



محمية دبي الصحراوية
DUBAI DESERT CONSERVATION RESERVE

Rodent community Structure and dynamics in Dubai Desert Conservation Reserve

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Introduction

Deserts occur on all seven continents and can be classified into five general types based on certain geo-climatic factors that will lead to their development

(Cloudsley-Thompson 1975; Laity 2008).



Subtropical high-pressure belts are a product of atmospheric circulation; dry air descending in the circulation cells leads to desiccation that is accentuated by compressional warming of this downward air movement. The subtropical deserts cover about 20% of the Earth's surface and include the Sahara, Karoo, and the Kalahari of Africa, deserts of the Arabian Peninsula, the Sonoran and most of Australia. (Kelt 2011)

Rodents have become particularly well known for their adaptations for survival to desert conditions. Adaptations included expansion of a hollow bony prominence of rounded form found in most mammals, production of highly concentrated urine, retrieval of a high proportion of respiratory water, nocturnal and subterranean habits, and a grainivorous diet combined with extensive caching behavior. (Kelt 2011)

A review of the food chain in desert small mammals highlighted both temporal and spatial variation in diets, even within species, and emphasized the important role of abiotic influences on the ecology of small mammal communities in arid regions (Fox 2011).

Our understanding of desert systems and the ecology of desert small mammals has progressed more rapidly in some regions than others. Numerous publications on

North American and Middle Eastern deserts have been much more extensive than those on South American or African arid regions, lately progress has been made in recent decades of the South American and African arid regions. (Kelt 2011)

The importance that small mammal have in regulating the vegetative ecology and habitat structure has increased the understanding of desert systems and can be of importance to managers and conservationist in the face of global climate change (Geist 2005).

In arid environments species have adapted to limited availability of water, and small mammals in most deserts respond positively to rainfall (Previtali et al. 2009; Shenbrot et al. 2010; Thibault et al. 2010b). Long-term biotic responses to rainfall can be confused with changes in shrub cover and in the make-up of small mammal species. Biotic interactions can play key roles in systems that appear largely structured by abiotic influences. (Kelt 2011)

Seed consumption and omnivorous diet is coincided to be common in all desert small mammals. Therefore the consumption of seeds available in a community is important to get a full understanding of desert ecosystem. Many studies have proven both negative and positive relation between rodents and desert vegetation. (Fox 2011; Kelt et al. 1996; Kerley and Whitford 1994; Morton et al. 1994)

Each desert is a unique product of its distinct evolutionary history, with different kinships that have responded to different constraints and been confronted by different opportunities over time. More so these deserts all differ in both contemporary and historic abiotic influences, leading to differing resource availability and differing forms of seasonality; Brown (1995:189-191).

Deserts have been important natural laboratories for the continued development and testing of ecological theory. They continue to provide dynamic venues for both observational and field experiments, and small mammals generally are sufficiently abundant to yield statistically and ecologically meaningful results. (Kelt 2011)

Since small rodents make up a very large proportion of the vertebrate primary consumers in most of the world's habitats, often reaching plague levels, it is not surprising that ecologists have spent much time and ingenuity in developing methods for estimating populations levels. (Peter&Simon 2005)

At least 11 species of rodents occur in the United Arab Emirates. One; the Persian squirrel has only recently been introduced, although both black rat and brown rat and house mice are long-standing immigrants. Together with bats, rodents are the most diverse mammal group in the country, successfully occupying all terrestrial habitats represented, from the most arid deserts to the highest mountains and offshore islands, even if, in some instances, only in close association with man. (The Emirates A Natural History)

There were two motivations behind initiating this study. First, there is a severe gap in our knowledge represented by the lack of detailed information about the community structure, distribution and species population sizes within the reserve. The late Peter Phelan started a survey of rodent species found in the Dubai desert conservation reserve, but was never completed so there was a compelling need for the work to be completed. Second, sound conservation management of DDCR requires baseline information to bridge the gap regarding the population of rodents within the reserve following recent surveys of other elements especially flora, fox den density, bird and insect surveys.

While researching the project we discovered that very little work has been documented on rodent population and distribution ranges within the United Arab Emirates. Our aim was to complete an intensive systematic survey of rodent populations, whereby forty sites were trapped for 6 consecutive nights each. Nowhere in our research did we come across such an extensive survey which has been done before.

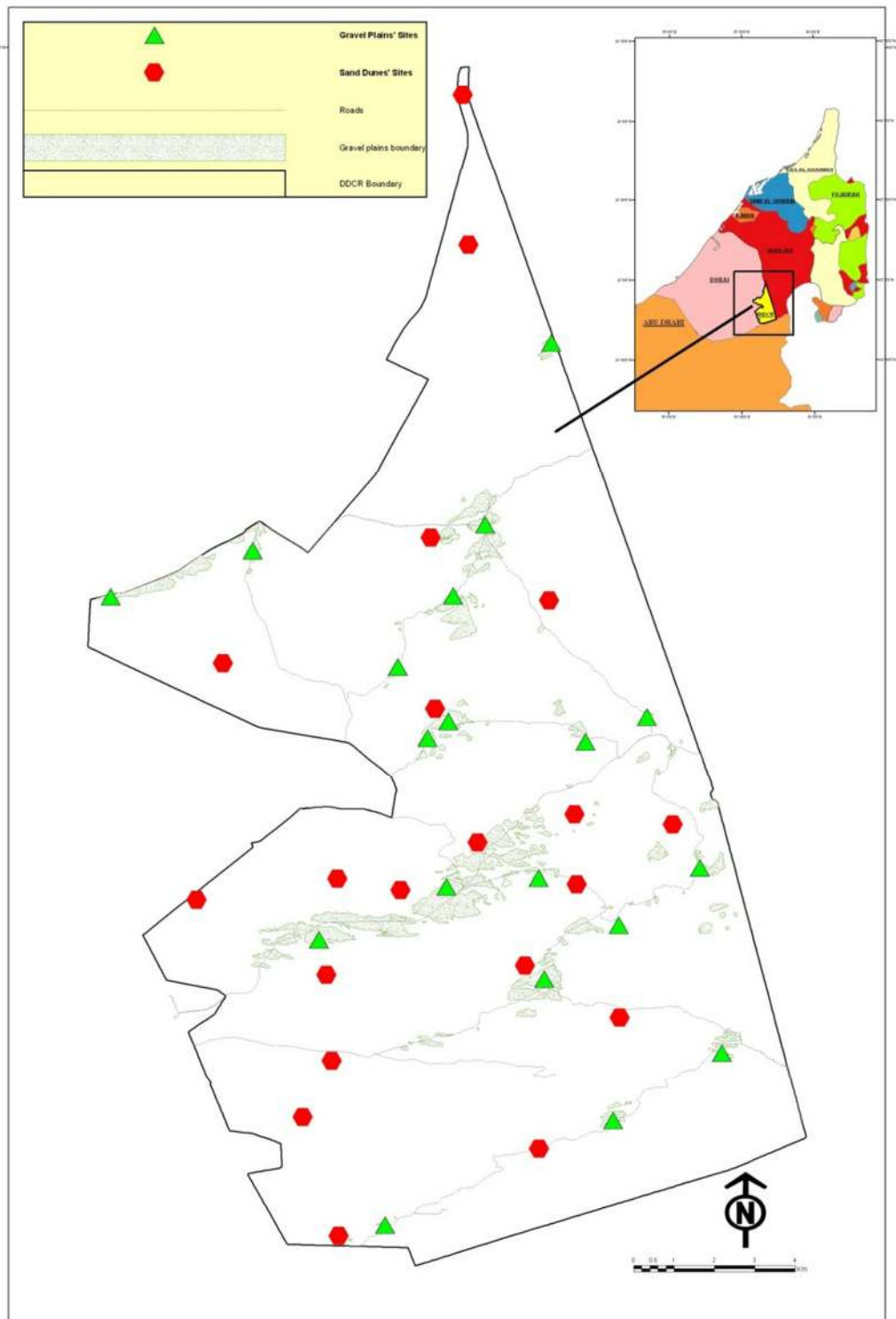
Aim of the work

Firstly it was essential for us to establish what rodent populations are present and what diversity and density levels are within the Dubai Desert Conservation Reserve. After establishing these factors we will be able to see whether it is important for further research on a particular species from the data that has been obtained during the survey. Secondly what variables may or not be the influencing factors for rodent activity and does the different moon phase play an important role in rodent activity in arid environments, including “how does the weather conditions effect rodent behavior?” What is the habitat preference of the different species of rodents? Lastly to record all morphological data on the various species of rodents that was found in the Dubai Desert Conservation Reserve during the survey.

Study Region

Dubai Desert Conservation Reserve (DDCR) started in 2003 with total area of 225 km² the biggest piece of land ever dedicated to a single project with joint efforts and sponsorship by Emirates Airlines and the government of Dubai; the Dubai Desert Conservation Reserve is considered to be the first United Arab Emirates national park; the main objective is to conserve the natural flora, fauna and landscape. DDCR is a fenced area with a fence perimeter of about 92km. Inside this fence there is another core area which is **Al Maha Desert Resort and Spa** and it was fenced from 1999 until the complete removal the fence in 2011. Wildlife in the DDCR includes Arabian Oryx, Sand gazelle, Red fox, sand fox and mountain gazelle. There were a number of Camel farms within DDCR with approximately 1209 camels; but following His Highness Sheikh Mohammed's order to evacuate all the camel farms in December 2008 the reserve is considered to be without any free ranging livestock. The habitat types of DDCR are mainly sand dunes desert ecosystem (see map (2)); dominated by low to medium size sand dunes, interspersed by a number of gravel plains. The altitude ranges from 260(msl) in the south and gradually slopes down to the north reaching 180(msl); Map (1) shows the location of DDCR and the topography of the area.

DDCR Location map & Sampling sites



Map (2) DDCR Location Map and Sampling Sites in Different Habitat Types

Climate

Climate Data

Low rainfall and high temperature characterize the climate of the UAE, where most of the precipitation occurs between December and April. For the last eight years there has been continuous meteorological data recording from the three weather stations installed in the DDCR, the three weather stations are installed in different sites (north, base and south of DDCR) and the main objectives are to establish continuous meteorological record and to make it available.

Table (1) Shows the Mean temperature, average rainfall and average wind speed over the three weather station sites in the DDCR during the eight year period from the 2005 until 2012. While **figures (1), (2), (3) and (4)** show the mean temperature, the annual Rainfalls, the average and the high wind speed recorded from the Base weather station.

	Temperature	Annual Rain	wind Speed	Hi wind speed
2005	22.8	0.2	6.7	40.2
2006	28.2	57.0	8.3	80.5
2007	28.4	21.6	6.4	66
2008	25.4	48.0	6.0	61.2
2009	28.3	186.2	4.6	103
2010	29.5	19.2	4.0	69.2
2011	30.2	19.6	5.0	61.2
2012	26.4	4.8	6.2	56.3

Table (1) summary of the weather data in DDCR during the last 8 years

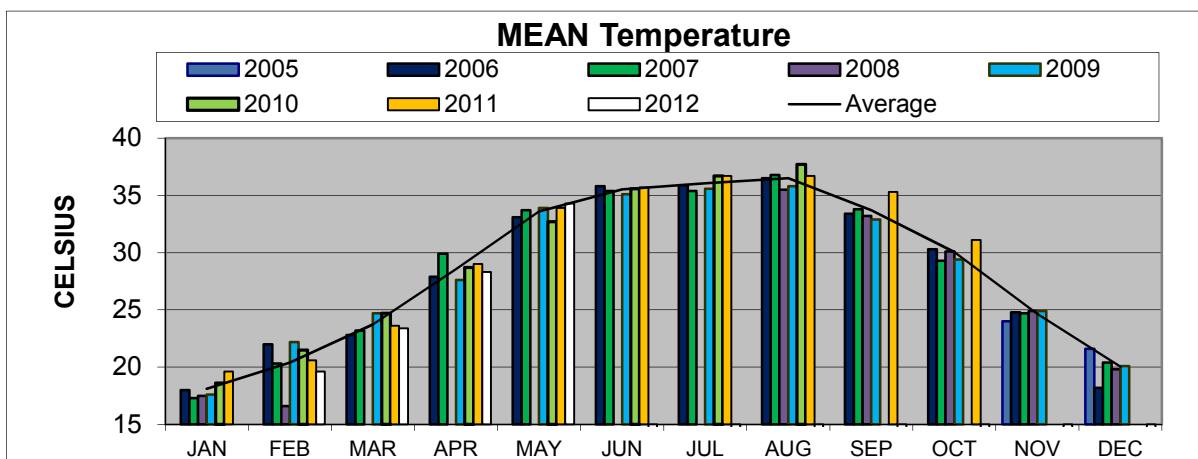


Chart (1) Mean Temperature Recorded in DDCR

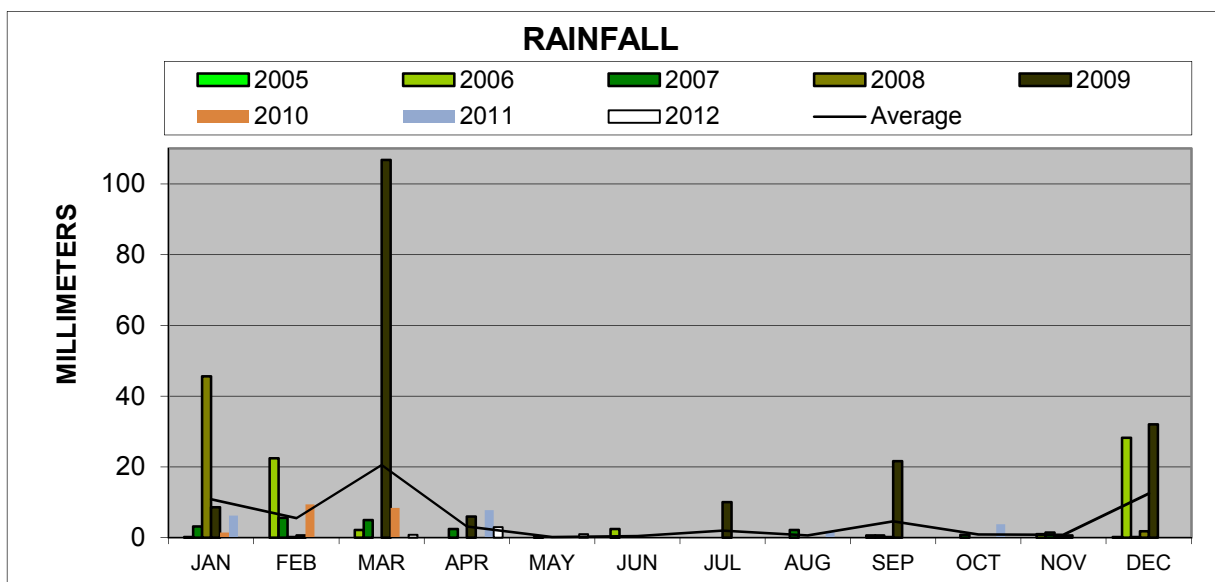


Chart (2) Rainfall Records by mm. in DDCR

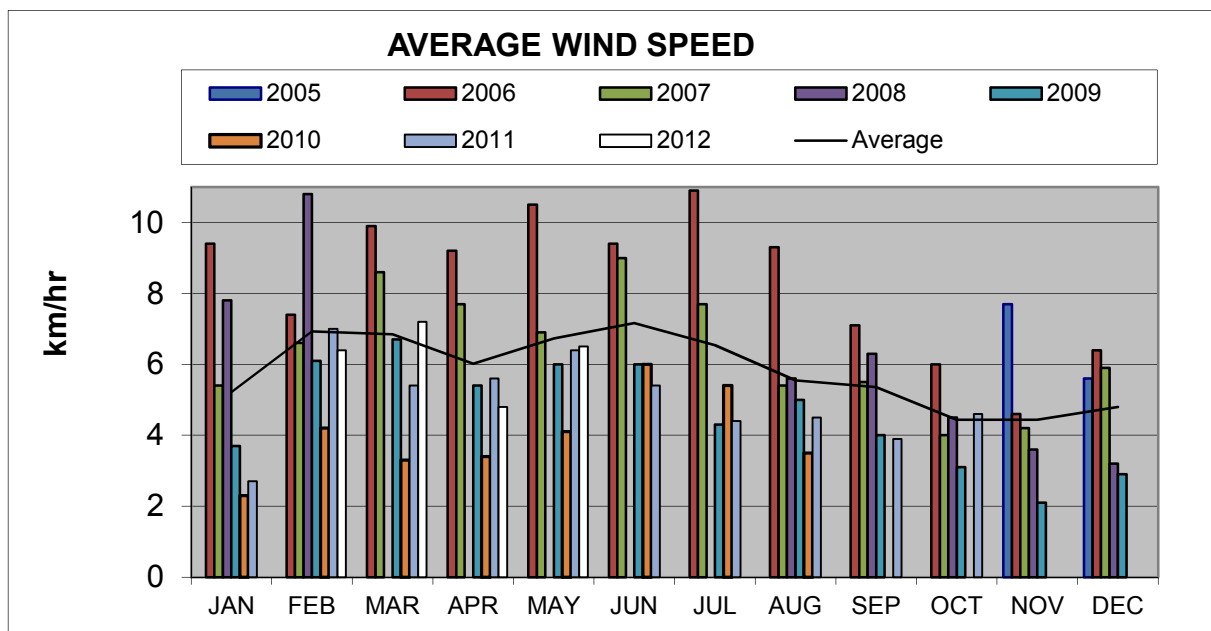


Chart (4) Average Wind Speed - Km/hr

From the graphs and table above we could summarize that normally most of the rainfall records are recorded during the winter months starting from September until March with some exceptions to that rule with a few rainfall events recorded during the summer months. Good annual rainfall in 2006, 2008 and 2009 with 57mm, 48mm and 186mm recorded respectively. The months with the highest rainfall records are March, January and December. The mean annual temperature ranged from the high of 30°C in 2011 to the low of 23 °C in 2005. The mean low temperature was 12°C in 2008; and the mean high temperature recorded in 2011 was 38 °C. The climate data is very helpful when studying rodents to predict the habitat range and abundance of vegetation which help in the recovery of the rodents' populations.

Weather records during the survey months

TEMPERATURE

The overall pattern of the temperature records during the year shows that the mean temperature ranges from 20 °C during the winter months to 37 °C during the summer, the highest temperature recorded

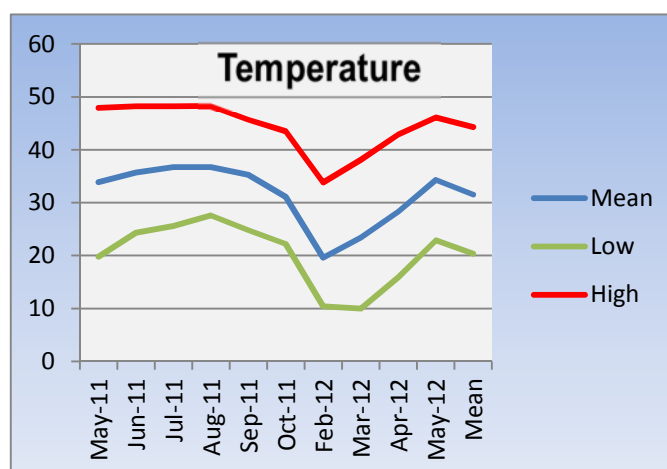


Chart (5) Temperature Records during the survey months

was 48°C and it was during the month of August 2011, and the lowest temperature recorded was 10°C during March 2012, the average annual temperature of DDCR was 32°C.

