

Adams 2003

TI : Extinct and endangered ('E&E') birds: a proposed list for collection catalogue.

AU : Adams, M. P., Cooper, J.-H., Collar, N. J. (2003).

SO : Bull. B.O.C. 123: 338-354.

ABSTRACT : Specimens of extinct and endangered ("E&E") birds are often, and rightly, the subject of elevated curatorial vigilance and care, and the publication of museum holdings of such species is regarded as a valuable contribution to conservation information. However, the definition of E&E species has varied over time has in part been a matter of curatorial discretion. Using the species listed in Birdlife International's (2000) Threatened birds of the world, but setting filters to eliminate species whose population levels are likely to remain high, we derive a list of 481 species (129 extinct, 352 extant) which we propose as core to any E&E list; local, national, regional or taxonomic interests might prompt individual museums to include other taxa in their 'E&E' lists.

Au 1986

TI : Seabird interactions with Dolphins and Tuna in the eastern tropical pacific.

AU : Au, D. W. K., Pitman, R. L. (1986).

SO : The Condor 88: 304-317.

ABSTRACT : Bird flocks associated with dolphins in the eastern tropical Pacific are described from observations obtained during eight cruises that took place from January to March of 1976, 1977, 1979, and 1980. In the northern tropical waters between latitudes 5°N and 30°N, 43% to 53% of bird flocks co-occurred with dolphins. In equatorial and southern subtropical waters between latitudes 5°N to 12°S and in the central Pacific less than 8% of the flocks were associated with dolphins. In northern tropical waters about 70% of dolphin schools associated with flocks were composed of spotted or spotted plus spinner dolphins; conversely, 59% of spotted dolphin and 96% of spotted plus spinner dolphin schools co-occurred with bird flocks. Most large schools of these dolphins were associated with birds, and the number and diversity of birds species increased with dolphin school size. The average species composition of birds in dolphin-associated flocks of northern tropical waters was: boobies 41.7%, Wedge-tailed Shearwaters (*Puffinus pacificus*) 31.4%, jaegers 12.8%, Sooty Terns (*Sterna fuscata*) 6%, frigatebirds 3.6%, and others 4.5%. Positive statistical associations were found among these bird species, which are explained by common attraction to food made available by feeding yellowfin tuna. In the southern latitudes and in the central Pacific, flocks were dominated by Sooty Terns, and few flocks were associated with dolphins. These flocks appeared to be associated with skipjack rather than yellowfin tuna.

Austin 2004

TI : A global molecular phylogeny of the small *Puffinus* shearwaters and implications for systematics of the little-Audubon's shearwater complex.

AU : Austin, J. J., Bretagnolle, V., Pasquet, E. (2004).

SO : The Auk 121(3): 847-864.

ABSTRACT : A molecular phylogeny based on 917 base pairs (bp) of the mitochondrial (mt) DNA cytochrome-b gene was used to test and reassess the systematics and conflicting taxonomic treatments of the small, black-and-white *Puffinus* shearwaters, including the *P. assimilis-lherminieri* species complex. Three geographically discrete clades were identified in the North Atlantic, Southern (Australasia) and tropical Pacific and Indian oceans that contain most of the *P. assimilis-lherminieri* taxa. Together with four other lineages (*P. puffinus*, *P. opisthomelas*, *P. mauretanicus*-*P. yelkouan*, *P. newelli*-*P. myrtae*), they form an unresolved polytomy. *Puffinus huttoni*-*P. gavia*, *P. nativitatis*, and *P. subalaris* are basal to this. The phylogenetic positions of *P. myrtae* and *P. subalaris* are unexpected and warrant further investigation. None of the competing taxonomic treatments of the *P. assimilis-lherminieri* complex are supported. Instead, our phylogeny suggests that 14 taxa should be recognized, whereas five others (*loyemilleri*, *colstoni*, *nicolae*, *polynesiae*, and *atrodorsalis*) and are probably not valid. Similarities in plumage and external morphological characters between unrelated species and differences between closely related species suggest that those traditional taxonomic characters are poor indicators of phylogenetic relatedness.

Balance 1999

Author: Ballance, Lisa Taylor; Pitman, Robert Lee

Year of Conference: 1999

Title: Foraging ecology of tropical seabirds

Editor: Adams, N. J.; Slotow, R. H.

Conference Name: 22 Int. Ornithol. Congr.

Conference Location: Durban

Publisher: BirdLife South Africa Johannesburg

Pages: 2057-2071

Short Title: Foraging ecology of tropical seabirds

Abstract: Tropical seabirds, species resident in waters $\geq 23^{\circ}\text{C}$ for at least one season of the year, forage in waters low in productivity relative to most non-tropical systems. Differential productivity of the world's oceans has profound implications for seabirds; most tropical species must range widely and all are confined to forage essentially in two dimensions. Foraging strategies reflect these constraints. The single most important foraging strategy for tropical seabirds is to feed in multispecies flocks in association with subsurface predators, primarily tunas. In the tropical Pacific, these feeding opportunities support, at least in part, a majority of species, possibly a majority of individuals for some species, indirectly determine abundance and distribution, and provide a resource around which a complex community with a predictable structure is built. This degree of dependence has not been found in non-tropical seabirds. Other foraging strategies include solitary feeding and scavenging; few species use these exclusively, and those that do are rare. Nocturnal feeding has been observed regularly in only one species; at least two others purported to be nocturnal feeders obtain mesopelagic prey during the day by associating with subsurface predators. Further, because tunas are so important to seabird foraging success, and because tunas are diurnal feeders, nocturnal feeding is probably not significant in the tropics. Feeding in association with oceanographic features is important for non-tropical seabirds, but its significance in the tropics remains unknown. Important topics for future research include precise quantification of seabird dependence on tunas, on nocturnal feeding, and on oceanographic features as prey aggregating mechanisms, and investigation of scale-dependent patterns. The catastrophic decline of tropical seabirds following human colonisation of islands means that marine ornithologists are studying a remnant community that may not furnish unbiased data for proposing or testing ecological models. Thus, we suggest that our most important future research effort should focus on attempts to re-establish some of the former abundance and diversity of tropical seabird communities.

Barré 2005(e)

Author: Barré, N.; Villard, P., Manceau, N., Monimeau, L., Ménard, C.

Year: 2005

Title: Les oiseaux de l'Archipel des Loyauté (Nouvelle - Calédonie): inventaire et éléments d'écologie et de biogéographie

Journal: Rev. Ecol. (Terre Vie)

Volume: 61

Pages: 175-194

Keywords: avifaune; Archipel des Loyauté; Nouvelle-Calédonie; inventaire; écologie; biogéographie

Abstract: The birds of the Loyalty Islands (New Caledonia): census, ecological and biogeographical issues. — The avifauna of the Loyalty Islands comprises 62 species, including 14 breeding or erratic seabirds, 5 migratory birds, 7 herons, ducks and rails, 4 birds of prey, 28 indigenous land breeders (belonging to 33 subspecies) and 2 species introduced from the Grande Terre (main island of New Caledonia). Six species are endemic: 3 on the Grande Terre and in the Loyalty Islands (New Caledonian Friarbird *Philemon diemenensis*, Green-backed White-eye *Zosterops xanthochrous*, Striated Starling *Aplonis striatus*) and 3 only found in the Loyalty Islands (Ouvea Parakeet *Eunymphicus uvaensis*, Large Lifou White-eye *Zosterops inornatus* and Small Lifou White-eye *Z. minutus*). *Eunymphicus* is an endemic genus of New Caledonia. Eight subspecies are endemic to both the Grande Terre and the Loyalty Islands and 11 are exclusive of the Loyalty Islands. Of the 24 taxa whose geographical origin could be identified, 58% are identical or similar to those on the Grande Terre, 105 km away, and 42% have affinities with birds in Vanuatu, twice as far away (225 km). The paths of cyclones could explain the specific influence of Vanuatu. The correlation between the islands' land area and the number of species that have successfully settled is very close ($r = 0.97$) and confirms this biogeographical standard. The land breeding species frequencies vary, with rare localized species limited to some islands (Bluefaced Parrotfinch *Erythrura trichroa*, Ouvea Parakeet), or possibly extinct (Island Thrush *Turdus poliocephalus*) and others whose frequency varies widely from place to place (Fan-tailed Cuckoo *Cacomantis flabelliformis*, Gerygone *Gerygone flavolateralis*, Silvereye *Zosterops lateralis*), while others show high (Red-bellied Fruit-Dove *Ptilinopus greyii*), average (Melanesian Flycatcher *Myiagra caledonica*, Sacred Kingfisher *Todiramphus sanctus*) or low (Emerald Dove *Chalcophaps indica*) frequencies that remain comparable between these islands. The species ecology has been determined with some species associated with wide forests, e.g. the Ouvea Parakeet, while others are typical of the open settings. The threats onto this avifauna are mainly linked to habitat destruction and the impact of introduced species. A specific effort should be made to ensure the protection of populations of that species for which there is the greatest concern, i.e. the Ouvea Parakeet.

Barré 2005(f)

Author: Barré, N.; Villard, P., Manceau, N., Monimeau, L., Ménard, C.

Year: 2005

Title: Les oiseaux de l'Archipel des Loyauté (Nouvelle - Calédonie): inventaire et éléments d'écologie et de biogéographie

Journal: Rev. Ecol. (Terre Vie)

Volume: 61

Pages: 175-194

Keywords: avifaune; Archipel des Loyauté; Nouvelle-Calédonie; inventaire; écologie; biogéographie

Abstract: L'avifaune des Loyauté comprend 62 espèces, dont 14 marines nicheuses ou erratiques, 5 migratrices, 7 hérons, canards et râles, 4 rapaces/chouette, 28 oiseaux terrestres nicheurs indigènes (appartenant à 33 sous-espèces) et 2 espèces introduites de Grande Terre. Six espèces sont endémiques à l'archipel néo-calédonien : 3 présentes à la fois en Grande Terre et aux Loyauté : Polochion moine *Philemon diemenensis*, Zostérops à dos vert *Zosterops xanthochrous*, Stourne des Loyauté *Aplonis striatus* et 3 pour les seules Loyauté : Perruche d'Ouvéa *Eunymphicus uvaeensis*, Zostérops de Lifou *Zosterops inornatus* et Zostérops minute *Z. minutus*. *Eunymphicus* est un genre endémique de Nouvelle-Calédonie. Huit sous-espèces sont endémiques à la fois de Grande Terre et des Loyauté et 11 sont exclusives des Loyauté. Sur 24 taxons dont l'origine géographique peut être établie, 58 % sont identiques ou proches de ceux de Grande Terre distante de 105 km, et 42 % ont des affinités avec des oiseaux du Vanuatu, deux fois plus éloigné (225 km). La trajectoire des cyclones pourrait expliquer cette influence ni-vanuatu particulière. La corrélation entre la surface des îles et le nombre d'espèces qui y ont réussi leur implantation est très étroite ($r = 0,97$) et vérifie bien cette règle de la biogéographie. La fréquence des espèces terrestres nicheuses est variable, avec des espèces rares et localisées, limitées à certaines îles (Diamant de Kittlitz *Erythrura trichroa*, Perruche d'Ouvéa) et qui ont peut-être disparu (Merle des Îles *Turdus poliocephalus*), d'autres dont la fréquence est très inégalement répartie (Coucou à éventail *Cacomantis flabelliformis*, Gérygone *Gerygone flavolateralis*, Zostérops à dos noir *Zosterops lateralis*), d'autres enfin aux fréquences élevées (*Ptilope de Grey Ptilinopus greyii*), moyennes (Monarque *Myiagra caledonica*, Martin-chasseur *Todiramphus sanctus*) ou faibles (Colombine turvert *Chalcophaps indica*), mais comparables entre les îles. L'écologie des espèces a pu être précisée avec des espèces inféodées aux grandes forêts, parmi lesquelles la Perruche d'Ouvéa, et des espèces typiques des milieux ouverts. Les menaces pesant sur cette avifaune sont essentiellement liées aux destructions d'habitat et à l'impact des espèces introduites. Un effort particulier doit être consenti pour sécuriser les populations de l'espèce dont le statut est le plus préoccupant : la Perruche d'Ouvéa.

Bationoff 2005

Author: Bationoff, Georges N.; Cornelius, N. J.

Year: 2005

Title: Birds of Raine Island: Population Trends, Breeding Behaviour and nesting habitats.

Journal: Proceeding of the Royal Society of Queensland

Volume: 112

Pages: 1-29

Keywords: Tropical seabirds and habitats; population decline; breeding; nesting; roosting

Abstract: The avifauna recorded from Raine Island between 1843 and 2003 comprises 84 species. Of the 16 species recorded as breeding on Raine Island, five are seabird species considered to be uncommon and/or rare in Queensland i.e. Herald Petrel, Red-tailed Tropicbird, Red-footed Booby, and Great and Lesser Frigatebirds. The Red-tailed Tropicbird's conservation status in Queensland is Vulnerable, whilst the Herald Petrel is listed as Critically Endangered in Australia. The waterbird species breeding on the island are the Nankeen Night Heron and the Buff-banded Rail. The terrestrial ecological factors that affect the birds breeding on Raine Island are examined. Annual seabird population counts taken between 1979-1993 and 1994-2003 are reported. Comparisons of bird populations between the two periods suggest population decline in 13 of the 16 species over the last 24 years. The combined averages for all 16 species indicate a total population reduction of the rookery by 16,347 birds, or 69.7%. Five species with >60% reductions in the mean population estimates are: Red-footed Booby (67.9%), Lesser Frigatebird (67.6%), Bridled Tern (69.1%), Sooty Tern (84.4%) and Common Noddy (95.5%). There is no evidence of significant human disturbance, no habitat loss and/or deterioration of nesting habitat conditions on the island over the period in which the population has declined.

Beadell 2006

Author: Beadell, J. S.; Ishtiaq, F.; Covas, R.; Melo, M.; Warren, B. H.; Atkinson, C. I.; Bensch, S.; Graves, G. R.; Jhala, Y. V.; Peirce, M. A.; Rahmani, A. R.; Fonseca, D. M.; Fleischer, R. C.

Year: 2006

Title: Global phylogeographic limits of Hawaii's avian malaria

Journal: Proceedings of the Royal Society B - Biological Sciences

Volume: 273

Issue: 1604

Pages: 2935-2944

Abstract: The introduction of avian malaria (*Plasmodium relictum*) to Hawaii has provided a model system for studying the influence of exotic disease on naive host populations. Little is known, however, about the origin or the genetic variation of Hawaii's malaria and traditional classification methods have confounded attempts to place the parasite within a global ecological and evolutionary context. Using fragments of the parasite mitochondrial gene cytochrome b and the nuclear gene dihydrofolate reductase-thymidylate synthase obtained from a global survey of greater than 13 000 avian samples, we show that Hawaii's avian malaria, which can cause high mortality and is a major limiting factor for many species of native passerines, represents just one of

the numerous lineages composing the morphological parasite species. The single parasite lineage detected in Hawaii exhibits a broad host distribution worldwide and is dominant on several other remote oceanic islands, including Bermuda and Moorea, French Polynesia. The rarity of this lineage in the continental New World and the restriction of closely related lineages to the Old World suggest limitations to the transmission of reproductively isolated parasite groups within the morphological species.

Beugnet 1995

TI : Note concernant les parasites du Cagou (*Rhynochetos jubatus*), oiseau endémique de Nouvelle-Calédonie.

AU : Beugnet, F., Gadat, R., Chardonnet, L., Hunt, G. (1995).

SO : *Rev.Méd.Vét.*, 146(11): 737-742.

ABSTRACT : The Kagu is an endemic bird from New Caledonia. One trematode Brachylaemidae, one cestode Dilepididae and two nematodes, a Capillariidae and an Heterakidae, have been detected. The only isolated ectoparasite is a Dipteran Hippoboscidae. The specificity of parasites of Kagu should be examined. The incidence of parasitism on the population of birds is discussed. Cagourakis dorssalata is seen on all two years old or more Kagus. A coprosopic study showed a variation of bird infestation during the year.

RESUME : Le Cagou est un oiseau terrestre endémique de Nouvelle-Calédonie. L'inventaire de ses parasites internes et externes a été réalisé. Un trématode Brachylaemidae, un cestode Dilepididae, deux nématodes, un Capillariidae et un Heterakidae, ont été observés. Le seul ectoparasite isolé est un insecte diptère Hippoboscidae. La question de la spécificité de ces parasites est posée. L'impact du parasitisme sur la population d'oiseaux est abordé. Cagourakis dorsolata est mis en évidence chez tous les cagous de plus de deux ans. Un suivi coproscopique permet d'observer une variation saisonnière de l'infestation des oiseaux.

Keywords : *Rhynochetos jubatus*-parasites-New Caledonia-Kagu / *Rhynochetos jubatus*-parasites-Nouvelle-Calédonie-cagou.

Beugnet 1996

TI : Parasites du Notou (*Ducula goliath*; O.Columbiformes).

AU : Beugnet, F., Gadat, R., Chardonnet, L. (1996).

SO : *Rec.Méd.Vét.*, 172(7/8): 421-424.

ABSTRACT : The Notu is an endemic arboreal pigeon from New Caledonia. A two years study of these birds permitted the observation of parasites. The parasites isolated from Notus are one Hippoboscidae, two Mallophaga lice species, and a subcutaneous filarial worm. Eggs from Nematoda and coccidian oocysts have also been observed by coproscopic studies. The pathogenicity of the parasites is discussed.

RESUME : Le Notou est un pigeon arboricole endémique de Nouvelle-Calédonie. L'étude d'oiseaux sur 2 ans a permis de mettre en évidence des ectoparasites: une espèce de diptère Hippoboscidae et deux espèces de poux mallophages, ainsi qu'une filaire sous-cutanée. Des oeufs de nématodes et des oocystes de coccidies ont également été observés par dépistages coproscopique. La pathogénicité des parasites est discutée.

Keywords : Notu-Ducula goliath-Parasites-New Caledonia / Notou-Ducula goliath-Parasites-Nouvelle-Calédonie

Blackburn 2004

Author: Blackburn, Tim M., Cassey Phillip, Duncan Richard P., Evans Karl L., Gaston Kevin J.

Year: 2004

Title: Avian Extinction and Mammalian Introductions on Oceanic Islands

Journal: Science

Volume: 305

Issue: 24

Pages: 1955-1958

Abstract: The arrival of humans on oceanic islands has precipitated a wave of extinctions among the islands' native birds. Nevertheless, the magnitude of this extinction event varies markedly between avifaunas. We show that the probability that a bird species has been extirpated from each of 220 oceanic islands is positively correlated with the number of exotic predatory mammal species established on those islands after European colonization and that the effect of these predators is greater on island endemic species. In contrast, the proportions of currently threatened species are independent of the numbers of exotic mammalian predator species, suggesting that the principal threat to island birds has changed through time as species susceptible to exotic predators have been driven extinct.

Blanvillain 2002

Author: Blanvillain, C.; Chevallier, F.; Thénot, V.

