

Title:

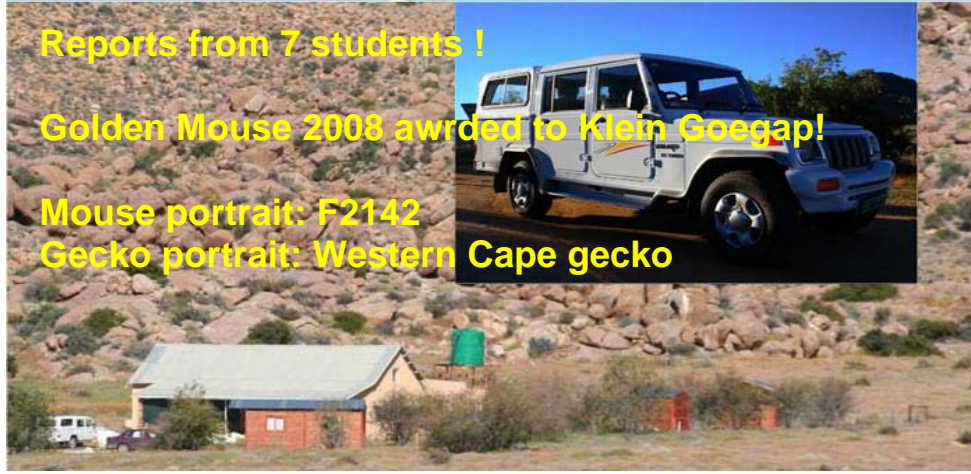
Upgrade of the Research Station

Reports from 7 students !

Golden Mouse 2008 awarded to Klein Goegap!

Mouse portrait: F2142

Gecko portrait: Western Cape gecko



EDITORIAL

EDITOR

EDITORIAL

EDITORS

Dr. Carsten Schradin, Brigitte Schradin.

IMPRESSUM

ADDRESS

Goegap Nature Reserve, Succulent Karoo Research Station, Private Bag X1, Springbok 8240, South Africa.
info@stripedmouse.com

HOMEPAGE

<http://www.stripedmouse.com>.

PUBLICATION DATES

The FSM-TIMES is published quarterly, in January, April, July and October. The FSM-TIMES is sent as email-attachment in pdf.

SUBSCRIPTION AND FEES

To subscribe to the FSM-TIMES, write an email to: info@stripedmouse.com. In the subject field write "FSM-TIMES subscription". No more text is needed. You will then get the FSM-TIMES four times a year as an email attachment. Subscription to the FSM-TIMES is free of charge. However, we would welcome donations of R 80 (10 Euro, 15 US Dollar) a year to contribute to our research projects at the Succulent Karoo Research Station in South Africa. Larger donations are welcome too. To unsubscribe, write an email to info@stripedmouse.com, and write in the subject field "CANCEL FSM-TIMES".

COPYRIGHT AND EXCLUSION OF LIABILITY

All rights reserved. Reproduction in whole or in part without written permission of editor is prohibited. The FSM-TIMES and editors are excluded from any form of liability.

CONTENTS OF THIS ISSUE	
4	WELCOME: THE SEVENTEENTH ISSUE OF THE FSM-TIMES!
5	NAMAQUALAND-WEATHER
5	The people in Goegap
7	Goegap: The Adventure
8	The farm-side adventure-tour
9	Working as a field assistant in Goegap Nature Reserve
10	Living among legends
11	Breeding season 2008
12	Return to the Land of Mice
14	GOLDEN MOUSE AWARD 2008
15	Homepage
9	TITLE: UPGRADE OF THE RESEARCH STATION
23	NEWS AND INFORMATION ABOUT PLANTS AND ANIMALS
23	Mouse portrait: Male 1009
24	Gecko portrait: Western Cape Gecko
25	CONFERENCES, PRESENTATIONS AND PUBLICATIONS
25	Publications
25	Theses
26	Conferences
29	FUNDING OF RESEARCH
31	THE MOUSE'S TAIL

WELCOME TO THE SEVENTEENTH ISSUE OF THE FSM-TIMES!



I returned to Goegap and it is fantastic to be back here! We have a good team of students working at the research station this year. From June on, the research station was getting fuller and fuller, with a maximum of 12 people at one stage! This pushed the resources of the research station to the limit! But the research station itself has been developing during the last months. In the title story you will read about our new car, new Wendy

houses, a wind turbine and much more. Of course many students had many more new impressions and this issue is full with personal reports from the students that were staying here for the last months. I hope you will enjoy it!

Kind regards,

Carsten Schradin

THE DIFFERENT PLACES AND LOCATIONS

South Africa

As the name says, it is the most southern country in Africa. South Africa lies at the Cape of Good Hope. The population of South Africa (40 million) consists of black South Africans (e.g. the Zulu), which represent 75% of the population. 12% are white, 8% coloured, and some are Indian, Malaysian or descendents of the San (bushman). South Africa is the only industrialized country in Africa with a very good infrastructure.

Succulent Karoo

It describes a special vegetation type. It receives low rainfall in winter and is characterized by dwarf succulent shrubs and an amazing wildflower display in spring. It is a desert to semi-desert environment. Succulent Karoo is found in Namaqualand and southern Namibia. In the FSM-TIMES, the words succulent Karoo and Namaqualand are often used as synonyms.

