



Places for Penguins

a Forest & Bird Wellington Branch project



Forest & Bird

TE REO O TE TAIAO
Giving Nature a Voice

Newsletter

August–September 2018

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IT'S A NESTY BUSINESS

July marked the start of the breeding season proper for most kororā, Little Penguins. Sometimes they start coming ashore a few weeks earlier to check out the accommodation, as they did this year — and some early nests were made in May and June.

Places for Penguins (PfP) nestboxes are placed in

locations that offer the seclusion that kororā prefer, usually beneath vegetation, which also keeps the sun from overheating the nestbox in summer when the chicks are still there.

Nests vary from pair to pair. They are generally built with whatever is to hand, or rather to beak. Many of the bays where PfP has nestboxes have a good ground cover of coastal flax, and this is the most common material found in nests. In addition, small twigs and leaves are often present, including both dead and green material, which has been picked while growing, and some birds use grass as well.



A sparse nest of flax and twigs



Green leaves and grass included

It's not uncommon to find stones, or thicker twigs, in nestboxes — comfort does not seem to be paramount. Unnatural materials, including cloth, plastics such as wrappers, and polystyrene, have all turned up in nestboxes. If monitors can remove these materials without disturbing the penguins, they do so.

Some pairs place just a few scraps of vegetation and then lay their eggs on a flat nest floor. Others make a

thick platform with a neat depression to retain the eggs, which are nearly always laid in the corner of the box furthest from the entry tunnel. Some pairs seem to get nest building fever and fill the boxes with so much material that it's a wonder there's any room for the birds.

As the season progresses, the old nest material gets flattened and becomes denser, and usually by the start of the following season it has reduced enough in bulk to allow a new nest to be built on top.



Plastic and polystyrene in the nest



Old nest material is decomposed and dry

If ever boxes get too full after years of occupancy, some nest material can be removed from the lower layers leaving the top section intact.

POSSIBLY A SCHOOLS' PROGRAMME? THANKS TO THE HENDERSON TRUST AND THE NIKAU FOUNDATION

From time to time PfP gets requests from teachers for someone from PfP to visit their school and talk to their students about Little Penguins. While we have always been very happy to do this, we've been aware that this reflects a desire for knowledge that we might be able to help satisfy in a more structured manner — so for several years, the PfP management team has been thinking about devising a schools' education programme about kororā for schools in the Wellington area.

However, although we have a teacher and an ex-teacher in the management team we've recognised that to set up a complete education programme on kororā would involve a significant amount of effort on our part and a need to involve external environmental educators.

Earlier this year, we received a grant from the Henderson Trust, administered by the Nikau Foundation (www.nikaufoundation.org.nz), to carry out an Educational Programme Scoping Study. The report from this study, which was completed in July, has now been considered at length by the management team — and we have finally decided **not** to go ahead with a pilot programme in 2019.

There are a number of reasons for this decision, but the principal ones relate to the amount of time that some members of the management team would need to give to the development of an education programme, even though the programme itself would be devised and delivered by external educators. At present, we have recognised that we do not have sufficient capacity within PfP to take on a project of this size without affecting our current work.

Our grateful thanks to the Nikau Foundation for making available this grant. The exercise of carrying out the scoping study has been valuable. Although we have decided against going ahead with the development of a schools' programme in the short term, the study will certainly provide useful information for any future development of such a programme, whether it is by PfP or another organisation.



NIKAU FOUNDATION

THE CONTINUING IDENTITY CRISIS FOR *EUDYPTULA MINOR* (OR HUMANS?), PART 2 OF 2

In the last newsletter, we started the story of how kororā have been classified (and reclassified) by taxonomists ever since J R Forster gave them an official scientific name (*Eudyptula minor*) in 1781.

As noted in the last newsletter, research in 2002 suggested that kororā were members of a single species that could be separated into two distinct groupings, called “clades”:

- an Australian clade (Little Penguins from Australia and from southeast Otago), and
- a New Zealand clade (from the rest of New Zealand).