Year: 2002

Title: Land birds of Tuamotu Archipelago, Polynesia : relative abundance and changes during the 20th century with particular reference to the critically endangered Polynesian ground-dove (*Gallicolumba erythroptera*)

Journal: Biological Conservation

Volume: 103

Pages: 139-149

Keywords: land-bird; Tuamotu archipelago; bird distribution; bird conservation; Gallicolumba; Prosobonia

Abstract: We report relative abundances and distributions of land bird communities on eight isolated islands of the Tuamotu Archipelago (Polynesia, South Pacific Ocean) during two 21-day expeditions in 1999. The selection of islands was based on the historical range of the Polynesian ground-dove (*Gallicolumba erythroptera*), in the hope of finding populations of this critically endangered species. Data were also collected on the Tuamotu sandpiper *Prosobonia cancellata*, the Atoll Fruit-dove *Ptilinopus coralensis*, the Tuamotu reed-warbler *Acrocephalus atyphus*, the Spotless Crane *Porzana tabuensis* and the Bristle-thighed Curlew *Numenius tahitiensis*, and on introduced predators (cats, rats, pigs and dogs). None of the five land-bird species recorded previously, in 1922 and 1974, has completely disappeared, but ranges of several species have contracted. Only one population of *G. erythroptera erythroptera* was found and it is the only population known for this species today. Our data also raise particular concern for the future of the Tuamotu sandpiper.

Blanvillain 2002(biocon)

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AU : Blanvillain, C., Florent, C., Thenot, V. (2002).

SO : Biological Conservation, 103: 139-149.

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Keywords: Land-bird; Tuamotu archipelago; Bird distribution, Bird conservation; Gallicolumba; Prosobonia

Blanvillain 2003(a)

Author: Blanvillain, C., Salducci, J-M., Tutururai, G., Maeura, M.

Year: 2003

Title: Impact of introduced birds on the recovery of the Tahiti Flycatcher (*Pomarea nigra*), a critically endangered forest bird of Tahiti

Journal: Biological Conservation

Volume: 109

Pages: 197-205

Keywords: Tahiti Flycatcher; recovery programme; introduced birds; Indian Mynah; Red-vented Bulbul

Abstract: In 1998, only 25 Tahiti Flycatchers (*Pomarea nigra*), a forest bird endemic to Tahiti (French Polynesia) remained. A recovery programme, aimed at nest protection through both rodent control and tree banding, was initiated. At this time it was supposed that the species was mainly the victim of island infestation by ship rats (*Rattus rattus*). In the 3 years of this study 54 nests were found and 17 fledged young produced, of which 12 survived the early stage of fledging. Despite an excellent 1999 breeding season and efficient nest protection against rodents, only five of 19 nests produced fledged young in 2000. This was related to higher ($P=0.002$ and 0.015 respectively) Indian Mynah (*Acridotheres tristis*) encounters and aggressive interactions in 2000 and 1998 than in 1999. Indian Mynah encounters and interactions were also higher during reproductive activities (and particularly at incubation and nestling stages) in comparison with the non breeding period ($P < 0.001$). In contrast, Red-vented Bulbul (*Pycnonotus cafer*) encounters and interactions were more uniform throughout. Significantly more Indian Mynah and Red-vented Bulbul were observed in flycatcher territories which experienced nest failure or early fledgling death in comparison with those which experienced reproductive success ($P=0.003$ and 0.002 respectively). This strongly suggests that these two introduced species represent an important threat to the Tahiti Flycatcher's survival. Currently, young birds (less than 4 years old) represent 42% of the population, an increase from 12% at the start of the recovery programme.

Blanvillain 2003(b)

Author: Blanvillain, Caroline; Thorsen, Mike

Year: 2003

Title: The Biology of the critically endangered Marquesan Imperial-Pigeon (*Ducula galeata*), Nuku Hiva, Marquesas Archipelagos (French polynesia)

Journal: Emu

Volume: 103

Issue: 4

Pages: 381-386

Keywords: Ducula galeata;Nuku Hiva;French Polynesia

Abstract: This paper presents data obtained on the biology of the Marquesan Imperial-Pigeon, or Upe, a critically endangered species that is very poorly studied, during a reintroduction procedure of the species from Nuku Hiva to Ua Huka Island, which was initiated as a conservation priority to create a second population. Our data show that in the study area, the Upe preferentially used the plant species of the emergent tree stratum and some of the native tree species of the intermediate stratum. The species' diet includes fruit and grain but also flowers, leaves and insects. Data collected on nest sites, social interactions, courtship, vocalisations and measurements, including sex and age determination, are also presented.

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Keywords: Tahiti Flycatcher; Recovery programme; Introduced birds; Indian Mynah; Red-vented Bulbul

Blanvillain 2003(emu)

TI : The biology of the critically endangered Marquesan Imperial-Pigeon (*Ducula galeata*), Nuku Hiva, Marquesas Archipelago (French Polynesia).

AU : Blanvillain C., Thorsen M. (2003).

SO : Emu 103(4): 381-386.

ABSTRACT : This paper presents data obtained on the biology of the Marquesan Imperial-Pigeon, or Upe, a critically endangered species that is very poorly studied, during a reintroduction procedure of the species from Nuku Hiva to Ua Huka Island, which was initiated as a conservation priority to create a second population. Our data show that in the study area, the Upe preferentially used the plant species of the emergent tree stratum and some of the native tree species of the intermediate stratum. The species' diet includes fruit and grain but also flowers, leaves and insects. Data collected on nest sites, social interactions, courtship, vocalisations and measurements, including sex and age determination, are also presented.

Bourne 2005

Author: Bourne, W. R. P.; David, A. C. F.; McAllan, I. A. W.

Year: 2005

Title: The birds of the Southern coral sea including observations by HMS Herald in 1858-1860.

Journal: Atoll Research Bulletin

Issue: 541

Pages: 237-264

Abstract: The log of HMS Herald when surveying reefs in the southern Coral Sea in 1858-60 shows that the little known islands in this area were an important site for whales, turtles and seabirds (possibly including the Herald Petrel, *Pterodroma (arminjoniana) heraldica*, named after the ship) before they were devastated by whalers and guano digging soon afterwards. This information is compared with more recent observations. While the slow breeding, surface nesting Herald Petrels and most of the Red tailed Tropicbirds, *Phaethon rubricauda*, have not been found again, the vegetation and other more numerous bird populations appear to have largely recovered. While some birds may breed more or less continuously, there appears to be a peak for both birds and turtles in the spring in the south of the area and also in the autumn for the birds farther north, possibly due to the northward movement and increase in strength of the southeast trade wind in the winter. Individual birds apparently erratic breeding behaviour may help them to avoid predators and parasites.

Bretagnolle 1998**Author:** Bretagnolle, V., Attié, C., Pasquet, E.**Year:** 1998**Title:** Cytochrome-B Evidence for validity and Phylogenetic relationship on Pseudobulweria and Bulweria (Procellariidae).**Journal:** Auk**Volume:** 115**Issue:** 1**Pages:** 188-195

Abstract: Although the genus Pseudobulweria was described in 1936 for the Fiji Petrel (*Ps. macgillivrayi*), its validity, phylogenetic relationships, and the number of constituent taxa it contains remain controversial. We tried to clarify these issues with 496 bp sequences from the mitochondrial cytochrome-b gene of 12 taxa representing three putative subspecies of Pseudobulweria, seven species in six other genera of the Procellariidae (fulmars, petrels, and shearwaters), and one species in six other genera of the Procellariidae (fulmars, petrels, and shearwaters), and one species each from the Hydrobatidae (storm-petrels) and Pelecanoididae (diving-petrels). We also include published sequences for two other petrels (*Procellaria cinerea* and *Macronectes giganteus*) and use *Diomedea exulans* and *Pelecanus erythrorhynchos* as outgroups. Based on the pronounced sequence divergence (5 to 5.5%) and separate phylogenetic history from other genera that have been thought to be closely related to or have been synonymized with Pseudobulweria, we conclude that the genus is valid, and that the Mascarene Petrel (*Pseudobulweria aterrima*) and the Tahiti Petrel (*Ps. rostrata*) are distinct species. In trees constructed with maximum parsimony and maximum likelihood, Pseudobulweria is the sister taxon to Puffinus and Calonectris, and these genera in turn are most closely related to Bulweria (and Procellaria in the maximum-parsimony tree). Pseudobulweria is not closely related to Pterodroma in either tree. Because *Ps. r. trouessarti* from New Caledonia, and *Ps. r. rostrata* from Polynesia differ by only 0.6% these taxa do not deserve species status and should be regarded as valid subspecies.

Brooke 1995(a)**Author:** Brooke, Mike de L.**Year:** 1995**Title:** The breeding biology of the gadfly petrels Pterodroma spp. of the Pitcairn Islands: characteristic, population sizes and controls.**Journal:** Biological Journal of the Linnean Society**Volume:** 56**Pages:** 213-231**Keywords:** Polynesia; Rattus exulans; breeding success; Henderson island

Abstract: This paper reports the breeding biology and nesting seasons of the gadfly petrels which nest on the four islands of the Pitcairn group, Pitcairn, Henderson, Oeno and Ducie. The species currently breeding are Murphy's petrel *Pterodroma ultima*, Kermadec petrel *P. neglecta*, Herald petrel *P. heraldica* and Henderson petrel *P. atrata*. Of these, Murphy's petrel is the most numerous; an estimated 250 000 pairs bred on Ducie, which is probably the major breeding station of the species. Novel basic breeding data for Murphy's petrel are presented. Incubation spells, averaging 19.3 days, are exceptionally long for a petrel. Phoenix petrel *P. alba* appears to have ceased to breed on the Pitcairn Islands since the 1922 surveys of the Whitney Expedition. Nesting success was low on Henderson Island during the study. For all four breeding species, less than 20% of eggs laid yielded fledglings. Failure occurred at the early chick stage and observations indicated that it was due to predation by Pacific rats *Rattus exulans*. Although rats are present on Ducie, predation was apparently less severe there. The situation on Oeno may be intermediate. I consider how the populations of Henderson are maintained in the face of this intense predation. The Murphy's petrel population may be sustained by immigration from Ducie while the Herald and Henderson petrel populations could be undergoing a long-term decline on Henderson. It is not clear how the Kermadec petrel population is maintained. The conservation implications of these findings are discussed.

Brooke 1995(b)**Author:** Brooke, Mike de L.**Year:** 1995**Title:** The diet of the Henderson fruit dove *Ptilinopus insularis*. I. Field observations of fruit choice**Journal:** Biological Journal of the Linnean Society**Volume:** 56**Pages:** 149-165**Keywords:** Henderson Island; Ptilinopus; fruit dove; frugivory; diet selection

Abstract: Over 13 months we studied the diet of the fruit dove *Ptilinopus insularis*, endemic to the exceptionally remote South Pacific island of Henderson. Nineteen plant species were recorded in the diet by faecal analysis and direct observation. The fruit of *Procris pedunculata* (Urticaceae) was the most common food. When it was unavailable, the doves turned to the young shoots of the fern *Phymatosorus scolopendria*. Subject to

a maximum diameter of about 18 mm, the doves ate nearly all types of available fruit. By combining the diet studies with studies of plant phenology we were able to assess which, of the fruits available, were preferred. The doves preferred the larger fruit. Given that the fruit dove today eats nearly all available fruit species, we ponder on how it co existed with at least two other pigeon species that formerly lived on Henderson Island.

Brooke 1995(c)

Author: Brooke, Mike de L.

Year: 1995

Title: The modern avifauna of the Pitcairn Islands

Journal: Biological Journal of the Linnean Society

Volume: 56

Pages: 199-212

Keywords: Polynesia; seabird; breeding season; shearwater; petrel; bristle-thighed curlew

Abstract: Excluding the gadfly petrels *Pterodroma* spp. and the resident landbirds, this paper details the present status of bird species seen during an expedition to the Pitcairn Islands (Ducie, Henderson, Oeno and Pitcairn) in 1991 and early 1992. Ten species were recorded in the Islands for the first time. Several Southern Ocean petrels were recorded, most in the midwinter period of June and July. The populations of Christmas Island shearwaters breeding on Oeno and Ducie laid in synchrony every 9–10 months. The species is one of few with such a sub-annual, synchronized regime. The majority of other seabirds had an annual breeding cycle, laying between May and October. Around one percent of the world population of the bristle-thighed curlew passes the non-breeding season in the Pitcairn Islands.

Brooke 1998

Author: Brooke, Mike de L.

Year: 1998

Title: Ecological factors influencing the occurrence of flash marks in wading bird.

Journal: Functional Ecology

Issue: 12

Pages: 339-346

Keywords: charadriiformes; flocking; independent contrast; plumage-shorebirds

Abstract:

1. Although the plumage of birds is important for flight and thermoregulation, it is also employed in inter- and intraspecific communication. The role in communication of particular plumage features can be studied by experiment or, as here, by correlational analysis.
2. The study was carried out on the 210 species of wading birds, such as plovers, sandpipers, thick-knees and allies, that are placed within the traditional order Charadriiformes.
3. Species differ in the location and extent of 'flash marks', patches of white on the plumage that are typically conspicuous when the bird flies. These patches occur, in various permutations in different species, on the wing (primaries, secondaries, coverts), back, rump and tail.
4. Within a phylogenetic framework, it was asked which of several broad ecological variables (migration, habitat choice, feeding technique, propensity to flock) were correlated with the occurrence of flash marks. Only flocking correlated significantly. In particular, taxa that flock have flashier backs and coverts than their non-flocking relatives.
5. Three non-exclusive explanations for this correlation are: (i) individuals that take flight to avoid a predator may benefit from signalling their take-off to flock mates which themselves then take flight; (ii) flash marks could enhance the confusion effect within flocks, making it more difficult for a predator to single out an individual; and (iii) flash marks may facilitate co-ordinated flight within flocks.

Cibois 2004

TI : Biogeography of eastern polynesian monarchs (*Pomarea*): an endemic genus close to extinction

AU : Cibois, A., Thibault J.-C. and Pasquet, E. (2004).

SO : The Condor 106: 837-851.

ABSTRACT : The passerine genus *Pomarea* (monarchs, Monarchidae) is endemic to eastern Polynesia, where it is distributed on high volcanic islands of the Cook, Society, and Marquesas archipelagos. Recent extinctions of these birds have been documented on several islands, and most of the remaining forms are threatened by introduced rats (*Rattus rattus*) and habitat loss. We used mitochondrial DNA markers to develop a phylogeny of the entire genus *Pomarea*, including extinct taxa. This phylogeny was compared to geological data of the eastern Polynesian islands, with emphasis on the Marquesas archipelago where *Pomarea* has undergone its most extensive diversification. The phylogeny of *Pomarea* monarchs is consistent with the sequential appearance of the Marquesas islands. We approximated the ages of the lineages using molecular-clock and Bayesian methods that incorporate geological data. Both analyses showed differences of 1 to 2 million years between the ages of most islands and the ages of the nodes. We suggest that these differences are due to a latent period during which the islands were emergent but not successfully colonized by *Pomarea* taxa. Phylogenetic hypotheses suggest that

several species are polyphyletic. We outline the taxonomic consequences of our tree as well as implications for the evolution of sexual dimorphism in monarchs.

Keywords: cytochrome b, extinction, Marquesas islands, molecular phylogeny, monarchs, Pomarea.

Cibois 2007

Author: Cibois, A., Thibault, J-C., Pasquet, E.

Year: 2007

Title: Uniform phenotype conceals double colonization by reed-warblers of a remote Pacific archipelago

Journal: Journal of Biogeography

Volume: 34

Issue: 7

Pages: 1150-1166

Keywords: Acrocephalidae, adaptive radiation, convergent evolution, island biogeography, island evolution, morphological evolution, mtDNA, phylogeny, Polynesia, reedwarblers.

Abstract:

Aim: Remote oceanic islands often provide good illustrations of adaptive radiations, but phylogenetic studies have also demonstrated unexpected multiple colonization events for a given archipelago. In this study we investigate the relationships among endemic populations of the Marquesas reed-warbler, *Acrocephalus mendanae* Tristram, 1883, which have colonized nearly all islands of this remote Polynesian archipelago, and which exhibit a very uniform plumage pattern. We study the phylogeny and morphology of all subspecies in the Marquesas, providing an examination of the position of the Marquesas lineages in relation to reed-warblers distributed across multiple Polynesian archipelagos.

Location: This study focused on all the main islands of the Marquesas archipelago, along with samples from other Polynesian archipelagos (Society, Tuamotu, Austral, Cook, Kiribati) and Australia.

Methods: We used mitochondrial DNA markers (cytochrome b and ND2 genes) to develop a phylogeny of the main eastern Polynesian taxa. All subspecies for the Marquesas were investigated, including multiple individuals per island. Phylogenetic analyses using maximum-likelihood and Bayesian approaches were employed to infer relationships among *A. mendanae* populations and between the main Polynesian archipelagos. Morphometric analyses based on 110 specimens from museum collections were performed on external characters to investigate the differences between islands, and these results were compared to the phylogeny.

Results: Our data indicate that the Marquesas reed-warbler is in fact a polyphyletic taxon including two independent lineages: the northern Marquesas reed-warbler, closely related to the Tuamotu reed-warbler, and the southern Marquesas reed-warbler, sister taxon to that endemic to the Kiribati. Analyses of morphological characters show that the size and shape features of the Marquesas reed-warblers exhibit high plasticity linked to adaptation to ecological factors, particularly habitat richness (the diversity of vegetation structure that provides suitable resources and habitat for reed-warblers, simplified here as the number of indigenous plant species).

Main conclusions: Our results suggest that reed-warblers have successfully colonized the Marquesas archipelago, one of the most remote groups of islands in the Pacific Ocean, at least twice. Both events occurred more or less simultaneously at ca. 0.6 Ma, and are more recent than the islands' formation. We outline the taxonomic consequences of our phylogeny and discuss the supertramp strategy of reed-warblers in the Pacific.

Congdon 2004

Author: Congdon, B. C., Preker, M.

Year: 2004

Title: Sex specific chick provisioning and kleptoparasitism in the least Frigate bird, *Fregata ariel*.

Journal: Emu

Volume: 104

Pages: 347-351

Keywords: *Fregata ariel*; sex specific; kleptoparasitism

Abstract: We examined sex-specific patterns of provisioning behaviour and kleptoparasitic host-use in the Least Frigatebird *Fregata ariel*. We aimed to determine, first, whether sex-specific kleptoparasitism, either at sea, or adjacent to the breeding colony, is an important source of food for chick provisioning and, second, whether observed behaviour is consistent with the expectation that sexual size-dimorphism in resource-poor environments consistently results in sex-specific divergence of foraging behaviour. We observed sex-specific differences in the time of day that adult frigatebirds provision chicks but no differences in the overall provisioning rate between sexes. We also observed no sex-specific kleptoparasitism via simultaneous monitoring of provisioning by Least Frigatebirds and Masked Boobies. Sex-specific differences in prey types attacked at the colony were observed, but these conflicted with predictions based on previous studies and were directly correlated with diurnal patterns of adult frigatebird attendance. Overall, we suggest that sexual differences in foraging behaviour in Least Frigatebirds are minimal and relate to either the use of different risk-sensitive foraging strategies by each sex, or are a consequence of body size differences in independently foraging sexes. While our results must be considered preliminary, we believe they provide justification for further critical examination of mechanisms of sex-specific behavioural divergence in seabird taxa.

Cooper 1998

TI : Summer Behavior and Mortality of Dark-Rumped Petrels and Newell's Shearwaters at Power Lines on Kauai.

AU : Cooper, B. A., Day, R. H. (1998).

SO : Colonial Waterbirds 21(1): 11-19.

