



The giant lizard of La Gomera (*Gallotia bravoana*) was thought extinct for 500 years, until the surprise discovery of a few individuals by Spanish biologists in 1999. Tourism, agriculture and predation by feral cats threatened to return the rediscovered lizard to the list of extinct species. Thankfully, two LIFE projects have helped staunch the possibility of the reptiles disappearing forever.

The return of the giant lizard of La Gomera

During the implementation of the project for the recovery of the El Hierro giant lizard (LIFE97 NAT/E/004190), the Government of the Canary Islands surveyed the whole archipelago to ensure an accurate census of giant lizards. As a result of this survey, and to the great surprise of the scientists involved, the giant lizard of La Gomera, was found in the Risco de la Mérica, La Gomera, in 1999. Long considered extinct, a population of no more than 20 individuals was found living close to a tourist area of the island (Valle del Gran Rey). Historically the lizard declined through overgrazing, hunting, and predation by introduced species, notably cats and rats. Nowadays the main threats are predation by cats; rock falls within its very restricted range; and overgrazing (mainly goats).

In 2002, a LIFE project – “Recovery plan for the giant lizard of La Gomera” (LIFE02 NAT/E/008614) – set out to draft and implement a recovery plan for the species and to set up a captive breeding programme.

CAPTIVE BREEDING: ENSURING THE GIANT LIZARD'S SURVIVAL

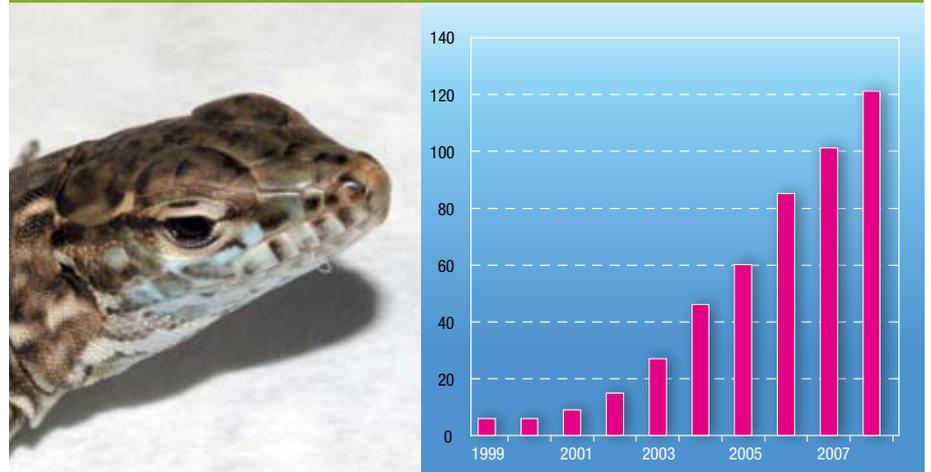
After assessing the status of the only known population of *Gallotia bravoana*, the project team drew up a plan for the recovery of the species aiming to: (i) increase the size of its population until there were

enough individuals to ensure its conservation; and (ii) to guarantee its future viability in its natural environment, by eliminating the main threats. The giant lizard's only chance of recovery was to implement a captive breeding programme similar to the one that was introduced for the El Hierro lizard (see pp. 31-32). The knowledge gained from that programme was transferred to La Gomera. The *Gallotia bravoana* programme started in 2003 with just eight individuals (five males and three females) in a modern and fully-equipped captive breeding centre. Although the funds for constructing the centre came from the European Agricultural Fund for Rural Development (EAFRD), most of the “nursing” equipment was funded by LIFE.

The 2002 LIFE Nature project was remarkably successful – 53 individuals were bred in captivity by the project's end. This success has continued: the captive breeding centre held more than 120 individuals by the end of 2008 (see Fig. 1).

While the captive breeding programme has had its successes, there have also been some setbacks – for example, the birth rate has been lower than foreseen. Only the initial founder females continue to reproduce and the average number of eggs per lay is fewer than that achieved in the captive breeding programme of El Hierro (four versus 10). Moreover, the newborns

Figure 1: Evolution of the number of individuals in the captive breeding centre





Despite some setbacks, the number of lizards born in the centre has been increasing steadily

are almost all males. This results in a reduced number of individuals available to start the expected reintroductions (releases need a higher rate of females as these lizards are polygamous- one male breeds with several females).

There are a couple of possible explanations for this lower birth rate:

- The reproduction programme in El Hierro started with a much bigger initial population (some 1 000 individuals versus the 20 individuals of La Gomera). This could mean that *Gallotia bravoana* is already suffering from inbreeding processes that lead to fewer egg-lays. According to the project technician (who formerly worked for the captive breeding programme in El Hierro), this situation had already been seen with lizards from El Hierro: animals that were genetically closed produced reduced outputs;
- In 2005, many animals became ill after inhaling polluted air from a nearby water-treatment plant. It is a possibility that females born in that year were rendered sterile.

In any case, the beneficiary is very concerned about this situation and is trying to test different procedures. For instance, it has contacted technicians from the El Hierro captive breeding programme who provided specific advice on food supply, incubation periods, etc.