RAINFALL

The overall pattern of the rainfall conditions for this year was drier than average across all of the DDCR compared to the rainy seasons of 2008 & 2009. The only significant records were during October 2011 and April 2012 with an amount of approximately 3mm of

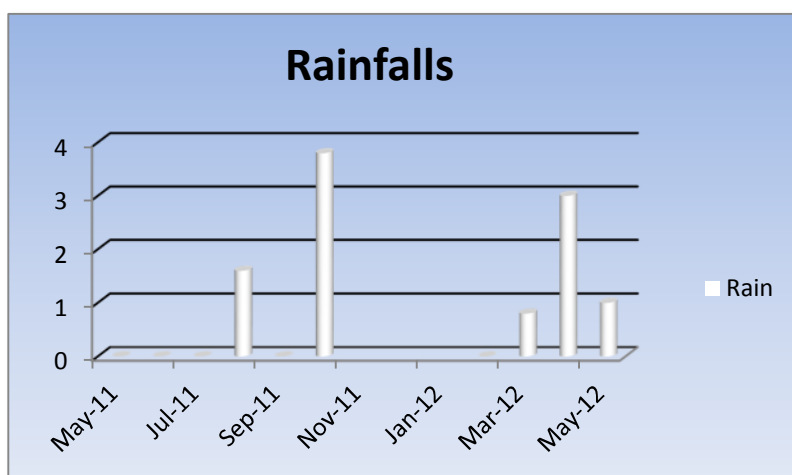


Chart (6) Rainfalls Records during the survey months

rainfall in these two months, during the months of August 2011, March 2012 and May 2012 it recorded the lowest rainfall records of barely 1mm for each month. The average annual rainfall during the survey year was very low around 1.02mm of rain across the reserve.

WIND SPEED

Wind speed gives us an indication of the wind storms during the year and its effect on the vegetation and the small mammals' communities which relying mainly on digging burrows to secure their existence. Over the last year the average wind speed was around 5.5km/h, while the highest wind speed recorded was 61km/h during the month of August 2011.

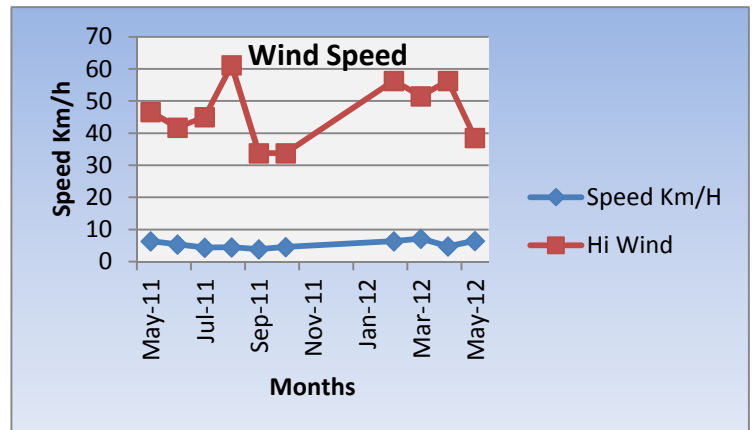


Chart (7) Wind Speed records During the Survey Months

The survey team struggled to keep the traps in position during the wind storm days and we lost one of the rodent traps during one of these stormy days with it buried under ten feet of sand.

OTHER WEATHER VARIABLES

During the survey days; records of other weather variables had been monitored onsite for each trapping sites to record the actual weather status for instance if the night were windy, rainy, cloudy, clear or foggy. (See Chart 8)

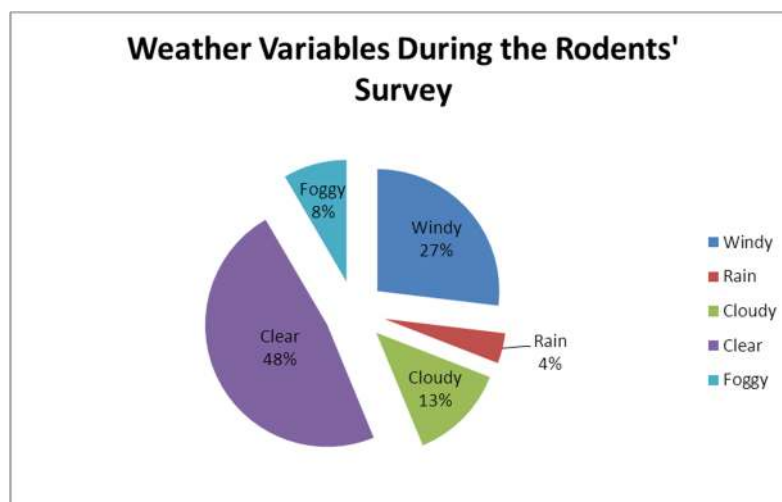


Chart (8) Weather Variables

Forty eight percent of the surveys nights were clear followed by 27% of windy nights while 13% were cloudy, 8% were foggy and only 4% of the trapping nights were rainy.

Methodology

Field Method

The study aims to provide a baseline survey of the rodent communities in DDCR; and to assess the community structure and the distribution of the individual rodent species and species distribution patterns on different habitat types (Sand Dunes and Gravel Plains).

Using Hawth's Analysis Tools© version 3.27; with the aid of the plot sampling tools random points were generated with consideration to the different habitats. Random selection of 40 points evenly distributed between the sand dunes and the gravel plains with 20

points for each habitat type (See map 2) at each site a circular plot was used for trap sampling which involve an area with a 25m diameter, each plot is equivalent to 1963m², total sampled area across the reserve is approximately

78,520.00m². For each

plot, 12 traps been placed along the four compass directions; the distance between each trap was 10m, make it a total of 12 traps per/site; Trap lines were set for a period of 6 nights at each site, this allows the traps to be accepted by animals in the area. Traps used consisted of custom made mesh traps 40x10x10cm, with a nest box built in at the rear of the trap (See figure 9).

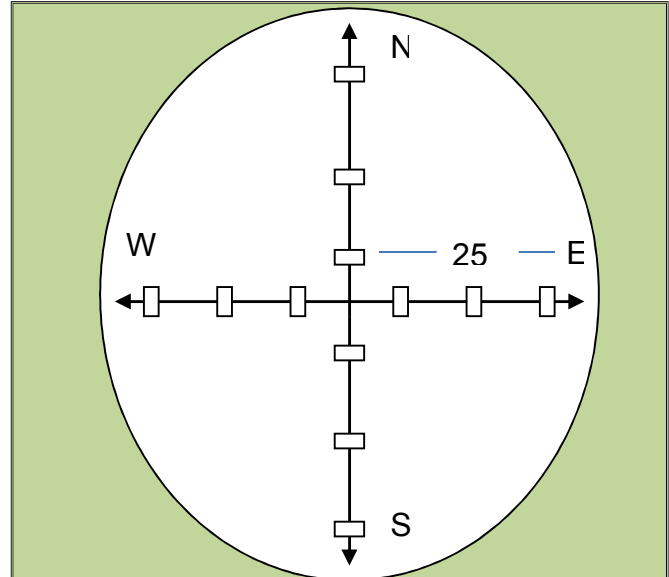


Figure (1) Circular plot of 25m diameter, 12 traps were set for rodents catching

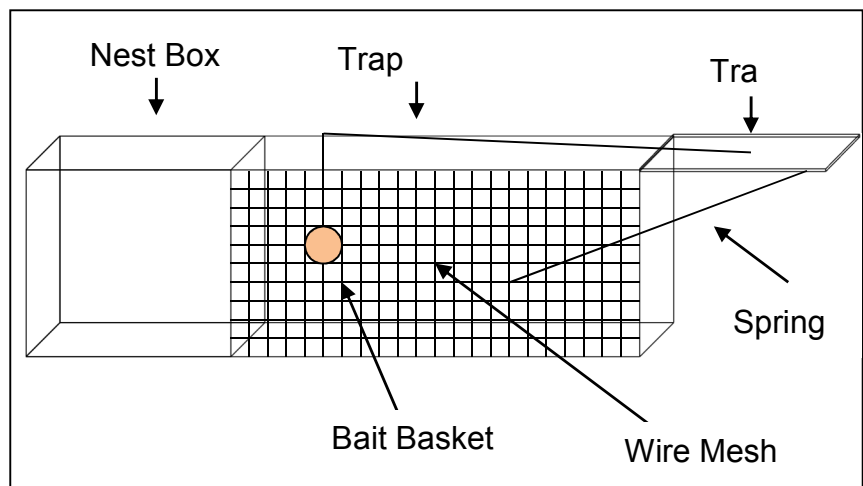


Figure (2) Box Traps

A standard bait of crushed barley, bird mix, quail mix, seeds and peanut butter was used to bait the traps. Trapping success tends to peak on days three, four and five and then drop again after this time.

Rodent species trapped in each given plot were tentatively recorded in the field; giving the authentication of their identification with the help of reference field guides, *Wild About Mammals: Field Guide to the Terrestrial Mammals of the U.A.E*, (Jongbloed, M. 2001). The following are the lists of the rodents recorded in DDCR with their taxonomical ranking and the recorded morphological data, its geographical range and preferred habitat locally and regionally.

The following parameters were measured for each species caught in any of the box traps (weight-g; Total length-mm; Tail length-mm; Hind foot length-mm and ear-mm). Measurements are extremely important in identifying rodent species and this data is used to improve on field identification. Diversity indices were also used to quantitatively assess the diversity of the rodents' communities and to compare the populations in different habitats.

Data Analysis

Assessment of Trapping Success

Frequencies of captures of rodents are often expressed as trapping success (Simonetti, 1986). The index of microhabitat use can be explained by the rates of captures at the traps locations. (Price, 1977) the results are explained as animal per/trap-night. (Simonetti, 1986). In this survey we adopt the trapping success index considering the decrease of trapping efficiency is a result of moving the traps from all over trapping efforts, it means that catch per unit effort or trapping success does not necessarily represent the relative abundance of the organisms being sampled (Kennedy, 1951)

Traps removed out from the trapping efforts if it triggered either by the species under the study or non-target species as well as when they are triggered accidentally due to other factors like "wind storms, Rains, traps being kicked by wild animals". Insects eating the bait could also consider being as a limiting factor which affect the catching efforts (Patrick, 1970).

In this study we followed the method to estimate the trapping success proposed by (Simonetti, 1986).

$$TS = A \times 100 / (TU - NA)$$

Where TS is the trapping success expressed as rodents captured per 100 trapping units. A is the number of rodents caught.

TU is the number of trapping units explained to

$$TU = P \times I \times N$$

Where P is the number of trapping intervals (ex. Nights), I the length of trapping intervals (in meters), N is the number of traps being used and NA is the number of unavailable number of traps for the small rodents.

Diversity Indices

Selecting a diversity index for a study could be a tricky task and the purpose of the study should be quite clear to enable good judgment (Alqamy, 2004)

(Peet, 1974) recognized two categories of diversity indices. Type I & Type II indices;

- Type I index is most sensitive to the changes in the rare species in the community sample; e.g. Shannon-Wiener Index
- Type II index is more sensitive to changes in the more abundant species in the community sample. e.g. Simpson's index

In the current study both of the diversity indices types were used to expand our knowledge of the monitoring possibilities for both types of changes in the future.

Box Plots

Used to identify and visualize heterogeneity, it is non-parametric method and the spaces between the different parts of the box help indicate the degree of dispersion and skewness in the data. It gives an easy graphical representation for the distribution of the data and makes the identifying of outliers easy.

The boxplots present five simple statistics – the minimum, the lower quartile, the median, the upper quartile and the maximum in a visual display. The length of the box is the interquartile range of the sample. Whiskers sprout from the two ends of box until they reach the sample maximum and minimum.

The box plots is ideal of comparing many samples at once; in a way that would be impossible for the histograms, box plots lined up side by side on a common scale

and the various attributes of the samples compared at a glance, obvious differences are immediately apparent.

IDW (Inverse Distance Weighted Interpolation)

ESRI® Arc Map™ 10.0 spatial analyst extensions provides tools for spatial data analysis that applies statistical theories and techniques to the modeling of spatially referenced data. Raster cells with scatter sampling points used to drive the intervening values using the interpolation tools; the ability to create surfaces from sample data makes interpolation both powerful and useful. Interpolation is a procedure used to predict the value of cells at location that lack sampled points; which measures degree of relationship/dependence between near and distant objects.

One of the most commonly used techniques for interpolation of scatter points is inverse distance weighted (IDW) interpolation. Inverse distance weighted methods determines cell values using a linear-weighted combination set of sampling points and based on the assumption that the interpolating surface should be influenced mostly by the nearby points and less by the more distant points. The interpolating surface is a weighted average of the scatter points and the weight assigned to each scatter point diminishes as the distance from the interpolation point to the scatter point increases.

IDW was used as the method to predict the spatial pattern of the species recorded during the survey in DDCR, Abundance counts over the study area were used as input, and predictions were applied to all the rodent species recorded.

PRESENCE analysis

PRESENCE program ver. 4.0 (Hines, 2006) was developed to estimate the proportion of area occupied (PAO) or site is occupied by a species according to a model presented by Mackenzie, et. al., 2002. where they proposed that by repeatedly surveying the sites, the probability of detecting the species can be estimated and enable unbiased estimation of PAO, this model has been extended by (MacKenzie et. al. 2003).

The software produce multiple models and the program stores the result for each model and present a summary of how well the models ranks according to a model selection metric where AIC “**Akaike Information Criterion**” (Akaike , 1971) is used as a default. AIC describe the tradeoff between the bias and variance in any model construction, or in more simple explanation between accuracy and complexity of the model.

In general AIC is:
$$AIC = 2K - 2\ln(L)$$

Where **K** is the number of parameters in the statistical model and **L** is the maximized value of the likelihood function for the estimated model. The preferred model is the one with the minimum **AIC** value.

Out of 14 types of models the PRESENCE software can analyze to fit the detection and non-detection data, two models will be adopted in this study, which are:

- Single season model: which assume the sites are closed to changes in the state of occupancy for the duration of sampling. (MacKenzie, et. al. 2002)
- Single Season – Two species model: Computes occupancy and detection probabilities with interactions when there two species present. (MacKenzie et al., 2004)

Results and Findings

Only four species of rodents which were trapped during the yearlong survey are *Gerbillus cheesmani*, *Gerbillus nanus*, *Meriones crassus* and *Acomys cahirinus*.

Trapping Success

The equation used here in this report for calculating trapping success gives the highest estimates of trapping success during the different seasons, different moon phases and different weather variables that occurred during the rodents' survey.

Seasonal

Autumn having the highest trapping success is not surprising as there is an abundance of seeds in the area during this season. On the other end of the spectrum you have summer which recorded the lowest trapping success; this is due to a lack of seeds availability in the area, and rodents have to travel greater distances in search of food.

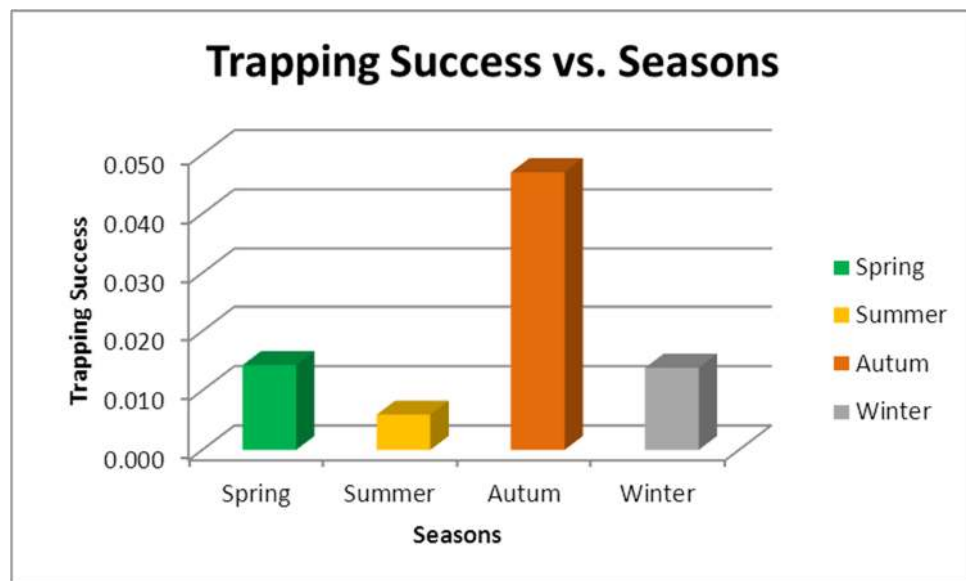


Chart (9) Trapping Success vs. Seasons

Moon Phases

One of the major findings during the study was that rodents were less active during that portion of the night with lunar illumination than when the moon was down. We hypothesized that this moonlight avoidance strategy has been selectively favored in rodents because of a lower loss rate to visually hunting predators during moon-down than during moon-up. During new moon, darker nights we had far higher trapping success than full moon nights where it was a lot lighter.

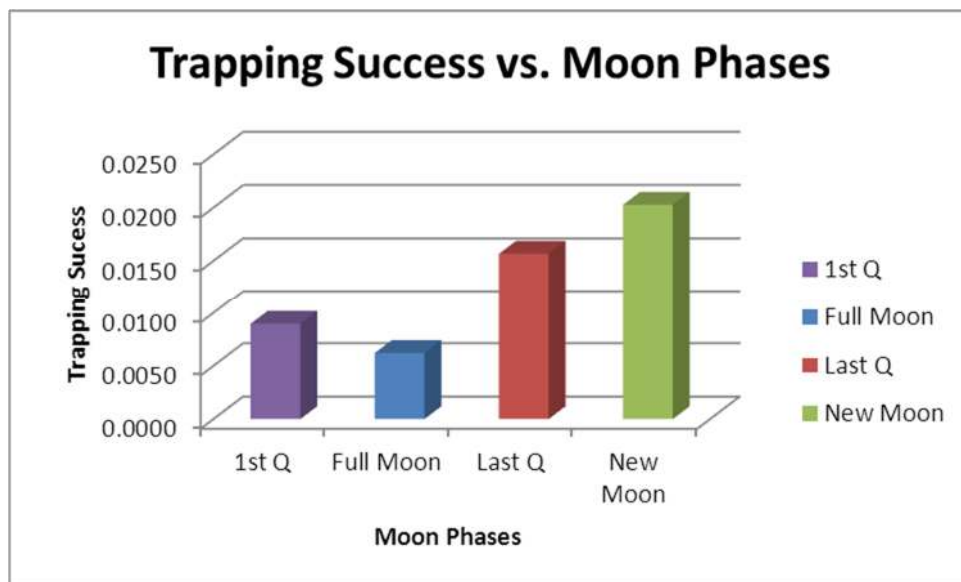


Chart (10) Trapping Success vs. Moon Phases

Weather factors

The weather factor that had the highest trapping success is not surprisingly “Rain” as during this weather element we found rodents to be most active compared to the other weather conditions, especially *G. cheesmani*. At night, grasses and seeds are permeated with dew, and rodents will take these food items back to their burrows to improve the humidity. As an adaptation to living in harsh, dry desert conditions, giving this reason one would only expect high

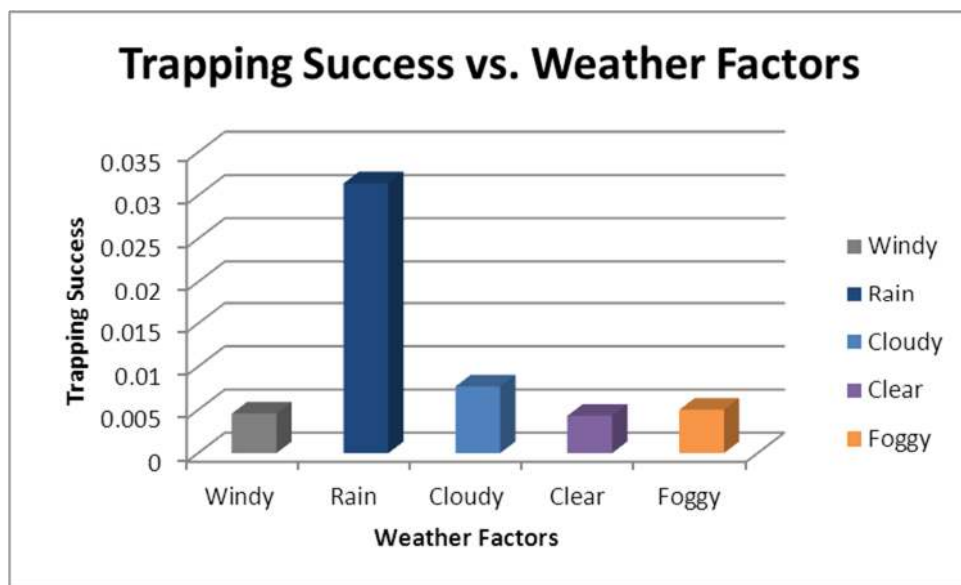


Chart (11) Trapping Success vs. Weather factors

bouts of activity during these periods. The second highest was cloudy and as the clouds would shadow or eliminate majority of the moon phase causing the night sky to be considerably darker which in aid would give the rodents more concealment from predators.