Namaqualand

It is situated in the northwest of South Africa, between Cape Town and Namibia. Famous for its wildflower display in spring, Namaqualand was one of the world's most important copper mining areas at the beginning of the 20th century. Nowadays the diamond mines are more important. Because of its dry desert like climate, agriculture is mainly absent and population density low. Namaqualand is part of the Northern Cape Province.

Springbok

It is the capital of Namaqualand. Although Springbok has only around 20 000 inhabitants, it has shops for nearly everything, including two well stocked supermarkets. At weekends Springbok is very busy, when all Namaqualanders come here to do their shopping.

Goegap Nature Reserve

Pronounced as "Guchap", this nature reserve lays only 20kms outside of Springbok. In spring it is visited by thousands of tourists that are attracted by its wildflower display. During other times of the year it is very quite and mountain zebra, gemsbok, springbok, aardwolf, mice and mice researchers live in peace.

Field Site

This is the place in nature where the scientist collects his data. So our field site is where we observe the mice

NAMAQUALAND-WEATHER

The last three months	July	August	September
Minimum temperatures			
night	1.0	-0.6	2.4
day	9.9	11.5	13.5
Maximum temperatures			
night	12.0	11.1	13.5
day	29.2	26.8	30.1
Nights with frost	3	7	6
Rainfall in mm	39.9	0.3	15.1
Days with rain	5	3	8

THE PEOPLE IN GOEGAP

By Carsten Schradin

Beginning of July the research station was still relatively quiet. Ed Yuen was keeping everything in order as research station manager. David Lehmann was videotaping mice in their nest for his MsC thesis before he left in September to write his thesis in Zurich. Keenan Morrison had already acquired lots of field skills by helping on the main field site, before changing to the farm, to

assist Ivana collecting data for her PhD. He will stay until end of October. Ivana herself is back since the middle of July.

Two Swiss students arrived in July and stayed for 6 weeks: Romy Höppli and Alessandra Schnider. Both were a great help at the main field site and also got their own little project. Romy was taking measurements of personality in

males and Alessandra was conducting follows. Every day she observed one single male for three hours in a row, following him around the field site. Both Romy and Alessandra wanted to find out whether breeding males differ from roaming males. They worked very hard and were so motivated that they even collected additional data on their free days!

In August Viviana Reijk from the University in Münster arrived. She helped on the farm and collected data on male home ranges for her own project. A little bit later Sarah

Weik and Nils Solmson from the University of Mainz joined us. They will collect data for their Diploma until end of November. Sarah will determine paternities in nests of different social backgrounds (polygynous, monogamous and single living females) and Nils traps 6km along our dry riverbed and at different points in the reserve to do a study on population genetics.

Finally, we also arrived end of July, Apollo, Brigitte and Carsten Schradin. We stay until beginning of November, when it will get much quieter at the research station again.



The team in August, left to right, front to back: Brigi, Ed, Apollo, Carsten, Ivana, Alessandra, Romy, Viviana, Sarah, Keenan und Nils.

GOEGAP: THE ADVENTURE

By Alessandra Schnider

Take a nature reserve with stunning landscape and animals, a research station, people from all over the world and you have an adventure you'll never forget for the rest of your life.

I arrived in the middle of the night in Springbok. The sky was covered with thousands of stars, the moon was shining and it was totally quiet. On my drive to the research station I saw my first Springbok and I realized that I'm really in South Africa!

The first week we were all very busy with cleaning "thousands" of traps, the house, and the garden. I also saw my first mouse and tried to pull one out of the bag, which is how I got my first bite. A few mice later I found out how thrilling it is to hold one. I was so excited, that my hand was shaking, it was great.

I also experienced how life is when there's not enough energy or what it feels like, when the only water source, the water pump, is not working and showering is not longer allowed! It reminds you of how luxurious the life at home is and you start to appreciate it and don't take it for granted anymore.

The most crowded place is the kitchen. It is the place where everybody meets and exchanges all the events of their day. But once a week we take our stuff and go out to have a real South African Braai, a BBQ, what is always a lot of fun.

The craziest thing I experienced was when Carsten took the field assistants on the 4x4 route. Sometimes the road was only rock

How to become a field assistant?
Only people with a biological background can become field assistants. These are students of biology, veterinary medicine or related areas. The work of field assistants includes: radio-tracking, trapping and marking of small mammals, behavioural observations, work at the research station, including maintenance, and much more. People interested in working as a field assistant for 2-3 months write an email to info@stripedmouse.com. Please write a short motivation and attach a CV. You will then obtain more information.



and it was quite tricky to drive it, but it was truly worth it. We saw Springboks, Gemsboks, Ostriches, Meerkats and even Zebras! I've never seen so many extraordinary wild living animals.

Also whenever I was a little bit homesick, there was always somebody I could go to, so I didn't feel alone anymore. I met so many fantastic people here and made some new friends. When I go I'll take

with me a lot of experiences and new friends, and I'm very thankful for this

opportunity that was given to me.

