OBSERVATIONS ON THE WEDGE-TAILED SHEARWATER (Puffinus pacificus) IN THE SOUTH-WEST PACIFIC

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SUMMARY

Records of Wedge-tailed Shearwaters made between 1960 and 1978 in the South-west Pacific are collated to indicate changes in their annual distribution between New Zealand, Fiji, Samoa, and Tonga.

The absence of Wedge-tailed Shearwaters from the study area on migration from June to September is shown, and migration tracks to and from their supposed wintering grounds in the eastern Pacific are suggested.

Reference is made to feeding, and to birds seen in feeding flocks with Wedge-tailed Shearwaters. The apparent absence of avian food piracy on the species is discussed. An attempt is made, with little success, to deduce the location of breeding sites in the study region.

INTRODUCTION

The observations of the Wedge-tailed Shearwater *(Puffinus pacificus)* presented here are based on the author's records made on occasional passages from 1960 to 1973 and on regular fortnightly voyages from May 1973 to October 1978. During the last five years, most voyages were between Auckland, Lautoka, Suva, Pago Pago, Apia, Nukualofa, and Auckland, whereas earlier passages were mainly between Auckland or Onehunga and Fiji. The data include observations made by other Union Steamship Company deck officers on various voyages to the Pacific Islands up to 1977.

The region under consideration lies between 12°S and 36°S latitude, and 171°E to 170°W longitude. Almost all the observations were made from merchant ships on commercial voyages, so that most lie on the direct routes between the various island groups, and from New Zealand to the Pacific Islands.

Figures 1-5 show the highest numbers of Wedge-tailed Shearwaters recorded together in each one-degree " square," that is, a square of one degree of latitude by one degree of longitude (Cheshire 1977). Where a square has not been visited it is left blank.

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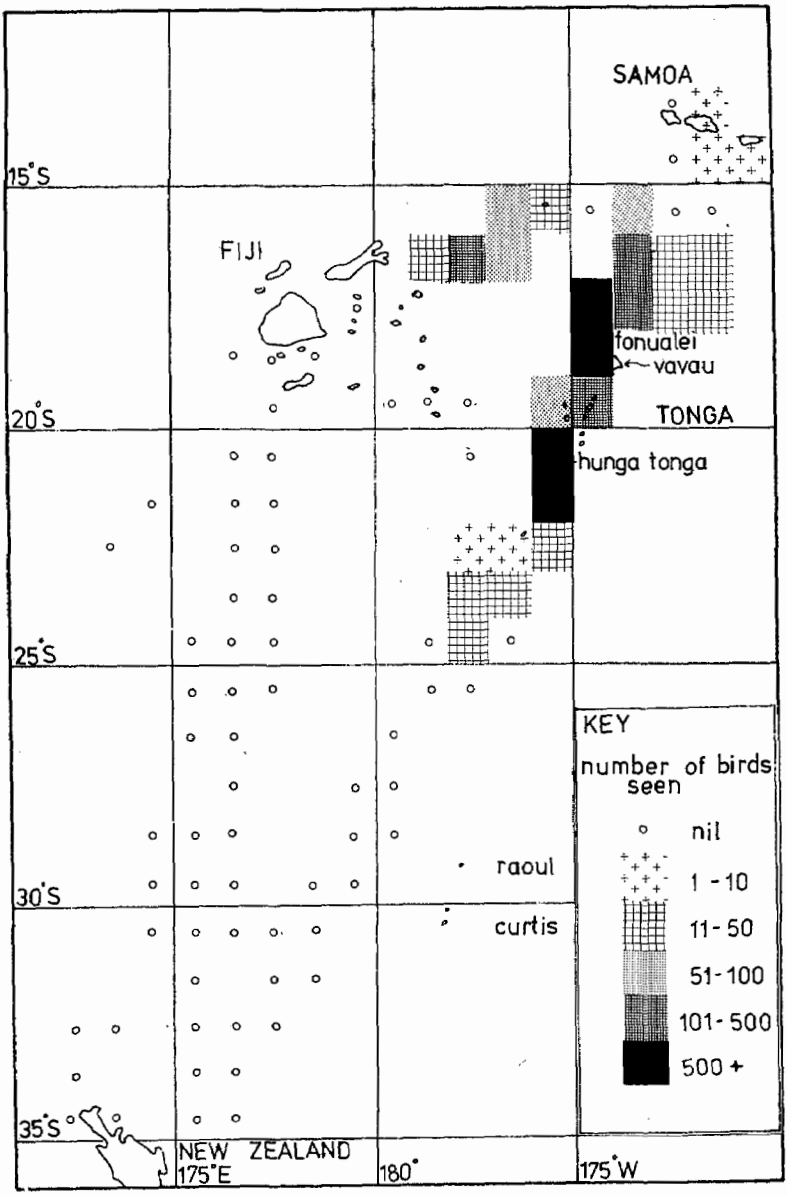

FIGURE 1 — Distribution of Wedge-tailed Shearwater — October.

