Tui

A Nest in the Bush

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Preface

I live amongst native forest at Lake Tarawera, in the Central North Island. For some years now there has been a very active group of people who have worked hard to control introduced predators in the forest around the lake. The result of this has been a large increase in the numbers of birds and bird species at Tarawera, and we often see flocks of kereru, tui and bellbirds. In the spring of 2011 I was working in our garden when a tui flew past me with a feather in its beak, disappearing into a Pseudopanax bush whose topmost branches reached up to our deck. I knew there must be a nest close by, so I ran up the stairs and out onto the deck. I was standing on the ideal viewing platform and found a beautifully formed nest, perfectly positioned about 1.5 metres below. I soon realised that this might be a remarkable and rare opportunity to be able to document tui breeding – this book is the result.

– Meg Lipscombe, FPSNZ

Introduction

The tui is iconic in Aotearoa and well known overseas, perhaps as well known as our national symbol, the kiwi. Like the kiwi, it is endemic to New Zealand, found nowhere else in the world. The tui is one of the world's largest members of the honey-eater family, measuring up to 30 centimetres in length and weighing up to 120 grams. Honey-eaters are also represented in New Zealand by the bellbird and stitchbird.

Tui are easy to distinguish due to their unique appearance. At first glance the feathers appear black but in the sunshine they have a metallic sheen, often green and purple about the shoulders, upper tail and breast. They can also appear brown because they become dusted with the pollen of the flowers on which they feed. The characteristic tuft of white feathers curling out from below the face and neck gives them the appearance of a parson in clerical clothes. The back of the neck has fine white plumes interspersed amongst the black, and the wings have white bars midway along their length.

The sexes look alike, though male tui weigh approximately 120 grams and the females approximately 90 grams. The legs of both sexes are black and both have a long curved beak suited to extracting nectar from deep within flowers. Juvenile tui are dull black with glossy wings and tails, and although they have a greyish-white throat they lack the white neck feathers that are a distinctive feature of the adults.

Tui are more often heard than seen; their calls are loud and audible from a long way off. They have two voice boxes and so can cover such a large range of calls and frequencies that they are difficult to describe or imitate, but include bell-like notes, harsher rattles, clonks, wheezes and chuckles. Calls can be above the audible pitch for humans, which makes their song seem disjointed when heard from a distance. When watched more closely the bird may appear silent but the beak is open, the head back and full song apparently being transmitted.

Tui have strong cultural significance for Maori, who once trained them to imitate human words, and there are stories of tui repeating complex Maori speech and song. Some earned such a reputation that they were afforded names which are remembered today. Tui have also been taught English words and a number in captivity have had extensive vocabularies. At present there is a tui called 'Woof Woof' at Whangarei Bird Park which imitates its keeper's voice and repeats many words and phrases.

In the wild the best times to hear their calls are soon after dawn and in the evening, when they are at their most vocal. However many people connect the sounds of summer with the late afternoon call of a tui, which chooses a song tree and calls apparently for the pure joy of life. They can also sing at night, especially in the full moon period and after rain, particularly in the summer.

Tui are found throughout the North Island and much of the South Island, although they are less common on its east coast. They exist on Stewart Island, Raoul Island, the Kermadec Group, Auckland Islands and many other small offshore islands. The tui and bellbirds of the Auckland Islands are the most southern populations of honey-eaters in the world. There is also a sub-species of tui found on the Chatham Islands, which is larger than the mainland tui but is otherwise similar in appearance. Tui are abundant in numbers and can sometimes be seen in large flocks, often associated with a food source or with fights over territory. I have seen 20 tui battling for the top branch of a dead tree, apparently for no other reason than that the top branch was where they all wanted to be.

Tui prefer broadleaf forests below 1500 metres, but will also use remnant patches of old forest, regenerating native forest, exotic plantations and well-planted suburbs. Because of their love of floral nectar tui can be found in gardens

throughout our cities. They are a common sight and sound in the suburbs of Auckland and Wellington. Finding nectar throughout the year can be difficult in forests where there is competition from introduced animals such as possums and rats, so city plantings and domestic gardens offer a rich source of food when native forest flowers are scarce.

They are usually seen singly, in pairs or in small family groups, but can be found in large numbers at favoured food sources and in the early breeding season. During winter they are often seen in mixed flocks including bellbirds, silvereyes, warblers, tomtits, pigeons and kaka. Through the summer months tui are highly territorial and competitive, and often spend more time chasing other birds from a food source than eating from it!

Honey-eaters in general have an adapted tongue with a tube-like brush tip for gathering nectar from flowers. Tui feed mainly on the nectar of native plants including kowhai, puriri, flax and kakabeak. When one looks at the shape of some of these flowers one can see a unique resemblance to the curve of the tui's beak. This is referred to as mutualistic co-evolution. Tui also eat fruit and insects, and you will see in Meg's photos the adult tui feeding the young with insects collected from the home garden. I have also seen tui dipping their tongues in the body fluids of dead birds. Although not a common occurrence it does show that the tui is an opportunist and, when necessary, will vary its diet.

Tui are important pollinators of many native trees and will fly long distances (often over 20 kilometres) for their favourite seasonal foods. They aid seed distribution by digesting and excreting seeds such as totara, kahikatea, matai, pittosporum, coprosma species and kowhai. They have been known to fly the 40 kilometres between the South Island and Stewart Island, an extraordinary feat considering their short wings and fast wing beat. Their short, robust wings are built specifically for manoeuvring through dense forest foliage, though they are also useful for dislodging insects such as stick insects and cicadas from leaves. Their sometimes loud and noisy flying is caused by a notch in the eighth primary feather that makes the wing tips flutter. Noisy flying is used in displays and in aggressive behaviour towards other birds.

