

Annotated List of Birds in Western Tari Gap, Southern Highlands, Papua New Guinea, with some Nidification Notes

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Introduction

On 8 September 1986 we commenced ornithological research at Tari Gap (Ibiwara Plain area of Kalkman & Vink 1970), Southern Highlands, Papua New Guinea (5°57'N, 143°10'E), between altitudes of 2460 and 2800 m a.m.s.l. Our researches included the establishment of banded populations of the rare and geographically restricted Archbold's Bowerbird *Archboldia papuensis*, Ribbon-tailed *Astrapia Astrapia mayeri* and four other sympatric bird of paradise species, the nesting biology of these birds, and banding of birds mist-netted, as a basis for future studies in the area. Fieldwork was carried out over three consecutive years, during approximately eight weeks each year, from 8 September-29 October 1986, 14 October-5 December 1987, and 19 December 1988-10 February 1989. Brian Finch (BF) and Nick Gardner (NG) provided Tari Gap records and observations.

Study area

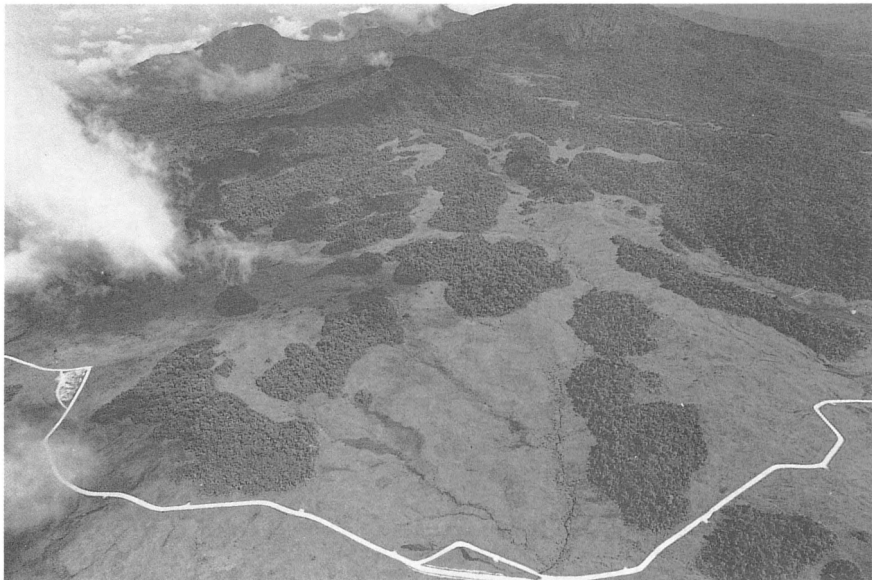
Vegetation of Tari Gap (the Gap hereafter) is lower montane mixed forest interspersed with patches of lower montane grassland (Robbins & Pullen 1965, Saunders 1965) or wet tussock grassland (Gillison 1970). The trees *Nothofagus grandis* and *Phyllocladus hypophyllus* are conspicuous in the canopy, *Pandanus* cf. *tectorius* abundant in the understorey and canopy, and there are extensive areas of dense scrambling bamboo *Nastus* sp. Tree ferns *Cyathea* and *Dicksonia* spp. are abundant, more so on forest watercourses.

Finch et al. (1990) provided a locally, privately published preliminary list of birds of this and adjacent areas, to which we add significant information, particularly concerning the biology of birds of this little-known highland avifauna. The availability of the comfortable accommodation and facilities of Ambua Lodge in this ornithologically rich, but little-known, area has recently made Tari Gap an attractive destination to international bird-watchers. The area has proved of considerable interest to botanists and ornithologists (see references), and as it has been mooted as a potential conservation area it will doubtless continue to attract ornithological attention. For a map of the area and for details of 1174 captures of 895 individual birds caught by mist-nets, banded, and released see Frith & Frith (1992) and for an aerial photograph of part of the area see Plate 39. Names and systematic order are those of Beehler & Finch (1985).

Annotated species list

Dwarf Cassowary *Casuaris bennetti*

Uncommon according to local informants. On 22.12.88 CBF found an area of forest floor directly below two trees bearing large yellow fruits, just below the western Gap road, absolutely trampled and inundated with fresh cassowary droppings. Our field assistants were much excited and estimated 20-30 birds to be feeding in the area. Other than this no sign of a Dwarf Cassowary was seen in the Gap! Because of its rarity, we record here a complete clutch of two eggs found, with sitting bird, in forest of the Ambua Lodge grounds (c. 2110 m a.m.s.l.) on 27.10.87; the eggs measured 139.2 x 88.9 and 141.0 x 91.3 mm.



Aerial view of western Tari Gap, Southern Highlands, Papua New Guinea, looking to north. Doma Peaks (3568 m a.m.s.l.) to right. Mt Hagen (to right) to Tari (to left) road in foreground. Note forest patches in montane grassland.

Plate 39

Photo: C.B. & D.W. Frith

Darter *Anhinga melanogaster*

Single bird flying high over the Gap on 7.10.86 and seen perched in an emergent tree on 9.10.86.

Long-tailed Buzzard *Henicopernis longicauda*

Seen fairly regularly along the road below and west of the Gap, and doubtless occurs in the latter.

Brahminy Kite *Haliastur indus*

Single adult seen over the Gap 19.8.86 (Bishop 1987).

Spotted (Papuan) Marsh Harrier *Circus spilonotus*

Single bird flying low over the Gap grassland on 9.10.86 (CBF) and 29-31.12.88. The above were undoubted 'pied' *C. spilonotus*. There exists, however, considerable confusion with regard to the identification of *Circus* spp. in New Guinea (Coates 1985, Beehler et al. 1986). CBF saw a harrier soaring over grassland on 25.10.87 that was all brownish black with obvious tan nape 'collar' patch, with no pale rump or wing patches.

Black-mantled Goshawk *Accipiter melanochlamys*

Rare in the area; recorded just below the western Gap on 4.9.86 (NG), one seen in the Gap 18.11.87 (CBF), another netted on 25.9.86 (Frith & Frith 1992) and one sighted 11.12.87 by P. Whittington (Hicks 1988).