ABSTRACT : We studied crossing distances, behavior, and mortality of Dark-rumped Petrels (*Pterodroma phaeopygia sandwichensis*) and Newell's Shearwaters (*Puffinus auricularis newelli*) around a power line on Kauai, Hawaii, in the summers of 1993-1994. Both species crossed this power line at significantly smaller distances in the morning (while flying to sea) than in the evening (while flying inland). In the morning, birds flew at higher flight altitudes at locations ~800 m inland than at nearby coastal locations. Approximately 5% of each species exhibited behavioral responses while crossing power lines; only Dark-rumped Petrels exhibited a significantly higher frequency of response in the morning than in the evening, however. Most of the Newell's Shearwaters that were killed in summer collided with power lines while on their way to sea, primarily at power lines <100 m from the coast and in valleys. Approximately 20% of the shearwaters killed were adults; most of the remainder were subadult, nonbreeding birds.

Keywords : Behavior-collision-Dark-rumped Petrel-Hawaii-mortality-Newell's Shearwater-power lines-*Pterodroma phaeopygia sandwichensis*-*Puffinus auricularis newelli*.

Cowan 1992

TI : The eradication of introduced Australian brushtail possums, (*Trichosurus vulpecula*), from Kapiti Island, a New Zealand nature reserve.

AU : Cowan, P. E. (1992).

SO : Biological Conservation 61: 217-226.

ABSTRACT : Kapiti Island is a nature reserve of 1965 ha, lying off the west coast of the North Island of New Zealand about 50 km north of its southern extremity. It is famous for its abundant and readily observed birdlife and has a variety of species now rare on the mainland. The island also houses the last viable population of the little spotted kiwi *Apteryx oweni*, the smallest of New Zealand's three species of ratites. The browsing of Australian marsupial brushtail possums *Trichosurus vulpecula* introduced to Kapiti in 1893 seriously threatened the island's vegetation and wildlife. Possum numbers had been reduced by trapping at various times during 1920-1968. In 1980, a programme began involving several Government management and research agencies, which resulted in the eradication of possums from the island by the end of 1986. The island was divided into blocks, each covered by a network of individually identified and mapped tracks. A combination of trapping, aerial poisoning and trained dogs was used to eradicate possums systematically from each block. During the seven years of the programme, about 21 000 possums were killed in about 1 399 000 trap nights, 4500 hours of searching with dogs, and aerial poisoning of 330 ha of steep cliffs. Details of the eradication programme are described, its costs and benefits, and comments are made on the reasons for its success, and lessons for future eradication attempts. The island was divided into blocks, each covered by a network of individually identified and mapped tracks. A combination of trapping, aerial poisoning and trained dogs was used to eradicate possums systematically from each block. During the seven years of the programme, about 21 000 possums were killed in about 1 399 000 trap nights, 4500 hours of searching with dogs, and aerial poisoning of 330 ha of steep cliffs. Details of the eradication programme are described, its costs and benefits, and comments are made on the reasons for its success, and lessons for future eradication attempts.

Diamond 1977

Author: Diamond, J. M.

Year: 1977

Title: Continental and Insular Speciation in Pacific Land Birds.

Journal: Systematic Zoology

Volume: 26

Issue: 3

Pages: 263-268

Keywords: speciation; Pacific land birds

Abstract: Three modes of allopatric speciation can be distinguished, depending on whether the isolating geographic barrier is within a single land mass ("continental speciation"), between islands of the same archipelago, or between different archipelagoes ("insular speciation"). The contributions of these three modes to speciation in Pacific land birds are analyzed. Continental speciation in birds has occurred in no Pacific land mass smaller than Australia, New Guinea, and possibly New Zealand; intraarchipelagal speciation has occurred only on six of the most remote archipelagoes; and inter-archipelagal speciation has produced most of the sympatric bird species pairs from the Bismarcks to Samoa. The frequency of each mode depends on area and isolation of the island, and on mobility and perhaps population density of the taxa involved. What is an "island" to some taxa may be a "continent" to others. For example, New Caledonia behaves as a continent to higher plants, insects, and lizards, but not to birds or ferns.

Ehrhardt 1976

Author: Ehrhardt, J. P.

Year: 1976

Title: La Faune ornithologique de Clipperton en Juillet 1968

Journal: Cahiers du Pacifique

Pages: 169-179

Keywords: Clipperton; avifaune

Abstract: Le premier recensement des oiseaux de l'atoll de Clipperton, en juillet 1968, a révélé la présence d'environ 26.000 individus. Les fous sont les plus nombreux (77,3% de la population totale). Viennent ensuite les sternes (19,3%) et les frégates (2,5%). Grâce aux estimations d'Obermuller (1959) et de Stager (1964), nous pouvons affirmer que la population des fous est en pleine expansion, y compris celle des fous à pattes rouges (*Sula sula*) tandis que celles des sternes est en régression. Cette régression semble provenir d'une part de l'accroissement de la population des Sulidae et d'autre part de l'absence, à l'époque de notre recensement, de la majorité des sternes fuligineuses. Depuis le dernier bilan, réalisé en 1958, de nouvelles espèces sont apparues portant à 40 le nombre d'espèces signalées à Clipperton. Mais seules 11 d'entre elles peuvent être considérées comme permanentes.

Ehrhardt 1980

TI : L'avifaune de Tubuai.

AU : Ehrhardt, J. P. (1980).

SO : Cahiers de l'Indo-Pacifique 2(4): 271-288.

ABSTRACT : The first census of the Avifauna of Tubuai island (Austral island) was made in February 1980. It revealed the presence of only eleven species: seven oceanic, three terrestrial and one migratory birds. On the barrier reef islets, the Brown Noddies are the most numerous (86%), followed by the White Terns (8,6%). On the volcanic island, the Mynach birds are the most numerous (93,2%) followed by the Australian Gray Duck (4,6%). In spite of the presence of several forests, any forest bird (Fruit Dove, Kingfisher, Flycatcher or Warbler) couldn't be seen. The Sooty Rail, *Porzana tabuensis* (Gmelin) is probably extinct.

RESUME : En février 1980, a été entrepris pour la première fois le recensement des Oiseaux de Tubuai (Australes). Il a révélé la présence de seulement onze espèces: sept océaniques, trois terrestres et une migratrice. Sur les motus, les Noddies bruns sont plus nombreux (86%), suivis par les Sternes blanches (8,6%). Sur l'île volcanique, le Merle des Moluques est l'espèce la mieux représentée (93,2%). Vient ensuite le Canard à sourcils (4,6%). Malgré la présence de plusieurs forêts, aucune espèce forestière (Ptilope, Martin-chasseur, Monarque ou Fauvette) n'a été décelée. Quant à la Marouette fuligineuse, *Porzana tabuensis* (Gmelin), elle a probablement disparu de l'île.

Gaudron 1992

TI : Traumatologie osseuse chez les oiseaux sauvages.

AU : Gaudron, C., Demeautis, G. (1992).

SO : Rev. Méd. Vét. 143(3): 219-223.

ABSTRACT : The bone traumatology constitutes the dominant pathology in wild birds and man is usually responsible. It is favoured by the anatomical particularities of the bird who has got: - pneumatic bones in connection with a wide system of air-sacs; - a considerable wing musculature acting through the instrumentality of long tendons; - a fine and very fragile bone cortical; - a very thin skin and the quasi-absence of derm bringing no complementary protection against shocks. The radiological implement allows to specify the severity of osseous injuries and their localization. Shot birds undergo damages mainly on members, as victims of collision.

RESUME : La traumatologie osseuse constitue la pathologie dominante chez les oiseaux sauvages et l'homme en est le principal responsable. Elle est favorisée par les particularités anatomiques de l'oiseau qui possède: - des os pneumatiques en liaison avec un vaste système de sacs aériens; - une musculature alaire considérable agissant par l'intermédiaire de longs tendons; - une corticale osseuse fine et très fragile; - une peau très fine et la quasi-absence de derme n'apportant pas de protection complémentaire contre les chocs. L'outil radiologique permet de préciser la gravité des lésions osseuses et leur localisation. Les oiseaux tirés par plomb subissent des dommages essentiellement aux membres, ceux victimes de collisions des traumatismes plus importants et répartis dans tout l'organisme.

Keywords : Bone-traumas-radiology-wild birds. Traumatologie osseuse-radiologie-oiseaux sauvages.

Gavin 2004

Author: Gavin, H. T.; Wills, M. A.; Székely, T.

Year: 2004

Title: A supertree approach to shorebird phylogeny

Journal: Bio Med Central Evolutionary Biology

Issue: 4

Pages: 1-18

Abstract:

Background: Order Charadriiformes (shorebirds) is an ideal model group in which to study a wide range of behavioural, ecological and macroevolutionary processes across species. However, comparative studies depend on phylogeny to control for the effects of shared evolutionary history. Although numerous hypotheses have been presented for subsets of the Charadriiformes none to date include all recognised species. Here we use the matrix representation with parsimony method to produce the first fully inclusive supertree of Charadriiformes. We also provide preliminary estimates of ages for all nodes in the tree.

Results: Three main lineages are revealed: i) the plovers and allies; ii) the gulls and allies; and iii) the sandpipers and allies. The relative position of these clades is unresolved in the strict consensus tree but a 50% majority-rule consensus tree indicates that the sandpiper clade is sister group to the gulls and allies whilst the plover group is placed at the base of the tree. The overall topology is highly consistent with recent molecular hypotheses of shorebird phylogeny. Conclusion: The supertree hypothesis presented herein is (to our knowledge) the only complete phylogenetic hypothesis of all extant shorebirds. Despite concerns over the robustness of supertrees (see Discussion), we believe that it provides a valuable framework for testing numerous evolutionary hypotheses relating to the diversity of behaviour, ecology and life-history of the Charadriiformes.

Gilardi 1992

TI : Sex-Specific Foraging Distributions of Brown Boobies in the Eastern Tropical Pacific.

AU : Gilardi, J. D. (1992).

SO : Colonial Waterbirds 15(1): 148-151.

ABSTRACT : This study investigates sex differences in the distribution of foraging Brown Boobies (*Sula leucogaster*) near Clipperton island in the eastern tropical Pacific. Females tended to forage farther from shore than males: e.g., the sex ratio varied from strongly male-biased near the colony (within 20 km) to female-biased away from the colony (beyond 90 km). Males also return to the colony earlier in the evening than females, again suggesting more proximate foraging locations in males. An hypothesis linking these foraging differences to sex role partitioning and sexual size dimorphism is proposed. Selection on females for increased chick provisioning may have lead to increased size and foraging range. Conversely, males are selected to remain close to the colony to maintain territories and prevent or acquire extra-pair copulations, thus reducing their foraging range and body size.

Keywords : Brown Booby, foraging, parental investment, sexual dimorphism, *Sula leucogaster*

Gill 1992

TI : Distribution, numbers, and habitat of Bristle-tighed Curlews (*Numenius tahitiensis*) on Rangiroa atoll.

AU : Gill, R. E., Redmond, Jr. R. (1992).

SO : Notornis 39: 17-26.

ABSTRACT : We assessed the numbers, distribution, and habitat of Bristle-thighed Curlews (*Numenius tahitiensis*) on Rangiroa Atoll, Tuamotu Archipelago, during a visit in April 1988. We estimated a total of 250-350 curlews on the atoll. These birds were most common on (1) salt pans within clusters of a small islets and (2) narrow channel between islets that were bordered by shrubs and herb mats. The distribution of curlews on Rangiroa appeared to be determined by the distribution of humans and their commensal animals and by the availability of habitats. Given the species relatively low numbers, low reproductive rate, and prebasic moult which, for some adults, entails a flightless period, conservation and management efforts must begin on the non-breeding grounds. These efforts should focus on reducing or eliminating potential mortality factors such as subsistence harvest, introduced predators, and contaminants. Countries throughout the species non-breeding range are encouraged to be active in these efforts.

Holyoak 1974

TI : Les oiseaux des îles de la Société

AU : Holyoak D.T. (1974).

SO : L'oiseau et la Revue française d'ornithologie, 44: 1-27; 153-184.

ABSTRACT : The Society Islands have been surprisingly neglected by ornithologist. Their physical geography, climate, vegetation and faunas are briefly described, and the first comprehensive systematic list of the birds of the group is given. Information on the status and biology of the birds was obtained from the literature, museum specimens, the unpublished journals of the Whitney South Sea Expedition (1920-1923) and field observations by the author in 1972. Ranges, habitat-preferences, food, feeding behaviour, general biology, vocalisations and nest of some of the endemic land birds are described for the first time. The limited information available on the annual cycles of the native land birds is summarised and briefly discussed. Some of the endemic land birds are now very rare and real danger of extinction, particularly *Ducula aurorae*, *Vini peruviana*, *Acrocephalus caffer longirostris*, and *Pomarea nigra nigra*. Populations of a number of other endemics are small, but they are not immediately threatened. Forest destruction, introduced birds and mammals, shooting and avian malaria, may all have contributed to the decline of native bird populations. Deforestation is continuing, so

that the establishment of adequate nature reserves combined with prevention of burning and reduction of feral cattle and pig populations, offer the only hope for the survival of these endemic forms.

Holyoak 1977(a)

Author: Holyoak, David T.; Thibault, Jean-Claude

Year: 1977

Title: Habitats, morphologie et interactions écologiques des oiseaux insectivores de Polynésie orientale

Journal: L'oiseau et la Revue française d'ornithologie

Volume: 47

Pages: 115-147

Abstract: The islands of eastern Polynesia have three resident genera of insectivorous woodland birds (*Halcyon*, *Acrocephalus*, *Pomarea*) and are visited by a migrant cuckoo (*Urodynamis*). The distribution, habitat preferences and feeding ecology of these genera are described and compared. The size, proportions and coloration of different populations of each of these genera are described and the following environmental correlations are noted: the measurements of *Acrocephalus* and *Pomarea* are directly correlated with the average size of the leaves of the native vegetation on different islands, but no such correlation is present with *Halcyon*, which uses different feeding techniques; *Acrocephalus* populations that are sympatric with *Pomarea* invariably have yellow underparts, whereas most other populations do not: the coloration of *Pomarea* is darker on islands with dense wet forest than on those with dry open woodland (fig.3); *Acrocephalus* and immature *Pomarea* are lighter coloured than adult *Pomarea* and they tend to inhabit more open and drier forest than adult *Pomarea*. Adaptive explanations are offered for these and other correlations and it is argued that the principal differences between populations on different island have evolved as adaptations to the local conditions. Ecological differences between the four genera are regarded as ecological isolating mechanism which are maintained by competition. The equilibrium theory of insular biogeography is criticized as the immigration and extinction rates for the birds and islands discussed appear only to represent boundary conditions, within which other factors determine species numbers. Inter-specific competition affected by adaptations to local conditions is thought to be of paramount importance in determining species numbers.

Holyoak 1977(b)

Author: Holyoak, David T.; Thibault, Jean-Claude

Year: 1977

Title: Notes on the phylogeny, distribution and ecology of frugivorous pigeons in Polynesia

Journal: Emu

Volume: 78

Issue: 4

Pages: 201-206

Abstract: Phylogenetic relations in the genera *Ptilinopus* and *Ducula* in the central Pacific are discussed. Within these genera the species in eastern Polynesia replace each other geographically. Two pairs of species co-exist on some islands farther west, although in Fiji the members of each species-pair tend to be separated on large and small islands. The forms living on small islands rarely if ever co-exist with predatory hawks, unlike those forms on the larger Fijian islands. These patterns of distribution are discussed with reference to both the possible role of predatory hawks and the possible role of interspecific competition. Competition from fruit bats *Pteropus sp.* (Chiroptera) may have influenced the evolution of size in *Ducula pacifica* and its allies.

Holyoak 1977(emu)

TI : Notes on the phylogeny, distribution and ecology of frugivorous pigeons in Polynesia.

AU : Holyoak, D. T., Thibault, J.-C. (1977).

SO : The Emu 78(4): 201-206.

ABSTRACT : Phylogenetic relations in the genera *Ptilinopus* and *Ducula* in the central Pacific are discussed. Within these genera the species in eastern Polynesia replace each other geographically. Two pairs of species co-exist on some islands farther west, although in Fiji the members of each species-pair tend to be separated on large and small islands. The forms living on small islands rarely if ever co-exist with predatory hawks, unlike those forms on the larger Fijian islands. These patterns of distribution are discussed with reference to both the possible role of predatory hawks and the possible role of interspecific competition. Competition from fruit bats *Pteropus sp.* (Chiroptera) may have influenced the evolution of size in *Ducula pacifica* and its allies.

Holyoak 1977(oisrfo)

TI : Habitats, morphologie et inter-actions écologiques des oiseaux insectivores de Polynésie orientale

AU : Holyoak, D.T. and Thibault, J.-C. (1977).

SO : L'Oiseau et la Revue française d'ornithologie, 47(2): 116-147.

ABSTRACT : The islands of eastern Polynesia have three resident genera of insectivorous woodland birds (*Halcyon*, *Acrocephalus*, *Pomarea*) and are visited by a migrant cuckoo (*Urodynamis*). The distribution, habitat preferences and feeding ecology of these genera are described and compared. The size, proportions and

coloration of different populations of each of these genera are described and the following environmental correlations are noted: the measurements of *Acrocephalus* and *Pomarea* are directly correlated with the average size of the leaves of the native vegetation on different islands, but no such correlation is present with *Halcyon*, which uses different feeding techniques; *Acrocephalus* populations that are sympatric with *Pomarea* invariably have yellow underparts, whereas most other populations do not: the coloration of *Pomarea* is darker on islands with dense wet forest than on those with dry open woodland (fig. 3); *Acrocephalus* and immature *Pomarea* are lighter coloured than adult *Pomarea* and they tend to inhabit more open and drier forest than adult *Pomarea*. Adaptive explanations are offered for these and other correlations and it is argued that the principal differences between populations on different islands have evolved as adaptations to the local conditions. Ecological differences between the four genera are regarded as ecological isolating mechanisms which are maintained by competition. The equilibrium theory of insular biogeography is criticized as the immigration and extinction rates for the birds and islands discussed appear only to represent boundary conditions, within which other factors determine species numbers. Inter-specific competition affected by adaptations to local conditions is thought to be of paramount importance in determining species numbers.

Jouglar 1996

TI : Bases de l'alimentation des oiseaux de cage et de volière.

AU : Jouglar, J.-Y. (1996).

SO : Rev.Med.Vét 147(7): 539-546.

ABSTRACT : First, the author considers generalities upon alimentary requirements of companion birds: energy proteins, vitamins, minerals and water. Bird fanciers breed numerous species with very various diets which are detailed according to a zoological classification: colomiforms, psittaciforms, passeriforms.

RESUME : L'auteur envisage tout d'abord les généralités sur les besoins alimentaires des oiseaux de compagnie: besoins en énergie, en protéines, en vitamines, en minéraux et en eau. Les amateurs élèvent des espèces nombreuses aux régimes alimentaires très variés qui sont détaillés en suivant une classification zoologique: colombiformes, psittaciformes, passeriformes.

Keywords: feeding - diet - colomiforms - psittaciforms - passeriforms - canary - parakeet - mynah - parrot / alimentation - régime - colomiformes - psittaciformes - passeriformes - canari - perruche - mainate - perroquet.

Kesler 2007

Author: Kesler, Dylan C.; Haig, Susan M.

