

NANKEEN KESTRELS IN NEW ZEALAND

By A. T. EDGAR and P. GRANT

SUMMARY

Occurrences of the Nankeen Kestrel in New Zealand are listed; field notes on Kestrels seen in 1969 are given in some detail.

INTRODUCTION

The Nankeen Kestrel (*Falco cenchroides*) is native to Australia and Tasmania. The word "Nankeen" does not refer to its geographical origin but to the colour of its plumage. Nankeen was the name given to a kind of cloth originally made of naturally yellow cotton in Nanking (China); trousers made of this material were known as Nankeens.

Outside Australia, Nankeen Kestrels have bred on Lord Howe Island and occur as stragglers in Norfolk Island and New Zealand. A Field Guide to the Birds of New Zealand (Falla, Sibson and Turbott, 1966) mentions only eight reports, five in North Island, three in South Island. Unpublished sight records from the files of O.S.N.Z. Recording Scheme bring total reports for the period 1889-1965 to fifteen. In 1969 reports of kestrel sightings have been received from nine separate localities, in North and South Island. References to the species in *Notornis* are brief and scanty; the purpose of this paper is to summarise past reports and place on record 1969 sightings.

P.G. describes the 1969 Westland bird in detail and discusses plumage changes, with references. Field observers may have problems in determining age and sex of birds sighted, but should as far as possible try to record all relevant details. Dates of sightings plus reasonably accurate descriptions of birds seen in different localities will help to indicate whether reports refer to different individuals or to single birds which may wander widely after their arrival in New Zealand.

OCCURRENCES IN NEW ZEALAND, 1889-1965

Buller (Trans. N.Z. Inst., Vol. 28, page 359, 1895) records a female, shot by Mr. E. C. Studholme at Waimate, Canterbury, about 1889 and another female shot on 6/4/95 at Portland Island by the lighthouse keeper, Mr. J. R. Dickson. This is presumably the adult female preserved as a mounted specimen in Dominion Museum (locality Portland Island, no date). The Waimate bird "was amusing itself by chasing the common hawks away from the carcass of a dead sheep." The Portland Island bird was "very fat; its crop contained crickets and grasshoppers. The iris of the eye was very dark brown, pupil black. It was very shy when perched, but not so on the wing."

Mr. E. B. Jones reports an unconfirmed sighting in Rimutaka Range on 27/11/27. He had climbed up from Orongorongo River to a saddle just north of Mount Mathews and while looking over towards the Wairarapa saw a small bird of prey flying slowly over the trees and looking down on them, tail well spread. The bird flew towards the ridge on which he was standing and veered to one side when only about a chain from his point of observation. He

describes it as no bigger than an ordinary pigeon, light sandy colour above, light coloured underparts, dark streak on face. (Length of Rock Dove, 13 inches; adult Kestrel, 12-14 inches; Bush Hawk, 16-19 inches).

An adult male, preserved as a mounted specimen in Canterbury Museum, was shot by Richard Basset on 24/7/28 at Burnt Hill, North Canterbury. Oliver (1955) lists eight occurrences including West Oxford and Burnt Hill. Checklist of New Zealand Birds (1953) mentions West Oxford (1928), but not Burnt Hill. Perhaps the West Oxford and Burnt Hill records refer to the same bird, or there may have been a sight record before the bird was shot.

Mr. R. H. D. Stidolph (O.S.N.Z. Reports and Bulletins, p. 16) reports a bird at Castlepoint, Wairarapa, May 1936. In Dominion Museum there is a mounted specimen, adult female, locality Castlepoint, no date.

Oruawhoro, Kaipara, winter 1942: "Size and colouring described leaves little doubt of identity; pretty habit of hovering for some time, then darting away. It was about for several weeks in open farm and scrub country where there is little bush." (H. R. McKenzie, N.Z. Bird Notes I, 25).

Near Masterton, July 1942, "an exact description given to me by a soldier." (R. H. D. Stidolph, N.Z. Bird Notes I, 25).

