THE MARGARITA MONKEY, AN ENDANGERED CAPUCHIN INHABITING A FRAGMENTED HABITAT ON MARGARITA ISLAND, VENEZUELA

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Rufford Small Grant

Final Report

2008

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PROJECT SUMMARY

The Margarita capuchin monkey (*Cebus apella margaritae*) is the only primate species on Margarita Island (920 km^2), which is located in the Venezuelan Caribbean Sea. This monkey lives in Margarita's mountain forests, where it lacks large predators and natural primate competitors. Capuchins have a relevant role in forest dynamics as predators and seed dispersers; unfortunately these roles could be highly affected in Margarita's forests, if the monkey's population keeps decreasing. This primate is on the IUCN Red List and the Venezuelan Red List as a critically endangered sub-species. Parts of the distribution range of the Margarita monkeys are protected areas, but they are still threatened by hunting and by inhabiting a reduced and fragmented habitat. They are hunted for pest control and pet trade. Recent reports of released monkey pets of different species by local people in the habitat of the Margarita monkeys can be another threat. This primate inhabits four separate mountains on the island. One of these is Cerro el Copey National Park, another is Cerro Matasiete Natural Monument and two remain unprotected (Serranía del Cerro Tragaplata and Cerro Taguantar). The vegetation cover of these mountains has particular ecological interest, because they support an isolated cloud forest at an exceptionally low altitude (c.a 600m asl) contrasting with an arid lowland. On the Caribbean coast of South America there are only two more localities with these features, the "Cerro Santa Ana" on the Paraguaná península, Venezuela and the "Serranía de Macuira" on the Guajira Peninsula of Colombia. The main goal in this study is to evaluate the use of habitat by the Margarita capuchin monkey over its fragmented range of distribution and generate recommendations for its conservation. Data was collected in the four forest fragments where these monkeys live. Characterisation of the habitat, line-transect surveys and pet surveys along with interviews with local people were conducted. Transects were located in the study sites under a stratified-random design and Distance sampling was used to collect and analyse the data recorded on transects. Although Margarita Island is best known for its beaches and several tourist attractions, this is also one of the islands with higher biodiversity in the Caribbean Sea. Information will be provided to develop proper conservation management for the Margarita monkey. The conservation of this capuchin is a key element in protecting the habitat of other endemic species and the ecological processes in Margarita's mountains.

LONG-TERM PROJECT

The Margarita Monkey Project has been developed as a long term study. Many steps should be taken to ensure proper decisions for the conservation of this population. Although this primate is considered the most threatened primate in Venezuela, no actions have been taken until now. The first step of this long-term project was prepared as my PhD thesis. This first step has allowed me not only to collect the information needed during fieldwork, but to consolidate links with government and non-governmental organisations involved in the decision-making process.

Activities and projects have been designed with these organisations in order to guarantee the continuity of the long-term project while I am in the phase of data analysis and writing up for my PhD thesis. Considering the data we already have collected during fieldwork for my thesis, we are ready to go to the next step which is a project of conservation genetics of the Margarita Island capuchin and a more detailed health evaluation of the monkeys in captivity. This will be developed in collaboration with personnel from the IVIC (Venezuelan Institute for Scientific Research), a Venezuelan researcher who is based in Brazil conducting conservation genetics projects and a veterinarian of the Island. Genetic differences between sub-populations of these monkeys living in different forest fragments on Margarita Island, presence of hybrids in captivity or in the wild, as well as genetic differences between this subspecies and the closer subspecies present in Venezuela and other countries will be tested. Results from pet surveys already done, are the basis for a conservation genetic project focused on these monkeys in captivity. For the groups of wild monkeys whose sleeping sites have been determined already, and efforts will be made for park rangers to visit them frequently, in order to start the habituation process of these groups.

Preliminary results from my thesis support the initiative of the local Director of INPARQUES, who has prepared a project justifying the need to increase the area of El Copey National Park, to include the two unprotected forest fragments which monkeys inhabit. He is also convinced of the need to design corridors between forest fragments on the island, to guarantee gene flow.

With the objective of presenting the Margarita capuchin monkey as a flagship species for conservation of the island, several activities have been planned. Images and video of the monkeys

and their habitat were captured with the colaboration of a photographer from the Fundacion Vuelta Larga using their equipment. We have finished a video that was prepared as material for environmental education at different levels, such as high schools, local people, government and non-governmental organisations and university students. FUNDANISIL a local NGO has received recently approval from the government to have a Rescue Centre for local species (Figura 1). Other NGOs are preparing a project to develop a Rescue Centre for primates in captivity on the island. I support them with advice and reports of people who want to give them their monkeys.They are also designing activities for environmental education.

Figure 1. The government has recently approved the creation of a rescue centre managed by local NGO FUNDANISIL. They already have some cages for monkeys that they plan to improve with the rescue centre. (Photo: Natalia Ceballos-Mago).

