in various communities:

We did not visit Piedra Partida as expected, they had committed themselves to a coffee “modernization program. Jaltenango received the presentation, but decided the program was not compatible with existing commercial commitments. Various members of the El Retiro group wanted to participate but could not because of political divisions within the community.

Benito Juárez el Plan continues with their UMA. They had already received the first phase of the CaféOrquídea program before the period of this funding, and now have 6 participants. **Toquián y Las Nubes, Cordova Matasanos** and **Tuzantán** (Cooperative La Aurora), all committed to the program. One group, San Sarabia, have political problems at the moment, but we hope, eventually, to incorporate them into the program.

We later presented the CaféOrquídea proposal in the communities **Barrio Nuevo, San José-El Carmen** and **San Marcos**, all of which committed to the program.

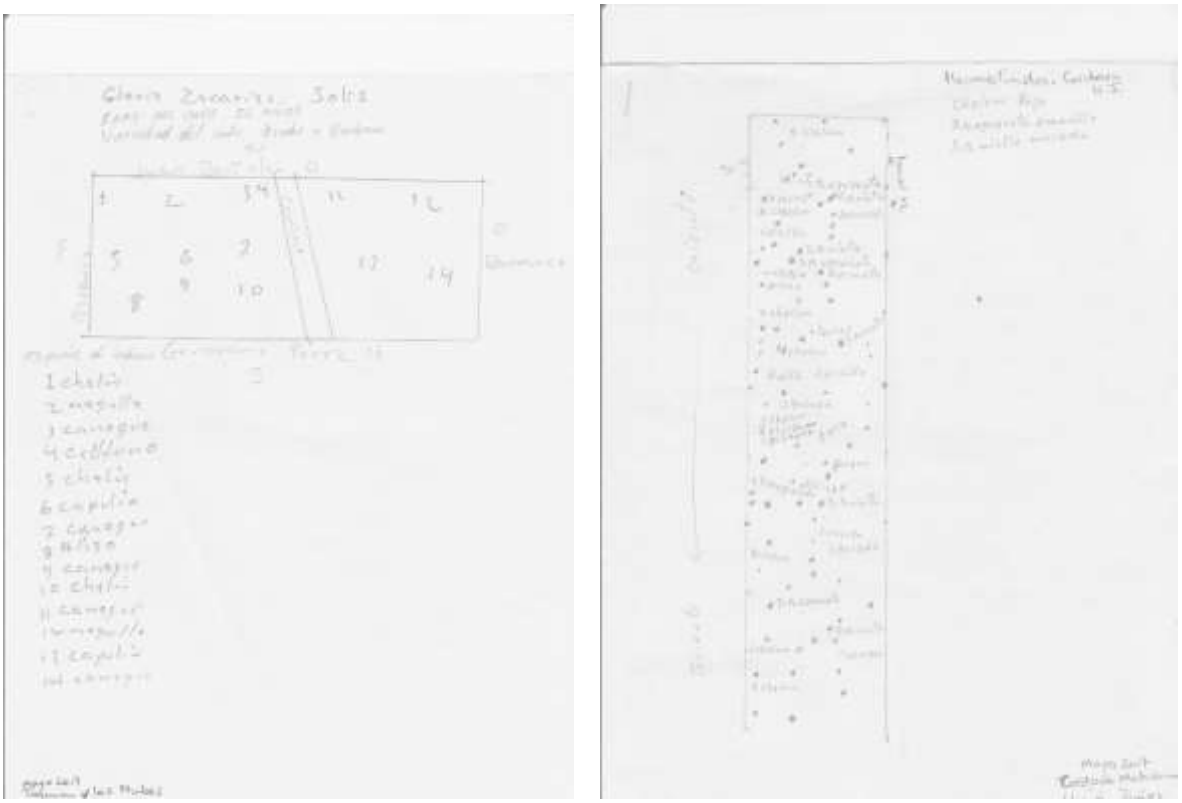
There is a very promising group situated in a key orchid diversity area, that is due to begin working with the CaféOrquídea program in 2018, **Motozintla**, giving a total of 8, possible 9 groups.

First presentations, evaluation of coffee plantations and workshops.

Jaltenango

El Retiro

Example of signed list of participants (San Marcos)



Examples of maps of the areas delegated to CaféOrquídea.
(Gloria Zacarías of Toquián y las Nubes
Hermelindo González of Cordova Matasanos)

Cooperative La Aurora

Barrio Nuevo

.




