

A CRESTED TERN IN THE FIRTH OF THAMES

The Piako River flows into the upper Firth of Thames and here on 30 March 1974 with F. V. Thompson, Acclimatisation Society Field Officer, I saw what was to me an unknown tern.

The weather was fine with a light north-easterly wind. The tide had been dropping for an hour and a half. At 1430 hours the bird appeared from the direction of Thames, flying with the wind about 6m above the water, with head held at a downward angle and moved from side to side as if looking for fish. The bird looked "different" and when it passed above and circled I saw that the bill was a definite yellow. No diving or catching of fish took place. The bird continued out of sight towards Miranda.

The upper surfaces of the body and the forehead were not seen well, but the crown and nape were black; underparts white with wings medium grey; feet dark brown to black; tail forked and longer than that of a Caspian Tern (*Hydroprogne caspia*); estimated total length 45-50cm. An immature Black-backed Gull (*Larus dominicanus*) flying with the tern provided a useful size comparison. The bird seemed in good condition. No calls were heard.

On consulting the *Field Guide* (pp.159-160) I concluded that the bird could only be a Crested Tern (*Sterna bergii*). It is stated that this tern habitually fishes in estuaries and will penetrate rivers. It is a rare straggler to New Zealand with three previous records: Raoul Island (April 1910); one ashore dead in Spirits Bay (March 1951) and Farewell Spit, with White-fronted Terns (January 1960).

LITERATURE CITED

FALLA, R. A.; SIBSON, R. B.; TURBOTT, E. G. 1966. A field guide to the birds of New Zealand. London: Collins.

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NORTHERN LITTLE BLUE PENGUIN MORTALITY
IN NORTHLAND

Two periods of high mortality of the Northern Little Blue Penguin (*Eudyptula minor*) have been recorded in Northland during the past year.

Members of the Whangarei branch of the OSNZ have made repeated and extensive patrols of both east and west coast Northland beaches. The table shows results from selected beach patrols, and penguins per mile indicate significant trends in penguin mortality. Normal levels of penguin mortality seen at most times of the year are taken as below 3 per mile. One peak was seen during July and August 1973 and was most prominent in Ninety Mile Beach. The second peak was more widespread, was more prominent on the east

coast, and was seen during April and May 1974. The two mortality peaks were high both in the number of dead penguins found, and in the relation of these numbers to other species found.

<i>Location</i>	<i>Date</i>	<i>Miles</i>	<i>L.B. Penguins</i>	<i>Penguins per Mile</i>
Marsden Pt-Waipu river	21/7/73	12	16	1.37
Mangawhai-Pakiri	22/7/73	14	34	2.4
Ocean Beach	26/7/73	4	8	2.0
Pataua	24/7/73	4	2	0.5
Mimiwhangata	28/7/73	1	13	13.0
Pataua	17/8/73	4	17	4.25
Waipua river-Tikanui	18/8/73	42	171	4.07
Waipakauri-Scotts Pt	28/8/73	54	1344	24.8
Marsden Pt-Uretiti	30/8/73	8	31	3.8
Maunaganui Bluff-Tikanui	9/12/73	34	12	0.55
Mangawhai-Pakiri	5/1/74	15	13	0.86
Ninety Mile Beach	24/1/74	44	45	1.0
Marsden Pt-Waipu Cove	26/1/74	12	18	1.5
Marsden Pt-Waipu Cove	9/2/74	12	26	2.16
Mangawhai-Pakiri	9/2/74	14	39	2.78
Marsden Pt-Waipu Cove	17/3/74	12	166	13.8
Matauri Bay	21/3/74	1	7	7.0
Mangawhai-Pakiri	24/3/74	15	125	8.33
Ocean Beach	6/4/74	4	54	13.5
Pataua	6/4/74	3	23	7.66
Marsden Pt-Waipu	7/4/74	12	321	26.75
Mangawhai-Pakiri	7/4/74	14	323	23.07
Tokerau Beach	13/4/74	11	135	12.2
Rangaunu Bay	13/4/74	10	98	9.8
Gt. Exhibition Bay	13/4/74	14	317	22.64
Henderson Bay	13/4/74	3	53	18.3
Mangawhai-Pakiri	21/4/74	14	423	30.2
Omamari-Baylys Beach	28/4/74	40	512	12.5
Pataua	28/4/74	4	50	12.5
Marsden Pt-Waipu Cove	3/5/74	12	206	17.6
Ocean Beach	11/5/74	4	96	24.0
Mangawhai-Pakiri	11/5/74	14	366	26.14
N. Kaipara Head-Omamari	11/6/74	47	86	1.82
Ocean Beach	3/6/74	3	22	7.3
Marsden Pt-Waipu River	8/6/74	9	33	3.66
Ninety Mile Beach	7/7/74	54	92	1.7

Most dead penguins found were in fresh condition, and often on beaches previously patrolled and cleared of dead birds a few days before. There were signs that dead birds are quickly covered by sand during rough weather and that the number of birds found may only be a fraction of those actually washed up. Live penguins were often observed on beaches in a weak and/or sick condition.