PEOPLE VISITING THE STUDY AREA AND CONTRIBUTING TO THE PROJECT

Since the beginning of the project I have received on Margarita Island the visit of researchers that have contributed positively to this study (Figure 2). My Supervisor Dr David J. Chivers, head of the Wildlife Research Group at the University of Cambridge, Shaenandhoa Garcia-Rangel (PhD candidate at the University of Cambridge) and Dr David Augeri (member of the Wildlife Research Group and Coordinator of Conservation Biology at Denver Zoo), visited my fieldwork site during the preparation of this project. Several field methods were discussed and the most suitable for the characteristics of the area were selected. Once the project started I have received short visits from Mailen Riveros and Dr Romari Martinez, two Venezuelan researchers that have conducted research in the area of primatology and conservation genetics, respectively. In the last

phase of this fieldwork time I received the visit of Dr Marcela Santamaria a Colombian primatologist that also studied at the Wildlife Research Group in Cambridge. All of them gave invaluable advice for this project.

A) Dr David Chivers (centre), Shaenandhoa Garcia-Rangel (right) and Ysmael Valera Park ranger (left).

B) Dr David Chivers and Natalia Ceballos-Mago in a Cloud Forest, Serranía del Cerro Tragaplata.

C) Dr David Augeri (right) and Elysa Silva (left) student from Universidad Central de Venezuela.

D) Mailen Riveros (right) and Victor Zacarias (left) during plant survey in Cerro Copey National Park.

E) Dr Romari Martínez (left) Natalia Ceballos-Mago (centre) and Magaly Pernía (right) planning future conservation genetic project.

F) Dr Marcela Santamaría (right), Anahy Marcano from Inparques (left) and Victor Zacarías during plant survey in Cerro Copey National Park.

Figure 2. People visiting and contributing to the project. (Photos: Natalia Ceballos-Mago, B: Shaenandhoa Garcia-Rangel).

MAIN GOAL AND OBJECTIVES FOR PROJECT FUNDED

The main goal in this project is to evaluate the use of habitat by the Margarita capuchin monkey over its fragmented range of distribution and generate recommendations for its conservation.

To achieve this, the relative contribution of (1) type of habitat, (2) hunting activities, (3) proximity to towns and agricultural areas and (4) presence of other introduced primate will be evaluated as factors affecting densities and distribution of capuchins.

The following specific objectives, will lead to the achievement of the main goal:

OBJECTIVE 1. To estimate Margarita monkey density, group size and composition in the three forest fragments where this species lives on Margarita Island.

OBJECTIVE 2. To characterise the type of habitats in each forest fragment.

OBJECTIVE 3. To evaluate the effect of hunting pressure for pest control and pet trade on Margarita monkey density, group size and composition.

OBJECTIVE 4. To explore the correlation between other introduced-primate densities on Margarita monkey density, group size and composition in the three forest fragments.

INTRODUCTION TO PRELIMINARY RESULTS

After acquiring satellite images and other cartographic material, Geographic Information System (GIS) was used to determine location of sampling points, following the sampling design previously planned. Assistance of a Venezuelan geographer (Carlos Enrique Gonzalez) has been invaluable for GIS support during the project.

Results presented in this report are preliminary. Most of the comments are referred to data until July 2007, because data was transcribed to the computer until that time. A terrible circumstance of two laptops, back-ups and other field equipment stolen in the field site in December 2007 has

the consequence of loss of some field data and data transcribed to the computer until December 2007. Currently data is in process of being entered into the computer for data analysis.

After this incident, efficiency in the field had to be maximised. Time was spent in the field and writing reports was postponed until now when fieldwork has finished. Now data entry and data analysis will start in the Wildlife Research Group, University of Cambridge.

Figura 3. Margarita capuchin monkey *Cebus apella margaritae.* (Photo: Natalia Ceballos-Mago).

MARGARITA MONKEY'S DISTRIBUTION, DENSITIES, GROUP SIZE AND COMPOSITION IN THE STUDY SITES

According to the information we had about the distribution of monkeys on the Island (Marquez and Sanz 1991), it was proposed to study the monkey population in "three" forest fragments, Cerro el Copey National Park, Cerro Matasiete Natural Monument and the unprotected area (Serranía del Cerro Tragaplata) (Figure 4). One of the contributions of this project is that we have found Margarita capuchin monkeys in another forest fragment, Cerro Taguantar, which is an unprotected area. Monkeys have been living for at least 50 years in this area, according to reports of local people, but they were not formally observed and reported by researchers that have previously studied the fauna of the island. Now we are confident that Margarita capuchin monkeys live in at least "four" forest fragments (Figure 5). Cerro Taguantar is the only mountain where monkeys are present and there is no evergreen forest. The whole mountain is covered by dry vegetation, so monkeys are living there in completely different conditions than the populations in the other forest fragments, where evergreen forest and dry forest are present (Sudgen 1986). Future research can be oriented to determine those differences. Unfortunately, we were not able to carry out proper surveys in this forest fragment, because we discovered monkeys there in the middle of the fieldwork and faced logistic constrains to work there. Park rangers and local assistants consider this area unsafe and refuse to go there.

