Recent Literature

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This new section is intended to draw *Notornis* readers' attention to papers and articles about New Zealand birds which have appeared elsewhere. It covers both publications in New Zealand and abroad on New Zealand birds studied in New Zealand, and selectively those on native birds studied elsewhere (e.g. seabirds). It may include articles of a more general nature relevant to New Zealand ornithology.

The intention is to abstract all relevant papers. As some papers/articles may be missed, particularly if published in small journals, authors are invited to send reprints or copies of their works to the compiler.

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Evolution and Systematics

Were bowerbirds part of the New Zealand fauna? L. Christidis, P.R. Leeton, M. Westerman.*(Dept. Ornithol., 71 Victoria Crescent, Abbotsford, Vic 3067, Australia)*. Proceedings of the National Academy of Sciences of the U.S.A. 93(9): 3898-3901. 1996.

Bowerbirds (Ptilonorhynchidae) have previously been considered to be confined to the Australo-Papuan continental plate. The authors provide molecular evidence that the extinct New Zealand Piopio *Turnagra capensis* is, in fact, a bowerbird.

Evolutionary relationships among extant albatrosses (Procellariiformes: Diomedeidae) established from complete cytochrome-b gene sequences. G. B. Nunn, J. Cooper, P. Jouventin, C.J.R. Robertson, G.G. Robertson *(Dept. Ornithol., Amer. Mus. Nat. Hist., Central Park West at 79th Street, New York, New York 10024, USA; Email: gnunn@amnh.org)* Auk 113(4): 784-801, 1996.

Using fresh blood or liver tissue, complete mitochondrial cytochrome-b gene sequences were determined from the 14 living species of Diomedeidae and two outgroup species: Grey and Southern Giant Petrels. Phylogenetic analysis found that two lineages arose early in albatross evolution. A further split in each of these lineages resulted in four monophyletic groups. Resurrection of two genera of Reichenbach (1852), dropped historically in taxonomy of the Diomedeidae, results in a total of four genera: *Diomedea* restricted to the great albatrosses; *Phoebastria* for the North Pacific species (including the Waved Albatross of Galapagos Islands); *Phoebetria* as stands for the sooties; and *Thalassarche* for all the mollymawks. Apart from *Phoebastria*, this is the nomenclature used by W.R.B. Oliver in his New Zealand Birds, 1930 and 1955. Calibrations based on the fossil record, which shows that albatrosses have existed for well over 15 million years, indicate that cytochrome-b evolutionary rates in albatrosses are slow compared with those of most mammals.

Morphology and evolution of two takahe: Flightless rails of New Zealand. S.A. Trewick *(Victoria Univ. Wellington, Sch. Biol. Sci., P.O.Box 600, Wellington, New Zealand)* J. Zool. 238 (2): 221-237. 1996.

Two forms of a large and flightless rail (takahe) belonging to the genus *Porphyrio* and endemic to New Zealand have been described, although their taxonomy has been repeatedly questioned. Analyses of osteometric data from modern and Quaternary fossil material show such a degree of allometric distinctiveness that it is considered that the two forms are, indeed, different species as originally described, *Porphyrio mantelli* (Owen) and *P. hochstetteri* (Meyer).

Movements

Satellite tracking of Southern Buller's Albatrosses from The Snares, New Zealand. P.M. Sagar, H. Weimerskirch *(Nat. Inst. Water & Atmospheric Res., P.O. Box 8602, Christchurch, New Zealand; Email: p.sagar@niwa.cri.nz)*. Condor 98: 649-652, 1996.

Five (2 female, 3 male) albatrosses were tracked during the incubation period. Feeding zones were located far from The Snares, with maximum distances ranging from 559 to 1,191 km from the colony.

Conservation

A small predator removal experiment to protect North Island weka *(Gallirallus australis greyi)* and the case for single-subject approaches in determining agents of decline. G.N. Bramley. *(Univ. Waikato, Dept. Biol. Sci., Private Bag 3105, Hamilton, New Zealand)* N. Z. J. Ecol. 20(1): 37-43. 1996.