Wellington, "adult hunting sparrows and pigeons on and around Memorial Carillon for about a month from 20/4/48." (R. A. Falla, N.Z. Bird Notes 3, 206). Dominion Museum, mounted specimen, adult female, locality Wellington, 2/6/48.

Wellington, May 1950, sight record (F. C. Kinsky).

Bruce Bay, Westland, 16/5/56, unsexed ? juvenile, skin in Dominion Museum.

Mr. E. B. Jones reports two further sightings. On 8/2/57 as a bus in which he was travelling from Wellington city to Ngaio started to climb Kaiwharawhara Gorge he saw a small bird of prey flying over the stream and below eye level; it must either have been hovering or flying very slowly because the bus overtook it. Colour of upper surface something between rufous and cinnamon; tail appeared broadly barred rufous cinnamon and white (this impression may have been created by presence of broad white tips on the tail feathers). On 20/9/61, driving from Levin to Ngaio, Mr. Jones had just seen a harrier over flat land on his right and on looking ahead saw a much smaller bird flying slowly and hovering over the roadside ditch on his left. It was facing him and had its wings held straight out and its feet hidden in the long grass. As the car passed it he noticed the small bird of prey face, upper surface "gingery," under surface light colour with some streaks on the breast. Mr. Jones consulted Dr. Falla after the 1957 and 1961 sightings and also examined museum specimens; he is reasonably sure that his identifications are correct.

About 1957 Mr. Jock Morrison saw a Kestrel near the west coast of Northland, south-east of Ahipara and south of Reef Point. It was hovering over the sandy hills and appeared to be feeding on insects.

Mr. G. A. Tunnicliffe reports a sighting in October 1962 at Mount Harper Station in Lees Valley, mid-Canterbury. While forcing his way through a burnt out patch of *Cassinia fulvida* on Mount John

he saw a bird which appeared similar in size to a Bush Hawk but distinctly different in colour. A feature which particularly attracted his attention was the bird's ability to hover almost motionless in the air; on one occasion it dropped 20 yards from a hovering position to the ground and rose again holding what appeared to be a lizard in its talons. It was a hot calm day and a number of skinks had been seen scuttling across the ground. Mr. Tunncliffe notes that skinks are abundant in two other Canterbury localities from which Kestrels have been reported and suggests that perhaps these creatures form an important item of diet for Kestrels reaching New Zealand. He had a good sighting of the bird at ranges down to about 15 yards and describes the upper surface as a pale coffee brown with grey rump and back, outer surface of wing tips dark brown, forehead and sides of face dirty white, undersurface light buff streaked with black on breast and sides, feet orange yellow.

In April or May 1965 Mr. B. Cooksey and Mr. C. Evans, of Dargaville, were working near Matakohē, near the north end of one of the arms of Kaipara harbour. They observed a Kestrel, which attracted attention by its hovering habit, "off and on all day."

LORD HOWE ISLAND

Mr. K. A. Hindwood, writing to P.G., says: "It may be of interest to your notes that the Kestrel now occurs on Lord Howe Island and apparently breeds here. It was seen recently (1969) and you will find some remarks in *Emu*, Vol. 50, p. 29." The relevant extract, taken from Notes on Birds of Lord Howe Island (Hindwood and Cunningham) reads as follows: "Writing to Captain J. D. McComish on April 18, 1944, Max Nicholls stated, 'a pair of small kestrels lived on Mount Eliza for a long time and have now increased to five, so it looks as if they made their nest in one of the hollow trees. When they are stationary in the air they have been mistaken for aeroplanes several times.' It is more likely that the birds nested in the cliffs nearby. The Nankeen Kestrel was seen on the island on several occasions during August 1949, by Cunningham."

