

A Darwin Initiative Project: The reintroduction of endemic Mauritian reptiles








Introduction


- Entering the 3rd and final year of a Darwin Initiative project in Mauritius
- Set up to re-establish endangered reptile species to islands where they used to occur to secure their future survival and restore unique island biodiversity



Introduction

- Shows that a quarter of the 600 endemic reptile species have disappeared from the majority of 7 offshore islands
- Includes the extinction of five species








Introduction




- Island isolation has restricted and fragmented reptile populations and communities integral to the natural function of Mauritian ecosystems
- The remnant island populations remain at risk of extinction








Introduction

- Three decades ago it was recognised that reptiles needed to be restored back to secure islands:
 - re-establish communities and restore missing ecological processes





- Over the past 30yrs Durrell has been instrumental in restoring islands for reptile translocation, initially with the Forestry Service, then MWF and NPCCS


Three Main objectives


- 1) To build on 30yrs of restoration by conducting the first lizard translocations within the Indian Ocean - moving 4 species back to islands where they used to occur
- 2) Train Mauritians to conduct reptile research and conservation
- 3) Increase awareness about the unique Mauritian reptiles and the threats that face them



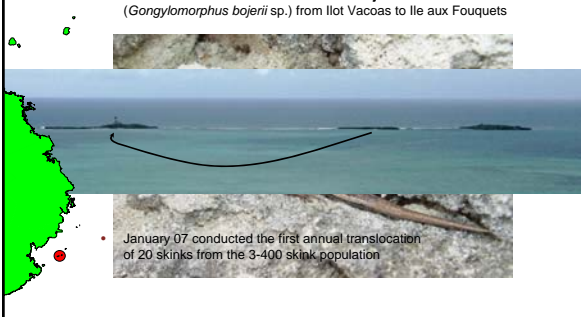
durrell **Project activities** 

- Translocate **Telfair's skinks** (*Leiolopisma telfairii*) from Round Island to Ile aux Aigrettes and Gunners Quoin




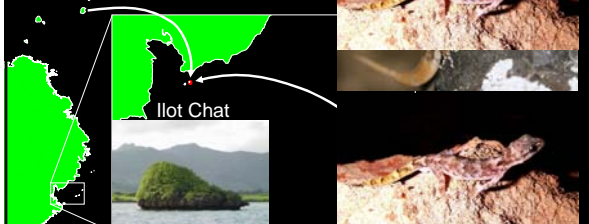
durrell **Project activities** 

- Translocate the southeastern variant of **Bojer's skink** (*Gongylomorphus bojerii* sp.) from Ilot Vacoas to Ile aux Fouquets



- January 07 conducted the first annual translocation of 20 skinks from the 3-400 skink population

Project activities 



Ilot Chat

durrell **Project activities** 

- To monitor progress we periodically investigate:
 - Health and fitness – comparing translocated to donor populations
 - Evidence of recruitment and dispersal
 - Impact upon vertebrate and invertebrate populations
 - Impact of removing reptiles from the small populations on Ilot Vacoas



durrell **Project activities** 


- Recently, we have added a new activity to the project
- The translocation of the orange-tail skink from its last refuge on Flat Island to the neighbouring island Gunners Quoin
- The decision was made after the island was leased out for tourist development




durrell **Project activities** 



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durrell **Results during the 2nd Year** 

- Telfair's skinks
- Translocated skink body fitness scores continue to exceed those of Round Island
 - release from intraspecific competition, thus a greater availability of food
- Disease and parasitism remain insignificant




durrell **Results during the 2nd Year** 

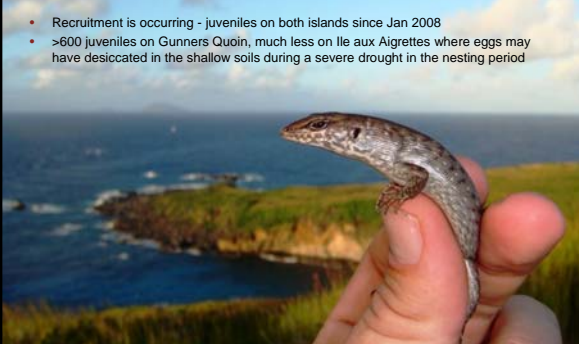
- Telfair's remain to be generalists in terms of habitat and diet
 - Dispersing the seeds of seasonally abundant fruiting plants




- Mostly consuming and dispersing endemic seeds to the benefit of island restoration, but they will also eat and disperse exotic species if available


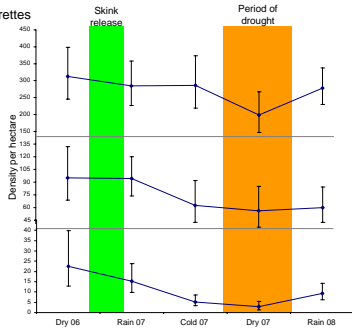
durrell **Results during the 2nd Year** 


- Recruitment is occurring - juveniles on both islands since Jan 2008
- >600 juveniles on Gunners Quoin, much less on Ile aux Aigrettes where eggs may have desiccated in the shallow soils during a severe drought in the nesting period