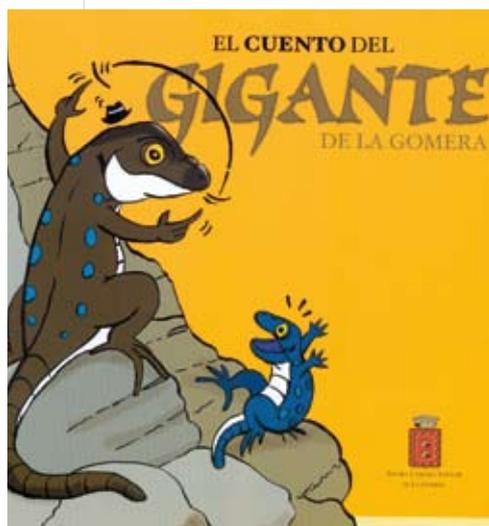
SECURING THE HABITAT FOR REINTRODUCTION

In parallel with the breeding centre actions, the 2002 LIFE project had the objective of selecting places for future reintroductions, and to secure the current wild population and reintroduction places by eliminating the threats to the lizard. This largely meant the control of feral and domestic cats by trapping. In close collaboration with the town council of Valle del Gran Rey, local vets and the NGO Pro Gomera Animal, the beneficiary designed a suitable programme whereby cats were neutered, chipped and, if they had no owner, taken out of the municipality. Traps are

placed in the dispersal areas from this town and the number of cats captured has significantly diminished. As a consequence of these actions, the natural population of the target species has increased notably. With a lack of predators, the original nuclei has engaged in augmented breeding. It was also found that this nuclei is starting to disperse around the Risco de la Mérica forming different subpopulations. In addition, a new small colony has been found in the area of Quiebracanillas (a few hundred metres away from the original colony). Therefore, the best current estimates give a figure of around 160 individuals in the wild.

This captive-born lizard was released into the wild in 2008, once the habitat had been secured





A story book for children on the Giant lizard

The 2002 LIFE project also built up knowledge about invader predators on islands, thanks to an important collaboration with another LIFE project targeting the control of invasive vertebrates on Spanish and Portuguese islands (LIFE02 NAT CP/E 000014).

Following on from "Recovery plan for the giant lizard of La Gomera", a second LIFE project – "Programme for the recovery of *Gallotia bravoana* and its distribution area" (LIFE06 NAT/E/000199) – was launched in 2006. Its main objectives are to continue the conservation strategy started by the earlier project and to release into the wild some of the lizards bred in captivity. To achieve this, the ongoing project is targeting: (i) the reconditioning the habitat areas selected for the release of the reptiles (for example by fencing the areas); (ii) implementing in at least two stages, experimental releases into the wild of lizards born

Buses with the giant lizard have become a symbol of the island



in captivity; (iii) protecting the already known populations from the effects of the main threats (especially from predators); and (iv) reinforcing the captive breeding programme begun by the initial project.

At present most of the above actions are running as planned. Notably, the phased release into the wild of some male lizards bred in captivity has begun. In August 2008, as a trial, six males thought to have the best chance of survival were released at the Los Órganos en Vallehermoso site on the islet of Roquillo. Project technicians are optimistic that the adaptation capacity of the species will lead to the establishment of viable new lizard populations on the island. The LIFE project, which ends in January 2010, still hopes to carry out reintroductions this year. The areas where this will take place have been fenced in preparation.

RAISING AWARENESS

Both LIFE projects have not only built up good knowledge of the status of *Gallotia bravoana* and of its distribution, they have also undertaken extensive awareness-raising activities, including TV, radio and press campaigns, workshops and scientific papers. School children have been successfully targeted and, since 2001, more than 100 talks have been given to children of all ages. Other pedagogical activities include a teacher training programme and a travelling exhibition with support material (story book and exercises, DVD, leaflets, etc). Moreover, in the last five years, school children also have visited the breeding centre. Every year, school children celebrate

Lizard Day, with activities including a special song, competitions and other demonstrations.

An awareness campaign including direct mail and local radio advertisements is ensuring that pet owners in Valle Gran Rey know about the sterilisation campaigns and free marking of cats.

Furthermore, the island's buses have been plastered with enormous murals of the giant lizard with the aim of raising awareness all over the island, particularly among tourists. This has proved very popular and the lizard buses have become a symbol of the island.



SPAIN

Project number: LIFE02 NAT/E/008614

Title: Recovery plan for the giant lizard of La Gomera

Beneficiary: Consejería de Medio Ambiente y Ordenación Territorial. Gobierno de Canarias

Contact: Juan Carlos Moreno

Email: jmormorj@gobiernodecanarias.org

Period: Jan-2002 to Dec-2005

Total budget: €1 267 000

LIFE contribution: €449 000

SPAIN

Project number: LIFE06 NAT/E/000199

Title: Programme for the recovery of *Gallotia bravoana* and its distribution area

Beneficiary: Excmo. Cabildo Insular de la Gomera

Contact: Casimiro Curbelo Curbelo

Email: presidencia@gomera-island.com

Website: www.gigantedelagomera.org

Period: Aug-2006 to Jan-2010

Total budget: €894 000

LIFE contribution: €488 000