Collared Sparrowhawk *Accipiter cirrhocephalus*

One bird at western entrance to the Gap 15.9.86 (CBF) being mobbed by a Belford's Honeyeater.

Meyer's Goshawk *Accipiter meyerianus*

One bird, probably an adult female, at western Gap (BF). Possibly the first record for the Southern Highlands, but BF has previously seen this species even higher, on Mt Victoria. Another recorded by L. Tolhurst 26.3.89 (Hicks 1990a). A light morph individual frequently seen below the western Gap by NG and others. Scarce everywhere, but could occur at any elevation in the area.

New Guinea Harpy-Eagle *Harpyopsis novaeguineae*

Heard calling at dawn in Gap forest. Probably ranges all over the forest but is secretive. Fine view of a perched bird with full crop 8.9.86. Much calling at all times of the day in the Gap during January 1989.

Gurney's Eagle *Aquila gurneyi*

One soaring low over a 2970 m hill-top in the Gap, seen well on 9.10.86 (CBF), representing an unusual high-altitude record of this typically lowland bird (Mackay 1988).

Brown Falcon *Falco berigora*

Irregularly seen at roadside forest/grassland edge in the Gap.

Salvadori's Teal *Anas waigiensis*

Two seen on a western Gap creek during September 1986.

Brown Quail *Coturnix australis*

Commonly seen in Gap grasslands at dawn; flushed at other times.

Chestnut Forest-Rail *Rallina rubra*

A common and seldom seen, but often heard, breeding resident; first reported, but unconfirmed, by Whitney (1988). See Frith & Frith (1988c) for notes on calls, Plate 40, and Frith & Frith (1990e) for details of nesting biology. The presence of this species at Tari Gap represents an extension of the previously known range (Coates 1985, Beehler et al. 1986) of 200 km to the ESE (Frith & Frith 1988c).

Common Sandpiper *Tringa hypoleucos*

Infrequently and irregularly seen on Gap road.

Snipe *Gallinago* sp.

Snipe were frequently flushed from Gap grassland during October but not specifically identified. A snipe flushed on 27.11.87 was noted to give a single sharp *snatch* note and to have a 'rich rufous central tail with pale buff tips to feathers. Back pale buff with obvious long black lines down either side'. Two snipe flushed on 27.12.88 were 'greyish-looking with obvious brown stripe down either side of back'.

Rufous Woodcock *Scolopax saturata*

CBF flushed a bird from the floor of good dense moss forest on 4.11 and 10.11.87. Of two birds flushed on 21.11.87 one was caught in a mist-net (Frith & Frith 1992) and photographed (Plate 41).



Female Chestnut Forest-Rail *Rallina rubra* with chick, Tari Gap, Southern Highlands, Papua New Guinea.



Live Rufous Woodcock *Scolopax saturata* caught in mist-net, Tari Gap, Southern Highlands, Papua New Guinea.

Plate 41

Photo: C.B. & D.W. Frith

White-throated Pigeon *Columba vitiensis*

Encountered in small numbers in scrubby forest bordering grassland at western Gap. One seen eating sloe-like berries on 5.1.89.

Black-billed Cuckoo-Dove *Macropygia nigrirostris*

Common throughout forested parts, also in secondary growth and isolated forest clumps. Often seen flying rapidly low across a clearing in mornings and evenings. In view of limited breeding data (Coates 1985) it is worth noting a nest found near Ambua Lodge on 8.1.89, 2 m high in kunai grass with a single half-grown nestling.

Great Cuckoo-Dove *Reinwardtoena reinwardtii*

A few sightings of individuals flying between forest patches.

Bronze Ground-Dove *Gallucolumba beccarii*

Probably common, but secretive and terrestrial, within the forest. Usually only seen flying across a clearing, or during a quiet watch within forest. Netted in Gap moss forests (Frith & Frith 1992).

White-breasted Fruit-Dove *Ptilinopus rivoli*

Reasonably common forest and forest-edge species throughout area.

Rufescent Imperial Pigeon *Ducula chalconota*

Probably occurs in small numbers; seen immediately below Gap (BF).

Papuan Mountain Pigeon *Gymnophaps albertisii*

Commonly encountered throughout the forests. Most commonly observed flying over in small parties, often at a considerable height. Many large flocks flying over the Gap, toward Tari, on mornings of September and October. On 8.9.86 four displaying birds were seen (CBF) to fly down from emergent forest trees and then up again to top of emergent tree level, then to dive vertically with fanned tails and half-closed wings to the top of understorey shrubs before turning sharply near-vertically upwards to swoop up and onto perches.

Goldie's Lorikeet *Trichoglossus goldiei*

Common throughout the forest, but difficult to see perched. Feeds at flowering trees, but more usually observed flying over in small noisy parties. A pair watched entering and leaving a nest site in the base of dead *Pandanus* fronds in the lower crown of the tree, at moss forest/grassland edge, during 25.9-10.10.86. A young bird, just fledged, was caught by a local boy just below Ambua Lodge on 27.10.89.

Papuan Lorikeet *Charmosyna papou*

Common throughout area, commonly feeding at flowering trees, particularly *Schefflera*, but more often seen flying through trees.

Plum-faced Lorikeet *Oreopsittacus arfaki*

Common but difficult to observe. One watched feeding upon *Schefflera* flowers.

Yellow-billed Lorikeet *Neopsittacus musschenbroekii*

Very common. Frequents flowering trees, sometimes with other parrot species and honeyeaters.

Orange-billed Lorikeet *Neopsittacus pullicauda*

May feed with previous species, from which it differs in having an orange or reddish bill, no streaking on the crown, more streaking on the sides of the face, less orange-red on the underparts and greenish undertail; but calls are indistinguishable.