Rodents' fauna of DDCR

The survey launched on May 2011, and continued for a year till May 2012. A total of four different species of rodents were recorded in DDCR representing one family and one order (See table 1).

- The first and most common rodent in the reserve is ***Gerbillus cheesmani*** which had been caught in traps in 24 different sites out of forty sites in total, the total number of individuals trapped were 61, male cheesmani were the majority of the records out of 61 individuals 36 male and 25 female.
- The second rodent species recorded was ***Gerbillus nanus***, trapped in only three sites across the reserve, with the only 4 individuals caught in traps all being male.
- The third record was ***Meriones crassus*** with 9 individuals trapped from four sites; the majority were males with seven individuals and two female.
- The fourth species recorded in the survey was ***Acomys cahirinus***, recorded in the most northern rocky outcrop of the DDCR in only one site which represent a unique rocky habitat in the reserve, with a total of two individuals which were both males .

In the following species account a description for each of the rodents recorded is presented, systematic classification and common names; Physical descriptions; distribution and behaviors; geographical range and habitats; and if the information is available: the breeding habits per each species were given. The system of classification followed is that adopted by Jongbloed, et. al. (2001)

Order	Family	Genus	Species	Trapped/Sites	Male	Female	Total
Rodentia	Muridae	Gerbillus	Gerbillus cheesmani	24	36	25	61
Rodentia	Muridae	Gerbillus	Gerbillus nanus	3	4	0	4
Rodentia	Muridae	Meriones	Meriones crassus	4	7	2	9
Rodentia	Muridae	Acomys	Acomys cahirinus	1	2	0	2

Table (2) Rodents' records of DDCR

Classification and Ethology

***Gerbillus cheesmani*(Thomas; 1919)**

Cheesman's Gerbil

Kingdom	: Animalia
Phylum	: Chordata
Subphylum	: Vertebrata
Class	: Mammalia
Order	: Rodentia
Suborder	: Myomorpha
Family	: Muridae
Subfamily	: Gerbillinae
Genus	: Gerbillus
Species	: <i>Gerbillus cheesmani</i>
IUCN RedList	: LC (Least Concern)

Baillie, 1996



Physical Description

Cheesman's gerbil is a medium sized gerbil with sandy colour on the back to camouflage it in its natural desert habitats; the belly colour ranging from cream to white; the tail is furry and the underside of it is similar to the belly underside colour, the end of the tail has a small tuft and usually white, the tail is longer than the head and body length, the fur of the cheesman's gerbil is soft and dense, it has a long ear and claws, the soles of the feet is hairy, the teeth of the *G. cheesmani* are not hypsodont. (Badr & Asker 1980; Nowak 1997)

Behavior

Cheesman's gerbil is a solitary, nocturnal rodent. Gerbil species are unable to survive in extremely hot conditions, and tend to live in burrows underground during the day in order to keep cool. The *G. cheesmani* dig tunnels that vary from simple holes to intricate, maze-like burrows. The burrows may be short or long and may also serve as storage sites for food. The entrances are blocked off by sand during the day to reduce water loss, and the gerbil uses its tail to flick sand over the burrow entrance to conceal it. Members of the species usually dig their burrows close to

each other, thus forming colonies and they use these burrows to store the collected food. These gerbils are primarily herbivorous, but also eat insects depending on the resources available. Foods eaten include: seeds, nuts, grasses, roots and insects. At night, grasses and seeds are permeated with dew, and gerbils will take these food items back to their burrows to improve the humidity. As an adaptation to living in tough, dry desert conditions, the digestive system of gerbils is efficient at extracting water from food. The amount of water lost in the faeces is minimal, and only a few drops of concentrated urine are produced. A further adaptation to living in the desert is the presence of hair on the soles of the Cheesman's gerbil's feet, which enables it to run easily across sand. This species is known to make considerable leaps, and the long tail is used to help with balance. Cheesman's gerbil is predated upon by nocturnal species such as the Arabian red fox (*Vulpes vulpes arabica*) and Rüppell's sand fox (*Vulpes rüppelli sabea*). Gerbil species have developed several adaptations which enable them to avoid predation, such as the long tail which can be used as a decoy to distract predators. Gerbils, particularly those living in open desert habitats, have a large middle ear, which allows these small rodents to hear low frequency sounds, such as the beating of an incoming owl's wing.

Breeding

Little is known about the breeding biology of Cheesman's gerbil, although in the Arabian Peninsula the breeding season is thought to be relatively long. The females are polyestrous, meaning that they ovulate more than once a year. Litters average 4 or 5 pups can range up to 8. The gestation period is 20-22 days, & pups nurse for about a month. The young are born naked & are dependent on their mothers for at least a month.

Geographic Range

G. cheesmani, Distributed widely across the Arabian Peninsula; as well as in Iran and Iraq; it is possible that Cheesman's gerbil may also have a limited distribution in parts of Syria and Jordan. This species occurs from sea level to elevations of approximately 450 meters; occupying sandy desert and gravel plain environments with sparse vegetation. (Badr and Asker, 1980; Nowak, 1997).

Habitat

G. cheesmani are found in rocky and sandy dry areas, often under coarse or sparse vegetation. (Nowak, 1997; Scott and Dunstone, 2000). In Saudi Arabia, Cheesman's gerbil is found in areas associated with a variety of plants which provide it with shelter. In the United Arab Emirates gerbils are associated with *Leptadenia pyrotechnica*.

Morphological Field Data

The following morphological measurements of the trapped *G. cheesmani* based on the actual measurement of the species collected from each trap, we found that the average weight of the *G. cheesmani* was around 30g, where we collected a strong adult weighing 48 grams and a young juvenile of only 15 grams. The average total length recorded was around 200mm with a minimum of 120mm. (See table 2) for more details data.

Table (3) Cheesman Gerbil's Morphological data

	WEIGHT (g)	Total Length (mm)	Tail Length (mm)	Hind foot length (mm)	Ear (mm)
Average	31	201	128	36	6
Max.	48	240	230	58	11
Min.	15	119	90	10	3

Monitored Variables in DDCR

G. cheesmani trapped and recorded in 24 sites in DDCR out of 40 sites, 10 of these sites were Gravel Plains where the other 14 sites were Sand Dunes, although the typical habitat of *G. cheesmani* is the sandy areas but we managed to trap *G. cheesmani* in the gravel plains' traps where we believe it is because of the active search for food which brings the *G. cheesmani* from the nearby sandy dunes, with a

total abundance of 61 individuals, the sex ratio between male and female was 36 male to 25 female. (See table 3)

From the trapping effort results it was obvious that *G. cheesmani* preferred the new moon to forage for food with 37% of the trapping efforts where the least trapping efforts was during the full moon with 13% of the total abundance records.

The most active season for *G. cheesmani* was spring where 37% of the species abundance was recorded followed by summer and the least records were in autumn. The weather variables also affected the result; 49% of the total rodent capture was during clear nights and 33% during cloudy weather where the least effect variables were the rainy and foggy variables.

Site #	X	Y	Habitat	Male	Female	Moon Phases	Seasons
Site 5	55.68012	24.93415	GP	4	1	New moon	Autum
Site 7	55.66536	24.89360	GP	2	0	Full Moon	Autum
Site 8	55.65826	24.87789	GP	4	2	Last Q	Autum
Site 10	55.67727	24.81517	GP	1	0	New moon	Summer
Site 12	55.65724	24.85014	GP	2	1	Last Q	Winter
Site 13	55.65257	24.84650	GP	0	1	Last Q	Winter
Site 14	55.64597	24.86216	GP	1	0	1st Q	Winter
Site 16	55.68778	24.84564	GP	2	0	1st Q	Winter
Site 17	55.69397	24.76117	GP	1	0	New moon	Spring
Site 18	55.64313	24.73788	GP	6	2	New moon	Spring
Site 21	55.67427	24.79570	SD	1	1	Last Q	Summer
Site 22	55.63247	24.81499	SD	0	2	New moon	Summer
Site 23	55.63280	24.73549	SD	2	3	New moon	Spring
Site 26	55.60693	24.86296	SD	1	3	Last Q	Spring

Site 27	55.65327	24.89076	SD	1	0	Full Moon	Spring
Site 28	55.62474	24.76189	SD	1	1	New moon	Summer
Site 29	55.67962	24.87688	SD	2	0	1st Q	Spring
Site 30	55.63002	24.79371	SD	0	1	1st Q	Summer
Site 34	55.67739	24.75482	SD	1	2	New moon	Spring
Site 36	55.66172	24.95588	SD	1	2	Last Q	Spring
Site 37	55.69543	24.78424	SD	1	1	New moon	Spring
Site 38	55.63118	24.77462	SD	1	1	Last Q	Summer
Site 39	55.70721	24.82705	SD	1	0	Full Moon	Summer
Site 40	55.66046	24.98940	SD	0	1	1st Q	Winter

Table (4) *G. cheesmani* Monitored Variables

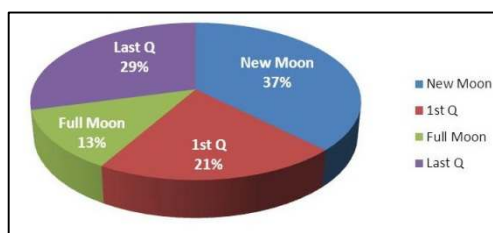


Chart (12) Moon Phases

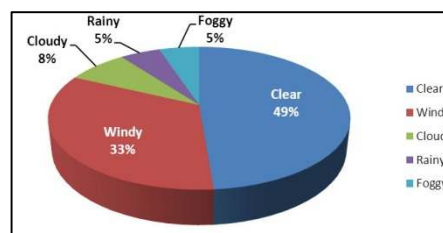


Chart (13) Weather factors

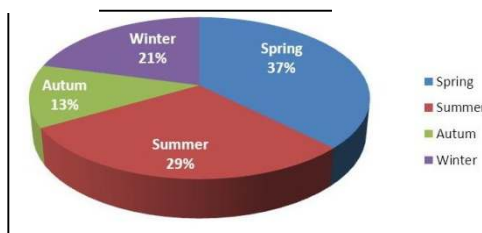


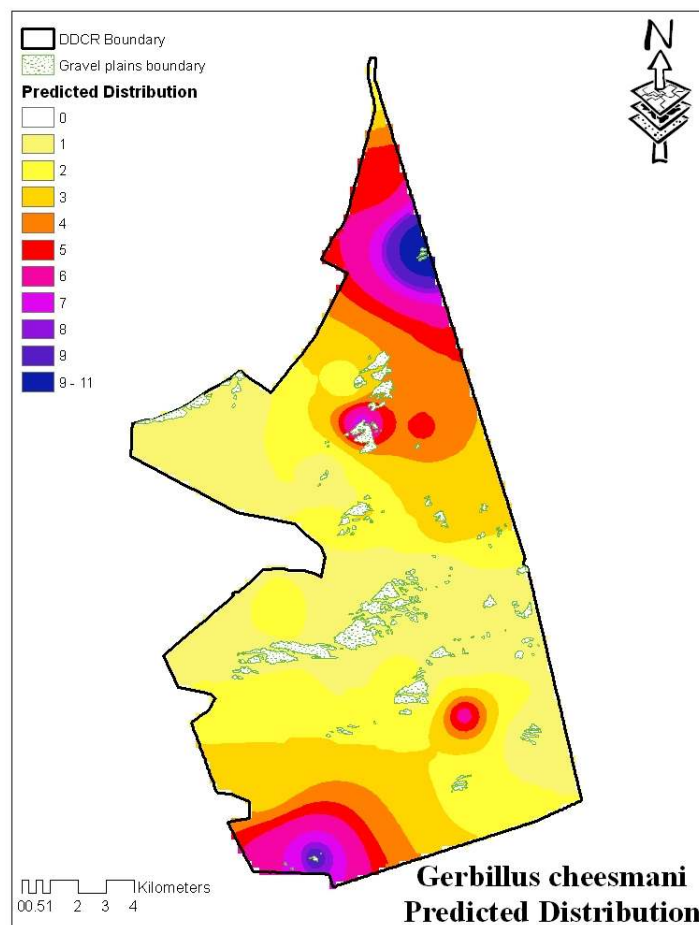
Chart (12) Seasons factor

Predicted Distribution

Gerbillus cheesmani distribution is throughout the entire reserve with isolated hotspots representing higher density of the species. The preferred habitat is sand dunes to vegetated dunes as 14 out of 24 *G. cheesmani* were captured in this habitat. The central area of the reserve has the largest percentage of gravel plains and is also home to the Al Maha Desert Resort which has a high density road network with a relatively high volume of traffic running through the area, which is responsible for the lower numbers of the species.

In the Southern corner of the reserve is the second larger of two main hotspots, the habitat in this area is vegetated dunes to sand dunes. The area is undisturbed with very little human interference.

The largest hotspot in the Northern part once again has the desirable habitat for the species to thrive in. There are however tour operators which utilize this area, but the road network has been kept to a minimal with very little impact on the area.



Gerbillus nanus (Blanford, 1875)

Baluchistan Gerbil

Kingdom	: Animalia
Phylum	: Chordata
Subphylum	: Vertebrata
Class	: Mammalia
Order	: Rodentia
Suborder	: Myomorpha
Family	: Muridae
Subfamily	: Gerbillinae
Genus	: Gerbillus
Species	: <i>Gerbillus nanus</i>
IUCN RedList	: LC (Least Concern)

Granjon, 2004



Physical Description

This gerbil varies from orange-red with hardly any ticking (spotted pattern) to more sandy brown, with clear ticking. In size it is smaller than most of the other species and seems to vary a fair bit from location to location as far as colour, size, and even in the characteristics of its chromosomes. The tail is extremely long often over 150% of the length of the head and body and has a prominent tuft. The under parts are white, there are also white hairs above the eyes and behind the ears. The rim of the ears is greyish brown coloured. The soles of the feet are naked and are not pigmented; the nails are a brown-white colour.

Behaviors

They are nocturnal; *Gerbillus nanus* tend to have their burrows in barren or sparsely vegetated solid soils, sometimes under shrubs. They have been known to wander long distances in search of food.

Breeding

In the wild Baluchistan gerbils seem to breed during two periods: one period in winter and one in the summer. In captivity they seem to breed all year round. The average litter size is about 4-5.

Geographic Range

The Baluchistan Gerbil (*Gerbillus nanus*) is a small gerbil that lives in a broad range from Western India, Pakistan through to Arabia and the Middle East into North Africa; Morocco to Somalia.

Habitat

In the Arabian Peninsula and Northern Africa the Baluchistan gerbil was found to share burrows with *Meriones crassus* and *Meriones libycus*. They live in simple burrows which are constructed on salt flats.

Gerbillus nanus have been found to live near river banks and in gravel plains, as well as in sandy plains and sand dunes in the Rajasthan desert.

Morphological Data

The following morphological measurements of the trapped *G. nanus* based on the actual measurement of the species collected from each trap, we found that the average weight of the *G. nanus* was around 40g, where we collected an adult weighing 58 grams and a young juvenile of only 28 grams. The average total length recorded was around 204mm with a minimum of 200mm. (See table 5 for more detailed data.)

	WEIGHT (g)	Total Length (mm)	Tail Length (mm)	Hind foot length (mm)	Ear (mm)
Average	40	204	127.5	27.5	10.5
Max	58	215	130	35	14
Min	28	200	125	21	7

Table (5) *Gerbillus nanus* Morphological Data

Monitored Variables in DDCR

G. nanus have been trapped in only three sites (Site 9, Site 28 and site 39) site 9 is gravel plain (Date farm) and the other two sites are sand dunes habitat, the sites located in the east, centre of the reserve and the south western part of DDCR, despite the fact that the total abundance of the species looks very low but still the species distribution covers a wide dispersed habitat. Only four males were captured with zero female records during the survey. The moon phases of which the trapping events have been taking place are the last quarter and the full moon phases; all the trapping events were in the summer season. The moon phase cannot really

represent the preferred moon status because of the lowest number of trapping events for this species. As the outcome shows; DDCR has got a very low abundance of *G. nanus* in the reserve.

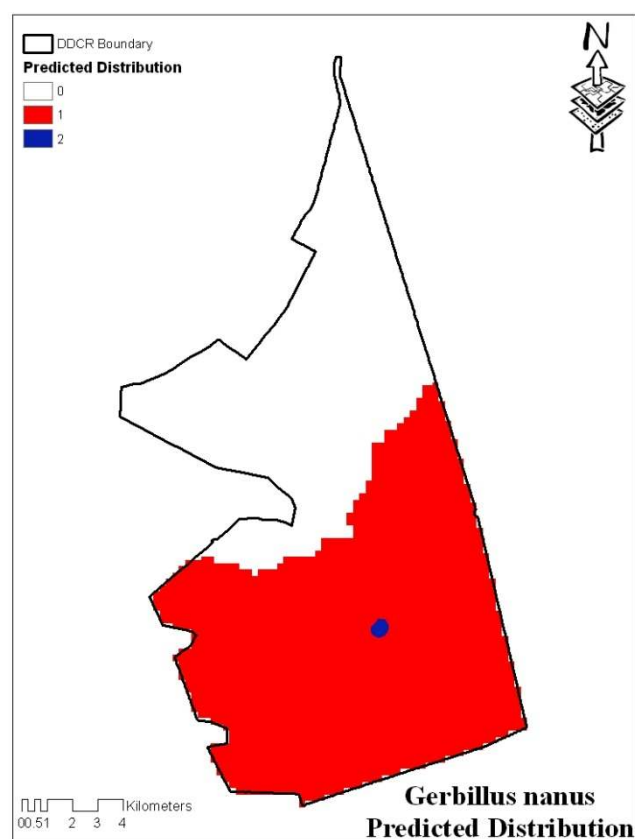
Site #	X	Y	Habitat	Male	Female	Moon Phase	Season
Site 9	55.67855	24.79286	Gravel Plain	2	0	Last Q	Summer
Site 28	55.62474	24.76189	Sand Dunes	1	0	Last Q	Summer
Site 39	55.70721	24.82705	Sand Dunes	1	0	Full Moon	Summer

Table 6 *Gerbillus nanus* Monitored Variables

Predicted Distribution

Gerbillus nanus show a very homogenous distribution over the southern range of the reserve; spreading to cover the central and the lower northern part of DDCR, while in the meantime it shows a very restricted distribution in the northern parts where there were no captures in all that range of habitats.

There is one nucleus developed In the Southern part showing a good species dispersion in this area; this part of the reserve is an abandoned date farms where there is a good vegetation and regular irrigation for the trees.



Meriones crassus (Sundevall, 1842)

Sundevall's Jird

Kingdom	: Animalia
Phylum	: Chordata
Subphylum	: Vertebrata
Class	: Mammalia
Order	: Rodentia
Suborder	: Myomorpha
Family	: Muridae
Subfamily	: Gerbillinae
Genus	: <i>Meriones</i>
Species	: <i>Meriones crassus</i>
IUCN Red List	: LC (Least Concern)

Aulagnier, 2004



Physical Description

Similar in appearance to the gerbils to which it is related, Sundevall's jird is a relatively small but robust rodent with soft, fine fur, a broad head, large eyes, elongated hind legs, and a long tail ending in a black tuft. The fur is yellowish to brownish in colour, although individuals vary in colouration depending on the habitat, providing good camouflage against predators. The contrasting colour of the tail tuft may serve to attract potential predators towards the tail and away from the more vulnerable head and body. The underparts of Sundevall's jird are white, and the claws are pale, helping to distinguish this species from the slightly larger Libyan jird, *Meriones libycus*, which has dark or black claws. A number of subspecies are recognised.

