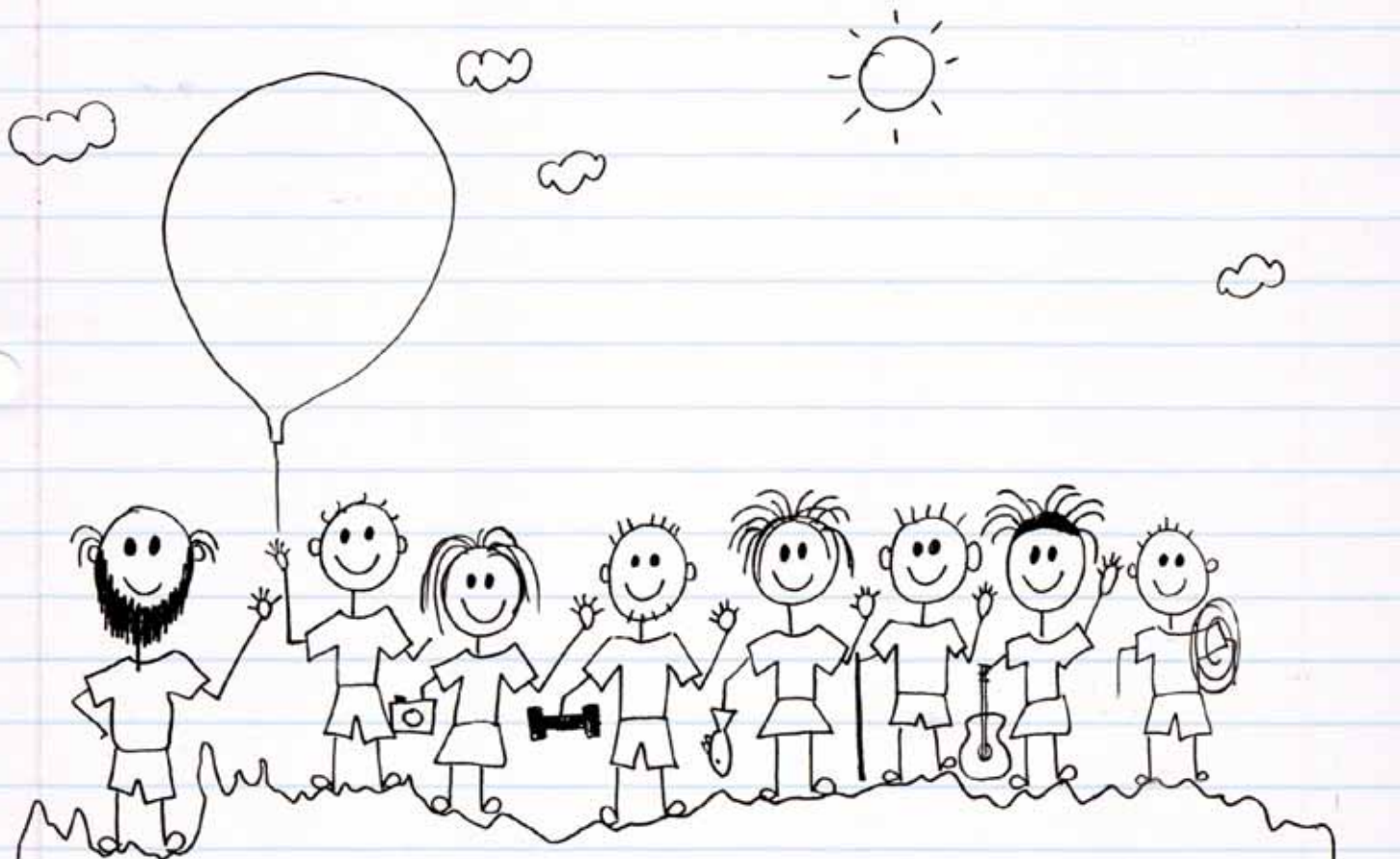


# Gough Bunting

Issue 4: February 2011



JOHN  
MCLINDEN

PRINCE  
MLONGWANA

ROBYN  
KNIGHT

MORNAY  
EGGBERRY

LEONIE  
OLIVIER

ROSS  
COWLIN

MICHELLE  
STEENKAMP

NICHOLAS  
LE MAITRE

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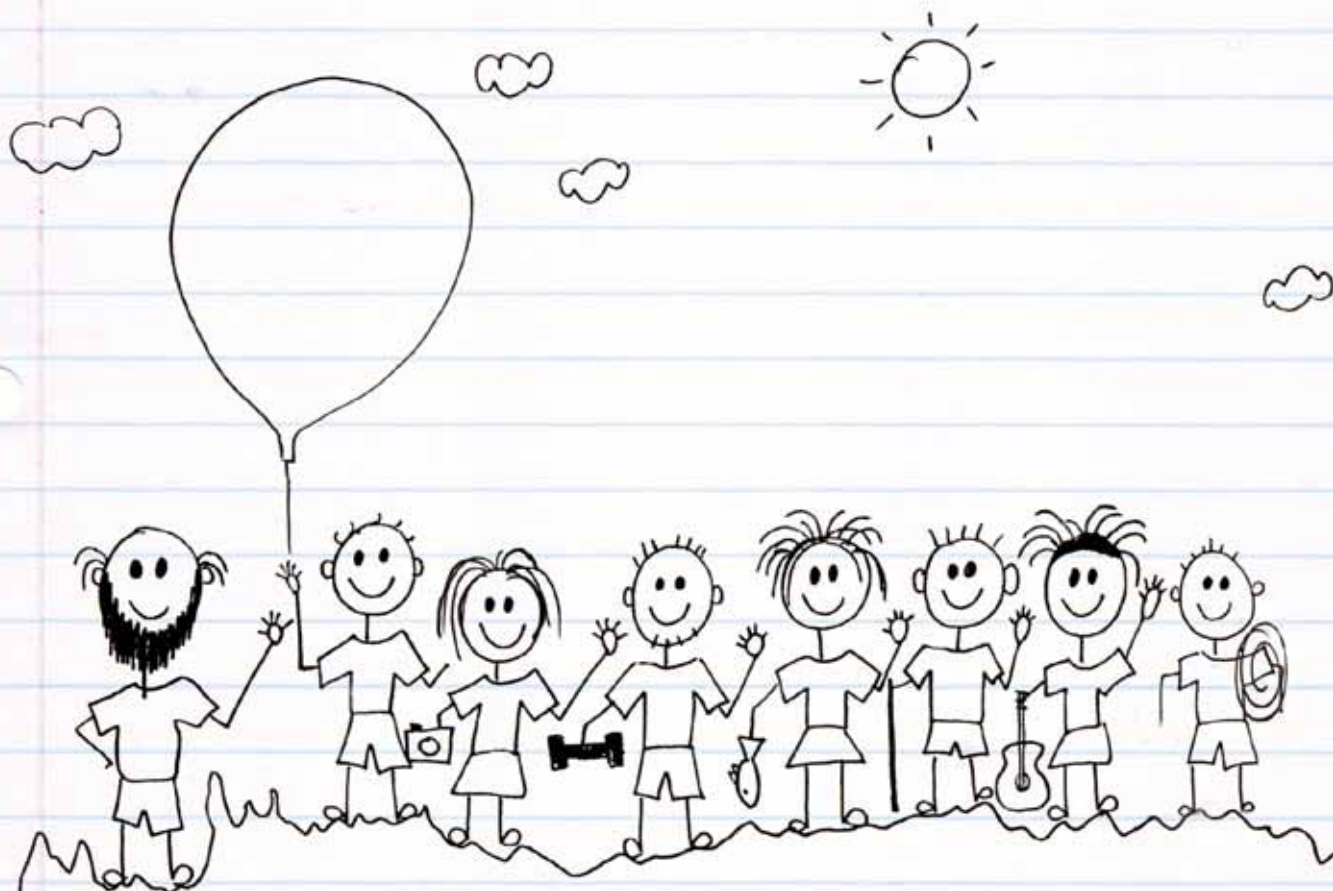
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# GOUGH GEOLOGY 101

STORY & PHOTOS by MICHELLE STEENKAMP

with ADDITIONAL PHOTOS  
by ROBYN KNIGHT

Most people are aware that Gough is a volcanic island, characterised by its vertical cliffs, tucked away in the South Atlantic Ocean. However, fewer people are aware that it is only 500km east of the mid-Atlantic ridge and represents the tip of a large submarine volcanic mountain rising from the 13 million-year-old seabed. The island rises from 3.5km below sea-level and only the top 910m of the island is visible. The geology isn't easy to explore due to the tussocks and ferns covering the majority of the island.

