

Rebuilding the Natural Heritage of Mauritius Island Restoration & Reptile Conservation

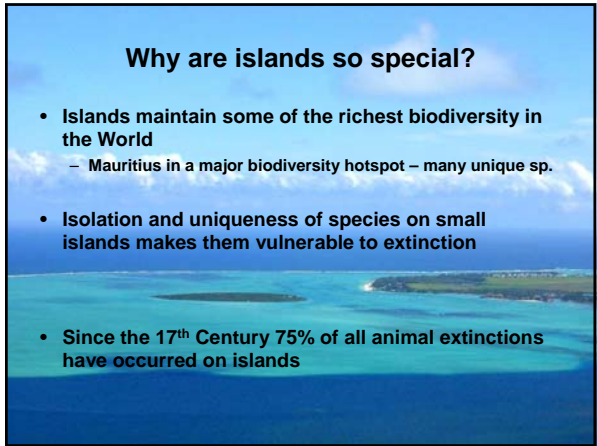


Dr Nik Cole



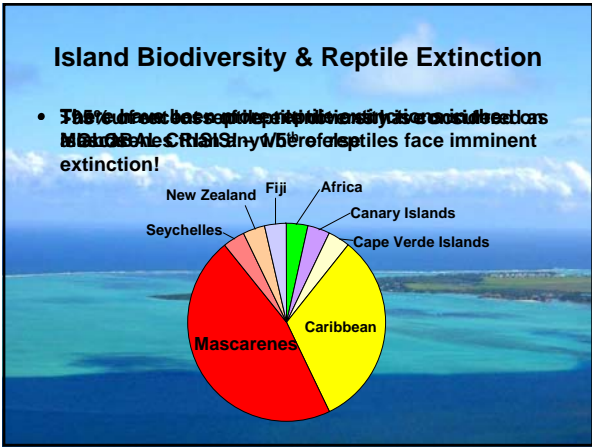
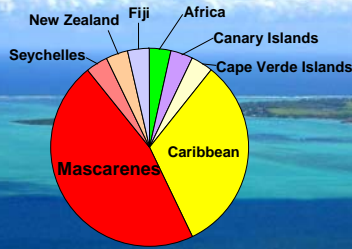
Why are islands so special?

- Islands maintain some of the richest biodiversity in the World
 - Mauritius in a major biodiversity hotspot – many unique sp.
- Isolation and uniqueness of species on small islands makes them vulnerable to extinction
- Since the 17th Century 75% of all animal extinctions have occurred on islands



Island Biodiversity & Reptile Extinction

- The rate of reptile extinction is 100 times greater on islands than on continents
- **MASCARENE CRISIS** – Where reptiles face imminent extinction!



Mauritian reptiles

- Although the Mascarenes have lost more species, Mauritius still maintains one of the richest reptile diversities in the World



Mauritian reptiles

- Reptiles are a critical part of the Mauritian ecosystem

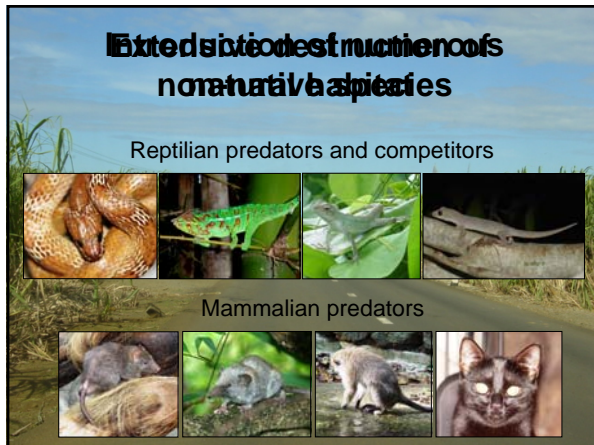
Giant tortoises Geckos Skinks Snakes



the formation of an ecosystem with:

- REPTILIAN BIRD INTERACTIONS – REPTILIAN BIRDS are important in the formation of an ecosystem with:
 - REPTILIAN BIRDS are important in the formation of an ecosystem with:
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- Most reptiles survived on the larger more remote northern islands
- One island in the SE still has a remnant reptile community

Ilot Vacoas

- A 1.06ha island
- The island supports three reptile species:

Ilot Vacoas

- Bouton's skink *Cryptoblepharus boutonii*
- Native - not restricted to Mauritius
- A coastal spp.
- Found on several islands
 - Lost from most of coastal Mauritius, Ile aux Aigrettes and Ile Marianne
- Not particularly threatened

