

Project Update: January 2013

The work in this period was mainly devoted to the study of the species *Polymita brocheri*. Five expeditions were conducted in the municipality of Maisí, and in every location different environmental education activities were also carried out. We worked with three different schools, “Jesus Alfredo Noa Díaz” at Punta de Maisi, “Julio Antonio Mella” at Patana Arriba and the school in La Maquina town. A total of 69 children, farmers, teachers and community environmental activists participated in these environmental activities, which were the first of their kind in this place. The protected area has been functioning for just 1 year and for that reason is required a considerable work of training with the personnel. In that sense a training course about the management and monitoring of the *Polymita* species is currently undergo.

A characterisation of the vegetation in each locality of every population of *Polymita brocheri* was completed, registering the plants that serve as a substrate for the species. According to the literature and reviews of collections, we found that *Polymita brocheri* has the most restricted geographical distribution, limited to only three small towns in the eastern municipality of Cuba: Maisi, Cuesta del Palo and Mesa de Ovando, and every locality has a subspecies described: *Polymita brocheri brocheri*, *P. brocheri cuestana* and *P. brocheri ovandoi*, respectively. On these trips we found two new populations on the Pozo Azul road, one of *Polymita brocheri ovandoi* and other of *Polymita brocheri brocheri*, being the latter subspecies the most abundant in the area with a high population density, despite the severe drought in the area.

The population of the subspecies *Polymita brocheri brocheri* from Punta de Quemado and the population of the subspecies *Polymita picta roseolimbata* from Majana are threatened by exotic invasive species, the grey rat (*Rattus rattus*) and by guayabitos (*Mus musculus*), affecting their population density. The population of *Polymita brocheri brocheri* visited in Punta de Quemado cohabits with *Cerion paucicostatum* Torre, 1929, *Macroceramus parallelus* Arango, Pfeiffer, 1866, and *Coryda alauda weeksiana*, Blanes, data that will help in their management.

For *Polymita picta* we visited 10 locations of the municipalities of Baracoa and Maisi. Of those, only three are within protected areas: Yamanigüey, Yara-Majayara and El Cayo, the other seven (Patana Arriba, Caguasey, Paraíso, Maguana, Yumurí, Diamante and Plata de Nava) are outside of protected areas, with a high degree of human disturbance. All the populations placed outside protected areas are surrounded by farms with obvious signs of destruction of vegetation for agricultural purposes. In the areas of Paraíso, Yumurí and Caguasey are present yellow morphs with white stripes and brown, but also yellow morphs with black and white stripes which are the predominant. During the samplings only a maximum of two individuals of this species were registered in a morning. It is necessary to point out that red morphs with black stripes and white striped green morphs are no longer observed in these localities. These populations have been subject to a strong human pressure, because they are close to the city or tourist areas and their shells are sold to foreigners for necklaces or other crafts. In the reviews of the collections that we have conducted, we noted a *Polymita picta* morph that has not been seen in recent years in the wild (in the mentioned localities of the collections), instead a new population of

this morph was found in very good condition within Alejandro de Humboldt National Park, not previously referred in the collections.

Personal collections were also studied, to get the morphometric diversity of the genus *Polymita*. We realise that some of the diversity of the genus that was represented in these collections was lost. We exhorted to the owners of these collections which are not deposited in any governmental institution, to curate and protect these specimens which are very important to any study of these species.

A lot of hurricanes that impact Cuba enter for the most eastern point of the island (Maisí). After the hurricane of August 2012 which carried a sea flooding, we observed that the population of *Polymita brocheri brocheri* in Patana Abajo (Maisí) was affected. The salinity burned much of the sea grapes that served as substrate for several species of molluscs, including this one. This species lives between the first and second marine terraces near the coastline, for this reason their populations are affected in every climatological event. However, this species is not under pressure of the illegal trade because the shell is not so attractive for this purpose.

In addition to all this work several environmental education activities took place in the city of Baracoa as part of the efforts of the projects: a television and two radio programmes dedicated to *Polymita* species; hiking with children to observe *Polymita picta* populations, and a painting competition dedicated to the beauty of this endemic jewel.



Left: Environmental education activities. Right: *Polymita brocheri*.