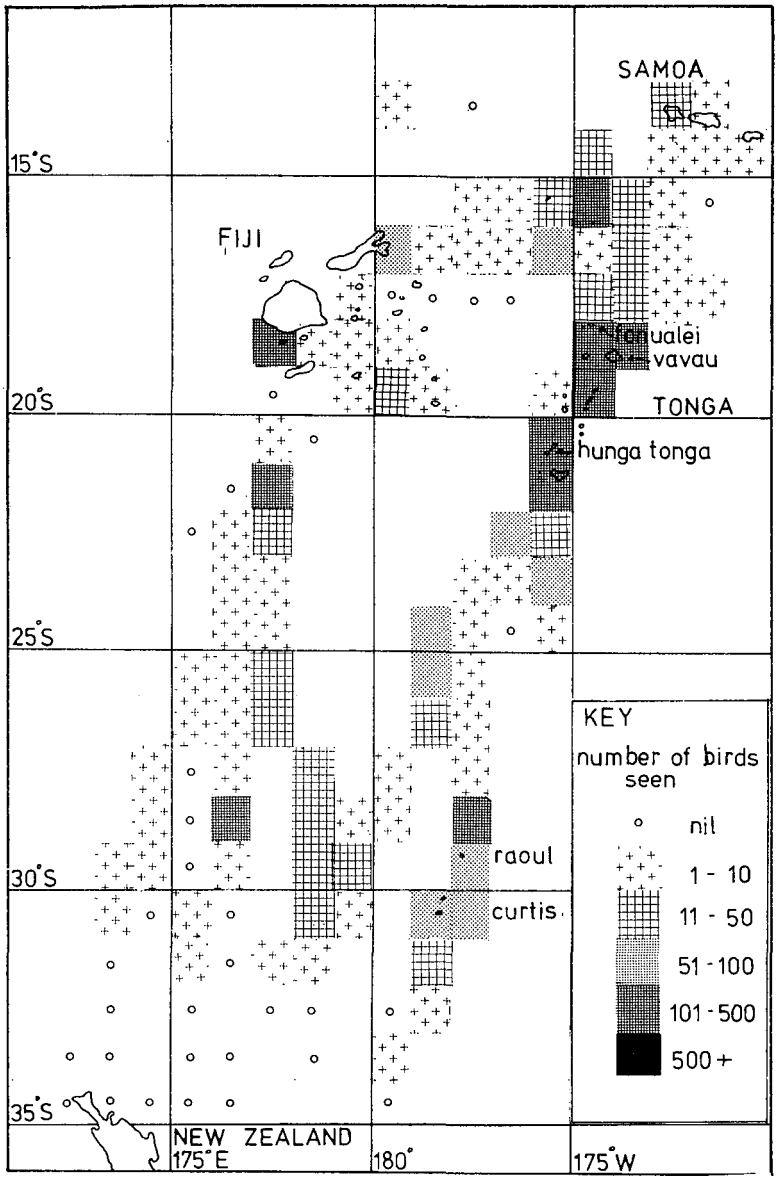

FIGURE 2 — Distribution of Wedge-tailed Shearwater — November to January.

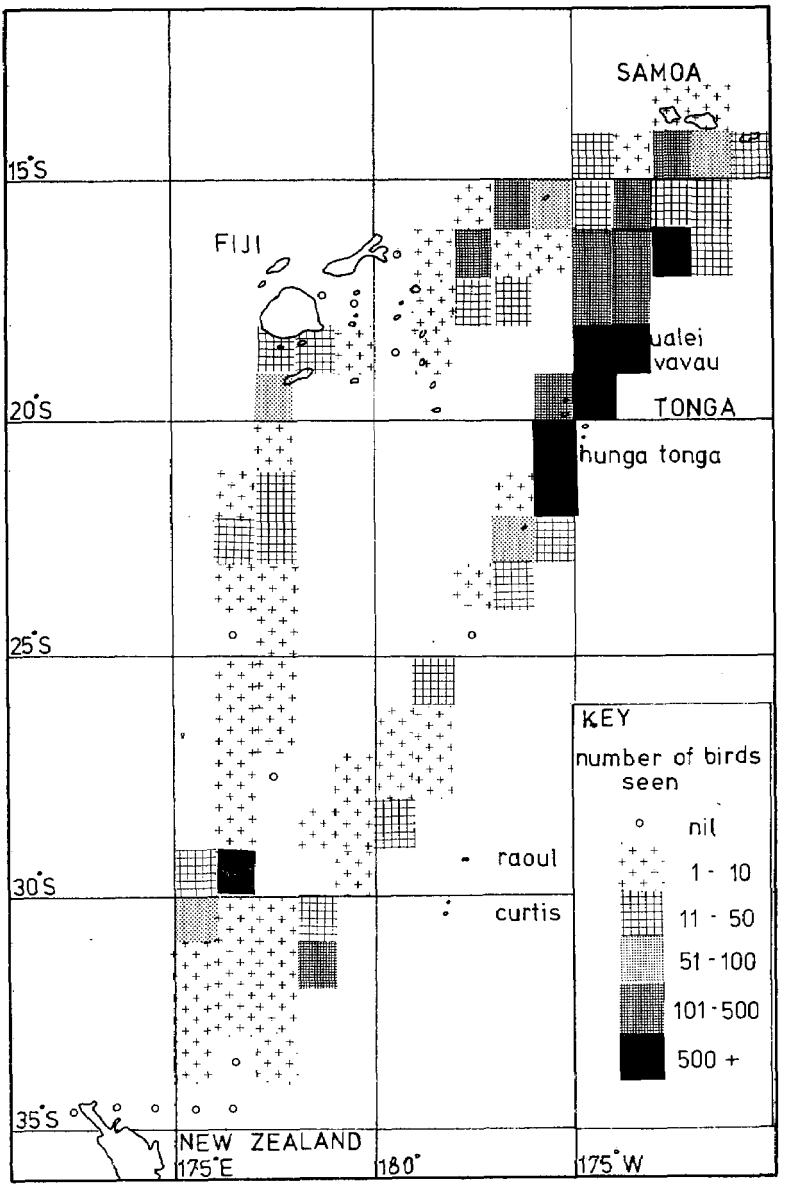

FIGURE 3 — Distribution of Wedge-tailed Shearwater — February, March.

