

# PINK-BILLED PARROT FINCHES NEAR NAILAGOSAKELO CREEK, SOUTHERN VITI LEVU

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## ABSTRACT

The Pink-billed Parrot Finch (*Erythrura kleinschmidti*) occurs on Viti Levu island, Fiji. Its habitat is defined as rain-forest at both high and low altitudes. Generally rare, it is common locally. Although it does take vegetable food, insects appear to make up the bulk of its diet, and are taken in a variety of ways, some highly specialised. Notes on its nesting are presented.

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## INTRODUCTION

The Pink-billed Parrot Finch (*Erythrura kleinschmidti*) is known only from Viti Levu, the largest island (10,429 km<sup>2</sup>) of the Fiji Group. Regarded as the most aberrant member of its genus (Mayr 1931: 10) this peculiar, heavy-billed parrot finch had, until recently, only been recorded on a handful of occasions since its discovery by Kleinschmidt in 1877 (Finsch 1878: 440). Its life history was completely unknown. This paper presents new findings which shed some light on the diet, habits and nesting of the bird.

## I. METHODS

I first saw a Pink-billed Parrot Finch in rainforest-clad hills overlooking Nailagosakelo Creek on 8 March 1971 (Clunie 1972: 335). Between 28 November 1971 and 7 January 1973, I made many trips to the Nailigosakelo Creek area, seeing Pink-billed Parrot Finches on nearly every occasion.

Visits consisted of one day excursions, the Pink-billed Parrot Finch being seen on eighteen different days, with several sightings on most days. The birds were always followed until lost, usually being under observation for several minutes at a time. It soon became

apparent that they move with the mixed groups of insectivorous birds which are so typical of the Fijian rainforest understorey, and they were then usually found fairly easily by watching such groups until a Pink-billed Parrot Finch appeared.

Observations at the nest were made from almost directly below it, through a hole in a screen of thick vegetation. This gave a clear view of the immediate approaches of the nest and its entrance tunnel.

## II. DIFFERENCES IN BILL COLOURATION

Several Pink-billed Parrot Finches with black bill tips were seen, the entire forward half of the beak being black in some cases. This feature does not seem to have been recorded previously. It is probable that these were young birds, nesting birds having all-pink bills. So far as I could tell from field observation, the birds with black bill tips were similar in plumage to birds with all-pink bills. Mayr (1931: 10) described the juvenal plumage as being "characterized by the duller colouration of upper and underside, by having less black on the head, and by being more brownish instead of yellowish olive on the sides of the neck and breast." The birds with black bill tips at Nailagosakelo Creek exhibited none of these features, save that they tended to have a little less black on the face and crown, and more blue extending from it across the back of the head and nape, than did birds with all-pink bills. The yellowish patches on the sides of the neck were not at all brownish.

## III. HABITAT

The Nailagosakelo Creek rises in rugged, rainforest-clad mountain country some ten kilometres west of Mount Korobaba, on the north shore of Suva Harbour. It runs roughly southeast, flowing through a narrow, heavily-forested valley, until it reaches a point about four kilometres from the sea, where the valley widens suddenly. It was in this wider part of the valley, and in the hills to the east of it, that all Pink-billed Parrot Finch sightings were made.

Rainforest extends over the foothills rising from this part of the valley, the floor of which is covered in second growth in the form of slender, scrubby yaqoyaqona (*Piper puberulum*) interspersed with patches of recently abandoned native gardens, which are studded with trees and overgrown with tangled grass.

Some two kilometres from the sea the creek flows onto a dairy farm which stretches to the coastal mangroves. Perhaps 200 metres to the north of the inland boundary of the farm, on the west bank of the creek and flanked by a pandanus swamp and rainforest, is a small, abandoned and wildly overgrown cocoa plantation, rapidly reverting to rainforest.

Pink-billed Parrot Finches were commonly seen in the cocoa plantation, where conditions are similar to rainforest, and in rainforest at altitudes from just above sea-level to about 150 metres above sea-level (altimeter reading). They did not normally seem to venture

into the yaqoyaqona or native gardens, although they would feed to the very edge of the rainforest. The smaller, related Red-headed Parrot Finch (*Erythrura cyanovirens*), on the other hand, while at least as common as the Pink-billed Parrot Finch in the forest, was at its most numerous in the native gardens and on the dairy farm, where it gathered in sizeable flocks.

