

# FIRST CONTROL CAMPAIGN FOR COMMON MYNA (Acridotheres tristis) ON ASCENSION ISLAND 2009

Ву

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#### Abstract

This is a final report of the "First control campaign for Common myna (*Acridotheres tristis*) in Ascension Island 2009", which was undertaken as a private initiative of Live Arico Invasive Species Department.

The field work took place, from the 25<sup>th</sup> of September to 03<sup>rd</sup> December 2009.

Trapping was conducted in three phases: first on rubbish dumps and water tanks (29 days), second on a Sooty Tern Colony (15 days) and finally, again on rubbish dumps and water tanks (9 days).

The goal of reducing the negative effects of the Common myna on native wildlife by trapping as many individuals as possible has been reasonably covered. The population of mynas, estimated in some 1.000 to 1.200 birds, has been reduced by culling 623 birds in 53 days. This work has been done by one person using four traps.

There is a low risk of re-infestation from birds flying by their own from St Helena, and the only transport between Ascension and St Helena has been conveniently informed regarding mynas using boats as pathway and how to avoid it. Considering the present damage of the mynas for wildlife, human health and security, it is high recommended that the local Ascension Island Government or related Institutions should decide to go for eradication as soon as possible.

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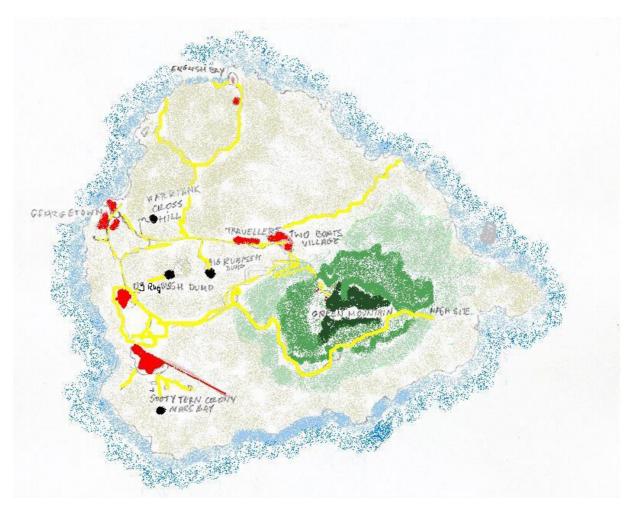
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# INTRODUCTION

#### Ascension Island

Ascension (07º 57´ S, 14º 24´ W, 97 km²) is one of the volcanic islands that make up the UK Overseas Territories (UKOT) of St Helena and is isolated in the tropical south Atlantic Ocean midway between South America and Africa. Its nearest neighbour is the island of St Helena some 1300 km to the SE. The territory is an Important Bird Area (reference number SH001).

The island falls in the Red List habitat category of "shrubland subtropical/tropical dry" (Hughes, Martin and Reynolds, 2009).



Map of Ascension Island showing the trapping areas for the myna control campaign (in black).

## Introduction of Myna

Common or Indian Myna *Acridotheres tristis* are the most conspicuous birds on Ascension Island, are widespread, appearing in virtually all habitats. They were introduced in the 1880s with the purpose of controlling cattle ticks, but this justification is no longer relevant since the last cattle disappeared form the island two years ago and sheep and donkeys are now considered feral animals out of human care and control.

According to Hughes, Martin and Reynolds (2009), the minimum and maximum numbers of mynas introduced between 1879 and 1882 were 105 (52 pairs) and 185 birds.

#### Problems related to wildlife

Predation by mynas on landbirds and seabirds has been reported from many parts of its natural and introduced ranges and in the latter it is often claimed, generally without sound evidence, that its predation and interference negatively affects populations of some indigenous bird species. (Feare & Saavedra, 2009)

Common mynas predating on Sooty Tern eggs in Ascension Island, appears to be a recent change in the mynas foraging behaviour. In 1994, Dr. Walmsley, from the Army Ornithological Society (AOS), identified myna predation as a significant issue and between 1998 and 2007 Dr. B. John Hughes and his collaborators, concluded that mynas are a major predator of Sooty Tern eggs. It was not known whether this behaviour was carried out by a small number of mynas that specialise in predating Sooty Tern nests or if it was a behaviour that all mynas adopt from time to time (Hughes *et al.*, 2008).

