

EDITORIAL

During 1991 to 1993 **Muruk** has been much behind schedule due to changes of editor and heavy workloads. In particular, the recent observations section has become very out of date, and its usefulness is being questioned by some members. To remedy this **Muruk** 6:3 will contain an extended recent observations section. Recent observations provides a place where brief observation notes can be published. Records should fall into one of the following categories:

- a) records of rarely seen birds (wherever they occur);
- b) records of birds in localities where they are rarely, or infrequently encountered;
- c) records from localities which are rarely visited;
- d) records of interesting behaviours, including feeding;
- e) all nesting records, with date, nest site etc.;
- f) first and last dates for migrant species.

Compilation of recent observations from various lists is a tedious job, and the editor requests that all records be submitted in a standard format to make the job as easy as possible. Please put all bird lists in the same order as that used in Beehler *et al.*, The Birds of New Guinea, and use the names from that book, or, for island species, the names in Coates (1985-1990) The Birds of Papua New Guinea. All records should consist of the date, the number of birds, the locality, the province, and the observer, e.g.:

Black-sided Robin 23 Jul 92, 2, Vanapa R, Cen (MH).

I can supply a standard list with bird names and spaces to those contributors who have a large number of records they wish to see published. Write to the editor to request this.

Editor for this issue: Mike Hopkins, with help from Roger Hicks, Keyt Fischer & Phil Gregory.

COVER: Head study of Northern Cassowary by Jones Hiaso

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OBSERVATIONS ON THE GREY-HEADED MANNIKIN *Lonchura caniceps* AND THE CHESTNUT-BREASTED MANNIKIN *Lonchura castaneothorax* IN THE PORT MORESBY AREA

ROBIN L. RESTALL

In July 1990, my wife and I visited Port Moresby with the express purpose of observing the local mannikins *Lonchura* spp. in the field, and to make detailed examination of individuals in the hand including painting accurate colour references of each plumage phase if possible. After some interesting adventures, including escaping from a gang of rascals in the Morata township [we were attempting a sortie to the Waigani marshes], we met up with Roger and Jenny Hicks. Thanks to their good nature and extreme helpfulness, our objectives were achieved.

We visited several locations around Port Moresby, including a drive past Sogeri. Thanks to the kind service of Mr. and Mrs. Tolhurst of the Pacific Adventist College, we were able to set a mist net in a perfect location on two mornings and caught several birds of both species mentioned in the title. On the first day, upon catching 12 birds, we closed down the net. These were banded with official ABBBS rings, recorded by Roger, and carefully detailed by me. I retained four Grey-headed Mannikins for painting. On the second day some 27 birds entered the net almost immediately and I had to make some special efforts to prevent others from becoming trapped. We closed the net at once. From these I retained five birds for painting. All the birds were subsequently released in the location where they had been netted the previous day. The following notes derive from a combination of field observations and study of the captive birds.

Grey-headed Mannikin - *Lonchura caniceps caniceps*

This is the darkest and most richly coloured of the three races of this species. The other two, *L. c. kumusii* from the northern lowlands, and *L. c. scratchleyana* of mid-montane levels are both more pallid in every sense.

Adult males measured 110 mm in length with wings invariably 52 mm. The orange of the rump begins at the level of the first tertiary and is flushed with yellow there. The underwing coverts are pure buffish-salmon. Adult females measured 105 mm with the wings 48 mm. The orange of the rump begins irregularly (it may be scalloped with dark brown) at the level of the third tertiary. It lacks the yellowish flush and the uppertail coverts are not quite so brilliant. With a quantity of full adults to choose from in the hand it is comparatively easy to select males and females, though no doubt a fair proportion would have to be classed as uncertain. The orange uppertail coverts are undoubtedly used as a social signal in

breeding behaviour for the long hair-like, or splayed ends are full and show down below the wing tips at the side of the body. They are quite noticeable when a bird, particularly a male, flies up to a vertical stem, above the level of most of the feeding birds. This contrasts with the Chestnut-breasted Mannikin, which has the rump and short uppertail-coverts are neat and close behind the wings, even when singing.

The vocabulary appears to be fairly limited, consisting of variations on a single note, plus the song. The contact call in flight is a long clear “*psiiitt*”, but within the group it is a sharp “*psit*”. The contact note of the male has a slightly different tone to that of the female.