Research continued, and the 1990 proposition that there was a single species (on which proposition the 2002 clade theory was based in part) was formally accepted in 2010. In 2011 researchers found evidence of clade-based differences in kororā braying vocalisations. This study was valuable as it used a larger sample than previous studies.

In 2015 researchers, using a variety of genetic markers, tentatively identified two separate species within the *Eudyptula* genus, one from Australia (*E. novahollandiae*), and one from New Zealand (*E. minor*). However the additional methods used to arrive at this decision have not been subjected to the same calibration testing as earlier work so the identification remains tentative.

In 2016, the genetic divergence between Australian and New Zealand specimens was found to be nearly 20 times that of the divergence found within the New Zealand specimens and more than 3 times that observed within the Australian specimens.

Like much scientific discovery, this process of classification remains a work in progress. Future research could overturn many of the conclusions that have been reached about the genetic makeup of kororā. Certainly, traditional systems of taxonomy, where classifications were based on observation and physical measurements, vocalisation and distribution alone, have been found to be increasingly inadequate to classify *Eudyptula* and other cryptic species with confidence.

Indeed, the development of molecular biology has opened up a whole new way of looking at the classification of specific organisms. The focus has changed to analysing the internal structure of the specific microscopic building blocks that make up every organism.

However, some of the impediments facing researchers with molecular biology technology are:

- Cost: cryptic clades such as *E. minor* can present a problem that is often only solved by sequencing portions of an individual's genome, which is a relatively expensive process.
- The ability to obtain sufficient quality tissue for sampling to provide optimal accuracy.
- Ethical issues: especially when dealing with live animals (which is generally the best option for obtaining samples of blood, tissue and feathers).
- The availability of good quality tissue for DNA extraction — this can be compromised when dealing with cryptic species in small clusters geographically isolated from each other.
- Researchers “cherry picking” specific modes of analysis that favour their own hypotheses.

On the other hand, the benefits include:

- Where a debate arises over the status of a particular species, DNA analysis offers a source of objective evidence that can help resolve issues by augmenting existing data.
- Wildlife management and the determination of conservation status can currently be greatly assisted by using advanced molecular methods in conjunction with more traditional methods for cryptic species identification.

Meanwhile, the subject of all this research and taxonomic interest continues to be an enigmatic, stropy little aquatic bird, which happens to be not only the smallest penguin in the world but also the only nocturnal one!

A fact sheet with both parts of this story, including more detail and source references, is available on request at placesforpenguins@gmail.com.

TUMBLEWEED TEES — THANKS, GUYS!

For some years now, we have had a special relationship with Tumbleweed Tees (www.tumbleweedtees.com). This Wellington-based company makes a wide range of clothing and related products featuring beautiful designs based on the natural world.

The company has a strong ethical and conservation basis and donates \$5 from the sale of each t-shirt to an appropriate conservation group. In the case of the t-shirts (pictured) featuring kororā, those donations come to Places for Penguins, for which we are very grateful.

But it's not just penguins and it's not just t-shirts — Tumbleweed has a huge range — have a look at their website and we suspect you'll be very impressed by the different designs and products.



From Tumbleweed's website

NEXT WORKING BEE — 10.30AM, SATURDAY 15 SEPTEMBER 2018



From the South Coast clean-up website

As in previous years, PfP will be part of the great South Coast Clean-up on Saturday 15 September. This clean-up has been happening in early Spring every year since 2010, when the remarkable pile of rubbish shown was collected!

Our patch is Tarakena Bay, at the southern tip of the Miramar Peninsula, so come along to the car park by the boat ramp (maps below) at 10.30am to be part of this annual event.

There is no bus service to the area at weekends, so unless you live fairly close by, you will need to cycle or drive. Here's hoping for a fine day.



Text and photos by members of the Pfp management team, except where otherwise credited.

Thanks to all our partners and supporters: Wellington City Council, Greater Wellington Regional Council, the Department of Conservation, the Society for Conservation Biology group at Victoria University, Conservation Volunteers of New Zealand, Weta Digital, Tumbleweed Tees, Sue Dasler Pottery, and the Henderson Trust via the Nikau Foundation.