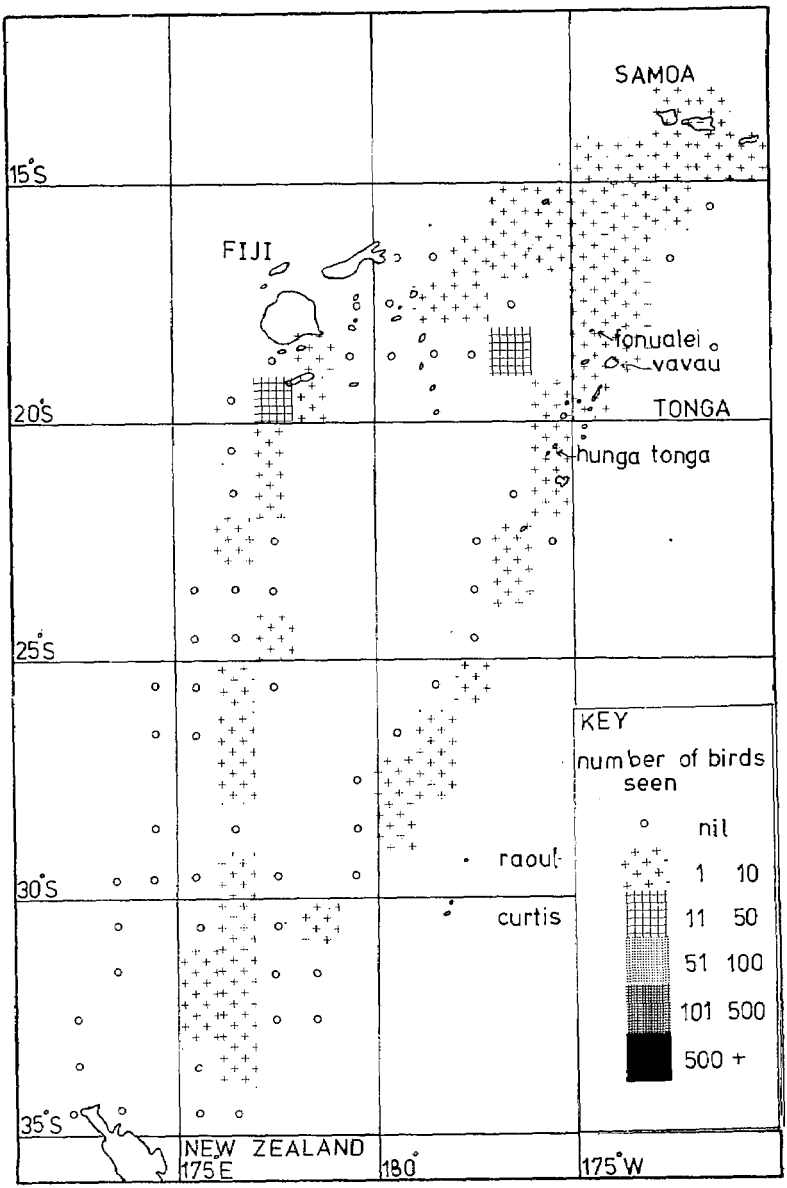

FIGURE 4 — Distribution of Wedge-tailed Shearwater — April, May.