Brehm's Tiger-Parrot *Psittacella brehmii*

Difficult to find, and probably is uncommon. Frequents low scrub, and feeds on seeds and fruits, but possibly also on lerps as often seen searching leaves (BF). Like other tiger-parrots, a silent species, usually first detected by crackling noises made whilst feeding. Flight heavy and undulating and always below tree-top level. Often seen feeding on roadside *Omalanthus* tree fruits (CBF). One seen to tear off small leaf pieces, and roll or fold them in its mandibles before eating them.

Painted Tiger-Parrot *Psittacella picta*

Readily identified by the red rump which Modest Tiger-Parrot never has, although that species otherwise very similar. Infrequently seen (BF).

Modest Tiger-Parrot *Psittacella modesta*

Like previous species, but slightly smaller with a green not red rump. Male barred on upperparts, female also barred across chest. Commonly seen in the scrub adjacent to grasslands; quiet and inconspicuous.

Papuan King-Parrot *Alisterus chloropterus*

A bird seen in the Gap on 28.9.86 (CBF), at its upper altitudinal limit (Beehler et al. 1986).

Fan-tailed Cuckoo *Cacomantis flabelliformis*

Not uncommon, but heard far more than seen (BF).

Rufous-throated Bronze-Cuckoo *Chrysococcyx ruficollis*

Common, but heard far more than seen. Reacts to imitations of its call.

Frogmouth *Podargus* sp.

On 23.9.86 from a patch of secondary growth within a small grassy clearing surrounded by good moss forest, we flushed a bird that we were confident was a large frogmouth. Views of this bird, flying from us, were not good and as this genus is unrecorded above 2200 m (Coates 1985) confirmation is required.

Moustached Tree-swift *Hemiprocne mystacea*

Not seen over Gap but probably occurs infrequently, as two seen at Ambua Lodge 4.10.86 (CBF).

Mountain Swiftlet *Collocalia hirundinacea*

Common, although more so below the Gap. Flies low over open ground but not amongst trees or under bridges.

Glossy Swiftlet *Collocalia esculenta*

Abundant. Flies low over the ground and through trees and clearings.

Mountain Kingfisher *Halcyon megarhyncha*

Frequently heard calling along trail at western Gap (c. 2700 m), above its normal elevation range, but not seen (NG). In view of possible confusion with voice of Fan-tailed Cuckoo this requires confirmation.

Grey Wagtail *Motacilla cinerea*

A common palaeartic visitor to the area October-April, found along the forested road edge but not in the open grasslands unless flying over, not inside forest. Call a sharp, quite loud and far-carrying *chizik* which at a distance sounds like *zit-zit* (BF).

Hooded Cuckoo-shrike *Coracina longicauda*

Far more often heard than seen. A scarce species. A bird of outer forest vegetation, usually fairly high in trees, in pairs or family groups.

Black-bellied Cuckoo-shrike *Coracina montana*

Similar in ecological niche and sociality to last species. Very active with a bouncy flight as birds noisily fly from tree to tree. The call is a duet, one bird giving a harsh double *schhh schhh* whilst the other gives a descending whistled *seeeeu* (BF). Found only in small numbers. Can be heard at a great distance.

Long-tailed Shrike *Lanius schach*

Occurs sparsely in the grasslands.

Pied Chat *Saxicola caprata*

Common in the Gap grasslands. The call is a harsh *chat chat*.

Island Thrush *Turdus poliocephalus*

Like the Blackbird *Turdus merula* in appearance, habits, calls and song. Female not as dark brown as the male. Some birds have greyer heads. Conspicuous in early mornings along road edge and in grassland borders. An adult followed by young out of the nest a few weeks seen on 10.11.87.

Logrunner *Orthonyx temminckii*

Two birds, a male and female (lacking a brood patch), were netted in the Gap moss forest during September 1986, representing a considerable extension of the bird's known range in Papua New Guinea (Frith & Frith 1987). A nest found on the forest floor at the base of a moss-covered tree on 25.11.87 (see Plate 42 in Coates 1990) contained a single white egg measuring 33.6 x 22.7 mm and weighing 8.6 g. On 30.11 at 1210 h slight pipping of the egg shell was visible and at 1230 h on 2.12 the chick was one third out of the egg.

Another nest in a similar situation (see Plate 43 in Coates 1990) was found on 13.12.88 containing a single 26.2 g nestling, with a wing length of 22 mm and its eyes open. This nestling was still in the nest on 13.1.89 (weight 38.6 g, wing 62 mm) but was gone on 16.1.89.

On 6.1.89 another nest was found with a single white egg which was still present on 19.1.89. The loudly clear-whistled song of this bird was notated as *whew wu whew whew wu whu whu wu*, the first note inflected up, the second sharply down, the third and fourth up, the fifth to seventh descending down and the last upward; a lovely strong song. This whistle song may be the 'loud, melodious whistle' described by Ripley (in Rand & Gilliard 1967), but is unlike calls reported and tape-recorded for the Australian population (Schodde & Tidemann 1988, Boles 1988).

Lesser Melampitta *Melampitta lugubris*

Common, and frequently heard calling, in forests of Tari Gap. The eye is red in adult males and black in females (see Plates 419-421 in Coates 1990) and young birds. Immatures are rufous-brown (Frith & Frith 1990b and in Coates 1990). This species was recently said to be a bird of paradise (Sibley & Ahlquist 1987) but its nesting biology (Frith & Frith 1990b) suggests this is unlikely. The call, a loud explosive *spit-jup* reveals its presence. In addition to data from four nests presented in Frith & Frith (1990b), another nest was found 1.9 m above ground on a *Cyathea* tree-fern trunk on 29.1.89. This nest was similar to those previously studied and its entrance faced 10°. It contained a single nestling weighing 11.2 g with a wing length of 10 mm and a total head length (skull + bill) of 25.3 mm; its eyes were just open.

