

Project Update: September 2017

Principal results obtained during the first semester of the project

Five field expeditions have been carried out, four on the southeast coast and one on the northeast coast of Cuba (Fig. 1D, E). It is important to note that during the fieldwork it was discovered that *T. malpighiarum* is probably more threatened than initially thought. During these field trips was not possible to locate new populations of *T. malpighiarum*, apart from the known population located in El Guafe, Desembarco del Granma National Park (Fig. 1A, B). This population of El Guafe currently have a much smaller number of individuals than registered before in 2013, when 254 individuals were found (García-González et al., 2016). During our field trips only 102 individuals were found in the same population. Of these individuals 79 (77.45 %) were adults (Fig. 2). Besides, a worker of the national park told us that a lamentable fact took place during this period of time. A worker of the national park stopped some people, near the population, illegally collecting different orchid species among which there could be some *T. malpighiarum* individuals.

We also carried out several awareness raising, environmental education and project dissemination activities, with inhabitants of the communities Cabo Cruz and Las Coloradas (Fig. 1G, H, I), with very encouraging results. These towns are located within the DGNP (Cabo Cruz) and in its periphery (Las Coloradas), and are the closest human settlements to the only population of *T. malpighiarum* confirmed so far. Mainly Cabo Cruz is located only 2.5 km from the population of *T. malpighiarum*.

Tangible products

An informative article about *T. malpighiarum*, its ecological characteristics and its current conservation status, is currently under development. This manuscript is intended to be published soon in the magazine *Flora and Fauna*, a popular, periodical publishing, which is widely distributed among the managers of protected areas of Cuba (e.g., Desembarco del Granma National Park). The manuscript was written in a simple language and have numerous images, so we think that will be very attractive and will play an important role in working with communities living within Desembarco del Granma National Park. It will also serve as a basis for park's biodiversity managers to focus their efforts on *T. malpighiarum* conservation and it will facilitate the work of field workers in the protected area.

Field experiences

The first 6 months of the project were very complicated from the logistic point of view. In Cuba, mobility and food supply in the field is very difficult, however, we managed to carry out five field trips, where we walked through large wild and difficult to access areas. These field trips were made mainly on areas with xeromorphic coastal scrub, semi-deciduous forest and transition areas between these two plant formations (Fig. 1C), which are complex of vegetation with very difficult conditions, with many thorns, much sun and sometimes very dense. Usually during each of these expeditions we spent several days in the field, and in order to reach the areas where we carried out the work, we had to use many means of transportation, such as public buses, horse carts, rented cars, tractors and trucks.



Figure 1. A: *Tetramicra malpighiarum* (Orchidaceae) individuals in their habitat, on the El Guafe trail, Desembarco del Granma National Park (DGNP), Cuba. B) Flower of *T. malpighiarum* C) Transition areas between semideciduous forest strips and coastal xeromorphic scrubland, where the population of *T. malpighiarum* lives in El Guafe. D) Conducting field explorations in search of *T. malpighiarum* populations, on the southeastern coast of Cuba. E) Part of the working team during field explorations. F) Taking ecological data from *T. malpighiarum* population in El Guafe. G) Cabo Cruz Community. H and I) Community work and environmental education activities with the residents of Cabo Cruz.

Next steps

In the coming months, we will focus our best efforts to continue education and environmental awareness activities for children and other human settlements located in and around Desembarco del Granma National Park, mainly Cabo Cruz community. In addition, we will try to locate the locality of Las Mamas in central Cuba and we will carry out field expeditions in this site. Also, we will continue to study several ecological aspects of *T. malpighiarum* population on El Guafe (Fig. 1F), to finally elaborate a scientific paper, which will be published in an arbitrated scientific journal.

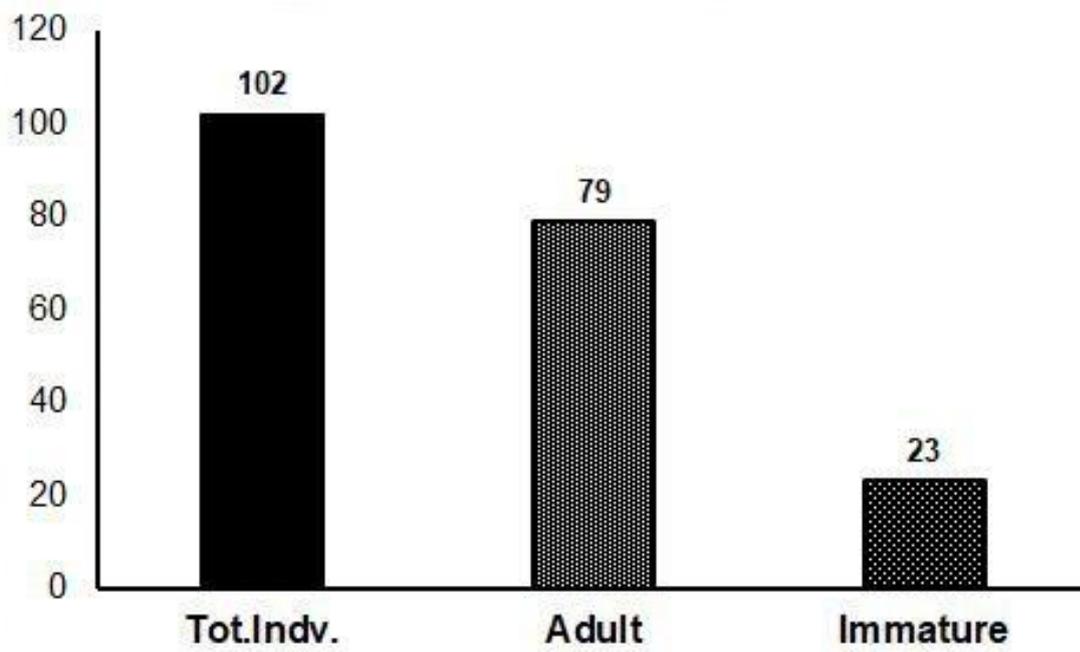


Figure 2. Total number of individual (Tot.Indv.), adults and immatures of *Tetramicra malpighiarum* (Orchidaceae) in the population of El Guafe trail, Desembarco del Granma National Park (DGNP), Cuba.