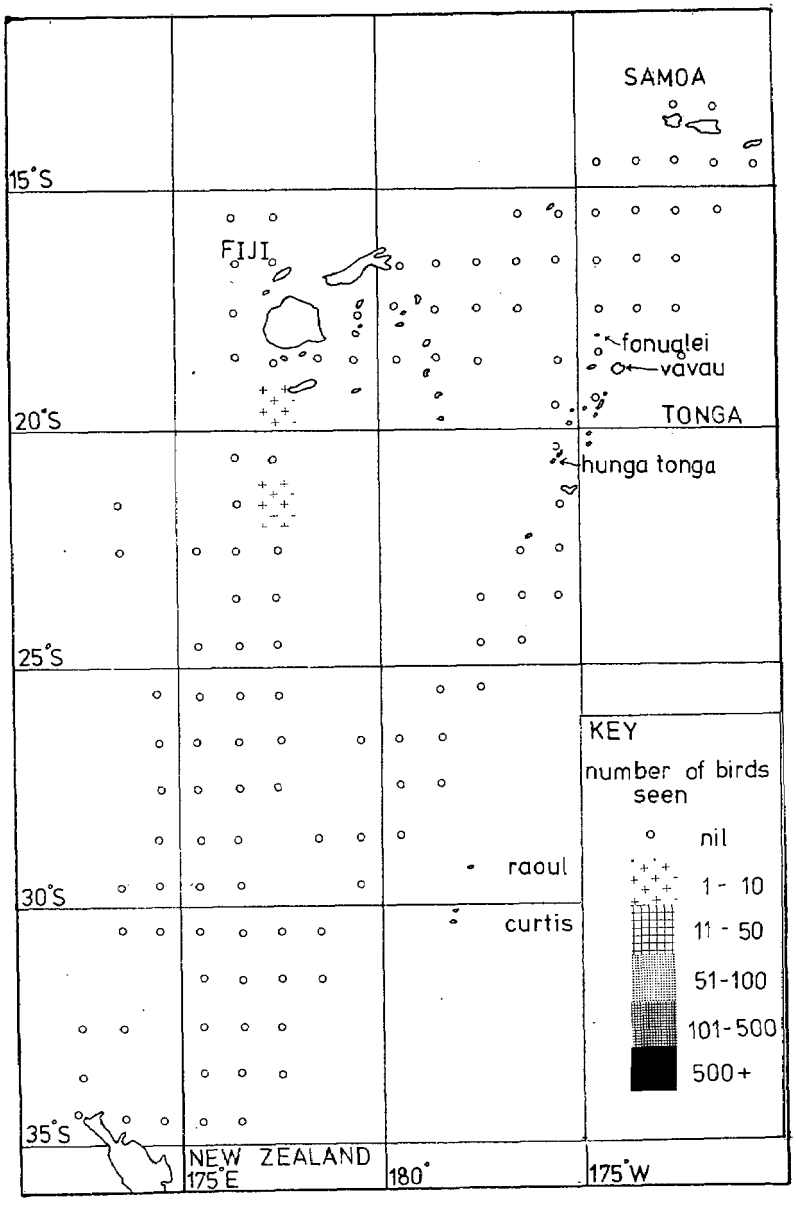

FIGURE 5 — Distribution of Wedge-tailed Shearwater — June to September.

During the period that Wedgetails are in the region under study, they are spread thinly throughout, concentrating only for specific reasons. The most regularly observed reason for concentration is feeding, when many are seen together with other seabirds (Table 1). Other reasons for concentrations are the assembling of birds off breeding islands, a habit of loafing in the lee of islands in bad weather, and the flocking of birds just before and during migration. The pattern of observation from a passing ship is to see either low numbers of from one to five birds on almost all sightings, or a concentration.

In this report, the Wedge-tailed Shearwaters seen were almost all of the dark phase, light-phase birds being very rarely seen. Over the whole time that records have been kept by the author and his fellow officers, only five light-phase birds were seen, three in Tongan waters and two between Fiji and Samoa. Light-phase birds have been reported north of Samoa at 12°S latitude in February (King 1974), and so it seems that light-phase birds may only rarely venture south of the latitude of the Samoan Islands.

THE BREEDING ISLANDS OF THE REGION

King (1967) lists Wedgetails as a breeding species for most of the island groups in the region without actually naming the breeding islands within the groups. Indeed, most of the literature on the South-west Pacific is similarly non-specific, and even when particular islands are mentioned, little is said about the actual site (Murphy 1951). Over the years, this vagueness has probably protected many colonies from hunters and ornithologists alike, but it is frustrating for those who try to collect information to confirm that recorded colonies still exist.

Kermadec Group

Edgar (1964) listed the islands with their relative positions and acreages when discussing the Kermadec Expedition of 1964. Merton (1970) described the breeding stations on Raoul and its offshore islets. For the Wedge-tailed Shearwater, Raoul and the Herald Islets are among the best documented islands in the South-west Pacific. For the southern islands of the Kermadecs, however, there appears to be little information. On Macauley Island in August 1966, a Wildlife Service party found the remains of many chicks, and considered it a common breeding species (Merton 1970). The party destroyed the feral goat population (Williams & Rudge 1969), and so the conditions for breeding petrels and shearwaters should have improved greatly since then. From the twin islands of Curtis and Cheeseman, Guthrie-Smith (1936) described a chick twice the size of a *Pterodroma nigripennis* chick, which may have been a Wedgetail.

Fiji

Smart (unpub.), in an attempt to check the breeding status of seabirds in Fiji, searched published records in what was hoped to be

a short-cut method to locate existing sites. This object was not realised, though his search provided a very useful list of earlier references to Fijian seabirds. Referring to Wedgetails, Smart stated " The Whitney South Seas Expedition first recorded this species from Kandavu in November 1924, where presumably it was collected from breeding burrows. Both Mayr and King state it breeds, without giving details. Morris described breeding on Nanuya-i-Ra Island in the Yasawas in March 1963. He found about 50 burrows which he attributed to this species near the top of the island at about 50 feet a.s.l. One burrow examined contained a large nestling." Murphy (1951) gave the measurements of 33 birds from Kadavu Island, and stated " We have no knowledge of Fijian representatives from islands other than outlying and relatively isolated Kandavu, on the southern border of the archipelago." F. C. Kinsky (pers. comm.) states that in mid-May 1975, during a combined expedition of the National Museum of New Zealand and the Fiji Museum, he and F. Clunie found a few starving fledglings in the Astrolabe Lagoon, off Bulia Island, on Yabu Island, and a rotting corpse on Ono Island.

Tonga

An excellent description of all the Tongan Islands is contained in the British Admiralty Pacific Islands Pilot Volume 2.

From observations made on voyages through Tongan waters it appears that the main colonies here are on the island of Fonualei, and the twin islands of Hunga Tonga and Hunga Haapai, all of which are uninhabited. Fonualei is a volcanic island having on its northern face large patches which are bare of vegetation and stained yellow with what appears from seaward to be sulphur. The southern peak of the island periodically emits smoke and steam, and fumes are always rising from it. This seems to be the main island for Wedgetails and apparently will remain uninhabited by man. Fonualei and Ata, the southernmost, are the only large islands in Tonga neither inhabited nor regularly visited to collect copra.

However, breeding colonies probably exist on some of the smaller islands. Davidson (1931) recorded breeding on Kelefesia Island in the Nomuka Group in January 1921 and gave the measurements of two males and three females.

Samoa

I have so far found no records of Wedgetail breeding in Samoa.

Lord Howe Island

Hindwood (1940) gave a full description and maps of Lord Howe and its offshore islets. He recorded the breeding sites on the main island and listed the islets where breeding occurs.

Norfolk Island

The literature apparently does not describe the breeding sites at Norfolk.