DIE FARM-SIDE ADVENTURE-TOUR

By Viviana Reijak

Great orange rocky mountains with a vast expanse of sandy unbelievably colourful flowered areas will welcome you to Goegap Nature Reserve. After a short night of inspirational talks with people from all over the world the first morning starts early at around 7am. Now the real adventure begins:

After having crossed the border – the farm area gate – you will get to know an inimitable way of driving. While hopping through the sandy river bed you can enjoy the great surroundings while trying to avoid bumping your head on the car roof – a great adrenaline rush for free. Additionally, if you're lucky, you can live the incomparable experience of getting stuck in the sand. Leaving the remnants of civilisation behind you will reach a completely different world - the FARM SIDE WORLD – the world of Ivy, Keenan and Viviane – the FARM TEAM of winter 2008! And of course the world of the FARM SIDE STRIPED MICE! You will reach a valley full of shrubs, succulents and of course some colourful flowers in between rocky mountains. The valley is ranged by riverbeds and graced with a few small trees.

While starting your holiday-adventure-work with an observation of a mice-nest-shrub you can view the sunrise and enjoy life to the

fullest. Afterwards you get the great chance to find the striped mice by radio-tracking – side-bar this allows you to exercise, improving your fitness by walking through the vast valley uphill on sandy ground. If you are fortunate, you will meet the 'Highlander' who likes to live up the hill, or 'Rocky' who thinks he is the strongest of all striped mice. 'Gina' as well may cross your path – she is famous for changing her boyfriends a lot of times. Or you will come across 'Tiny' – though he is small he has the biggest harem of all. Another attractive part of your adventure will be to trap the striped mice – and thereby, if you are lucky, you can also see fluffy bush karoo rats and elephant shrews.

Your work will be surrounded by shouts of baboons up in the hills and a lot of different twittering birds. Potentially you will be watched by klipspringers from the lower rocks or come face to face with baboons from the upper mountain parts. A lot of other animals will surround you while you work, like big bugs (e.g. the Toktokkie), crickets, grasshoppers, nematodes or lizards. And attention – be careful of stepping on one of the gorgeous snakes or on a scorpion! It wouldn't be a real adventure tour without some poisonous animals like for example the horn odder snake.

After a long day on the Farm Side – of course with a short break at lunch time – you will again have the chance to experience the fun-drive through the riverbed back to the Research Station – but this time in the dark!
Reaching the Research Station at around half past 7pm you will enjoy your dinner in the kitchen while again having the opportunity to talk to all of

the other people from different nations. As a special offer on Saturdays and Sundays you can relish the taste of barbecued meat at the chummy braai and enjoy the incredible bright starry sky.
Afterwards, extremely tired but pleased, you will fall asleep early! – So that you can start fresh again the next morning on the Farm Side adventure.

WORKING AS A FIELD ASSISTANT IN GOEGAP NATURE RESERVE

By Romy Höppli

Blue skies without a single cloud for six weeks – rocky mountains with little vegetation – yellow, orange and pink fields of flowers in whatever direction you look – small mammals, lizards and birds in our front yard and Mountain Zebras, Springbok and Ostrich right next door...
This was my time at the Succulent Karoo Research Station in Goegap Nature Reserve in South Africa! During six weeks from the beginning of July until the middle of August I've been living here, studying mice, experiencing nature like never before and being part of a small community where there was always something to laugh and joke about!
I spent my first seven hours in South Africa in the Railway Station of Cape Town, waiting for the Intercape bus that would take me to Springbok. After nine hours of driving through the nightly South Africa and a more or less (!) warm room in Springbok for the night I finally arrived in Goegap Nature Reserve. „A dream –

and I'll be living this dream for the next six weeks!“, were my first thoughts when I saw the wonderful nature of Goegap.
Right the next morning my scientific adventure in South Africa began: Setting and checking traps, nest observations and radio-tracking were our daily routine. While I got bitten by the mice quite often in the beginning and my right middle finger was scarred all over, I improved quickly shaking the mice out of the traps, weighing them and checking the number of the ear tag. Other duties like cleaning the cages of the mice in the captive colony, washing the dirt from probably several months out of the traps, painting the new Wendy House and putting in a floor and curtains quickly added to our daily field work activities.
It was never boring in Goegap! There was always something to do: studying the striped mouse, listening to the interesting and funny stories every member could tell or just

enjoying the time while reading a book or writing e-mails to friends to tell them about this unique experience. Here, the weekly trip back to 'civilization' in Springbok for shopping, sending e-mails and having lunch at „Nando's“ - the best (Portuguese) fast food I ever tasted - was always a highlight and the occasional trip to „Beaver's“, the

towns funniest pub, where all the locals went to, was a good opportunity to dance, make party and enjoy the relaxed South African way of life!
My six weeks down here were full of great experiences and I enjoyed every single day! Hopefully, I will be able to come back to Goegap Nature Reserve one day!