On the morning of the 20th Robyn and I headed out for a night of camping in search of some of the geological wonders on the island. Packed with all the chocolate and jelly babies we could carry, we set out to Gonydale to make the most of the good weather forecast. After many hours of an unending uphill and navigating through shoulder-high vegetation, the orange container at Gonydale was finally in sight. This meant it was time to empty out the litre of water I'd carried in my gumboot after a quick unintentional "swim" while



Approaching Gonydale with Hag's Tooth behind Michael's Coll ahead



Dykes on the hill behind the container, as seen from Michael's Coll



Hag's Tooth from on top of Michael's Coll, above the gully leading to The Glen



Dyke sections 2, 3 and 4



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crossing the stream above Swemgat. While setting up our tent, the skuas were very interested in our belongings, and we'd repeatedly had to chase them away. When our tent was finally standing, I noticed my camera was missing, and after searching all around the tent and the container and any paths we might have taken, we came to the conclusion that the skuas must've flown off with it. By then it was too late to look further, especially since it could have been anywhere on the island by this time!

The weather was still good, though, so we headed up to get a closer look at Hag's Tooth which prominently juts out in the background of Gonydale on a clear day. This is one of the most distinguishing formations of the eastern side of the island, and leads into the gully stretching down to The Glen (where the original base on Gough was located until 1963). Hag's Tooth is a trachyte plug which formed between 800 000 and 470 000 years ago during one of the four main periods of volcanic activity on Gough Island.

The next morning we headed out to get a closer look at the dykes I'd often seen from West Rowett. A dyke is an intrusive rock that cuts across other rocks; these in particular cut through the Rowett basalts and were probably extruded over a



*Michelle in front of dyke section 1*

*Robyn in front of dyke section 1, taken from dyke section 2*



*Michelle at dyke section 2, taken from dyke section 2. Note the fallen rock at section 3 forming an arch*



*Michelle at dyke section 2, taken from dyke section 1*



period of 500 000 years. From a distance the distinct nature of the dykes can be seen, and when taking a closer look the exposed dykes form intimidating walls which tower well over 20m in height and at some places less than 1m in thickness. All of the dykes on the island may not be exposed but are the cause of most waterfalls on the island.

While on the top of Green Hill and enjoying the view, we'd realised the weather was quickly changing and it was time to head back to base. Our trip and lesson in Gough Geology had been successful. After a quick stop at the container to get our backpacks and enjoy a very luxurious lunch of Provitas, I spotted my camera left by the skuas under a bush, only about 10 metres away from the container! And so our story has a happy ending.

Besides now carrying what seemed to be our own weights in our backpacks (nothing to do with the rocks I wanted to bring back, of course), it was definitely worth the effort for the views, hours of sunshine, and answered prayers for my lost camera. Because of seafloor faulting and the current rates of erosion, Gough and its magnificent scenery will still be around for the next 500 000 years before "returning to the sea" unless further eruptions intervene.



*Robyn under the arch at section 3, with section 1 and 2 in the background*



*The Rowett in the background*



*Michelle atop Green Hill, looking out over Gonydale, across to South Peak, with Richmond Hill below in the distance*

# From the Met Office



## Up, Up and Away!

STORY & PHOTO  
by ROBYN KNIGHT  
with ADDITIONAL PHOTOS  
by MICHELLE STEENKAMP

At times, whilst letting off a weather balloon, meteorologists have been known to wonder what it would be like to be lifted off the ground and fly away with that balloon. Obviously it wouldn't be possible with one balloon (not even if we lost a lot of weight); but then how many balloons would it take?

