RECOVERY PLAN FOR THE GIANT LIZARD OF LA GOMERA

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INFORMATIVE REPORT (ACTION E.9)

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**INTRODUCTION**

Fortunately the giant lizard of la Gomera still survives, although until recently everybody thought that it was a just another extinct lizard species and we could only use their example to adorn more articles about disappeared giant lizards.

Since June of 1999 when the first of the giant lizard from La Merica were found, until the present day only six years have passed. During this time events have transpired at a fast pace, and luckily, many of them have been positive.

![The Cliff of La Merica](image1)

During the period from the beginning of 2002 until December of 2005 the conservation program for the species has been the financial beneficiary of a European **LIFE** program in association with three local administrations: the Canarian Government, the Island counsel of La Gomera and the local council of Valle Gran Rey. The project approved in its day included a series of measures directed at removing the giant lizard from the delicate situation in which it found itself though the protection of the natural population and their habitat, the search for other possible populations, the creation of a new captive population and environmental education. To be able to carry out this plan and according to the normative fixed in the program **LIFE**, in the last four years there has been plans carried out in a series of actions that have had the object to advance in those four directions.

**THE CONSERVATION OF THE KNOWN NATURAL POPULATIONS**

From what we know at the moment, the scarce giant lizards that still populate La Gomera are found in a few hectares surrounding the area of La Merica (Valle Gran Rey) Actually a large part of the area occupied by the species corresponds to the eroded rock falls of Quiebracanillas, a area recently reoccupied by dispersing lizards.

The majority of the reproducing individuals are concentrated on small terraces situated on the higher cliffs, which face to the east and south. The terraces are narrow on which a few plants sink there roots into the poor shallow soil. This area offers little resources to the lizards but in compensation are impossible for their terrestrial predators. In 2002 these terraces had converted into the only refuge for the species. Whose occupied distribution then was less than 5000sq mts.

The majority of the area occupied by the species is included inside the borders of the Rural park of Valle Gran Rey, a zone protected by law and which has just been given initial approval for the Plan of use and Administration (Action A.1) This zone is also coincided a Place of community importance in the network of Europe nature (**LIC ES7020127**).

![SCI of la Merica. Aerial view.](image2)

Thanks to the testimonial of some local neighbours we know that the species has lost at least a part of their distribution in the last 50 years, especially due the transformation of their area into banana plantations, and to the construction of some houses and other infrastructures. Actually the major part of the area occupied by the lizards has no agriculture interest or urban use due to the continuousness rock falls in the zone. The use of the area for farm stock was restricted in 2000 thanks to an agreement with the goat herders, and only occasionally are goats or sheep detected, which are soon evacuated according to the program of farm stock control included in the Life program (**Action D.1**).

The proximity of the urban areas La Playa and La Calera has determined that Quiebracanillas is frequented by cats and rats, especially the areas closest to gardens and cultivations. The recuperation program for the lizards and the LIFE project has
included a series of measures directed to the control of these introduced mammals. For example, between the spring of 2002 and December of 2002 in a meeting of the Council of Valle Gran Rey a draft document on the municipal ordnance on domestic animals was approved (OB, Province of Tenerife 24th April 2003) Installations have been built for the temporary maintenance of cats (September 2003) A municipal register of domestic animals has been created (Actually Valle Gran Rey has the largest population of Cats registered in the Canaries) A information campaign has been put in place and a citizen conciseness scheme was implemented, with the publishing and distribution of leaflets, Radio spots and door to door interviews (Action E.4), a free voluntary sterilisation and identification program has also been implemented (Action D.2), a high percentage of semi feral town cats have been sterilized in Valle Gran Rey (Action D.1), a rigorous control of cats and rats using Tomahawk® traps has been undertaken in the distribution area of the lizards (Action D.1).

**THE SEARCH FOR NEW POPULATIONS OF GIANT LIZARDS**

The significant increase in the number of lizards (the census taken in 2004 indicates that the lizard population has doubled since 2001) this is a very important change in the population structure of the lizards (In 2001 less than 5% of the lizards were juveniles, in 2004 the percentage had risen to almost 50%) The recuperation of the areas up to now abandoned by the species (Action D.1) say much about the effectiveness of the measures taken.

**THE SEARCH FOR NEW POPULATIONS OF GIANT LIZARDS**

The necessity of increasing the genetic diversity obliged the search for other surviving populations in zones infrequently visited in La Gomera. In the end we will have to deal with looking for a quick solution to a problem that would take hundred of thousands of years in evolutionary terms.