September to October is the mating season for tui. At that time one can see the birds performing outrageous aerial manoeuvres to catch the attention of potential mates. Males can be seen in vertical climbing flight until they stall then power into a steep dive. These courtship flights are part of developing or confirming a mating link for the summer. Male tui also use specific call trees to mark their territories. They may be heard in these trees early in the morning and late at night, marking their boundaries. In cementing the mating relationship, tui sing duets with their chosen partners. The males hold territories until the end of February or early March to ensure food supply and safety for their mates and chicks. During this period they can be extremely aggressive, chasing all other birds from their territories with loud flapping and harsh calls, and will often erect their body feathers in order to appear larger and so intimidate rivals or bigger birds. They will chase small birds from food sources and have been known to drive hawks from their areas.

It is only the females that build nests, using twigs, grasses and mosses. They are often complicated affairs with large amounts of nest material, but they can also be quite discrete nests in the top of ferns or small branches in the treetops. They lay two to four elliptical eggs, white or pink with reddish-brown blotches or specks, which the female incubates for about 14 days. Both parents then feed the chicks on insects such as cicadas, stick insects and spiders for a further 11 days in the nest, and for 10 to 12 days after they leave the nest.

At the end of summer and into the autumn tui will moult and grow new feathers in preparation for winter. Young tui will move out of the family territory in search of their own space and the adults will start flocking with other tui, possibly their own chicks and other species of birds. These flocks will endure for the winter months.

The main threat to tui has come from the destruction of their forest habitat and from competition and predation by introduced mammals. Historically humans have even used tui for food. Captain Cook, whilst at Dusky Sound on his second

voyage in 1773, wrote of the tui: 'The flesh is also most delicious and was the greatest luxury the wood afforded us.' However, while predation by humans had only a minor and local effect on populations, the loss of forest in New Zealand was sudden in an ecological sense. Much of the forest area was milled for timber, converted for farming or burnt in ignorance, and as a result tui numbers declined dramatically in some areas. The loss of lowland forest, which was cleared predominantly for farming, especially dairying, was particularly harsh on tui who relied on this diverse forest type for winter feeding.

Possums introduced to establish a fur trade proved to be both predators of, and competitors with, most of our forest birds. Rats were also both predators and competitors; they are good climbers (especially the ship rat) and often raid nests, kill chicks and compete for food. Department of Conservation (DOC) scientists estimate that 26 million forest birds are killed by pests every year. In some areas, such as Banks Peninsula and Hamilton, tui disappeared completely. Luckily there is now an awareness of this issue and people have organised projects to restore habitat and reduce predation and competition. These projects have had great success due to the dedication of the communities and support from agencies such as DOC.

Tui are a great indicator of forest health, and if they are flourishing it is a good sign of a successful forest restoration programme. They require a generous amount of food to survive and, where they prosper, show that the forest has enough food to support a range of species including the large honey-eaters. Forest restoration is a particularly high priority in lowland areas. Restoration involves control of predators and competitors (possums, rats, cats and stoats), the removal of browsing animals (possums, deer, rabbits, hares, goats, rats, cattle and sheep) and the cultivation of food plants. Advice can be sought from DOC and local groups about predator and competitor control. If eradication is not possible the best results are obtained by lowering the threats prior to the tui breeding season in spring.

A variety of trees and shrubs can be planted to provide year-round food for tui, but plants need to be carefully selected so that there are flowers and fruit at different times. Both native and introduced flowering plants can be included. Tui love to feed from kowhai, flax, cabbage tree, mountain fivefinger, ngaio, tree fuchsia, karo, puriri, rewarewa, pohutukawa, banksii and flowering gums. If necessary tui can be fed on sugar water, which can be placed in a bowl or trough during winter when there are few flowers around. Sugar water should be considered a short-term solution and should not replace the need to plant trees and shrubs. Planting lines of flax close to forests or waterways encourages tui to feed on seasonal nectar, and, while visiting these sources they will deposit seeds which will aid the process of diversifying the plantings. Farmers can participate in tui restoration by planting fence lines and waterways, as plants such as flax are beneficial to cattle as well as to tui.

It is essential that we do all we can to ensure tui remain an iconic symbol of our nation, inhabitants of our forests and frequent visitors to our gardens. The example of the Tarawera community, where Meg took the photographs in this book, can serve as an inspiration. They have had spectacular success in greatly reducing the impact of predators and thus safeguarding a unique regenerating forest environment that supports an unusually high number of birds and bird species.

– Rick Thorpe

DAY 1 Two days after discovering the tui nest below our deck, I was excited to find a pale pink egg with freckles on one end carefully nestled into the feathers. It was the first day of what I hoped would be a unique opportunity to capture the beginning of a tui's life.

DAY 2 It was late afternoon the next day before the female tui left to feed, giving me the opportunity to see properly into the nest. Another egg had been laid, and I knew that my chances of watching a tui hatch had now doubled.

DAY 4 I was concerned about having enough visibility down into the nest. I did not want leaves distracting my view, so I fashioned a pair of scissors with long wooden extension handles. While the mother was away from the nest I very gently snipped back a few leaves, gradually enlarging the view.

DAY 7 The eggs looked so delicate and fragile lying unguarded in the nest, though they were never left for long.

DAY 8 As the female tui sat on the eggs I chatted to her so she would get used to my presence and hopefully not feel threatened. At that stage I was glad to see she seemed very accepting of my presence.

DAY 14 I arrived home from town and immediately checked the nest, and was excited to find one chick had already hatched. The tiny bird, with little bits of fluff in places, was curled up beside the other egg.