Year: 2007

Title: Conservation biology for suites of species: Demographic modeling for Pacific island kingfishers

Journal: Biological conservation

Volume: 136

Pages: 520-530

Keywords: Demographic model; Island avifauna; Micronesian kingfisher; Pacific island; conservation; Population model; Population suite; *Todiramphus cinnamominus reichenbachii*; *Halcyon cinnamomina*

Abstract: Conservation practitioners frequently extrapolate data from single-species investigations when managing critically endangered populations. However, few researchers initiate work with the intent of making findings useful to conservation efforts for other species. We presented and explored the concept of conducting conservation-oriented research for suites of geographically separated populations with similar natural histories, resource needs, and extinction threats. An example was provided in the form of an investigation into the population demography of endangered Micronesian kingfishers (*Todiramphus cinnamominus*). We provided the first demographic parameter estimates for any of the 12 endangered Pacific *Todiramphus* species, and used results to develop a population projection matrix model for management throughout the insular Pacific. Further, we used the model for elasticity and simulation analyses with demographic values that randomly varied across ranges that might characterize congener populations. Results from elasticity and simulation analyses indicated that changes in breeding adult survival exerted the greatest magnitude of influence on population dynamics as demographic rates were randomly altered. We concluded that conservation practitioners working with endangered Pacific kingfishers should primarily focus efforts on factors affecting nestling and breeder survival, and secondarily address fledgling juveniles and helpers. Further, we described how the generalized base model might be changed to focus on individual populations and discussed the potential application of multi-species models to other conservation situations.

Kirchman 2006

TI : New Species of Rails (Aves: Rallidae) from an Archaeological Site on Huahine, Society Islands.

AU : Kirchman, J. J. (2006).

SO : Pacific Science 60(2): 281-297

ABSTRACT : We examined 50 bones previously assigned to "Gallirallus new sp." from the prehistoric (1,250–750 yr B.P.) Fa'ahia archaeological site on Huahine, Society Islands. Most of these specimens (n = 47), representing nearly all major cranial and postcranial skeletal elements, belong to a medium-sized flightless rail that we name *Gallirallus storrisoni*. Three femora represent a second species of extinct rail that we name

Porphyrio mcnabi. With the description of these two species of rails, the total number of extinct species of land birds from the Fa'ahia site stands at seven, consisting of two rails, two doves, two parrots, and a starling. Fa'ahia also has yielded bones of six other species of land birds that no longer exist on Huahine but survive elsewhere in Oceania.

Kirchman 2007

Author: Kirchman, J. J.; Steadman, D. W.

Year: 2007

Title: New Species of Extinct Rails (Aves: Rallidae) from Archeological Sites in the Marquesas Islands, French Polynesia.

Journal: Pacific Science

Volume: 61

Issue: 1

Pages: 145-163

Abstract: We examined 53 bones of rails (Rallidae), previously referred to *Gallirallus* n. spp., from archaeological sites on four islands in the Marquesas Islands, French Polynesia. We describe three new, extinct, flightless species of *Gallirallus*: *G. roletti* (Tahuata), *G. gracilitibia* (Ua Huka), and *G. epulare* (Nuku Hiva). Two bones from Hiva Oa, although probably representing another extinct species of *Gallirallus*, are regarded as an inadequate basis for describing a species. At first human contact, the genus *Gallirallus* probably included many scores if not hundreds of flightless species on islands from the far western Pacific (Okinawa, Philippines, Halmahera) eastward across most of Oceania. As currently understood, the Marquesas Islands represent the eastern range limit of *Gallirallus*.

Kirk 1992

TI : Effects of the introduced black-naped hare (*Lepus nigricollis*) on the vegetation of Cousin Island, Seychelles and possible implications for avifauna.

AU : Kirk, D.A., Racey, P.A. (1992).

SO : Biological Conservation, 61: 171-179

ABSTRACT : The habitat use and feeding ecology of the introduced Indian black-naped hare *Lepus nigricollis nigricollis* (Cuvier) was studied on Cousin Island in the Seychelles with a view to assessing the impact of hares on vegetation and thus indirectly on several rare endemic landbirds and some seabird species. Habitat use was assessed by determining the distribution of faecal pellets over the island and mapping the location of hares seen. The dispersion of faecal pellets and hares seen was not uniform; hares showed a strong preference for coastal habitats and the garden in the depression at the base of the granite hill. Analysis of faecal pellets showed that at least 24 of the 130 plants recorded for Cousin were eaten by hares. Hares may aid plant seed dispersal, and browsing may prevent the regeneration of *Casuarina equisetifolia*. This is an important foraging tree for several rare endemic landbirds and is used as nest sites by some seabird species.

Kuehler 1997

TI : Translocation of Ultramarine Lorries *Vini ultramarina* in the Marquesas Islands : Ua Huka to Fatu Hiva.

AU : Kuehler, C., Lieberman, A., Varney, A., Unitt, P., Sulpice, R. M., Azua J., Tehevini, B. (1997).

SO : Bird Conservation International. 7(1): 69-79

ABSTRACT : The Ultramarine Lory (Ultramarine Lorikeet, Marquesas Lorikeet, Pihiti) *Vini ultramarina* is one of the most threatened insular Lory species. Endemic to the Marquesas Islands, where it probably once ranged throughout the archipelago, it has been nearly extirpated from all but the tiny island of Ua Huka. Given the vulnerability of a single population inhabiting one small island, and the decline of the species in recent years, establishment of the Ultramarine Lory on another less disturbed island within its historic range has been proposed as a conservation strategy. This paper describes a 1991 survey evaluating the status of the Ultramarine Lory in the Marquesas islands, and three subsequent translocations of birds from the island of Ua Huka to the island of Fatu Hiva. Twenty-nine birds were relocated during the period from 1992 to 1994 at the request of the Delegation de l'Environnement, French Polynesia. A preliminary survey, prior to the third translocation, indicates that previously transferred birds are surviving and may be reproducing; an intensive survey is planned in 1997.

Lacan 1974

TI : Les oiseaux des îles Gambier et de quelques atolls orientaux de l'Archipel des Tuamotu (Océan Pacifique)

AU : Lacan F., Mougou J.-L. (1974)

SO : L'oiseau et la Revue française d'ornithologie, 44: 193-280.

ABSTRACT : This publication is the result of five visits to nine of the eastern atolls of the Tuamotu archipelago: Fangataufa, Hao, Marutea du Sud, Maturei-Vavao, Mururoa, Puka Puka, Pukarua, Reao, Tureia, and to Gambier Island from 1965 to 1969. The avifauna of the region consist of 38 species, 27 of which are breeding (5 petrels, 1 Storm-petrel, 2 Tropic-birds, 3 Gannets, 1 Frigate-bird, 1 Heron, 1 Rail, 1 Sandpiper, 6 Terns, 2 Pigeons, 1 Kingfisher, 1 Pachycephala and 2 Warblers); 9 vagrant (3 Petrels, 1 Frigate-bird, 4 Waders, 1 Cuckoo) and 2

introduced species, the Rock Dove and the domestic hen. All these species are studied in details, and particularly their breeding sites, breeding cycles and feeding habits. Measurements are also given. The causes of the relative scarcity of birds in this region of Polynesia are discussed in conclusion.

RESUME : Cette publication est le résultat de 5 séjours effectués de 1965 à 1969 sur neuf atolls orientaux de l'archipel des Tuamotu (Fangataufa, Hao, Marutea du Sud, Maturei-Vavao, Mururoa, Puka Puka, Pukarua, Reao, Tureia) et aux îles Gambier. L'effectif de la faune ancienne s'élève à 38 espèces, parmi lesquelles 27 espèces nidificatrices (5 Pétrels, 1 Pétrel-tempête, 2 Paille-en-queue, 3 Fous, 1 Frégate, 1 Aigrette, 1 Râle, 1 Limicole, 6 Sternes, 2 Pigeons, 1 Martin-chasseur, 1 Pachycole et 1 Coucou), et 2 espèces introduites, le Coq domestique et le Pigeon biset. Toutes ces espèces sont étudiées tour à tour, et en particulier leur mode de nidification, leur cycle reproducteur et leur régime alimentaire. Des mensurations sont également données. Les causes de la relative rareté des oiseaux dans cette région de la Polynésie sont discutées en conclusion.

Lockwood 1993

TI : Morphological assortment and the assembly of communities of introduced passeriforms on oceanic islands.

AU : Lockwood, J.L., Moulton, M.P., Anderson, S.K. (1993).

SO : Tahiti Versus Oahu. 141(3):398-408.

ABSTRACT : We conducted an ecomorphological analysis on the introduced passeriforms of Tahiti and tested for community patterns reported for the introduced passeriforms of Oahu, Hawaii. Although the island of Tahiti is similar to Oahu in size, distance from the equator, and number of passeriform introductions, the two islands differ greatly in rates of introduction success: on Oahu 27 of 43 (63%) introductions have been successful, whereas on Tahiti 7 of 41 (17%) have been successful. Possible explanations for this difference include unfavorable environmental conditions, differences in the timing of the introductions, differences in the taxonomic diversity of the sets of introduced species, and differences in habitat diversity between the islands. Despite the difference in rates of introduction success, the same pattern of morphological overdispersion seen on Oahu also occurs on Tahiti. The pattern of morphological overdispersion is consistent with the hypothesis that interspecific competition has influenced the assembly of this community.

Lovegrove 1989

TI : Tuamotu island expedition March-April 1989: report to ascertain the status of Red Data Book species in the Tuamotu Archipelago (French Polynesia)

AU : Lovegrove, R., Mann, I., Morgan, G., Williams, I. (1989).

SO : Rapport non publié.

ABSTRACT : A four man expedition visited the Tuamotu archipelago from 21st March - 19th April to try to establish the current status of six Red Data Book bird species. 2- Seven atolls were visited in the north-central part of the archipelago and details of their bird communities recorded. 3- Positive information was acquired about four of the Red Data Book species: *Numenius tahitiensis*. Thinly but ubiquitously distributed throughout. Status apparently unchanged over at least last 50 years. *Aechmorrhynchus cancellatus*. Fairly strong population found on Tahanea atoll, 1000 km north of previously confirmed (residual) population. Also possibly present on several other nearby islands. *Vini peruviana*. A strong colony was discovered on one motu: this adds to the known world population by some 20-25%. *Halcyon gambieri gertrudae*. Occurs only on the island of Niau. This island was not visited but the population is apparently still healthy. 4- No recent record could be found of the occurrence of *Gallinula erythroptera*, subspecies *pectoralis*, which may now be extinct. 5- Conservation recommendations are made for the threatened Red Data Book species and appropriate bodies are being pressed to take action. 6- An inventory of other bird species encountered on the island is given.

Marion 2001

TI : Participation au programme de sauvegarde du monarque de Tahiti ou omama'o.

AU : Marion, J. (2001).

SO : Société d'Ornithologie de Polynésie: 42 pp.

RESUME : Tahiti est une île du Pacifique qui possède plusieurs espèces d'oiseaux endémiques dont l'avenir est compromis. Parmi ces espèces, le Monarque de Tahiti ou Omama'o est celle qui est la plus menacée d'extinction. Le programme de sauvegarde mené depuis trois ans par la Société d'Ornithologie de Polynésie présente plusieurs volets dont le recensement de la population de Monarque et la protection des nids, vis à vis des rats, pendant la saison de reproduction. L'Année 2000 a permis d'établir que les oiseaux introduits sont également une très sérieuse menace pour la survie des Monarques dont ils compromettent le succès reproducteur. Au cours de ce stage nous avons testé l'efficacité d'une dératisation de longue durée, en dehors de la période de reproduction classique, et de différentes méthodes de lutte contre les oiseaux introduits. Nous avons montré que depuis trois ans, les efforts de sauvegarde entrepris ont permis de stabiliser les effectifs du Monarque de Tahiti autour de 28 individus, et que cette stabilité se couple avec un rajeunissement de l'ensemble de la population (les oiseaux en plumage immature - de moins de quatre ans représentent désormais 40% de la population suivie depuis 1998 contre 12% au début de ce suivi). Le suivi des monarques effectué pour la première fois en dehors de la période de reproduction a montré la plus grande mobilité des Monarques pendant cette période et particulièrement celle des individus en plumage immature. La dératisation des vallées en dehors de la période de la reproduction s'est

avérée peu efficace dans les vallées traitées seulement aux alentours des territoires des Monarques contrairement à celle où le traitement était pratiqué d'un bout à l'autre de la vallée. Il semble que cette méthode présentée peu d'intérêts et soit peu fiable si l'équipe n'est pas encadrée régulièrement par un scientifique. Le moyen de lutte le plus efficace contre les oiseaux introduits est l'utilisation de nasses Tindall avec un oiseau leurre. Elles ont permis l'élimination de vingt deux oiseaux dans la vallée la plus infestée.

Marks 1992

Author: Marks, Jeffrey S.

Year: 1992

Title: Longevity record for the Bristle-thighed Curlew: an extension

Journal: Journal of Field Ornithology

Volume: 63

Issue: 3

Pages: 309-310

Keywords: Longevity; Bristle-thighed Curlew; *Numenius tahitiensis*

Abstract: A female Bristle-thighed Curlew (*Numenius tahitiensis*) collected on Laysan Island on 30 Apr. 1991 was at least 23 yr and 10 mo old, making it the oldest known scolopacid in North America. Resightings of Bristle-thighed Curlews marked on Laysan from 1988 to 1990, and recent encounters with two of the 95 curlews banded in 1967, suggest an annual survivorship of greater than 85%.

Marks 1993

TI : Molt of Bristle-thighed Curlews in the northwestern hawaiian islands.

AU : Marks, J. (1993).

SO : The Auk 110(3): 573-587.

ABSTRACT : I studied molt of Bristle-thighed Curlew (*Numenius tahitiensis*) on Laysan island in the Northwestern Hawaiian island from 1988-1991. Adult curlews underwent a complete prebasic molt between August and December. Duration of primary molt was about 92 days, which is rapid compared with other shorebirds that molt in tropical and southern latitudes. Adults replaced large numbers of primaries and secondaries simultaneously, and about 50% of the birds became flightless during molt. The prealternate molt began in winter and ended in early spring; it involved the body feathers and variable numbers of rectrices but no remiges. Juveniles molted body feathers and some rectrices during their first autumn and winter but did not replace their juvenal primaries until the spring and summer of their second calendar year. Second-year curlews began replacing their new first basic primaries in late summer, in some cases before the other juvenal primaries has been dropped. The delayed first prebasic primary molt is probably an adaptation allowing inexperienced birds to devote energy expenditure in their first winter to obtaining food rather than to molting remiges. Because second-year birds remain on the wintering grounds throughout the year and do not prepare for migration, there is no selection against replacing new primaries. Unlike most shorebirds, adult Bristle-thighed Curlews gained mass steadily throughout the autumn and winter. Their rapid prebasic molt in autumn may be an adaptation to allow the birds ample time to build up fat reserves during winter. I suggest that the absence of rich intertidal feeding areas and the frequency of winter storms make it difficult for curlews to take on large fat stores in short time periods as do species that winter on continental coasts. The lack of predators and the small size of remote oceanic islands obviate the need for curlews to maintain peak flight efficiency, allowing birds to become flightless during molt in autumn and to carry increasingly large fat stores throughout the winter.

Marks 1994(a)

Author: Marks, Jeffrey S.; Redmond, Roland L.

Year: 1994

Title: Conservation problems and research needs for Bristle-thighed Curlews *Numenius tahitiensis* on their wintering grounds

Journal: Bird Conservation International

Volume: 4

Pages: 329-341

Keywords: Conservation problems;research needs;Bristle-thighed Curlew;*Numenius tahitiensis*;wintering grounds

Abstract: The Bristle-thighed Curlew *Numenius tahitiensis* is a rare shorebird that breeds in western Alaska and winters on oceanic islands in the tropical and subtropical Pacific Ocean. Before human colonization, the islands on which curlews winter were devoid of terrestrial predators, allowing curlews to evolve a rapid moult during which about 50 % of adults become flightless. Especially when flightless, these birds are vulnerable to harvest by humans and to predation by introduced mammals such as dogs and cats. On atolls where they are harvested by humans, curlews tend to occur only on uninhabited islets. Consequently, human encroachment in Oceania has probably reduced Bristle-thighed Curlew numbers and altered winter distribution of the species. Future studies should (1) identify concentrations of wintering curlews, focusing in Tuamotu Archipelago; (2) determine whether migratory stopover sites exist in the central Pacific between Hawaii and the southern end of the

wintering grounds; and (3) establish a monitoring programme to assess population trends in several parts of the winter range. A comprehensive plan is needed to provide for the existence of predator-free islands throughout key portions of the winter range.

Marks 1994(b)

Author: Marks, Jeffrey S.; Redmond, Roland L.

Year: 1994

Title: Migration of Bristle-tighed Curlews on Laysan island: timing, behavior and estimated flight range

Journal: Condor

Volume: 96

Pages: 316-330

Keywords: Migration; Bristle-tighed Curlew; *Numenius tahitiensis*; Laysan island

Abstract: Bristle-thighed Curlew (*Numenius tahitiensis*) fly at least 4,000 km non-stop from staging grounds in western Alaska to the northern edge of winter range at Laysan island in the Northwestern Hawaiian island. Adults migrate from Laysan in early May and return in July and August. Juveniles, which arrive in late August and early September, largely migrate unaccompanied by adults. Compared with other shorebirds, Bristle-thighed Curlews migrate in small flocks and show no diurnal pattern in timing of departures. Subadults do not fatten adequately for migration but often accompany departing adults briefly and then return to the island. Fat content in adults at the start of spring migration is high, averaging 42%. Our findings indicate that curlews wintering in the Central and South Pacific overfly Hawaii during spring and autumn, undertaking non-stop flights of > 6,000 km. In the absence of tailwinds, only two of the four flight range models that we tested (Summers and Waltner 1979, Davidson 1984) provide reasonable estimates of the migratory performance of Bristle-thighed Curlew (i.e., non-stop flights from Alaska to Laysan and beyond). Within the range of altitudes at which they migrate, curlews probably seek out tailwinds that facilitate long-distance, non-stop flights.

Marks 1994(birdconint)

TI : Conservation problems and research needs for Bristle-tighed Curlews *Numenius tahitiensis* on their wintering grounds.

AU : Marks, J., Redmond, R. (1994).

SO : Bird Conservation International 4: 329-341.

ABSTRACT : The Bristle-thighed Curlew *Numenius tahitiensis* is a rare shorebird that breeds in western Alaska and winters on oceanic islands in the tropical and subtropical Pacific Ocean. Before human colonization, the islands on which curlews winter were devoid of terrestrial predators, allowing curlews to evolve a rapid moult during which about 50 % of adults become flightless. Especially when flightless, these birds are vulnerable to harvest by humans and to predation by introduced mammals such as dogs and cats. On atolls where they are harvested by humans, curlews tend to occur only on uninhabited islets. Consequently, human encroachment in Oceania has probably reduced Bristle-thighed Curlew numbers and altered winter distribution of the species. Future studies should (1) identify concentrations of wintering curlews, focusing in Tuamotu Archipelago; (2) determine whether migratory stopover sites exist in the central Pacific between Hawaii and the southern end of the wintering grounds; and (3) establish a monitoring programme to assess population trends in several parts of the winter range. A comprehensive plan is needed to provide for the existence of predator-free islands throughout key portions of the winter range.

Marks 1994(condor)

TI : Migration of Bristle-tighed Curlews on Laysan island: timing, behavior and estimated flight range.

AU : Marks J., Redmond R. (1994).

