



Top Ten Reptile and Amphibian Species Benefitting from Zoos and Aquariums

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Introduction

This report is the third in a series of reports highlighting the contribution of good zoos (in this case those affiliated to the British and Irish Association of Zoos and Aquariums, BIAZA) to conservation of the natural world. This time, the focus is on “herpetofauna”, literally translated as “creeping animals”, but more commonly known as reptiles and amphibians. These animals comprise several species for which the “Ark Concept” of zoos is more applicable than any other group, as there are numerous examples of species that cannot be saved from extinction by field conservation alone. In his seminal paper on the return of the Ark Concept, written for the journal *Conservation Biology*, Dr. Andy Bowkett emphasised that “...most authors agree that captive breeding for reintroduction can be a useful and necessary conservation method given the appropriate circumstances... “assurance colonies” ... are an integral part of a global action plan...”.

However, zoos are not just arks for preserving species and their genetic diversity. They also provide a unique long-term funding source for developing conservation programmes, training, and employing experts in every aspect of conservation. Therefore, in order to qualify for a position in the top ten reptile and amphibian list, a species had to be either associated with an ongoing field initiative by a BIAZA member zoo, or have potential for making an imminent and significant contribution to conservation in the wild. In order to make this list, species also had to be classified as seriously threatened on a global or national scale. Sub-species nominations were considered in exceptional cases, but full species were given priority.

Such a brief list of species cannot be exhaustive, nor can it cover the multi-faceted work of zoos. Beyond the species listed, in one East African country alone, Tanzania, zoo-funded work has led to the description a new species, the Magombera chameleon (*Kinyongia magomberae*), and has rescued another species from extinction following an environmentally disastrous hydro-power development, the Kihansi spray toad (*Nectophrynoides asperginis*). Globally zoos have contributed billions of US dollars to conservation causes, and have published thousands of scientific articles on biodiversity conservation. The work is saving both species and their habitats.

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Axolotl (*Ambystoma mexicanum*)

Red List Classification:	Critically Endangered
Geographical Range:	Lake Xochimilco and surrounding wetlands, central Mexico.

Summary Quote from Ben Tapley:

"The axolotl is one of the most commonly kept amphibians but is Critically Endangered in the wild. The survival of this species hangs in the balance, but fortunately there are dedicated conservation biologists working to ensure that populations of this iconic amphibian will persist in central Mexico."



Fast Facts:

1. The axolotl is neotenic; this means that adults retain larval characteristics such as gills and tail fins but are still able to breed, with females laying anything from 100-1000 sticky eggs at a time on plants and rocks.
2. The axolotl is capable of regenerating entire limbs that become damaged or detached, over a period of just months.
3. Axolotls were an important source of food, and sometimes medicine in prehispanic times in Mexico and are still occasionally eaten.
4. The name axolotl comes from the Nahuatl Aztec language. In Aztec mythology the axolotl was often connected with Xolotl, the god of disfigurement and death.
5. The species is also one of the most common amphibians to be kept in captivity and as pets.

Background Information:

The axolotl is a carnivorous amphibian found in a polluted complex of lakes, which was once part of an extensive wetland system. They are unusual in that they retain a tadpole-like appearance for their whole life, complete with feathery gills which allow them to breathe under water. Their extraordinary ability to rapidly regenerate lost limbs, as well as other tissues such as heart and lung cells mean that axolotls are often used as model species in research laboratories. Living up to 25 years, they have surprisingly few natural predators. They are extremely vulnerable to water quality changes, and increased levels of iodine in their water can cause axolotls to metamorphose into salamanders. Increasing levels of pollution is the most destructive factor in the survival to the axolotl with the ever-growing Mexico City so nearby.

The captive population held within BIAZA collections is being used to highlight their amazing features and their plight in the wild. BIAZA members are involved in facilitating the conservation action plans and field initiatives with this species. BIAZA staff have provided expertise with regard to the management of axolotl populations and biosecurity in conservation breeding facilities. Although there are many dedicated and knowledgeable people working with this species in Mexico, efforts have not always been coordinated, but in March 2014 representatives from Chester Zoo and ZSL London Zoo assisted Mexican biologists, social scientists and conservationists in updating the long term conservation action plan for the Axolotl. These specialists gave advice on managing captive populations, biosecurity and reintroductions. This species is Critically Endangered and needs all the help it can get.