Behavior

Sundevall's jirds are well adapted to harsh environments. They are able to extract water efficiently from their food; they also minimize water loss by producing dry faeces and concentrated urine, by not sweating, and by only leaving the burrow at

night. The diet consists mostly of plant material, including seeds, roots, bulbs, leaves and fruit, although insects such as locusts and crickets may also be taken. Foraging can take place at a considerable distance from the burrow, although the jird tends to return to the burrow to eat. Often excavated below tufts of vegetation, the burrow varies in complexity from a spiralled tunnel with a single entrance, to complex galleries with as many as 18 entrances, descending more than a meter below ground and attaining a combined shaft length of up to 40 meters. Food storage chambers are often built near the surface, and one or more nest chambers, containing shredded dry vegetation, are found at greater depths.

Although sometimes solitary, Sundevall's jird often lives in small colonies, particularly where food is more abundant, and communicates with various vocalizations, as well as by thumping the hind feet. Breeding often occurs during the cooler months, but when conditions are favourable. Sundevall's jird may breed year round, producing up to three litters a year. Litter size is around 3 to 7, the young being born naked, blind and helpless, after a gestation period ranging from 18 to 31 days. The fur develops and eyes open by about two weeks, and weaning occurs after a month, by which time the young leave the maternal nest. The female may become pregnant again immediately after giving birth, and the young jirds can themselves breed from as early as 53 days, so numbers may increase rapidly when conditions are favourable. The lifespan of Sundevall's jird is usually around two years in the wild, but up to five years in captivity.

Breeding

Gestation being approximately 24 days, a pregnant female was caught in November in the UAE so breeding peaks would coincide with the winter months.

Geographic Range

Sundevall's jird is widely distributed; extends from northwest Africa above 20 degrees north, through the Middle East and into Central Asia (Koffler, 1972). Parts of Egypt, Libya, northern Tunisia, northern Algeria, and northern Morocco are not inhabited by the species.

Habitat

They live in sandy soil in hot and dry environments (Koffler, 1972). Burrow locations are not necessarily dependent on vegetation proximity. They have been found in rocky environments as well. They live in complex burrows, sometimes with multiple exits and several chambers (Harrison et al., 1991).

Morphological Data

The following morphological measurements of the trapped Sundevall's jird based on the actual measurement of the species collected from each trap, we found that the average weight of the Sundevall's jird is approximately 60g, where we collected an adult weighing 72 grams and a young juvenile of only 48 grams. The average total length recorded is approximately 220mm with a minimum of 200mm. (See table 7 for more details of the morphological data.)

	WEIGHT (g)	Total Length (mm)	Tail Length (mm)	Hind foot length (mm)	Ear (mm)
Average	60	223	115	47	11
Max	72	250	144	70	15
Min	48	200	95	25	10

Table (7) *Meriones crassus* Morphological Data

Monitored Variables in DDCR

Meriones crassus have been trapped quite few times but with good abundance, the species trapped in 4 sites; all sites are gravel plains where it is the most suitable habitat for the Sundevall's Jird, out of 16 individuals caught 14 are Males and only two females have been recorded. The four sites where we recorded the species are all in the middle and the southern range of the reserve, nothing been caught in the north. Three moon phase were recorded during the trapping session for this species

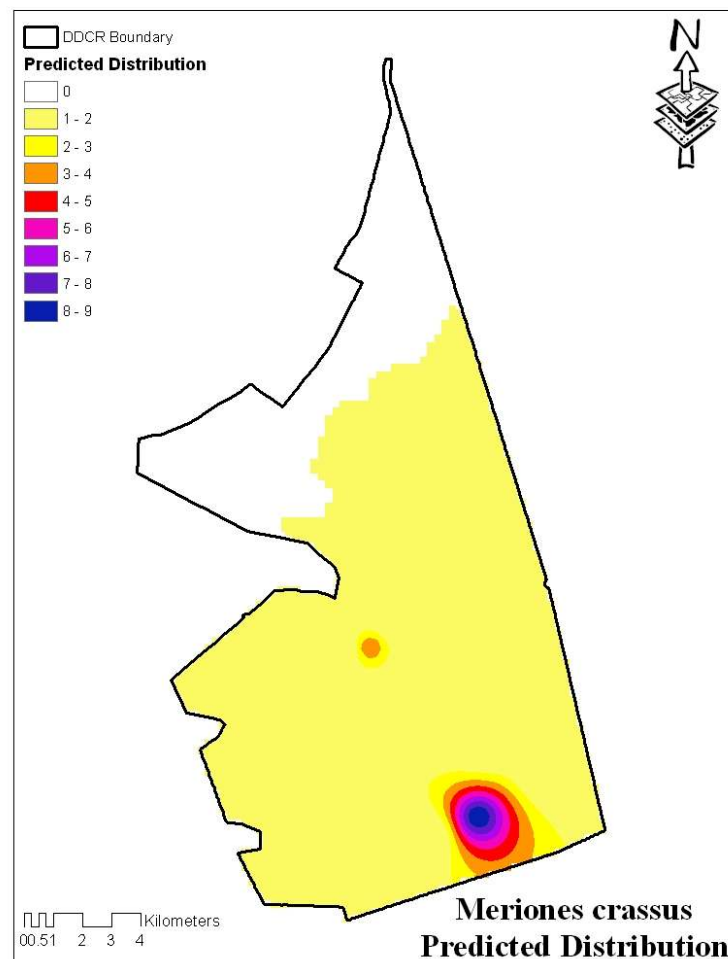
1st quarter, last quarter and new moon, there were no catches during the full moon, there is no definite preferable seasons for the Sundevall's Jird trapping, during the whole survey year Sundevall's Jird have been trapped in spring, summer and winter, only autumn did not sample the jird species.

Site #	X	Y	Habitat	Male	Female	Moon Phase	Season
Site 3	55.65675	24.81326	Gravel Plains	4	0	Last Q	Spring
Site 9	55.67855	24.79286	Gravel Plains	1	1	Last Q	Summer
Site 16	55.68778	24.84564	Gravel Plains	2	0	1st Q	Winter
Site 17	55.69397	24.76117	Gravel Plains	7	1	New Moon	Winter

Table 8 *Meriones crassus* Monitored Variables

Predicted Distribution

Meriones crassus predicted distribution range covers the majority of the reserve except the sections where there is high impact of the human activities by the means of the safari camps and different safari routes running along most of the northern parts. DDCR GIS database shows that there are around 135 gravel plains ranging from small to large distributed amongst the sandy dunes & vegetated dunes which are very suitable habitat for the *M. crassus*. The map shows one hotspot for that species located in the southern range of the reserve which indicate higher distribution range because of the very little human disturbances and a richness of food and cover in the area. The second hotspot showing a medium distribution prediction and located further north towards the central area of the reserve which is the longest gravel plain found on the reserve.



Acomys cahirinus (É. Geoffrey, 1803)

Egyptian spiny mouse

Kingdom	: Animalia
Phylum	: Chordata
Subphylum	: Vertebrata
Class	: Mammalia
Order	: Rodentia
Suborder	: Myomorpha
Family	: Muridae
Subfamily	: Deomyinae
Genus	: <i>Acomys</i>
Species	: <i>Acomys cahirinus</i>
IUCN Red List	: LC (Least Concern)

Dieterlen, 2008



Physical Description

The scientific name of this species, *Acomys*, is thought to be derived from the Greek word ‘acro’ meaning ‘point’, or ‘*akanthos*’ meaning ‘spine’, and refers to the spiny hairs that characterise the *Acomys*. The Cairo spiny mouse is born with soft, grey fur which is later followed, around the time of weaning, by a second growth of dense, brown spines over much of the back. The soles of the feet are pale, and, like all spiny mice, this species has a pointed snout; large, erect ears; bright, prominent eyes; and a mostly furless, scaly tail.

Behavior

Although essentially nocturnal, Spiny mice do nevertheless have bouts of activity during the day, particularly in the early morning and late afternoon. Spiny mice can become quite tame but handling is quite stressful. They do possess sharp needle-like teeth (ideal for eating insects) and, if it feels threatened, a Spiny Mouse can deliver quite a painful bite, although it is reported that they are relatively easy to "hand-tame".

The tail is very brittle and, if the animal is grasped by this appendage, it will spin and the tail may be partially or completely lost.

Breeding

Sexing is relatively straightforward, particularly for mature animals, the anal-genital distance being greater for males.

Spiny Mice are one of the few animals known to adopt the "nanny" system, whereby a female will nurse babies which are not her own. Females give birth in a standing position in the hub of the colony, rarely retiring to be on their own during this delicate time. *Acomys cahirinus* makes no attempt to build a nest, although some other species, notably *Acomys russatus* and *Acomys spinosissimus*, are known to fashion rudimentary nests from hay, grass or leaves. The young (usually 2-3, but on rare occasions it can be as many as 5) are born after a gestation period of 35-45 days, and (not surprisingly for an animal with a relatively long gestation) the young are quite precocious, being fully furred at birth (infants are pearl grey at first) and mobile after just 24 hours. Unusually for a rodent, the young are often delivered backwards, more reminiscent of the large hoofed animals. Eyes and ears open at birth or soon thereafter. They develop quickly, can be seen to be nibbling at food after just one week, and are independent at 2 weeks of age. They attain sexual maturity at 45-60 days and are fully grown at 6 months. A female is often re-mated almost immediately after giving birth. Breeding is continuous throughout the year, with little seasonal variation, which may explain why, in general, females do not live quite as long as the males and it is not unusual for a female to have 12 or more litters in quick succession. Unlike some other rodents, in the wild they do not appear to time their breeding activity to coincide with favourable climate or food availability.

Geographic Range

North Eastern Africa: Libya, Egypt (Osborn and Helmy, 1980), Sinai Peninsula (Saleh and Basuony, 1998), N Sudan, Ethiopia (identified by chromosomal traits; Sokolov et al., 1992), and Djibouti. West and South distributional limits unresolved.

Habitat

The Egyptian spiny mouse inhabits rocky outcrops, cliffs and canyons, and gravel plains with low shrubs. In some areas, the Egyptian spiny mouse may occupy crevices in buildings.

Morphological Data

The following morphological measurements of the trapped *Acomys cahirinus* based on the actual measurement of the species collected from each trap, we found that the average weight of the *A. cahirinus* is approximately 36g, the maximum weight was 40 grams and the minimum was 32 grams. The average total length recorded was 198mm with a minimum of 190mm. (See table 9 for more details of the morphological data)

	WEIGHT (g)	Total Length (mm)	Tail Length (mm)	Hind foot length (mm)	Ear (mm)
Average	36	198	113	25	16
Max	40	205	115	25	16
Min	32	190	110	25	16

Table (9) *Acomys cahirinus* Morphological Data

Monitored Variables in DDCR

Acomys cahirinus have been caught in the winter of 2012 in the last quarter of the moon phase, only 2 males were caught during the sampling week, the habitat is unique because it the only rocky outcrop site in DDCR, located in the most northern part of the reserve.

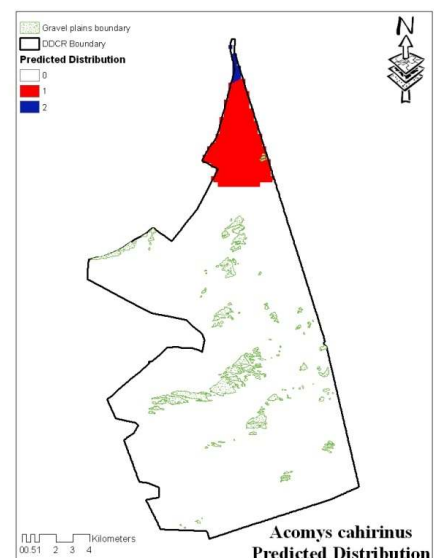
Site #	X	Y	Habitat	Male	Female	Moon Phase	Season
Site 40	55.66046	24.98940	Rocky Outcrops	2	0	Last Q	Winter

Table (10) *Acomys cahirinus* Monitored variables

Predicted Distribution

Acomys cahirinus has only been recorded in an isolated part of the reserve, the far northern part of the DDCR. This unique rocky outcrop is the ideal habitat for the *A. cahirinus* to thrive in and is the only site which represents the rocky habitat in the reserve. The distribution of the *A. cahirinus* is therefore limited to in and around this area, and is not found in any other part of the reserve.

DDCR Rodents' Survey



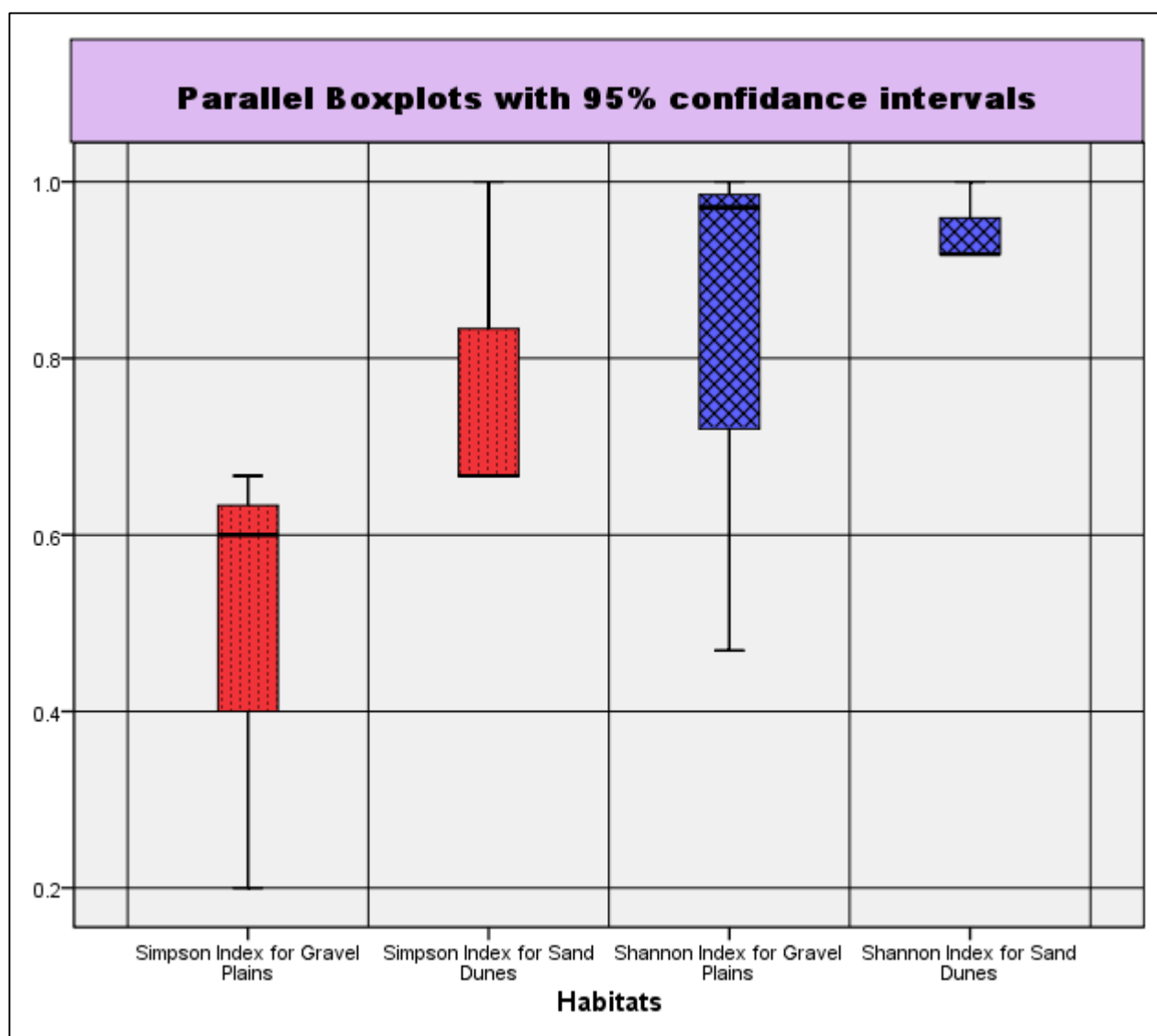
Box-Plots

The boxplots present five simple statistics – the minimum, the lower quartile, the median, the upper quartile and the maximum in a visual display. The length of the box is the interquartile range of the sample. Whiskers sprout from the two ends of box until they reach the sample maximum and minimum.

The box plot illustrates here two types of diversity indices, first; the Simpson index which is (type II) where it is more sensitive to the abundant species, it gives the probability of any two individuals picked up at random from any community belonging to different species.

Second; the Shannon-Wiener Index which is (Type I) where it is more sensitive to rare species, it assumes that individuals are randomly sampled from an independently big population, and it assumes that all the species are represented in the sample. Shannon diversity is the very widely used index for comparing diversity between various habitats. (Clark and Warwick, 2001)

From the result below; it has been noticed that there are considerable differences in biodiversity amongst the two different habitats (Gravel Plains and Sand Dunes). Generally; the sand dunes habitat shows higher diversity than the gravel plains with the calculation of the diversity using Simpson's diversity index (Type II) with its 95% confidence intervals and its sensitivity to the abundant species. This could be a direct result of the high abundance of *G. cheesmani* over the sand dunes habitats. On the other hands; Shannon Diversity Index (Type I) shows an interesting result for the comparison of the two habitat types, the whiskers lines sprouts from the maximum ends of the two habitat are equals (the largest sample values); but the interquartile ranges shows great difference in comparison between the two habitats, where the range in the gravel plains habitat is quite larger compared to the interquartile range in the sand dunes habitats and that could be the result of the number of rare species we caught in gravel plains compared to sand dunes which in return affect the final result in parallel boxplots. (See table 11, for more information about the Max. and Min. records)



	Mean	Std. Error	Median	Std. Deviation	Minimum	Maximum	Skewness
Simpson Diversity index Gravel Plains	0.489	0.146	0.600	0.253	0.200	0.667	-1.596
Shannon-Wiener Index Gravel Plains	0.813	0.172	0.971	0.299	0.469	1.000	-1.714
Simpson Diversity index Sand Dunes	0.778	0.111	0.667	0.192	0.667	1.000	1.732
Shannon-Wiener Index Sand Dunes	0.945	0.273	0.918	0.047	0.918	1.000	1.732

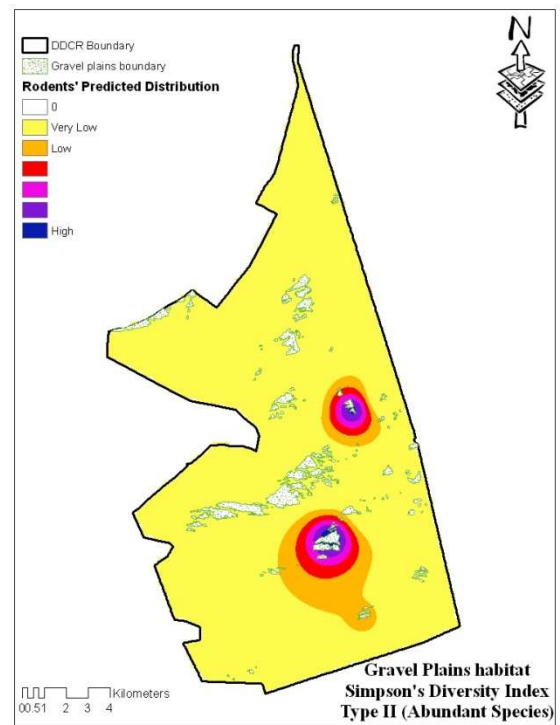
Table (11) Diversity variables

Predicted Diversity - Inverse Distance Weighted Interpolation (IDW)

Diversity Index for Gravel Plains

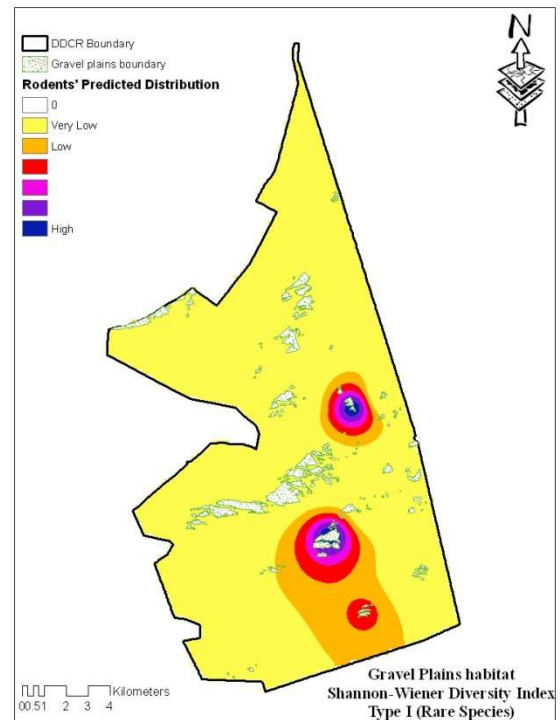
Simpson Diversity Index

Two main hotspots are represented here, where richness in diversity was recorded with three species caught in the nucleus of the hotspots. The larger one of the two is situated at an old date farm where there is still irrigation in use and good vegetation cover in the area. The core of the hotspot is where two species were caught with a third species trapped in the outer ring for both of the represented hotspots. Homogenous low predicted diversity represents the rest of the reserve.