An average weather balloon probably lifts anything between 1.5 to 2kgs, but on the occasion we measured the maximum

weight one successful balloon could lift, it was 1.875kg, so let's work with that figure.

With the continually fluctuating weight of each team member, it's difficult to work out an average team weight, but let's estimate it to be 78kgs.

So our average team member would need 42 balloons to lift off the island. Add a chair of 2.4kgs to make the ride more comfortable and you're looking at an extra two balloons, taking it to 44.

Potential escapees have but two chances a day to learn the strings of the balloon-ascent process, with an ascent being done at 10:30am and 11pm every day. The observer on duty spends about half an hour in the balloon hut every day, or 15 minutes for each ascent. It takes about five minutes to do a ground check by plugging the sonde into the GC25 and programming the sonde with ground climate information; five minutes to inflate the balloon; and another five to connect the

sonde to the battery, ensure there is satellite signal by placing the sonde outside for a minute or two and checking that the system is tracking the sonde, and to attach the sonde to the balloon.

So, five minutes to inflate one balloon, at a slow enough rate that the balloon does not burst too early, means it would take 3hrs 40mins to inflate the required number of balloons.

Now the issue of space: where to keep 44 balloons? And we're not talking party-sized balloons

here. The observer inflates each balloon to a specific point each time: 10 seconds after the balloon lifts off the ground with the gas pipe, with the valve open enough so that the sound of the hydrogen rushing through into the balloon is just not loud enough to hurt one's ears – all very technical indeed! Even still, the balloons seem to expand differently, sometimes becoming extremely large and other times staying relatively small (the potential reasons for which we'll save for another time). Our 1.875kg balloon, when measured, had

a diameter of 1.383m, which is confirmed by the hydrogen-specific table, found at: <http://www.chem.hawaii.edu/uham/lift.html>.

So you'd be lucky if the weather and wind were calm enough to inflate your balloons outside, but in bad weather you'd need a room about 90m<sup>2</sup> in area to house all the balloons in one layer... otherwise you'd need a smaller room with a really high ceiling in order to layer them!

All we can say is... don't try this at home, folks!



# FROM THE LAB

by **ROSS COWLIN**

January was another eventful month for the Gough biologists. Our work on the diet and feeding behaviour of our charismatic rockhopper penguins is over for at least the next few months. By the time we took our last sample, the chicks were getting very

close to fledging and were looking very smart in their new feathers. The next round of data collection will begin in March when the adults return to Gough Island to moult after a stint at sea.

Our major goal this month was to make headway on the cliff inspections for the invasive *Sagina procumbens*. There is an approximately 400m long section of sea cliff that needs to be inspected for the presence of this insidious weed. Anchors have been knocked into the peat along the cliff top, which Nic and I use to rig our abseil ropes.

Although the inspection work is tough, we have been very fortunate to find that the plant hasn't been spreading into previously uninfected parts of the cliff. We have done over 40 drops at the time of writing; we still have another 50-60 to go before our inspection will be complete.

January also marks the beginning of this year's work on the endangered Tristan albatross. We have worked hard to locate and mark out all the nests in our various study areas. This year, there are 17 active nests (i.e. with eggs) in the Tafelkoppie area and, so far, a further 147 nests in the much larger Gonydale study colony. Of course, only a fraction of these eggs will



Nic heading out to mark albatross nests in Gonydale. Photo: Ross Cowlin



Ross marking an albatross nest. Photo: Nic Le Maitre



Nic inspecting cliffs for *Sagina*. Photo: Ross Cowlin



Ross inspecting cliffs for *Sagina*. Photo: Nic Le Maitre



result in fledged albatrosses in almost a year's time. This is largely attributed to the introduced house mouse, which is well known to feed on growing chicks, despite the massive size difference between predator and prey. We hope to collect data that can be used in conservation planning for this species.

Other work continued as usual this month. The great shearwater chicks are doing well. The hard-to-find softies (soft-plumaged petrels) are also doing well in their burrows on the hill. The giant petrel chicks, for whom I entertain an uncommon affection (giant petrels are variously known as stinkers, boneshakers, gluttons or stinkpots) are doing fantastically. I believe they will be leaving their windy colony soon and venturing out into the world.



