

Bats at Organ Pipes NP, Dec 2013

It was a perfect day for checking boxes – warm, dry, windless. I was engaged in a working bee in Ivanhoe all morning, so didn't arrive until after 3 p.m. Meanwhile Stephen and a big team of bat handlers got the project under way. Robert Irvine set up a new *Microbat count* sign at the car park.



A little collapsible marquee had been set up on Main Flat with tables and chairs and boxes of gear



My job was returning bags of bats to their boxes.



A male *Mormopterus* had been found in box C20, our first since 2006 and 5th since the project started in 1994. They have appeared in Nov '00 (F), Jan '04, (M) Dec '04 (F), Jan '06 (juv), so in summer always, equal number of males and females.*



12 people came to help over the day, including 9 vaccinated bat handlers, and several scribes: Pia and her mother Mary Long, Lindy, Caragh, Tanya, Stephen, Robert I., Casey Visintin and Claire Keely



A big group of Gould's returned to C34



And the big group of Freetails back in C15. As Robert and I carried the ladder to C40, we found a lame wallaby that made no effort to hop away as we approached.



The number of bags waiting to be returned to boxes slowly diminished. Anthea Gurr joined us not long after I arrived.



Stephen had a fair bit of trouble with bats suddenly flying out of their box as the ladder was squeakily set up, and problems with bats returning to



their boxes and flying out immediately to cruise about and find a box in which they would not be disturbed. So quite a few bats were captured and recorded twice – 21 of them, many from box C27 flying off to C03.

At one box I found two ticks, patiently waiting to find another bat to bleed.

I re-attached the lid of box 16 that had split in October. It has been repaired and repainted.

Processing and returning of bats to boxes was all over by just after 7 p.m. so everyone was home well before dark, but it was a long day's work from 10 a.m.

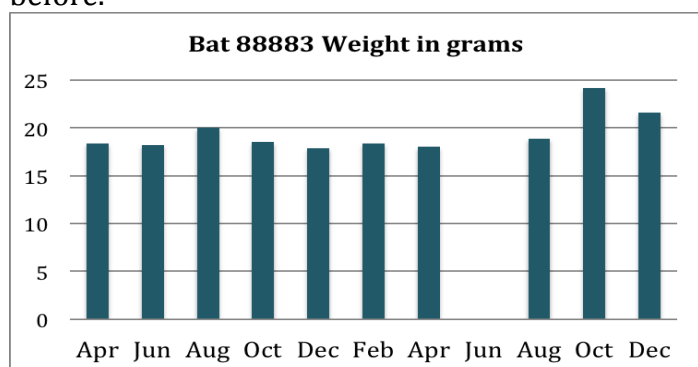
| Box | Bat | Species | Adult | | Juvenile | | Du pli |
|-----|------------|---------------|-----------|------------|-----------|-----------|-----------|
| | | | M | F | M | F | |
| C14 | 48 | Gould's | | 16 | 13 | 9 | 1 |
| C34 | 45 | Gould's | 8 | 16 | 13 | 8 | 4 |
| C41 | 41 | Gould's | 3 | 12 | 9 | 17 | |
| C05 | 37 | Gould's | | 15 | 10 | 12 | 5 |
| | 1 | Freetail | | 1 | | | |
| C01 | 28 | Gould's | | 9 | 10 | 9 | 3 |
| C17 | 22 | Gould's | 2 | 11 | 3 | 6 | |
| C38 | 20 | Gould's | | 7 | 7 | 6 | |
| C23 | 17 | Gould's | 1 | 6 | 9 | 1 | 2 |
| C27 | 17 | Gould's | | 9 | 6 | 2 | 9 |
| C42 | 14 | Gould's | 1 | 3 | 7 | 3 | |
| C03 | 8 | Gould's | | 6 | 1 | 1 | 6 |
| C07 | 8 | Gould's | 2 | 6 | | | 3 |
| | 1 | Freetail | | 1 | | | |
| C40 | 7 | Gould's | 4 | 2 | 1 | | 7 |
| C09 | 6 | Gould's | | 4 | 2 | | |
| C15 | 6 | Freetail | 1 | 5 | | | |
| C28 | 2 | Gould's | | 2 | | | |
| C29 | 2 | Gould's | | 2 | | | |
| C43 | 2 | Gould's | 2 | | | | |
| | 1 | Freetail | 1 | | | | |
| C06 | 1 | Gould's | | 1 | | | |
| C10 | 1 | Gould's | | 1 | | | |
| C33 | 1 | Gould's | | 1 | | | |
| C36 | 1 | Gould's | 1 | | | | |
| C20 | 1 | Mormo2 | 1 | | | | |
| | 338 | Totals | 27 | 136 | 91 | 84 | 40 |