Ilot Vacoas


- Lesser night gecko, *Nactus coindemirensis*
 - Endemic
 - Found only on 3 other N islands - highly restricted
 - Ilot Vacoas the last southern population
- 390 individuals on a 80m strip of coastal rock

Ilot Vacoas

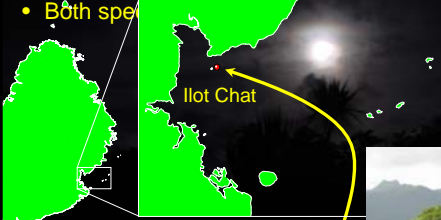

- Lesser night gecko, *Nactus coindemirensis*
 - Once widespread and most abundant vertebrate in Mauritius
 - Underwent catastrophic reduction in range
 - Decimated by introduced species:

- Today the Durrell's night gecko can only be found on Round Island - the last population in the World!
- The cause of their decline attributed to introductions of:

- The night geckos incredibly vulnerable to extinction
- International support to restore populations
- Night geckos in the Seychelles
- However, the island was not as secure as we had hoped
- Only islands populated by night geckos and two additional islands remain free of invasive species
 - Ile Marianne
 - Ilot Chat

- Oct 06
- Within a year we estimated >150 geckos
- Both species

- 30 *Nactus coindemirensis*
- 30 *Nactus durrelli*




- However, the island was not as secure as we had hoped
- 4 introductions to Ilot Chat
 - Agamid lizard
 - Musk Shrew
 - Couleuvre
 - Rat





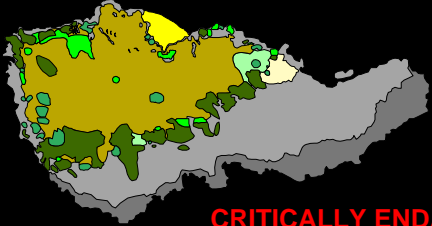


- Decimated by the introduction of these species
- One introduction to Ile Marianne = 6 weeks!

- Much was learnt on Ilot Chat
- In 2010 we'll be ready to release night geckos onto Ile Marianne
- Remote Nature Reserve with restricted access

Ilot Vacoas




- Ilot Vacoas' Bojer's skink *Gongylomorphus bojerii* sp.
- Endemic to Ilot Vacoas!
- World's population = 350

CRITICALLY ENDANGERED

Ilot Vacoas

- Ilot Vacoas' Bojer's skink *Gongylomorphus bojerii* sp.
- Endemic to Ilot Vacoas!
- Once widespread throughout South Mauritius and the SE islands
- Decimated by:
 - Agamid lizard
 - Couleuvre
 - Rat






Ilot Vacoas


- The risk of losing the population is very high
 - Introduced predators
 - Fire
 - Severe storms
 - Direct persecution

} Extinction

- We therefore needed to take action to restore populations elsewhere



- Fossil evidence that the Ilot Vacoas' Bojer's skink was found on Ile aux Aigrettes and Southeast coast of Mauritius
- Ile aux Aigrettes ideal site for reintroducing the Bojer's skink, forest restoration and large predators removed...
- Efforts to remove the couleuvre and shrew failed




- As part of the restoration program we reintroduced the much larger Telfair's skink *Leiolopisma telfairii*
 - Restricted to Round Island, but once widespread
 - Depopulated Feb 07
 - 260 skinks to Ile aux Aigrettes



- Native seed dispersal is occurring
- No severe -ve impacts upon endemics
- Major impact upon introduced species:
 - No snakes for >1.5yrs
 - Shrew population down to 40%
- The impact of the release has been way above what we expected. Bojer's skink is back on the island...




- Historical records – Bojer's skinks found on:
 - Ile de la Passe 1930s
 - Ile aux Fouquets 1970s
 - Losses coincides with shrew invasion




- By mid 1990s shrews died out on Ile aux Fouquets
- In 2000 shrews eradicated on Ile de la Passe

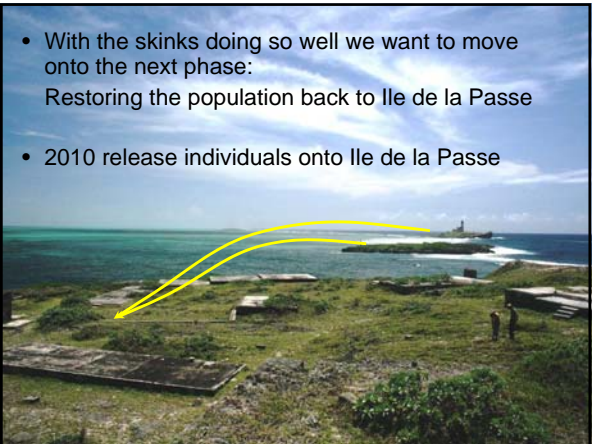
- With skinks most recently found on Ile aux Fouquets – we started restoring a population there
 - Jan 07
 - 20 skinks to Ile aux Fouquets
- A year later - no decline on Ilot Vacoas moved a further 20 skinks