It will consist however of a part of the plan in which there is no guarantee of success, because it will probably result in that the objective will be in reality a daydream, and the effort may be to enormous. The complicated geography of La Gomera obliges high costs in climbing material, logistics and labour, and only in the reach of specialists in vertical work.

During the last four years there has been carried out more than one hundred expeditions in the search of large lizards. Sometimes the expeditions come about thanks to the references obtained from dozens of interviews with local people who for one reason or another have frequented the most rural, and out of the way areas of La Gomera. Other times it consists of expeditions based on a systematic exploration of areas which seems favourable for the species.

The only success obtained in this campaign took place, as we will see in the Valley of Valle Gran Rey, and not far from the cliffs of la Merica, and where three observations coincided between 1991 and
2002. Without a doubt it is a prominent result that may become accompanied by new discoveries in the future in the northwest or in the west of the island.

**THE CREATION OF NEW POPULATIONS**

Although it is extreme measures that are required, a series of premises to be able to be carried out, the breeding in captivity and the creation of new populations were conceded from the beginning two measures which had to form part of the recuperation plan for the species.

On one side we need to know with a certain degree of security what causes have brought the species to the extreme situation in which it is found *(Action D.1 & F.3)*, secondly we need to have sufficient specimens with which to undertake reintroductions *(Actions F.2 F.3, F.5, & F. 6)*. After we need to choose the adequate sites to release these individuals born in captivity, condition them to the necessities of the species and look for the best solutions to counteract the threatening factors *(Action F.3 & D.1)*. Finally we need to set free the lizards and check their evolution *(Actions to be developed in the future)*.

**The Captive Breeding Program.-** A little after the discovery of the population in La Merica, it was spoken about the construction of appropriate installations to carry out an effective program of captive breeding of the species. Very promptly the lizards captured were passed to provisional terrariums, first in the municipality of La Laguna (Tenerife) and later to the village of Antoncojo (La Gomera).

In October of 2001 thanks to the European Project *FEOGA-Orientation*. Work started on the new installations situated close to the natural population in La Merica. It was a specifically designed facility to carry out a program for the breeding in captivity of the giant lizard, and also to serve as the nerve centre for the recuperation program.

During 2002 the terrariums began to take shape, along with the accommodation annex, work areas and a laboratory, always under the watchful eye of technicians with an expertise in breeding reptiles. Thanks to these measures, one by one the problems which came to light where solved, especially those related to the actual terrariums for the lizards. On the 14th April 2003 the new *Lagartario* was finally inaugurated with the presence of dignitaries and technicians, plus a few locals who came out of curiosity to the opening. Before all of this the provisional installations at Antoncojo became witness to the first lizards born in captivity.

The centre is equipped with 20 exterior terrariums and another 15 interior, with a capacity for up to 300 individuals. The exterior terrariums have a variety of surface areas between 2sq mts up to 35sq mts, water and electricity is available close by, low walls permit the advantage of direct sunlight all day thought out the year, a simple but effective system to stop the lizards escaping, plus numerous artificial hiding places for the animals, a substrate to discourage mites, a effective drainage system, and the majority of plants which nourish the lizards in the wild. The interior terrariums use a special system of illumination for reptiles, and an air-conditioned system which activates when temperatures rise above a threshold conceded dangerous.
The protocol of attention and maintenance of the lizards foresees the care and daily feeding, surveillance of each individual's physical state (Action F.2) and from the Veterinarian care (Action F.5), to the study of diseases, and other infections (Action F.3 & F.5).

Everyday, and always before the sun arrives in the area, the personal in the centre carry out the maintenance of the terrariums and the lizards which includes tasks such as watering the plants, hygiene, clearing excrement, and changing the food. The food each lizards receive depends on a diet whose design has been taken into account to provide a balance of nutrients, the water needs of the lizards, the abundance of fibre, an adequate dose of vitamins and minerals, and other factors, such as the age, the size, and the physical state of each animal.

Actually the vigilance of the physical state of the lizards is one of the routine tasks in the Lagartario. the physical state is verified on a regular basis at least once a month, all individuals are frequently weighed and twice a year the captive lizards pass a veterinarian check up, undertaken by one the best vets in Spain, specialised in Reptile pathology and physiology.