Ferrets (*Mustela furo*) and cats (*Felis catus*) may be limiting the productivity of weka. By removing predators, 2 pairs reared 5 chicks to independence, while 2 control pairs reared none after three breeding attempts.

New approaches toward a better understanding of the decline of Takahe (*Porphyrio mantelli*) in New Zealand. J. S. Bunin, I. G. Jamieson *(Zool. Dept., Univ. Otago, P.O. Box 56, Dunedin, New Zealand)* . Conservation Biology 9(1): 100-106, 1995.

Subfossil evidence indicates that Takahe were once found throughout New Zealand, being most abundant along forest margins and streams in lowland regions. Today, the wild Takahe population consists of about 100 adult birds in an isolated alpine habitat and approximately 30 individuals recently released on several small offshore islands. espite protection and intensive management, including removal of an introduced competitor (red deer, *Cervus elaphus*), the alpine population has continued to decline. In contrast, the Pukeko (*Porphyrio porphyrio*), has expanded its range across New Zealand despite heavy hunting pressure since its colonisation from Australia less than 1,000 years ago. Unlike Pukeko, Takahe apparently lack appropriate behavioural responses to cope with introduced mammalian predators such as stoats (*Mustela erminea*).

Responses to a model predator of New Zealand's endangered Takahe and its closest relative, the Pukeko. J.S. Bunin, I.G.Jamieson. (*Univ. Otago, Dept. Zool., P.O. Box 56, Dunedin, New Zealand.*) Conservation Biology 10(5): 1463-1466. 1996.

Some evidence of elevated response by a Takahe cross-fostered to a Pukeko, compared to a parent-reared Takahe.

A cross-fostering experiment between the endangered takahe (*Porphyrio mantelli*) and its closest relative, the pukeko (*P. porphyrio*). J.S. Bunin; I.G. Jamieson. (*Univ. Otago, Dept. Zool., P.O.Box 56, Dunedin, New Zealand.*) N. Z. J. Ecol.20(2): 207-213. 1996.

Takahe eggs were cross-fostered to pukeko nests on Mana Island to increase juvenile productivity. Results were not significantly different from takahe-reared eggs from the same clutches.

Review of the toxicity and impacts of brodifacoum on non-target wildlife in New Zealand. C.T. Eason, E.B. Spurr. (*Manaaki Whenua Landcare Res, P.O.Box 69, Lincoln, New Zealand*)

Some 14 indigenous and 8 introduced bird species have been reported killed by its field use. Western Weka, Stewart Island Weka, and Pukeko have been severely reduced in poisoned areas.

Productivity and mortality of mohua (*Mohoua ochrocephala*). G.P. Elliott. (*549 Rocks Rd, Nelson, New Zealand*). N.Z. J. Zool. 23(3): 229-237. 1996

Mohua in the Eglinton Valley, Fiordland on the valley floor bred from early October until March, though birds at higher altitude started later. Details of breeding biology are given. In one year of four, 67% of nests and 50% of nesting females were destroyed by stoats *Mustela erminea*).

Mohua and stoats: A population viability analysis. G.P. Elliott. (*549 Rocks Rd., Nelson, New Zealand.*) N.Z. J. Zool. 23(3): 239-247. 1996.

If stoat populations were high only once every 5 years (the likely natural rate in South Island beech forests), only two-brood populations of more than about 40 pairs would have good survival prospects. Reduction in stoat densities, particularly in years when their numbers are high, is likely to have a substantial positive effect on mohua populations.

Can PVA models using computer packages offer useful conservation advice? Sooty shearwaters *Puffinus griseus* in New Zealand as a case study. S. Hamilton, H. Moller (*Dept. Zool., Univ. Otago, P.O. Box 56, Dunedin, New Zealand*). Biological Conservation 73: 107-117, 1995.