SO : The Condor. 96: 316-330

ABSTRACT : Bristle-thighed Curlew (*Numenius tahitiensis*) fly at least 4,000 km non-stop from staging grounds in western Alaska to the northern edge of winter range at Laysan island in the Northwestern Hawaiian island. Adults migrate from Laysan in early May and return in July and August. Juveniles, which arrive in late August and early September, largely migrate unaccompanied by adults. Compared with other shorebirds, Bristle-thighed Curlews migrate in small flocks and show no diurnal pattern in timing of departures. Subadults do not fatten adequately for migration but often accompany departing adults briefly and then return to the island. Fat content in adults at the start of spring migration is high, averaging 42%. Our findings indicate that curlews wintering in the Central and South Pacific overfly Hawaii during spring and autumn, undertaking non-stop flights of > 6,000 km. In the absence of tailwinds, only two of the four flight range models that we tested (Summers and Waltner 1979, Davidson 1984) provide reasonable estimates of the migratory performance of Bristle-thighed Curlew (i.e., non-stop flights from Alaska to Laysan and beyond). Within the range of altitudes at which they migrate, curlews probably seek out tailwinds that facilitate long-distance, non-stop flights.

Keywords: Bristle-thighed Curlew-flight ranges-Laysan island-*Numenius tahitiensis*-transoceanic migration.

McConkey 2004

Author: McConkey, Kim R.; Meehan, Hayley J.; Drake, Donald R.

Year: 2004

Title: Seed dispersal by Pacific Pigeons (*Ducula pacifica*) in Tonga, Western Polynesia

Journal: Emu

Volume: 104

Pages: 369-376

Keywords: Seed dispersal; Pacific Pigeon; *Ducula pacifica*; Tonga; Western Polynesia

Abstract: Owing to extensive prehistoric extinctions of large frugivores, Pacific Pigeons (*Ducula pacifica*) are thought to be one of the most important seed dispersers of large-seeded plants in Tonga, yet little is known about their interactions with their food plants. We reviewed their known food plants and recorded defaecations, regurgitations, and movement patterns of this species over 11 months in Tonga. The fruit of at least 38 native plant species and the leaf buds of one species are eaten by Pacific Pigeons in Tonga. Most defaecations and all regurgitations contained a single seed of a single species. Pigeons usually regurgitated seeds larger than 20 mm in diameter whereas smaller seeds were typically defaecated. On the basis of observed movement patterns in Tonga and retention times for *Ducula*, most seeds are probably dispersed away from fruiting trees (85% of regurgitated seeds, 99% of defaecated seeds), but within 50 m of the crown. Distances of more than 100 km are theoretically possible for defaecated seeds, although pigeon behaviour is likely to limit this maximum. Results from this study suggest Pacific Pigeons are excellent seed dispersers in Tonga.

McCormack 1996

TI : The 'Ura or Rimatara lorikeet *Vini kuhlii*: its former range, present status, and conservation priorities.

AU : McCormack G., Künzle J. (1996).

SO : Bird Conservation International 6(4): 325-334. [Journal Article, NHT-00.]

ABSTRACT : Fossils and other evidence from the Southern Cook Islands show that the Rimatara Lorikeet *Vini kuhlii*, known as the Kura, was widespread in the group during prehistoric times and, it was probably extirpated due to exploitation for its red feathers. Today, it survives only on Rimatara in the Austral Islands, where it is known as the 'Ura. On Rimatara during 5-11 August 1992 we saw/heard 263 'Ura, and estimated the total population at 900 birds. The mixed horticultural belt, about 32% of the island, was the most favoured habitat at 2.2 birds ha⁻¹ and it supported about 61% of the total population. The species was uncommon in the coastal coconut plantations and central hills, and rare in the makatea/feo. Rats, especially *Rattus rattus*, have often been associated with the loss of forest birds on oceanic islands and *R. rattus* is thought to be responsible for the decline in other lorikeets of French Polynesia. A preliminary trapping study located *R. norvegicus* and *R. exulans*, but not *R. rattus*. The highest conservation priority should be given to confirming the absence of *R. rattus* on Rimatara and the implementation of a major quarantine programme to ensure that it is not accidentally introduced. We recommend reintroducing the lorikeet to islands within its former natural range.

Keywords: BioSci, Cooks/Non-CIs, Pacific, Polynesia, Cook Islands (SGp), Wildlife, Biology, Zoology, Terrestrial, Vertebrates, Birds, Lorikeet, General Biology/Conservation, Resource Management [00512] Ecology; Environmental Biology/Wildlife Management-Terrestrial [07518] Chordata, General and Systematic Zoology/Aves [62518] Psittaciformes [85558] Conservation. Systematics and Taxonomy. Wildlife Management (Conservation). Psittaciformes: Aves, Vertebrata, Chordata, Animalia. *Vini kuhlii* (Psittaciformes). animals. birds. chordates. nonhuman vertebrates. vertebrates. South Pacific Ocean (Pacific Ocean). Quarantine Program. Reintroduction. Rimatara Island. Rimatara Lorikeet. Southern Cook Islands. Wildlife Management.

Miller 2003

TI : vocalizations of the Tuamotu sandpiper, *Prosobonia cancellata*

AU : Miller, E.H., Vanderwerf, E., McPherson, L (2003).

SO : The Wilson Bulletin Volume: 115 Issue: 4 Pages: 455-463

ABSTRACT : The biology of the endangered Tuamotu Sandpiper (*Prosobonia cancellata*) is essentially unknown. We analyzed vocalizations from presumed adult individuals and pairs, and family groups, recorded in French Polynesia during March 1990 and 2003. We recognized three types of vocalizations. Presumed adults uttered types I and II. These were brief (about 30–40 and 20–120 ms, respectively) and simple in structure (increasing then decreasing in frequency) but harmonically rich, with most energy in the second or third harmonics (peak fundamental frequency was about 775–1,380 Hz), as in some other Scolopacidae. Higher harmonics reached unusually high frequencies for a scolopacid (approaching 14 kHz). Call types I and II were uttered singly or as couplets, triplets, or longer sequences. Type III calls were longer (about 115–470 ms), of narrower bandwidth, and with modulations of a carrier frequency that decreased from about 1,925 to 1,305 Hz; they were given by a presumed family group and may represent calls of dependent young birds. Harmonic richness and variation in frequency and temporal variables within call types are consistent with a short range communication system.

Monnet 1993(a)**Author:** Monnet, Claude; Thibault, Jean-Claude; Varney, Albert**Year:** 1993**Title:** Stability and changes during the twentieth century in the breeding land birds of Tahiti (Polynesia)**Journal:** Bird Conservation International**Volume:** 3**Pages:** 261-280**Keywords:** Stability and changes; twentieth century; breeding land birds; Tahiti

Abstract: The distribution of Tahitian landbirds in the early twentieth century and at present is presented here together with maps. Three categories may be recognized: (1) species with a declining distribution owing to changes in habitats (Green-backed Heron), (2) stable or increased species, including local and earlier introduced species, and (3) newly introduced species (Zebra Dove, Red-vented Bulbul, Silvereye and Crimson-backed Tanager). Moreover, owing to their low population numbers, two species, the Pacific Pigeon and the Tahiti Monarch, are on the verge of extinction even if their distribution has not changed notably during this century. La répartition des oiseaux terrestres reproducteurs de Tahiti, au début et à la fin du 20^e siècle, sont présentées sous forme de cartes. Trois catégories d'espèces sont distinguées: (1) espèce dont la répartition est en déclin à la suite des modifications d'habitats (Héron vert), (2) espèce stable ou en légère augmentation, chez qui on trouve des oiseaux locaux et des oiseaux introduits, et enfin (3) les espèces introduites durant le 20^e siècle (Tourterelle striée, Bulbul à ventre rouge, Zostérops à poitrine grise et Tangara cramoisi). Il apparaît que deux espèces, le Carpophage du Pacifique et le Monarque de Tahiti, sont aujourd'hui très menacées, même si leur répartition n'a pas régressé d'une façon significative.

Monnet 1993(b)**Author:** Monnet, Claude; Sanford, Loana; Siu, Philippe; Thibault, Jean-Claude; Varney, Albert**Year:** 1993**Title:** Polynesian Ground Dove (*Gallicolumba erythroptera*) discovered at Rangiroa Atoll, Tuamotu Islands (Polynesia)**Journal:** Notornis**Volume:** 40**Pages:** 128-130**Keywords:** Polynesian Ground Dove; *Gallicolumba erythroptera*; Rangiroa Atoll; Tuamotu Islands

Abstract: In 1990-91, a previously unknown population of the Polynesian Ground Dove was discovered on Rangiroa Atoll in the Tuamotu Is, eastern Polynesia. This apparently isolated population was estimated at only 12-20 birds

Monnet 1993(birdconint)

TI : Stability and changes during the twentieth century in the breeding land birds of Tahiti (Polynesia).

AU : Monnet C., Thibault J.-C., Varney A. (1993).

SO : Bird Conservation International., 3,:261-280

ABSTRACT : The distribution of Tahitian landbirds in the early twentieth century and at present is presented here together with maps. Three categories may be recognized: (1) species with a declining distribution owing to changes in habitats (Green-backed Heron), (2) stable or increased species, including local and earlier introduced species, and (3) newly introduced species (Zebra Dove, Red-vented Bulbul, Silvereye and Crimson-backed Tanager). Moreover, owing to their low population numbers, two species, the Pacific Pigeon and the Tahiti Monarch, are on the verge of extinction even if their distribution has not changed notably during this century.

RESUME : La répartition des oiseaux terrestres reproducteurs de Tahiti, au début et à la fin du 20^e siècle, sont présentées sous forme de cartes. Trois catégories d'espèces sont distinguées: (1) espèce dont la répartition est en déclin à la suite des modifications d'habitats (Héron vert), (2) espèce stable ou en légère augmentation, chez qui on trouve des oiseaux locaux et des oiseaux introduits, et enfin (3) les espèces introduites durant le 20^e siècle (Tourterelle striée, Bulbul à ventre rouge, Zostérops à poitrine grise et Tangara cramoisi). Il apparaît que deux espèces, le Carpophage du Pacifique et le Monarque de Tahiti, sont aujourd'hui très menacées, même si leur répartition n'a pas régressé d'une façon significative.

Monnet 1993(notornis)TI : Polynesian Ground Dove (*Gallicolumba erythroptera*) discovered at Rangiroa Atoll, Tuamotu Islands (Polynesia).

AU : Monnet C., Sanford L., Siu P., Thibault J.-C., Varney A. (1993).

SO : Notornis. 40: 128-130

ABSTRACT : In 1990-91, a previously unknown population of the Polynesian Ground Dove was discovered on Rangiroa Atoll in the Tuamotu Is, eastern Polynesia. This apparently isolated population was estimated at only 12-20 birds

Niethammer 1992

TI : Great Frigate (*Fregata Minor*) Predation: Not a Factor in Hatchling Green Turtle (*Chelonia Mydas*) Survival at French Frigate Shoals, Hawaii.

AU : Niethammer K.R., Balazs G.H., Nakai G.L., McDermond D.K. (1992).

SO : Colonial Waterbirds., 15(1): 128-131

ABSTRACT : Frigatebirds are known predators of sea turtle hatchlings at several locations worldwide. At certain localities this predation might exacerbate the already endangered status of these marine reptiles. French Frigate Shoals, Hawaii is where over 90% of all Hawaiian green turtle (*Chelonia mydas*) breeding occurs and is site of a large Great Frigatebird (*Fregata minor*) colony. Frigatebird predation was not a factor in hatchling survival at this location. We found no evidence of green turtle hatchlings in the stomach contents of 200 Great Frigatebirds sampled during peak periods of hatchling emergence in 1988 and 1989.

Keywords: *Chelonia mydas-Fregata minor*-Great Frigatebird-green turtle-Hawaiian islands-predation.

Olson 1986

Author: Olson, S.L.

Year: 1986

Title: An early account of some birds from mauke, Cook Islands, and the origin of the "Mysterious starling" *Aplonis mavornata* Buller

Journal: Notornis

Volume: 33

Issue: 4

Pages: 197-208

Abstract: Overlooked manuscript notes made by Andrew Bloxam during the voyage of HMS Blonde detail his observations of birds on the island of Mauke, southern Cook group, on 9 August 1825, nearly 150 years before birds were again collected on the island. These notes establish that the unique type of the "Mysterious Starling" *Aplonis mavornata* Buller, a valid species previously of unknown origin and now extinct, was one of the three specimens collected on Mauke by Bloxam. The other two, which have not yet been located, if they still exist, were the kingfisher *Halcyon tuta mauke* and the fruit dove *Ptilinopus rarotongensis cf. goodwini*, the latter otherwise unknown on Mauke and probably now extinct there.

Petitot 1975

TI : Observations ornithologiques dans l'atoll de Manihi (Archipel des Tuamotu) et dans l'île de Tubuai (Australes)

AU : Petitot C., Petitot F. (1975).

SO : L'oiseau et la Revue française d'ornithologie 45: 83-88

ABSTRACT : Short notes on the birds recorded in eastern Polynesia on Manihi and Tubai islands, the avifauna of which is still poorly known.

Pierce 2003

Author: Pierce, Ray; Raust, Philippe; Wragg, Graham

Year: 2003

Title: Report on an avifauna survey of atolls in the Tuamotu and Austral Archipelagos, French Polynesia

Institution: Wildlands consultants

Pages: 43

Keywords: Polynesian Ground-dove; *Gallicolumba erythroptera*; Tuamotu Sandpiper; *Prosobonia cancellata*; Bristle-thighed Curlew; *Numenius tahitiensis*; Tuamotu; survey

Abstract: An avifauna survey was carried out in March-April 2003 of ten atolls in the Tuamotu and Austral Archipelagos, in French Polynesia. The primary objectives were to survey for populations of the endangered titi (Tuamotu sandpiper) and critically endangered tutururu (Polynesian ground-dove) that were formerly widespread in the Tuamotu Archipelago. Secondary objectives were to survey for other key avifauna species (e.g. atoll fruit dove, seabirds, and bristle-thighed curlew) and to determine the status of rats and other predators on the atolls.

Key findings were the discovery of a "new" population of tutururu on Morane; discovery of "new" populations of titi on Reitoru and Tahanea and clarification of the status of the titi population on Morane; a population of atoll fruit doves on Tahanea; confirmation of the numbers (range 11-54 per atoll) of bristle-thighed curlews on most atolls; and the recording of significant seabird colonies on Morane, Reitoru, Tekokota, Tahanea, Fakarava, and Maria (Australs). Morane was the only atoll confirmed to be free of mammalian pests and Tekokota and some isolated motu of Tahanea and Fakarava also appeared to be mammal free.

We recommend several opportunities for improved conservation management. The most important is to formally recognize the conservation values of Morane and protect it as a reserve. It is also very important to raise the general awareness of biodiversity values on islands and the need for effective biosecurity measures. Other opportunities for improved biodiversity protection include rat eradication from Reitoru, Maria (Australs) and on some motu at Tahanea and Fakarava, plus rat and cat eradication in the Actéon Group. Some of the smaller

atolls, which currently have no rare bird species present, might be cleared of pests to provide opportunities for future translocations of rare species. Surveys are also required of some atolls not covered by this expedition.

Pierce 2004

Author: Pierce, Ray J.; Blanvillain, Caroline

Year: 2004

Title: Current status of the endangered Tuamotu Sandpiper or Titi *Prosobonia cancellata* and recommended actions for its recovery

Journal: Wader Study Group Bull.

Volume: 105

Pages: 93-100

Keywords: Tuamotu Sandpiper; *Prosobonia cancellata*; status; recovery

Abstract: The Tuamotu Sandpiper or Titi is the only surviving member of the Tribe Prosoboniini and is confined to eastern Polynesia. Formerly distributed throughout the Tuamotu Archipelago, it has been decimated by mammalian predators which now occur on nearly all atolls of the archipelago. Isolated sandpiper populations are currently known from only four uninhabited atolls in the Tuamotu. Only two of these are currently free of mammalian predators, such as cats and rats, and the risks of rat invasion on them are high. This paper outlines tasks necessary in the short term (within five years) to secure the species, together with longer term actions needed for its recovery. Short-term actions include increasing the security of existing populations, surveying for other potential populations, eradicating mammalian predators on key atolls, monitoring key populations, and preparing a recovery plan for the species. Longer term actions necessary for recovery include reintroductions, advocacy and research programmes.

Pitman 1992

TI : Parkinson's Petrel distribution and foraging ecology in the eastern Pacific: Aspects of an exclusive feeding relationship with dolphins.

AU : Pitman R.L., Balance L.T. (1992).

SO : The Condor. 94: 825-835/24: 114-124.

ABSTRACT : During 28 research vessel cruises in the eastern tropical Pacific Ocean from 1976 through 1990, Parkinson's Petrels (*Procellaria parkinsoni*) were observed near shore from southern Mexico (ca. 15°N) to northern Peru (ca. 5°S), and along a broad seaward extension that continued west of the Galapagos islands to 110°W. Parkinson's Petrels regularly associated with dolphins: of the 618 petrels observed, 469 (76%) were associated with 10 species of dolphins, on 55 occasions, with 1 to 300 petrels present. They occurred mostly with two rare dolphin species: the melon-headed whale (*Peponocephala electra*) and the false killer whale (*Pseudorca crassidens*). This appeared to be a largely obligatory foraging relationship for Parkinson's Petrels. Associations with other dolphin species occurred primarily when those species also associated with melon-headed and false killer whales. Parkinson's Petrels avoided common and widespread, multi-species feeding assemblage which consisted of a diverse, fast-moving group of seabirds, spotted and spinner dolphins (*Stenella attenuata* and *S. longirostris*), and tuna, all of which feed on live prey forced to the surface. The lumbering Parkinson's Petrels appeared ill-equipped to take such prey. In contrast, melon-headed and false killer whale apparently fed by dismembering large prey below the surface and so, provided feeding opportunities for a scavenging bird with diving capabilities. Among eastern tropical Pacific (ETP) seabirds, Parkinson's Petrels alone are adapted for recovering food scraps well below the surface. Parkinson's Petrels appear to be more dependent on marine mammals for foraging than any other species of seabird studied and feed diurnally more than was previously thought.

Keywords: Parkinson's Petrels-*Procellaria parkinsoni*-feeding ecology-tropical seabirds-dolphin associations-scavenging.

Ramos 2006

Author: Ramos, Jaime A.; Maul, Anna Maria; Bowler, John; Wood, Louisa; Threadgold, Rob; Johnson, Sharon; Birch, Darryl; Walker, Susan

Year: 2006

Title: Annual variation in laying date and breeding success of Brown Noddies on Article Islands, Seychelles

Journal: Emu

Volume: 106

Pages: 81-86

Abstract: We examined annual variation in timing of breeding, productivity, growth-rates of chicks and adult body condition of Brown Noddies (*Anous stolidus*) on Aride Island, Seychelles, from 1995 to 2002 (8 years), and assessed whether poor breeding success was related to El Niño events. Our results were compared with similar studies on tern species that feed more in inshore waters and with faster chick growth, the Lesser Noddy (*A. tenuirostris*) and the Roseate Tern (*Sterna dougallii*), to evaluate the extent of variation in laying date and breeding performance of tropical terns in the western equatorial Indian Ocean. Most of the Brown Noddy population laid eggs between late May and late June in most years. Breeding success varied substantially

between years. Productivity of <0.15 chicks per breeding pair occurred in three out of the eight study years. The years with poorest breeding success were El Nino (1997 and 2002) and La Nina (1999) years. Chick mass at hatching was significantly correlated with an egg-volume index, but there were no correlations between size of eggs and either hatching date or linear growth rate. Both adult mass and body condition were significantly lower in an El Nino year (1997), when birds laid later and were less successful, than in non-El Nino years (1995 and 1996). Overall, our data suggest strong variations in food availability among years. The productivity of Brown Noddies was significantly correlated with that of Lesser Noddies, but not with that of Roseate Terns, which suggests that similar ecological forces may influence the breeding of the two noddy species.