We also have found signs of monkeys in another mountain, where they have not been reported before, Cerro Guayamuri Natural Monument, but we have not seen the monkeys there. Reports of local people suggest that the monkeys in this mountain are wedge-capped capuchin monkeys (*Cebus olivaceus*) released by local people.

Margarita monkeys have also been observed during this study in Cerro el Mico, where local extinction was report by Marquez and Sanz in 1991. I have more than 200 points for monkeys distribution, different from detections in line transects, where I have seen monkeys or monkey signs. These points are collected when I am walking on trails or in the forest approaching the transects or by park rangers and people living close to the mountains that report to me every monkey encounter. These points on the map have helped me to put together pieces of the puzzle

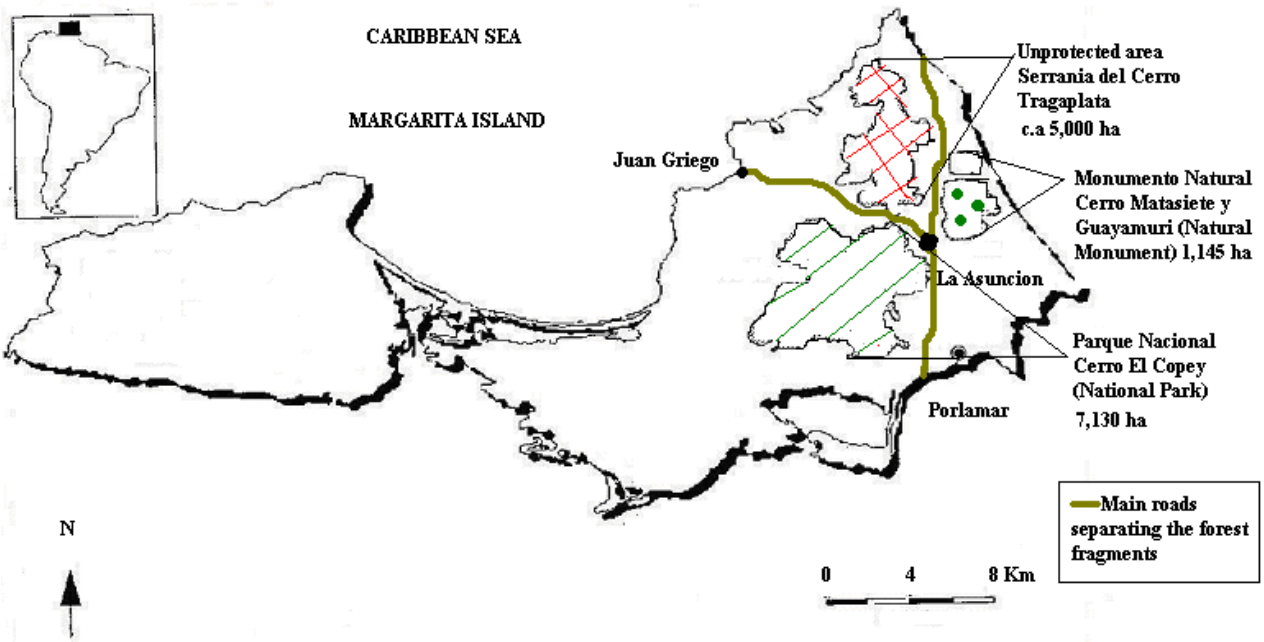

Figure 4. Mountains inhabited by Margarita capuchin monkey by 2005 beginning of this project: Unprotected area Serranía del Cerro Tragaplata, Cerro Matasiete Natural Monument and Cerro el Copey National Park. Margarita Island, Venezuela.