Up to now all the crosses carried out in captivity have been designed by the availability of individual breeders, and avoiding repeating the same crosses year after year. Also it has been taken into account some factors such as the size differences of the lizards, and when known the paternity. In reality this last point is difficult to state exactly in that the majority of the breeding lizards were all born in the wild, so we still have not been able establish the exact genealogy. However It is anticipated that from the beginning of 2006 this information will become available thanks to the studies undertaken in collaboration with the Consejo Superior de Investigaciones Científicas (the Spanish Research Council - Action F.6). From then we can chose more favourable crosses and develop a better plan for the genetic diversity of the captive population.

Since, when in the autumn of 2001 the first lizard was born in captivity until the autumn of 2005 they have been produced 63 hatchings, of which 56 individual have survived the first 4 days of life. The seven early deaths are owed to congenital malformations, or in the case of the twins born from the same egg, by problems of development. This relatively high percentage of a phenomenon infrequent in other Lacercids (congenital malformations and twins) could have come precisely determined by the narrow parentage among all the lizards of La Merica.
in 2002 when the LIFE Project commenced, at this rate the first individuals chosen for experimental release will be ready for the year 2009.

**The Selection of release sites.** A critical step in the process of creating new populations consists in the selection of possible release sites and an agreement on a strategy to follow up with the personal and the competent authorities in the conservation of the species. A process defined in a selection of possible sites which are able to accommodate stable demographic populations of lizard's with the greatest possibility of viability.

The information obtained from the search for new populations program (Action F.3) has served as a basis for the creation of a catalogue of potential release sites, which include basic geographic data on 20 different sites on La Gomera. If when it is coincided that a reintroduction would be viable. As well as a previous management plan which should be carried out, precisely in the Recuperation Plan (Action A.1) It is predicted some releases will take place in the next five years in five of these sites, among these are small islets, peninsulas, and coastal cliffs.

**The liberation of individuals.** The meagre numbers of eggs laid by a female, their slow growth, plus their late maturity are three of the factors which impede the speedy disposition of specimens for release

The first reintroductions can take place as we have already mentioned, in 2009. When this finally occurs, the new populations should be followed very closely during the first few months. In this way we can correct one by one the problems as they arise, until it has been proved that the population has stabilised. Later, and if everything happens according to the plan, each of these populations will be subject to the same routine cares that the natural populations receive.

**THE ENVIRONMENTAL EDUCATION**

No ecosystem, landscape or species can be conveniently preserved behind the backs of people that live close to them. If it also happens that the most serious threat factors are directly associated to human presence, we won't then only need the population to be conveniently informed, but rather it will be indispensable their understanding about the problems and active participation in the conservation programs.

To reach this objective there is an intended series of actions that will have as there main objective to promote interest in the conservation of the island and in particular the low areas, as potential habitat for the lizards. The campaign began with a cycle of conferences (Action E.6) in which almost 20% of the total population of the island participated.
filmed (Action E.2), a monographic book has been written (Action E.3), a book of stories for children have been designed and two posters printed, four different pamphlets, stickers, caps, bags, stickers and tablemats (Action E.7) have been distributed free to schools, libraries and local associations all over the island. A complete page web has also been designed in several languages (http://www.gobiernodecanarias.org/medioambiente/lagartodelagomera) which contains a deep understanding of the biology of the lizards, their main conservation problems and the measures that are being taken to counteract them (Action E.5).

The travelling exhibition (Action E.8) developed during 2004 and 2005 has visited everyone one of the Gomera municipalities, and has moved to all of the seven islands of the Canarian Archipelago and has had an enormous successes on there way to the Madrid National Museum of Natural Sciences.

Many of these actions were developed for the pupils thinking in the age group between high school and university, and in close collaboration with their teachers and parent associations. Didactic units have been devised that will soon see the light of day. There have been teaching visits carried out to the recuperation centre, and informative talks have been given so that the future of the conservation of this species and their habitat becomes a habitual matter.

The culminating point of this campaign was without a doubt at the concentration of school pupils from all over the island carried out in May of 2004, when a large percentage of pupils exhibited drawings and essays on the lizard, they sang songs encouraging their conservations, and they even designed, sweets and cakes that related to the species.

THE GIANT LIZARD AND ITS FUTURE

Since the lapse of the last six years from when the species was happily rediscovered, there have been undertaken numerous actions addressed to their conservation. The LIFE Project, from which this conservation program has benefited between 2002 to 2005, has set the base for the future.

There remains without a doubt a long road until their recuperation, which will require work from everybody involved and every one of the administrations, plus the local associations and the Gomera population to bring the species safely into port.
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Cabildo Insular de La Gomera

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