Cheshire (pers. comm.) records that in 1973 on voyages to Norfolk, no Wedgetails were seen on 23 September but that by 31 October a feeding flock of 100+ birds was seen 48 miles north-east of the island. On 1 November there were 1500+ birds in rafts in the vicinity of Philip Island.

DISTRIBUTION AT SEA

Figures 1-5 indicate that Wedgetails are almost absent from the study region between June and September. The birds of all the local sub-populations, for example, those of Tonga, Kermadecs, Norfolk, and Fiji, seem to leave together and arrive back at the same time. The return of birds to an area where their absence has been noted for months is dramatic.

October Figure 1

The chart for October shows the large numbers of Wedgetails to the north-east in the triangle formed by Samoa, Tonga and Fiji. The highest numbers are seen about Tonga, specifically near the probable breeding islands of Fonualei, north of the Vava'u Group, and about the more southerly islands of Hunga Tonga and Hunga Haapai. First sightings have always been made here, after which the birds have steadily spread out over the region. Over five years of October passages, no Wedgetails were recorded from Samoan or Fijian Waters, or from the seas south of Tonga, until this influx centred on northern Tonga had taken place.

The October sightings suggest that in 1973 the main population had returned by the 25th; in 1974 by the 19th; in 1976 there were apparently no Wedgetails in northern Tongan waters on the 1st October; in 1977 there were a few birds about on the 9th, and the main body seemed to be back by the 11th; in 1978 no Wedgetails were seen in Tongan waters on 3 and 4 October, but they were there in force on the 17th.

Thus, the sightings show a migratory return about mid-October. The sightings in Tongan waters are highest towards the end of October, suggesting possibly that all the South-west Pacific sub-populations arrive in Tongan waters together at the end of their return migration, and then the sub-populations that breed on other islands move on from there. There is little direct evidence to support such a hypothesis except that no birds are recorded elsewhere until after the influx centred on northern Tonga, and a single sighting of what was considered a migration flight of Wedgetails south of Tonga on 31 October 1973.

On 31 October 1973 between 0700 hours at 22.4°S 176.6°W and 1400 hours at 24.1°S 177.4°W, Wedgetails were seen spread out on each side of the ship in small parties of about six birds; all were flying strongly, low, and directly on a course of about 180-190° directly towards the Kermadec Islands, and from the *western* side of Tonga. During this period the ship was steaming on a course of 209° at 15 knots, and birds

were overtaking throughout so that their speed was between 20 and 25 knots. Though it is notoriously difficult to count seabirds under these conditions, an estimated 5000 birds at least overtook the ship.

November-January Figure 2

During this period Wedgetail sightings were spread throughout the study region, the highest numbers occurring about the breeding islands. Oliver (1955) referring to Raoul, recorded that eggs are laid in December and the young mostly hatched by the end of January. The numbers seen about the Tongan Islands were much smaller than in October, probably both because the birds had spread out and because 50% of the breeding birds, plus many subadult non-breeders were ashore.

The general picture for these months is that most sampled areas show a few birds employed in the searching/feeding pattern, while larger numbers congregate where and when food is found.

The high numbers recorded north-west of Kadavu, Fiji, are of feeding flocks and, as they are seen there only irregularly, do not appear to be related to a large breeding colony on the island.

February-March Figure 3

Numbers seen about Tonga increased from about the middle of February to the middle of March, when they approached but never exceeded the October numbers. This increase seems to be a gathering of birds before migration because, by the end of March, they appear to have left the region.

The higher numbers seen northwards, towards and about the Samoas in the middle of March, seem to indicate a drift of birds already migrating. The northward journey appears to take the form of smaller flocks with a less purposeful movement than the direct migration flight back into the region in October. This is emphasised by the sighting of many Wedgetail flocks of 30-1000 birds, all drifting north-northwest between Samoa and Tonga on 19 and 20 March 1978. Almost all these flocks were not accompanied by Sooty Terns *(Sterna fuscata),* White Terns *(Gygis alba),* or the other seabirds normally recorded with feeding Wedgetails, again suggesting that the Wedgetails were travelling. However, Wedgetails were still observed throughout the study region during these months, the most southerly sighting in 1978 being at 33.3°S on 22 March.

On 12 March 1978, at 29.6°S 176°E, at least 2500 Wedgetails were seen heading strongly on a set course to the north-east. This, the largest flock seen at this position, may have been a gathering of migrating birds downwind from the Kermadecs, but was more probably birds from Norfolk Island. Their course from this position would have taken them to Tonga.

April-May Figure 4

Sightings were much fewer by the beginning of April, although odd birds were recorded as far south as 34°S. The numbers continued to drop until the end of May when very few Wedgetails were seen. The figure also shows that the birds remaining had largely withdrawn to the north-east corner of the study region, and it may well be that such late migrants were the young of the year.

June-September Figure 5

The only sightings made during this period were in August when, on 10 August 1974, two small groups of six and two were seen south of Kadavu. Dhondt (1976) also recorded Wedgetails in August, in the Samoan group between Upolu and Tutuila in 1974.