From time to time penguins have been submitted to the Whangarei Animal Health Laboratory for examination. We are most grateful for the interest and valuable help with investigations.

All birds examined were found to be young, immature, and in the main, females. Their musculature was wasted, fat reserves depleted, and gastro-intestinal tracts empty or showing scanty reddish brown tarry contents. All birds showed a moderate to severe parasitic infestation. External parasites were mites and biting lice. Internal parasites were intestinal coccidia, intestinal flukes of the family Echinostomatidae and possible genus *Echinostoma* or *Hydrodermia*, intestinal tapeworms, and renal flukes. The most interesting and severe parasitic condition was the renal flukes. Many birds carried 250 to 300 flukes which are 2mm in length and could be of the family Eucotylidae or Troglotrematodae. The presence of such high numbers of flukes in the kidneys did not show the expected inflammatory-host reactions, but the migratory tracts were marked by degenerative and necrotic changes and must have a damaging effect on renal function. A similar parasitic picture was seen in penguins from the 1973 and 1974 wrecks.

On 18 September 1973 two apparently healthy penguins were found shot on the Dargaville beach. These were examined and were found to be well fleshed and in good condition, and were identified as a male and a female showing early ovarian activity — probably a nesting pair. Both birds showed small to moderate renal fluke infestation. This seems to indicate that healthy penguins carry renal flukes.

Examinations for the presence of lead, cadmium, mercury, organochlorines and polychlorinated biphenols showed insignificant levels.

The cause of penguin deaths seems to be exhaustion and starvation accentuated by parasitism and rough weather. It is considered unusual to see a similar parasite picture in wild life and is more likely to be seen in conditions of overcrowding and poor hygiene in domestic poultry. It could be postulated that the situation could be brought about by a high peak in population and crowded nesting conditions.

Reference to a previous period of high mortality of Northern Little Blue Penguins is found in *N.Z. Birds* by Oliver (1955) where a large wreck during 1943 at Mt. Maunganui is described. He also mentioned that from time to time large numbers are stranded on sandy beaches during December and January.

It is not known if penguin wrecks of the size recently seen have occurred in Northland in previous years. We do not know the present population but surveys are planned. More information is needed on parasites found in healthy penguins. It is almost certain that the coccidia, tapeworms and renal flukes have intermediate hosts in their lifecycle, but, as yet, we do not know what these are. The situation

is interesting but is filled with unanswered and challenging questions. Much remains to be done.

The Whangarei branch is deeply indebted to the Whangarei Animal Health Laboratory for their interest and help in this problem. Samples have often become available at times when other pathological material is at a high peak. Time has been found to examine our samples and to research information on parasites and likely diseases.

LITERATURE CITED

OLIVER, W. R. B. 1955. New Zealand birds. 2nd ed. Wellington: A. H. & A. W. Reed.

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THE BILLS OF STARLINGS

In *Notornis* 20: 325 we read "Eye colour in adult Starlings was dimorphic" and a few lines later "Bill colour was also dimorphic but varied seasonally."

In ornithology the word 'dimorphic' has two normal meanings (a) 'having two shapes' derived from the primary meaning of the Greek 'morphe,' (b) 'having two colour phases' based on its secondary meaning, 'appearance.' In the first sense the heads of Huia *Heteralocha acutirostris* and Bar-tailed Godwit *Limosa lapponica* are said to be sexually dimorphic — note the addition of the adverb 'sexually.' In the second and more common sense, species which have two colour phases, irrespective of sex or age, are described as dimorphic. Typical examples in New Zealand are:— Southern Nelly *Macronectes giganteus*, Stewart Island Shag *Leucocarbo chalconotus*, Arctic Skua *Stercorarius parasiticus*, Fantail *Rhipidura fuliginosa*, Variable Oystercatcher *Haematopus unicolor* and Little Shag *Phalacrocorax melanoleucos* are better described as polymorphic. In Fiji, but not in New Zealand, the Reef Heron *Egretta sacra* is conspicuously dimorphic.

The term 'sexual dimorphism' is also, of course, applied to many species in which males and females differ both in shape (size) and colour (appearance). Obvious examples are not far to seek, especially among the pheasants and the ducks.

Since the matter of shape does not here arise, we are left with the thought that the eye colour and bill colour of adult Starlings have two colour phases. This is both tautologous and obscure. What the writer is simply saying is that adult male and female Starlings can usually be distinguished by the colours of their bills and eyes. One puzzled reader even suggested to me that 'dimorphic' is a misprint for diagnostic.