Golden Mantella (*Mantella aurantiaca*)

Red List Classification:	Critically Endangered
Geographical Range:	Central Madagascar

Summary Quote from Mike Bungard:

“The golden mantella is a charismatic species of frog from one of the most frog diverse countries in the world, Madagascar. This species is faced by a myriad of threats and is a flagship for other Malagasy amphibians. We stand a real chance of reversing many of the threats that this species faces.”



Fast Facts:

1. Their beautiful bright yellow colouring of the golden mantella serves to warn off predators. The mantellas are a fascinating example of convergent evolution with South American dart frogs – both have evolved independently but both metabolise toxins derived from the insects they feed on, as protection from predators.
2. Diurnal and active – a bold species which tends to live in large aggregations. Groups of frogs are sometimes called an ‘army’.
3. The diet of the golden mantella is made up of many different types of invertebrate but commonly includes termites, ants, and fruitflies. It is well known for attempting to eat anything that can fit in its mouth, even if the taste is repulsive.
4. The eggs of this species are laid on land, usually under leaf litter but near pools. Seasonal rains then wash tadpoles down into rearing pools.
5. This species doesn’t croak! Instead males attract females by a series of clicking noises.

Background Information:

Golden mantellas are perhaps one of the most endangered frogs in Madagascar and certainly a flagship for amphibian conservation on the island. Threats come from habitat loss and other anthropogenic pressures to their upland rainforest habitat (less than 10% of forest remains in Madagascar). The formation of new breeding ponds in protected areas is an essential step in mitigating some of the threats against this species and ensuring its survival for years to come.

Captive breeding for reintroduction of mantellas is more realistically achieved in Madagascar, with Association Mitsinjo carrying out in-country breeding, and Madagasikara Voakjy overseeing pond construction, protection and monitoring. BIAZA zoos are helping by maintaining an essential insurance population of the species. Additionally, BIAZA zoos support in-country NGOs by direct financial support, technical support (including valuable breeding and husbandry information and training) and are also playing a vital research role.

BIAZA zoos are leading the initiative to collect data; using captive collections responsibly in order to support in-situ conservation. Currently zoo-based research with golden mantellas at zoos including Paignton Zoo is beginning to answer vital questions of habitat preference. Complex and intimate behaviours are nearly impossible to observe in the field but are critical in determining exactly how the species may respond to newly formed breeding ponds. It is hoped that this research will discern the important pond features, and potential for re-creation in situ. These data are very hard to achieve through field studies alone and as far as we are aware, this combined approach is relatively unique for habitat mitigation.

Komodo Dragon (*Varanus komodoensis*)

Red List Classification:	Vulnerable
Geographical Range:	Five islands in the Lesser Sunda Islands chain in Indonesia

Summary Quote from Clive Barwick:

"Komodo dragons exist in environments that are highly vulnerable to human disturbance; these animals face pressures from a variety of human induced activities and may only survive with concerted efforts from zoos and conservation partners. BIAZA members' efforts to raise awareness of the challenges they face will help in the battle to safe guard this species for the future."



Fast Facts:

1. The Komodo dragon is the largest living lizard with males growing up to 3m in length and up to 90kg.
2. Females often use the nest mounds of megapodes such as the orange-footed scrub-fowl as a nest in which to lay their own eggs.
3. In the absence of an adult male, females can reproduce alone (parthenogenesis).
4. The species has a heightened sense of smell and can detect carrion at several kilometres.
5. It also has backward-facing teeth that have serrated edges designed to tear through flesh.

Background Information

Population estimates put the number of wild living komodo dragons to fewer than 4,000 individuals, with only 1,000 females of reproductive age. These populations are fragmented and threats include forest clearance for timber, fire regimes and competition from human hunting of prey animals, e.g. buffalo, deer and pigs. The areas of most concern are those outside of the protection of the Komodo National Park and include the Wae Wuul Nature Reserve (WWNR). In 2005 BIAZA members Colchester Zoo, Chester Zoo, Durrell Wildlife Conservation Trust and ZSL London Zoo helped to initiate a wildlife conservation plan for the WWNR, and soon after a five year Komodo Survival Plan (KSP) was established with the Indonesian Central Bureau for the Conservation of Nature Resources. The KSP remains key to ensuring continued crucial links and collaboration with the Indonesian Department of Forestry. The KSP involves habitat management and population monitoring such as population health and survival rates through capture, tag and release and recapture projects. Other areas of work include prey population surveys, staff training, and community awareness-raising projects for sustainable conservation of the reserve. Much of this work is currently funded by BIAZA and EAZA members. Without this effort by our members, much of this work would be unable to proceed, with potentially dire consequences for the survival of the western Flores population of Komodo dragons.