Shannon Diversity Index

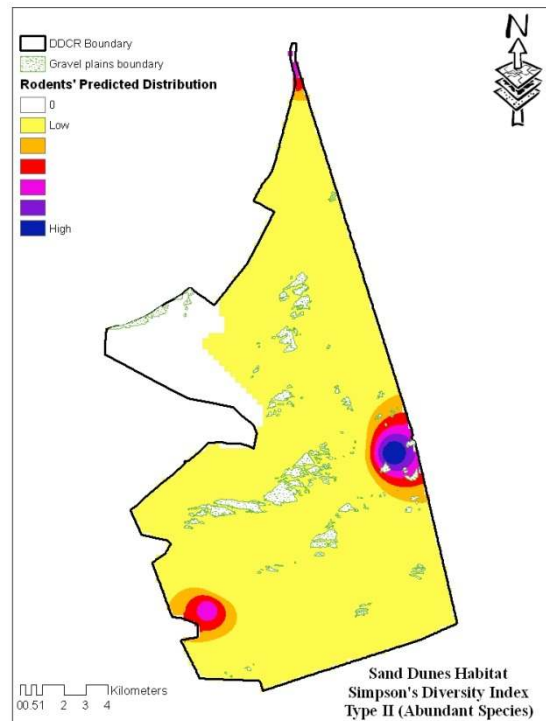
Shannon diversity index showing homogenous pattern all over the Gravel Plains habitat type due to the type of the gravel plains locations all over DDCR, with three nucleus hotspots located in the south and the middle of the reserve, the two hot spots in the southern range are connected with low prediction of distribution, but give an idea about the predicted range of the rare species; especially in the southern range of DDCR where there is limited disturbances and the vegetation patterns are medium to high in some stable sand dunes pockets.



Diversity Index for Sand Dunes

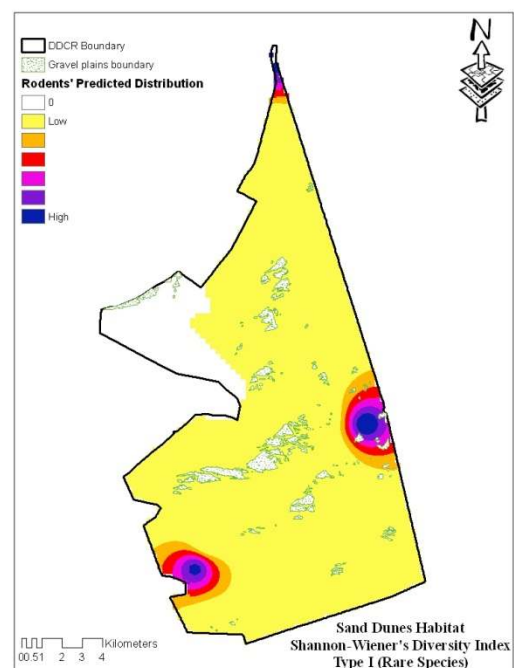
Simpson Diversity index

The hotspot in the Northern part is a unique rocky outcrop on the reserve consisting of lime stone and sedimentary rocks, two species were trapped in this area. The largest hotspot is found on the Western fence line which consists of vegetated dunes with good vegetation cover dispersed throughout that area, with very little disturbances. Three species of rodents were trapped in this nucleus. The final hotspot is in the Southern part where there is a minimal human disturbance with vegetated dunes. Homogenous low predicted diversity represents the rest of the reserve.



Shannon Diversity index

Acomys cahirinus was caught in the Northern hotspot of the reserve; this rocky outcrop is unique to the area and is made up of lime stone and sedimentary rocks and is the preferred habitat for *Acomys cahirinus* therefore this is the only isolated area within the entire reserve where this species is found. As mentioned in Simpsons the other two nucleuses that are represented here are indications of the rare species predicted distribution for the reserve.



PRESENCE analysis

Sampling Structure

Forty sites were surveyed over one year where the objective is to establish the presence and or absence of the rodents' fauna of DDCR within randomly chosen sites by assuming that for all sites no major changes are occurring (within a single year of study). The species may or may not be detected during the survey and is not falsely detected when absent.

The detection results history for each site expressed as of 1's and 0's, indicating detection and non-detection of each species respectively. The process could be explained as follows:

The detection history of site (i) at primary sampling period (j) as $X_{i,j}$, and the complete detection history for site (i), over all primary periods as X_i .

Single Season Model

MacKenzie *et. al.* (2002), Developed a model to estimate the site occupancy probability (PAO) for any target species, where the species is not guaranteed to be detected even when it present at a site. If (ψ) is the probability of a site is occupied and P_j is the probability of detecting the species in [j^{th}] survey's days, the model will describe the observed detection history for a site over a series of survey days; for example

- 1- If the probability of observing the history of a species is (1001) denoting the species was detected in the first and fourth surveys of the site, the equation will be:

$$\psi \times p[1](1-p[2])(1-p[3])p[4].$$

- 2- If the probability of never detecting the species at a site is (0000) the equation would therefore be,

$$\psi \times (1-p[1])(1-p[2])(1-p[3])(1-p[4]) + (1-\psi),$$

The above equation represents the fact that either the species was there, but was never detected, or the species was genuinely absent from the site ($1-\psi$). By combining these probabilistic statements for all 40 sites, maximum likelihood estimates of the model parameters for this study obtained.

Pre-defined model

The program Presence got 6 pre-defined models that are possible to run, out of the 6 models, two models have been used where it was most suitable to the current study.

One group, constant P model

Where in this model the assumption is that the occupancy probability of every rodent species for all transects is the same, and the detection probability (P) is constant across both survey sites and survey days. In this model only 2 parameters was estimated.

The output gives number of calculated parameters which is useful in understanding how the model works between different rodents' species. Twice the negative log-likelihood value evaluated at the maximum likelihood estimates, which is used to calculate AIC values and could be used in likelihood ratio test; the AIC value for the model and the naïve estimates, where the naïve estimate is the proportion of sites that were surveyed where the species was detected at least once, the naïve occupancy estimate could be used as proportion of site occupancy without the correction of detection probability. ψ (ψ) is the probability of occupancy with the standard error (SE), (p) is the estimation of the detection probabilities; where in this model the detection probability is constant for all the six days of the survey.

One group, survey day's specific

Where survey specific detection probability at all sites, P_1 = detection probability for 1st survey day, p_2 = detection probability for 2nd survey day, etc...,

Starting running the software's different models on each species and the result as follows:

a- *G. cheesmani*

With the two models now having been fit in the project window (See table, 10), the result give the summary of the entire model applied. The software rank the models according to the Akaike's Information Criterion (AIC), **Delta AIC** is the relative difference in AIC values between each model; and the top ranked model is the one with the smallest AIC, **AIC wgt** is the AIC weight which is a measure of support for each model being the best, **Model likelihood** is the ratio of each models AIC weight over the model weight for the top ranked model, **no. par.** is the number of

parameters in the model, and **-2*logLike** is twice the negative log-likelihood evaluated at the maximum likelihood estimate.

Model	AIC	deltaAIC	AIC wgt	Model Likelihood	no.Par.	-2*LogLike
1 group, Constant P	258.03	0.00	0.7016	1.0000	2	254.03
1 group, Survey-specific P	259.74	1.71	0.2984	0.4253	7	245.74

Table (12) *G. cheesmani* single season model

From these results, a difference of only 1.71 AIC units between these two models indicates that even though it is not the best, the second model still has a reasonable level of support and there is further evidence of this with the second model having a substantial amount of AIC weight. Thus, while most of the evidence point towards the probability of detection being constant, the evidence is not wide clear and there is some indication that the probability of detection varies between survey's days.

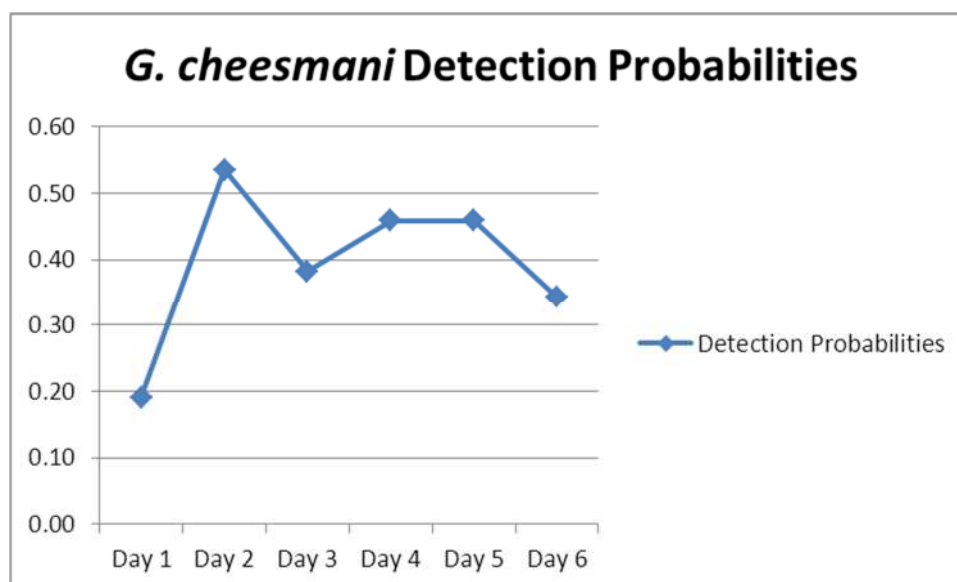


Chart (13) Single Season - Survey specific Model

The detection probabilities graph (chart 13) shows that detection start low at around 20% in the first survey day but start booming high to over 50% probabilities of detection in the second day while it decrease again in the third to the six day where it reach around 30%, the positive result is that the detection probabilities are possible in every single survey day where it shows how the species is abundant within DDCR. The following is the input data summary as presence software original output for the one group constant p model and one group, survey specific model.

***** Input Data summary *****

G. cheesmani 1 Group, Constant P

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42286
 Naive occupancy estimate = 0.6250
 Predefined Model: Detection probabilities are NOT time-specific
 Number of groups = 1
 Number of parameters = 2
 Number of function calls = 48
 -2log(likelihood) = 254.032439
 AIC = 258.032439
 Proportion of sites occupied (*Psi*) = 0.6581 (SE0.0820)

Detection probabilities (*p*):

grp	srvy	<i>p</i>	SE(<i>p</i>)
---	---	-----	-----
1	1	0.392571	(SE 0.043582)

G. cheesmani 1 Group, Survey Specific

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42286
 Naive occupancy estimate = 0.6250
 Predefined Model: Detection probabilities are time-specific

Number of groups = 1
 Number of parameters = 7
 Number of function calls = 192
 -2log(likelihood) = 245.741482
 AIC = 259.741482
 Proportion of sites occupied (P_{si}) = 0.6543 (0.0813)

Detection probabilities (p):

grp	srvy	p	SE(p)
----	----	-----	-----
1	1	0.191058	(0.077377)
1	2	0.534962	(0.100718)
1	3	0.382116	(0.096682)
1	4	0.458539	(0.099779)
1	5	0.458539	(0.099779)
1	6	0.343904	(0.094263)

b- *G. nanus*

Model	AIC	deltaAIC	AIC wgt	Model Likelihood	no.Par.	-2*LogLike
1 group, Constant P	42.10	0.00	0.8320	1.0000	2	38.10
1 group, Survey-specific P	45.30	3.20	0.1680	0.2019	7	31.30

Table (13) *G. nanus* Single Season Model

From table (11) results, a difference of 3.20 AIC units between the two models indicates that the second model has a reasonable level of support and there is further evidence of this with the second model having a substantial amount of AIC weight. Thus, there is clear indication that the probability of detection varies between survey's days.

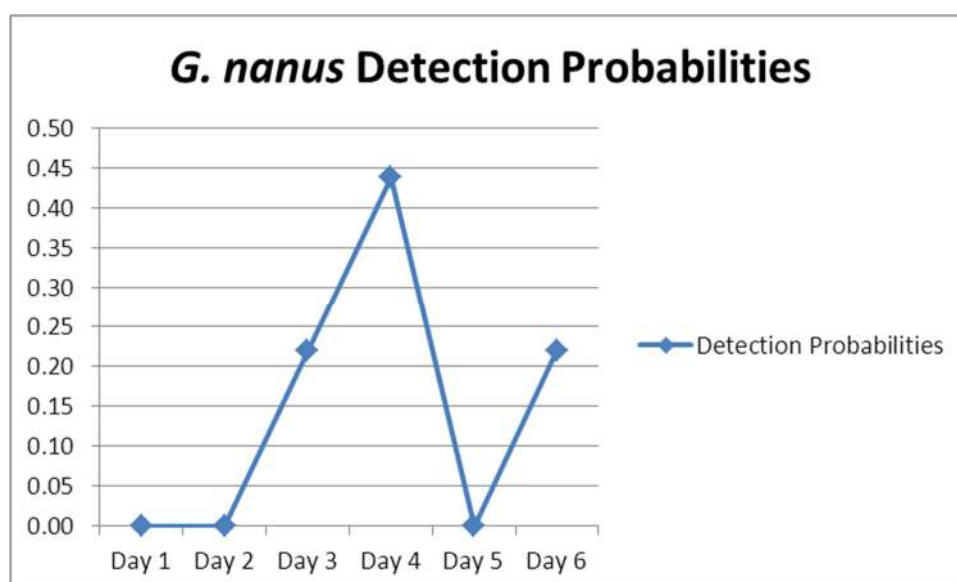


Chart (14) Single season, survey specific model

The detection probabilities graph (chart 14) shows that there is no detection probabilities during the first two survey days and start with the third day with detection probability around 23% till it reach its peak in the fourth day with 45% detection probability. It drops back to 0% in the fifth day and up again to the same detection probability of the third day reaching 23%. The chart explains how shy animal it is, and that might be the reason of not recording high abundance of that species inside DDCR. *G. nanus* recorded only four times during the study days.

The following is the input data summary as presence software original output for the one group constant p model and one group, survey specific model.

***** Input Data summary *****

G. nanus 1 Group, Constant P

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42017
 Naive occupancy estimate = 0.0750
 Predefined Model: Detection probabilities are NOT time-specific
 Number of groups = 1
 Number of parameters = 2
 Number of function calls = 55
 -2log(likelihood) = 38.104888
 AIC = 42.104888
 Proportion of sites occupied (ψ) = 0.1429 (0.1204)

Detection probabilities (p):

grp	srvy	p	SE(p)
1	1	0.116620	(0.103029)

G. nanus 1 Group, survey specific

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42017
 Naive occupancy estimate = 0.0750
 Predefined Model: Detection probabilities are time-specific
 Number of groups = 1

Number of parameters = 7
 Number of function calls = 291
 -2log(likelihood) = 31.298999
 AIC = 45.298999
 Proportion of sites occupied (ψ) = 0.1140 (0.0863)

Detection probabilities (p):

grp	srvy	p	SE(p)
---	----	-----	-----
1	1	0.000000	(0.000000)
1	2	0.000000	(0.000000)
1	3	0.219224	(0.236071)
1	4	0.438447	(0.356094)
1	5	0.000000	(0.000000)
1	6	0.219224	(0.236071)

c- *M. crassus*

Program PRESENCE version 4.0 <111201.1418> (m_crassus.pa3)						
Model	AIC	deltaAIC	AIC wgt	Model Likelihood	no.Par.	-2*LogLike
1 group, Constant P	63.03	0.00	0.9897	1.0000	2	59.03
1 group, Survey-specific P	72.17	9.14	0.0103	0.0104	7	58.17

Table 14) *M. crassus* Single Season Model

From table (12), a difference of 9.14 AIC units between the two models indicates that the second model has a reasonable level of support and there is further evidence of this with the second model having a substantial amount of AIC weight. Thus, there is clear indication that the probability of detection varies between survey's days.

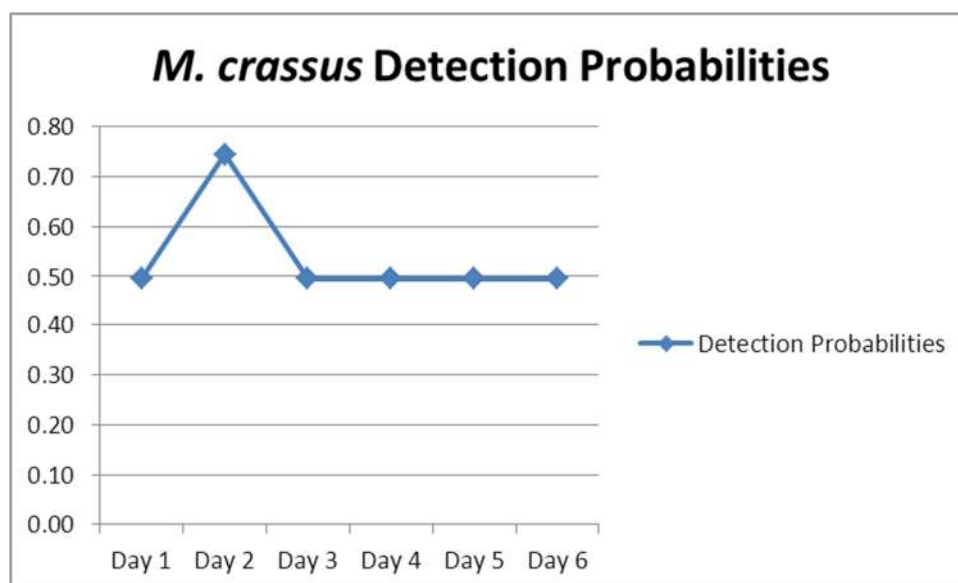


Chart (15) Single season, survey specific model

The detection probability chart shows a unique prediction for the *M. crassus* where it starts from the first survey day with 50% detection probability, it shoots up to 70% on the second day and back again to 50% detection probability till the end of the survey days. This chart data supports the species output result of abundance and detection and non-detection.

The following is the input data summary as presence software original output for the one group constant p model and one group, survey specific model.

***** Input Data summary *****

M_crassus 1 Group, Constant P

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42056
 Naive occupancy estimate = 0.1000
 Predefined Model: Detection probabilities are NOT time-specific
 Number of groups = 1
 Number of parameters = 2
 Number of function calls = 58
 -2log(likelihood) = 59.033699
 AIC = 63.033699
 Proportion of sites occupied (*psi*) = 0.1010 (0.0479)
 Detection probabilities (*p*):

grp	srvy	p	SE(<i>p</i>)
---	---	-----	-----
1	1	0.536281	(0.105011)

M_crassus 1 Group, survey specific

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42056
 Naive occupancy estimate = 0.1000
 redefined Model: Detection probabilities are time-specific
 Number of groups = 1
 Number of parameters = 7

Number of function calls = 173
-2log(likelihood) = 58.166363
AIC = 72.166363
Proportion of sites occupied (*psi*) = 0.1008 (0.0478)

Detection probabilities (p):

grp	srvy	p	se(p)
----	-----	-----	-----
1	1	0.495826	(0.250046)
1	2	0.743739	(0.220195)
1	3	0.495826	(0.250046)
1	4	0.495826	(0.250046)
1	5	0.495826	(0.250046)
1	6	0.495826	(0.250046)

d- *A. cahirinus*

Program PRESENCE version 4.0 <111201.1418> (a_cahirinus.pa3)						
File View Run Tools Help						
Model	AIC	deltaAIC	AIC wgt	Model Likel	no.Par.	-2*LogLike
1 group, Constant P	20.77	0.00	0.7841	1.0000	2	16.77
1 group, Survey-specific P	23.35	2.58	0.2159	0.2753	7	9.35

Table (15) *A. carhinus* Single Season Model

From the output results, a difference of 2.58 AIC units between these two models indicates that even though it is not the best, the second model still has a reasonable level of support and there is further evidence of this with the second model having a substantial amount of AIC weight. Thus, while most of the evidence point towards the probability of detection being constant, the evidence is not clear and there is some indication that the probability of detection varies between survey's days.