NORFOLK ISLAND, 1969

Mr. K. A. Hindwood, writing to P.G., quotes a letter from George Southwell, Norfolk Island, to John Disney, Ornithologist, Australian Museum, Sydney, as follows: "One of our members, who used to live in the Mallee of Victoria, told me he had seen a Nankeen Kestrel. He described it to me in detail. Several others saw it, too, then about a month later Pat Gosling came in to tell me he had seen a Kestrel." Mr. J. L. Kendrick, Wildlife Division, Department of Internal Affairs, Wellington, reports that Mr. Gosling gave the date of this sighting as 28/6/69.

NEW ZEALAND, 1969

NORTHLAND

Whangarei

On 6/4/69 Mr. W. Stacey, Department of Agriculture, observed a Kestrel near his property of Onerahi, south-east of Whangarei. The bird flew fast, stopped in mid-air and hovered, dropped vertically to the ground, rose again, flew, hovered and flew on till he lost sight of it. He noted its generally rufous upper surface, pale under-

parts and pointed wings. Mr. Stacey has known the European Kestrel since his boyhood in England and had no doubt about the identification.

There is a further report of a bird seen near Whangarei Heads in July 1969 which, from the description, was probably a Kestrel.

Okaihau

On 12/4/69 a Kestrel appeared on a farm belonging to the Brothers Candy, situated on Puketi Road in Okaihau district, not far from the south-east corner of Puketi Forest. The Candy property has a grassed plateau alongside the road, falls away to a deep valley, part of which had been cleared and was being sown to grass at the time of the Kestrel's appearance, and rises again to bush-clad slopes beyond the valley.

At first the Kestrel's hunting area was restricted to the deep valley, where for a time it was seen daily. It then began to hunt over the plateau and adjoining farmland and as time went on ranged further afield, returning to the Candy farm at intervals though absent for increasing periods of time. One day in early August, after a long absence, it flew over, dived on a farm dog as might a magpie, and flew away again. It was still present in the area on 12/9/69.

The field notes which follow are the result of short periods of intensive observation by A.T.E., plus much information on behaviour for which I am indebted to the Candy brothers, who watched the bird closely during the early part of its stay and on its subsequent visits to their farm.

A favourite perch in the early stages was a broken limb of a dead puriri standing on the steep slope above the valley; to this perch the bird returned after each hunting or exercise flight. Later it became more catholic in its choice of perch and was seen to land on another dead puriri, on a pine, and sometimes on tree-ferns or on quite low bushes; occasionally on power poles and wires but not on houses or farm buildings. In windy weather the bird perched head to wind, body near-horizontal; in still weather it adopted a near-vertical stance. It was not at all shy and took no notice of an observer sitting on the hillside a few feet from the base of its perch.

At times it indulged in high circling flights over the plateau, wing beats sometimes fairly rapid, often more leisurely with periods of gliding. At the conclusion of this type of flight the bird would drop to its perch on a long slant. Fast horizontal flight low over the paddocks was observed on a number of occasions, also a swift "power dive" as if in pursuit of prey. Normal hunting flight was a combination of fairly rapid wing beats, occasional short glides, and hovering head to wind; the sequence was repeated again and again as the bird worked over the hunting area. When a fresh wind was blowing the flying bird would stop in mid-air and hover with hardly a movement of its outspread wings and little or no tail spread. In gentler winds hovering was achieved by some rapid fanning of the spread wings and some rudder movement of partly spread tail feathers. In still conditions the wings were winnowed rapidly and the tail spread and depressed. This hunting flight took place at levels from up to 60 feet above the ground to just over the bushes and grass. From the hovering position the bird would drop almost