The breeding season is recorded as being from October to April with the juveniles moulting into adult plumage from four to six months of age (Peckover & Filewood 1976). We saw juveniles in every stage of plumage from totally juvenile, through those beginning to show a few adult feathers, to birds that were mostly in their first adult plumage - a slightly duller version of the second moulted adult. However, there was evidence that breeding was taking place. Adult males were seen performing undirected song, i.e., sitting still, with neck slightly stretched, bill open and pointing forward, feathers of the flanks and belly fluffed out. An adult male was seen in full advertisement song when the head is turned from side to side through an arc of about 50 degrees. Several males were seen flying off in a direct and determined manner carrying lengths of grass, clutched at one end so it trailed along the body beneath a wing and behind, appearing to be attached to the tail. One male was seen tearing off a stem from the inflorescence of the feral millet *Panicum maximum* and then flying off in a direct line towards some bougainvilleas where, we assumed, a nest was being lined.

Two kinds of feeding behaviour were observed. Firstly, a bird would cling to the stem of a grass and peck out the seeds from the panicle it was clinging to or one within reach. I watched birds clinging to the thick stems of *Setaria* sp., and reaching out to feed on the green seeds of *Panicum maximum* alongside. We observed them feeding on brakes of ripe grey-brown *Rottboellia exaltata*, amidst swathes of rich green plants not yet producing seeding heads.

The second kind of feeding behaviour was when the birds flew down to the ground and hopped around among short grasses, including what looked to me like *Chloris barbata*. Some birds hopped out onto the path and were observed picking up unidentifiable bits. Others jumped up to the seeding heads, maybe a foot or more, to grasp a panicle and fall back to the ground. A bird might jump 3 or 4 times before succeeding in pulling a stem down, whereupon it would stand on it and eat some of the seeds. I never saw a bird eat a seeding head out completely. This is consistent with all grass-seed-eating by *Lonchura* spp. that I have observed, when the bird will eat some of the seeds in a head then move on.

This second type of feeding behaviour was also observed for *L. castaneothorax*.

At night the birds I kept for painting all slept in a row, tightly clumped side by side, around the rim of the food pot. As they prepared to roost, their contact notes were the same as the “*psit*” of the active birds in close sight of each other, although slightly muted.

In the savanna at low altitude the Grey-headed Mannikins were always accompanied by a smaller number of Chestnut-breasted Mannikins. The one exception to this appeared to be the trapped 27, of which over half were adult Chestnut-breasted and most of the rest were juveniles of one or other of the two species. On the Sogeri Plateau there were only small groups of Grey-headed without any Chestnut-breasted birds.

Chestnut-breasted Mannikin - *Lonchura castaneothorax ramseyi*

This is the south-easterly of the four sub-species that occur in New Guinea, and is quite distinct from the others. *L. c. sharpei* is a diminutive 100 mm or so, has the forehead to nape pale grey, and the underwing coverts buffy-salmon. *L. c. uropygialis* is similar but is distinguished by having a little yellow on the uppertail coverts. Both are exclusively from Irian Jaya. I am unfamiliar with the race *L. c. boschmai* from the Wissel Lakes District (Goodwin 1982) and the Araboe River area (Rand & Gilliard 1967) not having seen it live. The skins I painted it from in the British Museum collection indicate a distinctive bird with a chestnut breast and chestnut barring on the flanks, drab from forehead to nape and yellow uppertail coverts. Its size is unknown to me. Any observations or comments about *L. c. boschmai* would be most gratefully received.

The south-eastern race *L. c. ramseyi* (formerly known as *nigriceps*) is common around the Port Moresby area in the lowland savanna and marshy areas west to Hall Sound. The adult male measured from 110 mm to 113 mm, the adult females I measured were all 105 mm long. The wings of the males measured 52 mm, females were insignificantly different at 51 mm or 52 mm. The underwing coverts are white. I could not see any consistent plumage distinction between the sexes but there was a distinct tendency for the nape of the male to be less clearly ticked with grey, and conversely the female has the ticking regular and clear from crown to nape. Thus, with a quantity of birds to hand it is fairly easy to select certain males, certain females, and of course to have a quantity of uncertain. These comparisons were made on birds all in perfect new plumage.

Recently fledged juveniles have blackish bills, and, notwithstanding the pale belly and underwing coverts, can be mistaken for a young *L. caniceps* in the field. This blackishness soon turns to a violaceous pale blue-grey, probably within two to three weeks after fledging when the birds become independent and fully able to feed themselves. The implication in finding black-billed juvenile *L. castaneothorax* is that the species must have been breeding in June, an extension of the breeding season brought on no doubt by the exceptional rainfall of that month (rainfall recorded in June 1989, a normal year, was 16 mm. In June 1990 the measured rainfall in the area was 169 mm).