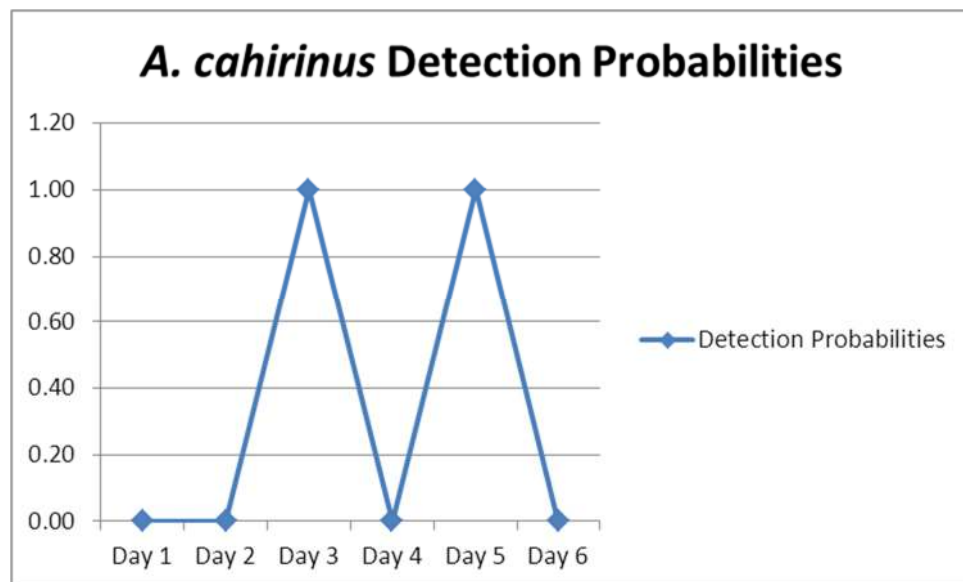


Chart (16) Single season, survey specific model

Another unique detection probability result out of the Presence software for the predefined single season survey specific model, *Acomys cahirinus* shows zero% detection probabilities in the first and the second day while in the third day it shoots high to 100% detection and drop again to zero% in the fourth day and back again to 100% in the last survey day.

The following is the input data summary as presence software original output for the one group constant p model and one group, survey specific model.

***** Input Data summary *****

A. cahirinys 1 Group, Constant P

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42008
 Naive occupancy estimate = 0.0250
 Primary periods=6 Secondary periods: 1 1 1 1 1 1
 Predefined Model: Detection probabilities are NOT time-specific
 Number of groups = 1
 Number of parameters = 2
 Number of function calls = 73
 -2log(likelihood) = 16.769785
 AIC = 20.769785
 Proportion of sites occupied (*psi*) = 0.0286 (0.0293)
 Detection probabilities (*p*):

grp	srvy	p	se(p)
---	---	-----	-----
1	1	0.290989	(0.216293)

A. cahirinys 1 Group, Survey Specific

Number of sites = 40
 Number of sampling occasions = 6
 Number of missing observations = 0
 Data checksum = 42008
 Naive occupancy estimate = 0.0250
 Predefined Model: Detection probabilities are time-specific
 Number of groups = 1
 Number of parameters = 7

Number of function calls = 113
 -2log(likelihood) = 9.352548
 AIC = 23.352548

Proportion of sites occupied (ψ) = 0.0250 (0.0247)

Detection probabilities (p):

grp	svy	p	se(p)
---	----	-----	-----
1	1	0.000000	(0.000000)
1	2	0.000000	(0.000000)
1	3	1.000000	(0.000000)
1	4	0.000000	(0.000000)
1	5	1.000000	(0.000000)
1	6	0.000000	(0.000000)

Comparing the four different rodents' species recorded in DDCR by their occupancy and detection probability records show the following interesting charts:

1- Occupancy: Single Season, 1 Group – Constant p Model

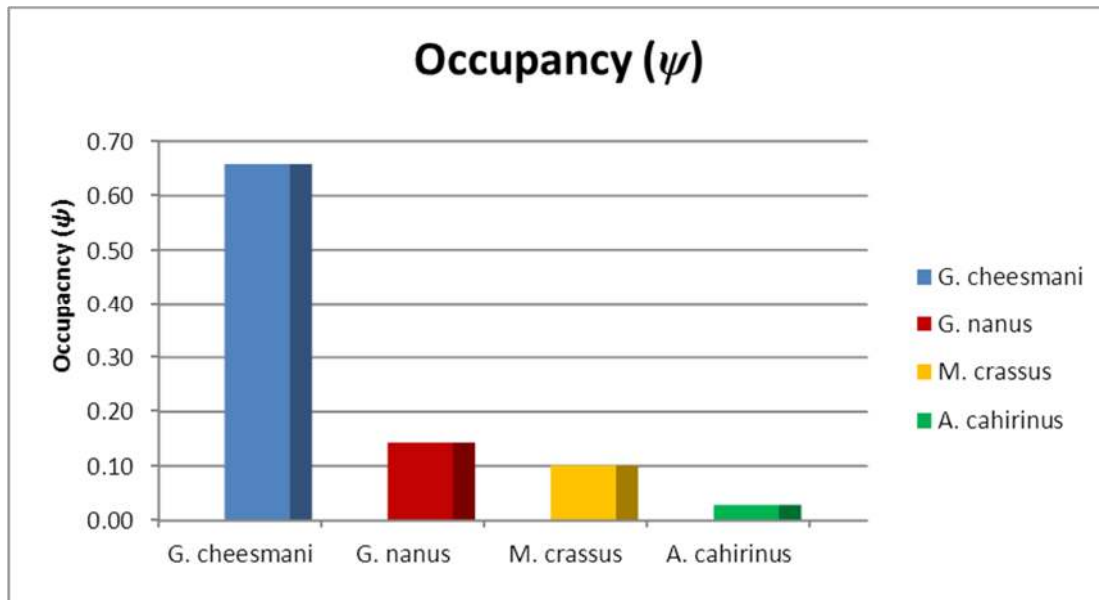


Chart (17) Occupancy of a single season, 1 group-constant p model

The occupancy chart of the model of (1 group with constant p) in a single season shows the normal trend of the rodents species occurrence in DDCR, where the *Gerbillus cheesmani* score the highest occupancy records with over 60% probability of occurrence followed by *Gerbillus nanus*, *Meriones crassus* and *Acomys cahirinus* ranging from 13%, 10% and 3% for each species respectively.

2- Detection Probability: Single Season, 1 Group – Constant p Model

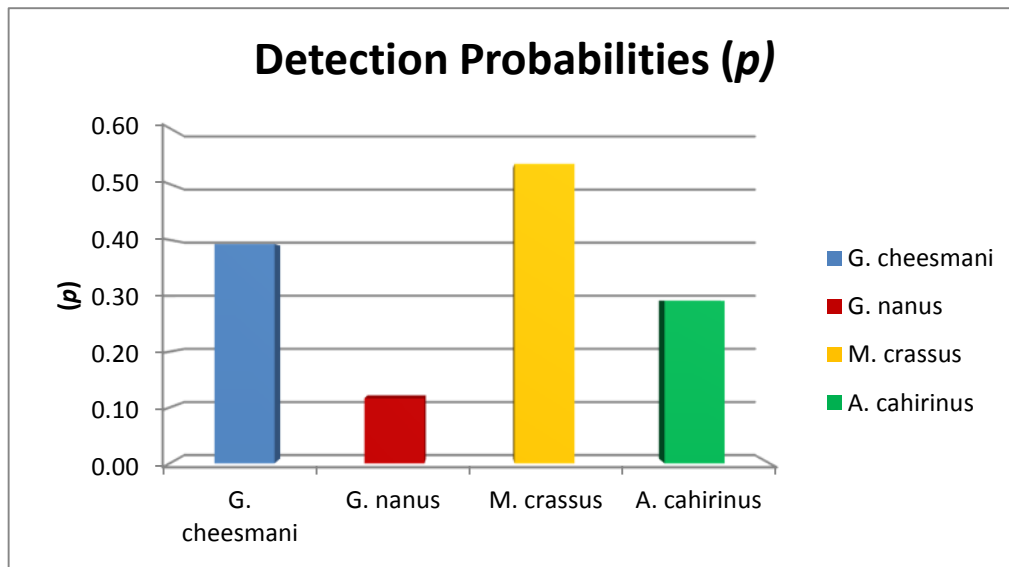


Chart (18) Detection Probability of a Single Season, One Group-Constant p Model

The

detection probability chart showing a very interesting result out of the detection/non detection records for each species, putting in mind that this model is estimating the same occupancy probability for all sites and the detection probability is considered to be constant across both sites and survey days. Starting with *G. cheesmani* where it got the highest occupancy records in the previous chart; here in this model it records 40% detection probability, and *M. crassus* records the highest detection probability estimates out of the four species, while *A. cahirinus* comes in the third place of detection probability and *G. nanus* is the last species.

3- Detection Probability: Single Season, 1 Group – Survey Specific Model

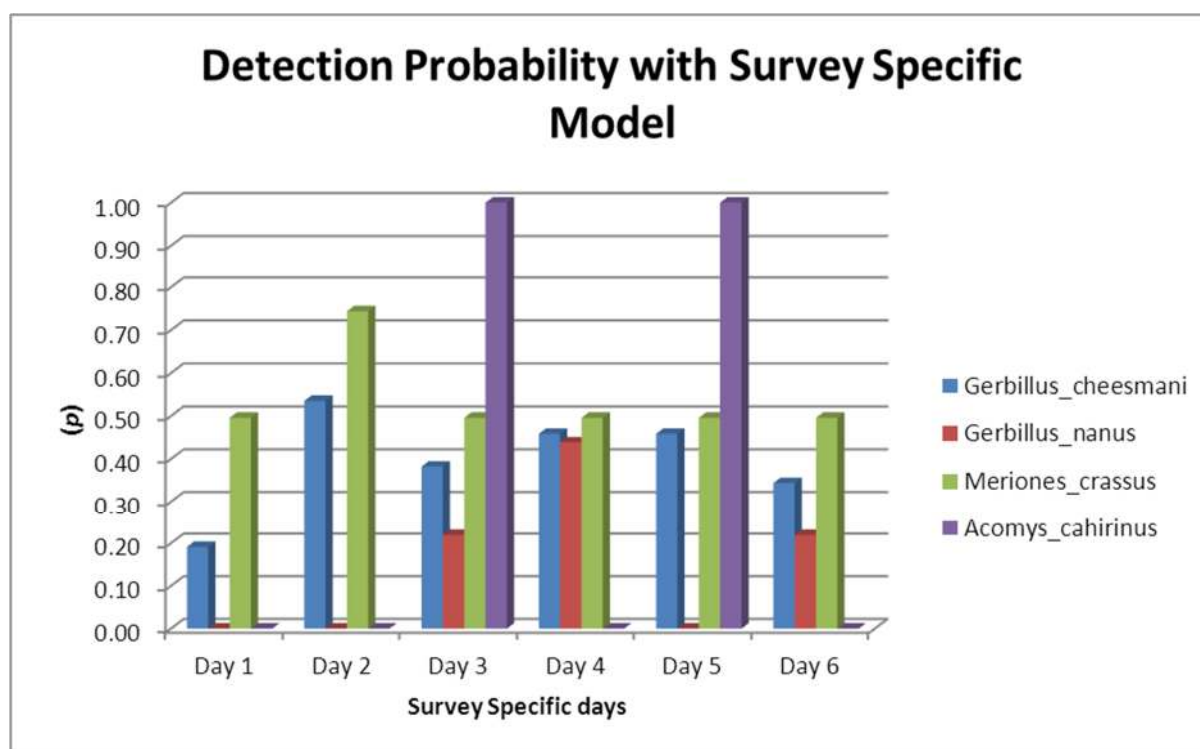


Chart (19) Detection Probability of a Single Season, one Group-Survey Specific

The result which based on the single season; one group –survey day’s specific model shows that the *G. cheesmani* recording higher detection probability in the first two days of the survey, in the third day it replaced by *A. cahirinus* which recorded the highest detection probabilities records, and drop for one day to be replaced again by *G. cheesmani* and take the lead again in the fifth day, then end by *G. cheesmani* with the highest records in the last day of the survey.

The following tables show the data output in details.

	G. cheesmani	G. nanus	M. crassus	A. cahirinus
AIC	258.03	42.10	63.03	20.77
Naive occupancy estimate	0.63	0.08	0.10	0.03
-2log(likelihood)	254.03	38.10	59.03	16.77
Ψ (SE)	0.66 (0.08)	0.14 (0.12)	0.10 (0.05)	0.03 (0.03)
P (SE)	0.39 (0.04)	0.12 (0.10)	0.54 (0.11)	0.29 (0.22)

Table (16) Single Season Model, One Group – Constant P

	G. cheesmani	G. nanus	M. crassus	A. cahirinus
AIC	259.74	45.30	72.17	23.35
Naive occupancy estimate	0.63	0.08	0.10	0.03
-2log(likelihood)	245.74	31.30	58.17	9.35
Ψ (SE)	0.65 (0.08)	0.11 (0.09)	0.10 (0.05)	0.03 (0.02)
Day 1	0.19	0.00	0.50	0.00
SE (P)_Survey (1)	0.08	0.00	0.25	0.00
Day 2	0.53	0.00	0.74	0.00
SE (P)_Survey (2)	0.10	0.00	0.22	0.00
Day 3	0.38	0.22	0.50	1.00
SE (P)_Survey (3)	0.10	0.24	0.25	0.00
Day 4	0.46	0.44	0.50	0.00
SE (P)_Survey (4)	0.10	0.36	0.25	0.00
Day 5	0.46	0.00	0.50	1.00
SE (P)_Survey (5)	0.10	0.00	0.25	0.00
Day 6	0.34	0.22	0.50	0.00
SE (P)_Survey (6)	0.09	0.24	0.25	0.00

Table (17) Single Season Model, One Group – Survey days Specific

Single season –Two species Model

The two-species model developed by MacKenzie *et. al.*, (2004) follow the same statistical method of the single season model but in another way by allowing the comparison of the occupancy parameters of two species along with the conditional probabilities of occupancy when the other species is present or detected.

The input form of this model is the same as for the single–species, single-season model except that the first half of the detection history records are assumed to be species A, and the second half of the records are assumed to be species B, with the forty sites sampling the input was the site history records for site 1-40 for species A and records from 41-80 was the site detection history records for Species B

The parameters are:

Ψ^A = the probability that the area is occupied by species A

Ψ^B = the probability that the area is occupied by species B

Phi = species Co-Occurrence, the probability that the area is occupied by both species.

P^A = probability of detecting species A, given that species B is not present in the area.

P^B = probability of detecting species B, given that species A is not present in the area.

r^A = probability of detecting species A, given that both species are present in the area.

r^B = probability of detecting species B, given that both species are present in the area.

Delta = Species Co-Detection, probability of detecting both species, given that both species are present in the sampling area.

Based on the abundance and the distribution records of *Gerbillus cheesmani*, we have chosen the Cheesman's gerbil to be our flag rodent species in the DDCR and run the "Single season – two species model" between the Cheesman gerbil and every other rodent species that was recorded in the DDCR. As a result below we calculated the occupancy and the detection probability between *G. cheesmani* & *G. nanus*, *G. cheesmani* and *M. crassus*, and between *G. cheesmani* and *A. cahirinus*

Table (16) below shows the data of the occupancy and the detection probabilities of the Cheesman's and the other rodents' species, the AIC data shows that the

preferred model is the model between the *G. cheesmani* and *A. cahirinus*, with AIC = 382.35 where the preferred AIC model is the one with the minimum, the other two AIC values for the two models between *G. cheesmani* & *G. nanus*, and *G. cheesmani* and *M. crassus* are 397.08 & 429.91 respectively. The models showing a very clear and reasonable result when we compare it with the field data as it is known that the habitat competition is quite high between the *G. cheesmani* & *G. nanus* sharing the same habitat type so the probability of having the two species occurring in the same site is quite few, on the other hand there is no competition between the *G. cheesmani* and *M. crassus* because of the fact that they are not sharing the same habitat type so the probability of detection the two species together looks very low.

See table (16) for more details.

	Cheesman Vs. <i>G. nanus</i>	Cheesman VS. <i>Meriones</i>	Cheesman Vs. <i>Acomys</i>
Naive occupancy estimate	0.350	0.363	0.325
-2log(likelihood)	381.085	413.910	366.3495
AIC	397.085	429.910	382.3495
(ψ)psiA	0.479	0.434	0.4181
(ψ)psiB	0.102	0.105	0.097
{ ϕ }	2.088	1.688	2.1929
[pA]	0.275	0.316	0.2897
[pB]	0.275	0.316	0.2897
[rA]	0.275	0.316	0.2897
[rB]	0.275	0.316	0.2897
Delta	0.379	0.463	0.4079

Table (18) single season, two species model

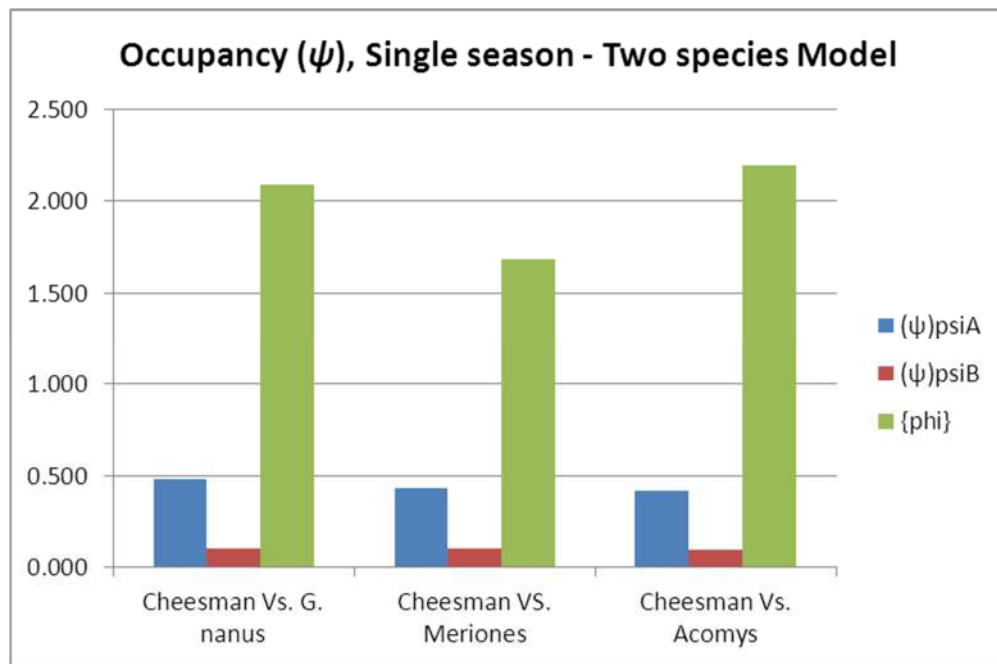


Chart (20) Occupancy For Single Season Two Species Model

Chart 20 showing the output of the single season two species model which assumes that the two species has the same occupancy probabilities for all sites and the detection probabilities (P) is constant across both sites and survey days. The results above show that Cheesmans and Acomys have the highest occupancy rate in the case of the two species sharing the same sites. Acomys Vs. nanus has the second highest occupancy rate as both species prefer the sandy habitat and the lowest occupancy rate is the cheesmans Vs the Meriones because the cheesmans prefer the sandy habitat as the Meriones will only occupy gravel plains.