Robertson 2004

TI : Conservation of Kakerori (*Pomarea dimidiata*) in the Cook Islands in 2003/04.

AU : Robertson H,A, Saul E.K . (2004).

SO : Department of Conservation series 207

ABSTRACT : In 1989, the kakerori (*Pomarea dimidiata*) was one of the 10 rarest bird species in the world, with a declining population of just 29 birds. During each breeding season since then, rats have been poisoned within the 155 ha of forested hill country they occupy in the Takitumu Conservation Area in South-eastern Rarotonga. As a result, the kakerori population has rebounded, with a minimum of 292 birds found on Rarotonga in August 2003. In 2001/02, the emphasis of management shifted from the recovery of kakerori to a programme aimed at sustaining the population at 250-300 individuals. The major changes were an experimental reduction in rat poisoning effort to a level where recruitment of kakerori balances annual mortality, and a series of transfers to establish an insurance population on the island of Atiu. In 2003/04, all bait stations were filled fortnightly, rather than the previous mix of weekly and fortnightly refills. This reduced labour cost by 30% to 32 person days, and used a total of 39 kg of Talon (active ingredient brodifacoum), which was only 13% of the maximum annual poison use over the same area during the recovery phase of the programme. Breeding success was high (0.91 fledglings/breeding territory), even in the unpoisoned areas, and a record total of 80 fledglings was detected. The fortnightly poisoning regime offers promise as an effective, cheaper and less toxin-intensive method than that used previously, and so we recommend maintaining this regime in 2004/05, so that the longer-term effects can be assessed. A third and final batch of 10 young kakerori was transferred to Atiu island in August 2003. This insurance population is becoming well established; the five breeding pairs monitored in 2003/04 each raised two fledglings, and a minimum of 15 birds was found in May-June 2004 in the small part of the island that was searched.

Keywords: kakerori-Pomarea dimidiata-sustainable management-translocation-rat control-Rarotonga-Atiu-Cook Islands

Rowe 1996(a)

TI : Distribution and abundance of the Tanga'eo or Mangaia kingfisher (*Halcyon tuta ruficollaris*).

AU : Rowe S., Empson R. (1996).

SO : Notornis. 43: 35-42.

ABSTRACT : In October-November 1992 the island of Mangaia, Cook Island, was surveyed for Tanga'eo (*Halcyon tuta ruficollaris*). The Tanga'eo was found to be primarily a forest bird, preferring continuous forest canopy. Its abundance was influenced by forest type, extent, and degree of habitat modification. A number of potential threats to the survival of Tanga'eo were identified including habitat loss and disturbance by Common Mynas (*Acridotheres tristis*). A brief survey of rodents was carried out. Although the Tanga'eo population was estimated to have been between 250 and 450 birds, low numbers of birds in apparently suitable forest in the southwest of Mangaia indicate that further research is needed to determine population trends and conservation requirements.

Keywords: Mangaia-Kingfisher-*Halcyon tuta ruficollaris*-Breeding-Cook Islands

Rowe 1996(b)

TI : Observation on the breeding behaviour of the Tanga'eo or Mangaia Kingfisher (*Halcyon tuta ruficollaris*).

AU : Rowe S., Empson R. (1996).

SO : Notornis. 43: 43-48

ABSTRACT : The breeding behaviour of Tanga'eo or Mangaia Kingfisher (*Halcyon tuta ruficollaris*) on the island of Mangaia in the Cook Island was investigated in 1992. Calls and breeding behaviour are described from a study of pairs and trios. At least six calls were distinguished. Clutch size appeared to be two eggs for pairs and three eggs for trios. Incubation time was between 21 and 23 days, while the fledging period was estimated at approximately 26 days. Both birds of a pair and all members of a trio excavated nest holes, incubated, brooded and fed the chicks. In trios with two males, both males courtship fed and copulated with the female, suggesting a polyandrous relationship. The breeding behaviour and relationship of trios, and the effects of Mynas on breeding success warrant further investigation.

Keywords: Mangaia-Kingfisher-*Halcyon tuta ruficollaris*-Cook Islands-Population survey.

Sachet 1975

TI : Mohotani: une île protégée aux Marquises.

AU : Sachet M.H., Schafer P.A, Thibault J-C. (1975).

SO : Bulletin de la Société des Etudes Océaniques. N°143 p 557-568

ABSTRACT : Mohotani est une des rares îles protégées de Polynésie française. Une brève description des principaux éléments de la flore et l'avifaune souligne l'intérêt de l'île. Cependant, elle n'a pas échappé à l'influence humaine: le mouton introduit à la fin du siècle dernier a sensiblement dégradé le milieu.

Keywords: Polynésie Française; Marquises îles; Mohotani île / Faune; oiseau; flore; réserve.

Salvat 1992

TI : Nukutepipi atoll, Tuamotu archipelago; geomorphology, land and marine flora and fauna and interrelationship.

AU : Salvat F., Salvat B. (1992).

SO : Atoll Research Bulletin., 357: 1-43.

ABSTRACT : Nukutepipi atoll (5 km²), of volcanic origin 16-17 million years old on the Pitcairn (hot spot) Hereheretue line, presents a land flora and fauna of low diversity but with a *Pisonia* forest and hundreds of resident red-tailed tropic birds. Nukutepipi suffered from the 1983 hurricanes: destruction of vegetation and motu as well as sand lagoon mollusc population. The north and south rims present original geomorphological structures. Lagoon without patch reef reaching the surface is characterised by dom patch reefs all constituted of dead *Acropora* with few scleractinian and mollusc species, but an important algae coverage. All these characteristics indicate the precariousness on a time scale of such a so tiny atoll, land and marine, with a closed lagoon.

Seitre 1992

TI : Causes of land-bird extinctions in French Polynesia

AU : Seitre, R., Seitre J. (1992).

SO : Oryx, 26(4): 215-222

ABSTRACT : During a 4-month study in French Polynesia, the authors visited 28 islands, seven of which had never been explored by ornithologists. They collected ecological data on endemic land birds, introduced animals and habitats, focusing particularly on the factors involved in population declines and extinctions. As well as hunting and habitat destruction, it appears that introduced predators play a major role, with the roof rat *Rattus rattus* being the most dangerous. Rapid action to eradicate introduced predators, coupled with translocations, would be the most effective way to ensure the survival of the remaining species.

Singi 1991

TI : Geographical Variation of the Plumage Polymorphism in the Eastern Reef Heron (*Egretta Sacra*).

AU : Singi, I. (1991)

SO : The Condor 93(2): 383-389.

ABSTRACT : I investigated the distribution of white and dark morphs of the Eastern Reef Heron (*Egretta sacra*) on several coasts and islands in central to southwestern Japan, eastern Australia, and French Polynesia. Both morphs preferred white beaches to dark beaches. Every local population contained some dark herons, however, the range of the white morph was restricted. The white morph population increased in proportion to the distance from the equator in Japan. It was plentiful in the Great Barrier Reef in Australia and was common in Polynesian islands. The distribution of the white morph coincides with the presence of coral reefs, from which white beaches are derived. Only the dark morph was seen outside this range. None of several hypotheses proposed so far explains the observed polymorphism and its geographic variation.

Keywords : Color polymorphism, plumage color, geographic variation, coral reefs, Eastern Reef Heron, *Egretta sacra*

Spear 1992

TI : Notes on the At-Sea Identification of some Pacific Gadfly Petrels (Genus: *Pterodroma*).

AU : Spear L., Howell S.T.N., Ainley D. (1992).

SO : Colonial Waterbirds., 15 (2): 202-218.

ABSTRACT : Although recent field guides have helped considerably in the identification of seabirds, criteria given for identify some eastern Pacific Ocean species of gadfly petrels (Genus: *Pterodroma*) at sea are inadequate. We herein present previously undescribed criteria on identification of five problematic groups. We also review published criteria.

Keywords: distributions, identification, criteria, petrels, *Pterodroma*.

Spear 1998

Author: Spear, L. B.; Ainley, D. G.

Year: 1998

Title: Morphological differences relative to ecological segregation in petrels (family: procellariidae) of the

southern ocean and tropical pacific

Journal: Auk

Volume: 115

Issue: 4

Pages: 1017-1033

Abstract: We compared eight morphological characters (wing span, wing area, aspect ratio, tail length, bill length, bill depth, tarsus length, and mass of subcutaneous/mesenteric fat) among petrels (family Procellariidae) of tropical versus southern polar avifaunas. Relative to body mass, tropical species have larger wings, bills, and tails, and lighter fat reserves than do polar species. We attributed these differences primarily to adaptations for feeding in markedly different pelagic environments. Larger wings, bills, and tails of tropical species enable them to make use of relatively light winds when foraging over wide ocean expanses to exploit sparse and highly mobile and/or volant prey. In contrast, the smaller wings, bills, and tails of polar species enable them to cope with strong winds to exploit highly abundant, less-mobile prey. Greater fat reserves among polar species probably are an adaptation for surviving extended periods when rough weather (rarely experienced by tropical species) precludes feeding, or for thermoregulation. The most consistent and marked differences between avifaunas are mostly related to specializations for different foraging habits (i.e. feeding behavior, prey composition, and prey size). Morphological differences and within-species character variances indicated that the tropical ocean is used by a more generalist, migratory group of petrels, whereas the Southern Ocean is used by a more specialized, resident group of petrels.

Steadman 1985

TI : Bird remains from an archaeological site on Henderson Island, South Pacific: Man-caused extinctions on an "uninhabited" island

AU : Steadman D.W., Olson S.L. (1985).

SO : Proc Natl Acad Sci U S A, 1985, 82(18): 6191–6195.

National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560

Present address: New York State Museum, 3140 Cultural Education Center, Albany, NY 12230.

ABSTRACT : Long thought never to have been inhabited and to be in a pristine ecological state, Henderson Island (southeast Pacific) is now known to have been colonized and then abandoned by Polynesians. Bones from an archaeological site on the island associated with ¹⁴C dates of ~800 and ~500 years B.P. include specimens of 12 species of birds, of which 3, a storm-petrel and two pigeons (*Nesofregatta fuliginosa*, *Ducula cf. aurorae* or *D. pacifica*, and *Ducula cf. galeata*), no longer occur on Henderson, and two others (*Puffinus nativitatis* and *Sula sula*) still visit but are not known to breed. The vanished species were presumably exterminated by Polynesians and the biota of Henderson Island can thus no longer be regarded as being in an unaltered state. The prehistoric abandonment of various small, unarable islands by Polynesians may have been due to the depletion of seabirds and pigeons, the only readily available food source. The species of pigeons identified from Henderson are known historically only from distant archipelagos and have never before been found sympatrically. Distributional patterns resulting from man-caused extinctions may give rise to erroneous interpretations of the relationships and evolutionary history of insular organisms. Certain endangered species, such as *Ducula galeata*, might effectively be preserved by reintroduction to abandoned islands that they occupied before human intervention.

Steadman 1989

TI : A new species of starling (Sturnidae, Aplonis) from archeological site on Huahine, Society Islands.

AU : Steadman D.W. (1989).

SO : Notornis 36: 161-169.

ABSTRACT : A new species of extinct starling, *Aplonis diluvialis*, is described from the Fa'ahia Archeological Site on Huahine, Society Islands, French Polynesia. *Aplonis diluvialis* was larger than any Indo-Pacific congeners except *A. artrifusca* of Samoa. The only other Eastern Polynesian islands where starlings have been recorded with certainty are Rarotonga (*A. cinerascens*) and Mauke (*A. mavornata*). In pre-human times, however, species of *Aplonis* may have occurred through much of Eastern Polynesia.

Steadman 1990

Author: Steadman, David W.; Kirch, Patrick V.

Year: 1990

Title: Prehistoric extinction of birds on Mangaia, Cook Island, Polynesia

Journal: Proc. Natl. Acad. Sci.

Volume: 87

Pages: 9605-9609

Keywords: Pigeons; Polynesia; historic biogeography; community ecology; extinction

Abstract: Mangaia (Cook Islands) consist of a weathered volcanic interior encircled by limestones known as the makatea. Excavations at Tangatatau Rockshelter (site MAN 44), located on the inner cliff of the makatea, produced a stratified sequence of Polynesian artifacts and faunal remains ranging from A.D. 1000-1100 to A.D. 1500-1600. Resident species of birds represented at MAN-44 include nine seabirds (at least three extirpated an

Mangaia) and 12 land birds (eight extirpated or extinct). Seven of the extinct/extirpated land birds are confined to the site's four lowest stratigraphic zones, which represent the first 200-300 yr of human occupation at MAN-44. During this time, human exploitation of vertebrates switched from primarily native land birds to almost exclusively small reef fish, domesticates (chicken, pigs), and commensals (rats). Sediment cores from a lake 0.9 km from MAN-44 show clear palynological and stratigraphic signals of human presence on Mangaia, especially forest clearance of the volcanic interior, beginning at 1600 yr B.P. The rugged makatea must have provided a forest refuge for birds during the first 700 yr of human presence, after which Mangaiaans exploited the previously little used makatea because forest resources (trees, other plants, birds) had been depleted on the now badly eroded volcanic interior. MAN 44 is the oldest archaeological site known on Mangaia. Whether other species of birds were lost in the period of human activity that preceded occupation of MAN-44 remains to be seen.

Steadman 1992

Author: Steadman David W.; Pahlavan, Dominique S.

Year: 1992

Title: Extinction and biogeography of birds on Huahine, Society Islands, French polynesia

Journal: Geoarcheology

Volume: 7

Issue: 5

Pages: 449-483

Abstract: This study is based upon the identification of 336 bird bones from the Fa'ahia archaeological site, Huahine, French Polynesia. The bones represent birds that were killed for their flesh, feathers, or bones by prehistoric Polynesians. The radiocarbon ages of excavated strata at Fa'ahia range from about 1140 ± 90 to 770 ± 90 yr B.P. The bird bones represent 15 species of resident seabirds, 15 species of resident landbirds, four migrant species, and one introduced species. The only extinct seabird is a gull, *Larus* new species, although locally extirpated seabirds are *Puffinus pacificus*, *Puffinus nativitatis*, *Puffinus lherminieri*, *Pterodroma rostrata*, *Pterodroma alba*, *Pterodroma arminjoniana*, *Sula leucogaster*, *Sula sula*, *Fregata minor*, *Fregata ariel*, and *Anous minutus*. Extinct landbirds are *Gallirallus* new species, *Gallicolumba nui*, *Macropygia arevarevauupa*, *Vini vidivici*, *Vini* cf. *sinotoi*, and *Aplonis diluvialis*. Locally extirpated landbirds are *Ardeola striata*, *Porzana tabuensis*, *Gallicolumba erythroptera*, *Ducula galeata*, *Ducula aurorae*, and *Acrocephalus caffer*. The bones from Fa'ahia increase the seabird and landbird fauna of Huahine, from the historically known 3 to 15 species and from 7 to 18 species, respectively. Thus the number of species from Huahine is even greater than those from nearby Tahiti, which has a much greater land area and elevation. The occurrence of so many extinct or extirpated species of birds at the Fa'ahia site suggests that this site represents a very early phase of human occupation on Huahine, probably no more than 500 years after the first arrival of people on this previously undisturbed island ecosystem.

Steadman 1996

TI : A Chronostratigraphic Analysis of Landbird Extinction on Tahuata, Marquesas Islands

AU : Steadman, D. and Rolett B. (2003).

SO : Journal of Archeological Science 23: 81-94.

ABSTRACT : The Hanamiai archaeological site (Tahuata, Marquesas Islands) has yielded a stratified assemblage of bird bones associated with prehistoric Polynesian artefacts, cultural features, and other faunal materials spanning an 800-year period beginning at c. ad 1025–1100. The majority of the 650 identifiable bird bones are from seabirds, most species of which are extirpated on Tahuata. Indigenous landbirds (rails, pigeons, doves, parrots, kingfishers, warblers) are represented by 70 bones of 10 species, among which two rails, a pigeon, a dove, and three parrots no longer occur on Tahuata. The stratigraphic distribution of bird bones suggests that exploitation of indigenous species was most intense early in the Hanamiai cultural sequence (Phase I; c. ad 1025–1300). By c. 1450 or before, the seven extirpated species of landbirds (and probably other species not recorded in the small bone sample) either had been eliminated or had become uncommon enough to elude archaeological sampling. A similar chronostratigraphic pattern of prehistoric landbird extinction has been documented for Mangaia, Cook Islands. While details of timing and taxonomy vary from island to island, an overall trend of early prehistoric depletion of birds is the rule across East Polynesia and all of Oceania.

Keywords : avian archaeofaunas, prehistoric subsistence, prehistoric extinctions, Polynesia

Steadman 1997

TI : The historic biogeography and community ecology of Polynesian pigeons and doves

AU : Steadman D.W. (1997).

SO : Journal of Biogeography 24(6): 737-753(17)

ABSTRACT : The species richness, taxonomic diversity, and geographic distribution of pigeons and doves (Columbidae) have been altered irreversibly in Polynesia by 3500 years of human activity. Natural (without human influence) columbid faunas are estimated primarily by studying prehistoric bones. In all Polynesian island groups studied (except outlying Easter Island, Hawaiian Islands, or New Zealand), the prehistoric columbid faunas had more species, more genera, and more species per genus than modern faunas from the same island.

Congeneric species pairs or triplets occurred on many islands for *Ducula*, *Ptilinopus*, and *Gallicolumba*. The losses of Polynesian columbids include the extinction of at least 9 species in the genera *Ducula*, *Ptilinopus*, *Macropygia*, *Caloenas*, *Gallicolumba*, and *Didunculus* as well as the extirpation of numerous island populations of extant species. If not for human impact, a typical East Polynesian island would support at least 5-6 species of columbids in 3-4 genera (compared to 0-3 species in 0-3 genera today). A typical West Polynesian island would support at least 6-7 species in 4-5 genera (compared to 1-6 species in 1-5 genera today). Since all Polynesian pigeons and doves are frugivorous and/or granivorous, their decline in recent millennia probably has affected the composition of Polynesian forests by limiting inter- and intra-island dispersal of plant propagules.

Keywords : Pigeons; Polynesia; historic biogeography; community ecology; extinction

Steadman 1998

TI : Prehistoric exploitation of birds on Mangareva, Gambier islands, French Polynesia.

AU : Steadman D.W., Justice L.J. (1998).

SO : *Man and Culture in Oceania*, 14: 81-98.

ABSTRACT : We identified 215 bird bones from five archaeological sites on the islands of Mangareva, Aukena, and Kamaka in the Gambier Islands, French Polynesia. The bones, which are from birds that were killed for their flesh, feathers, or bones by prehistoric Polynesians, represent 15 species of seabirds (most or all resident) including *Bulweria cf. B. fallax*, three species of resident landbirds (the heron *Egretta sacra* and two extirpated columbids *Gallicolumba erythroptera* and *G. nui*), a migrant shorebird *Numenius tahitiensis*, and the non-native chicken *Gallus gallus*. Of the 18 certain or presumed resident species, at least four and perhaps as many as eight species no longer occur on Mangareva. While informative, this sample of bones is too small to estimate the true extent of the prehistoric extinction of birds on Mangareva.

Keywords : Polynesia; Mangareva; zooarchaeology; birds; extinction

Steadman 1999

TI : The Food Habits of Polynesian Pigeons and Doves: A systematic and Biogeographic Review.

AU : Steadman D. W., Freifeld H. B. (1999).