Currently the four BIAZA members that maintain Komodo dragons in their collections as part of a wider European captive population are Colchester Zoo, Chester Zoo, Durrell Wildlife Conservation Trust and ZSL London Zoo. These four zoos work hard to promote awareness of this species and donate generously to the conservation efforts at Wae Wuul. Our collective approach and shared knowledge of the captive management of this species ensures that best practice is maintained. With continued research into the ex-situ population, we gain a greater understanding of how we can maximise our contribution towards the conservation of this flagship species.

Lemur Leaf Frog (*Agalychnis lemur*)

Red List Classification :	Critically Endangered
Geographical Range:	Colombia, Costa Rica, Panama

Summary Quote from Tim Skelton:

“Due to massive habitat loss and the effects of chytrid fungus, this species’ range and population have declined by over 80% in recent years. Bristol Zoo, in partnership with Manchester University, has ensured the survival of captive populations of lemur frogs in the UK. Bristol Zoo is currently the only BIAZA zoos, and one of only 3 EAZA zoos to hold the species, according to ZIMS”



Fast Facts:

1. An adult lemur leaf frog is only 3 to 4 cm long, and could fit on the end of your finger!
2. The species has a 24-hour camouflage protection system - appearing bright green in colour during the day when inactive, and turning brown at night when active.
3. It is thought to have little resistance to chytrid fungus.
4. Despite being a tree frog and able to jump between tree branches, when on the ground it walks confidently.
5. Young froglets are a plain bright green colour and become more speckled with black as they get older.
6. The ‘lemur’ part of its name comes from the Latin word ‘lemures’, meaning spirit or ghost. This probably refers to its nocturnal habits, stealthy movements, and large eyes.

Background Information

Living in tropical rainforest, these attractive frogs have a fragile appearance due to their low muscle mass and large bulging eyes. Their movements are slow; hand over hand climbing with a few jumps, and they communicate with loud calls, often from plants positioned over water to amplify the sound. Clutches of up to 35 eggs are laid on damp leaves that overhang water. A week later the hatching tadpoles are washed free by the rain, into pools below where they develop into frogs.

The wild lemur leaf frog population has fallen by half over the last 15 years. However, the future is looking brighter for this species thanks to the efforts of a new captive breeding programme coordinated by Bristol Zoo. Bristol Zoo have bred and donated animals to a number of other collections so that they can help with conservation and breeding research and gain experience in caring for them. Working with Manchester Museum at Manchester University, Bristol Zoo aims to establish a breeding programme within BIAZA and EAZA to maintain as much genetic diversity as possible, which is crucial if this precious ‘safety net’ population is to remain healthy. Participation in a DNA study with the University of Salford, will enable them to maximise the genetic material within the current captive population, and ultimately help secure a future for this critically endangered species. Bristol Zoo and Manchester Museum have also collaborated to initiate Project Lemur Frog (www.lemurfrog.org). This international conservation project has now expanded to include other partner organisations and supporters such as Norden’s Ark in Sweden, the University of Salford, Arcadia UK, The Costa Rican Amphibian Research Centre and University of Costa Rica. Expertise across these institutions covers all aspects of in-situ and ex-situ conservation work, including biosecurity techniques to ensure that the frogs remain healthy, housing, feeding and breeding these animals in captivity, and supporting the species in the wild through habitat protection and education of local communities.

Morelet's Leaf Frog (*Agalychnis moreletii*)

Red List Classification:	Critically Endangered
Geographical Range:	Southern Mexico south through Guatemala, Belize, El Salvador and Honduras.

Summary Quote from Ben Baker:

"Once found throughout Central America the species has seen rapid population declines caused by habitat loss, chytrid fungus as well as some degree of collection for the pet trade. The species is now in need of an intervention whilst there is still some degree of habitat left to protect, and captive populations in host countries will most probably soon be needed to prevent extinction."



Fast Facts:

1. Wide webbing between the toes allows Morelet's leaf frog to glide/parachute between trees.
2. Males attract females by altering their calls to be more involved and intricate; the most alluring males make the most intricate calls.
3. This frog deposits clutches of 50-75 green-tinted eggs on vegetation near ponds and pools, so the tadpoles can drop into the water when they emerge.
4. The species also has incredible jet black eyes with no discernible iris, leading to the alternative name "black-eyed tree frog".
5. Morelet's leaf frog often shares its spawning pools with its more famous cousin, the red-eyed tree frog (*Agalychnis callidryas*).