Summary and Conclusions

During the yearlong survey a total of **61** *Gerbillus cheesmani* were caught of which **36** were males and **25** were females. This is probably one the most common gerbil species in the whole of the Arabian Peninsula. This species is found in all desert habitats except mountainous areas. In the D.D.C.R there is a very healthy population occurring throughout the whole area. This species would not need to be monitored with regards to status or protection since its population within the whole region appears extremely stable. Possible research projects for the species would include den studies.

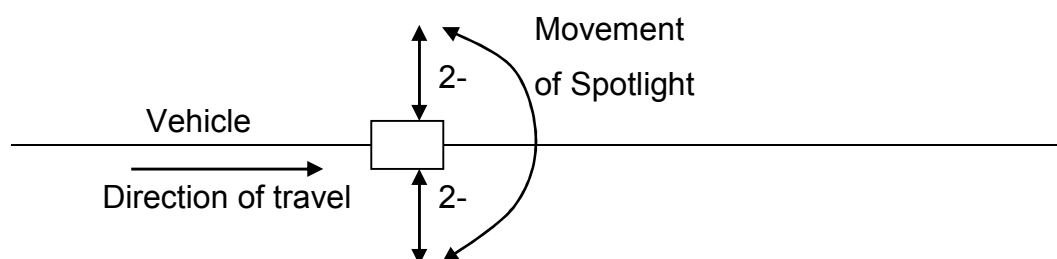
Meriones crassus, had not been captured or identified prior to this survey so this was a new species for the D.D.C.R species list. A total of **9** individuals were trapped, which comprised of **7** males and **2** females. This species was only recorded in a specific habitat which was gravel plains.

Total number of *Gerbillus nanus* captured were **4** which comprised of **4** males, **0** females was caught. This is a relatively common gerbil species throughout Arabia and appears to prefer gravel plains and semi desert terrain to true sand desert. Within the D.D.C.R there is only a small area which can hosts the *G. nanus* so as a species it is very habitat specific, or one could look at possible influences from both natural and man-made changes to the desert areas within the U.A.E. The third option is that *G. nanus* is being slowly pushed out of its habitat by *G. cheesmani*. *G. cheesmani* appears to be much more adaptable, occurring throughout both gravel plains and dune systems. This means that any kind of change that negatively affects *G. nanus* might benefit *G. cheesmani* in the short term. This in turn would lead to populations of *G. cheesmani* increasing in these areas and out-competing the *G. nanus*.

Acomys cahirinus was an unexpected species that we caught as it had not been seen before in the D.D.C.R, so was another new species which was added to the species list for the reserve. This species is extremely habitat specific hence only been caught at one location "Rocky Outcrop" in the reserve. A total of **2** were caught both being males, **0** females were trapped. This species should be monitored again closely to determine what sort of population might occur in this unique habitat of the reserve.

Two species, House Mouse (*Mus domesticus*) and Black Rat (*Rattus rattus*) also occur within the area of Al Maha Resort but are limited to areas of human habitation and are generally considered to be introduced species to the area and as a result were not covered in the wild rodent survey. Out of the six species of wild rodents only Lesser Jerboa and Arabian Jird was not captured in traps. This is because jerboas generally do not go into traps, although larger rodent traps have had some limited success. The late Peter Phelan who worked as a conservation officer in the D.D.C.R supposedly caught an Arabian Jird while doing a study of rodents in the area. During our study no *M. arimalius* were trapped further suggesting that only very few numbers may occur within the D.D.C.R. Another possibility could have been a result of misidentification between what was thought to be a *M. arimalius* but was in actual fact a *M. crassus*, there were no records found of photographs of the *M. arimalius* that he had caught.

For future surveys one could use Spotlights. This means that measurements and sexing is extremely difficult to do because animals are not always able to be caught easily when spotlighting. All of the other four species were successfully measured, sexed and then released during the survey a Lesser Jerboa was observed one morning while driving to one of the trap locations. For future surveys one could use Spotlights. Surveys are undertaken using a vehicle and a spotlight. Generally it is better to run transects so that you cover all the area equally. However this is not always possible due to access or protection of crucial areas where disturbance is limited. As a result spotlighting would be limited but one could use the existing roads within the Dubai Desert Conservation Reserve. The method of using spotlights requires the surveyor to drive slowly along a road and then traverse the spotlight from left to right covering up to a 180° angle. The distance to observe should be between 2-30m away from the vehicle. See Diagram1 below.



In arid environments' rodents tend to stay close to cover, which in arid environments can be extremely sparse in certain areas. In forested areas traps are usually set 10 – 15 meters apart because there is more cover and animals will move around a lot more. In arid conditions trap intervals should be increased to 20 meters between traps because of the sparse vegetation.

For any further study I would recommend that traps should be set for a standard week (7 days). This allows the traps to be accepted by animals in the area. A flag mounted on the trap used as a marker to point the location of the trap would also be extremely helpful, when trapping rodents in vegetated sand dunes and sand dunes you get a lot of sand movement and traps get buried and lost, making it difficult to locate a trap after a windy night.

Traps used consisted of custom made mesh traps 40x10x10cm with a nest box built in at the rear of the trap. These traps worked well for us but there were a few slight problems. I would recommend Sherman traps that have a pressure plate and fold flat. The benefit of having a trap with a pressure plate will increase your trapping success as we missed out on captures due to the traps not being sensitive enough. Traps that fold flat are not necessary but make it a lot easier for the transportation and the carrying of traps to the various trap locations where the access of 4x4 vehicles are restricted.

As we were restricted to time and manpower we were unable to trap for Pygmy Shrew's which may occur in this area. If the time allows you and you have the manpower Shrew's can be trapped using either a very sensitive Shrew trap or simple pitfall traps. Using the same mapping references as for the rodent traps for a pitfall line can run on the different points. A pitfall line consists of five buckets spaced at 2 meters apart. A 20 centimetre curtain would run through the central line of the buckets and to either side of the line by half a meter. The curtain will cause Shrew's walking in-between the buckets to be channelled towards them.

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Appendices

Annex (1) Trapping sites

Site 1

Date: 14th – 19th May 2011

Moon phase: Full Moon

Habitat: Gravel Plain

Species Caught: 0

Trapping success: N/A

Number of small mammals caught: 0

Traps not functioned or triggered without a species are: 72

Description

No rodents recorded for this site, even though the vegetation cover is very suitable for rodent cover, disturbed area of nearby human activities, close to this site is Al-Maha Resort's horse stable and staff accommodation, only caught a non-survey species a (*Pseudotrapelus sinaitus*) Blue-Headed Agama.



Site 2

Date: 10th – 16th Sep 2011

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: 0

Trapping success: N/A

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

No species caught, or tracks observed during the six nights, vegetation is very poor; fragmented habitat of tour operators; roads running through the plain; high density of 4x4 vehicles. Time of trapping days were full moon phase which added to the negative result.



Site 3

Date: 22nd – 27th May 2011

Moon Phase: 3rd Quarter

Habitat: Gravel Plain

Species Caught: *Meriones crassus*

Trapping success: 0.23

Number of small mammals caught: 4

Traps not functioned or triggered: 68

Description

New species caught for the D.D.C.R, very little vegetation on gravel plain. Trap baskets were removed by *M. crassus* without triggering the trap, the following day baskets found at entrance to burrow.



Site 4

Date: 13th – 18th July 2011

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: 0

Trapping success: N/A

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

No Species caught at site, but there was a presence observed in the form of tracks and burrows, 4 burrows seen and many tracks observed. No evidence of what species of rodents at site, because of the full moon phase trapping success was negative according to the rodent curious nature of moving around with full moon nights.



Site 5

Date: 25th – 31st Oct 2011

Moon Phase: New Moon

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.63

Number of small mammals caught: 11

Traps not functioned or triggered: 49

Description

Record number of *G. cheesmani* caught at any site during the survey, traps at edge of dunes 3,7,8,9,11 and 12 most successful, no disturbances found. Burrows for *G. cheesmani* found at the edge of the gravel plain.



Site 6

Date: 25th – 30th Sep 2011

Moon Phase: New Moon

Habitat: Gravel Plain

Species Caught: 0

Trapping success: N/A

Number of small mammals caught: 0

Traps not functioned or triggered: 71

Description

A sign of fragmented habitat, void of rodents; roads running through the plain; high density of 4x4 vehicles.



Site 7

Date: 09th – 14th Oct 2011

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.17

Number of small mammals caught: 3

Traps not functioned or triggered: 69

Description

Successful site, *G. cheesmani* caught, disturbed area high volume of tour operator traffic & old camel farm. Day five was a re-capture of one of the individuals.



Site 8

Date: 16th – 25th Oct 2011

Moon Phase: 3rd Quarter

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.403458213

Number of small mammals caught: 7

Traps not functioned or triggered: 65

Description

Density rich in *G. cheesmani*, site at the edge of gravel plain, good vegetation at site.



Site 9

Date: 18th – 25th July 2011

Moon Phase: 3rd Quarter

Habitat: Gravel Plain

Species Caught: *Gerbillus nanus*, *Meriones crassus*

Trapping success: 0.23

Number of small mammals caught: 4

Traps not functioned or triggered: 67

Description

Disturbed area old date farm, irrigation still in use; good vegetation and water at site, a good result caught two species.



Site 10

Date: 29/05 -03/06/2011

Moon Phase: New Moon

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.06

Number of small mammals caught: 1

Traps not functioned or triggered: 71

Description

High volume of Oryx and Gazelle is in the area, high percentage of traps triggered due to these species.



Site 11

Date: 2 – 7th Jan 2012

Moon Phase: 1st Quarter

Habitat: Gravel Plain

Species Caught: 0

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

No species caught at site, did observe old burrows, very little vegetation at site. *Acacia*'s at site could be a factor as *Acacia* seeds are extremely hard for rodent to consume compared to other seeds found.



Site 12

Date: 12th – 17th Dec 2011

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.173

Number of small mammals caught: 3

Traps not functioned or triggered: 69

Description

Gravel plain with very little food, *Leptadenia pyrotechnica* (Fire Bush) major plant, successful site with a positive result. First few days' relative sign of old burrows, Day 4 observed new burrow that had been dug.



Site 13

Date: 12th – 17th Dec 2011

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.058

Number of small mammals caught: 1

Traps not functioned or triggered: 71

Description

Large gravel plain, no disturbances in the area, very little food available, site was looking as there would be nothing caught. Last day there was a positive result.



Site 14

Date: 1st – 8th Dec 2011

Moon Phase: 1st Quarter

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.058

Number of small mammals caught: 1

Traps not functioned or triggered: 69

Description

Fairly small gravel plain, dominant species *Leptadenia sp.* which are dead. No palatable vegetation on the plain, tracks seen on the edge of the plain close to dunes on every day. On the last day we caught a *G. cheesmani* on the edge of the plain close to the sand dunes.



Site 15

Date: 1st – 8th Dec 2011

Moon Phase: 1st Quarter

Habitat: Gravel Plain

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: N/A

Traps not functioned or triggered: 71

Description



Fairly large gravel plain, dominant species *Acacia sp.* which varies in sizes from seedlings to adult trees; no palatable vegetation on plain; no form of presence seen of any rodent in the area, possible theory of no rodents, *Acacia* seeds are very hard and not suitable for rodents. Another theory the edge of the dunes are far away from the traps, possibility that *cheesmani* don't like traveling far from soft sand.

Site 16

Date: 2nd – 7th Jan 2012

Moon Phase: 1st Quarter

Habitat: Gravel Plain

Species Caught: *Gerbillus cheesmani*, *Meriones crassus*

Trapping success: 0.289

Number of small mammals caught: 5

Traps not functioned or triggered: 67

Description



Positive site, two species caught a *G. cheesmani* and a *M. crassus*. Trap three day three a re-capture of a *G. cheesmani* and two different individuals of *M. crassus* were caught at site. Burrows were observed and site has been undisturbed.

Site 17

Date: 20th – 27th Feb 2012

Moon Phase: New moon

Habitat: Gravel Plain

Species Caught: Gerbillus
cheesmani, Meriones crassus

Trapping success: 0.575

Number of small mammals caught:
10

Traps not functioned or triggered: 58

Description



A positive site, sparsely vegetated lots of seeds in area. Seen a lot of burrows at site.

Caught *M. crassus* males and females with lots of re-captures. A single *G. cheesmani* was also caught.

Site 18

Date: 20th – 27th Feb 2012

Moon Phase: New Moon

Habitat: Gravel Plain

Species Caught: Gerbillus cheesmani

Trapping success: 0.46

Number of small mammals caught: 8

Traps not functioned or triggered: 56

Description



A heavily vegetated site, plenty of seeds in area, burrows seen all over. Bait eaten almost every day could not identify what was eating the bait. Trap 5 day 5 caught a desert wheat-Ear in trap (culprit for removing bait), caught a good number of *G. cheesmani*.

Site 19

Date: 06 – 17th March 2012

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

Very little food in terms of seeds, area void of rodents, no tracks or burrows observed during observation of site.



Site 20

Date: 06 – 17th March 2012

Moon Phase: Full Moon

Habitat: Gravel Plain

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

No rodents caught during the 6 nights, observed tracks of a *Gerbillus* so there is a presence in the area. Possibility for lack of rodents could be full moon.



Site 21

Date: 18 – 24th June 2011

Moon Phase: 3rd Quarter

Habitat: Vegetated dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.116

Number of small mammals caught: 2

Traps not functioned or triggered: 70

Description:

Successful result two individuals caught of the same species, site undisturbed.

Large fox presence in area; seven of the traps triggered by foxes.

Monitor lizard tracks and burrow observed.



Site 22

Date: 29/06 – 04/07 2011

Moon Phase: New Moon

Habitat: Vegetated dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.12

Number of small mammals caught: 2

Traps not functioned or triggered: 70

Description:

Site suitable to rodents for many factors, high density of vegetation, habitat type, limited competition between survey species and non-survey species, trap two day 5 re-captured individual



Site 23

Date: 16 – 22nd April 2012

Moon Phase: New Moon

Habitat: Sand dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.346

Number of small mammals caught: 6

Traps not functioned or triggered: 66

Description:

Productive site, good number of *G. cheesmani* caught, no other species found at site. Good vegetation at site.



Site 24

Date: 6th – 12th May 2012

Moon Phase: Full Moon

Habitat: Vegetated dunes

Species Caught: 0

Trapping success: 0

Number of small mammals caught:

Traps not functioned or triggered: 72

Description

No species caught at this site, no track of rodents or burrows observed during the 6 nights of trapping, high amount of fox tracks seen at site. Very little food found at site.



0

Site 25

Date: 22nd – 27th June 2011

Moon Phase: 3rd Quarter

Habitat: Vegetated dunes

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

Site void of rodents, no evidence of burrows and no track seen. Observed viper tracks on 3 of the 6 trapping nights.



Site 26

Date: 6th -12th May 2012

Moon Phase: Full Moon

Habitat: Vegetated dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.231

Number of small mammals caught: 4

Traps not functioned or triggered: 65

Description

Caught *G. cheesmani* at site, male and female. Good result for site, recapture of a male and a female. Very little disturbances found at site, fair amount of food at location of site.



Site 27

Date: 30th April – 5th May 2012

Moon Phase: 1st Quarter

Habitat: Vegetated Sand Dune

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.058

Number of small mammals caught: 1

Traps not functioned or triggered: 71

Description

Main vegetation type is dune grass, with no burrows seen, observed a few tracks of rodents. Vegetation cover extremely dry, main factor for traps triggered without species was due to beetles. Caught a single *G. cheesmani* on the last day.



Site 28

Date: 26th – 31st July 2011

Moon Phase: New moon

Habitat: Vegetated dunes

Species Caught: *Gerbillus nanus*, *Gerbillus cheesmani*.

Trapping success: 0.173

Number of small mammals caught: 3

Traps not functioned or triggered: 69

Description

Successful site two species caught very little vegetation at site.



Site 29

Date: 30th April – 5th May 2012

Moon Phase: 1st Quarter

Habitat: Vegetated Sand Dune

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.239

Number of small mammals caught: 4

Traps not functioned or triggered: 67

Description

Vegetation of site very poor, site close to a tourist activity sundowner's site so little disturbance in the area. Small population of *G. cheesmani* caught at site. Caught only 2 males, the other 2 were re-captured.



Site 30

Date: 5th – 11th July 2011

Moon Phase: 1st Quarter

Habitat: Vegetated dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.12

Number of small mammals caught: 2

Traps not functioned or triggered: 69

Description

Strong winds Day 1, 2 & 3 traps semi berried; day 4 & 6 caught *G. cheesmani*, found 3 burrows in the area, and tracks on day 4, 5 & 6. A presence of *Gerbillus* in the area, same individual was re-captured.



Site 31

Date: 5th – 11th July 2011

Moon Phase: 1st Quarter

Habitat: Vegetated dunes

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 68

Description

Day 1, 2 & 3 strong winds at site, *Gerbillus* tracks & burrows seen on all of the days, active presence in the area. Little vegetation only dune grass.



Site 32

Date: 22nd -27th July 2011

Moon Phase: 3rd Quarter

Habitat: Shifted dunes

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

Day two *J. jaculus* tracks around every trap, *Jaculus* investigating traps. Only rodent tracks found at this site were *J. jaculus*. No vegetation found, area only suited for *J. jaculus*.



Site 33

Date: 29/06 – 04/07/2011

Moon Phase: New Moon

Habitat: Vegetated dunes

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

Vegetation medium cover, no evidence of rodent burrows & no rodent track at site. Site occupied by a large amount of *Scincus scincus*. Competition between rodents and reptiles for food sources gives the lead for the *S. scincus* to dominate this site.



Site 34

Date: 16 – 22nd April 2012

Moon Phase: New Moon

Habitat: Sand dunes

Species Caught: Gerbillus
cheesmani

Trapping success: 0.173

Number of small mammals caught: 3

Traps not functioned or triggered: 69

Description:

Presence of *G. cheesmani* at site, site disrupted due to high occupation of Red Fox's. Every night fox's manhandled traps, three of the six nights *G. cheesmani* found dead in traps. Trap 6 found 10m away from original position carried away by fox.



Site 35

Date: 08th – 14th June 2011

Moon Phase: Full Moon

Habitat: Vegetated dunes

Species Caught: N/A

Trapping success: 0

Number of small mammals caught: 0

Traps not functioned or triggered: 72

Description

Disturbed site, very close to the Al Maha resort, a lot of predator activity, fox tracks, cat tracks, snake tracks and a Barn owl nesting at the site.



Site 36

Date: 13th – 18th May 2012

Moon Phase: 3rd Quarter

Habitat: Vegetated dunes

Species Caught:

Trapping success:

Number of small mammals caught:

Traps not functioned or triggered:

Description



Site 37

Date: 22nd – 29th April 2012

Moon Phase: New Moon

Habitat: Vegetated Dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.288

Number of small mammals caught: 5

Traps not functioned or triggered: 64

Description

Good site, small population of *G. cheesmani* in area, caught 1 male and 1 female.

Recapture of both sexes numerous times.



Site 38

Date: 28th – 31st July 2011

Moon Phase: New Moon

Habitat: Vegetated dunes

Species Caught: *Gerbillus cheesmani*

Trapping success: 0.12

Number of small mammals caught: 2

Traps not functioned or triggered: 70

Description

A result was achieved; traps were disturbed and triggered by non-survey species, e.g. Gazelles, Oryx, fox's which could have had an influence on trapping success.



Site 39

Date: 13th – 18th July 2011

Moon Phase: Full Moon

Habitat: Vegetated dunes

Species Caught: *Gerbillus nanus*,
Gerbillus cheesmani

Trapping success: 0.12

Number of small mammals caught: 2

Traps not functioned or triggered: 70

Description

Two species caught successful result. *G. cheesmani* burrows were observed and morphological data of the burrows were recorded. Four of the six nights were very windy possible influence on trapping success.