LIVING AMONGS LEGENDS

By Keenan Robert Morrison I

Deep within the heart of South Africa's Semi-arid Succulent Karoo lives a creature so beautiful, so magnificent, and so rare, that only a lucky few hundred thousand people have seen it. I myself am one of the chosen ones, showered with fortune by the opportunity to experience this magical animal in person thanks to my time here in Goegap. What is this creature of dreams you ask? The locals call it Karoo Bosrot, which is Afrikaans for Wondrous Beast of Destiny or bush Karoo Rat, depending on the translation. As it turns out, many bush Karoo Rats, or BKR's as I've lovingly nicknamed them, take refuge in the splendor and sanctity of “The Farm.”
The great philosopher Aristotle never said “To live amongst the BKR's is like living amongst angels,” but if he had lived in Goegap, I'm sure he would've. **I can, with all honesty say, that the greatest moments of my entire life have all involved three things, Goegap, working in the farm, and BKR's.** There aren't enough words in all of the languages

of this world to describe the thrill you experience when BKR's dart all around you as you radio track everybody's favorite species of mouse, *Rhabdomys pumilio*. There are countless nights, where the members of the farm team spend minute after minute talking about our love for working in the presence of BKR's. Trapping, tracking, tagging, and observing; all fantastic activities that are amplified when doing so under the wondrous gaze of the BKR's.
As if their existence alone wasn't enough, the BKR's are furthermore renowned by their ability to build gorgeous palace like lodges out of mere sticks and twigs. These lodges are in fact so stunning, that one can often find striped mice attempting to take these dwellings for themselves. Watching *Rhabdomys pumilio* wander into the nest of a BKR is a joyous and unrivaled event that typically ends in pure hilarity. To be completely candid, if you haven't lived in Goegap, then you haven't lived at all. The level of mystery and

enchantment created by the striped mice and BKR's occurrence in this nature reserve is awe-inspiring. If you, dear reader, find after reading my account of living amongst BKR's,

that it seems unlikely that life itself can't get any better; then I'm happy to inform you that it does. I hadn't even mentioned the Elephant Shrews.



The BKR was the hero of our title in the FSM-TIMES No. 7.

BREEDING SEASON 2008

By Nils Solmsen und Sarah Weik

2 a.m. in Cape Town: „Get ready“ announced the driver of the minibus taxi himself at the phone.

So 5 min later we're heavily loaded out in the street. The phone rings again and we wonder about his question where we were...."in front of our hostel".....the answer of the driver that would be impossible because HE is there lets us began to have doubts if our trip would start this day.

Finally we're sitting in the minibus looking forward to our arrival in Goegap- allegedly in 6 hours.

But we abandon this hope while speeding the streets of Cape Town up and down to pick up the other passengers for the next 4 hours.

Other 8 hours with 160km/h, a driver fighting against falling asleep and various breakdowns follow.

But at the end of this horror trip the asphalted streets end and we reach amazing wilderness...

Soon springboks and jackals cross our way and give us a taste of what will let our biologist hearts beat faster the next weeks....

After a few days we have a first overview of the methods used in the field, the data system and a growing feeling for the tiny striped "experimental organism" in our hands- what we have to pay with for numerous contacts with their less cute rodents teeth.

The field side looks no longer the same everywhere, you know when "red chest" gave birth to 3g- beings in her shrub and that you have to take care of the peanut butter in your bag when "blond ass" is close....

Before sunrise, when you are walking through the wildflowers covered with ice crystals, some eyes are already waiting for darting into the trap- therefore the flakes are that good that the stress of weighing, marking and taking tissue samples does not matter at all.

The kitchen is the place where you can amuse the others with your striped mouse- experiences of the day....that's fun!

On Sundays, after a sunny barbecue, you stalk a herd of mountain zebra or speculate about the different steps in the sand of the dry riverbed: Gemsbok, Jackal, Wildcat, Baboon, Aardwolf, Aardvark,and it wouldn't be just the encounters with the steps!

One day you climb up one of the surrounding rocky mountains and enjoy the spectacular view: the small research station in the middle of the flowery plains....and you can't imagine that these purple, yellow, orange and white flecks shouldn't be the work of gardeners- but nature...

Everything is nature here anyway: to feed our high-tech- staff we have to turn the solar panels' after the route of the sun and pump the water out of the sandy ground....and in case that this pump is broken you are forced to exchange a steaming- hot shower to relax your burdened legs for a bowl of rainwater.....bhau!

RETURN TO THE LAND OF MICE

By Ivana Schoepf

After three months spent in Switzerland, I returned to Goegap in the middle of July. Unfortunately for me during my absence the population of the mice at the farm had come under severe strain, and when I arrived in July I was distraught to find that only a handful of our little friends were left. The dramatic decrease in the population

density had been mainly due to the high number of predators present at our farm site. Yes, unfortunately for the mice, the previous year had been great also for the various wild cats, jackal buzzards and snakes, which not only had multiply in numbers but they were having real fun with the mice, sometimes taking out a few at a time. As if that had not been

enough, the weather also caused a huge deal of havoc. In the „dry season“ between January and May we had more rain than ever. And I am not talking about just light rain as we are accustomed here: we had real thunderstorms. There had been so much rain that the sight of the dry river bed running was no longer big news. Coupled with the torrential rain, we also had some frozen nights, with temperatures often getting as low as zero. So even if some mice had managed to survive the incredibly high predation, many of them were unable to escape the rigors of the weather. So in a period of just three months (from April to the beginning of July) the population of the mice went from more than 70 individuals to just 30! The situation looks even bleaker if we consider the fact that during this period the mice reproduced! You can probably imagine my shock when I came back and I learnt that many of my mice had gone – less than 10 individuals are left from last year. The situation was certainly not the best one! Good thing for the rain then! I know, I

know. I just stated that the rain caused a lot of problems. The rain indeed caused a lot of mortalities by, for instance, damaging many of the nests, but it also brought much needed relief to many dying plants. So at the beginning of August the farm was abuzz with the sound of insects that were going from flower to flower to collect the nectar: the flower season had started. And a month earlier than the previous year! The field site was hence once again transformed from an arid to a lush land. Flowers of many colors and shapes (many of them which I had never seen) started to appear all over the place. However the most important thing was that with the arrival of the flowers the mice would also start reproducing, because for our little friends flower=food. And what do you know at the beginning of August the first pups were born, a full month earlier than in the last few years! Suddenly we were all running off our feet trying to keep up with all the little ones running around. Just the fairy tale ending that we all needed.