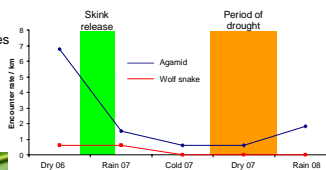
durrell **Results during the 2nd Year** 

- Telfair's Impact on Ile aux Aigrettes
 - Ornate day gecko
 - House gecko
 - Indian musk shrew

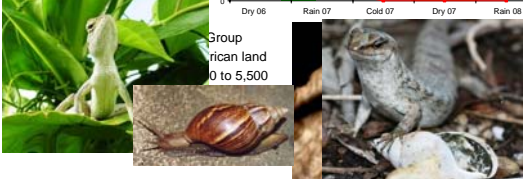




durrell **Results during the 2nd Year** 

- Telfair's skinks
- Other impacts on Ile aux Aigrettes
- Encounter rates
 - Agamid lizard
 - Indian wolf snake

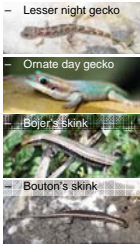
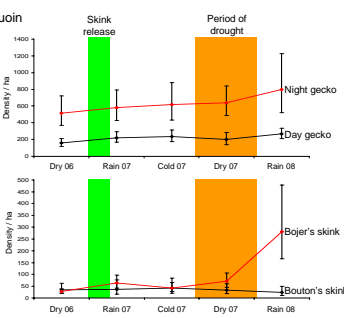


- Group of 10 to 5,500



durrell **Results during the 2nd Year** 

- Telfair's Impact on Gunners Quoin
 - Lesser night gecko
 - Ornate day gecko
 - Bojer's skink
 - Bouton's skink

durrell Results during the 2nd Year **DARWIN INITIATIVE**

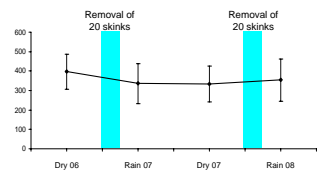

- Ilot Vacoas Bojer's skinks



May 08 – 55% of captures were clumping on the translocated skinks


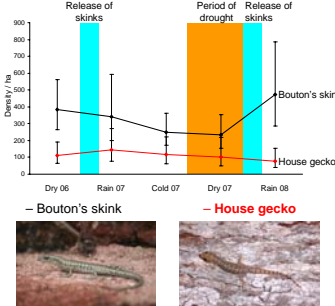
durrell Results during the 2nd Year **DARWIN INITIATIVE**

- Periodic removal of skinks from Ilot Vacoas has had no significant effect

durrell Results during the 2nd Year **DARWIN INITIATIVE**

- Bojer's Impact upon Ile aux Fouquets


durrell Results during the 2nd Year **DARWIN INITIATIVE**






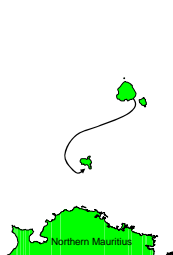


durrell Results during the 2nd Year **DARWIN INITIATIVE**

- By Dec 07 could not find any geckos on Ilot Chat, but a black rat!
- Within 2 wks we had removed the rats
- Recent survey – no rats, but geckos did not survive
- Nevertheless, we demonstrated what we set out to do:
 - we can translocate the two species together to the same island
 - evidence that they can co-exist – no competition or predation
- Emphasises the devastating impact caused by invasive alien species and the threats to the survival of island reptile species



durrell Results during the 2nd Year **DARWIN INITIATIVE**


- The orange-tail skink
- In February 08 we translocated 79 skins from Flat Island to suitable habitat on Gunners Quoin

durrell **DARWIN INITIATIVE**

Results during the 2nd Year

- Searching for the sub-fossorial skinks in the dense thorny, vine covered scrub is not easy

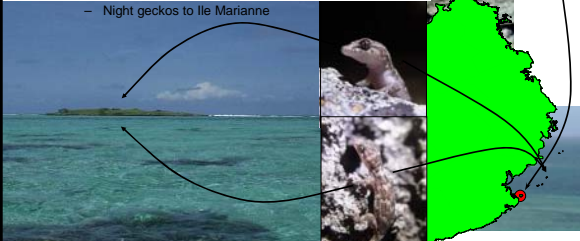


- Initial indications for survival are therefore positive

durrell **DARWIN INITIATIVE**


Objectives for the 3rd Year

- Continue monitoring and prepare framework for post Darwin funded monitoring
- Develop protocols with MWF and NPCS for further reptile translocation to build upon this project in restoring island communities, for example we are discussing:
 - Bojer's skinks from Ile aux Fouquets and Ilot Vacoas to Ile de la Passe
 - Günther's day gecko from Round Island to Ile aux Aigrettes
 - Night geckos to Ile Marianne



A point to discuss!

- At what stage is a population established:
 - When do we ease off on monitoring?



THANK YOU FOR LISTENING

Many thanks to all those that have helped from the MWF, NPCS, Durrell, IZVG, UoB, NRB, MCG, Police Helicopter Squadron