Background Information:

Found in the tropical forests and wetland habitats of south and northern Central America, these striking lime-green frogs with a pink or orange underbelly are rapidly disappearing as their forest habitat is destroyed, and the fungal disease chytridiomycosis decimates whole populations.

Currently around a dozen UK collections are maintaining this species through a co-ordinated breeding program and studbook, managed by Chester Zoo. Knowledge of the species' biology and management skills are therefore increasing rapidly and are leading to improved reproductive success, nutrition, enclosure design and marking techniques. Several BIAZA institutions have been utilizing this captive population to develop rigorously researched husbandry practices. This research will help to manage the captive population better, while also supplying information and training to in-situ projects. BIAZA zoos including Chester Zoo have directly funded field work in Belize and El Salvador, where ecological survey in remaining fragmented forests is helping us to understand the species' interactions within the environment. Current PhD research using the captive population includes studies into the effects of carotenoids in the diet of frogs and tadpoles, spatial utilisation in captivity, studies of the embryonic development of tadpoles under different conditions, and beneficial bacterial communities on the skin of both captive and wild frogs.

Mountain Chicken (*Leptodactylus fallax*)

Red List Classification:	Critically Endangered
Geographical Range:	Lesser Antilles Caribbean (Montserrat and Dominica) It has already been eradicated from Guadeloupe, Martinique, and St Kitts, and possibly also St Lucia and Antigua.

Summary Quote from Gerardo Garcia:

“Thanks to the intervention of zoos, the mountain chicken has received much-needed attention, with the establishment of safety-net breeding colonies which are also used to promote research, education and capacity building, both ex-situ and in the mountain chicken’s Caribbean island habitat.”



Fast Facts:

1. The species is known as the ‘mountain chicken’ because it is commonly hunted for food.
2. Adult males make a ‘trill bark’ to attract females, and wrestle other males and make ‘whooping calls’ to win control of nesting burrows.
3. A newly metamorphosed mountain chicken froglet weighs only 3 grams. However they grow to be one of the largest frogs in the world – adults weigh up to 1kg and are as big as a human hand.
4. It is an ambush predator, swallowing a whole a range of prey species, including snakes and tarantulas!
5. Each individual adult frog has unique markings on its face. This makes it easy to identify individuals in collections, and for researchers to study the remaining populations.

Background Information:

These large frogs live in a range of moist habitats on just two Caribbean islands. Whereas most frogs breed in water, this species breeds in burrows, which can be up to 50cm deep. Once a breeding pair has occupied a burrow, they spring-clean the burrow, often ending up covered in mud themselves! The female then produces a fluid which the male rapidly paddles with his back legs to create a foam nest where the eggs are deposited. Tadpoles are well looked after by their mother, who feeds them on unfertilised eggs, while the male offers protection by jumping on intruders!

Hunting, habitat loss, natural disasters and disease caused by chytrid fungus have caused a massive population crash, with 80% being wiped out since 1995. Since 1998 the BIAZA community has helped to save the species, maintaining two separate safety-net breeding populations. The first population is part of the Studbook programme for EAZA, acting as ambassadors for the species, supporting education and applied research for its husbandry and conservation. These animals have helped scientists to understand their unique breeding strategy, and generate support for the in-situ conservation of their island habitats. The second breeding group is kept under quarantine at Chester Zoo, Durrell Wildlife Conservation Trust and ZSL London Zoo, and is part of a 2009 rescue operation from Montserrat. This quarantine group is literally the last hope to maintain good genetic representation for future reinforcement of the wild populations. BIAZA animal keepers have shared their expertise in volunteering for the conservation programme on both islands, and BIAZA staff have worked on reintroduction trial releases in Montserrat.

Orange-tailed Skink (*Gongylomorphus cf. fontenayi*)

Red List Classification:	TBC
Geographical Range:	Mauritius

Summary Quote from Matt Goetz:

“The orange-tailed skink is a perfect example for what zoos can and should achieve in species conservation. It is a highly threatened and ecologically important species that would be extinct without a zoo-led field programme. Conservation work has included extensive habitat and ecosystem restoration in the field, together with ex-situ breeding for conservation-related research and for ensuring a safety-net population.”