Blue-capped Ifrita *Ifrita kowaldi*

Common within the Gap forest. Clambers all over tree trunks and branches. Always in pairs or small parties, and often associating with mixed-species feeding parties. A nest found 4 m high in small-crowned sapling with an incubating adult on 22.10.87 contained a single nestling on 31.11; on 18.11 this nestling weighed 29.5 g and had a wing length of 57 mm, and had left the nest by 21.11.87. Another nest c. 2 m high in a small sapling fork contained a 25.5 x 19.5 mm egg weighing 4.2 g on 27.10.87. This egg was off-white, sparsely spotted black and purple-grey throughout, these markings being slightly denser in a broad band around the larger end with a very slight gloss only. On 7.11 this nest contained a 10.2 g nestling with a wing length of 11 mm, charcoal-grey down and eyes closed. Whilst CBF examined this young on 20.11 four adult birds mobbed him, two perching on his clothing; two of the birds had obvious white eye-stripe and two a buff eye-stripe. The young weighed 29.6 g and had a 65 mm long wing on 27.11, and left the nest that afternoon at >21, probably c. 22, days old.

On 6.1.89 a young adult-sized bird with buff eye-stripe was seen fluttering wings and calling much whilst fed by an adult. On 27.1.89 another nest was found 4 m high in a sapling fork, containing a large nestling that was still present on 29.1.89.

Clearly this species typically lays a single-egg clutch. Our egg measurements are similar to the 25.8 x 20.7 mm of Frith (1971). Ifritas acquire the blue crown as nestlings (see Plates 57-58 in Coates 1990). The nest is surprisingly large (Frith & Frith in Coates 1990).

Tawny Grassbird *Megalurus timoriensis*

Common throughout the grasslands. Usually secretive but at times conspicuous by perching on top of a grass stem. The call, a harsh *chzink* or a loud *tuk-tuk*, usually given from cover (BF), is characteristic of the grassland. The song is a mixture of harsh and sweet notes given in a jumbled medley.

Golden-headed Cisticola *Cisticola exilis*

Recorded by L. Tolhurst in the Gap 26.3.89 (Hicks 1990a).

White-shouldered Fairy-wren *Malurus alboscapulatus*

Small parties rarely seen in larger patches of grass.

Orange-crowned Fairy-wren *Clytomyias insignis*

A flock of four mist-netted in the Gap forest (Frith & Frith 1992). Mostly associated with the scrambling bamboo *Nastus* sp. that grows on the edge of forest, but also dense understorey right into the forest, parties sometimes ascend high into the canopy. Always in company; parties or pairs.

Mountain Mouse-Warbler*Crateroscelis robusta*

Forages amongst fallen debris, often into piles of wood and leaves. A scrub-wren-like nest (Plate 42, and see Plate 87 in Coates 1990) containing a single nestling, weighing 7.0 g, was found 1.12 m above ground, suspended from a vine stem extending out and down from a *Pandanus* trunk incorporated into one side of the nest. The extreme outer part of whole nest was covered in various fine and stringy mosses and numerous tangled fine, black hair-like tendrils or fibres. Within this the basic nest chamber was a substantial tear-shape of straw-like dead, dry narrow leaves and pieces of *Pandanus* fronds, and fine dry fern pinnae intermixed with innumerable fine stringy moss fibres and hair-like rootlets/fibres. The nest chamber was fully and substantially lined with very fine soft russet hair-like fibres of tree ferns, like tangled springy human hair. Egg cup sparsely lined with smaller feathers, including those of a tiger-parrot species.

This suspended nest is apparently very similar to that of the Bicoloured Mouse-Warbler *C. nigrorufa* (Harrison & Frith 1970) but is unlike that of the congeneric Australian Fernwren *C. gutturalis* nest, which is attached to the back to a substrate, but is generally similar in materials. Total vertical nest length 530 mm (includes a sparse hanging 'tail' of 230 mm), total width 135 mm, depth (entrance through to the exterior of back wall) 155 mm, entrance hole diameter 43 mm. Distance from entrance perch to bottom of nest (excluding hanging 'tail') 111 mm, and from front entrance hole to inside back nest chamber wall 85 mm. Total internal nest chamber depth 98 mm. Depth of egg cup, from entrance perch to floor, 35 mm. At 1615 h on 14.1.89 the nestling weighed 17.8 g; wing length 52 mm, tail length 15 mm, and iris dark brown-grey. This nestling was in the nest at 1350 h on 16.1.89 but had left it by 1245 h the next day, when at least 23 days old.

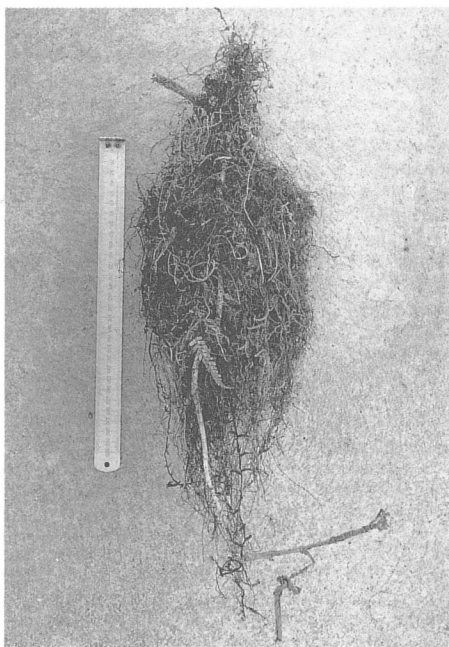
Buff-faced Scrub-wren *Sericornis perspicillatus*

This scrub-wren is rarely encountered in the Gap, where it is most uncommon, unlike the following two species.

Large Scrub-wren *Sericornis nouhuysi*

Most abundant scrub-wren in the Gap forests. May ascend to the forest mid-stage on trunks or amongst epiphytes. A nest found suspended 1.5 m high in, and supported all around by, *Nastus* bamboo in an extensive area of dense bamboo in broken moss forest dominated by *Pandanus*, contained two eggs on 17.10.87. At 1010 h on 19.10 this nest contained one egg measuring 23.5 x 16.8 mm and one hatching (Plate 43a). At 0615 h on 25.10 two open-eyed nestlings were present (see Plate 91 in Coates 1990). At 0700 h on 5.11 both young in nest but at 1500 h on same day they were being fed by parents immediately about the nest. The first-hatched nestling left the nest when at least, if not actually, 18 days old.