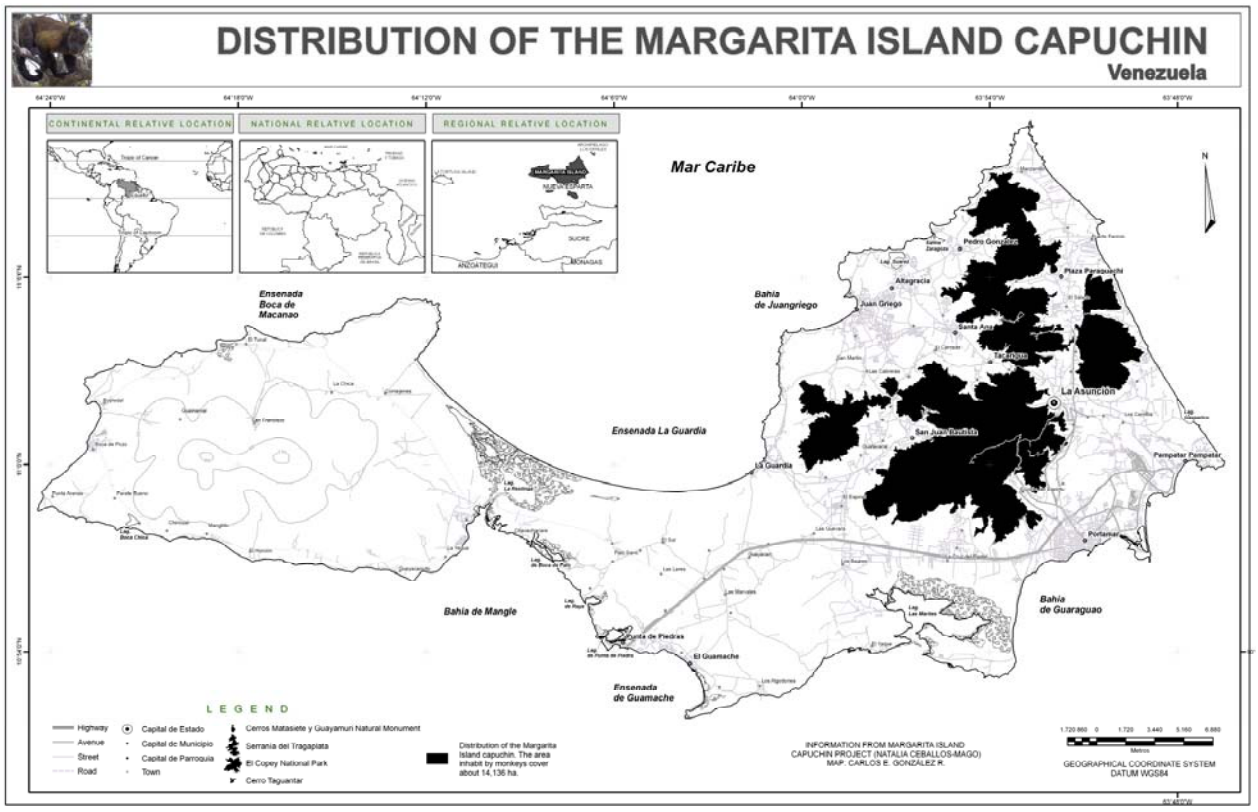

Figure 5. Mountains inhabited by Margarita capuchin monkey by 2007 when a new forest fragment was added during this project: Unprotected area Cerro Taguantar, Unprotected area Serranía del Cerro Tragaplata, Cerro Matasiete Natural Monument and Cerro el Copey National Park. Margarita Island, Venezuela.

about the distribution of these monkeys, as well as to locate places frequently used by some groups of monkeys. This information will be so useful in the future, when habituation of groups will be needed to conduct projects.

In comparison with the data we have from 17 years ago (Marquez and Sanz 1991), capuchins are now found in more places and more frequently. One of these researchers has confirmed this observation on several visits to the mountains in 2007 while conducting research on other subjects (Sanz pers. com.). During this year we have observed groups from 3 to18 individuals, with many juveniles and some infants. Average group size was 4.5 in 1992 and the largest group observed at that time had six individuals (Marquez and Sanz 1991).

Margarita capuchin monkey population seems to recover slowly, especially in the Cerro Copey National Park, where hunting pressure for pest control has been reduced due to the presence of park rangers. Nevertheless, most of the threats still persist in the whole distribution area. This primate is on the IUCN Red List and the Venezuelan Red List as a critically-endangered sub-species (Rodríguez and Rojas-Suarez 1999, Baillie and Groombridge 1996, Hilton-Taylor 2002, Rylands 2000). I consider this is still the appropriate classification, since reduction of hunting in the National Park is not enough to protect the whole population. Results from my PhD thesis will help in analyse not only the actual densities but the actual threats.

Line transects

With the help of the park rangers and a local assistant, I have completed about 200 line transects, 500 m long on average. Transects are of unequal length, from 200 to 1000 m. The problems of getting to the starting point have affected the distance we are able to walk in each transect. Transects are established at random and we use GPS, compass and hip chain to locate and measure the distance walked (Figure 6). The distribution of transects until the end of May 2007 is in figure 7. After June 2007 we spent more time in the dry forest in the lower part of the mountains to obtain the same amount of transect in each type of forest.

A 

B 

C 

Figure 6. A) Transect in the Matasiete Natural Monument. Hip-chain with biodegradable line used to measure transects can be observed as a white line in the middle of the picture. B and C) Views of the study area (Photo: Natalia Ceballos-Mago).