- Our work on the island is showing that the population is growing
- Many new individuals breeding
- Estimated >200 skinks

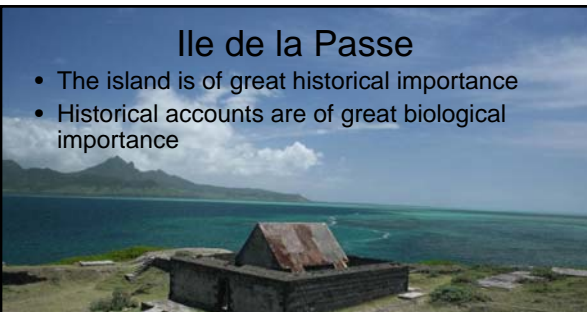


- With the skinks doing so well we want to move onto the next phase: Restoring the population back to Ile de la Passe
- 2010 release individuals onto Ile de la Passe



Ile de la Passe

- The island is of great historical importance
- Historical accounts are of great biological importance



- 1700s: Large snakes reported - tells much about the island's ecosystem
(Cossigny 1764 in Cheke 1987)

- The large snakes reported would have been one or both of two species of unique boa:




The keel scaled boa
Casarea dussumieri


The burrowing boa
Bolyeria multocarinata

Sadly only the keel scaled boa survives today and is now only found on Round Island

- Boas are top predators of large reptiles and occasionally seabirds
- For boas to have survived on Ile de la Passe, there would have been a thriving reptile and seabird community

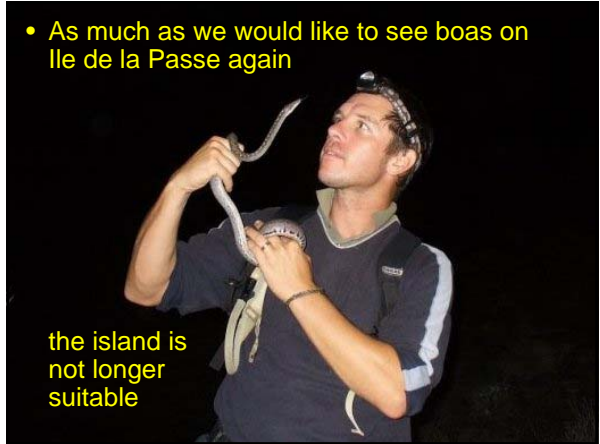


- The island could have supported a rich and diverse community of reptiles, birds, and seabirds

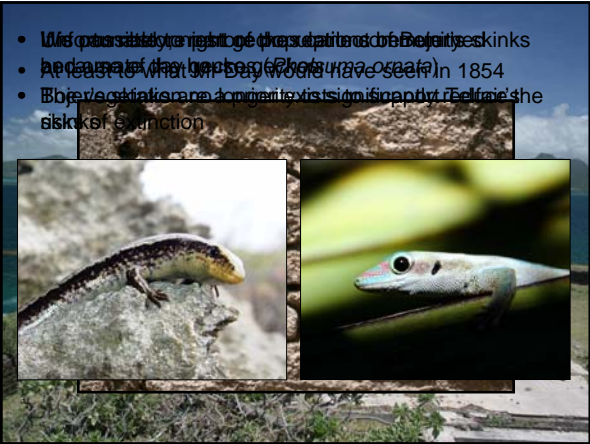


- As much as we would like to see boas on Ile de la Passe again

the island is not longer suitable



- Was possible to reintroduce the island to its former state
- At least to what our ancestors have seen in 1854
- By protecting the remaining islands from the risk of extinction



- There are also other environmental threats to island populations
- is relatively straight forward, but requires a huge amount of time and effort
- Habitat destruction
- The greatest threat to our work
- island species are
- the

Trampling of long grasses
Cutting of wood for BBQ
Damage to buildings and rocks when camping



- By 2010 we hope to have restored part of the island's history by reintroducing these snakes is vital to restoring the natural history of this unique island

Thank you!