A second nest was found 3 m high on 18.10.87, containing one 22.8 x 16.2 mm egg and a hatching. This nest was not suspended but was built atop a 10 mm diameter dead branch, supported on one side by a tree-fern frond stem, in a sparse scrambling bamboo thicket in disturbed moss forest. The egg was only slightly glossy and was fawn with indistinct smoky, or clouded, markings about its middle. About and atop the larger end was a broad ring of brown blotches, spots and squiggles. On 19.11.87 this nest contained the unhatched, sterile, egg only. The eggs of this species examined were distinctly unlike those seen of the Papuan Scrub-wren (Frith & Frith 1988a).



Nest of the Mountain Mouse-warbler *Crateroscelis robusta*. Nest entrance is on opposite side to the 300 mm ruler.

Plate 42

Photo: C.B. & D.W. Frith

Papuan Scrub-wren *Sericornis papuensis*

Common in the Gap forests. A dark brown scrub-wren considerably smaller and slighter than the Large Scrub-wren but also with a warm rufous wash to the face, but not so extensive on the breast. Feeds in small parties in the bushy understorey, not venturing up into the forest mid-stage.

We found the first described nests and eggs of this bird (Frith & Frith 1988a). On 19.10.87 another mossy nest containing one egg was found c. 2 m high suspended from scrambling bamboo in sparse ridge-top *Nothofagus* moss forest with extensive dense scrambling bamboo thicket beneath. This nest was a bulbous, substantial tear-shaped structure suspended from a vertically downward scrambling bamboo stem. Exterior covered with live green and dead black mosses and tendrils and a few live green fern fronds, with a slight 'porch' just overhanging the entrance hole. Visible through the exterior moss, more so around the base, was the substantial, compact globular nest structure of numerous dry scrambling *Nastus* bamboo leaves interwoven with dry moss fibres. The deep egg cup was heavily lined with numerous small downy contour feathers and a few larger ones, including those of Chestnut Forest-Rail, Papuan Lorikeet, Crested Berrypecker, Fan-tailed Berrypecker, a russet pigeon and others. Total vertical nest length 230 mm, depth (entrance through the exterior of back wall) 160 mm, entrance hole 52 mm wide and 40 mm high. Distance from entrance perch to bottom of nest 98 mm, and from front entrance hole to back nest chamber wall 105 mm. Depth of egg cup, from entrance perch to floor, 30 mm. Thickness of nest walls 35 mm.

The egg measured 26.3 x 16.5 mm and was flesh-coloured with smoky-brown 'clouding', some swirls of brown, darker at larger end, around middle and some brown blotches (see plate in Frith & Frith 1988a). This egg was warm on 5.11 but was deserted on 14.11.

New Guinea Thornbill *Acanthiza murina*

Probably fairly common in the Gap, but infrequently seen owing to its habit of foraging, in flocks, in high canopy foliage.

Grey Gerygone *Gerygone cinerea*

Party of four just below the western Gap on 1.9.86 (NG).

Brown-breasted Gerygone *Gerygone ruficollis*

May be seen infrequently throughout the Gap forest and patches of trees, but difficult to locate at times.

Dimorphic Fantail *Rhipidura brachyrhyncha*

Least common fantail species in the Gap. Forages higher in forest than the Black Fantail.

Black Fantail *Rhipidura atra*

A very common species in the scrub bordering grassland. Keeps fairly low in the undergrowth. The contact call is a sharp *zink*; the song is a mixture of scratchy and sweet notes gradually descending, but with ascending introductory notes (BF).

Friendly Fantail *Rhipidura albolimbata*

A tame and very common species throughout the forested areas, showing a preference for more open areas cleared at the edge of the forest. Extremely active, usually encountered in pairs fluttering around foliage, or perching on exposed sticks. A nest found on 5.12.87 in moss forest, 2 m high, in a horizontal forking branch, contained a single nestling c. 2 days from departing the nest.

Black Monarch *Monarcha axillaris*

An uncommon bird in the Gap, where it is at its highest known altitude (Frith & Frith 1992).

Black-breasted Boatbill *Machaerirhynchus nigripectus*

Not uncommon in the Gap where often seen conspicuously flitting around the tops of small trees, or perching openly. Extremely active small bird, often cocking its long tail. A pair seen feeding and brooding young in a nest c. 8.5 m high in a ridge-top moss forest tree during 22-28.10.87. On 4.11.87 the adults were feeding unseen young about this empty nest. It was suspended in a horizontal foliated tree fork like that of the Australian Yellow-breasted Boatbill *Machaerirhynchus flaviventer*, but could not be reached. The nest of this New Guinea species was described by Harrison & Frith (1970).

Canary Flycatcher *Microeca papuana*

A common, somewhat robin-like, species that perches upright and still for periods, then moves to another perch, usually in small groups rather than alone.

Garnet Robin *Eugerygone rubra*

Scarcely seen bird. On 5.12.87 an adult-sized young bird followed an adult male with fluttering drooped wings and was fed by the male. The young bird also raised one open wing at a time to exhibit the wing bars, as described in Coates (1990). Both birds frequently swayed their rear, like a Willie Wagtail, while moving through foliage.

Black-throated Robin *Poecilodryas albonotata*

An uncommon, rarely seen, species in the Gap, being at its extreme upper altitudinal limit (Frith & Frith 1992).

Lesser Ground-Robin *Amalocichla incerta*

One immature bird mist-netted in the Gap moss forests on 12.9.86 (Frith & Frith 1992).

White-winged Robin *Peneothello sigillatus*

A common resident. On 22.10.87 an adult seen feeding a large single nestling in a nest, which was empty on 28.10. Nest looked like a loose ball of moss from below, placed in fork of a sapling with sparse small-leaved canopy.

On 26.10.87 another nest was found 3.4 m high in similar situation to the last, containing a 24.8 x 17.2 mm egg weighing 3.9 g. This egg was olive, or khaki-green, sparsely spotted and finely blotched brown and russet, forming a broad heavy band of dark brown around the larger end (see Plate 43c). Another nest was found on 26.10.87, 1 m high in a sapling fork, containing a nestling within a few days of leaving (see Plate 179 in Coates 1990). On 27.10.87 the pair at this nest mobbed an Archbold's Bowerbird that perched nearby.