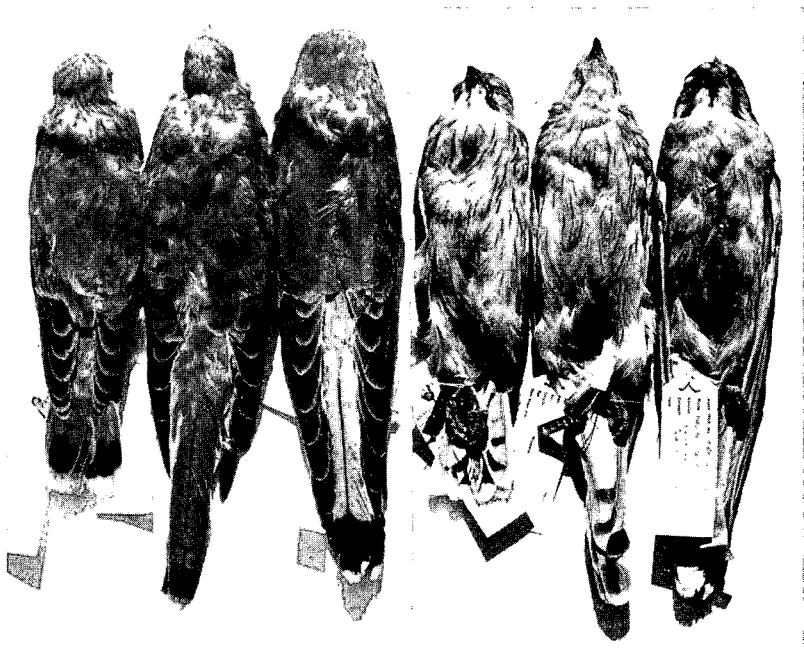
vertically to the ground, or often merely to a lower level where it would hover again or continue its forward movement; in some flights there would be several such downward adjustments of altitude. After each drop to the ground the bird rose again and continued its patrol.

In April the valley bottom was alive with crickets and these probably formed the major portion of the Kestrel's food supply at this time. Later on the plucked remains of Silvereyes were found on several occasions on the Kestrel's hunting ground.

During the early part of its stay the Kestrel resented the presence of a Harrier which invaded its hunting area and drove the Harrier off by a vigorous aerial attack. No feathers flew, but the two birds produced a spectacular display of harassing tactics and avoiding action. Later on the Kestrel developed a tolerance towards the Harrier and both birds hunted in the valley without incident. A small flock of Greenfinches was seen to rise off the ground and make a pass at the Kestrel which did not attack them.

Field description: Slender body, pointed wings, longish tail. Upper parts cinnamon, feathers of the back with blackish central markings; rump more rufous; tail cinnamon-rufous, barred blackish, the terminal bar broader than the others and the tips of the tail feathers pale, almost whitish. Upper surface of wing quills darker brown, in flight and when folded. Chin, cheeks and throat buffy

FIGURE 1



[K. A. Hindwood

Imm.

Ad. ♀

Ad. ♂

Imm.

Ad. ♀

Ad. ♂

white, with a blackish malar stripe like a drooping moustache. Rest of underparts very light yellowish-buff to whitish, faint brownish striping on breast; underside of wings and tail whitish, extreme tips of wings dark, and a dark bar showing on the underside of the tail near the tip. Iris dark. Bill blackish, cere yellow. Feet orange yellow.

As there was no trace of grey on the upper surface this bird was not an adult male and was either a female or immature. The amount of barring on the tail may be an indication of immaturity but the streaking on the breast was by no means prominent and I am inclined to regard the bird as an adult female. It is interesting that the moustachial stripes which in this bird were a noticeable field character are mentioned as such and figured in some books, but hardly mentioned or omitted in other accounts.

Kaitaia

Mr. Ross Michie informs me that a Kestrel was seen on 6/5/69 at Reservoir Hill, Kaitaia, and in the same month at a point about a mile south of Kaitaia township.

Cape Reinga

Mr. E. D. Willis (Auckland) saw one (possibly two) Kestrels near the lighthouse in August 1969. He describes how the bird hovered, almost stationary except when buffeted by gusts, in a wind speed estimated at 20-25 knots. Several times during an hour of observation he saw it plummet down at great speed. At one time it perched within 60 feet of him, but against the sun; apart from the generally rufous colour of the upper surface no details of plumage were recorded. I visited Cape Reinga on 31/8/68; the Kestrel was not on view but a member of the lighthouse staff stated in conversation that he remembered seeing it on four occasions during the previous three months, flying, hovering and perching near buildings, on posts and once on a clothes line near his house. Locusts, field-mice and lizards are plentiful in this area.