The very preliminary PVA model suggests that chicks can be safely cropped for transfer to depleted colonies, or for human consumption, from the two large Otago colonies with populations exceeding the most conservative minimum viable population of 520 individuals. The model also helps direct managers to where and when predator control will be most efficient.

Multiple Kagu *Rhynochetos jubatus* deaths caused by dog attacks at a high-altitude study site on Pic Ningua, New Caledonia. G. R. Hunt, R. Hay, C. J. Veltman *(Dept. Ecol., Massey Univ., Private Bag 11222, Palmerston North, New Zealand)*. Bird Conservation International 6: 295-306, 1996.

As with kiwis in New Zealand, dog predation has been cited as an important factor in the decline of the threatened Kagu of New Caledonia but direct evidence of predation was limited. This paper reports the first documented case of multiple kagu deaths caused by dogs.

Island releases of saddlebacks *Philesturnus carunculatus* in New Zealand. T.G. Lovegrove. *(47 Pupuke Rd, Auckland 10, New Zealand)*. Biological Conservation 77(2-3): 151-157. 1996.

The success of 45 releases of saddlebacks between islands in New Zealand is compared. Most releases with a balanced sex ratio on predator-free islands were successful. Others failed because of predators, or too few birds being released.

Role of predation in the decline of kiwi, *Apteryx* spp, in New Zealand. J. A. McLennan *et al. (Landcare Res. - Manaaki Whenua, Private Bag 1403, Havelock North, New Zealand)*. N. Z. J. Ecol. 20(1): 27-35. 1996.

Role of introduced mammals evaluated by measuring survival rates of adults, eggs and chicks of brown kiwi (*A. mantelli*) and great spotted kiwi (*A. haastii*) in mainland forests. Overall, 14 out of 209 adult kiwi died during 159.6 radio-tracking years. Predators definitely caused five of these deaths; probably caused about 10% of egg failures; killed at least 8% of chicks, 45% of juveniles, and possibly 60% of all young kiwi. Ferrets and dogs were the main predators of adult kiwi. Possums and mustelids were the main egg predators, while stoats and cats killed most young.

Predators and the decline of New Zealand forest birds: An introduction to the hole-nesting bird and predator programme. C.F.J. ODonnell. *(Dept. Conservat, Div. Sci. & Res., Christchurch, New Zealand)*. NZ J. Zool. 23(3): 213-219. 1996.

The role of predators in the decline of New Zealand forest birds, and specifically the roles of mustelids and rodents, is reviewed.

Monitoring mohua (yellowhead) populations in the South Island, New Zealand, 1983-93. C.F.J. ODonnell. . *(Dept. Conservat, Div. Sci. & Res., Christchurch, New Zealand)*. NZ J. Zool., 23(3): 221-228. 1996.

The mohua *Mohoua ochrocephala* is an endangered hole-nesting passerine which is now absent from > 75% of its former range. An 11 year monitoring programme, was set up to survey 14 populations at 12 key sites throughout its range. Between 1983 and 1993, one became extinct, five declined significantly, and three were on the verge of extinction by 1993; one population increased, but seven did not change significantly. Six population crashes coincided with irruptions of stoats *(Mustela erminea)* following heavy beech (*Nothofagus*) seeding.

Control of a stoat (*Mustela erminea*) population irruption to enhance mohua (yellowhead) (*Mohoua ochrocephala*) breeding success in New Zealand, C.F.J. Odonnell, P.J. Dilks; G.P. Elliott. (Dept. Conservat., Div. Sci & Res., Cristchurch, New Zealand). NZ J. Zool. 23(3): 279-286. 1996.

During a stoat population irruption in 1990/01 summer, 62 stoats were trapped in a 50 ha experimental area. Pairs of mohua produced nearly twice as many young in this trapped area as in an untrapped area, where, also, relatively more breeding females were lost. With continued trapping in the following two summers (29 and 14 stoats), breeding success of mohua was even higher, so such continued trapping may be warranted.

