


A Darwin Initiative Project:

The reintroduction of endemic Mauritian reptiles



Overseas Team Meeting June 2008






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

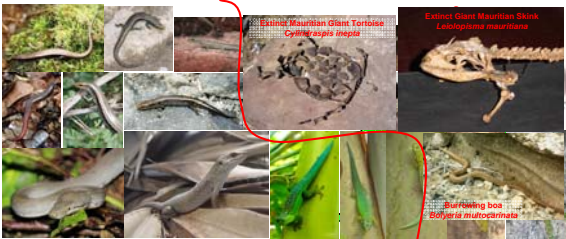


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Introduction


- Shows that areas rich in biodiversity and endemic species have been lost from the main island and few of 7 offshore islands
- Includes the extinction of five species




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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




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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 NPCS

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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




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durrell **Project activities** 

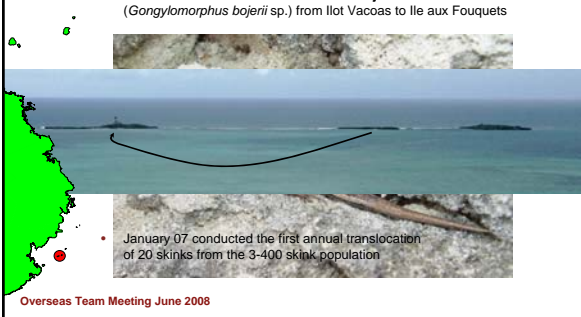
- Translocate **Telfair's skinks** (*Leiolopisma telfairii*) from Round Island to Ile aux Aigrettes and Gunners Quoin



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durrell **Project activities** 

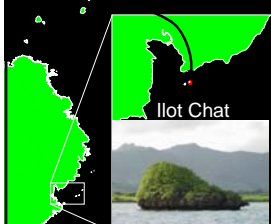
- Translocate the southeastern variant of **Bojer's skink** (*Gongylomorphus bojerii* sp.) from Ilot Vacoas to Ile aux Fouquets




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

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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



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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




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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

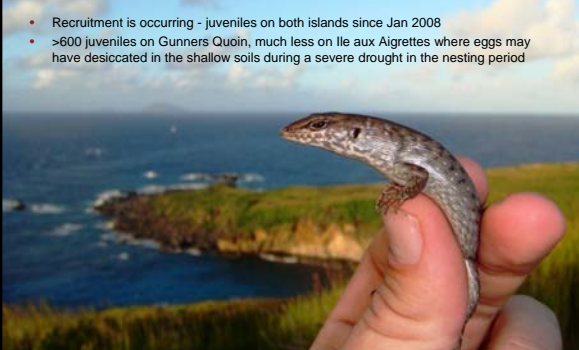



- Mostly consuming and dispersing endemic seeds to the benefit of island restoration, but they will also eat and disperse exotic species if available

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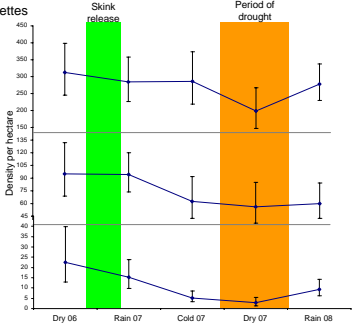
durrell **Results during the 2nd Year** 

- 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** 

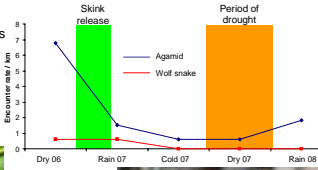
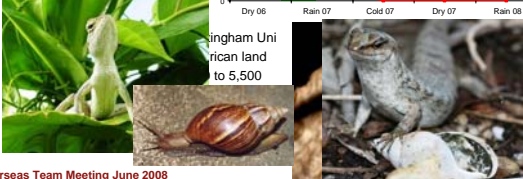
- Telfair's Impact on Ile aux Aigrettes
 - Ornate day gecko
 - House gecko
 - Indian musk shrew


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durrell **Results during the 2nd Year** 

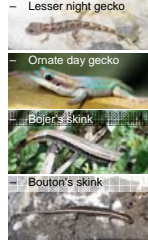
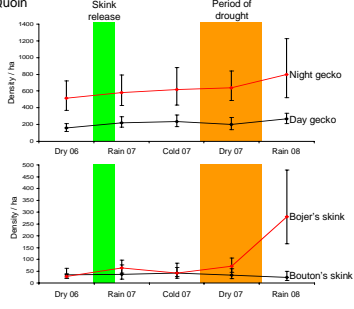
- Telfair's skinks
- Other impacts on Ile aux Aigrettes
- Encounter rates
 - Agamid lizard
 - Indian wolf snake

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durrell **Results during the 2nd Year** 


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

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

- Ilot Vacoas Bojer's skinks

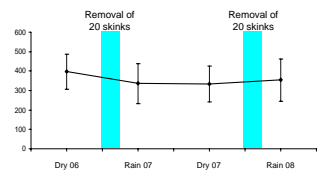




May 08 – 55% of captures were snapping or the translocated skinks

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


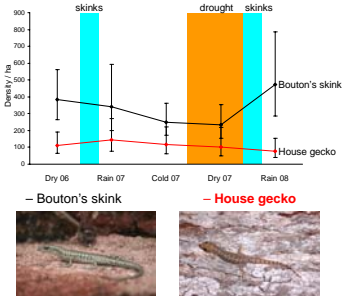


- Periodic removal of skinks from Ilot Vacoas has had no significant effect

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


- Bojer's Impact upon Ile aux Fouquets

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







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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


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


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

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durrell **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


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durrell **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




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durrell **Issues to discuss** 

- At what stage is a population established:
 - When do we ease off on monitoring?
- Create nesting pits on Ile aux Aigrettes for skinks to reduce egg desiccation?
 - Juveniles found close to areas of deep soil/sand, most of these areas are artificial

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



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