San Marcos

We have started work in the plantations of two of the producers in Toquián y Las Nubes but have yet to be able to organize the workshop for the whole group and, as yet, do not have photographs of those activities

Delivery and planting of coffee bushes

One of the sources of coffee bushes, Cooperative La Aurora


Delivery to Toquián y Las Nubes

Don Francisco San José-El Carmen

Don Hermelindo Córdova Matasanos


Barrio Nuevo

Planting out the coffee bushes
In Benito Juárez el Plan

Delivery and planting of orchids

Córdova Matasanos

La Aurora

The CaféOrquídea program currently includes the following individuals, communities, or groups:

Ejido Benito Juárez el Plan. Municipality of Cacahoatán. Biosphere Reserve Volcán Tacaná and Priority Terrestrial Area Tacaná-Boquerón.

Ejido Barrio Nuevo. Municipality of Cacahoatán. Biosphere Reserve Volcán Tacaná and Priority Terrestrial Area Tacaná-Boquerón.

Ejido Toquián y Las Nubes. Municipality of Unión Juárez. Biosphere Reserve Volcán Tacaná and Priority Terrestrial Area Tacaná-Boquerón.

Córdova Matasanos. Municipality of Unión Juárez. Priority Terrestrial Area Tacaná-Boquerón.

San José - Ejido Cerro del Carmen. Municipality of Unión Juárez. Priority Terrestrial Area Tacaná-Boquerón.

Cooperative La Aurora. Municipality of Tuzantán. Priority Terrestrial Area Tacaná-Boquerón.

San Marcos - Nuevo Centro de Población. Municipality of La Concordia. Biosphere Reserve El Triunfo.

To be incorporated during 2018

8. Motozintla. Municipality of Motozintla. To be defined. Priority Terrestrial Area Tacaná-Boquerón.

9. San Sarabia. Municipality of Tuzantán. Priority Terrestrial Area Tacaná-Boquerón.

List of tree species, with their common names, present in the CaféOrquídea plots.
Many of these trees are suitable phorophytes for epiphytic orchids
In the following section of details per community, only the common names are used:

moquillo	*Saurauia yasicae* Loes	Actinidiaceae
jobo negro	*Spondias mombin* L.	Anacardiaceae
cherimoya	*Annona cherimola*	Annonaceae
chiche	*Aspidosperma megalocarpon* L.	Apocynaceae
mano de león	*Oreopanax* sp.	Araliaceae
madrón blanco	*Clethra mexicana* DC.	Clethraceae
té	*Hedyosmum mexicanum* Cordem	Chloranthaceae
chalum	*Inga vera* Willd. or *Inga micheliana* Harms	Fabaceae
paterna	*Inga jinicuil* Schltdl. & Cham. Ex G. Don	Fabaceae
caspirol	*Inga laurina* (Sw.) Willd.	Fabaceae
hormiguillo	*Playtmiscium dimorphandrum* (J.D. Smith) Donn.Sm	Fabaceae
chicharro	*Quercus skinneri* Benth.	Fagaceae
marillo	*Calophyllum brasiliense* L. Cambess	Guttiferae
laurel	*Litsea glaucescens* Kunth.	Lauraceae
canelillo	*Ocotea acuminatissima* (Lundel) Rohwer	Lauraceae
canojo	*Nectandra* sp.	Lauraceae
ceiba	*Ceiba pentandra* (L.) Gaertn.	Malvaceae
cajete	*Heliocarpus americanus* L.	Malvaceae
molinillo	*Quararibea funebris* (La Llave) Vischer	Malvaceae
canaque	*Chiranthodendron pentadactylon* Laurréat	Malvaceae
jushte	*Brosimum alicastrum* Sw.	Moraceae
matapalo	*Ficus* sp.	Moraceae
capulín	*Trema micrantha* (L.) Blume	Ulmaceae
alicillo, alís	*Frangula capeifolia* (Schltdl.) Gubov	Rhamnaceae
siquinay		Rhamnaceae
nispero	*Eriobotrya japonica* (Thunb.) Lindl.	Rosaceae
rabo lagarto	*Zanthoxylum melanostrictum* P. Wilson	Rutaceae
mezcal	*Ulmus Mexicana* (Liebm.) Planch.	Ulmaceae
guarumbo	*Cecropia obtusifolia* Bertol.	Urticaceae

List of trees for which we still only have the common names
aguacatillo, aguacatillo de montaña, ceresillo, ceytuno/celtuno, caramulla, chachalaca, chalín, chamen, chaperón, cherimoya, chilicap, chims, chiri, cinco negritos, encino alís, jobillo, malacate, matasano, palo de agua, palo escobo, pamarroz, pashtillo, peña, pino, roble de montaña, salmo, tepaguacate, tepaguacate de montañauva, zapotillo,zapotillo blanco

Also found in the plantations, were a variety of citrus trees (orange, lemon, lime, mandarin), mango, plantain, bananas, pacaya palm (*Chamaedora* sp.) and manaca palm (*Attalea rostrata* Oerst.).