GOLDEN MOUSE AWARD 2008 TO THE FARM KLEIN GOEGAP

By Carsten Schradin

The Golden Mouse Award for in recognition for valuable contribution to our research was this year given to the farm Klein Goegap. Klein Goegap is next to Goegap Nature Reserve and the gate to the farm is only a few hundred meters from the research station. We first trapped striped mice there in 2004 and found a viable population. Since last year we use the farm as a second field site where we can conduct experiments, while the main field site in Goegap remains unmanipulated. Ivana Schoepf uses the farm field site for her experiments, where she reduces population density to study in how far this influences the social

system of striped mice and their hormone levels. Since this year Klein Goegap is directly associated with Goegap Nature Reserve and a protected area. In the contract between Goegap and Klein Goegap Steyn Jacobsen, one of the owners of Klein Goegap, inserted a paragraph that we will be allowed in future to conduct studies on Klein Goegap and to perform experiments which are not allowed on the Nature Reserve itself. We are very grateful to Klein Goegap. Steyn Jacobsen and his wife as well as David and Anne (the other owners) for supporting our research!

Goegap Nature Reserve

Accommodation: Guesthouse, bush hut, camp site.

4x4 routes, tourist route for all cars, two hiking trails.

Tel: +27 27 718 99 06

Fax: +27 277181286



Steyn Jacobsen invited us for a braai beginning of October at his guesthouse Daisy Lodge (www.daisylodge.co.za). We used the opportunity to give him the Golden Mouse Award for Klein Goegap

HOMEPAGE: STRIPEDMOUSE.COM

By Carsten Schradin

	July	August	September	Total last quarter
Visits of stripedmouse.com	3299	3326	3090	9715
Downloads FSM-TIMES, SGM-Spiegel	823	188	72	1093

TITLE: UPGRADE OF THE RESEARCH STATION

By Ed Yuen

In the past three months a lot has changed here at the Succulent Karoo Research Station. Many people have come and gone and we had a record high number of people staying at the Research Station in the same period of time: 12! It has been almost two years since the last major developments at the Research Station and with the approval of several funding (name of the grants?); it seemed to be the right time for the Research Station itself to undergo some renovation.

Sadly, it also means that we would have to say goodbye to one of the oldest member of the Research Station: our trustworthy Ford Sierra. After five? years in service it was time for our Ford to go on to live a less bumpy life. A brand new Mahindra Bolero 2X4 double cab was chosen to be the replacement. It has a high vehicle clearance that should make the daily trip to the farm

easier and less likely to get stuck in the sandy river bed; and its large trunk is essential for transporting gas bottles for the research station, field equipments and supplies, and of course our weekly shopping in Springbok.

Then, as a response to the high population density at the Research Station, a new 6 x 3 meters Wendy house was built. This new Wendy house was going to increase the amount of suitable habitat for living for the students and the field assistants and would make their dispersal possible. And it was not long after we had finished the painting job and the furnishing, that the new Wendy house became occupied. In addition, a 2 x 2 meters Wendy house was erected to be used as an extra bathroom in order to ease off the congestion in the existing toilet.



The Mahindra Bolero is an Indian car. It offers lots of space and is very robust, and ideal for what we need it for!



The small bathrooms get build up in the small Wendy house.

A higher number of people staying at the Research station also meant an increased demand on the electrical power and surely an upgrade to the existing power system was needed. However, the question was: "Which power generator would work best along side our existing system?" Two options were under consideration:
 1 – To install additional solar panels;
 2 – To get a wind turbine.



The two new Wendy houses!

The existing solar panels have been working very well for us in the past two years, and the South African sun is something that we can always depend upon. However, with an additional wind turbine we would have the possibility of charging the system during the night or even on a rainy day when the solar panels will

not work. The downside of the wind turbine is, of course, that on a windless day it would just become a very expensive ornament. After some research and long consideration, we decided that a wind turbine and an extra small solar panel would be the best option for us.



The Wendy house we erected last year where Ivana and Ed live in and the small solar panels erected two years ago, as well as the four small solar pennals we connected to the system now. The big solar panels provide 17 A at 24 V (408W), the small ones 6A (144W).

When it was time for us to look for an electrician to install the new system and a plumber to install the new toilet and bathroom, we realised that things were not going to be as straight forward as we had initially thought, but in fact it turned out to be quite a challenge. Out of the three electricians we had asked to come to

the Research Station to discuss the work that we wanted to get done; only two showed up. And out of the two that showed up, only one actually managed to give us a quote. A plumber was even harder to get hold of, and after three weeks of searching, we finally managed to talk to one.



The wind turbine gets erected. It can produce up to 9 A (216W) and this 24h a day!