Apparently, control of cats lead to an increase in the population of Common Mynas which in turn lead to 25% loss of Sooty Tern Eggs. Myna predation of sooty tern eggs on the island was greater than that caused by rats (Dhami & Nagle, 2009).

Mynas feed mainly on the ground where they are omnivorous (Feare & Craig 1998). On Ascension they have been seen foraging on dead land crabs (*Johngarthia lagostoma*), sheep (*Ovis aries*), rabbits (*Oryctolagus cuniculus*), rats (*Rattus norvegicus*) and mice (*Mus musculus*), and on Green Turtle (*Chelonia mydas*) and Sooty Terns (*Onychoprion fuscata*) eggs.

Mynas are possibly predating on introduced Waxbills (*Estrilda astrid*) and Mozambique Canaries (*Serenius mozambicus*), eggs and chicks as well. They are also feeding on the endemic insects on the Island. However, further studies need to be done in order to evaluate the damage caused by mynas and other introduced species on the native biota.

Mynas are known to be also efficient dispersers of invasive seeds.

#### Problems related to human health

Mynas are noisy, especially at communal roosts, disturbing people in the evenings, but especially during the mornings; they may transmit bacterial or viral infections to humans via droppings, as they feed regularly in the two rubbish dumps present on the island. Dr. J. Allan report that during his visit, a small number of birds feeding on the One Boat (AIG) rubbish tip exhibited symptoms of *Salmonella* infection (fluffed plumage, difficulty in flying and reluctance to move when disturbed).

The AIG Environmental and Health Department reported complaints, mostly relating to nesting in roof of houses. Local people concerns were related to the possibility of parasites infections becoming established in the house.

During our control campaign, mynas were seen checking holes in different sites, like RAF houses roofs, palms with dense dead foliage and even a nest was discovered being visited by a myna, under one of the roof corners of the Gymnasium in Travellers.

In the U.S. base of Ascension, they are responsible for spreading mites, which obliges the Environmental Department to regularly fumigate the buildings where the mynas settle. In the same area, mynas are known to damage crops, especially fruit and vegetables which U.S. local staff is trying to grow in their gardens.

## Problems related to security

Mynas are responsible once for the cull down of the electrical system within the U.S. base, which posses serious potential problems for its security. Furthermore, it causes a great cost in dollars to be fixed.

# Myna control in the past

The only recorded cull of Mynas took place between 2002 and 2004 (Bell & Boyle 2004) during a feral Domestic Cat eradication programme. Forty birds caught in cat traps baited with fish were culled by the cat eradication contractors WMI Ltd. A further six were found dead having taken poison bait (J. Hughes, pers. comm.)

Dr. J. Allan, from the Food and Environment Research Agency UK, visited Ascension Island in January 2009, and managed to trap 8 birds within 24 hours, using Myna Magnet traps and boiled rice as bait (J. Hughes, pers. comm.)

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## CONTROL STRATEGY AND METHODOLOGY

Live Arico Invasive Species Department has always shown interest in controlling or eradicating exotic invasive species, particularly mynas on islands (Singapore, Canary and Balearic Islands, St Helena and Ascension).

Our Project Manager Susana Saavedra, was contracted by the Ascension Island Government as invasive species field worker for ten weeks, for clearing the invasive Mexican Thorn (*Prosopis julflora*) and Wild Tobacco plant (*Nicotiana glauca*) within the South Atlantic Invasive Species project.

Her presence on the Island, were mynas are introduced and widespread, was an excellent opportunity to test methods for controlling mynas, as much as she could do in her spare time. This objective was combined with the need of better knowing the myna impact on the Sooty Tern Colony.

With these objectives in mind and in order to optimise results, a trapping campaign in three phases was designed, combined with one day of ringing for allowing observation of myna behaviour.

# **Trapping**

## First phase (29 days)

Rubbish dumps and the water tanks located in Cross Hill, are places were mynas concentrate and, therefore optimal for trapping. From the 25<sup>th</sup> of September to 24<sup>th</sup> of October, four traps of different types (see trap description, page 8) were used in the rubbish dump of One Boat and the U.S. Base.