Observations at Nailagosakelo Creek support earlier statements (Martin 1938: 6; Mayr 1945: 148; Mercer 1965: 25) that the Pink-billed Parrot Finch is essentially a rainforest-dwelling species. The position of the only nest found, which was curiously situated a few metres from the forest fringe, possibly indicates that the bird might prefer to nest in forest clearings. Certainly an area about a small clearing in the rainforest proved to be particularly rich in these birds, and was the only place where small flocks were seen. The finch is apparently rare generally, there having been so few records of it since its discovery, but where it does occur may be quite common, as it is about Nailagosakelo Creek.

Mayr's suggestion (1945: 148) and Mercer's more specific statement (1965: 25) that the Pink-billed Parrot Finch is a bird of the mountain forest, is now seen to be too restrictive, as it occurs and nests at little over sea-level in the Nailagosakelo Creek area. At the present state of knowledge it would seem to be a bird of the rainforest at both high and low altitudes.

#### IV. MOVEMENT WITH MIXED FLOCKS OF INSECTIVOROUS BIRDS

Pink-billed Parrot Finches were almost invariably seen amongst mixed flocks of insectivorous birds in the forest understorey. There usually seemed to be one or two Pink-billed Parrot Finches to a mixed species flock, although lone finches sometimes called at frequent intervals, perhaps to keep in contact with a companion elsewhere in the flock. The call is similar to that of the Red-headed Parrot Finch — a high, rather thin, but carrying "cheee cheee cheee." Single notes are often given and can be considerably louder and sharper sounding. A clicking sound is also made and is quite unlike any call of the Red-headed Parrot Finch that I have heard as yet.

Pairs of Pink-billed Parrot Finches in such flocks of insectivorous birds were occasionally seen working in close combination. Indeed, on 7 January 1973 one of a pair of birds with black bill tips pulled free a small vine, and was examining it, when its companion took hold of the other end of the vine in its bill, and tugged at it, both birds engaging in a tug-o'-war for several seconds, before dropping the vine and moving off.

Small groups of more than two Pink-billed Parrot Finches were seen twice in rainforest near the edge of a small clearing some 60 metres above sea-level. On 6 February 1972 a flock of four darted through the undergrowth and landed on a branch four metres above the ground, where they called several times before darting on out

of sight. At least two of these birds had black bill tips. On 12 March 1972 two fully pink-billed birds were seen moving about in dense foliage some five metres up a tree in company with three Fiji Warblers (*Vitia ruficapilla*), while a third finch investigated bunches of dead leaves in a neighbouring tree, calling frequently.

Birds seen in mixed species flocks containing the Pink-billed Parrot Finch included the Polynesian Triller (*Lalage maculosa*), Island Thrush (*Turdus poliocephalus*), Fiji Warbler, Spotted Fantail (*Rhipidura spilodera*), Slaty Flycatcher (*Mayornis lessoni*), Fiji Shrikebill (*Clytorhynchus vitiensis*), Blue-crested Broadbill (*Myiagra azure-ocapilla*), Scarlet Robin (*Petroica multicolor*), Golden Whistler (*Pachycephala pectoralis*), Orange-breasted Honeyeater (*Myzomela jugularis*), Wattled Honeyeater (*Foulehaio carunculata*), Giant Forest Honeyeater (*Gymnomyza viridis*), Layard's White-eye (*Zosterops explorator*), Grey-backed White-eye (*Zosterops lateralis*), and the Red-headed Parrot Finch. The Giant Forest Honeyeater and the two white-eyes often, but by no means always, tended to keep higher up in the trees than the other species, which generally occurred between 0-6 metres above the ground.

Red-headed Parrot Finches were often seen hunting insects alongside their Pink-billed relatives, but usually just picked insects off branches, and only once were seen attempting one of the latter's more specialised hunting techniques — pecking open dead fern stems to get at the insects within. Indeed, the Pink-billed Parrot Finch's feeding methods usually seemed to put it in closer competition with the Fiji and Black-faced (*Clytorhynchus nigrogularis*) Shrikebills, and the Fiji Warbler.