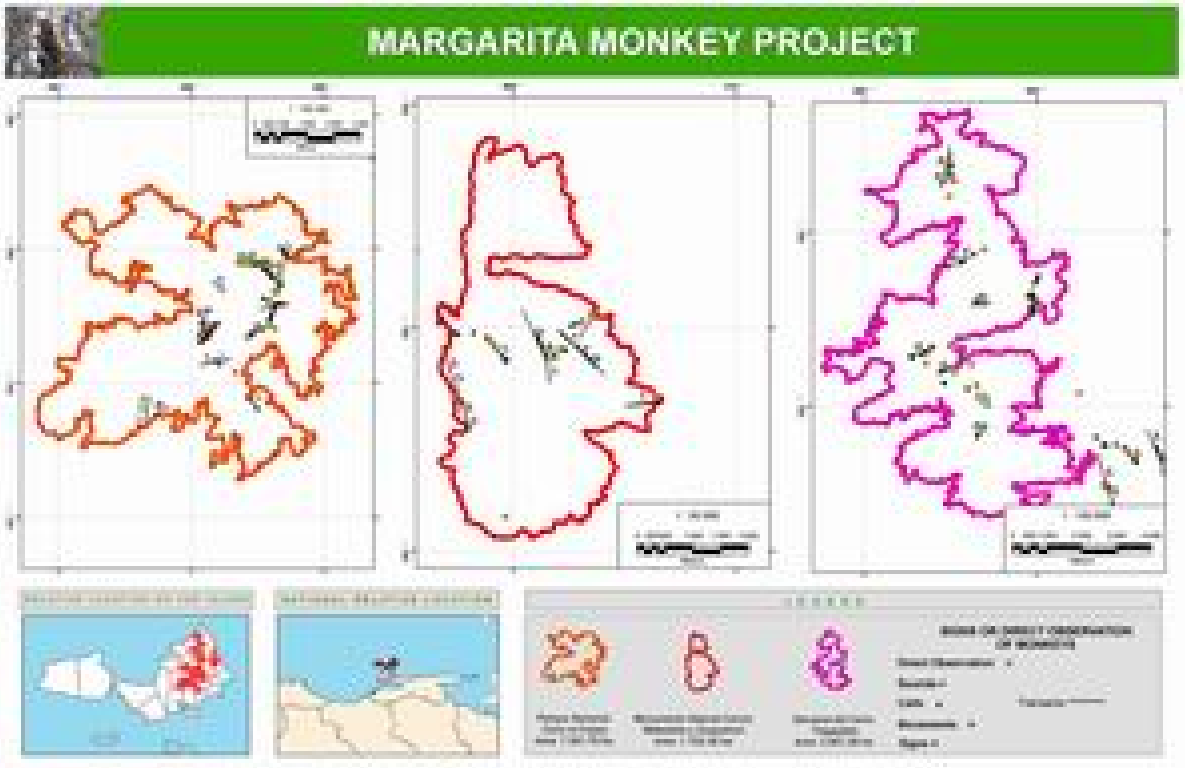

Figure 7. Distribution of the line transects in three forest fragment. From left to right El Copey National Park, Cerros Matasiete y Guayamuri Natural Monument and Serranía del Cerro Tragaplata. Line transects can be seen in each forest fragment.

Although we have direct observations of monkeys on transects during this period, it is very important that we have found on transects many signs of monkeys, such as bromeliads, palms and pith of thin branches bitten and fruits (Figure 8). We have seen monkeys or signs of them in 63 of the 116 transects. Since we are working in three forest fragments, from these 63 transects 30 are in El Copey National Park, 11 in Matasiete Natural Monument and 21 in Serranía del Cerro Tragaplata. Results about densities will be obtained after proper analysis using Distance sampling, once the whole data can be transcribed to the computer for analysis.

Figure 8. Some of the signs of monkeys found. A and B) Bromeliads, B) Orange, C) Mangos (Photos Natalia Ceballos-Mago)

VEGETATION SURVEY

In order to conduct a rapid characterisation of the habitat of the Margarita capuchin monkey, plots for vegetation survey were located at random in the main vegetation types found in the mountains, evergreen forest, dry shrub, gallery forest and agricultural areas. Local names were used in the field and plant samples were collected and sent to specialists (Figure 9). For data analysis I will characterise type of habitats between forest fragments. I will also determine the proportion of "monkey fruits" that monkeys can find in the different habitats of the mountains.

Figura 9. Plant sample collected in the field with fruits to be preserved and sent to the specialist for identification. Local name: Copeicillo. (Photo: Natalia Ceballos-Mago).

