Darwin Reptile Project – Nik Cole

- The Mascarenes had more unique reptile species for its size than anywhere else in the world and most of these reptiles were found on Mauritius

- In pristine Mauritius the only mammals found were bats, unlike many other countries there were no people, cats, dogs, rats, monkeys, cows, goats, sheep or anything of the kind

- The reptiles were therefore free to occupy positions usually taken by land mammals

- This formed a unique ecosystem that was dependent upon the reptiles, which played major roles within the ecosystem as:
    - Prey items for many of the larger reptiles and birds
    - Predators of smaller invertebrates (insects, spiders, snails etc.), reptiles and birds
    - Scavengers of dead animal carcasses
    - Pollinators for the endemic plants, thus allowing the seeds to germinate
    - Seed dispersers by eating the fruits and depositing the seeds in a new location
    - Feeding upon the vegetation, thus maintaining forest structure

- Such an ecosystem has rarely been observed elsewhere in the world

- From the 16th Century human related habitat destruction and the introduction of numerous non-native species destroyed this unique ecosystem

- Since the 1600 there have been more reptile extinctions in the Mascarenes than any other group of islands on the planet

- More than 60% of the reptile species were lost from mainland Mauritius; whilst some managed to survive on a few of the offshore islands, at least 5 species no longer exist and are therefore extinct

- As the reptile communities were torn apart, many relationships between the reptiles and other animals and plants were destroyed and the ecosystem started to fall apart affecting many other species

- Nevertheless, some of the more remote islands did not receive the same level of disturbance as seen on the mainland - places like Round Island still held onto a small part of this unique reptile dominated ecosystem

- Over the past 30 years conservationists have been working to restore some of the islands rebuilding the disrupted reptile communities and restoring the relationships, thus making the ecosystem work properly again

- By moving reptiles back to safe islands we are not only rebuilding communities, but also protecting the World's rarest reptiles from extinction

- In 2006 and through the Darwin Initiative we started moving (translocating) reptiles back to islands that were being restored. These were the first lizard translocations in the Indian Ocean.

- To rebuild communities it was essential that we investigated what was missing from particular islands, but also which reptiles were highly endangered and in need of immediate conservation action
    - For Gunners Quoin and Ile aux Aigrettes, both islands were missing a larger reptilian predator, seed disperser and pollinator, such as the Telfair's skink. The skink had previously become marooned on Round Island. By moving this lizard back to these islands we are also re-establishing a large potential prey item for other future bird and reptile translocations to the islands.
    - For Ile aux Fouquets, the island had lost one of its primary animals, the small Ilot Vacoas Bojer's skink. This skink had become marooned on the neighbouring island Ilot Vacoas. By moving the skink back to Ile aux Fouquets we have returned the island's lost insectivore and seed-disperser.
    - Most islands have lost their endemic night gecko populations. These geckos were the most abundant reptiles in pristine Mauritius, but are now some of the most vulnerable. To test whether we could move them safely we have conducted an experiment by moving a small number of Durrell's night gecko (from Round Island) and the lesser night gecko (from Ilot Vacoas) to Ilot Chat. This was proving very successful until rats invaded Ilot Chat, possibly via a boat visiting the island. The rat ate all of the geckos on the island and demonstrates the risks to other islands were small reptile populations are found.
    - The small orange-tail skink, which became marooned on Flat Island was once part of a larger skink community in the lower regions of Mauritius and the offshore islands. These small skinks are predators of invertebrates, scavengers, dispersers of small seeds and prey for larger Mauritian animals. To establish another population within a skink community we have moved a small number to the neighbouring island Gunners Quoin.

- We closely monitor all the lizard populations to determine their health and well being, the effect of removing them from small island populations and their relationships with the other animals and plants on the islands
- This work is ongoing on Ile aux Aigrettes.
    - We have had very few baby skinks on Ile aux Aigrettes, because it has been so hot during their breeding season over the past two years that it has dried the shallow soil on the island where the skinks lay their eggs – this has not been a problem for Gunners Quoin where the soil is deep. We are working to resolve this problem on Ile aux Aigrettes by creating deep nest sites.