*Prince, Ross and Nic on the summit of Mt Zeus near the Tafelkoppie albatross study area*



*Brooding Tristan albatross (Diomedea dabbenena). Photo: Ross Cowlin*



*Nic marking an albatross nest. Photo: Ross Cowlin*



*A panel of southern giant petrels (Macronectes giganteus) inspects a fledgling. Photo: Ross Cowlin*

# WEIGHT WATCHERS

WORDS BY LEONIE OLIVIER

January was the month of detox and diet for Leonie and Mornay, who decided to follow the British Heart Institution's eating plan. This diet works on a chemical breakdown of fats as a result of the combination of different foods. Litres of water were consumed and the kitchen and dining room were avoided in order

for them to resist the tempting smells from the food prepared by the rest of the team. The sacrifice led to a good couple of kilograms lost.

Often the G56 team finds themselves fantasising about fresh produce and favourites which aren't available on the island, and this becomes quite a topic of discussion about who misses what most: Nic - a fresh tomato; Mornay - Woolies BBQ Chicken; Michelle - an orange and a Yogi Sip; Leonie - lettuce and watermelon; and Robyn - her mom's roast chicken!

Minor aches and pains were treated during the month, but the Gough 56 team is keeping fit and thinking thin!



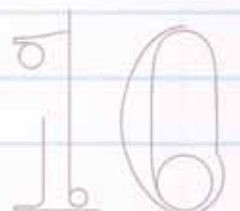
# HOME IMPROVEMENT

BY JOHN MCLINDEN WITH PHOTOS BY JOHN MCLINDEN & LEONIE OLIVIER



This month we have kept ourselves very busy around the base, from painting to making outdoor furniture.

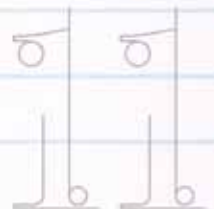
Myself, Mornay, Leonie and Nic painted the outside braai-area and structure. Leonie



and Mornay sanded down the outside table and re-varnished it, allowing Leonie to indulge in the use of the power tools, with Mornay, being the slave-driver he is, the supervisor at all times.

Down at E-base the mice had eaten numerous holes into the building, which took an entire day for us to block, but we can now proudly say that E-base is mouse-free. We also made another counter top next to the sink on which the stove now stands. Mornay and Leonie also built an outdoor table and seat, much like a half picnic-bench, from which one can sit and enjoy the view.

The general maintenance of the base carries on, including sealing leaks and changing light bulbs. We have also done some maintenance on the generators, and the grass-cutting in the quad is ongoing.



# THE WALL OF ~~FAME~~ SHAME

**MOUSE-HUNTER** of the Month:

Shmonie - 27 mice

**MEAL** of the Month:

Michelle's Pancakes - for both mains and dessert!

**DESSERT** of the Month:

Nic's Apple Crumble WITHOUT raisins, along with custard  
WITHOUT custard powder - YAY!

**FLOP** of the month:

Michelle's bright yellow crunchies (which still tasted good!)

## QUOTES OF THE MONTH

"If you're a ninja, you're a ninja" - Ross (about Michelle)