NB In the higher areas of Soconusco, plantations are divided into “cuerdas” that measure 484 m^2 (22x22m).
……..

Details of participants in the CaféOrquídea Program

1. Benito Juárez el Plan
N 15 05 35.9 W 92 08 51.98
Altitude 1,500 m asl

The existing members of the UMA and the Rescue Brigade, plus other interested members of the community, had already received the presentation of the program CaféOrquídea along with the rest of the . We visited and evaluated the plantations of those that were interested.

6 members:
1. Florentino Salas Morales
2. Bonifacio Morales Ortiz
3. Hilario Morales Verdugo
4. Hipólito Velasquez Verdugo
5. Nelson Pérez Miguel
6. Maximiliano Velásquez Salas

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
1. 0.5 hectares. Coffee bushes 20 years old, varieties Arabica and Bourbon.
2. 4 cuerdas. Coffee bushes of various ages from 2 to 20 years, varieties Arabica, Catimor and Bourbon.
3. 6 cuerdas. Coffee bushes of various ages from 1 to 10 years, varieties Arabica and Bourbon.
4. 3 cuerdas. Coffee bushes 5 - 7 years old, variety Arabe and Borbón.
5. 20 cuerdas. Coffee bushes 2-25 years old, including 2 cuerdas “modernized” plantation, with young coffee bushes. Varieties Arabe and Borbón, Marceyesa,
6. 4 cuerdas. Coffee bushes 2 – 10 years old, varieties Arabe and Borbón.

Tree species present in the CaféOrquídea plots:
1. Chalum, quina, sangre de perro, peña, pino, moquillo, mata palo, salmo
2. Chalum, quina, moquillo, alís
3. Zapotillo, cajete, chalum, capulín blanco, moquillo, malacate, canaque, canelillo, sangre de perro
4. Chalum, moquillo, quina, aguacatillo, sangre de perro, palo de agua, guarumbo, zapotillo, capulin, cedrillo
5. Chalum, cherimoya, guayaba, caspirol, canaque, nispero, capulín, aguacate, zapotillo, quina, moquillo
6. Chalum, zapotillo, quina, moquillo, guarumbo, capulín, chiri, sangre de perro, cajete, paterna, pashtillo

Native trees delivered and planted
During the week of 12 June 2017. Paid for by the project, propagated by Nelson Pérez.
13 young trees per farmer
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco.

Coffee bushes delivered and planted.
During the week of 8 May 2017. Bought from Elvia Bravo Zacarías
48 x Mundo Novo, 8 per farmer
420 x plantlets Mundo Novo, 70 per farmer
420 x ¼ kg bags

During the week of 16 October 2017. Donated by Cooperative La Aurora
420 x a mixture of Geisha and Bourbón, 70 per farmer

Orchid plants delivered and planted:
This group still have relatively abundant orchids in their plantations, and as a result of the training workshops for the UMA, some of the farmers have already been rescuing orchids and planting them onto their coffee bushes and shade trees.
In this stage of the program no orchid plants were delivered in this community.

……

2. **Barrio Nuevo**. Municipio de Cacahoatán.
Missing coordinates and altitude. GPS

Presentation of the program CaféOrquídea, followed by workshop. Visit and evaluation of the coffee plantations.

6 socios:
1. Anastacio Gamboa Roblero
2. Juan de León Bartolón
3. Margarito De León Ramírez
4. Evodio de León Bartolón
5. Leonardo Velásquez
6. Salustio Morales Verdugo

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
1. 5 cuerdas. Coffee bushes 7 years old, variety Arabe.
2. 2.5 cuerdas. Coffee bushes 5 years old, variety Arabe.
3. 2 cuerdas. Coffee bushes 10-15 years old, varieties Arabe and Bourbón.
4. 3 cuerdas. Coffee bushes 5- 5 years old, varieties Arabe, Costa Rica 95, Bourbón.
5. 5 cuerdas. Coffee bushes 15 years old, variety Arabe.
6. 2 cuerdas. Coffee bushes 10-12 years old, variety Arabe.