HUNTING PRESSURE FOR PEST CONTROL

Capuchins are opportunistic and adaptable monkeys that commonly enter neighbouring fields to raid crops, bringing them into direct conflict with farmers (Marquez and Sanz 1991, Fragaszy *et al*. 2004). Patterns of hunting activities are different in each forest fragment; in Matasiete Natural Monument hunting pressure seems to be low. There are only three active crops in this forest (1,145 ha), people hunt only occasionally for pet trade. El Copey National Park (7,130 ha) has the biggest extension of cultivated areas and local people commonly complain about monkeys as a pest. Nevertheless, this area is protected so control to avoid hunting is also high. The unprotected area Serranía del Cerro Tragaplata (ca. 4,400 ha) is apparently the most affected by hunting pressure for pest control and pet trade. There is not any legal control in this area. In Cerro Taguantar there is no agricultural activity, but monkeys are captured for the pet trade. Monkeys in Cerro Matasiete and Cerro Taguantar are frequently seen close to houses at the base of the mountains, which makes easier to capture.

PET TRADE

Pet survey

Since results from Martinez *et al*. (2000), the number of primates in captivity has rapidly increased in the recent years. Most of the monkeys in captivity are in terrible condition, they live in small cages or are tied with short ropes (Figure 10). Monkey pets, totalling 109, of five different species have been recorded during the pet survey (about 60% of the island was surveyed until July 2007) (Table 1, Figure 11), 24 were Margarita capuchins monkeys. The wedge-capped capuchin monkey is the commonest. The west side of the island, which is the area where Margarita monkeys are not distributed, has a low percentage of monkeys (Table 2, Figure 12). Nevertheless, the international trade of monkeys mainly occurs on this west side. Local people in this area are fishermen that frequently travel to the Guyana to fish and they bring monkeys and other animals to the island.

Species	Nº	%
Wedge-capped capuchin monkey (*Cebus olivaceus*)	72	66.1
Margarita capuchin monkey(*Cebus apella margaritae*)	24	22.0
Brown capuchin monkey (*Cebus apella*)	1	0.9
Common squirrel monkey (*Saimiri sciureus*)	7	6.4
Red howler monkey (*Alouatta seniculus*)	3	2.8
Cotton-top tamarin (*Saguinus oedipus*)	2	1.8
	N=109	

Table 1. Percentage of each monkey species in captivity on Margarita Island

Side of the island	Nº	%
East (distribution area of the Margarita capuchin monkey)	90	82.6
West (Macanao Península)	19	17.4
	N=109	

Table 2. Distribution of monkey pets on Margarita Island.