A nest found on 2.11.87 was 2.1 m high in the fork of a small isolated sapling beneath good moss forest with *Pandanus* and contained a small nestling with closed eyes. On 12.11.87 two nests were found, both c. 1 m high in sapling forks, one containing an egg and one a nestling c. 1-2 days old. Another nest, c. 4 m high in a sapling fork, found on 18.11.87 contained a half-grown nestling. On 23.11.87 a nest found 2.6 m high in a 3.6 m tall sapling with sparse small leaves contained a single nestling c. 5-6 days from leaving the nest. On 25.11.87 an adult pair seen closely followed by a begging young that we considered to have left the nest a week or two previously. This juvenile already had a black tail and wings, and black feathers coming through in the mantle and wing coverts, suggesting that some immatures gain adult plumage sooner than others (see Coates 1990:198).

On 22.12.89 an adult pair was seen in company with a flying immature in chestnut-striated plumage which we estimate to have left the nest some 2 to 3 weeks previously. Juveniles were captured during September and October 1986-87 (Frith & Frith 1992).

Two of the active nests found were examined and measured. They were similar in construction and materials: bulky deep cup-shaped nests externally of considerable quantities of living green mosses and a few green fern fronds. Pulling the exterior moss away revealed more green ferns and fern tendrils until exposing a discrete 'interior' nest cup of firm, dense foundation of predominantly dead fern fronds, with a few live ones. The egg cup of dead fern fronds was lined with fine fern tendrils and straw-like woody lengths of plant fibres or leaves. Upper cup rim encircled by, and entwined with, longer lengths of fine fern tendrils and rootlets. Measurements of the two nests: total vertical nest depth 105 mm, maximum external nest diameter 151 mm, 118mm, external nest cup diameter 121, 123 mm, internal nest cup diameter 63, 68 mm, nest cup depth 41 mm. The above represent the first published formal nest and egg descriptions for this species (Coates 1990).

Regent Whistler *Pachycephala schlegelii*

Moderately common in the Gap forest. Immatures different from both adults, being dark olive-brown with rusty throat and upper chest. Loud ringing song, males often assuming an unusual stance by fluffing out golden nape feathers, and virtually hiding the white throat. A female-plumaged bird seen on 17.10.87 carrying nest material in the bill into a heavily moss-covered bough 13.7 m high in a tree.

Brown-backed Whistler *Pachycephala modesta*

Rarely seen in the Gap. Keeps higher in the canopy than other whistlers.

Rufous-naped Whistler *Pachycephala rufinucha*

Commonly heard calling in dense low cover, but often difficult to see. Feeds on the ground, in low scrub, and sometimes amongst higher epiphytes. A nest found on 6.11.87 2.1 m high in a sapling fork containing two eggs measuring 28.7 x 19.5 and 28.1 x 20.5 mm and weighing 5.7 and 6.2 g respectively. The eggs were white with large black, charcoal-grey and purplish-grey blotches sparsely over the entire shell but more densely about larger end in a sparse vague band (see Plate 43b). At 0845 h on 18.11 one egg was hatching, with hatchling almost out, the second egg with no sign of pipping. At 0810 h on 27.11.87 the nestling's eyes were just open and the egg still unhatched. When last examined on 4.12.87, the egg was still present; the nestling's throat, breast and abdomen feathers were ginger and those of the neck and back brown-rufous.

The nest was a substantial cup large for the size of the species, externally of numerous mosses (see Plates 200-201 in Coates 1990). Within the moss the cup-shaped structure was mostly of fine dry *Pandanus* frond strips and atop this numerous fine delicate leaf-skeletons. The egg cup finely lined with hair-like light-coloured fibres and leaf-skeleton ribs, or stems, finely lined with larger hard, not downy, feathers up to 130 mm long. Around the rim and woven into the upper third of the egg cup were numerous hair-fine black rootlets/fibres and a couple of larger (1.5 mm diameter) vine tendrils

only. Total vertical nest depth 129 mm, with an additional sparse hanging mossy 'tail' of 98 mm. Total nest diameter 154 mm, exterior cup diameter 125 mm, interior cup diameter 88 mm, and nest egg cup depth 55 mm. The nest described by Harrison & Frith (1970) apparently lacked leaf skeletons and feathers.

Little Shrike-thrush *Colluricincla megarhyncha*

Present but scarce in the Gap, being common at low altitudes.

Wattled Ploughbill *Eulacestoma nigropectus*

Common in the Gap but secretive and silent; occurs in mixed-species parties. Birds audibly strip bark of small twigs and bamboo with their powerful bills. Creeps about the understorey in unobtrusive manner. Call a 'buzzy' repeated note (Beehler et al. 1986).

Papuan Treecreeper *Cormobates placens*

Field Guide Inc. recorded 'at least three pairs in the Tari Gap area, ranging from 1900 to 2600 m' in August 1988 (Eastwood 1989).

Black Sittella *Daphoenositta miranda*

A rarely encountered species that favours patches of tall trees, but frequently seen in topmost branches of the Gap *Nothofagus* forests (NG). Groups keep to upper tree levels, creeping around branches. Soft chipping call, usually given in flight.

Fan-tailed Berrypecker *Melanocharis versteri*

An abundant species in the Gap. On 7.11.87 we found a nest 2.2 m above ground on a horizontal branch of a small sapling (see Plate 309 in Coates 1990), directly beneath a protective dead *Pandanus* frond, containing an egg measuring 24.1 x 16.6 mm and weighing 3.6 g. The egg was very pale pink, almost whitish, heavily blotched and spotted brown and russet, these marks being denser in a vague broad band about the larger half; two or three fine dark brown straight lines also on the larger end (Plate 43d). This appears to be the first formal egg description (Coates 1990). The egg was examined on 20, 23, 24 and 25.11 and on the last date was pipping. At 0810 h on 26.11 a hatchling weighing 2.3 g was present. The nestling was again examined on 27, 28, 29, 30.11 and 2 & 5.12. At all inspections only a female-plumaged adult attended the nest. A 2 hour watch on 2.12 (1430-1630 h) and an hour watch on 5.12 (0730-0830 h) confirmed only female attendance. On several occasions the nest-attending female-plumaged bird could be watched foraging during an absence from the nest, suggesting that if a male assisted nesting by feeding the female it did so distant from this nest. Data from netted birds indicate only females incubate; of 80 captures of female-plumaged birds examined only 5 larger individuals had a brood patch, during October-November (Frith & Frith 1992).