HOBSON COUNTY

Mrs. M. Barron sends a report of a Kestrel first sighted near Poutu (North Kaipara Head) in late May or early June 1969. In early August it was "stunt flying" near two Harriers, and later perched within 15ft. of Miss Barron. Small birds showed some agitation at its presence. Reports indicate that the bird was still in the area in October 1969.

About 40 miles further north Mr. C. Evans, who saw the Matakoho Kestrel in 1965, reports two sightings; one in the first week of June at Waihue, 11 miles north of Dargaville, and the other in the same river valley but 2 miles north of Dargaville in mid July, 1969.

VOLCANIC PLATEAU

Mr. D. Bartram (Forest Service) reports sighting a Kestrel on the afternoon of 5/8/69 on the south-west edge of Kaingaroa Forest which at this point is bordered by rough scrub and grazing land. A strong S.W. wind was blowing at the time with gusts up to 25-30 knots. Two Harriers coursing over the rough ground nearby were buffeted and blown off course by the wind. The Kestrel hovered motionless about 70ft. above the forest margin for three minutes,

timed by watch, then dropped rapidly about 50ft., moving forward 100ft. in the process; hovered again for $1\frac{1}{2}$ minutes, then veered off to the south-west over the Reporoa escarpment, moving at very high speed. Seen at a range of 70 yards through 7 x 50 binoculars, it is described as having pointed wings, wing span estimated about 15 inches, upper surface rusty red to light brown, under surface almost pure white, legs yellow.

Dr. Jancarek (Czechoslovakia), temporarily at the Forest Research Institute, also saw a Kestrel while driving through Kaingaroa to Murupara.

CANTERBURY

Mr. P. M. Sagar and others observed a Kestrel in sheep farming country on Rangitata Island on 16/8/69. The day was fine and mild, with a slight easterly wind; for a fortnight prior to the sighting winds had been north-westerly. During the period of observation the bird spent much time perched on power poles. Hovering was recorded on several occasions. The Kestrel flew round and hovered over a rabbit sitting in a paddock, landed a few feet in front of the rabbit but soon flew to a neighbouring power pole; the rabbit then sought refuge in a gorse fence. Seen through 8 x 30 binoculars at distances up to 80 yards, the Kestrel is described as about 15 inches long, wings long and pointed, tail long, straight, slightly rounded at tip; upper surface light brown, primaries darker; tail grey/brown; underparts white, rump appeared white. Colour of bill and feet not recorded.

I am grateful to all those who have sent information on sightings, and to Messrs. Kinsky, Scarlett, Sibson and Turbott for valuable help in preparing these notes.

— A.T.E.



[Peter Grant

FIGURE 2 — Nankeen Kestrel at Hokitika, April 1969

WESTLAND

Mr. G. S. Cook of Kaihīnu, a few miles north of Hokitika, rang me on 14th April, 1969, to let me know that he, his wife, and some members of his family had seen an unusual form of hawk about the paddocks by the Hokitika abattoir. From the description of its behaviour I assumed that it was a Nankeen Kestrel and this was confirmed by Mr. R. D. Veitch the same day. Master Noel Ward, of Hokitika, and myself joined in observations until the last confirmed sighting of the bird on 20th April. Information has been built up from observations from all people mentioned, the bird being seen mostly while perched on fence posts or railway telegraph poles adjoining the paddocks. Some observations were made while the bird perched on a dead tree or tombstones in the Hokitika cemetery on a nearby river terrace.