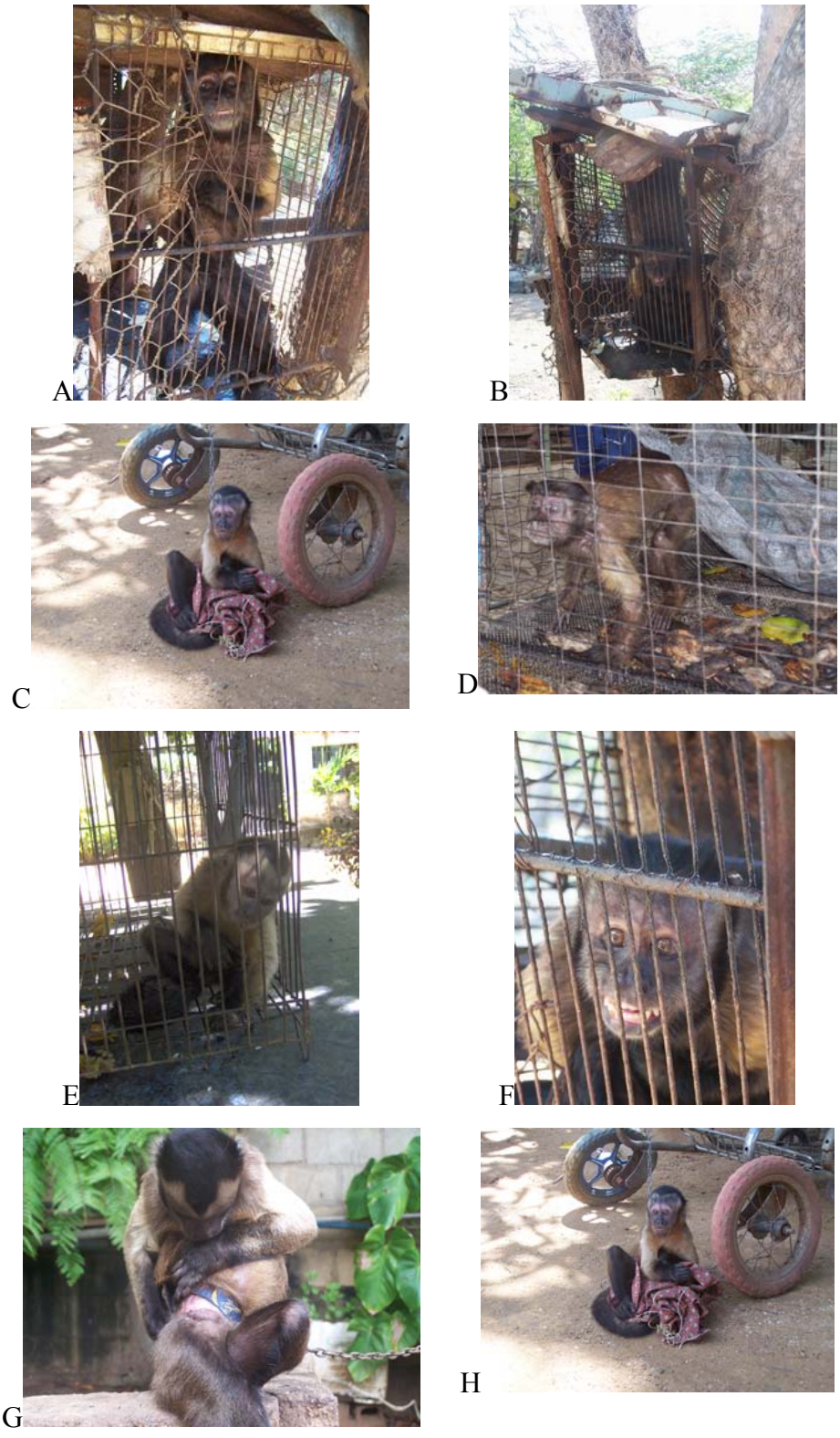

Figure 10. Margarita capuchin monkeys living in captivity in small cages or tied with short ropes in houses and restaurants without proper care. (Photos: Natalia Ceballos-Mago).

Wedge-capped capuchin monkey (*Cebus olivaceus*)

Margarita Island capuchin (*Cebus apella margaritae*)

Common squirrel monkey (*Saimiri sciureus*)

Red howler monkey (*Alouatta seniculus*)

Cotton-top tamarin (*Saguinus oedipus*)

Figure 11. Monkey species in captivity on Margarita Island. (Photos Natalia Ceballos-Mago)

Figure 12. Map of pet distribution on Margarita Island. Location of Margarita capuchin monkey pets are blue dots. Other primate pets are red dots.

Most of the monkeys detected in captivity on the Island were juveniles or sub-adults (66%). Although the Margarita capuchin monkey was found less often than the wedge-capped capuchin, it is still important to consider trade of the Margarita monkey as an important threat for the wild population. Since killing or hurting the mother is the easiest way to capture a baby, this is the commonest technique used to take a monkey for the pet trade. We could count two individuals extracted from the wild for every Margarita capuchin monkey pet that we found during the pet survey. Thus, the partial result of 24 individuals in captivity probably means almost 48 individuals extracted from the wild population in the last years, which is an important number of monkeys in an endangered population.

Health

We have found monkeys in captivity in really bad condition, such as Jessica (Figure 10D and Figure 13A). Parasites caused her several health problems. People where she was living gave her to us and the veterinarian gave her the proper treatment. About six months later she looked much better. Parasites are the commonest problem, since humans and primates can share the same parasites. Other common problems are injury cause by the leads used to tie the monkeys (Figure 10G). In those cases the veterinarian has also given advice and treatment (Figure 13B). To stop the illegal traffic of monkeys and to build a rescue centre for monkey pets, are urgent needs on the island.

A  B 

Figure 13. A) Monkey in captivity (Jessica) with several health problems caused by parasites. B Veterinarian (Magaly Pernía) conducting a health examination. (Photos: Natalia Ceballos-Mago)

PRIMATE PETS RELEASED

The large number of monkeys located in the east side of the island close to the area of distribution for the Margarita capuchin monkey (Figure 11), show that efforts should be made to avoid these pets going to the mountains. Reports of released wedge-capped capuchin, red howler and Margarita capuchin monkeys by local people in the habitat of the wild Margarita monkeys is another threat for these primates. Such releases must be considered in terms of disease transmission risks and hybridisation (Chivers 1991, Woodford 2000, Baker 2002). We have

already listened to howler monkeys in the Natural Monument and local people have confirmed that there are four howlers living there. We also observed a wedge-capped capuchin monkey living in a group of Margarita Island capuchin in the National Park and local people have reported monkeys different from the Margarita capuchin monkey living in three of the four forest fragments inhabits by Margarita capuchins. Until now I have not observed hybrids or "rare individuals" in captivity or in the wild. Nevertheless, genetic hybrids could not express this condition. Genetic analyses are planned for the near future in collaboration with Venezuelan researchers in conservation genetics.

During interviews I have detected some people behaviours that cause concern. For instance some people go to the mountains with their monkeys for a "fun walk" allowing their pets to jump freely in the trees. Juveniles commonly come back easy but once these monkeys turn to adult age they will be more independent and will be difficult to convince them to come back.