Once the workers were found we had to wait for the work to start. This also was not a straight forward affair. The combination of the opening of a new convenient store and a fast food restaurant in town had caused long delays, and we had to wait for more than three weeks for the electrician to become available. This meant that the new system would not be installed before most of the field assistants would arrive. In addition to electricians and plumbers to man the system we were also searching for steel poles for our new wind turbine. In order to build a tower with the tower kit that we bought for the wind turbine we needed several steel poles that needed to measure up to 7.3 meters in length. The problem this time was that in South Africa the longest poles available are only 6 meters long! Just when we thought that the only thing we could do was

to wait, we finally managed to get hold of the person who installed our first solar system. Not only he could start working within a few days, but his quote was much cheaper than the first electrician that we were going to hire in the first place! His quote even included the construction of the tower for the wind turbine, so in this way even the problem about the steel poles became suddenly solved.



The wires for the new lights are put in.



Our fuses and left the old Inverter that can handle 1000W and right the new inverter that can produce even 3000W. Power in the kitchen area comes from the new inverter such that we can use electrical fridges there.



The wind turbine.

After months of hard work all paid off and the new system was finally up and running. However soon enough we noticed that unexplainably we had less power than before! After many days spent checking the voltage of the batteries, we

discovered that two of the batteries were damaged: the problem was that the batteries appeared to be fully charged during the day when the sun was shining, but in the evening after the sun set they quickly discharged. Once we replaced the damaged batteries with additional two new batteries, the system showed great improvements! And after more than a month the system is still running smoothly: so far so good. We have now bright lights and 220V power plugs in every room! The wind turbine and the solar panels take on average 250 Ah per day to charge a 500 Ah capacity batteries bank; combine with a more powerful 3000W inverter that means more power and appliances can be used at the same time. One of the main purposes for the electrical system upgrade is to eventually replace all high maintenance gas refrigerators with electrical ones. So far, one of the gas fridges has already been replaced by an energy efficient electrical fridge. The new system could generate enough energy to run the electrical fridge throughout with numerous computers and lighting, and in addition a small gas fridge throughout most of the day!



Front view of the research station. From left to right: Mahindra, the research station car, Ed's private car, the main house, Ed's and Ivana's Wendy house, the green 5000l water tank for the kitchen, the small Wendy house with bathroom and the new Wendy house.

During the Research Station upgrade we have encountered a lot of problems, difficulties and stressful negotiations, but the whole experience was both eventful and educational. We worked hard and put in a lot of effort to make sure that the living condition in the Research Station could be as good and as efficient as possible. We hope that

everybody will appreciate all the hard work that we have done and understand that sometimes things, as simple as fresh water and electricity, that are so easily accessible back in the city, might not be as easy to get when you try to build your own in the middle of a nature reserve.



Back view of the research station. From left to right: the new Wendy house, the wind turbine, the green 5000l water tank for the kitchen, the main house, the old Wendy house where the mouse colony is kept.

Acknowledgement:

The upgrade of the research station was made possible by the support of following foundations:

- Claraz Stiftung, Bern, research station car.
- Promotor Stiftung, Lichtenstein, research station car.
- Zürcher Universitätsverein, wind turbine and solar system.
- Helene Bieber-Fonds, Zurich, wind turbine and solar system.

NEWS AND INFORMATION ABOUT PLANTS AND ANIMALS

MOUSE PORTRAIT: FEMALE 2142

By Carsten Schradin

Mother: ?	Father: ?
Date of birth: October 2005	Date of death: End October 2006
Age: 12 months	Cause of death: unknown
Partners 2003: first M1278 (G23), then M1837 and M1877 (G28)	
Children: 8 daughters and 8 sons	Grandchildren: probably none

F: Female; M: Male

At the first look F2142 was nothing special. She lived together with her sisters F2152 and F2156 in our field site. They immigrated from somewhere outside the field site, but F2142 did not stay long with her sisters. One month after the 2006 breeding season had started she left them, going away from S271 closer towards the street. Here she founded the new group G28 nesting in S305. That a female leaves her nest and starts breeding solitarily is nothing special. But F2142 seemed to be a very sexy one, who was often visited by M837 and by M1877. Both were originally roamers, but then decided

to stay permanently with F2142. So she got a harem of two males and G28 was the first and so far only polyandric group on our field site! And M1837 and M1877 were not even brothers, but originated from different groups. But somehow they managed to live together in peace with F2142.

But in the long term G28 was not successful. It got extinct in June 2007, as did G23 from the sisters of F2142. In 2007 predation pressure was very high and many many mice were eaten by jackal buzzards, wild cats and jackals.



F2142 in the back, at her original nest S271 from G23. In front the roamer M2167, which F2142 did not like. She always chased him away but later formed a polyandric group with two other roamers.

This was the last mouse portrait. I wrote them regularly while I was staying in Goegap about the mouse personalities that were exceptional. However, since I spend most of my time in Zurich I don't follow the individual life histories anymore as I used to do.

GECKOPORTRAIT: WESTERN CAPE GECKO (*PACHYDACTYLUS LABIALIS*)

By Ramona Pötzing

This gecko is endemic to Namaqualand from Little Namaqualand to Calvinia.
Identification: This gecko has 16-18 rows of enlarged, keeled tubercles, separated by granular scales on the back. The tail, which is slightly longer than the body, is cylindrical and segmented. Adults are orange-brown

to dark grayish-brown and have large paler blotches. The tail is barred with dark brown and the belly is creamy-white. Juveniles are often dark brown with paler tubercles.
Biology: They live under stones on sandy soil.
Habitat: Succulent Karoo veld.