Site 40

Date: 04 -24th Nov 2011

1st Quarter & New Moon

Habitat: Rocky outcrop, lime stone,
sedimentary rocks

Species Caught: *Acomys cahirinus*, *Gerbillus*
cheesmani

Trapping success: 0.173

Number of small mammals caught: 3

Traps not functioned or triggered: 69

Description

Trap line was set on the Western side of the slope. New species found at the site for the D.D.C.R A. *cahirinus* (Egyptian Spiny Mouse), also caught was a *G. cheesmani* which was trapped at the bottom of the slope. All species caught were caught on the slope amongst the rocks and not on the top of the mountain which was exposed to the natural elements e.g. wind.



Annex (2) (Field Data Sheets)

Date: 14th - 19th May 2011		Site (1)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	1		2							Blue-headed Agama
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							Set off by Oryx
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 10th - 16th of Sep. 2011		Site (2)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		1							Bait eaten by ants
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							No evidence
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 22nd - 27th May 2011		Site (3)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1	Meriones crassus	3	Male	65g	235mm	125mm	25mm	10mm	(re-captured)
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Meriones crassus	3	Male	64g	235mm	125mm	25mm	10mm	(re-captured)
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Meriones crassus	3	Male	64g	235mm	125mm	25mm	10mm	(re-captured)
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	1	Meriones crassus	3	Male	70g	235mm	125mm	25mm	10mm	(New Spp.) Jird
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 13th - 18th of July 2011		Site (4)										
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments	
1	Day 1	0		4								
	Day 2	0		1								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
2	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
3	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		1							Set off by Oryx	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
4	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
5	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		1							Set off by Oryx	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
6	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		1							Set off by Fox	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
7	Day 1	0		1								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
8	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		1							Set off by Oryx	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
9	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
10	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
11	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
12	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		1							Set off by Oryx	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								

Date: 25th - 31st of Oct. 2011		Site (5)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0									
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	38g	230mm	130mm	29mm	11mm	(re-captured)
	Day 6	0									
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	22g	205mm	130mm	28mm	11mm	Re-captured
	Day 5	0		1							
	Day 6	0									
8	Day 1	1	Gerbillus cheesmani	3	M	22g	205mm	130mm	28mm	11mm	
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	22g	205mm	130mm	28mm	11mm	(re-captured)
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M						(re-captured)
	Day 6	0									
9	Day 1	1	Gerbillus cheesmani	3	M	32g	200mm	135mm	24mm	8mm	
	Day 2	1	Gerbillus cheesmani	3	M	32g	200mm	135mm	24mm	8mm	(re-captured)
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	F	38g	230mm	130mm	29mm	11mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
12	Day 1	1	Gerbillus cheesmani	3	M	34g	220mm	130mm	24mm	10mm	
	Day 2	1	Gerbillus cheesmani	3	M	28g	190mm	120mm	25mm	16mm	
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	34g	220mm	130mm	24mm	10mm	Re-captured
	Day 5	0		1							
	Day 6	0									

Date: 25th - 30th of Sep.		Site (6)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		2							Sand Gecko
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
8	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							

Date: 9th - 14th of Oct. 2011			Site (7)								
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		1							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	15g	200mm	120mm	10mm	4mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		1							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	15g	20mm	12mm	10mm	2mm	(Re-capture)
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	M	32g	190mm	118mm	50mm	6mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 16th - 25th of Oct. 2011			Site (8)								
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	42g	220mm	130mm	45mm	15mm	(re-capture)
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1	Gerbillus cheesmani	3	M	30g	210mm	135mm	55mm	10mm	
5	Day 1	0		1							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	F	33g	230mm	130mm	40mm	15mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1	Gerbillus cheesmani	3	F	28g	180mm	120mm	55mm	10mm	
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
7	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	1	Gerbillus cheesmani	3	M	25g	200mm	120mm	35mm	15mm	
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	42g	220mm	130mm	45mm	15mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	38g	230mm	130mm	30mm	10mm	
	Day 6	0		4							

Date: 18th - 25th of July 2011		Site (9)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Meriones crassus	3	F	60g	200mm	120mm	25mm	12mm	
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0									
3	Day 1	0		4							
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	1	Meriones crassus	3	M	63g	250mm	135mm	70mm	15mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		1							Triggered by Fox
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Triggered by Oryx
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	1	Gerbillus nanus	3	M	30g	200mm	125mm		11mm	
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		1							
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		1							Triggered by Oryx
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							Triggered by Fox
	Day 2	0		4							
	Day 3	1	Gerbillus nanus	3	M	28g	200mm	125mm	21	10	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Triggered by Oryx
	Day 6	0		4							

Date: 29th of May to 3rd of June 2011		Site (10)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		1							Kicked over by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	1	Gerbillus cheesmani	3	Male	29g	215mm	115mm	50mm	10mm	
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		1							Kicked by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		1							Triggered by Gazelle
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		1							Kicked by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		1							Kicked by Oryx
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		1							Triggered by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							Kicked by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 2nd - 7th Jan 2012		Site (11)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
9	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 12th - 17th Dec 2011		Site (12)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	M	48g	220mm	120mm	15mm	5mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	30g	230mm	130mm	15mm	4mm	
	Day 5	0		4							
	Day 6	1	Gerbillus cheesmani	3	M	35g	220mm	110mm	15mm	5mm	
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 11th - 16th Dec 2011		Site (13)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	38g	230mm	150mm	16mm	5mm	
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 1st - 8th Dec 2011		Site (14)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1	Gerbillus cheesmani	3	M	42g	220mm	131mm	46mm	10mm	10mm
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 1st - 8th Dec 2011		Site (15)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
5	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6										
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 2nd - 7th Jan 2012		Site (16)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	35g	195mm	120mm	40mm	10mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	34g	230mm	135mm	50mm	10mm	(re-captured)
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
6	Day 1	0		4							
	Day 2	1	Meriones crassus	3	M	72g	235mm	120mm	50mm	11mm	
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		1							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	1	Meriones crassus	3	M	64g	240mm	144mm	32mm	12mm	
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		1							
	Day 2	1	Gerbillus cheesmani	3	M	34g	230mm	135mm	50mm	10mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 20 - 27th Feb 2012		Site (17)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							Bait eaten
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	1	Meriones crassus	3	M	60g	220mm	100mm	55mm	10mm	
	Day 2	1	Meriones crassus	3	M	52g	220mm	100mm	55mm	10mm	
	Day 3	1	Meriones crassus	3	M	60g	220mm	100mm	55mm	10mm	(Re-Capture)
	Day 4	1	Meriones crassus	3	M						(Re-Capture)
	Day 5	0		1							
	Day 6	1	Meriones crassus	3	M						(Re-Capture)
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	1	Meriones crassus	3	F	48g	210mm	95mm	55mm	10mm	
	Day 3	0		4							
	Day 4	1	Meriones crassus	3	M	50g	200mm	100mm	55mm	10mm	
	Day 5	0		4							
	Day 6	1	Meriones crassus	3	M						(Re-Capture)
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							Bait eaten
	Day 6	0		1							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	M	24g	210mm	115mm	48mm	8mm	
	Day 3	1	Meriones crassus	3	M	52g	220mm	100mm	55mm	10mm	(Re-Capture)
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 20th 27th Feb 2012		Site (18)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	F	26g	119mm	120mm	40mm	10mm	
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	25g	200mm	130mm	35mm	10mm	
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							Bait eaten
	Day 3	0		4							
	Day 4	0		4							Bait eaten
	Day 5	0		4							Bait eaten
	Day 6	0		4							Bait eaten
3	Day 1	0		4							
	Day 2	0		4							Bait eaten
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	24g	200mm	111mm	40mm	10mm	
	Day 5	0		4							Bait eaten
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	24g	210mm	120mm	40mm	10mm	
	Day 5	0		1							
	Day 6	0		1							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	20g	180mm	90mm	35mm	8mm	
	Day 5	1		2							Desert Wheat-Ear
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							Bait eaten
	Day 5	0		4							Bait eaten
	Day 6	0		4							Bait eaten
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		1							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	M	22g	190mm	111mm	35mm	8mm	
	Day 5										
	Day 6										
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	M	24g	210mm	115mm	48mm	8mm	
	Day 4	0		4							Bait eaten
	Day 5	1	Gerbillus cheesmani	3	M	22g	190mm	111mm	35mm	8mm	
	Day 6										
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							Bait eaten
	Day 5	0		4							Bait eaten
	Day 6	0		4							

Date:

Site (19)

Date:	Site (19)											
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments	
1	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
2	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
3	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
4	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
5	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
6	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
7	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
8	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
9	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
10	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
11	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
12	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
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Date: 6th - 17th March 2012		Site (20)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 18th - 24th of June 2011		Site (21)									
Traps Number	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	40g	240mm	150mm	50mm	10mm	
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by fox
	Day 4	0		4							
	Day 5	0		1							Triggered by fox
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by fox
	Day 4	0		4							
	Day 5	0		1							Triggered by Oryx
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by fox
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Triggered by Oryx
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	F	26g	210mm	130mm	50mm	10mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 29th of June - 4th of July 2011		Site (22)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	28g	184mm	115mm	50mm	6mm	
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0	Set off by Oryx	1							Set off by Oryx
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	28g	184mm	115mm	50mm	6mm	
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0	Set off by Oryx	1							Set off by Oryx
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 16th - 22nd April 2012		Site (23)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0	Gerbillus cheesmani	3	M	48g	201	130	24	4	
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	1	Gerbillus cheesmani	3	M	48g	201mm	130mm	24mm	4mm	Recapture
4	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	F	45g	210mm	120mm	25mm	4mm	
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		1							
	Day 2	0		1							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		1							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	23g	201mm	123mm	18mm	3mm	
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		1							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	30g	210mm	130mm	20mm	5mm	
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	21g	200mm	120mm	20mm	6mm	
	Day 5	0		4							
	Day 6	0		4							

Date:06th - 12th May 2012		Site (24)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							Triggered by fox
	Day 6	0		4							
2	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							Triggered by fox
	Day 6	0		4							
7	Day 1	0		1							
	Day 2	0		1							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							Triggered by fox
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							Triggered by fox
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 22nd - 27th of June 2011		Site (25)									
Trap:		Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							Set off by Fox
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6			4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		1							Set off by Oryx
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6			4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							Set off by Fox

Date: 6th - 12th May 2012		Site (26)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	1		2							Sand Fish
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5										
	Day 6										
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1		3	M	29g	190mm	110mm	45mm	10mm	Basket missing
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1		3	F	34g	210mm	130mm	50mm	10mm	Gerbillus cheesmani
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	1		3	F	34g	210mm	130mm	50mm	10mm	Gerbillus cheesmani
	Day 4	0		1							
	Day 5	1		3							
	Day 6	0		4	F	34g	210mm	130mm	50mm	10mm	Gerbillus cheesmani

Date: 30th April -		Site (27)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1		3	M	34g	130mm	230mm	55mm	10mm	Gerbillus cheesmani
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
8	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		1							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 26th - 31 July 2011		Site (28)									
Trap	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		1							Triggered by fox
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	1	Gerbillus nanus	3	M	58g	200mm	130mm	58mm	7mm	
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							Triggered by fox
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							Triggered by Oryx
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							Triggered by Oryx
	Day 5	0		1							Triggered by Gazelle
	Day 6	1	Gerbillus cheesmani	3	M	39g	190mm	130mm	58mm	6mm	
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							Triggered by fox
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Triggered by Oryx
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	F	28g	184mm	115mm	50mm	6mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							Triggered by Gazelle
	Day 5	0		4							
	Day 6	0		4							

Date: 30th April - 5th May 2012		Site (29)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		1							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	1		3	M	39g	230mm	140mm	55mm	12mm	Gerbillus cheesmani
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
6	Day 1	0		1							
	Day 2	0		4							
	Day 3	1		2							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	1		3	M	39g	230mm	140mm	55mm	12mm	Gerbillus Re-Capture
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	1		3	M	31g	130mm	210mm	55mm	9mm	Gerbillus cheesmani
	Day 3	1		3	M	39g	230mm	140mm	55mm	12mm	Gerbillus Re-Capture
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		1							

Date: 5th - 11th July 2011		Site (30)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Set off by Oryx
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		1							Set off by Fox
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	1		2							Urchin Beetle
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							Set off by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	24g	200mm	115mm	25mm	4mm	
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Set off by Oryx
	Day 6	1	Gerbillus cheesmani	3	F	24g	200mm	115mm	25mm	4mm	Re-capture

Date: 5th - 11th July 2011		Site (31)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		>							Trap missing
	Day 4	0		>							Trap missing
	Day 5	0		>							Trap missing
	Day 6	0		>							Trap missing
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
5	Day 1	0		4							Bait eaten, trap not triggered
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							Trap buried due to heavy winds
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 22nd - 27th June 2011		Site (32)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		1							Set off by Gazelle
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							Set off by Fox
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Set off by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		1							Set off by Oryx
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 29th of June - 4th of July 2011		Site (33)										
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments	
1	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
2	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
3	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
4	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
5	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
6	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
7	Day 1	0		1							Set off by Gazelle	
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
8	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
9	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
10	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
11	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
12	Day 1	0		1							Gazelle	
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								

Date: 16th - 22nd April 2012		Site (34)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		1							
	Day 2	0		1							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		1							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
4	Day 1	0		4							Basket Missing
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		4							
6	Day 1	0		4							Bait Eaten
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	30g	200mm	120mm	20mm	5mm	
	Day 6	0		1							
7	Day 1	0		4							Basket Missing
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	F	20g	180mm	100mm	10mm	4mm	
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		4							
	Day 6	0		1							
10	Day 1	0		4							Basket Missing
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
12	Day 1	0		4							
	Day 2	1	Gerbillus cheesmani	3	M	42g	210mm	110mm	25mm	5mm	
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 8th - 14th of June		Site (35)										
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments	
1	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
2	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
3	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1							Triggered by Oryx	
4	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		1								
	Day 6	0		4								
5	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
6	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
7	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1							Triggered by Oryx	
8	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1							Triggered by Oryx	
9	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
10	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1							Triggered by Oryx	
11	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								
12	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		4								

Date: 13th - 22nd May 2012		Site (36)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1		3	F	29g	190mm	90mm	10mm	5mm	Re-capture
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
3	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		1							
6	Day 1	0		1							
	Day 2	1		3	F	29g	190mm	90mm	10mm	5mm	G.cheesmani
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1		3	M						G.cheesmani
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	1		3	F	29g	190mm	90mm	10mm	5mm	G.cheesmani
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

Date: 22nd - 29th April 2012		Site (37)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6										
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		1							
	Day 2	0		4							Bait eaten
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		1							
	Day 6	0		4							
6	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6										
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	38g	195mm	180mm	23mm	5mm	Re-capture
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Gerbillus cheesmani	3	F	38g	195mm	180mm	23mm	5mm	
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							Basket missing
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	36g	190mm	170mm	20mm	5mm	Re-capture
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							
	Day 6										
12	Day 1	1	Gerbillus cheesmani	3	M	36g	190mm	170mm	20mm	5mm	
	Day 2	1	Gerbillus cheesmani	3	M	36g	190mm	170mm	20mm	5mm	Re-capture
	Day 3	0		1							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

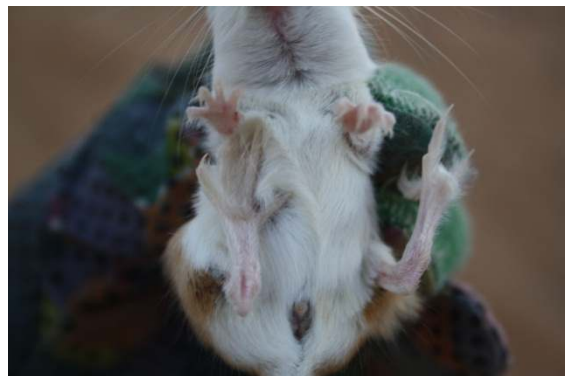
Date: 28th - 31st of July		Site (38)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		1							
	Day 3	0		4							
	Day 4	0		1							Triggered by Oryx
	Day 5	0		1							Triggered by Fox
	Day 6	0		4							
2	Day 1	0		1							Triggered
	Day 2	0		4							
	Day 3	0		4							
	Day 4	1	Gerbillus cheesmani	3	F	28g	184mm	115mm	50mm	6mm	
	Day 5	0		4							
	Day 6	0		4							
3	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Gerbillus cheesmani	3	M	32g	190mm	118mm	52mm	6mm	
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Oryx
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							Triggered by Gazelle
	Day 5	0		4							
	Day 6	0		1							Triggered
9	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		1							Triggered by Gazelle
	Day 6	0		4							
11	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		1							Triggered by Fox
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							

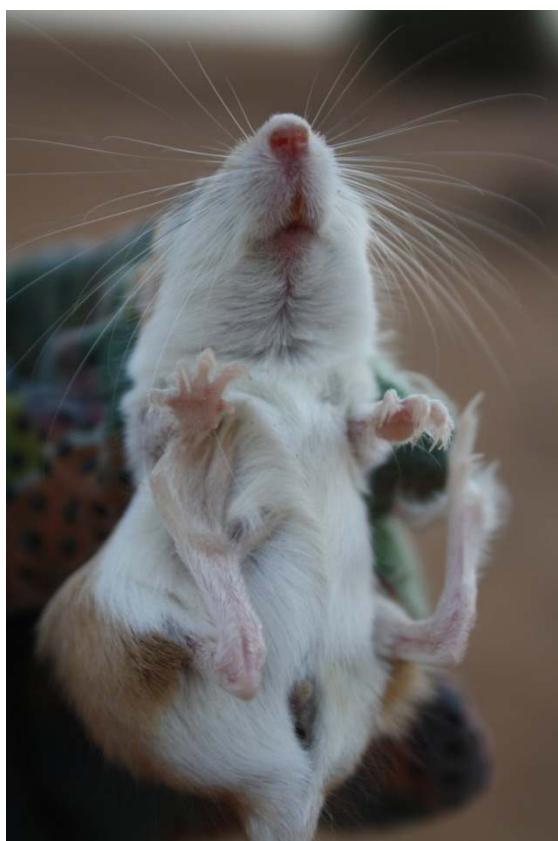
Date: 13th - 18th of July		Site (39)										
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments	
1	Day 1	0		4								
	Day 2	0		1								
	Day 3	0		4								
	Day 4	0		1								
	Day 5	0		1								
	Day 6	0		1								
2	Day 1	0		4								
	Day 2	1	Gerbillus cheesmani	3	M	32	190	115	50	4		
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
3	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
4	Day 1	0		4								
	Day 2	0		1								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
5	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
6	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4							Bait eaten by Gerbil	
	Day 5	0		4							Bait eaten by Gerbil	
	Day 6	1	Gerbillus nanus	3	M	45g	215mm	130mm	35mm	15mm		
7	Day 1	0		4								
	Day 2	0		4							Bait eaten by Ants	
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
8	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
9	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
10	Day 1	0		4								
	Day 2	0		1								
	Day 3	0		4							Bait eaten by Gerbil	
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
11	Day 1	0		4								
	Day 2	0		4							Bait eaten by Gerbil	
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								
12	Day 1	0		4								
	Day 2	0		4								
	Day 3	0		4								
	Day 4	0		4								
	Day 5	0		4								
	Day 6	0		1								

Date: 4th - 24th Nov 2011		Site (40)									
Traps	Days	Abund.	Species	Status	Sex	Weight	Total L	Tail L	H. foot	Ear	Comments
1	Day 1	0		4							
	Day 2	0		4							
	Day 3	1	Acomys cahirinus	3	M	40g	205mm	115mm		16mm	(New Sp DDCR)
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
2	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	1	Acomys cahirinus	3	M	32g	190mm	110mm	25mm	16mm	
	Day 6	0		4							
3	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
4	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
5	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
6	Day 1	1	Gerbillus cheesmani	3	F						
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
7	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
8	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
9	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
10	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
11	Day 1	0		1							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		4							
	Day 5	0		4							
	Day 6	0		4							
12	Day 1	0		4							
	Day 2	0		4							
	Day 3	0		4							
	Day 4	0		1							
	Day 5	0		1							
	Day 6	0		4							

Annex (3)Photos

Gerbillus cheesmani







Gerbillus nanus





Meriones crassus





Acomys cahirinus



Non survey species



Traps manhandled

Fox attempting to get *G.cheesmani* out of trap during the night.



Collecting Field Data