## V. FEEDING

Practically nothing has been recorded regarding Pink-billed Parrot Finch diet. Mayr (1945: 148) suggested that it might feed on flower buds, and this has been confirmed recently (Clunie 1972: 335). Fijians told Robin Mercer (Fiji Museum Annual Report 1967: 7) that it fed on over-ripe and fallen berries, while he saw one pick the seeds from a berry (Mercer pers. comm.). In the forest about Nailagosakelo Creek, however, it soon became clear that the Pink-billed Parrot Finch is strongly insectivorous in its feeding habits.

On nearly every sighting the birds were actively engaged in hunting insects, usually with specialised techniques involving the use of the heavy bill. Flower buds and over-ripe berries were almost always available in the immediate vicinity, but were ignored.

Pink-billed Parrot Finches move about the forest understorey in a manner reminiscent of the two shrikebills. They are extremely active, hopping and flying from branch to branch and tree to tree, moving up and down trees and vines, and clinging to the bark of vertical tree trunks in a most remarkably "unfinchlike" way, as they carry out their hunt for insects, probing and investigating dead leaves and branches with the bill.

Seven different methods of taking insects were observed, most of which could be used by a single Pink-billed Parrot Finch within a period of a few minutes:—

- (a) The Pink-billed Parrot Finches would simply pick insects from dead branches, just as the Red-headed Parrot Finch often does.
- (b) They would also take twigs in the beak and run it up and down them, evidently in search of insects, or run the bill down the stems of tree-fern leaves.
- (c) They would investigate bunches of hanging dead leaves in a manner reminiscent of the Fiji Shrikebill. They were often seen pulling and tugging at bunches of dead leaves, and poking their heads into them, in search of insects. Sometimes they would pull a leaf free and drop it, or rip it asunder with the bill. On 2 January 1972, in a clump of vau or wild hibiscus (*Hibiscus tiliaceus*), I watched a Pink-billed Parrot Finch investigate and tug in vain at a hanging bunch of leaves. When it moved away I pulled the leaves apart and found two large crickets secreted within their folds.

This proved to be one of the commonest hunting methods observed. The vigorous activities of the parrot finches were often accompanied by a crackling and rustling of dead leaves, a sound commonly heard when Fiji Shrikebills are hunting in like fashion.

- (d) Another very common hunting method identical to one used by both the Fiji and Black-faced Shrikebills involved the use of the bill in cracking open dead tree-fern leaf stems, hollow branches, vines and twigs, in search of prey. The parrot finch would move systematically along say a dead tree-fern leaf stem, pecking holes in it at frequent intervals, often with a clearly audible crunching, occasionally pausing to feed on insects contained within it. Whenever possible I broke open the twigs or vines upon which the finch had been operating, and often found them to contain ants and ant eggs.

The most interesting example of this type of insect hunting was witnessed on 13 February 1972, amongst dense undergrowth at a point well under ten metres above sea-level. I followed a Pink-billed Parrot Finch which was accompanying a mixed flock of insectivorous birds including several Orange-breasted Honeyeaters, Spotted Fantails, Blue-crested Broadbills, Fiji Shrikebills, Grey-backed White-eyes, a pair of Golden Whistlers, and at least one Island Thrush, Giant Forest Honeyeater and Red-headed Parrot Finch. The Pink-billed Parrot Finch was being tailed at less than half a metre by a Spotted Fantail. The finch moved from tree to tree in typical fashion, hopping up and down dead twigs, treefern leaf stems and vines, ripping holes in them at frequent intervals. It eventually discovered a nest of large, rusty-coloured ants in a small dead branch, and began to feed greedily, scattering

the white eggs, while the fantail darted about catching either the ants or eggs or both as they fell to the ground. The two birds then moved off, the fantail still closely following the parrot finch.

I have seen a Wattled Honeyeater apparently attempting the same parasitic relationship on a Black-faced Shrikebill, which was ripping open a dead branch. The shrikebill, however, kept the honeyeater at bay with threatening lunges of its heavy bill.