Close observation was made in good light in the cemetery while the bird made a very thorough job of preening, the telescope on 36X, 50X, or 75X as required for various details. The tail, owing to rapid preening movement, was difficult to observe, and the rump was not seen then. Notes were as follows:— Bill compact, black tip, blue grey at base, top of bill at nostrils lemon-pale brown; eye rings pale lemon; eye dark; top head light brown streaked with black across the nape; two lighter patches — yellowish — on each side of the nape; main coverts cinnamon with black streaks and barred black towards the extremities; pale strip around end of primary coverts; primaries black; face below eye grey with dark patch; under surface basically white with cream tinge faintly marked with brownish longitudinal streaks; buffish collar in front of neck; tail on top rufous or cinnamon barred black — thin transverse bars at wide intervals until near tip where broad black band adjoined faintly discernible white tip; under-tail greyish faintly barred black; legs and feet yellowish; claws dark. In flight the bird appeared to be white underneath with a band of black near the tip of the tail, the upper surface gingerish or light tan with the dark primaries contrasting sharply. Length about twelve inches.

In general, the bird behaved much like the bird reported from Okaihau. Some additional features follow. One afternoon when Harriers (*Circus approximans*) were flying high a soaring flight took place. Without any apparent wing movement a height of perhaps above 1,500 feet was attained very rapidly while we watched through binoculars and I heard a very high pitched rapid call not familiar to me but birds calling in nearby scrub made it difficult to locate the direction from which the unfamiliar call came. It may well have been the Kestrel. I thought the bird was about to depart but it dropped quickly by half shutting its wings, swooping upwards to lose momentum, then hovering again. Only once did it appear to go into a dive but this did not last long. The main food supply appeared to be from two sources. The first was a very large caterpillar which was carried from the ground to a convenient post in a claw and torn off bit by bit, the body juices being seen as they dripped to the ground. The second was mice. After capture mice were carried to a post and fur would fly while they were being eaten. Hindquarters then tail went down last. However, mice were not always eaten immediately. They were at times stowed



[Peter Grant

FIGURE 3 — Nankeen Kestrel at Hokitika, April 1969

in crevices in the tops of posts, then eaten later. Heads may be removed at this stage. On one occasion the bird was carrying a mouse in its claw and as it flew bent its head down to deal with the mouse. At times the bird rested with puffed up breast feathers and on one occasion bobbed. It did not seem disturbed when harried by Black-billed Gulls (*Larus bulleri*) but continued soaring.

Photography proved difficult as the bird was very wary of any close approach and normally faced head-on, thus making observation of the tail and rump most difficult. Eventually some passable colour transparencies were obtained using a 350mm. lens with two 2X tele-extendors on a 35mm. camera. If more time had been available 'planted mice' near a hide may have brought better opportunities for photography and clearer pictures. However, one shot of the bird on a well weathered but square post allowed a reliable calculation of its length to be made.

There was no doubt that this bird was a Nankeen Kestrel. The problem was to decide whether it was immature, adult female, or adult male. Information was sought from Mr. K. A. Hindwood of Sydney, Australia, who kindly prepared and made available colour transparencies of study skins he arranged specially in the Australian Museum and also black and white photographs. In addition he supplied extracts from various sources and also notes from his own special study of skins. These are submitted in detail so that all interested members may have the opportunity of getting information which normally would be available to very few and they also perhaps provide us with some idea of the deep waters into which we may unwittingly slip. Surely a case where 'ignorance is bliss.'

1. Description of immature bird taken from North, A. J. Nests and Eggs of Australian Birds, vol. 3, 1912, p. 290.

'Young birds resemble the adult female, but have the feathers of the rump and upper tail-coverts rufous, which together with those of the lower back have blackish sagittate markings in the centre; tips of all the quills pale rufous, passing into white on the extreme edges, scapulars, greater wing-coverts and innermost secondaries rufous, with broad blackish cross-bars; tail feathers rich rufous, more broadly barred with black, and with large whitish tips washed with rufous; head and hind neck and upper back light rufous, streaked with black more broadly on the latter; chin, cheeks and throat white, with a blackish malar stripe; remainder of the under-surface dull white, with narrow blackish shaft-stripes, the foreneck, upper breast and sides of the body pale cream washed with warm buff; under tail-coverts dull white; under wing-coverts pure white. Total length 10.5 inches.