Despite the comment of Immelmann (1965) that the species appears only to have one call note (as the Grey-headed Mannikin in fact does) I found the voice of the Chestnut-breasted Mannikin to be more complex. While the contact calls are similar to those of the Grey-headed Mannikin, a strong "peeet" on the wing, the close contact notes are several and varied. The contact note of the male is different from that of the female, and one of the birds, I think the male, has a "zeet-a-zeet-a-zeet-a-zeet" on a descending scale that sounds both intimate and comforting. It cannot be heard more than a metre or so away, and is quite distinct from the courtship song.

I observed a male engaged in undirected song on two occasions. The bird sat on a barbed wire fence, body clear of the perch, neck stretched and head pointing slightly down, maybe 10 degrees below horizontal, flanks and belly feathers erect. This is a typical *Lonchura* posture for undirected and advertisement displays.

At night, the birds I kept for study and painting all settled down in one melange in the food pot as if it were a nest. It was obvious they were bedding down for there was much "muttering" of soft mewing "wee" notes and others including the "zeet-a-zeet" song referred to above. They roosted by their own biological clock and not because I covered them up, in fact I had not altered the lighting in the room.

COMPARATIVE COMMENTS

There is a school of thought that believes the Chestnut-breasted Mannikin and the Grey-headed Mannikin are conspecific. They also believe the Yellow-rumped Mannikin *L. flaviprymna* is conspecific with these two. There will always be a school of lumpers, and other targets are the Streak-headed Mannikin *L. tristissima* and the White-spotted *L. leucosticta* as one, and the White-crowned *L. nevermanni* and Black Mannikin *L. stygia* as another. The basis for this compulsion to simplify is the Geographic Species Concept which holds that if two species co-exist in a habitat and do not naturally interbreed then they are separate species. Thus the opposite must be equally true, in that if hybrids occur naturally then the two animals are conspecific if not actually polymorphic. I am not a lumper. I feel that if two animals, in this case birds, have evolved to the state where they are physically and behaviourally distinct then the focus of study should be on why and how and what factors have driven them apart, and I see no benefit whatsoever in lumping them into singularity. New Guinea's mannikins are a wonderful living laboratory of evolution and should be the subject of a major study. Diamond (1972) has written eloquently about this in his discussion of the probable rapid evolution of *Lonchura spectabilis gajduseki*. The recent discovery of another very distinct sub-species with cinnamon underparts in the Urima Cattle Station in the Sepik Plains, *Lonchura spectabilis sepikensis* (Jonkers & Roersma 1990) dramatises his argument and makes it as contemporary as ever. In fact, in this world of rain forest destruction when all is woe, it is a small compensation that new habitat favouring the evolution of new races (and new species eventually?) is being created.

In my judgement the Chestnut-breasted Mannikin and the Grey-headed Mannikin are good species. They are physically different, they have different behaviour patterns, and different voices. Admittedly the differences are not dramatic, but in my opinion they are enough. The Chestnut-breasted Mannikin is a notoriously promiscuous species. In addition to the two species already referred to it naturally hybridises with the Spice Bird *Lonchura punctulata* in the wild in Australia (Immelmann 1965). Oddly however, the lumpers are not suggesting conspecificity here. It has become domesticated, and has produced hybrids with several other species of *Lonchura*, and several other estrildid species. Furthermore, the juveniles are distinct. This may be a small point but similarity of juvenile plumage is always held up by lumpers as constructive evidence of conspecificity in these cases.

In their work on the evolutionary genetics of the Estrildidae, Kakizawa and Watada (1985) used protein electrophoresis to calculate the genetic distances between a considerable number of species of estrildid finches. Two of these were *L. flaviprymna* and *L. castaneothorax*. Whilst they are undeniably closely related, sibling species, they were demonstrated as being distinct.

It would be comparatively easy to construct a series of simple experiments to explore the relationship of these birds. To begin with they would have to be kept in appropriate conditions of confinement. A simple aviary enclosing a large patch of various grasses would suffice. I would suggest populating the enclosure exclusively with male Grey-headed Mannikins and female Chestnut-breasted Mannikins. The resultant hybrids should then be paired with each other. Digital tape recordings should be made of the songs of both males (the male *L. castaneothorax* song call notes should be recorded separately) and the male hybrids and sound spectrographs produced. If conspecific, the hybrids should be 100 percent fertile, and if Peckover and Filewood (1976) are accurate in their description of the hybrid, a new population would quickly be stabilised. However, I would expect natural parent plumage patterns to reassert themselves very quickly with the Grey-headed form probably dominant. Until such experiments are conducted and concluded I maintain that the Geographic Species Concept is a sound guideline but not an immutable rigid rule.

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