Tree species present in the CaféOrquídea plots:
1. Chalum, matapalo, sangre de perro, capulín, tabaquillo, moquillo
2. Chalum, pino, canaque, aguacate, limón, pamarroz
3. Chalum, alisillo, canaque,
4. Chalum, zapote, platano
5. Chalum, uva, cajete, moquillo, charamulla
6. Chalum, ceresillo, alis, moquillo

Native trees delivered and planted:
During the week of 12 June 2017. Paid for by the project, propagated by Nelson Pérez.
1 x aliso; 13 x chamen; 18 x chicharras; 1 x laurel; 1 x paterna; 1 x níspero; 5 x aguacatillo
13 young trees per socio
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco

Coffee bushes delivered and planted:
During the week of 10 May 2017. Bought from Elvia Bravo Zacarías
48 x Mundo Novo, 8 per socio
420 x plantlets Mundo Novo, 70 per socio
420 ¼ kg bags

During the week of 16 October 2017. Donated by Cooperative La Aurora
420 x a mixture of Geisha y Bourbón, 70 per socio

Orchid plants delivered and planted:

The orchid plants are ready to be delivered and planted within the next few weeks, now in 2018.

……

3. **Córdova Matasanos**. Municipio de Unión Juárez
N 15 04 17.5; W 092 04 47.1
1,449 msnm

Presentation of the program CaféOrquídea, followed by workshop 2 hrs. Visit and evaluation of the coffee plantations.

1 socio:
Hermelindo González

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
2 cuerdas. Coffee bushes 25 years old, variety Arabe.

Tree species present in the CaféOrquídea plots:
jobillo, chicharra, jobo de montaña, níspero, tepeaguacate, laurel, alicillo, chilicap, alis, chirimoya, moquillo, capulín, malacate.

Native trees delivered and planted:
During the week of 12 June 2017. Paid for by the project, propagated by Nelson Pérez.
1 x té; 2 x chicharro; 2 x aguacatillo; 1 x jobo negro; 1 x madrón blanco.
13 young trees per socio
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco.

Coffee bushes delivered and planted:
During the week of 10 May 2017. Bought from Elvia Bravo Zacarías
6 x Mundo Novo
70 x plantlets Mundo Novo
70 ¼ kg bags
During the week of 16 Octuber 2017. Donated by Cooperative La Aurora
70 x mixture of Geisha and Bourbón,

Orchid plants delivered and planted:
This plantation is situated near to a population and many of the orchids originally growing on the coffee bushes and shade trees had been extracted and sold illegally by other people.
30 junio 2017
86 plants
Ornithocephalus tripterus (2), *Dichaea muricatoides* (1), *Prosthechea ochraceae* (3), *Comparetia falcata*/*Ionopsis utricularioides* (1), *Trichocentrum candidum* (4), *Leochilus scriptus* (8), *Oncidium poikilostalix* (20), *Campylocentrum micranthum* (7), *Notylia barkeri* (5), *Scaphyglottis crurigera* (10), *Gongora cassidea* (2), *Stelis quadrifida* (7), *Oncidium laeve* (1), *Brassia verrucosa* (3), *Oncidium sphacelatum* (1), *Maxillaria hagsateriana* (2), *Epidendrum ramosum* (2), *Guarianthe aurantiaca* (3), *Prosthechea baculus* (2), *Barkeria obovata*/*skinneri* (2)

……

4. **San José**. **Ejido Cerro del Carmen.** Municipio de Unión Juárez
N 15 03 60.9; W 092 05 86.3
1297m

Presentation of the program CaféOrquídea, followed by workshop. Visit and evaluation of the coffee plantations.
Has not done the map

1 socio:
Fernando de León

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
27 cuerdas. Acahual + Gárnica, Bourbón, robusta; Área de Márago, Bourbón, Costa Rica 95; 6 cuerdas de puro Bourbón.

Tree species present in the CaféOrquídea plots:
tepeaguacate de montaña, tabequillo, tepeaguacate, aguacate, matasano, 5-negritas, palo de agua, canaque, zapotillo, moquillo, mezcal, capulín.

Orchids observed originally in the CaféOrquídea plot:
*Leochilus scriptus***, *Guarianthe aurantica*, *Epidendrum ramosum*, *Stelis quadfrifida*, *Prosthechea ochraceae*, *Prosthechea* sp*., Campylocentrum micranthum*, *Mormolyca ringens*, *Dichaea muricatoides*, *Restrepia trichoglossa***.

Native trees delivered and planted:
During the week of 12 June 2017. Paid for by the project, propagated by Nelson Pérez.
3 x chicharros; 3 x chamen; 2 x aguacatillo; 1 x té; 1 x jobo negro; 1 x encino alis; 1 x caspirol; 1 x paterna.
13 young trees per farmer
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco

Coffee bushes delivered and planted:
10 May 2017
6 x cafetos de Mundo Novo, 70 pesatillas de Mundo Novo. No. bolsas – 70. Mayo 2017.