Location	S	W	Trap
One Boat rubbish dump	$07^{\circ} 56.495$	14°23.344	AU1
One Boat rubbish dump	07°56.472	14°23.354	AU2
Sooty Tern Colony Mars Bay	07°58.925	14°23.835	AU1
Sooty Tern Colony Mars Bay	07°58.918	14°23.842	AU2
Water tank	07°55.953	14°23.928	AU1
Water tank	07°55.954	14°23.927	AU2
Incinerator	07°56.114	14°22.094	SS1
U.S. rubbish dump	07°56.889	14°24.010	SS2

## Second phase (15 days)

This phase was encouraged by Mr. Stedson Stroud (AIG Conservation Head), who has taken great care of the Sooty Tern Colony and its welfare and improvement. It covered the Sooty Tern Colony area in Mars Bay (see map page 4) was undertaken from the 7<sup>th</sup> to the 21<sup>st</sup> November, using 3 funnel and one decoy trap.

After observing the Sooty Tern's chicks and behaviour, to avoid trapping any of the chicks, traps were moved to the selected places. Security locks were used on all the trap doors in this phase.

LATITUDE	N/S	LONGITUDE	E/W	ALTITUDE	L. FORMAT
566486	S	9117660	W	33m	UTM UPS
566487	S	9117648	W	32m	UTM UPS
566479	S	9117722	W	31m	UTM UPS
566457	S	9117712	W	32m	UTM UPS

## *Third phase:* (9 days)

In order to remove more than 600 birds, a final residual trapping campaign was conducted from the 25<sup>th</sup> November to the 03<sup>rd</sup> December, insisting in the rubbish tips and water tank.

Location	S	W	Trap
Water tank (B)	07°55.970	14°23.887	AU1
Water tank (B)	07°55.971	14°55.887	AU2
Water Tank (B)	07°55.971	14°55.887	SS2
Sooty Tern Colony Mars Bay	07°58.888	14°23.818	SS2
Sooty Tern Colony Mars Bay	07°58.864	14°23.790	AU1
Sooty Tern Colony Mars Bay	07°58.892	14°23.792	AU2

### **Traps description**

There were two Myna Magnet traps already in Ascension Island, and two other traps were designed and handmade by S. Saavedra *in situ*.

(a) <u>Small decoy trap</u> (SS1). A square trap, 70 cm sized, with a central decoy compartment and 4 catching compartments dependent upon individuals tripping a door release for catching, each capable of catching one (or more) myna. Weight: 6 Kg.

- (b) Funnel trap (SS2). A rectangular trap with a 50 x 40 x 40 cm high catching area with 2 entrance funnels, each fitted with bob wires to prevent escape through the funnels. This trap also had a holding compartment 40 x 40 x 70 cm high, which the birds accessed by another horizontal funnel. This trap can catch numerous mynas. Weight: around 4 or 5 Kg.
- (c) Myna Magnet (MM). Commercially made in Australia. 1.8m (h) x 0.7m (w) x 0.7m (l); they are a two chamber collapsible traps, with perches, drinker, feeder, one-way doors and a gassing kit. Weight: 10.5 Kg each.

#### Baits

Bread was used as principal bait in all traps. Bananas were used as bait for a few days, before they got too ripe and rice and fried chips two times when bread was not available (that happens rarely).

#### **Roost sites**

During the whole campaign, night roost sites were located by following flightlines of mynas in the late afternoon, by listening for roost song during drives in the early morning and in the evening, and through seeking information from the public.

#### Ringing

Whether the predation of seabird eggs by mynas is a general behaviour or one only carried out by a few individuals is a question at stake. During the first phase, and attending suggestions made by Dr. J. Hughes and Mr. Colin Wearne, both within an Ornithological Team visiting the island during the control campaign, traps were installed in the Sooty Tern colony in order to trap some specimens, which were realised after been ringed with red rings, allowing the recognition of individual mynas, and allowing observing their behaviour related to the traps. Observations took place during 9 days.

#### Human interference

Local people were opening and releasing between four and twelve mynas from one of the Myna Magnet traps when they were set up around the AIG rubbish tip.

The AIG Environmental Health Department poisoned mynas during three days 20, 21 and 22 of November and poisoned rats and mice in Mars Bay the days 19 and 20 of November. Both activities had some incidence in the trapping progress. The myna poisoning produced myna behaviour changes which affected the trapping efforts. In addition, poisoning rodents in Mars Bay, also affected the myna behaviour, preventing them to approach the traps.