WEDGE-TAILED SHEARWATERS IN NEW ZEALAND WATERS

Figure 3 shows the closest approach to the North Island of New Zealand, when birds were seen regularly about 100 miles north-east of Cape Brett. Even after the main body of Wedgetails had left by the end of March, Figure 4 shows sightings well within 150 miles of Cape Brett. It would almost seem that there is some invisible barrier that keeps the birds clear of New Zealand. Whether they are responding to a current or to a difference in sea temperature has been questioned. Murphy (1951) suggested a sea-surface isotherm of 20 °C as a limiting factor in the distribution pattern. However, charts prepared in Australia (CSIRO undated) showing the actual sea surface temperature of the seas about North Cape, indicate that in February, March and April 1967 and March 1969, the 20 °C isotherm was well to the south of North Cape. From this, it would seem that the birds may not range over waters with temperatures as low as 20 °C, or that there could be some limiting factor other than sea temperature. M. J. Imber (pers. comm.) suggests that the limiting factor is the existence close to New Zealand of high populations of seabirds that compete with Wedgetails for food. The Wedgetails have learned that coming too close to New Zealand results in greater difficulties in obtaining food because of this competition.

There are many years' records of seabirds encountered in waters just north of New Zealand but so far, no Wedgetails have been seen. Although it was thought that Wedgetails could have been missed among the very large numbers of dark shearwaters present, during this study special care was taken and yet no Wedgetails were seen. It is even harder to understand why, after the infrequent but regular strong easterly gales that affect northern New Zealand, no Wedgetails have been found on the regularly patrolled northern beaches. There are apparently only three records of Wedge-tailed Shearwaters near the New Zealand mainland. Only one of these was of the dark phase, recovered near Waikato Heads in November 1966 (Crockett 1966). Of the other two, both light phased birds seen in or near Cook Strait, one had been colour-banded as an adult at Johnston Atoll (King 1974).

MIGRATION

Figures 1-5 show that the birds arrive in the study region towards the end of October. Lack of sightings in the south or west suggests an inward migration from the north or east. Figure 1 shows the birds in large numbers about Tonga with much smaller numbers to the north towards Samoa and in Samoan waters. It is probable, therefore, that they arrive from an easterly direction. Our observations thus may show that the birds which breed on the other islands in the South-west Pacific first arrive back in Tongan waters with the main group of returning migrants and then move to their breeding islands. Had the migration path been directly to Tonga from the east, the Kermadec birds would presumably go directly to their islands without making the long detour to Tonga, but there is no evidence that they do. While not conclusive such reasoning may suggest a migration path from the north-east into Tonga.

Figures 3 and 4 show that over the years of observation, most Wedgetails had collected in Tongan waters by the middle of March and left on migration by the beginning of April.

DISCUSSION

It appears that the bulk of the population which breeds in the study region arrives back in force at the end of October, and that the non-breeding and main breeding flocks leave towards the end of March. This may mean that the late breeders and the young of the year follow later, and are the birds seen in April and May.

King (1974) showed that there is a large decrease in the numbers of dark-phase Wedgetails in the eastern Pacific at the end of September, which seems directly related to the Tongan increase in October. From an assumed central position in King's area of greatest abundance in September to northern Tongan waters is a great-circle distance of 4400 nautical miles. Lockley (1969) described sustained flights of the Manx Shearwater *(P. puffinus)* over long distances at about 240 miles a day; so it is reasonable to expect the larger Wedgetail to be capable of at least the same. At 240 miles a day, a migration flight from the eastern Pacific to Tonga would require about 18 days. We have seen Wedgetails on what was thought to be a migration flight, proceeding at 20 to 25 knots. To cover 240 miles, they would have had to fly for 9-12 hours each day, which appears to be well within their capabilities.

To a bird that spends much of its life within a few feet of the sea surface, favourable wind conditions must be very important. Figure 6 shows the average wind force and direction at various points along the assumed migration path (US Pilot Charts 1955), showing that the wind is abaft the birds' beam for 76% of their passage and at most only two points before their beam for a further 16%. Throughout, the following wind averages force 4 (11-16 knots) and

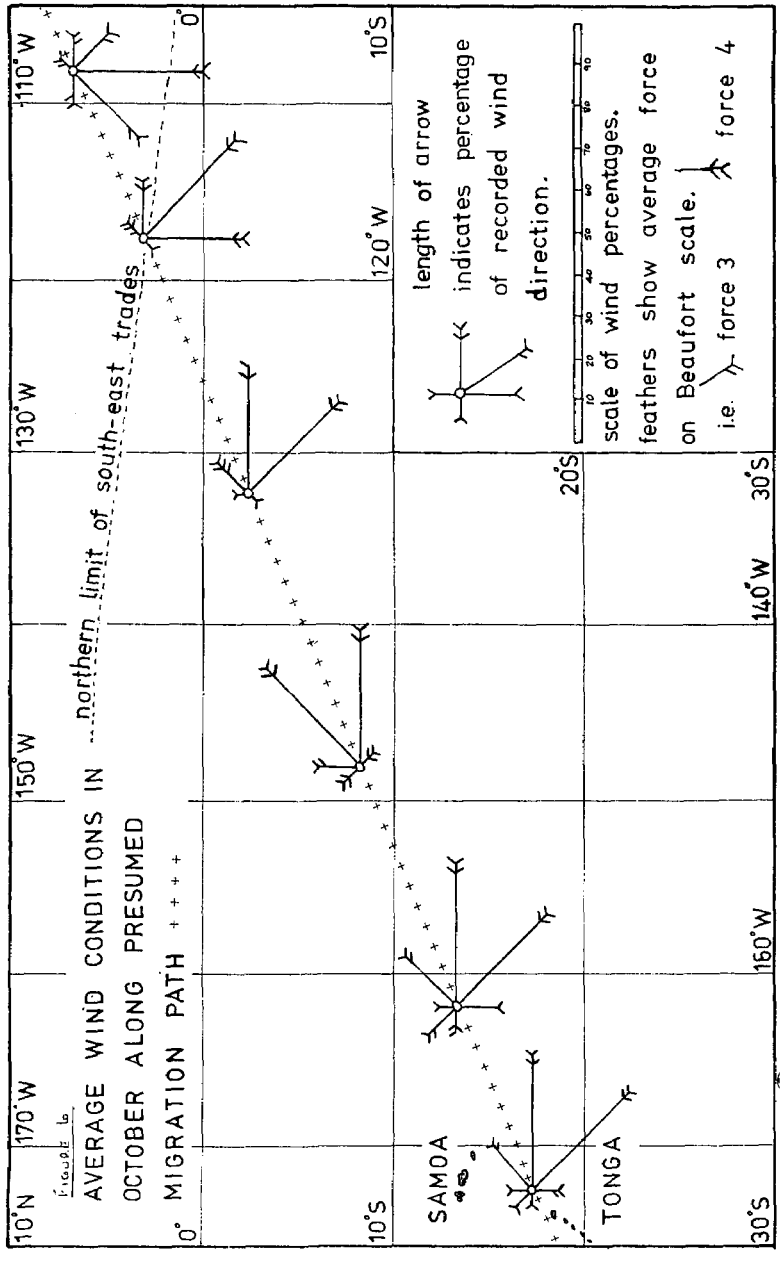
10°N
170°W
150°W
130°W
110°W
0°
10°S
120°W
30°S
160°W
140°W
30°S
SAMOA
TONGA
AVERAGE WIND CONDITIONS IN OCTOBER ALONG PRESUMED
0° MIGRATION PATH
northern limit of south-east trades
length of arrow indicates percentage of recorded wind direction.
scale of wind percentages.
feathers show average force on Beaufort scale.
i.e. force 3
force 4