So there were probably 20 escapees which corrupted the data by flying off to another box

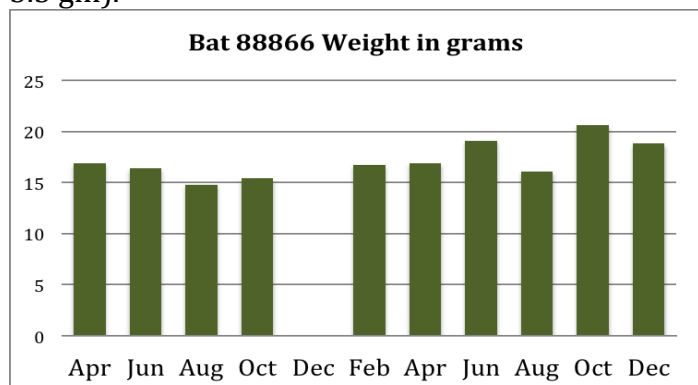
| Year | 2009 | 2010 | 2011 | 2012 | 2013 |
|--------------|------------|------------|------------|------------|------------|
| Gould's | 288 | 177 | 321 | 399 | 308 |
| Lge Forest | 61 | 16 | 14 | 73 | |
| Freetail | 24 | 2 | 8 | 3 | 9 |
| Mormopter | | | | | 1 |
| Sthn Forest | | 1 | | 1 | |
| Total | 373 | 196 | 343 | 476 | 318 |

The number of bats is well down from 2012, partly as there were no Large Forest Bats but also 91 fewer Gould's. Last year the Gould's included 128 attached young (very young pups not moving around independently) plus 144 unattached, totaling 272 juveniles. This year we had 175 juveniles, 84 females, 91 males, all independent. So the difference from 2012 was the reduced number of juveniles. 14 were judged too small for banding, but 161 were banded – a mighty effort for one day. One injured juvenile was euthanased.

Three of the very old bats banded by Natasha still turned up: 88866, 88883 (both now captured on 10 of the last 11 box monitoring days from Apr '12) and 85362. This last one seemed to be pregnant again, as were 12 others of the older females. So we may have a double breeding again this year. This makes it hard to define the non-breeding season, which usually begins by the end of Feb, when all pups are weaned, but this year might not begin until well into May, as has happened twice before.

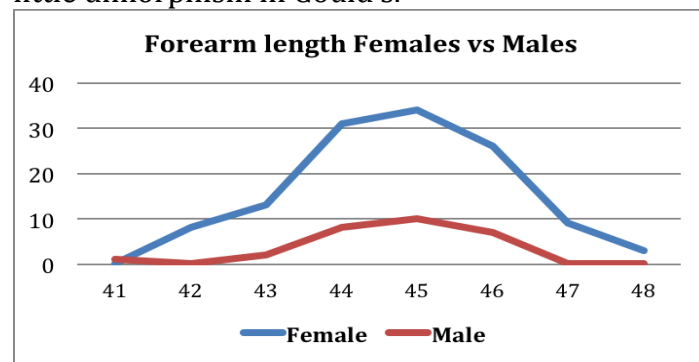


The weight series for bat 88883 peaked in Oct this year (just before birthing), but in 2012 peaked in August, right at the end of winter, which is not believable. She was judged to be lactating in Dec but had not put on much weight in Oct, so some of her results are a bit odd. The same applies to the series of 88866, but it may be one anomaly of whether the weight includes or excludes the bag (about 3.5 gm).