Length of adult male given as 12½ inches in the flesh. Adult female 13½ inches in the flesh.

K.A.H. commented: 'I doubt whether it would be possible to tell a well-grown immature bird from an adult female in the field; though an immature bird could have a shorter tail.'

2. Plumages of Nankeen Kestrel, described by Gregory M. Mathews. From Mathews, G. M. Birds of Australia, vol. 5, part 3, May 1916, pp. 291-2.

'The examination of a series leads to the conclusion that plumages have not been understood, as I find male and female in every stage yet recorded. I can see four stages.

FIRST. Heavily spotted plumage; spots black, ground colour cinnamon-brown. This plumage is apparently carried only for a short time, as it is comparatively rare in collections.

SECOND. Common plumage. Birds breed and it constitutes three-fourths of specimens secured. The spots give place to narrow shaft-streaks and smaller and fewer arrow-shaped markings on back; upper-tail coverts begin to come blue-grey; striping on under-surface deteriorates; the bars on the tail decrease in size from the base.

This is usually recorded as adult female plumage, but many breeding males show it.

THIRD. The upper-surface becomes more uniform and the tail loses the barring, but the head remains unchanged. This is recorded as adult male, but females also appear in this plumage.

FOURTH. Very old birds. Tail colour previously cinnamon is replaced by grey, save for sub-terminal band of black with white tip; all the black markings on upper-surface disappear and the head becomes blue-grey with black shaft-lines. Black streaks irregularly lost from under-surface, sometimes being retained after the head has changed to bluish; in other cases all gone, though head not fully changed. A. J. North (Nests & Eggs, Australian Birds) records this plumage as 'Adult males, probably very old birds,' but I have also females in this stage.

K.A.H. commented 'Mathews' material is now in A.M.N.H. (New York). I do not know where his data on 'breeding' birds (SECOND STAGE) came from.'

3. Examination of Kestrel specimens in Australian Museum, K. A. Hindwood, 20th July, 1969.

Immature. Upper-parts cinnamon (deeper than in most adults). Crown and nape prominently streaked; back well marked with black; underparts buffy-white, prominently streaked. Tail-feathers well barred with black and with a broad black band near tip.

Adult females. Upperparts cinnamon, head finely streaked (finer than in immature birds). Underparts not so extensively nor so heavily streaked as in immature; also black back markings not so pronounced as in immature; central tail feathers cinnamon with little or no barring; in most cases upper tail-coverts cinnamon but in two instances some grey present and in one of these cases extending on to central tail-feathers which have a broad black band near the tip.

Adult male. Head more finely streaked than in female and crown feathers in most specimens dull grey, though one or two have dull cinnamon crowns. Back colour in most instances a little darker than females, the markings therein not so prominent and in some instances almost absent. In most cases the underparts are somewhat less streaked than in females. Upper tail-coverts and central tail-feathers mostly grey with a broad black band near the tip.

Generally females are larger c. 14 inches (about one inch or so) than males c. 13 inches but one male at least is, or appears to have been as large as a female. Immature birds are much the same as the 'Westland bird,' that is c. 11 inches in length.

None of the skins examined was of known age.

The fact that the Westland bird was heavily marked on its upper parts and showed a number of bars on its tail pointed towards its being an immature bird, and the length as calculated very closely at eleven inches confirmed this. The tail feathers appeared worn at the tips, and showed only the faintest suspicion of white tip in some photographs, so that the white tip if present may not always be seen readily in the field.

Perhaps Australian bush fires provided us with an interesting exercise in Nankeen Kestrels, but whatever the reason for their visit, I am left with a very strong feeling that detailed field identification — immature, adult female, adult male — may be very difficult in view of the overlapping plumages.

I acknowledge with deepest thanks the help Mr. Hindwood has so promptly and generously given — photographs, reference materials, his personal description of study skins, his comments, and his reading over these notes.

— P. GRANT