Fast Facts:

1. Female orange-tailed skinks lay a clutch of only two eggs, but up to six clutches per year.
2. Hatchlings measure not more than 2.5 cm and weigh only 30 milligrams.
3. The species plays a vital part in the largely reptile-dominated ecosystem of Mauritius and its offshore islands. There, orange-tailed skinks form an important link in the food chain, through predation by bigger vertebrates such as snakes and birds. They also consume endemic fruits and are hence likely to be dispersers of endangered plants.
4. This beautifully-coloured skink is not easily found. It spends most of its time amongst leaf litter or in the upper layers of soil, hiding from predators and searching for food.

Background Information

This species was only discovered in 1995 on Flat Island in Mauritius and is actually not formally described yet. The “cf.” in the scientific name means it is “similar to” (but physically and ecologically different to) the Macchabé skink *Gongylomorphus fontenayi*. Unfortunately, development of the island for tourism over the last decade brought with it the Indian musk shrew, which has preyed on the orange-tailed skinks to the point of probable extinction. Fortunately, BIAZA member Durrell Wildlife Conservation Trust (DWCT) anticipated the devastating impact of the shrews, and translocated nearly 500 skinks to a nearby island reserve, which is not accessible to tourists. They also established a captive insurance population with 22 wild-caught skinks at the zoo in Jersey, where a large colony is now kept. Research and knowledge gained from these animals is helping to manage them in the wild. There is now an opportunity to use this group to establish other, quarantined, safety net populations at other BIAZA zoos, to further insure the species against possible outbreaks of disease. The actions of DWCT have undoubtedly saved this species from extinction.

For 38 years, Durrell has been leading a number of partners in the ecosystem restoration of Mauritius’s offshore islands, including Flat Island. Dedicated staff members in the field and a host of students and volunteers constantly exchange expertise between the field and DWCT, making this a very successful programme. The natural Mauritius ecosystem is unusually reptile-dominated, with reptiles fulfilling many roles that mammals occupy on the nearest mainland. To be able to restore and maintain a functioning ecosystem with the endemic fauna on the offshore islands, reptile species such as the orange-tailed skink play a vital role, especially in the food chain.

Ploughshare Tortoise (*Astrochelys yniphora*)

Red List Classification:	Critically Endangered
Geographical Range:	North-west Madagascar

Summary Quote from Matt Goetz:

“The ploughshare tortoise is regarded as the most threatened tortoise species in the world. Durrell Wildlife Conservation Trust, a BIAZA member institution initiated and directs a conservation programme for this species encompassing captive breeding and release, habitat protection, community-led monitoring, local rural development and zoo-based management through international and regional studbooks.”



Fast Facts:

1. The name “ploughshare” is derived from a protrusion of the shell covering the underside of this tortoise (the plastron). In males, the plastron can reach a considerable length, extending forward underneath the head, and is used in male-to-male combat where competitors try to flip their opponent over.
2. The ploughshare tortoise is one of the most sought after in the illegal pet trade. As a species with very high prestige values in these circles, smuggling is now the greatest single threat to this species’ survival in the wild.
3. Local villagers in Madagascar used to keep a tortoise in their chicken pens to keep them clean.
4. The species is very long-lived and can probably survive up to 100 years or more. They only become mature after 15-20 years of age.
5. The eggs are laid in a nest chamber in the ground and will undergo a “diapause”, a period of no development during the cool and dry season. They will only fully develop and hatch when conditions are right, with sufficient plant food growing nearby. The total egg incubation time can be as long as 10 months.

Background Information:

Known locally as “angonoka”, this tortoise has an especially beautiful yellow domed shell with brown/black markings, and is much in demand for illegal pet trade and hunting. Destruction of the scrub forest in which they live, by introduced bush pigs, fires, mining and forestry operations, is also contributing to a dramatic decline, with perhaps just 400 adults remaining in the wild.

For over 25 years, BIAZA member Durrell Wildlife Conservation Trust (DWCT) has led a range of partner organisations in a conservation programme for this species and many others in Madagascar. The work incorporates the Ploughshare Tortoise Recovery Programme, with large-scale captive breeding and release from a breeding centre in Madagascar, monitoring of wild populations, establishment of national parks in the species’ range, and collaboration with local and international communities to protect the area and fight the rampant smuggling of tortoises. DWCT is also coordinating the WAZA International Studbook and the EAZA European endangered species breeding programme, along with participants including Chester Zoo. The very slow growth and reproduction of these large tortoises combined with political instability in Madagascar in the recent past makes progress slow, but this long-term project is seeing success, and without it the ploughshare tortoise would be at the very brink of extinction in the wild together with most of its remaining habitat and associated species.