"I'd rather have a stump than a bunion" - Ross

"Are you guys done with my a\$\*?" - Ross

"See - I told you I was prodigy" - Robyn

"I come with a pole" - Michelle

"Getting chundered on is no way to meet birds" - Nic

"You just smell it and your eyes bleed" - Robyn

"People without love-handles aren't people" - Robyn



## THE DARWIN AWARD

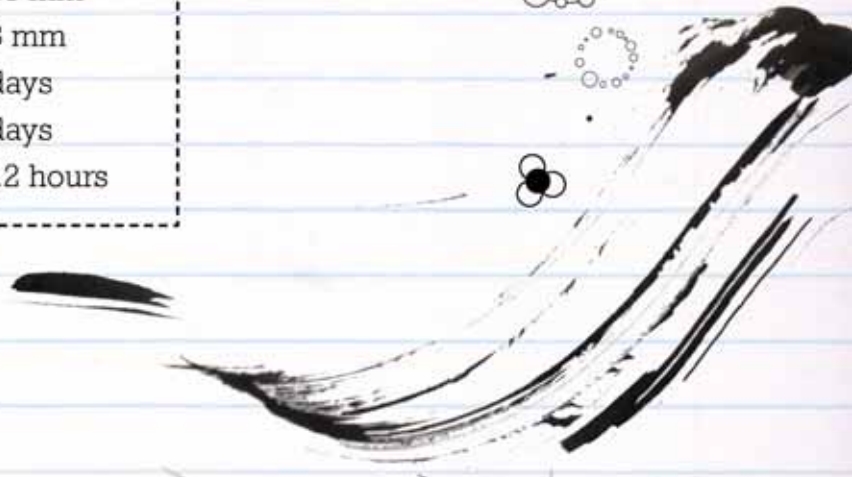
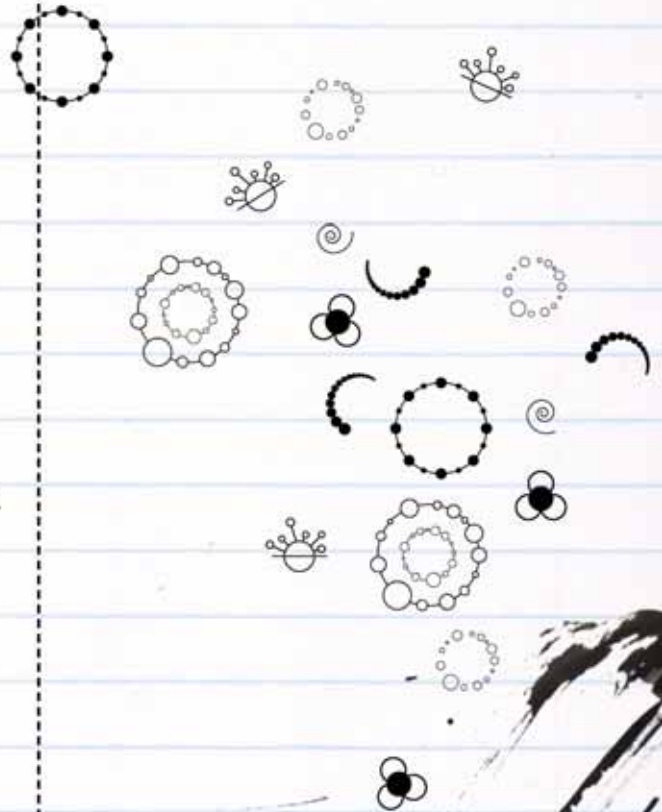
"BIRD BRAIN"

Michelle lent her camera to the skuas...  
need we say more!

# GOUGH WEATHER

## • JANUARY CLIMATE STATS •

Ave. Max Pressure	:	1012.2 hPa
Ave. Min Pressure	:	1006.1 hPa
Ave. Pressure	:	1008.9 hPa
Max Pressure	:	1019.27 hPa
Min Pressure	:	994.0 hPa
Ave. Max Temp	:	18.8 °C
Ave. Min Temp	:	12.7 °C
Ave. Temp	:	15.8 °C
Max Temp	:	22.9 °C
Min Temp	:	7.6 °C
Max Sea Temp	:	16.4 °C
Min Sea Temp	:	13.2 °C
Ave Humidity	:	77 %
Max Humidity	:	97 %
Min Humidity	:	41 %
Max Wind Gust	:	32.6 m/s or 117.4 km/h
Total Rainfall	:	140.8 mm
Highest in 24 Hours	:	48.8 mm
Total days with rain	:	21 days
Total days >1mm	:	14 days
Total Sunshine	:	182.2 hours



# SPONSORS



G56 would like to thank Exclusive Books for their kind donation of three large boxes of books, as well as Backsberg Wine Estate for the wine we received from them. Their contributions have definitely helped make us feel that much more like we're at home away from home.

If you have any comments or queries about any of the content of this newsletter, or any suggestions for following issues, please contact us:

[gough@sanap.co.za](mailto:gough@sanap.co.za)  
+27 (0) 21 405 9470

Designed and edited by Robyn Knight  
Translations and cover illustration  
by Michelle Steenkamp



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