- (e) On 13 February 1972 a Pink-billed Parrot Finch was seen probing with its bill at a rotten tree-trunk, from which it pulled a largish grub which it swallowed before flying to a nearby branch, on which it wiped its bill.
- (f) On 24 December 1972 in the abandoned cocoa plantation a Pink-billed Parrot Finch was observed clinging to the vertical trunk of a tall tree. The finch was evidently in search of insects sheltering under the bark, for it moved up and down the trunk, prising free pieces of bark with its bill and dropping them. Some of the bark fragments were as large as the finch itself.
- (g) Individual Pink-billed Parrot Finches were quite commonly observed near or on the ground in company with Fiji Warblers. They pecked at dead leaves and picked up and dropped twigs with their bills, in quest of ground-dwelling insects.

## VI. NESTING

The only previous record of Pink-billed Parrot Finch nesting is a brief note by Martin (1938: 6) that it lays "a pretty egg, light red with dark red spots." This note needs confirming, as such eggs would seem rather unusual for a bird which builds an enclosed nest, especially when the eggs of other finches of the genus *Erythrura*, including the Red-headed Parrot Finch, are known to be white (Mayr 1945: 104; Mercer 1965: 24). I have not as yet seen any Pink-billed Parrot Finch eggs.

### *Nest situation and structure:*

On 25 August 1972 I discovered a pair of Pink-billed Parrot Finches building a nest in a tree on the south slope of a low (15 metres above sea-level) hillock north of the abandoned cocoa plantation. The tree stood a few metres from the edge of the rainforest and just below the crest of the hillock, in an area of mixed yaqoyaqona, a small type of bamboo, and abandoned, wildly overgrown native gardens. Rainforest capped the hillock and extended down its northern slopes and off to the west. The nest was built in the forks of several small branches on the outer edge of the canopy on the southern side of the tree, about six or seven metres above the ground. It was very similar to that of the Red-headed Parrot Finch, being an untidy, globular structure of dead leaves, small twigs, lichens and bamboo leaves.

A small entrance hole was located low on the northeastern side of the nest, facing slightly downwards, a twig of one of the branches on which the nest rested forming a landing platform just below it.

*General behaviour about nest:*

The finches usually showed much apparent caution about the nest, landing more than a metre away in the tree and moving to the nest entrance where they invariably looked all about before entering. They always landed on the twig serving as a landing stage at the entrance hole, and from there clambered into the nest. On leaving the nest the finches dropped out with wings folded for a metre or more before darting off, calling.

The nesting birds evidently hunted with mixed flocks of insect-eating birds throughout the nesting period, individual Pink-billed Parrot Finches being seen with such groups in the rainforest less than fifty metres from the nest.

On 28 May 1972 several sightings were made of lone Pink-billed Parrot Finches collecting nesting materials and carrying them to the nest, which was nearing completion, the finch dragging the materials in through the entrance. Almost immediately after the entry of a finch with nesting materials, a bird would drop from the nest calling, to collect more materials, being gone from between two to fifteen minutes. Another bird within the nest would evidently weave the materials into place, as the nest quivered frequently and calls issued from it.

Nesting materials included dying and yellowing leaves, dead leaves from a neighbouring clump of a small type of bamboo, small twigs, and vines. Only a single twig or leaf was brought in at a time. One leaf was bigger than the finch carrying it and on being pulled into the nest damaged the entrance. At this a finch leaned out from inside and repaired the torn structure with its bill.

Leaves apparently were collected with considerable care, the parrot finch plucking a dying leaf with its bill, then flailing it vigorously on a branch with a metallic clicking. Sometimes the leaf was rejected and another sought.

On 5 June 1972, the nest was again visited. Nest construction had ceased and there was very little activity. At 1310 hrs, a bird left the nest and standing on the landing stage rework the area about the entrance with its bill, then moved about the outside of the nest looking at it from various angles for several minutes, before returning to the landing stage and making a clicking noise by opening and closing its bill, whereon it was relieved at the nest by its mate. The newcomer entered the nest and was later seen further adjusting the entrance from within.

Several sightings were made of Red-headed Parrot Finches gathering nesting materials, one taking a leaf from the ground at the foot of the Pink-billed Parrot Finches' nesting tree.

The nest was again visited on 10, 18 and 25 June 1972, by which last date it had been abandoned. On 10 and 18 June no activity, other than occasional arrivals and departures of the nesting birds, was seen. At no time did I see any activity indicating the presence of young in the nest.

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