Predicting the incidence of mohua predation from the seedfall, mouse, and predator fluctuations in beech forests. C.F.J. ODonnell; S.M. Phillipson. . (*Dept. Conservat., Div. Sci. & Res., Christchurch, New Zealand*). NZ J. Zool. 23(3): 287-293. 1996.

Predator control will be required to save many mohua (*Mohoua ochrocephala*) populations from extinction. However, control may be required only in years when stoat (*Mustela erminea*) densities are high. Predictors of an impending irruption of key predators, such as high winter mouse density, are discussed.

Number, fate, and distribution of Kakapo (*Strigops habroptilus*) found on Stewart Island, New Zealand, 1979-92. R.G. Powlesland *et al.* (*Sci. Res. Div., Dept. Conservation, P.O. Box 10420, Wellington, New Zealand*). N. Z. J. Zool. 22: 239-248. 1995.

56 males and 29 females found, of which 61 transferred to safer islands. Annual mortality estimated at 56% before cat control; 2.4% afterwards.

Behaviour

Diving depths of Sooty Shearwaters *Puffinus griseus.* H. Weimerskirch; P.M. Sagar (*C.E.B.C-C.N.R.S., 79360 Beauvoir, France*). Ibis 138: 786-788, 1996.

At the Snares Islands (48°S, 166°E), 72 adult birds were fitted with capillary tubes and 5 tubes were recovered after foraging trips of 1-14 days. The maximum depths attained by Sooty Shearwaters ranged from 2 to 67 m and averaged 38.7 ± 20.1 m.

Ecology

Sign left by brushtail possums after feeding on bird eggs and chicks. K.P. Brown, H. Moller, J. Innes. (*Ecosystem Consultants, P.O.Box 6161, Dunedin, New Zealand*). N. Z. J. Ecol. 20(2): 277-284. 1996.

Characteristic sign should enable possums and ship rats to be differentiated as predators after most but not all predation events.

Breeding success of New Zealand pigeons (*Hemiphaga novaeseelandiae*) in relation to control of introduced mammals. M.N. Clout, K. Denyer, R.E. James, I.G. McFadden. (*Univ. Auckland, Sch. Biol. Sci., Private Bag 92019, Auckland, New Zealand.*) N. Z. J. Ecol. 19(2): 209-212. 1995.

A 55 ha remnant of coastal native forest at Wenderholm was the site for this pilot experiment. Talon 50WB poison baits were used to reduce rat numbers. Breeding success was significantly higher than in preceding summers without rat control.

The ecology of yellow-crowned parakeets (*Cyanoramphus auriceps*) in Nothofagus forest in Fiordland, New Zealand. G.P. Elliott, P.J. Dilks, C.F.J. ODonnell. (*549 Rocks Rd, Nelson, New Zealand*). NZ J. Zool. 23(3): 249-265. 1996.

Following a heavy beech mast production, parakeets fed extensively on beech seed, and bred not only during their normal late summer breeding season, but right through the following winter, spring, and summer. During this time, the parakeet population increased dramatically, but in the following autumn it declined sharply.

Nest site selection by mohua and yellow-crowned parakeets in beech forest in Fiordland, New Zealand. G.P. Elliott. (*549 Rocks Rd, Nelson, New Zealand*). N. Z. J. Zool. 23(3): 267-278. 1996.

Parakeets nested in a wide range of cavities ranging in size up to half a metre across. In contrast, mohua used small cavities that support the sides of their cup-shaped nests. Most parakeet nests were found in red beech trees (*Nothofagus fusca*). Although long-tailed cuckoos (*Eudynamys taitensis*) parasitise mohua nests and prey upon their nestlings, most mohua nest holes are too small for cuckoos to lay in.