FIGURE 6

the average contrary wind is force 3 (7-10 knots). The South-east Trades, therefore, favour the migration flight along almost its whole length and for most of the time.

This whole speculation assumes that the birds of the eastern Pacific and Tonga are, in fact, the same individuals. King (pers. comm.) has pointed out that there are many breeding stations elsewhere in the Pacific and that the seasonal variations in numbers observed in the eastern Pacific may be due to unaccounted-for populations.

Shortly after the Wedgetails return to Tonga the average force of the local winds is quite low, and during the summer there are long periods of light airs and calms. Brown (1940) stated that "the Trades blow strongest when the sun reaches the maximum declination in the hemisphere opposite to the Trade," and so in December, with the sun at its maximum southerly declination, the Trades are strongest in the Northern Hemisphere and are weakened in the Southern Hemisphere. Buller's Shearwater *(P. bulleri)* seem to find it easier to feed and raft when sea conditions are reasonable (Jenkins 1974) and Wedgetails could well favour the same conditions. If they use the last of the steady Trades to facilitate the western migration, arriving back when the winds in the breeding area are abating they would then achieve optimum weather conditions for the breeding birds to feed and the non-breeders to raft and loaf. During the breeding season the study area is subject to occasional tropical revolving storms and while little is known, the effect of these storms on the breeding population could well be severe.

The migration out of the study area is more difficult to define. The bulk of the population leaves towards the end of March but not, the observations suggest, in the same compact manner as that in which it arrives. Thus there are still birds throughout the area in April and May, though they appear to be withdrawing to the north-east. There are higher numbers of Wedgetails about Samoa in March than at other times of the year, and in relation to the rest of the region the sightings remain higher there until the final, almost complete, withdrawal at the end of May. This could suggest that the outward migration from the breeding islands is not carried out on a directly opposite course to the inward migration, but is more northerly. Some support for this hypothesis came during a voyage from Samoa to Tonga in March 1978 when between these two island groups large numbers of apparently migrating Wedgetails were seen flying on a course of about north north-east. This course would put the then freshening south-east Trades two points abaft the birds' beam, furthering the progress of the flight. At this time the northern limit of the South-east Trades is less than 500 miles north of Samoa, and it is possible that the birds keep the prevailing wind abaft their beam until they are clear of the South-east Tradewind Zone. If this is so, then on clearing the Zone, they would have to make about 4000 miles back to the

eastern Pacific in latitudes about and slightly to the north of the Equator. Winds there should be light, and even if easterlies were encountered they would be interrupted by frequent calms. King (1974) showed that the daily density of Wedgetails in the eastern Pacific greatly increases by June, and it is suggested here that this increase could be caused by the return of the birds from the South-west Pacific.

Murphy (1951) allotted the trinomial *Puffinus pacificus pacificus* to birds from the Kermadecs and said that " Norfolk Island specimens are closer to the subspecies *pacificus* than to the only other subspecies here recognised. Kadavu specimens are similar, though intermediate in a slightly greater degree." There is no evidence to show where the Tongan birds fit into the scheme of things, but since the Norfolk, Kermadec, and Fijian birds all appear to have the same migration pattern, arriving and departing from the area at the same time, they may all belong to the same subspecies. The differences noted by Murphy (1951) between the Norfolk birds and those of Lord Howe, which he says " are really quite distinct in the means and amplitudes of their dimensions, particularly of wing length " could well be reflected in their migration regimes. The literature apparently does not show the dates the Lord Howe birds return to their breeding localities, but they could reasonably be expected at the same time as the New South Wales population (Murphy 1951), to which they are closest taxonomically and physically. Rogers (1975) has shown that the New South Wales Wedgetails arrive back in mid-August, that is, about six weeks before those of the South-west Pacific.