16 October 2017
70 plantas de café de variedades Geisa y Bourbón,

Orchid plants delivered and planted:
30 May 2017
82 orchid plants.
Trichocentrum ascendens (1), *Polystachya cerea* (1), *Prosthechea radiata* (2), *Pleurothallis nelsonii* (3), *Maxillaria friedrichsthallii* (10), *Ornithocephalus tripterus* (2), *Comparetia falcata*/*Ionopsis utricularioides* (1), *Trichocentrum candidum* (8), *Leochilus scriptus* (16), *Oncidium poikilostalix* (22), *Campylocentrum micranthum* (6), *Notylia barkeri* (2), *Stelis quadrifida* (2), *Brassia verrucosa* (2), *Guarianthe aurantiaca* (2), *Barkeria obovata*/*skinneri* (2)
Also one plant each of two species of *Catopsis* and one of *Tillandsia bulbosa* (Bromeliaceae)
……

5. **Toquián y las Nubes**. Municipio de Unión Juárez
Coordinates N 15 05 07.6 W 92 07 16.9
Altitude 1490m snm

Activities completed: Presentation of the program CaféOrquídea, Visit and evaluation of the coffee plantations. Delivery and planting of coffee bushes and native trees (2 socios only). We have not yet held the workshop.

6 socios:
1. Gloria Zacarías Solis
2. Aquino E. Sánchez de León
3. Nelson Enrique Sánchez Roblero
4. Gerardo Sánchez Bartolín
5. Ana María Ortiz Ventura
6. Gregoria Roblero Ramírez

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
1. 1 cuerdas. café árabe y Bourbón. Edad de 25 años.
2. 2.5 cuerdas. café árabe y Bourbón. Edad de 15 años.
3. 1 cuerdas. café árabe y Bourbón. Edad de 15 años.
4. 1 cuerdas. café árabe y Bourbón. Edad de 40 años.
5. 1 .5 cuerdas. café árabe y Bourbón. Edad de 25 años.
6. 1 cuerdas. café árabe y Bourbón. Edad de 20 años.

Tree species present in the CaféOrquídea plots:
1. Chalum, aliso, canaque, capulín, celltuno, chalin, moquillo.
2. Chalum, aguacate, capulín, chims, moquillo, pacaya, quina.
3. Chalum, capulín, rabo lagarto, madrón, moquillo, níspero.
4. Aliso, canelillo, capulín, jobo, mano de león, moquillo, níspero.
5. Chalum, aguacate, capulín, moquillo, níspero, pacaya.
6. Chalum, aliso, siquinay, guinte, moquillo, pacaya, palo blanco, quina.

Native trees delivered and planted:
During the week of 12 June 2017. Paid for by the project, propagated by Nelson Pérez.
18 x chamen; 15 x aguacatillo; 16 x encino; 3 x chicharros; 3 x chamen; 2 x aguacatillo; 1 x té; 1 x jobo negro; 1 x encino alis; 1 x caspirol; 1 x paterna. Mayo 2017.
13 young trees per socio
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco

Coffee bushes delivered and planted:
10 May 2017. Bought from Elvia Bravo Zacarías
48 x Mundo Novo, 8 per socio
420 x platlets Mundo Novo, 70 per socio
420 ¼ kg bags

16 octubre 2017. Donated by Cooperative. La Aurora
420 x a mixture of Geisha and Bourbón, 70 per socio

Orchid plants delivered and planted:
30 May 2017
In the plantations of 2 socios (Aquino and Nelson), 84 orchid plants in each case. *Epidendrum myrathicium* x3, *Leochilus oncidioides* x70, *Leochilus carinatus* x 8.*Oncidium poikilostalix* x 21, *Ornithocephalis tripterus* x 3, *Stelis quadrifida* x 2, *Dichaea muricatoides* x 10, *Prosthechea baculus* x 3, *Specklinia tribuloides* x 10, *Scaphyglottis crurigera* x 30, *Ionopsis satyrioides* x 7, *Barkeria obovata* x 1

……

6. Cooperative La Aurora. Municipio de Tuzantán
Missing coordinates and altitude. GPS

Activities completed: Presentation of the program CaféOrquídea, followed by workshop. Visit and evaluation of the coffee plantations. Delivery and planting of coffee bushes and native trees).

7 socios:
1. Tirso Alberto Sánchez López
2. Juan Ramón Sánchez Maldonado
3. Pedro López
4. Evangelino Arguello
5. Gustavo Puon Rosas
6. Victorio Sánchez López
7. Jorge Reyna Aguilar

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
This group works as a cooperative in a single plot “Kancún las Nubes”, measuring 3 hectares.