Another nest was found on 29.12.88, 4.3 m high on a thick sapling branch containing a single nestling c. 1 week old.

Tit Berrypecker *Oreocharis arfaki*

Common, sometimes very common, usually in flocks, sometimes pairs, feeding on small fruits at all forest levels, but more often at a height. Call extremely distinctive and quite unlike anything else; a continuous high nasal buzz is given by feeding or flying birds (BF).

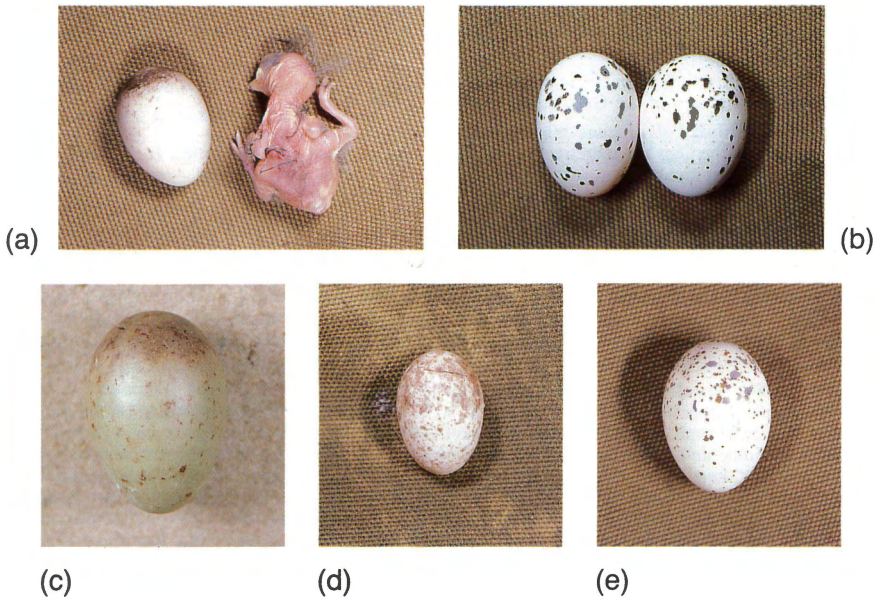
Crested Berrypecker *Paramythia montium*

Common, but most frequently found in the low scrub near and surrounding the grasslands, where nests often found. Usually in pairs or small parties. Much larger than other berrypeckers, and nidification suggests doubtfully closely related to them. The call is a very harsh *schhh*. Eats ripe fruit of *Schefflera*. Two individuals seen allopreening.

A nest found on 19.10.87 4 m high in the fork of a small lightly foliated sapling beside a hunting trail through sparse *Nothofagus* moss forest with extensive dense scrambling bamboo beneath. It contained a single egg 30.2 x 21.1 mm which was very pale buff sparsely spotted with purples, browns, and russet throughout with a circle of grey-purple blotches around the larger end (see Plate 43e). The egg was present on 25.10 but a 15.7 g nestling with a wing length of 16 mm was present on 5.11. The nestling last examined on 19.11 when in plumage similar to its parents.

Another nest with an egg was found on 26.11.87, 2 m high in a well-foliated sapling 5 m from the edge of good moss forest, in secondary shrubs on the edge of grassland. The egg measured 29.5 x 20.6 mm, weighed 6.2 g, and was pale off-white sparsely spotted finely throughout with purple-greys and dark purple-browns, denser over larger end. During a photographic session from a hide near this nest on 27.10 the impression was gained that only one parent incubates, as no changeover was observed and nest and egg were left unattended for periods, which agrees with Rand (1942). At 0635 h on 7.11 a nestling weighing 5.5 g, with a wing length of 8.8 mm, was in the nest, its brown-grey down still damp.

Photographic sessions (see Plates 315-316 in Coates 1990) at both above nests confirm that both parents fed the young, frequently being at the nest together, giving a *pzee* note when arriving close to the nest site. Nestling meals were of fruits and insects, and faeces were carried off by the parents.



- (a) Egg and nestling of the Large Scrub-wren *Sericornis nouhuysi*, Tari Gap, 19.10.87.
 (b) Two-egg clutch of Rufous-naped Whistler *Pachycephala rufinucha*, Tari Gap, 6.11.87.
 (c) One-egg clutch of White-winged Robin *Peneothello sigillatus*, Tari Gap, 26.10.87.
 (d) One-egg clutch of Fan-tailed Berrypecker *Melanocharis versteri*, Tari Gap, 7.11.87.
 (e) One-egg clutch of Crested Berrypecker *Paramythia montium*, Tari Gap, 19.10.87.

Plate 43a-e

Photos: C.B. & D.W. Frith

A description of the second nest follows: bulky cup-shaped nest, large for the size of the bird. Externally made of numerous green live mosses, some black mosses, and a few small, dead, dry fern fronds. Nest rim and the cup within the mossy exterior of fine, long, straw-like plant tendrils and rootlets up to 1.3 mm diameter, some like dry grass heads, encircling the rim and nest in placement. The egg cup well lined with a thick, deep, cushion of flake-like russet 'scales' from tree-fern trunks and frond stems which, when dry, are like fluffy coarse wood shavings in texture. In materials nest much more like that of, for example, a Sooty Honeyeater than of other berrypecker genera. Total vertical nest depth 148 mm, total external nest diameter 155 mm, external nest cup diameter 118 mm, internal cup diameter 78 mm, nest egg cup depth 47 mm.