## Estimating age of mynas

The age class of mynas trapped during this control campaign was recorded. Each bird was classified as adult or immature on the basis of the colour of the base of the lower mandible. Birds with a dark blackish mark were classed as adults, while birds whose lower mandible is entirely yellow were classed as immature (Feare & Saavedra, 2009).

#### Euthanasia

All the trapped mynas during this control campaign were killed by placing them individually in a holding bag (pillowcase) and hitting the entire body hard against a concrete floor. This technique was regarded as one of the most rapid and humane methods of euthanasia of trapped mynas, amongst others, and approved by the Ascension Royal Society for Preventing Cruelty to Animals (RSPCA) team after a meeting held in the Conservation Office on the 06<sup>th</sup> October.

It was already used and approved by the Royal Society for Protection of Birds (RSPB) and the South Atlantic Invasive Species (SAIS) for the St Helena Strategy, reported after the field work done in July 2009 by Prof. C. Feare and S. Saavedra.

## **RESULTS**

## Myna trapping

Total birds trapped: 623
Birds trapped by hand: 3
Birds caught with traps: 620
Total days for the 3 phases: 53
Total type of traps: 3
Total traps available: 4
Total persons trapping: 1

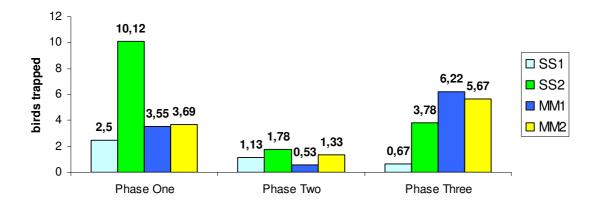
From the estimated total existing population of 1200 mynas (pers. observ.) on Ascension, 623 mynas were trapped (3 by hand) and removed (euthanasiased) in 53 days.

The relative catching average by day of the three trap types used

Phases Traps	1	2	3	Total birds	Total trapping days	Catching average by day
SS1	40	9	4	53	27	1,96
SS2	172	16	34	222	42	5,29
MM1	103	8	56	167	53	3,15
MM2	107	20	51	178	53	3,36
	422	53	145	620*		

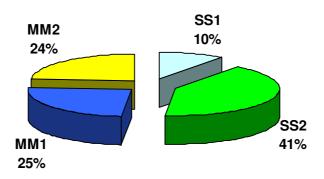
<sup>\*</sup> Three mynas were caught by hand at the AIG Rubbish Dump (08, 09 & 11. 10)

#### **AVERAGE DAILY BIRD TRAPPING**



Considering only the days that all the traps were working together in the field, the percentage of birds trapped by each trap is as follows:

#### PERCENTAGE OF BIRDS PER TRAPS



The square decoy trap (SS1) was used <u>without</u> decoy. Keeping mynas as decoys was time consuming. Nonetheless the trap was able to trap 53 mynas in a total of 30 days in the field by being baited only with bread.

The hand made funnel trap, SS2, was set up only for 35 days and it was capable to trap as many as 222 mynas in four different locations, being baited mainly with bread.

The Myna Magnet traps MM1 and MM2, were used 53 days each, and they manage to catch together 345 mynas, 167 for MM1 and 178 for MM2.

The ratio of daily trapping success was between 0 birds (days 30<sup>th</sup> September, 01<sup>st</sup> October, 19<sup>th</sup> October and 20 November) and 71 birds trapped in the one single day, the 14<sup>th</sup> November. These differences rely on several factors. When no birds were trapped, the traps were damage by rodents or rabbits during the nights, especially the Myna Magnet traps. SS1 and SS2 were not damage as their design is different from MM's. The day of maximum, 71 birds, S. Saavedra was all the time being vigilant over the traps and the bait was refilled as many times as needed in the all spots and during the hole day. As she was normally working in another issue besides trapping, the degree of attention to the traps was different at any time, and it gives different results. Obviously, time attending the traps has a direct impact on trapping success.

## Myna and Sooty Tern interactions

Some Sooty Terns were seen chasing one single myna twice during the 11<sup>th</sup> November in the evening at Mars Bay.

During the field observation of the mynas that were hanging around Mars Bay, it was never possible to count more than 12 mynas at any day. But the amount of mynas trapped in this highly sensitive area was 53 birds in 19 days, demonstrating that mynas are visiting this site regularly.