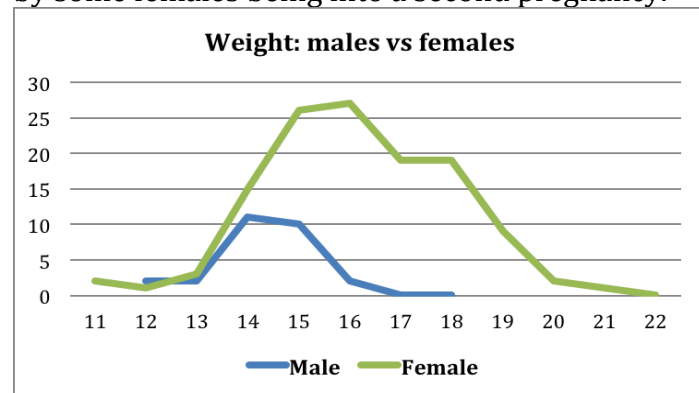


Report of our first *Mormopterus* found in Nov '00: *The big excitement for the evening was finding a *Mormopterus* sp. bat (a member of the Freetail group of bats) along with 21 Forest bats in C24. Natasha showed us all its very different tail arrangement, with about 2 cm of tail wiggling free of its tail membrane, as well as its quite long and narrow wing, compared with that of Gould's Wattled Bat. This is adapted for high, fast flight as the Freetail zips about above the tree canopy after high-flying insects. This is a new species record for the Park. There are several *Mormopterus* species in Australia and two of them have geographic ranges with Organ Pipes NP right at their limit: the Eastern Freetail along the east coast and Southern Freetail in SA, NSW and western Vic. The two populations just about meet at Melbourne. Most of the identifying characteristics to distinguish one species from another are found in males, but our bat was a female, so precise identification to species was not possible.*

As usual when there are juveniles it is interesting to compare growth of forearm length and growth of weight. First, the adults: forearm length distribution is about the same for both sexes. There is little dimorphism in Gould's.

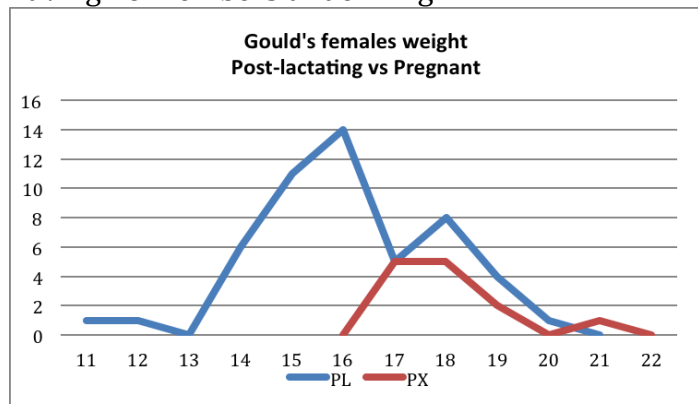


Then adult weights: males are on average about 3 gm lighter than females, complicated this month by some females being into a second pregnancy.

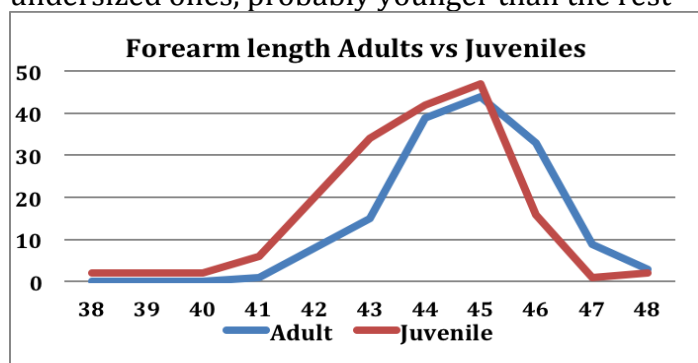


Among the adult females, 13 were judged to be well advanced in pregnancy, while most were