Tree species present in the CaféOrquídea plot:
Molinillo, Guayabo volador, chiche, mulato, chaperon, ceiba, jushte, zope negro, marillo, hormiguillo, cacao volador, jobo de montaña, manaca

Tree species present in the CaféOrquídea plot:
Molinillo, guayabo volador, chiche, mulato, chaperon, ceiba, jushte, zope negro, marillo, hormiguillo, cacao volador, jobo de montaña, manaca.

Native trees delivered and planted:
During the week of 12 June 2017
13 young trees per socio
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco

Orchid plants delivered and planted:
May 2017
92 orchid plants delivered and planted
Notylia barkeri x 8; *Cyrtochiloides ochmatochila* x 1; *Dichaea muricatoides* x 7; *Trichocentrum candidum* x 2; *Trichocentrum oerstedii* x 1; *Prosthechea ochraceae* x 4; *Brassia verrucosa* x 7; *Leochilus oncidioides* x 29; *Specklinia tribuloides* x 1; *Guarianthe aurantiaca* x 3 (con enfermedad); *Stanhopea saccata* x 2; *Campylocentrum micranthum* x 10; *Oncidium poikilostalix* x 2; *Epidendrum ramosum* x 2; *Ornithocephalus tripterus* x 8 (most in a poor state) *Trigonidium ergotonianum* x 12.

……

7. **San Marcos. Nuevo Centro de Población.** Municipality La Concordia
15 53 0.22; 093 01 17.0
1169 m asl

This is a recently settled (1994) community, of indigenous Tzotzil people. They have planted 25 hectares of Arabica coffee of the varieties Bourbón and Arabe. They have settled in the Biosphere Reserve " El Triunfo" and were provoking forest fires because of their traditional cultivation methods. CONANP has been working with them to solve this, and coffee was decided upon as the best option. (Technican CONANP - Octavio Arcenio Carbajal Gómez)

Activities completed: Presentation of the program CaféOrquídea, followed by workshop. Visit and evaluation of the coffee plantations. Delivery and planting of coffee bushes and native trees). As yet no orchid plants have been delivered

20 socios:
1. Alberto Gómez Rodríguez
2. Daniel Gómez Pérez
3. Mariano Gómez Rodríguez (2 plots)
4. Fernando Hernández Pérez
5. Rosa Pérez López
6. Alberto Gómez Pérez
7. Sebastian Gómez Pérez
8. Domingo Gómez Zantis
9. Mario Gomez Diaz
10. Armando Jiménez Pérez
11. Feliciano Diaz López
12. Gilberto Gómez Pérez
13. Juan Hernández Pérez
14. Manuel Gómez Hernández
15. Marco Gomez Diaz
16. Oliverio Gómez Velasco
17. Rosalinda Velasquez Pérez
18. Rosendo Gómez Velasco
19. Salvador Diaz de la Cruzk
20. Salvador Gómez Hernández

Area (hectares or no. of cuerdas) of CaféOrquídea plots, and details:
1. 1.11 hectares. Bourbón
2. 2.5 hectares. Bourbón, Catura, Oro Azteca, Catimorro
3. 1.75 hectares. Borbón, Oro Azteca, Catimorro, Catura, Arabe
4. 2.29 hectares. Bourbón, Oro Azteca, Catimorro, Catura

5. 1 hectare. Bourbón, Catimorro, Catura
6. 0.8 hectare. Boubón.
7. 0.4 hectare. Borbón, Catura, Catura Roja
8. 0.25 hectare. Bourbón
9. 1 hectare. Borbón, Oro Azteca
10. 0.13 hectare. Borbón, Oro Azteca
11. 0.25 hectare. Bourbón
12. 0.625 hectare. Boubón, Catymorro, Oro Azteca, Catura
13. 0.5 hectare. Bourbón, catura, Catimor,
14. 0.375 hectare. Bourbón, Oro Azteca
15. 0.125 hectare. Bourbón
16. 2.5 hectares. Bourbón, Oro Azteca
17. 2.5 hectares. Bourbón, Arabe, Oro Azteca, Catura
18. 1.78 hectares. Boubón, Oro Azteca, Catimorro
19. 0.44 hectarea. Bourbón, Catura,
20. 0.5 hectare. Bourbón, Catimorro

Tree species present in the CaféOrquídea plots:

1. Chalum, caspirol, chachalaca, paterna, naranja, limón,
2. Chalum, caspirol, paterna, guarumbo, cacao, naranja, limón, papause, mandarina, guineo
3. Chalum, caspirol, chachalaca, mandarina
4. Chalum, caspirol, chachalaca, mandarina, mango, guineo
5. Chalum, guineo
6. Chalum, caspirol, naranja
7. Chalum, caspirol, chachalaca, guineo
8. Chalum, caspirol, chachalaca, roble, guayaba, aguacate
9. Chalum, caspirol, guineo
10. Chalum, caspirol, guineo
11. Aguacate, lima, limón, guineo
12. Chalum, caspirol, chachalaca, nispero, guineo
13. Chalum, caspirol
14. Chalum, caspirol, guineo
15. Chalum, aguacate, limón
16. Chalum, caspirol, paterna
17. Chalum, caspirol, chachalaca, canaco, roble, naranja, mandarina, limón
18. Chalum, caspirol, paterna
19. Chalum, caspirol, mandarina, mango, limón, guineo
20. Chalum, guineo

Also observed amongst the coffee plantations:
matilisguate (fresno,excellent phorophyte), carnequin, cedro, higuerillo (control of rodent pest “tuza”), aguacatillo, pino, siquinay, duraznillo, Encino (excellent phorophyte)

Orchids observed in the chosen CaféOrquídea plots
Oncidium sp., *Scaphyglottis* sp.1, *Scaphyglottis* sp.2 , *Guarianthe skinneri*

Native trees delivered and planted:
13 young trees per socio
Chicharro, laurel, chamen, aguacatillo, zapotillo blanco

Coffee bushes delivered and planted:
16 October 2017. Donated by Cooperative La Aurora.
70 coffee bushes per socio, a mixture of Geisha and Bourbón,

Orchid plants delivered and planted:
So far, no orchids have been delivered or planted. Distance and lack of access to telephones, internet etc., slow down the process of communication and organization of activities with this group.

……

8. Motozintla
UMA and CaféOrquídea. Site to be defined

……

9. San Sarabia, municipality of Tuzantan. Awaiting authorization.
……..

Colection of orchids, for transference and planting onto coffee bushes in Caféorquídea plantations

The following coffee plantations were selected for still having, in a few areas, abundant small and miniature orchids growing on the coffee bushes. A small proportion of those orchids were collected.

Finca San Andrés, municipio de Tapachula
30/05/2017
15 03 59.6; 092 14 44.5
563 m
Barkeria obovata, *Campylocentrum micranthum*, *Leochilus scriptus*, *Polystachya cerea*, *Trichocentrum ascendens*

Finca El Carmen, municipio de Tuzantán.
29/06/2017
Cafetal abandonado, con diversidad de árboles de sombra
15 13 52.7; 092 27 57.7
1328 m
Scaphyglottis crurigera, *Oncidium sphacelatum*, *Specklinia tribuloides*, *Guarianthe aurantiaca*, *Notylia barkeri*, *Dichaea muricatoides*, *Prosthechea baculus*, *Epidendrum ramosum*, *Restrepiella ophiocephala*, *Trichocentrum luridum*/*oerstedii*.

Finca Alianza, municipality Cacahoatán
04/07/2017
15 02 33.5; 092 10 28.3
669 m
Campylocentrum micranthum, *Leochilus scriptus*, *Leochilus oncidioides*, *Leochilus* aff. c*arinatus*, *Ionopsis satyrioides*, *Erycina crista-galli*

Finca San Luis, municipality Tapachula
04/07/2017
15 02 54.8; 092 14 63.2
518 m
Campylocentrum micranthum, *Leochilus scriptus*, *Polystachya cerea*, *Barkeria obovata*, *Guarianthe aurantiaca*, *Prosthechea* sp. (*cochleata*?)

2. THE PRINTING OF A GUIDE, OR MANUAL FOR THE SUSTAINABLE MANAGEMENT OF EPIPHYTIC ORCHIDS IN THE SOUTHEAST OF MEXICO

US$1,580.00. Costs of edition and printing of a limited edition of the guide.
Evidence: Printed examples of the guide.

The information accrued during 25 years working in coffee plantations and natural ecosystems and almost 20 years of working more specifically with orchids in a variety of contexts in the region of Soconusco, and the results of the studies carried out in this proposal, will be combined to design a guide or manual that will be used by community groups involved in orchid conservation, extension workers, researchers, students and enthusiasts to make informed decisions regarding the management and sustainable exploitation of native orchids.

The guide will be well illustrated, presented in simple, non-technical language and be easy to follow by people with limited formal education, but at the same time useful for specialists. We propose to print a limited edition of the guide, in an economical format, preferably of recycled paper and with a plastic, protective cover.

2. RESULTS

I am slowly putting together the information for the guide, but would like to include experiences gained from the CaféOrquídea program and also the work with the young people in the Brigade.
I would like to send to SDCOS a first draft of the guide later on this year.