SO : *Ecotropica* 5: 13-33

ABSTRACT : Pigeons and doves (Aves: Columbidae) are represented in Polynesia by at least 30 species, of which nine are extinct and eight are endangered. Detailed, systematically collected data on diet (frugivory, granivory, omnivory) are lacking for most species of Polynesian columbids. Declines in species richness, taxonomic diversity, geographic distribution, and population size of columbids have occurred in response to human activities over the past 3000 years. We suspect that these declines probably have limited the inter-and intra-island dispersal of seeds from plants eaten by columbids especially various forest trees. Except for perhaps seven species (*Didunculus strigirostris*, *Ptilinopus perousii*, *P. porphyraceus*, *P. rarotensis*, *P. insularis*, *Ducula pacifica*, *D. latrans*), the largely anecdotal dietary information now available is not sufficient for conservation purposes (e.g., translocation). This situation can be rectified only by conducting new field research, for which we offer recommendations.

Keywords: Columbidae, pigeon, doves, islands, Polynesia, frugivory, granivory, tropical forest, extinction, conservation.

Steadman 1999(a)

Author: Steadman, David W.; Freifeld, Holly B.

Year: 1999

Title: The Food Habits of Polynesian Pigeons and Doves: A systematic and Biogeographic Review

Journal: *Ecotropica*

Volume: 5

Pages: 13-33

Keywords: Columbidae; pigeon; doves; islands; Polynesia; frugivory; granivory; tropical forest; extinction; conservation

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Steadman 1999(b)**Author:** Steadman, David W.; White, Peter J.; Allen, Jim**Year:** 1999**Title:** Prehistoric birds from New Ireland, Papua New Guinea: Extinctions on a large Melanesian island**Journal:** Proc. Natl. Acad. Sci.**Volume:** 96**Pages:** 2563-2568

Abstract: At least 50 species of birds are represented in 241 bird bones from five late Pleistocene and Holocene archaeological sites on New Ireland (Bismarck Archipelago, Papua New Guinea). The bones include only two of seabirds and none of migrant shorebirds or introduced species. Of the 50 species, at least 12 (petrel, hawk; megapode, quail, four rails, cockatoo, two owls, and crow) are not part of the current avifauna and have not been recorded previously from New Ireland. Larger samples of bones undoubtedly would indicate more extirpated species and refine the chronology of extinction. Humans have lived on New Ireland for ca. 35,000 years, whereas most of the identified bones are 15,000 to 6,000 years old. It is suspected that most or all of New Ireland's avian extinction was anthropogenic, but this suspicion remains undetermined. Our data show that significant prehistoric losses of birds, which are well documented on Pacific Island more remote than New Ireland, occurred also on large, high, mostly forested islands close to New Guinea.

Steadman 2002

TI : Prehistoric Butchery and Consumption of Birds in the Kingdom of Tonga, South Pacific

AU : Steadman, D., Plourde, A., Burley, D. (2002).

SO : Journal of Archeological Science 29: 571-584.

ABSTRACT :

We evaluate the preservational attributes (element frequency, breakage, burning, cut-marks, rodent gnawing, and age) of ca. 500 bird bones from three prehistoric archaeological sites on the Polynesian islands of Foa and Lifuka in the Ha'apai Group, Kingdom of Tonga. Two of the sites lie in calcareous beach sands whereas the third is the refuse infilling of a well. Although differing in age, all three sites are unequivocally cultural in origin, as evidenced by rich artifact assemblages and various sedimentological features (pits, hearths, etc.) that reflect human activities. The sites also contain bones from a diverse assemblage of marine fish, marine and terrestrial reptiles (sea turtles, iguanas), and terrestrial mammals (fruit bats, rats, pigs, dogs). We find no evidence for deposition of bones (bird or otherwise) in these Tongan sites by non-human agents. This is expected given that we are unaware of any non-human species or geological process that would concentrate the bones of fishes, reptiles, birds, and mammals on a beach ridge or in a well in Tonga. This is especially the case since the species range from very small to very large, and represent marine, fresh water, coastal, and forested habitats. Nevertheless, clear evidence of cultural involvement cannot be discerned on most individual bones, whether bird or non-bird. Furthermore, most taphonomic attributes (element frequency, breakage, burning, and cut-marks) of bones of a domesticated species (the chicken, *Gallus gallus*) resemble those found on bones of indigenous landbirds. We believe that all bones in any zooarchaeological assemblage should be evaluated carefully to determine who or what was responsible for their deposition. We see no reason, however, why bird bones should be held to some standard higher than those applied to the bones of other taxa, as some have suggested.

Keywords: ZOOARCHAEOLOGY, TAPHONOMY, BIRDS, CHICKEN, POLYNESIA

Steadman 2002(a)**Author:** Steadman, David W.**Year:** 2002**Title:** A new species of gull (Laridae: *Larus*) from an archeological site on Huahine, Society Islands (Huahine Gull, *Larus utunui*)**Journal:** Proceedings of the Biological Society of Washington**Volume:** 115**Pages:** 1-17

Abstract: *Larus utunui* is described from 12 bones (10 different skeletal elements from two individuals) excavated at the Fa'ahia archeological site Huahine, Society Islands. Resident species of *Larus* no longer occur in Polynesia, the nearest populations being those of *L. novaehollandiae* in New Caledonia (4200 km W of Huahine) and of *L. novaehollandiae*, *L. bulleri*, and *L. dominicanus* in New Zealand (3800 km SW of Huahine). Osteological similarities, especially in post-cranial elements, suggest that *L. novaehollandiae* may be the nearest living relative of *L. utunui*.

Steadman 2002(b)**Author:** Steadman, David W.; Plourde, Aimée; Burley, David V.**Year:** 2002**Title:** Prehistoric Butchery and Consumption of Birds in the Kingdom of Tonga, South Pacific**Journal:** Journal of Archaeological Science**Volume:** 29

Issue: 6

Pages: 571-584

Keywords: zooarchaeology; taphonomy; birds; chicken; Polynesia

Abstract: We evaluate the preservational attributes (element frequency, breakage, burning, cut-marks, rodent gnawing, and age) of ca. 500 bird bones from three prehistoric archaeological sites on the Polynesian islands of Foa and Lifuka in the Ha'apai Group, Kingdom of Tonga. Two of the sites lie in calcareous beach sands whereas the third is the refuse infilling of a well. Although differing in age, all three sites are unequivocally cultural in origin, as evidenced by rich artifact assemblages and various sedimentological features (pits, hearths, etc.) that reflect human activities. The sites also contain bones from a diverse assemblage of marine fish, marine and terrestrial reptiles (sea turtles, iguanas), and terrestrial mammals (fruit bats, rats, pigs, dogs). We find no evidence for deposition of bones (bird or otherwise) in these Tongan sites by non-human agents. This is expected given that we are unaware of any non-human species or geological process that would concentrate the bones of fishes, reptiles, birds, and mammals on a beach ridge or in a well in Tonga. This is especially the case since the species range from very small to very large, and represent marine, fresh water, coastal, and forested habitats. Nevertheless, clear evidence of cultural involvement cannot be discerned on most individual bones, whether bird or non-bird. Furthermore, most taphonomic attributes (element frequency, breakage, burning, and cut-marks) of bones of a domesticated species (the chicken, *Gallus gallus*) resemble those found on bones of indigenous landbirds. We believe that all bones in any zooarchaeological assemblage should be evaluated carefully to determine who or what was responsible for their deposition. We see no reason, however, why bird bones should be held to some standard higher than those applied to the bones of other taxa, as some have suggested.

Steadman 2003

TI : The late Quaternary extinction and future resurrection of birds on Pacific islands

AU : Steadman, D.W., Martin, P.S. (2003).

SO : Earth-Science Reviews 61: 133-147.

ABSTRACT : People have lived on tropical Pacific islands over the past 30,000 years (Bismarcks, Solomons) or 3000 to 1000 years (the rest of Oceania). Their activities have led to the loss of many thousands of populations and as many as 2000 species of birds that probably otherwise would exist today. This extinction event is documented by avian fossils from archaeological (cultural) and paleontological (noncultural) sites from nearly 70 islands in 19 island groups. Extinction of birds in Oceania rivals the late Pleistocene loss of large mammals in North America as the best substantiated rapid extinction episode in the vertebrate fossil record. Some avian extinctions in Oceania occurred within a century or less after human arrival, while others required millennia or even tens of millennia. Any of these time frames is rapid in an evolutionary or geochronological sense. Inter-island differences in the speed and extent of extinction can be explained by variation in abiotic (A), biotic (B), and cultural (C) factors. Levels of extinction on large, near islands can be comparable to those on small, remote islands when C factors (such as high human population density and introduction of invasive plants and animals) override A factors (such as large land area or little isolation) or B factors (such as rich indigenous floras and faunas). An innovative, proactive conservation strategy is needed not only to prevent further extinctions of birds in Oceania, but also to restart evolution of some of the lineages that have suffered the most loss, such as flightless rails. This strategy should focus on islands with ABC traits that retard rather than enhance extinction.

Keywords: Quaternary; Paleontology; Pacific islands; Birds; Extinction; Restoration

Stickney 1943

TI : Birds collected during the Whitney south sea expedition - Northern shore birds in the Pacific.

AU : Stickney, E. (1943).

SO : Amer. Mus Novit. 1248: 1-9.

ABSTRACT : Winter range and migration season in Polynesia of seven species of shore birds have been determined. They are characteristic for each of the species. Of the three circumpolar species, only the golden plover is common throughout the Pacific. The turnstone and the sanderling have restricted winter ranges. The American wandering tattler, although nesting in the Americas (Alaska), winters primarily in Polynesia. Breeding range and winter range of the bristle-thighed curlew are geographically restricted. Non-breeding individuals of nearly all the species are found in their winter ranges during the northern summer months.

Thibault 1974

Author: Thibault, Jean-Claude

Year: 1974

Title: Les conséquences des variations du niveau de la mer sur l'avifaune des atolls de Polynésie.

Journal: C.R. Acad. Sci.

Volume: 278

Pages: 2477-2479

Keywords: niveau de la mer ;atoll ;avifaune

Abstract: De l'étude des transgression marines, il apparaît que les atolls ont été recouverts par la mer à plusieurs reprises. Une revue de l'avifaune des atolls de deux grands archipels de Polynésie orientale, montre l'originalité

ornithologique de cette région et met en évidence que trois îles élevées ont permis aux oiseaux, adaptés à vivre sur un milieu corallien, de ne pas disparaître. La datation du corail, d'après des sondages effectués sur l'atoll de Mururoa (Tuamotu), donne approximativement l'âge de quelques sous-espèces endémiques à des îles recouvertes par l'eau, il y a encore 3000 ans.

Thibault 1976

TI : L'Avifaune de Tetiaroa

AU : Thibault, J.-C. (1976).

SO : L'Oiseau et la Revue française, 46(1): 29-43.

ABSTRACT : In the course of seven visits totalizing 36 days paid between 1972 and 1975 on Tetiroa Atoll, the avifauna has been checked: 10 breeding, 6 migrant and 3 introduced species. A special interest has been devoted to the sea birds; two species breed there in great numbers: *Sula sula* (5000 pairs) and *Anous stolidus* (30 000 pairs). For all the species notes on status, numbers and ecology are presented.

Thibault 1987

TI : Recent changes in the avifauna of Makatea Island (Tuamotus, Central Pacific).

AU : Thibault J.-C., Guyot I. (1987).

SO : Atoll Research Bulletin [ATOLL RES. BULL.], no. 300, pp. 1-13.

ABSTRACT : The avifauna of Makatea has been well-known since the XIXth century. Several inventories enable to follow modifications which occurred in its composition. We notice five landbirds (one is now extinct) and six breeding seabirds. The industrial phosphate mining, between 1908 and 1964, has drastically changed the vegetation of the island, half the area of which has been destroyed. But it seems that this phenomenon has not provoked the extinction of birds. Two species (*Ptilinopus purpuratus chalcurus* and *Acrocephalus caffer eremus*) successfully occupy the secondary vegetation which colonizes the old mining area.

Keywords : Aves

Thibault 1989

TI : L'Avifaune des îles Eiao et Hatuta'a (Polynésie, Pacifique Sud): modifications intervenues au XXe siècle

AU : Thibault, J.-C. (1989).

SO : L'Oiseau et la Revue française d'ornithologie 59(4): 304-324.

ABSTRACT : 24 species of breeding birds are known from Eiao and Hatuta'a (Marquesas Is., South Pacific Ocean). Comparisons of collections and observations from the first half of this century (1922, 1929) with those made recently (1975, 1977, 1987) allow changes to be studied. Hatuta'a was visited by the Polynesians (who left behind stone pavements and introduced *Rattus rattus*), but their impact on the terrestrial ecosystem is uncertain. This century has not seen important changes in either the composition of the avifauna or the abundance of species, except for establishment of a new breeding seabird. Although its surface area is only a third that of Eiao, the island is of considerable faunistic interest. In contrast, Eiao (52 km²) has suffered major disturbance at different times: woodland clearance, construction of buildings and workshops, probable introduction of pigs and *Rattus exulans* by the Polynesians, then occupation by westerners who attempted pastoral farming (introduction of sheep) between 1870 and 1930. Today the soil is bare over most of the surface of the island as a direct consequence of overgrazing by the sheep. The occurrence of woody plants is now limited to a few groves. The distribution of the only endemic passerine bird that still survives there (*Acrocephalus caffer*) is confined to several areas that still support shrubby and woodland vegetation. During the past century an endemic bird has become extinct (*Pomarea iphis fluxa*) and an introduced species present for several decades in the archipelago has become established (*Lonchura castaneothorax*).

Thibault 1990

TI : Le Zostérops à poitrine grise *Zosterops lateralis* (Latham) en Polynésie un oiseau introduit devenu colonisateur actif.

AU : Thibault J.-C. et Monnet C. (1990).

SO : L'Oiseau et la Revue française d'ornithologie., 60(3): 233-240.

ABSTRACT : A summary of the presence of the grey-backed Silvereye (*Zosterops lateralis*) in Polynesia was performed more than 50 years after its introduction. Released in Tahiti around 1937, it has since colonized 10 islands located within a radius of 550 kms. It is likely that in a long term it would spread even more. Its colonization of volcanic islands is a success to a point that it is one of the rare species of contemporary avifauna in Polynesia to live in most wooded areas. On the other hand, it is absent on the atolls where vegetation is probably too scattered.

Thibault 1991

TI : Numbers and habitat of the Rapa Fruit dove *Ptilinopus huttoni*.

AU : Thibault, J.-C., Varney, A. (1991).

SO : Bird Conservation International 1:75-81.

ABSTRACT : A survey in December/January 1989/1990 revealed that an estimated 274 Rapa Fruit-doves

Ptilinopus huttoni remain in Rapa's last (and fragmented) 292 ha of forest. This suggests no serious decline since 1974, both the forests continue to be degraded and cleared, and action to preserve key sites is urgently needed. RESUME : Un recensement en Décembre/janvier 1989/1990 montra qu'un nombre estimé de 274 Ptilopes de Hutton *Ptilinopus huttoni* survivent dans les derniers 292 ha de forêts fragmentées sur l'île de Rapa. Ceci ne suggère aucun déclin important depuis 1974, mais les forêts continuent à être dégradées et coupées, ainsi il devient urgent d'entreprendre des actions pour la sauvegarde des sites clés.

Thibault 1999

TI : Breeding seabirds of Gambier Island, Eastern Polynesia : numbers and changes during the 20th century.

AU : Thibault J.-C., Bretagnolle V. (1999).

SO : Emu., 99: 100-107.

ABSTRACT : We report numbers and distributions of the breeding seabird community of the Gambier Islands (Eastern Polynesia, South Pacific Ocean), obtained in 1995 and 1996. Comparing these data with those collected in 1922, 1965–69 and 1971, we assess the extent of changes in distribution and numbers of seabirds. None of the 14 species recorded previously to 1995–96 has disappeared, but numbers and ranges of all the tern species have decreased. Breeding of three additional species (*Pterodroma* spp.) has been discovered or confirmed in 1995–96, though their numbers are very small. We also identified an unknown Cookilaria petrel, of which a wing was collected in 1922 on Mangareva, but which was not recorded later. Although seabird diversity on Gambier Islands is high, no species breeds in large numbers. Indeed, several species have tiny population sizes, and concern is therefore expressed for the future of this seabird community.

Thibault 2001

TI : Contemporary extinctions and population declines of the monarchs (*Pomarea* spp.) in French Polynesia, South Pacific

AU : Thibault J.-C., Meyer J.-Y. (2001).

SO : Oryx, Volume 35 Issue 1 Page 73

doi:10.1046/j.1365-3008.2001.00148.x

ABSTRACT : Four species of monarchs (*Pomarea* spp.) presently inhabit French Polynesia, one on Tahiti and three on the Marquesas Islands. Although all species populations were abundant during the nineteenth century or at the beginning of the twentieth century, their range and population numbers have recently decreased dramatically: intensive field surveys conducted between 1998 and 2000 reveal that four subspecies are now extinct from five islands in the Marquesas in the last decades. Introduction of the black rat is the major cause of extinction and decline, now amplified by new threats such as aggressive introduced birds and invasive alien plants reducing suitable habitats for breeding.

Thibault 2002

TI : Understanding the decline and extinction of monarchs (Aves) in Polynesian Islands

AU : Thibault, J.-C., Martin, J.-L., Penloup, A., Meyer, J.-Y. (2002)

SO : Biological Conservation, 108: 161-174.

ABSTRACT : Understanding the decline and extinction of species has become critical to conservation biology. The five monarch species of the genus *Pomarea*, endemic to the southeastern Pacific, are all listed as threatened. Introduced mammals and birds are believed to be responsible for their rarefaction. We analyzed the historical and current distribution of monarchs and introduced animals and found no relation between presence of Polynesian rats (*Rattus exulans*) and monarch distribution. There was a highly significant correlation between the arrival of the black rat (*Rattus rattus*) and the decline and extinction of monarch populations. The extinction of monarch populations after colonization by black rats tended to take longer on larger islands than on smaller ones. On islands without black rats, monarchs persisted even where forests have been reduced by more than 75%. After an island was colonized by black rats the number of monarch pairs with young decreased dramatically. Eggs in artificial nests placed in sites used by monarchs were only preyed upon by black rats. No eggs were preyed upon by Polynesian rats (*Rattus exulans*) or introduced birds. Monarch nests were mainly placed on horizontal branches inside the canopy and were more accessible than nests of Polynesian warbler (*Acrocephalus caffer*), a species still locally abundant. Warbler nests were placed higher up on vertical branches near the top of trees. These studies suggest that nest predation by black rats has been the main cause of monarch decline. However observations of direct aggression of adult monarchs by introduced red-vented bulbuls (*Pycnonotus cafer*), especially when monarchs raise their young, suggest that introduced birds could aggravate the decline of monarch populations already weakened by black rats. We discuss the practical implications of these findings for monarch conservation.

Keywords: Monarch; *Pomarea*; Rat; *Rattus*; Polynesia; Extinction; Conservation

Thorsen 2002

TI : Reasons for decline, conservation needs, and a translocation of the critically endangered upe (Marquesas imperial pigeon, *Ducula galeata*), French Polynesia

AU : Thorsen M., Blanvillain C., Sulpice R. (2002).

SO : DoC science internal series 88.