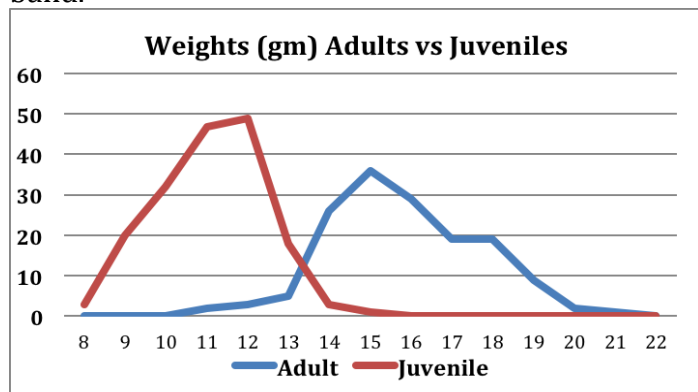
post-lactating. The two groups had quite different distributions of weights, the pregnant group having no members under 17 gm.



Juvenile forearms have already grown to almost match the adult distribution, with just a couple of undersized ones, probably younger than the rest



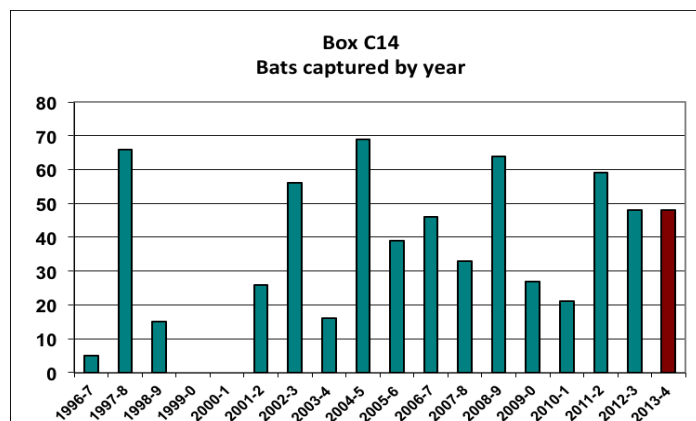
The distribution of adult and juvenile weights, however, are very different, with juveniles having a long way to go to reach adult weight. All the juveniles lighter than 10 gm were judged too small to band.



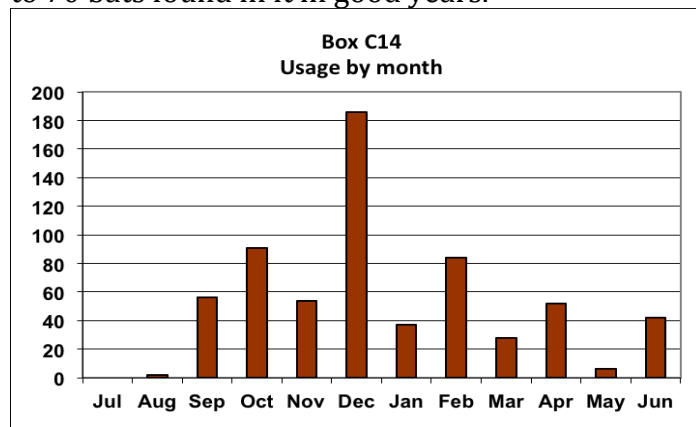
This month our database passed 19,000 records.

Box 14

This is one of 5 boxes installed in March 1996, once all of the first ten boxes had been occupied by bats. C15 and C16 have had over 1,000 bats each, C14 and C17 about 600 each and C13 only 400. So C14 is middlingly attractive to the bats, though its microclimate is probably less ideal than those of C15 and C16.



Usage dwindled to zero at the turn of the century but has recovered, though very variable, with 50 to 70 bats found in it in good years.



C13, 14 and 15 have a very prominent peak usage in December, C16 and 17 peak in February, so they are all summer boxes, used very little in autumn or winter. By contrast, the other box on the same tree, C30 (one of the thick-walled boxes) peaks in April, when C14 is little used. So box design has a strong impact on season of usage.

Much thanks to all the generous people who came along for a whole Sunday to monitor our boxes, weigh and measure and cope with all the escapees.

Next box check, Sunday 23 February 2014 2 p.m.