CONFERENCES, PRESENTATIONS AND PUBLICATIONS

PUBLICATIONS

Rymer, T., Schradin, C. & Pillay, N. 2008. Social transmission of information about novel food in two populations of the African striped mouse *Rhabdomys pumilio*. *Animal Behaviour* **76**, 1297-1304.

Social learning involves the transmission of information from demonstrators to conspecifics, and it is expected that the mother is the main demonstrator in solitary species, whereas several individuals can be demonstrators in group-living species. We studied social learning about novel food in two populations of the African striped mouse, with different social systems: desert population (group-living, paternal care and natal philopatry) and grassland population (solitary, paternal care in captivity only, and natal dispersal). We predicted that both parents would be reliable demonstrators for desert striped mice but only the mother would be a demonstrator for grassland striped mice. Adults and unweaned young were assigned to one of five treatments in captivity: 1) father or 2) mother fed novel food away from young; 3) novel food fed to both adults with young present; and 4) father or 5) mother fed mouse cubes (control) away from young. Juveniles from all treatments were subjected individually to novel food after weaning. The responses of juveniles to novel food were greater (shorter latency, more sniffs) when the mother was the demonstrator, regardless of population. Mothers may be more reliable demonstrators than fathers because information can be transmitted using multiple channels (olfaction, lactation). Our study also showed that fathers were more reliable demonstrators for desert than grassland striped mice, and that responses to the novel food were greater in desert than grassland striped mice. These population differences reflect the different social organisation of the populations and the unpredictable availability of highly nutritious food in the desert.

THESES

In July Gaby Schmohl submitted her MsC theses, which is really a very good one. She collected lots of data and included much more long term data into her theses. At the moment we are busy writing up the first of two publications that will arise from this theses.

Schmohl, G. 2008. Factors affecting home range sizes of female striped mice (*Rhabdomys pumilio*). Master's Thesis, Institute of Zoology (Animal Behaviour), University of Zurich

The variation of home range size within a species depends on many different factors, such as sex, age, reproductive effort, cover availability, seasonality, population density or food resources. Generally, intraspecific variation in home range size is poorly understood, as in most studies only a few factors have been investigated to explain the high variability. In this study, I used radio telemetry to determine the home range size of female striped mice (*Rhabdomys pumilio*) living in the Succulent Karoo in South Africa and included long-term home range data on this population into my analysis. I investigated how neighbours, group size, food availability, cover availability, population density and seasonality, i.e. breeding season versus dry non-breeding season, affected home range size of females. I found that females had larger home ranges in the breeding season than in the dry non-breeding season when food abundance was low. Moreover, home range size was inversely related to the number of neighbours, especially males, and food availability. When I provided additional food, females decreased their home range size. Additionally, I intended to test experimentally the influence of neighbours, but sample size was too low due to high predation pressure. The decrease in home range size after the breeding season when food is scarce seems to be in contrast to the negative relationship between home range size and food availability and the reduction of home range size when providing supplemental food. I concluded that the reproductive activity and reproductive success during the breeding season and that saving energy during the hot, dry non-breeding season influence female home range size. Many different variables were combined in the same model, nonetheless, a significant influence of food availability, number of neighbours and seasonality on home range size could be shown.

CONFERENCES

Schoepf, I. 8. July 2008. The endocrinology of dispersal: A field experiment in striped mice. Poster presentation, *Annual Meeting of the Society of Behavioral Neuroendocrinology, Groningen, Netherlands*.

Abstract: The physiological mechanisms and environmental factors of group versus solitary living are not well studied in mammals. The four striped mouse (*Rhabdomys pumilio*) of Southern Africa is an ideal species to study the reasons for group living as it can be both solitary or form groups. Correlative data of previous studies indicate that intra-group competition during the breeding season and high population density act against group living. To test whether the availability of free territories would influence the social tactics chosen by

individuals, we removed groups and made territory vacant. Experimental group, whose territories directly neighbored the removed groups, were expected to break up, leading to a solitary lifestyle. In contrast, control groups were expected to remain intact (group-living). Blood samples from mice of both experimental and control groups were collected before and after mice changed their social tactic, to test whether significant differences in corticosterone and testosterone occurred. As habitat saturation is thought to be one reason of group-living, we expected group-living mice to have higher corticosterone levels than solitary living mice. As males that remain philopatric become reproductively active later than males of solitary populations, we expected mice that become solitary to have higher testosterone levels. We were interested in studying whether hormonal differences occurred before or after mice left their natal group to become solitary. A total of 100 control and experimental mice were studied. 21% of the experimental mice moved in the free territories, with 50% of these mice becoming solitary. None of the control mice dispersed; they all remained group living. The blood samples are in the process of being analyzed and the results will be presented.

Schradin, C. 18. July 2008. Endocrine control of alternative male reproductive tactics in a small mammal. Talk, *European Conference on Behavioral Biology, Dijon, France*.

Schradin, C. 9. July 2008. Endocrine control of alternative male reproductive tactics in a small mammal. Poster presentation, *Annual Meeting of the Society of Behavioral Neuroendocrinology, Groningen, Netherlands*.