The following table is a summary of the mynas retrapped after been ringed on 20<sup>th</sup> October in the evening. From 13 ringed mynas 03 were used as decoys and culled after, and 09 were recovered, and one was not retrapped, and not seen anymore during the field work.

Ringed Mynas in Ascension Island							
Number	Date	Trapped in	Age	Sex	Status	Remarks	
2 Red	20-oct-09	Incinerator	Ad	m	Decoy	Culled	
3 Red	20-oct-09	Incinerator	Ad	1	Decoy	Culled	
4 Red	20-oct-09	Incinerator	Ad	m	Decoy	Culled	
5 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 11 Nov & culled	
6 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 10 Nov & culled	
7 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 13 Nov & culled	
8 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 21 Oct & culled	
9 Red	20-oct-09	Mars Bay	Juv	m	Released	Retrapped at Mars Bay on 11 Nov & culled	
10 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 22 Oct & culled	
11 Red	20-oct-09	Mars Bay	Juv	m	Released	Not retrapped	
12 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 14 Nov & culled	
13 Red	20-oct-09	Mars Bay	Juv	f	Released	Retrapped at Mars Bay on 10 Nov & culled	
14 Red	20-oct-09	Mars Bay	Juv	m	Released	Retrapped at Mars Bay on 12 Nov & culled	

The decoy mynas were trapped in Two Boats with SS1. Those decoys have been used in the traps in the Sooty Tern Colony and the ringed mynas were released and retrapped only in Mars Bay.

Mynas are capable of rapid evolution over a period of 100-120 years (Baker and Moeed 1987). Mynas have been isolated on Ascension for sufficient time to begin this process and their evolution might have been enhanced by the founding population being subjected to two genetic bottlenecks (Duffey 1964). For this reason, Dr. J. Hughes and Mr. Wearne took biometric measurements of all the 19 birds trapped on the 20<sup>th</sup> October.

#### **Baits**

The bread used was white sliced bread. It was preferred over the brown sliced bread by mynas. One pack was enough for baiting all the 4 traps in the early mornings. Other baits used were banana, rice and fried chips. Fried chips were

used the 14<sup>th</sup> November when 71 birds were caught as bait two times this day in SS2. Bread was used the rest of the time to bait this trap.

Traps should be refilled as many times as possible, always having present that mynas learn very quickly to relate traps and humans as dangerous. Discretion is very important.

#### Roost sites

During the whole campaign, night roost sites were located by following flightlines of mynas in the late afternoon, by listening for roost song during drives in the early morning and in the evening, and through seeking information from the public.

Location	S	W	Tree species
Yon Mini Market	07 <sup>0</sup> 56.084	14°22.050	3 Small <i>Ficus benjamina</i>
Incinerator (aprox.)	07°56.122	14°22.335	Prosopis juliflora
US Base (x1) Laundry	07°57.105	14°24.398	Prosopis juliflora
U.S. Base (x1) Dorm. 8	07°57.137	14°24.423	Delonix regia, Araucaria excelsa (x2),Cheflera and
			Jacaranda ssp.
U.S. Base (x2) Dorm 8	07°57.155	14°24.437	Magnifica indica,
			Thespesia populnea,
			neem(x5),Cheflera ssp(x2)
Scout camp road(aprox.)	07°57.050	14°20.077	Juniperus bermudiana
Bishop path	07°	14°	Big <i>Ficus benjamina</i> and
			Araucaria excelsa
			Eucalyptus
The Residence garden	07°	14°	Big Ficus benjamina



Fig 0. Roost sites in Two Boats (Incinerator and Yon Mini Market area)

# Plants dispersed by mynas

The plant list has been compiled by interviewing Mr. Stedson Stroud, and is based on his wide experience on field myna observations during many years on Ascension. Mynas eating fruits of this plants species are, at least, potential dispersers of their seeds.

Scientific name Vulgar name

Agave sp.