3. THE FORMATION AND TRAINING OF A SELECT GROUP OF YOUNG ORCHID RESEARCHERS AND ENTHUSIASTS

US$1,580.00. Travel costs, food and lodging and the costs of day trips and materials during the workshop.
Evidence: Photographs of the workshop and testimonials of the participants. A plan of action drawn up between all the participants.

The Project is already host to the successful “Taller de Ciencias de Plantas, para Jóvenes” (Plant Science Workshop for Young People) that is offered every year as part of a national plan to promote quality science and motivate the best students in Mexico. We propose to offer a one-off Orchid Conservation Workshop for Young People and from there maintain the group as a functioning part of the Integrated Strategy for the Restoration and Conservation of Epiphytic Orchidaeae in the Southeast of Mexico. The workshop will, last a week, and include theoretical sessions, field trips and work with the community groups. Depending upon the number of interested candidates, and where they live, the money will be used to help pay their travel costs, food and lodging and the costs of travel and materials during the workshop.

3. RESULTS

First meeting. November 2017. Groups A and B separately
(same program repeated for both groups)
Group A: 29, 30, 31 of November 2017
Itandehui, Usiel, Marco, Macario, Juana, Blanca, Alicia, Derly, Adelmi

Group B: 22, 23, 24 of November 2017
Ivette, Sinhué, Monserrat, Jonathen, Elías Martínez, Elías Cruz, Diana, Silvino.

Program
Day 1 - In the classroom, with a series of talks and discussions throughout the day.
Bed and Breakfast in Hotel San Francisco in Tapachula.
Day 2 - Leave early for the visit to an UMA (Environmental Management Unit).
Bed and breakfast in Cacahoatán (group B) or Mapastepec (group A).
Day 3 – Continuation of work in the UMA.
Return to Tapachula, and then return home
The participants return home with homework, they are requested to design and carry out a short project which will then be discussed in the second meeting.

Second meeting. March 6 - 9, 2018. Groups A and B together.
Program
Day 1 - In the classroom. Presentation of project results and exchange of experiences. Invited speaker.
Bed and Breakfast in Hotel San Francisco in Tapachula or departments ECOSUR.
Day 2 - Leave early for the visit to the orchid collection (Group A) or a visit to a natural protected area (Group B).
Bed and Breakfast in Hotel San Francisco in Tapachula or departments ECOSUR.
Day 3 – inverted activities Leave early for the visit to the orchid collection (Group B) or a visit to a natural protected area (Group A).
Bed and Breakfast in Hotel San Francisco in Tapachula or departments ECOSUR.
Day 4 - In the classroom. Presentation of project results and exchange of experiences. Session to define strategies and commitments and decide mechanisms for the long term continuation of the Brigade.
Return home.

Group A

Wednesday, the first day was spent in the classroom in ECOSUR (did not take photos)

Santa Rita de las Flores, Municipality Mapastepec
Thursday 30 November and Friday 1st December.

Breakfast in the market in Mapastepec on Thursday and Friday morning

When we arrived on Thursday morning, plants collected by the Orchid Rescue Brigade of Santa Rita de las Flores, were already in place for the practical workshop on Friday 1 December.

Thursday: Presentation of the members of the Environmental Management Unit (UMA) of Santa Rita de las Flores, leader Abel, with Group A of the Southeast Mexico Orchid Conservation Brigade, on Thursday morning.

Presentation of the craft pieces made with orchid flowers: earrings, necklaces, capsules, models.

Visiting the 10 orchid galleries that make up the UMA in Santa Rita de las Flores

Lunch in the UMA leader’s house (Abel)


Practical session
to identify, clean, divide the rescued orchids, before tying them onto bark slabs.


Even some of the children from
the community got interested!

Grupo B

Wednesday, the first day was spent in the classroom in ECOSUR

Benito Juárez el Plan, municipality Cacahoatán.
Thursday 23 and Friday 24 of November

The view of the cloud forests circling the Tacaná Volcano.

Breakfast in the log cabins

Presentation of the members of the Environmental Management Unit (UMA) of Benito Juárez El Plan with Group B of the Southeast Mexico Orchid Conservation Brigade, on Thursday morning.

Getting to know the members of the UMA and their orchid gallery


Practical session to identify, clean, divide the rescued orchids, before tying them onto bark slabs, or taking them to plant in the coffee plantations.




Visiting the organic, Arabic coffee plantations in the community Benito Juárez el Plan, where they started with 1 person in the CaféOrquídea program in 2016 and 5 more in 2017.

Practical session tying the rescued, cleaned and divided orchid plants onto suitable host plants, or phorophytes, as a contribution to the CaféOrquídea program. This also served as a refresher session for the members of the UMA.