The New South Wales birds do not migrate through our study region for they would be a source of sightings during early August, a time when the region has no Wedgetails. The only recorded sightings during this month were in 1974 (Fig. 5), which may have been of New South Wales birds on migration and displaced by bad weather conditions. Since the New South Wales birds apparently do not migrate in an easterly or north-easterly direction, they must move more directly north. The recovery of three NSW-banded birds in the Philippines, discussed by Rogers (1975), seems to support this.

It seems, therefore, that the Wedgetails of Norfolk Island, although breeding only 500 miles from those of Lord Howe, have a completely different pattern of migration and a later breeding season.

FEEDING

Feeding associations

Table I records the various species seen feeding with Wedgetails. White and Sooty Terns were seen feeding with Wedgetails equally often and more often than any other birds in the study region. King (1974) found that in the eastern Pacific feeding Wedgetails were accompanied by Sooty Terns in 77.4% of observations, and White Terns in 18.6%. This difference between eastern and western Pacific

records is probably explained by the fact that in the area covered by this study, especially about and north of Tonga, islands providing bases for White Terns are scattered throughout. King's area, however, is more oceanic and the distribution of White Terns more restricted. This difference in the study areas probably also accounts for the more frequent occurrence of Red-footed Boobies *(Sula sula)* feeding with Wedgetails, 16.6% in King, and 50% here.

By far the most common feeding pattern seen was mixed flocks over boiling shoals of fish. Dr. D. Eggleston (pers. comm.) says " We have observed that schools of jack mackerel, kahawai, and skipjack often form boiling schools when they are feeding on euphausid shrimps. Euphausids frequently form cloud-like swarms in the water, and when the fish are feeding on them they really seem to boil at the surface. Just why they do this we do not know, but it must be of some advantage in their feeding behaviour. Smaller fish under attack usually tend to form tight schools, but these do not necessarily boil at the surface." Wedgetails have often been seen to catch flying fish, flying low after the fish while they are in the air, and taking them just as they return to the water. Although flying fish do not change course noticeably while in the air, the bird must use carefully controlled flying to get behind them. The only other bird observed feeding repeatedly by this method has been the Red-footed Booby, and it is worthy of note that both the Wedgetail and the Red-footed Booby have the longest tails of birds of their respective types. When taking flying fish both species spread their tail feathers below and at right angles to their bodies, evidently using their tails as flaps to lower their stall speed and increase their manoeuvrability at low speed.

Other species seen in the feeding flocks together with Wedgetails but on fewer than 3% of observations include *Pterodroma arminjoniana, Sterna bergii, Puffinus griseus, Puffinus tenuirostris, Catharacta skua,* and in the south of the study region *Diomedea exulans.*

TABLE 1 — Percentage of sightings (n = 168) of various species in feeding flocks with Wedge-tailed Shearwaters.

Species	%	Species	%
Gygis alba	62	Anous stolidus	14
Sterna fuscata	62	Puffinus lherminieri	12
Sula sula	50	Pterodroma externa cervicalis	12
Sula leucogaster	26	Fregata sp.	12
Anous minutus	17	Pterodroma rostrata/alba	7
Pterodroma hypoleuca nigripennis	17	Phaethon lepturus	5

Food piracy

While Frigatebirds (*Fregata* sp.) were seen on 7% of the feeding observations, they were never seen to attack Wedgetails, seeming to confine their attacks to White and Sooty Terns and to Red-footed Boobies.

On three separate occasions a large skua, all probably *maccormicki* from their light colouring, was seen feeding in flocks containing Wedgetails. Each time the skua seemed more concerned with direct feeding on the large shoals of fish, rather than on victimising the other birds present.

At 22.4°S 177.7°E on 19 December 1973, three Pomarine Skuas *(Stercorarius pomarinus)* were seen rafted with a party of about 30 Wedgetails. The skuas were sitting on the water close to but not among the Wedgetails. At the close approach of the ship, all the birds went up and the skuas left in a completely different direction from the shearwaters, not seeming to be very interested in them. Similar behaviour has since been seen on six occasions.

A few sightings record Arctic Skua *(Stercorarius parasiticus)* in feeding flocks with Wedgetails, but on each occasion there were Sooty and White Terns in the flock. Observations on the New Zealand coast suggest that these skuas would be far more likely to harry the smaller terns than Wedgetails.

The records of skuas are so few when compared with the many thousands of observations of Wedgetails that they cannot indicate significant piracy. This, together with the apparent preference of frigatebirds for harrying other species would seem to show that the Wedgetail is almost totally free of avian piracy when at sea in the study region.

King (pers. comm.) has pointed out that, while there are no records, Wedgetails may well be attacked by sharks when they are rafted.

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SHORT NOTE

WHITE-FACED HERON NESTING ON SOUTH EAST ISLAND, CHATHAM ISLANDS

During 24-30 November 1977, a Wildlife Service party visited South East Island in the Chathams. On 25 November, while walking along the shoreline on the north-east side of the island, we saw a White-faced Heron *(Ardea novaehollandiae)* fly out from beneath a very large boulder. We found a nest placed among three boulders underneath the large one, in the splash zone about 1.5 m above the high-tide line.

The nest was made of bracken with a grass lining. The four sky-blue eggs measured 47.9 x 36.5, 47.7 x 35.3, 48.7 x 35.7, and 47.1 x 36.7 mm. To prevent disturbance, the nest was not examined again. During a subsequent visit, the site was inspected on 13 February 1978. From the droppings around the deserted nest, it was presumed that the pair had successfully raised young.

Although there are some suitable trees for these birds to nest in, the site may have been chosen because of the high winds or to protect the nest against predation by Southern Skuas *(Stercorarius skua lonnbergi)*.

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