Carica papaya Paw paw

Casuarinaceae

Clidemia hirta Koster's Curse

Dovyalis caffra Kei apple Ekekergia capensis China Date Elaeodendron capense White Olive

Eriobotrya japonica

Eugenia uniflora

Ficus benghalensis

Ficus microcarpa

Hibiscus tiliacens

Loquat

Pitanga

Banyan

Laurel fig

Cotton tree

Hylocereus sp Moon fruit Juniperus bermudiana Cedar

Lantana camaraBlack lantanaLycopersicon esculentumWild tomatoMespilus germanicaMedlan whiteLycopersicon esculentumWild tomatoMespilus germanicaMedlan white

Musa sp Banana
Opuntia vulgaris Prickly pear

Physalis peruviana Cape Goose Berry

Pittosporum viridiflorum Spoor
Psidium guava Guava
Rubus nanus Raspberry
Ruscus aculeatus Butcher's Broom
Schinus terebinthifolius Wild Mango

Sechium edule Chayote

Terminalia catappa American almond
Urena lobata Brazilian Cherry
Vitex trifolia Lovechaste

# Non target animals trapped

Several non targeted animals were trapped alive (see table) and released afterwards.

2		TR	ΑP		
Specie	SS1	SS2	MM1	MM2	TOTAL
Francolin ( <i>Francolinus afer</i> )	4	0	0	0	4
Rat (Ratus norvegicus)	0	35	0	0	35
Mice (Mus musculus)	0	2	0	0	2
Land Crab (Johngarthia lagostoma)	0	1	0	0	1
Rabbit (Oryctolagus cuniculus)	4	5	1	0	10
Total individuals					52

Traps were left in the field during the night (only the *Francolinus afer* were trapped during the daylight). Traps were not baited at night, but sometimes some bait was left behind after the myna removal in the evening. They were always provided with water, especially during the day. Mice were able to go through the wire mesh without problems, normally for drinking water or taking away some bread.

## CONCLUSIONS

The estimated population of Common Myna in Ascension was 1100 birds. In 53 days of control campaign, 623 mynas (413 adults and 210 immature) were trapped. That represented the 56'63% of the myna population.

This control campaign, done by one person operating three or four traps, has clearly demonstrated that trapping is an effective way of removing mynas on islands.

The most successful trap was the Funnel hand made SS2, baited mainly with white sliced bread. It was able to catch 41% of the trapped mynas. The second most success trap was Myna Magnet MM1, baited with bread, which traps 25% of the birds in the whole campaign.

To avoid trapping non targeted species during the night, traps should be removed from the site or covered with cloth or plastic. They can attract many other animals' even without or with very little bait amount.

This trapping effort has had an impact on the island's myna population (Stedson Stroud, pers. comm., and Raymond Benjamin, pers. comm.) and it demonstrates what it could be possible if the Ascension Island Government or other Institutions implement a sustained trapping programme or decide to go for eradication.

## RECOMMENDATIONS

- Eradication of mynas in Ascension is the first recommendation.
- If a long term control is needed, a combination of different methods like trapping, poisoning and shooting is recommended. Coordination protocol must be in place when using all this management tools to avoid disturbances between methods.
- The traps Funnel hand made SS2 and Myna Magnet MM's should be kept trapping in the AIG rubbish tip as long as possible, if eradication is not decided.
- Use Small Decoy SS1 with decoy. Between December and May is the breeding season for mynas in Ascension and couples are more motivated to defend their territory. Any new myna in their reproductive territory will be attacked.
- Remove as many nests as possible and block suitable holes for breeding systematically. If they are in human buildings, close the entrance with concrete, mesh or wood; if in the wild, with stones. If there are eggs or chicks in the nest, they should be managed following international standards.
- More traps type Funnel SS2 are needed for trapping in Green Mountain and the surrounding areas of the National Park.
- The Ascension Island Government rubbish tip should be better managed in order to reduce the food availability for the mynas and other exotic species like rat, donkey and sheep.
- The interspecies interactions between mynas and other exotic species present in Ascension needs more research. (Prosopis *juniflora* and *Acridotheres tristis*. Do mynas eat this seeds and are they a pathway for the Mexican Thorn?)

## Acknowledgments

We would like to express our gratitude to several persons and institutions (Ascension Island Government, South Atlantic Invasive Species and Royal Society for Protection of Birds) who contributed to the success of this first control campaign.

Mr. Stedson Stroud, Conservation Officer for the Ascension Island Government, for his permanent support and assistance during the whole campaign. He provides much of the equipment needed for working on the control campaign and share his long term field observations of myna feeding on plants.

The Ascension Island Society for the Prevention of Cruelty to Animals acted as the focus for all animal welfare issues. Without their support the control campaign would have had immense problems.

Mr. Charles Williamson, Head of Environmental Health provided the wire mesh to build the SS1 and SS2 traps. He was kind to release Susana from some work with Environmental Health, making possible so good trapping days like the 14<sup>th</sup> November, when 71 mynas were trapped. He was able to provide a car some days for the control campaign too.