Nesting success of New Zealand pigeons (*Hemiphaga novaeseelandiae*) in response to a rat (*Rattus rattus*) poisoning programme at Wenderholm Regional Park. R.E.James; M.N. Clout. (*Univ. Auckland, Sch. Biol. Sci., Private Bag 92019, Auckland, New Zealand*). N. Z. J. Ecol. 20(1): 45-51. 1996.

Over two breeding seasons, 70 New Zealand pigeon nests were located and monitored. Nest predation was significantly lower at Wenderholm than in non-treatment areas, but hatching and fledging success were not significantly different, due to a high level of nest desertion at Wenderholm. Possums were found to be nest predators.

Correlates of introduction success in exotic New Zealand birds. C.J. Veltman, S. Nee, M.J. Crawley. (*Massey Univ., Dept. Ecol., Private Bag 11222, Palmerston North, New Zealand*) Am. Nat. 147(4): 542-557. 1996.

Contemporary documentation allowed systematic comparison of unsuccessful and successful invaders without bias. Data for 79 species involved in 496 introduction events. Nonmigratory species more successful, but introduction effort is the best predictor of success. Implications for conservation biology.

Fleshy fruits of indigenous and adventive plants in the diet of birds in forest remnants, Nelson, New Zealand. P.A. Williams, B.J. Karl. (*Manaaki Whenua - Landcare Res, Private Bag 6, Nelson, New Zealand.*) N. Z. J. Ecol. 20(2): 127-145. 1996.

500 mist-netted birds were sampled. Of 6 passerine frugivores netted, 77% had eaten fruit. These were bellbirds, tuis, silvereyes, blackbirds, song thrushes and starlings.

Palaeontology

Faunal and floral remains from Earnscleugh cave, central Otago, New Zealand. G.R. Clark, P. Petchey, M.S. McGlone, P. Bristow. (*Australian Natl. Univ., Res. Sch. Pacific & Asian Studies, Div. Archaeol. & Nat. Hist., Canberra, ACT 0200, Australia*). J. Roy. Soc. N. Z. 26(3): 363-380. 1996.

The cave fauna included 3 moas, goose *Cnemiornis calcitrans*, Finsch's duck *Euryanas finschi*, kea, rifleman and robin.

Diet and biology of the laughing owl *Sceloglaux albifacies* (Aves: Strigidae) on Takaka Hill, Nelson, New Zealand. R.N. Holdaway, T.H. Worthy. (*Univ. Canterbury, Dept. Zool., Private Bag 4800, Christchurch, New Zealand.*) J. Zool. 239(3): 545-572. 1996.

The owl was a generalist feeder. Most taxa in the deposit had a mass of 50-150 g, but species up to 400 g were also present. Changes in the diet appeared to coincide with the appearance of Rattus exulans and the consequent decline/extinction of several prey. Apparently the owl was primarily a nocturnal forest species. Species richness was higher for both diurnal and nocturnal vertebrates in the deposit than in the site's present fauna.

Holocene populations of shags *Leucocarbo* spp in the far north, New Zealand. T.H. Worthy. (*Palaeofaunal Surveys, 43 Ridgeway, Nelson, New Zealand*). N. Z. J. Zool. 23(1): 89-95. 1996.

Fossil bones of the king shag, *Leucocarbo carunculatus*, are reported from late Holocene deposits of Doubtless Bay, Northland. These fossils indicate that the species' range contracted after Polynesian colonisation.

Quaternary fossil faunas, overlapping taphonomies, and palaeofaunal reconstruction in north Canterbury, South Island, New Zealand. T.H. Worthy; R.N. Holdaway. (*Palaeofaunal Surveys, 43 The Ridgeway, Nelson, New Zealand*) J. Roy. Soc. N. Z. 26(3): 275-361. 1996.

Fossils from a pitfall deposit, ten predator sites attributed to laughing owls (*Sceloglaux albifacies*), five swamp sites, and three archaeological sites, contributed most of the data.Some of the predator sites accumulated fauna until late in the 19th century.