ABSTRACT : The upe, *Ducula galeata*, is a critically endangered large frugivorous pigeon restricted to the island of Nuku Hiva, Marquesas (French Polynesia). In May 2000, five upe were transferred to Ua Huka island (c. 50 km distant) as part of a conservation project aimed at conserving French Polynesian pigeons and doves. This report details translocation of upe from Nuku Hiva to Ua Huka, some notes on upe gathered during fieldwork, including possible reasons for the decline, and some recommended conservation actions. All five birds are known to have survived the translocation; the recent discovery of an-jessed bird suggest that breeding has occurred.

Keywords : translocation, Marquesas imperial pigeon, Marquesas

Trevelyan 1995

Author: Trevelyan, R.

Year: 1995

Title: The feeding ecology of Stephen's lory and nectar availability in its food plants

Journal: Biological Journal of the Linnean Society

Volume: 56

Pages: 185-197

Keywords: Henderson Island; nectarivore; *Scaevola sericea*; *Timonius polygamus*; sucrose

Abstract: Stephen's lory, *Vini stephensi*, is one of four landbirds which are endemic to Henderson Island and until recently, its habits and ecology were unknown. I studied the diet and feeding ecology of Stephen's lory with particular reference to nectar variation in dominant food plants. Stephen's lory feeds on nectar, pollen and fruits from a variety of plants with lepidopteran larvae also forming a large component of the diet. The two plants which were dominant nectar sources for Stephen's lory produced flowers with very different nectar yields. *Scaevola sericea* flowers contained larger maximum volumes of more concentrated nectar than *Timonius polygamus* flowers. However, *Scaevola* flowers were a less predictable nectar resource, and grew at much lower densities, than *Timonius* flowers. Lories fed on the two flower types at different frequencies and it was hypothesized that the net rate of energy gained from feeding from a similar sized patch of the two plant species was comparable. Although nectar volumes of *Timonius polygamus* flowers decreased from the early mornings up until late afternoons, the lories did not show a corresponding daily pattern of foraging behaviour. Nectar yields also increased with the age of *Timonius* flowers. Stephen's lory has probably been the least affected of its genus by adverse changes to its habitat, and any information gained on the species may be useful when conservation measures of other *Vini* species are addressed.

Vanderwerf 2006

Author: Vanderwerf, Eric A.; Pierce, Ray J.; Gill, Verena A.; Wragg, Graham; Raust, Philippe; Tibibitts, T. Lee

Year: 2006

Title: Pelagic seabird surveys in the Tuamotu and Gambier archipelagos, French Polynesia

Journal: Marine Ornithology

Volume: 34

Pages: 65-70

Keywords: French Polynesia; Gambier Archipelago; Tuamotu Archipelago; pelagic seabirds

Abstract: We conducted pelagic seabird surveys in the Gambier and Tuamotu Archipelagos in the southeastern Pacific Ocean totaling 40 hours during 7–27 March 2003 and 22.5 hours during 22–27 July 2001. We used a 300-m-wide strip transect to estimate seabird density, and we estimated relative abundance of birds at all distances. In 2001, we observed a total of 326 birds of 18 species. The mean relative abundance of all birds was $14.3 \pm 3.1/h$. Red-footed Booby *Sula sula* was the most abundant species (5.6/h), followed by White Tern *Gygis alba* (3.4/h), and Great Crested or Swift Tern *Sterna bergii* (1.2/h). In 2003, we observed a total of 1463 birds of 25 species. The mean relative abundance of all birds was $36.6 \pm 11.4/h$ and the mean density of all birds was $4.14 \pm 0.72/km^2$. Brown Noddy *Anous stolidus* was the most abundant species (17.6/h, 1.5/km²), followed by White Tern (8.4/h, 1.3/km²), and Red-footed Booby (4.6/h, 0.8/km²). Several globally or locally rare species were observed infrequently, including Phoenix Petrel *Pterodroma alba* (0.1/h, 0.03/km²). Distribution of birds was uneven, with long periods of no birds punctuated by occasional feeding flocks. In 2003, species diversity was related to length of observation period, with more species observed on longer segments ($r^2 = 0.58$, $F_{1,5} = 6.03$, $P = 0.05$). Although the duration and extent of our surveys were limited, these data are valuable because little published information is available on pelagic seabirds in southeastern Polynesia.

Vilina 1992

TI : Status of Peruvian Diving Petrel, *Pelecanoides garnotii* on Chanaral Island, Chile.

AU : Vilina Y.A. (1992).

SO : Colonial Waterbirds., 15(1): .137-139.

ABSTRACT : The Peruvian Diving Petrel, *Pelecanoides garnotii* is an endemic seabird of the Humboldt Current. A drastic population decline and loss of breeding sites has been observed in recent decades. In Peru, the breeding population was estimated recently at 1,500 individuals in Chile, the current status is unknown. The

present study renders an account of the breeding colony at Chanaral Island, the largest one known in Chile. Low numbers of sightings of these divers in the sea adjacent to the island were also reported from transect counts.

Villard 2003

TI : Population size, habitats and conservation of Marquesan Imperial Pigeon *Ducula galeata*

AU : Villard, P., De Visscher M.-N., Balança G. (2003)

SO : Bird Conservation International 13: 189-197.

ABSTRACT : Marquesan Imperial Pigeon *Ducula galeata* only survives on Nuku Hiva island in the Marquesas archipelago. It lives and nests mainly in small patches of forest with tall trees, in deep valleys. The population is likely to consist of only 80-150 birds. However, its forest habitat is in peril due to overgrazing, especially by goats, which precludes growth of young trees. Better control of feral herbivores should be a priority for the conservation of the species, as well as the cessation of poaching of this endangered pigeon. Introduced black rats *Rattus rattus* do not seem to be a threat for this bird.

Villard 2006

Author: Villard, Pascal; Dano, Stéphanie; Bretagnolle, Vincent

Year: 2006

Title: Morphometrics and the breeding biology of the Tahiti Petrel *Pseudobulweria rostrata*

Journal: Ibis

Volume: 148

Pages: 285-291

Abstract: The genus *Pseudobulweria* includes four extant species, three being classified as critically endangered, while the fourth (Tahiti Petrel *P. rostrata*) is near threatened. Information on the breeding biology of any species of the genus is scarce, even for the Tahiti Petrel. We monitored two Tahiti Petrel nests in New Caledonia and provide the first data on the breeding biology for genus. Incubation last about 55 days, and young fledge at 110 days. Breeding in the southern lagoon of New Caledonia extends from September to April. Very strong interspecific competition for nest cavities occurs with Wedge-tailed Shearwaters *Puffinus pacificus*. We also document geographical variation in both biometry and breeding phenology over the Pacific breeding range.

Vissher 2001

TI : Conserver et gérer un patrimoine biologique : le cas des pigeons forestiers à faible répartition dans le Pacifique.

AU : Vissher (de) M.-N. (2001).

SO : Bois et Forêt des tropiques., 268(2)

ABSTRACT : Large fruit-eating pigeons of New Caledonia and French Polynesia provide an excellent model to illustrate the hypothesis that sustainable management of biodiversity resources is essential under high human pressure conditions. An adult giant imperial pigeon (*Ducula goliath*) can weight more than 800g, making this endemic New Caledonian bird the largest pigeon in the world and of considerable interest in terms of game resources. In French Polynesia, the habitat of the Marquesas imperial pigeon (*Ducula galeata*) is limited to Nuku Hiva island, with a maximum of 200 birds present. The Polynesian imperial pigeon (*Ducula aurorae*) is now very rare in Tahiti, with a maximum population of around 500 birds present only on the island of Makatea (Tuamotu). Due to the small population and their isolation, these latter two imperial pigeons must be carefully managed to avoid their extinction. By contrast, the populations of giant fruit-eating pigeons found solely on Grande-terre island can only be maintained by hunting regulations drawn up on the basis of a better understanding and monitoring of their ecology and by a perception of the conflictual interest of hunters and the different communities. After reviewing available data, this article analyses possible methods for monitoring and active management of the species, e.g. rational sampling strategies, awareness campaigns, translocation operations and methods for founding new populations.

RESUME : Le cas des espèces de carpophages (gros pigeons frugivores) de la Nouvelle-Calédonie et de la Polynésie française constitue un excellent modèle pour illustrer l'hypothèse selon laquelle la pérennisation des ressources de la biodiversité soumises à des pressions anthropiques passe par une gestion durable de cette richesse. Le poids d'un adulte carpophage géant, *Ducula goliath*, peut dépasser 800g, conférant à cet endémique de Nouvelle-Calédonie le statut de plus gros pigeon du monde mais aussi un grand intérêt cynégétique. En Polynésie française, le carpophage des Marquises, *Ducula galeata*, n'habite plus que l'île de Nuku Hiva où sa population serait au maximum de 200 individus. Le carpophage de la Société, *Ducula aurorae*, devenu très rare sur Tahiti, possède encore une population estimée à 500 individus sur la seule île de Makatea (Tuamotu). Ces deux derniers carpophages, de par la faiblesse de leurs effectifs et l'isolement de leurs populations posent le problème de la gestion des espèces en danger d'extinction. En revanche, le maintien des populations de carpophages géants limitées à l'île Grande-terre requiert des plans de chasse fondés sur une meilleure connaissance et une surveillance de leur écologie ainsi que des perceptions et des intérêts, parfois conflictuels, entre les chasseurs des différentes communautés. Après une revue des connaissances, l'article analyse les méthodes envisageables de suivi des populations et de gestion active, telles qu'un plan rationnel de prélèvement, des programmes de sensibilisation, des opérations de translocation et de fondation de nouvelles populations.

Keywords: pigeon, endemism, population, hunting, translocation, pacific.
Pigeon, endémisme, population, chasse, translocation, Pacifique.

Walters 1991

TI : *Prosobonia ellisi*, an extinct species of sandpiper from Moorea, Society Islands

AU : Walters, M. (1991)

SO : Bollettino di Museo Regionale di scienze Naturali. Torino 9: 217-226.

ABSTRACT : Two species of sandpipers of the genus *Prosobonia* have been described from the Society Islands, *P. leucoptera*, named by Gmelin in 1789 based on an English description by Latham, and *P. ellisi* described by Sharpe in 1906. Both forms are now extinct. The second species has generally been considered a synonym of *P. leucoptera*. This paper examines the surviving remains (one skin of *P. leucoptera* and several paintings, which are here reproduced) and concludes that *P. ellisi* (of which no specimens survive) was a valid species.

Watling 1978

TI : Observation on the naturalised distribution of the Red-vented Bulbul in the Pacific, with special reference to the Fiji islands.

AU : Watling D. (1978).

SO : Notornis. 25(2): 109-117

ABSTRACT : The present and past naturalized distribution of the Red-vented Bulbul, *P. cafer*, in the Pacific is described. The species was first recorded in Fiji at the turn of the century and probably arrived with indentured Indian labour. Its restricted distribution in the Fiji Islands coincides with that of several weed species which constitute its main food supply and probably limit its spread.

Watling 1983

TI : The Breeding Biology of the Red-vented Bulbul *Pycnonotus Cafer* in Fiji.

AU : Watling D. (1983).

SO : Emu. 83(3): 173-180.

ABSTRACT : In Fiji, the Red-vented Bulbul *Pycnonotus cafer* has a distinct breeding season which occurs during the rains. The Bulbul has a mean clutch size of 2.5. There is a high rate of egg and nestling loss; 72% of eggs laid do not hatch and 53% of nestlings do not survive. Bulbuls have an extended period of parental care of fledglings and are unlikely to raise more than one brood in a season. Fledgling survival appears to be good and the annual recruitment rate is probably about 30%, although in one year it was considerably less.

Watling 1995

TI : Notes on the status of Kuhl's lorikeet, *Vini kuhlii* in the Northern Line Islands, Kiribati.

AU : Watling, D. (1995).

SO : Bird Conservation International 5: 481-489.

ABSTRACT : Kuhl's Lorikeet *Vini kuhlii* has a precarious status reflected by its disjunct distribution in the Pacific, with surviving populations in the Northern Line (Kiribati) and Austral Islands (French Polynesia) some 3,000 km apart, possibly as a result of Polynesian trade in red feathers. The species is extinct in the southern Cook Islands. On Rimatara (Austral Islands), where it is believed indigenous, it is still common but the recent introduction of the *Rattus norvegicus* is of concern. In the Northern Line Islands, *R. rattus* appears to have all but extirpated the lorikeet on Tabuaeran (Fanning Island), but one small population has apparently survived for over 70 years, an explanation for which may guide in situ conservation of *Vini* lorikeets on ship-rat-infested-islands elsewhere. The arid and unpredictable climate of Kiritimati (Christmas Island) may preclude the establishment of lorikeets. Only on Teraina (Washington Island), where over 1,000 *V. kuhlii* survive, are there no confirmed threats and good in situ conservation potential.

Worthy 2003

Author: Worthy, Trevor H.; Wragg, Graham

Year: 2003

Title: A new species of *Gallicolumba* (Columbidae) from Henderson Island, Pitcairn Group

Journal: Journal of the Royal Society of New Zealand

Volume: 33(4)

Pages: 769-793

Keywords: Columbidae; *Gallicolumba* new species; Henderson Island; Pitcairn Group

Abstract: A new species of ground dove in the genus *Gallicolumba* is described from abundant material from late Pleistocene to Holocene age deposits of natural and midden derivation on Henderson Island in the Pitcairn Group, South Pacific Ocean. Osteological characters suggest that it was most closely related to *G. stairi* and *G. rubescens*. Relatively enlarged leg elements and reduced wing elements suggest that this dove was facultatively flightless.

Wragg 1994

TI : Extinctions and New records of birds from Henderson island, Pitcairn group, south Pacific ocean.

AU : Wragg, G.M and Weisler, M.(1994)

SO : Notornis 41: 61-70.

ABSTRACT : Archeological and palaeontological excavations were conducted as part of the Pitcairn islands Scientific Expedition (January 1991 to March 1992). In this preliminary analysis of the subfossil bird bones from Henderson Island (24°22'S, 128°18'E) we identified 29 taxa, which were divided into five groups: (1) four endemic extinctions, (2) five local extinctions, (3) a minimum of 12 breeding residents, (4) three non-breeding migrants, and (5) five birds of uncertain status. Over half of the landbird species known from Henderson Island are listed here for the first time, including one new genus and at least three new species. New listings for Henderson Island include: Henderson Archaic Pigeon (Columbidae new genus), Henderson Ducula Pigeon (Ducula new species), Henderson Ground-Dive (Gallicolumba new species), Henderson Sandpiper (Prosobonia new species), Royal Albatross, Little/Audubon's Shearwater, Bulwer's Petrel, Black-winged Petrel, Sooty Tern, cuckoo (Eudynamys sp.), and a swallow (Hirundo sp.). Most of the bird bones collected were associated with prehistoric Polynesian occupation sites dating from ca. AD 1000 to 1600. Humans may have caused the extinction of at least four of the eight endemic landbirds, which equates with similar extinction rates on other Pacific islands.

Wragg 1995

Author: Wragg, Graham

Year: 1995

Title: The fossils birds of Henderson Island, Pitcairn Group: natural turnover and human impact a synopsis.

Journal: Biological Journal of the Linnean Society

Volume: 56

Pages: 405-414

Keywords: evolution ;extinction; biogeography; vagrancy; sealevel; pigeon; sandpiper; petrel; shearwater; swallow

Abstract: Recent studies of island biotas have suggested that the impact of man on indigenous flora and fauna is much greater than previously suspected. This impact resulted in the introduction of many new species and the extinction of many unique life-forms. Henderson Island, in the Pitcairn Group, has been found to be an excellent laboratory for the study of natural faunal turnover and the impact of people on the natural environment. This was principally due to the island's remote location and its limestone structure, which resulted in the excellent preservation of fossil remains. During the Sir Peter Scott Commemorative Expedition to the Pitcairn Islands, extensive excavations were undertaken resulting in the collection of 42 213 bird bones. It was possible to identify 31%. Of the 31 taxa identified, four seabirds appear to be vagrants, a surprisingly high number illustrating that the uncritical evaluation of fossil bird lists from other islands risks over-estimating the number of indigenous species. As a result of the arrival of Polynesian people during the first half of this millennium, half of Henderson's endemic landbirds became extinct, as did most of the small ground-nesting seabirds. The lower sea level during cold stages creates many temporary limestone 'high' islands. This results in many 'former-atolls' developing geological and ecological similarity to Henderson. Hence lower sea-level greatly facilitates the movement of flora and fauna between currently isolated oceanic 'high' islands.

Wragg 2004(e)

Author: Wragg, Graham; Raust, Philippe

Year: 2004

Title: Rapport sur l'éradication des rats sur cinq îles de l'archipel des Gambier, Polynésie Française

City: Papeete

Cook Islands

Institution: Société d'Ornithologie de Polynésie

Pacific Expeditions

Pages: 22

Abstract: In October 2003, an invasive mammal survey and rat eradication project was conducted in the Gambier Group, French Polynesia. This work was financed by the French Polynesian Government; was organised by SOP-Manu; with all fieldwork by Pacific Expeditions Ltd.

Five islands were found to be rat free, most notably Manui and Motu Teiku which have significant numbers of breeding seabirds.

Five other islands were treated with Pestoff 20R pellets, most notably the high islands of Mekiro, Makapu and Motu o ari but also motu Teavaone and Tepapuri.

A further helicopter-based project is proposed for the high islands of Kamaka, Makaroa and Agakaitai as their access is difficult.

Wragg 2004(f)**Author:** Wragg, Graham; Raust, Philippe**Year:** 2004**Title:** Rapport sur l'éradication des rats sur cinq îles de l'archipel des Gambier, Polynésie Française**City:** Papeete

Cook Islands

Institution: Société d'Ornithologie de Polynésie

Pacific Expeditions

Pages: 22**Abstract:** En octobre 2003, un projet de surveillance des mammifères invasifs et d'éradication des rats a été conduit dans l'archipel des Gambier en Polynésie Française. Ce travail a été financé par le Gouvernement de la Polynésie Française, organisé par la SOP Manu et effectué sur le terrain par Pacific Expeditions Ltd.

Cinq îles ont été trouvées indemnes de rats : le motu Tauna, Kouaku et Puaumu ainsi que les îlots Manui et Motu Teiku qui possèdent un nombre important d'oiseaux marins nicheurs.

Cinq autres îles ont été traitées avec du poison Pestoff 20R (Brodifacoum) dont les îlots volcaniques de Mekiro, Makapu et Motu o ari ainsi que les motu Teavaone et Tepapuri.

Un projet de dispersion supplémentaire du poison par hélicoptère sur les îles hautes de Kamaka, Makaroa et Agakaitai est proposé car leur accès est difficile et dangereux.

Zusi 1970**Author:** Zusi, R. L.; Jehl, J. R., Jr.**Year:** 1970**Title:** The systematic relationships of *Aechmorhynchus*, *Prosobonia* and *Phegornis* (Charadriiformes; Charadrii)**Journal:** Auk**Volume:** 87**Pages:** 760-780**Abstract:** The systematic positions of three little-known shorebirds-*Phegornis mitchellii*, *Prosobonia leucoptera*, and *Aechmorhynchus cancellatus*-are evaluated from comparative studies of osteology, myology, and plumage patterns of adults and chicks. *Phegornis* belongs in the Charadriinae of the Charadriidae. We regard *Aechmorhynchus* as congeneric with *Prosobonia*, constituting a tribe, *Prosoboniini*, in the subfamily *Tringinae* of the *Scolopacidae*. The reconstituted genus *Prosobonia* thus contains the species *cancellatus* and *leucoptera*. The *Prosoboniini* are most closely related to the *Tringini*.