Abstract: The endocrine control of alternative male reproductive tactics has been studied in detail in several fish and reptilian species. However, we know little about this phenomenon in mammals. Thus, mammals with alternative male reproductive tactics offer us the opportunity to test Moore's relative plasticity hypothesis developed for reptiles stating that flexible changes in phenotypes during adult life are regulated by hormones. I studied ecological reasons and endocrine correlates of alternative male reproductive tactics during 5 years in a field study in the African striped mouse in South Africa. Males of the striped mouse can follow one of three different tactics: 1. Paternal group-living breeders, 2. alloparental philopatric group-living males or 3. roaming non-paternal solitary males. Which tactic is chosen depends on population density, with most males being roamers when population density is very low. If population density is very high, old males defend harems of 2-4 cooperatively breeding females against other males, while young adult males are forced to remain philopatric due to habitat saturation. Thus, male striped mouse follow a conditional strategy and can switch tactics during their life depending on their competitive abilities. I took blood samples from more than 100 males under medium population density, when all three tactics occurred at the same time. Prolactin, a hormone known to be associated to paternal care, was significantly higher in paternal group-living males than both in philopatrics and in roamers. Roamers had the highest

testosterone levels, potentially promoting risky behaviour such as invading territories of group-living males to get access to their females. Philopatric males had the lowest testosterone levels indicating physiological sexual suppression. Philopatric males had nearly ten times higher corticosterone levels than both breeders and roamers, indicating that philopatry due to habitat saturation is stressful. In sum, population density as an environmental factor influences which social tactic is chosen by male striped mice. Different tactics were associated to differences in hormone levels, supporting the relative plasticity model in a small mammal.

FUNDING OF RESEARCH: CALL FOR DONATIONS

SUBSCRIBERS DONATION

We appeal to all subscribers of the FSM-TIMES to donate 80 Rand (10 Euro, 15 dollars) a year for research on the socio-ecology of small mammals in Goegap. Donations of more than 80 Rand are welcome and donors of 400 Rand (50 Euro, 75 dollars) will be mentioned in the next FSM-TIMES.

Donations will be used for the following purposes:

1. Scientific research on small mammals in Goegap, especially smaller research projects such as Diploma and PhD theses, which have difficulties in raising funds elsewhere.
2. Improving the infrastructure of the research station.

In the last issue of the FSM-TIMES of every year we will publish how much we received in donations and how the money was used.

Account details

South Africa
Standard Bank
Branch: Braamfontein
Account name: Wits University
Foundation
Account No.: 002900076
Branch code: 004805
Swift code: SB ZAZ AJJ 00480502
Please state L.2112 as reference.

Germany
Carsten Schradin, KSK Esslingen,
BLZ 611 500 20, Konto Nr. 7434686

Switzerland (deposits in Switzerland)
Postkonto 80-643-0
Finanzabteilung der Universität
Zürich, 8001 Zürich
Reference: Kreditnummer 37202508,
Projekt Striemengrasmaus
(it is very important that you state the
Kreditnummer)

Switzerland (deposits from abroad)
Zürcher Kantonalbank, Hauptsitz,
CH-8010 Zürich
Account No: 1100-0109-594 (BC 700)
Finanzabteilung der Universität
Zürich, 8001 Zürich
Swift-Code: ZKBKCHZZ80A
IBAN: CH51 0070 0110 0001 0959 4
Reference: Kreditnummer 37202508,
Projekt Striemengrasmaus
(it is very important that you state the
Kreditnummer).

ACKNOWLEDGEMENTS

We are very grateful to the following people who donated and whose assistance contributed to the continuation of our research project.

The upgrade of the research station was made possible by the support of following foundations:

- Claraz Stiftung, Bern, research station car.
- Promotor Stiftung, Lichtenstein, research station car
- Zürcher Universitätsverein, wind turbine and solar system.
- Helene Bieber-Fonds, Zurich, wind turbine and solar system.

THE MOUSE'S TAIL

RUNNING AFTER SHRIKES

One day Ed saw a shrike with a mouse in his fangs flying over the field site. Ed thought the mouse might have an expensive transmitter and run after the shrike, but it won't

let it fall. Two days later Ivana, on the farm, was observing a nest when another shrike caught a juvenile in front of her eyes!

HERON

We miss altogether transmitters worth 2000 Euro at the main field site and a few more on the farm. Somebody is eating our mice without returning the transmitters. We don't know the culprit but it might be the

heron that regularly visits our field site. That's the luck we have, sitting in a semi-desert with too many predators that eat our mice and then even a heron appears in this dry landscape!

MATING SNAKES WITH TRANSMITTER

One lost mouse with transmitter we finally found. It was in a horned adder, a poisonous and protected snake. And it was even mating for days with another adder, not minding us watching and hoping to get our expensive transmitter back!



SGM-SPIEGEL

The FSM-TIMES is also published in German, as the SGM-SPIEGEL. If you would like to receive the German version, write an email to: info@stripedmouse.com, please write „SGM-SPIEGEL Abo“ in the subject of your email

GOLDEN MOUSE AWARD-WINNERS

2008: KLEIN GOEGAP

2007: GOEGAP NATURE RESERVE

2006: DR. GUSTL ANZENBERGER

2005: JENS SCHRADIN