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FACT-SHEET ON:

**Mountain Chicken frog *Leptodactylus fallax***  
**UK Overseas Territory: Montserrat**

Mountain Chickens were originally found on several islands from St Kitts to St Lucia, but are now limited to Montserrat and Dominica, and now endangered on both (see below). The species is listed as Critically Endangered on the IUCN Red List.

There are some theories that the species derived from a South American relative brought to the islands centuries ago by Amerindians as food. Its food value was certainly appreciated until recent years – hence its name. On Montserrat, they are confined to the leeward (westward) side of the island, because they cannot tolerate salt-spray. They are confined to the upland forest area, but not too dense ground vegetation, so that travel and hunting are not too impeded. These frogs have an average body length of 15 cm (6 in) and weight of 350 g (3/4 lb) but large specimens could weigh double this. Females are larger than males.

Colouration is variable but generally light to dark brown with darker markings. Males have a hard black mating spur on the inside digit of each forefoot.

Hunting is nocturnal, mainly for insects but including also anything else small enough to fit into the mouth. Prey is caught by tongue and jaws but the tongue is not long. During the day, and for prolonged dry periods, they seek refuge under logs or stones or underground. The frogs may jump up to 2 m (6 ft) - or much further if on a downhill slope - powered by the hind legs. Breeding may be throughout the year depending on rainfall, usually April to August. Water is not needed and the eggs are laid in a foam nest in a depression. After 8 to 20 days, fully developed young about 25 mm (1 in) long emerge from the foam nest. They are independent. They become sexually mature at 3 years, and have been known to live for up to 12 years.

The Mountain Chickens on Montserrat were impacted by, but survived, clearance of forest for charcoal-making, timber and cultivation-space, diversion of streams, hunting for food and for sale to restaurants, and predation by introduced as well as naturally occurring animals. There was further major habitat loss in the 1990s, due to the volcanic activity destroying a high proportion of their habitat – and the resulting increase in feral animals probably also had a major impact. Some protection measures had been put in place and these were progressing



Mountain chicken

*Mountain Chicken in the wild, in the Centre Hills of Montserrat, before the accidental introduction to Montserrat of the deadly chytrid fungus. © Dr Mike Pienkowski*

well with some good effects until the early 2000s. The greatest threat to the global survival of the mountain chicken is now the deadly chytridiomycosis fungus.

Chytridiomycosis is a microscopic fungus *Batrachochytrium dendrobatidis* (Bd.), more commonly known as chytrid, and is believed to have caused the extinction and decline of over 500 amphibian species around the world. Chytrid reached Dominica in 2002, and frog populations on the island have since rapidly declined, initially leaving Montserrat as the main remaining home for this species. The fungus was subsequently introduced to Montserrat in 2009, via other species of frogs on imported banana leaves. It has spread southwards from northern ports along river systems, and nearly wiped out the Mountain Chicken frog.

Following the catastrophic volcanic eruptions on Montserrat, it had become clear that dedicated conservation measures were needed if the mountain chicken was to be saved from extinction. The Montserratian Department of Environment and NGO the Montserrat National Trust did not want to forget about their environment and the world natural resources for which they are responsible. At their request, in 1997-8, meetings and other consultations were coordinated by UKOTCF to work out which partner organisations could help in which ways. In July 1999,



the Durrell Wildlife Conservation Trust took six male and three female frogs to Jersey Zoo as part of a captive breeding study. Additional frogs have since been taken from disease-free areas, and the species has readily bred in captivity, with a number of other zoos, especially the Zoological Society of London, achieving further breeding success. These captive frogs now form the basis of a safety-net population should the species become extinct in the wild. In addition, since January 1998, the Montserrat Forestry and Environment Division has been monitoring the species' population.

In 2004, it was estimated that the world population was down to a few thousand individuals. By 2012, it may have been down to a few individuals on each island. There is the safety-net population in captivity, but some way of resisting the fungus is required if populations are to be re-established in the wild.

The zoo-based organisations involved in the captive breeding (Durrell Wildlife Conservation Trust {Durrell}, the Zoological Society of London {ZSL}, Chester Zoo, Bristol Zoo Gardens, Nordens Ark and the Government of Montserrat) collaborate in the *Mountain Chicken Recovery Project*. They have been researching the conditions needed both by the frogs and the chytrid. A key discovery is that the chytrid fungus cannot survive in temperatures above 30°C.

UKOTCF and Montserrat National Trust are delighted that, following Tim Orton's joining as one of the first participants in their *Adopt a Home for Wildlife* initiative and with his continuing strong involvement in that, he has also hosted the *Mountain Chicken Recovery Project's* experimental reintroduction work on his *Adopt a Home* site. The early stages of this experimental work are described in a video now available in our series about the *Adopt a Home* initiative (<https://youtu.be/7KH6kqG6Vhk>). UKOTCF has been pleased to facilitate this project and its predecessors in several ways over the past 20+ years.

In July 2019, the *Project* team released 27 captive-bred young adult Mountain Chicken frogs into these safe fenced areas created by environmental manipulation techniques. This semi-wild enclosure on Montserrat includes artificially heated pools that are uninhabitable for the chytrid fungus, which cannot survive in temperatures above 30°C. The pools are partly solar powered and regulate their own temperatures to ensure they remain hot enough to maintain a chytrid-free environment. The settling of the frogs is being assisted by providing supplementary food in the enclosures for the frogs during the establishment phases. The food comes from an off-site insect-breeding facility, where



*A mountain chicken frog during a health check. © Jennifer Parker*

insect species occurring in the wild are reared.

“Currently, there is no known method for eradicating chytrid from the wild. We have had to think outside the box and come up with a mechanism for enabling frogs to survive alongside the fungus in their natural environment,” says Dr Mike Hudson, who leads the project for Durrell and ZSL. “In this world-first attempt at using environmental manipulation to mitigate the disease in the wild, we are hoping to not only make steps towards saving the incredibly threatened Mountain Chicken frog, but also to provide a model system that can inspire conservation action for hundreds of other species affected by the disease globally.”

As the project continues, the frogs will be monitored and tested regularly for signs of infection. It is hoped that this environmental manipulation technique will be successful and can be expanded to create a network of safe refuges for Mountain Chicken frogs.

“The solar-powered ponds were trialled with mountain chicken frogs in carefully designed facilities within zoo settings before the release – and so far, it looks promising,” says Ben Tapley, curator of reptiles and amphibians at ZSL London Zoo.

The Mountain Chickens seem to be doing well in the experimental semi-natural areas. Within a few weeks of arriving, they were making mating calls in the evening – an excellent sign. However, lots of work remains if this is to be a conservation success.

These frogs have survived hurricanes, volcanic eruptions and being hunted for centuries, but were driven to the brink of extinction by the deadly chytrid fungus, introduced due to human actions. We need to maintain the work.



*A semi-wild enclosure. © Durrell/ZSL*