Round Island Boa (*Casarea dussumieri*)

Red List Classification:	Endangered
Geographical Range:	Mauritius

Summary Quote from Matt Goetz:

“The Round Island boa is a flagship species for island restoration in the Indian ocean. It is one of the biggest success stories of the restoration of Round Island and led to the improved conservation of all other Mauritius offshore islands and islets. Once threatened with extinction on this heavily degraded island, numbers have now recovered sufficiently that it has been translocated to a second restored island.”



Fast Facts:

1. The Round Island boa is the sole remaining species of the Bolyeridae family (split-jaw snakes) that is unique to Mauritius.
2. It is one of the very few snake species that can change its colour. While mostly dark brown during the day, at night it changes to a grey colour with strong black patterning.
3. This is the only snake species with a hinge in its upper jaw bone, a helpful adaptation to hold hard-bodied and barrel-shaped prey like skinks.
4. Young hatchling snakes, not much thicker than a matchstick, are bright orange in colour with a black-and-white tail tip.
5. The Round Island boa is a near-exclusive reptile predator, feeding mostly on geckos and skinks, although it has been observed to try to take seabird chicks.

Background Information:

After their extirpation on mainland Mauritius, these unique snakes survived only on the neighbouring Round Island, where they were in rapid decline due to damage to their habitat, caused partly by introduction of goats and rabbits. These pests destroyed the natural vegetation and destabilised the original ecosystem, which is largely reptile-dominated. In the early 1990s the population dropped as low as 250 animals, at which point BIAZA member Durrell Wildlife Conservation Trust (DWCT) initiated the ecosystem restoration of Mauritius's offshore islands, as part of the Mauritius Reptile Recovery Programme.

This work continues and now incorporates all Mauritian offshore islets. After the removal of the introduced species and habitat regrowth, Round Island and its reptile fauna successfully recovered, including the boa which plays a vital role in the food chain as one of the top predators in the native species community. The population has recovered to about 1000 animals, and boas have been translocated onto a second restored island in 2012. DWCT confirmed the first successful reproduction of this newly established population in 2013, which is the first time this species bred away from Round Island for more than 100 years! Without this translocation and captive breeding it is quite likely that this species would be extinct. An additional insurance population is held at DWCT headquarters in Jersey as a safety-net and research population, to assist the work in the field.

Sand Lizard (*Lacerta agilis*)

Red List Classification:	Least Concern
Geographical Range:	Found across most of Europe east towards Mongolia, the UK subspecies <i>Lacerta agilis agilis</i> is confined to Western Europe.

Summary Quote from Ben Baker:

“In the UK the species has suffered drastic habitat loss and fragmentation with geographically isolated populations needing separate management strategies. The sand lizard breeding project at Chester Zoo started in 1995, with the first wild releases taking place in 2000. Hundreds of lizards have now been released at each of the 12 release sites, with the majority of these releases deemed successful.”



Fast Facts:

1. The sand lizard is the UK's rarest and most protected lizard.
2. The species tends to hibernate between November and March, but can be seen basking on rocks in sandy heathland and dunes during the summer.
3. In the UK there are three distinct populations, each separated geographically.
4. The sand lizard is the only UK's only egg-laying lizard. The females lay eggs in burrows dug in the sand in June or July, before they hatch two months later.
5. Colour varies, but in the UK the females are often a sandy-brown colour, with the males developing bright green patterns after they emerge from hibernation, in order to help attract a mate.

Background Information:

Sand lizards live in sandy heathlands and dunes, which are habitats suffering serious decline due to human activity. The species now only occurs naturally in just a few sites within the UK, mostly around Dorset, Hampshire, Surrey and Merseyside.

As part of a long-term project with Natural England and Amphibian and Reptile Conservation (ARC), BIAZA members Chester Zoo and Marwell Wildlife are maintaining and breeding captive groups of sand lizards to help reinforce each of the UK's three geographically distinct populations. These zoos have been among the largest individual producers of young for release. They have also provided the facilities and teams to investigate biosecurity concerns, nutritional and developmental husbandry issues, and have provided a huge amount of experience to co-ordinated breeding programs. Several research projects have helped in the management of the wild populations. Captive research trials in zoos have also provided insights into the genetic make-up of the UK populations, helping to further develop the conservation action plan.

As a result, these healthy captive populations have been used to reinforce wild populations and establish new groups in new areas including Wales, Kent, West Sussex, Devon and Cornwall.