Mrs. Frances Dixon, Environmental Technician Officer for the U.S. Base, helped actively setting the traps and removing the mynas in the U.S. rubbish tip.

Prof. John Hughes and his colleague Mr. Colin Wearne for providing the rings for the mynas and for their interest in measuring the trapped mynas.

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We also remember with fondness the help and backing of the people living in the whole island, especially those living in Two Boats, who made it possible to conclude successfully this project.

#### References

Allan, J. (2009). Options for control and eradication of Mynas (*Acridotheres tristis*) on Ascension Island. Head, Wildlife Management Programme Food and Environment Research Agency. Sand Hutton York. (In preparation)

Ashmole, N. & Ashmole, M. (2000). *St Helena and Ascension Island: A natural history*. Antony Nelson, Oswestry.

Baker, A. & Moeed, A. (1987). Rapid genetic differentiation and founder effect in colonizing populations of Common Mynas (*Acridotheres tristis*). Evolution, Vol. 41, No. 3 (May, 1987), pp. 525-538.

Bell, M. & Boyle, D. (2004). The eradication of feral cats from Ascension Island. <a href="http://journals.cambridge.org/download.php?file=/ORX/ORX44\_01/S003060530">http://journals.cambridge.org/download.php?file=/ORX/ORX44\_01/S003060530</a> 999069Xa.pdf&code=c94394d54be121ff5eecd461067b11c3

Dhami, M. & Nagle, B. (2009). Review of the biology and ecology of the Common Myna (*Acridotheres tristis*) and some implications for management of this invasive species. Pacific Invasives Initiative. The University of Auckland.

Feare, C. & Craig, A. (1998). *Starlings and mynas*. Christopher Helm (A.C. Black), London.

Feare, C. & Saavedra, S. (2009). Development of a strategy for control of Common mynas (*Acridotheres tristis*) on St. Helena. Unpublished report to the RSPB South Atlantic Invasive Species Project.

Hughes, J., Martin R. & Reynolds J. (2008). Cats and seabirds: Effects of feral domestic Cat *Felis silvestris catus* eradication on the population of Sooty Terns *Onychoprion fuscata* on Ascension Island, South Atlantic. *Ibis* 150 (Suppl.1):121–129

Hughes, Martin & Reynolds (2009). Major or minor threats to endemic avifauna? Invasion threat of Common Mynas *Acridotheres tristis* on Ascension Island. Centre for Ornithology, School of Biosciences, College of Life & Environmental Sciences. University of Birmingham. (In preparation)

Huges, J. (2008). Myna matters. Sooty Terns eggs predated by Common Mynas in Ascension Island. *The Sea Bird Group*. Newsletter 108. June 2008.

# **PHOTOGRAPHIC ANNEX**



Fig 1. Green Mountain in the back and One Boat road to the AIG rubbish dump.



Fig 2. Mynas feeding in Georgetown. (Photo: Marcela Corcoran- KEW Gardens)



Fig 3. Group of mynas flying



Fig 4. Ascension environment. Hydoponic Site. (Photo: Marcela Corcoran- KEW Gardens)



Fig 5. One Boat AIG rubbish dump. (Photo: Marcela Corcoran- KEW Gardens)



Fig 6. Sooty Tern Colony in Mars Bay. (Photo:Matti Niisallo)



Fig 7. Small decoy trap SS1



Fig 8. Funnel Trap SS2



Fig 9. Myna Magnet traps in Cross Hill



Fig 10. Removing trapped mynas in the U.S. rubbish tip (Photo: Frances Dixon)

# Trapping areas





Fig 11. Traps SS2 and MM1





Fig 12. SS2 in U.S. rubbish tip.



Fig 13. Fresh water supplied by the leaking

water tanks located in Cross Hill. (Photo: Marcela Corcoran- KEW Gardens)





Corcoran- KEW Gardens)

Fig 14. Aspect of the AIG rubbish tip. (Photo: Marcela

# Non target species trapped:



Fig 14. Land Crab in SS2.



Fig 15. Mynas and rabbit in SS2.



Fig 16. Rats in SS2.



Fig 17. Myna and rabbit in SS1.



Fig 18. Rabbit eating bread inside MM in Mars Bay.