LOCAL INVOLVEMENT, EDUCATION AND PROFESSIONAL DEVELOPMENT

During this project I have consolidated links with government and non-govermental organization, as well as with local people and students from local and national universities. Personnel from the National Parks Institute (INPARQUES) not only gave permission to conduct the project in the protected areas, but participate actively in fieldwork activities, which was invaluable. The knowledge of the area of park rangers and local assistants was useful to move efficiently in the forest and at the same time they were trained in field techniques that they will be able to apply in future conservation projects for monkeys and other species (Figure 12A).

Students from national and local Universities participated in the project. One student from the Universidad Central de Venezuela, Elysa Silva spent five months on the island developing a small project on the behaviour of a Margarita capuchin monkey in captivity (Figure 2C); she also participated in the survey of monkeys in captivity and in the wild, and learned how to recognized monkey signs in the field. Students from the Universidad de Oriente, the most important local University are more focused in marine biology, but they were curious about this project in the

Margarita mountains; they participated in fieldwork for this project during the weekends or holidays.

People from local NGOs, ECONATURA7 and ABRAE were invited to the el Copey National Park (Figure 12B). During their visit I showed them the habitat of the monkeys and we talked about threats to the monkeys and their habitat. We plan future activities of environmental education that involve guided visits of high-school children to the mountains.

A  **B** 

Figure 12. A) Local assistant and park ranger learning about plant survey. B) Visit of people from local NGOs to the mountains. (Photo: Natalia Ceballos-Mago).

PRELIMINARY CONCLUSIONS

1) Margarita capuchin monkeys inhabit four forest fragments surrounded by roads, towns and the Caribbean Sea. Monkeys were found in another of these forest fragments during this project. They have been living in this forest fragment for at least 50 years according to report of local people, but they were not observed by researchers that have studied previously the fauna of the island.

2) Hunting pressure for pest control has been reduced by park rangers in the National Park (one of the forest fragments). Nevertheless, most of the threats for monkeys still persist in the whole of its distribution area. Currently, capture of wild monkeys on the island for the pet trade is one of the most important threats for the wild monkey population. The classification of critically-endangered subspecies is still the most suitable for this primate.

3) Pet survey has revealed the large numbers of monkeys in captivity on the island. More than 100 monkeys of five different species were found, after about 60% of the island was surveyed. These monkeys come from the Margarita mountains and from illegal national and international pet trade. Most of these monkeys are in small cages or tied with short ropes in houses and restaurants without proper care. Many of them have disease problems, intestinal parasites being the commonest.

4) Some of the monkeys in captivity have been released by local people into the habitat of the Margarita capuchin monkeys, causing problems of disease transmission and hybridisation. We have already observed a wedge-capped capuchin monkey living in a group of Margarita capuchin monkeys in the National Park, as well as howler monkeys released by local people living in the Natural Monument.

5) To stop the illegal traffic of monkeys, to carry out projects on conservation genetics and health evaluation of these monkeys, to establish a rescue centre for monkeys and to develop an environmental education programme are urgent needs on the island. Several activities have been prepared to continue the Margarita Monkey Project as a long-term project that considers animal welfare and conservation of this species.

6) Local assistants and park rangers trained in field techniques for animal and plant surveys will be able to participate actively in monitoring this population. They are willing to develop their training in the following stages of the long-term project; their experience in the field is a key factor in developing a successful project in the Margarita mountains.

7) During this project I have detected that most of the local human population do not receive information about endemic subspecies. I already started the dissemination of the information about the Margarita capuchin monkeys, using a video as the basis of the talk. This video is an attractive tool that captures the attention of people and combines natural and cultural images from the island, promoting the Margarita capuchin monkey as flagship for the conservation of the ecosystem of the island.

FINANCIAL REPORT

A RSG grant of £5000 was approved for this project in February 2007. The grant was received in March 2007. This is the account of all relevant expenditure in the period covered by the project.

Item	Quantity	Individual cost £	Total cost £
Materials and equipment			
Remote sensing image	1	1,000	1,000
Field supplies (machetes, lamp, tent, backpacks, notebooks)			556
Subsistence			
Food for principal investigator and assistants	12 months	200/month	2,400
Salaries			
Field assistants (local people)	1 assistant (6 months)	5.8/day	1,044
	TOTAL		**5,000**

ACKNOWLEDGMENTS

The financial support given for the Rufford Small Grant to the Margarita Monkey Project had an important impact on the proper completion of this first step of the long-term project. Other sources of funding were added during the develop of the project: IEA Fund from Venezuela, Primate Action Fund, Cambridge Overseas Trust, Cambridge Philosophical Society Travel Grant, New Hall College Research Grant, Idea Wild, Captive Care Grant and Denver Zoological Society Grant have supported this project. Fundación Vuelta Larga and INPARQUES have given institutional support for this project in Venezuela. Park rangers Pedro Marcano, Maximo Gil, Ysmael Valera, Roy Mota, Angel Rodriguez, Daniel Gomez and the local assistant Victor Zacarias gave invaluable support with their long-lasting assistance and friendship in the field.

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