A nest found on 26.12.88 was 1.8 m high in a fine-leaved but densely foliated sapling fork and contained a single egg. The nest sapling was 4 m into grassland from adjacent moss forest edge. On 7.1.89 the egg was still present, but was replaced by the nestling on 11.1.

Our nesting records of this bird agree with Rand's (1942) observation that the species nests at the forest edge — but this requires further confirmation as the relative difficulty of finding nests within the forest may give a false impression.

Olive Straightbill *Timeliopsis fulvigula*

Not abundant, being more so at lower altitudes. Whilst feeding, birds frequently keep in contact with a loud *scree scree*, also given in flight (BF).

Red-collared Myzomela *Myzomela rosenbergii*

Very common, often being observed flying with fast erratic flight at tree-top level. Also readily observed perched on uppermost twigs of trees in grassland adjacent to forest. Produces an excited, rushed sibilant whistled *swi-swi swit-si swi...* from the canopy; in flight a harsh *chh* (BF).

Black-throated Honeyeater *Lichenostomus subfrenatus*

Common, but difficult to observe as it feeds in flowering canopy trees much of the time. Calls indicate how common it is; a cheerful rising and falling series of *chip* notes that descends then rises a few notes, descends again and rises a few notes then descends with a short flourish at the end (BF). Most reminiscent of the call of the Bridled Honeyeater *L. frenatus* of north-east Queensland, Australia.

Rufous-backed Honeyeater *Ptiloprora guisei*

Very much more common below the Gap. Similar to the following species but smaller, with a conspicuously streaked, reddish-washed back. It has similar but more varied calls than the next species. A nest found 2 m high in small sapling at Ambua Lodge contained a single nestling within c. one week of nest departure. Another nest was found at Ambua Lodge 1.2.89, 1.25 m high in a small casuarina sapling. It contained a single nestling (see Plate 246 in Coates 1990) which left the nest on 8.2.89. These are the first confirmed nests of this species (Coates 1990).

Grey-streaked Honeyeater *Ptiloprora perstriata*

An abundant species that occurs in the Gap together with the very similar, but far less abundant, Rufous-backed Honeyeater. Calls are similar to the previous species, but are not so variable, being a loud upslored *seeu* repeated monotonously, or a downslored *seeee*, also a continuous series of identical dry chips (BF).

In addition to a nest and egg previously described (Frith & Frith 1988a), a nest was seen on 27.10 containing a single nestling c. 4-5 days old, which was found dead in the nest with an eye pecked out on 2.11.87.

On 2.11.87 an adult was seen feeding insects to a continuously begging fledgling.

A nest found on 4.11.87 was 3.9 m high atop a *Cyathea* tree-fern frond, within good moss forest, containing a small nestling which had left by 13.11.87.

Another nest found 2 m high contained an egg on 27.1.89 which had hatched the following day.

A composite description of the nests first found on 27.10 and 4.11.87 follows: large and bulky cup-shaped nest externally of green living mosses, suspended by rim between forking horizontal branches or supported by near-vertical sapling fork stems. Within mossy exterior a cup-nest of paper-like dry *Pandanus* frond pieces and dry dead *Nastus* sp. bamboo leaves. Around the upper rim of the nest some straw-like dry fine plant tendrils and a few green epiphytic orchid stems. Egg cup lined thickly with very fine hair-like russet fibres, perhaps of tree ferns, and then lightly lined on top with grey feathers. Total vertical nest depth 145, 123 mm; external nest cup diameter 116, 110 mm; internal nest cup diameter 50, 58 mm; and egg cup depth 45, 35 mm respectively.

Sooty Melidectes *Melidectes fuscus*

Moderately common but most seen, and netted, in forest patches at the edge of grassland.

A nest found on 2.11.87 with a large nestling (see Plate 236 in Coates 1990) was 1.9 m above ground in a small-leaved, densely foliated sapling in an isolated patch of bushes and saplings in grassland between forested areas. The nestling was present on 3.11 but on 7.11 was in the immediate nest area, and was seen there again on 20.11 being fed by an adult but also probing flowers itself. On 25.11 the young was repeatedly feeding itself at flowers and flying strongly, continuously giving a *pzeep* note, but no adults were seen.

When examined the nest was somewhat flattened and its rim spread as a result of the large nestling and parents' perchings. A large nest bulky for the bird, built between near-vertical forking branches of a sapling. Externally of much live green moss with a couple of lichen pieces attached. Within the moss exterior was a discrete cup-shaped nest of fine, russet, short hair-like fibres, probably from fern stems or croziers. The entire nest consisted of these two elements only, there being no tendrils, leaves or grasses between them. Total vertical nest depth 190 mm, maximum nest diameter 175 mm, exterior nest cup diameter 138 mm, interior nest cup diameter 72 mm, egg cup depth 43 mm. The discrete 'inner nest' of russet fibres, lifted out of the mossy external structure, was 57 mm in total vertical depth, 82 mm in diameter and 12 mm in egg cup depth.

Belford's Melidectes *Melidectes belfordi*

An abundant noisy species, with extensive vocal repertoire. A bird was watched nest building on 26.9.86. On 16.10.86 two birds seen feeding young in a large mossy nest suspended in a horizontal tree fork 12 m high. On 14.10.87 a bird seen incubating at Ambua Lodge. On 21.10.87 a newly fledged bird found in the Gap on the forest floor. On 22.10.87 an almost adult-sized begging young was seen following an adult, which fed it.

On 22.12.88 an adult was sitting tightly on a nest 5.5 m high in a horizontal sapling fork in a small forest clearing.

Smoky Honeyeater *Melipotes fumigatus*

Very common throughout the area. Naked yellow facial patch can be flushed with blood to deep red-orange. Highly active, often chasing each other, and found in all levels of the forest down to low scrub. Eats fruits. The usual call is an annoying persistent monotonous *sit sit sit...* Other calls are a *see* sometimes given in flight, and chipping notes. This is the species bird-watchers most frequently lift their glasses to.

Two nests were found on 26.9.86, both containing a nestling. On 1.10 an empty nest was found, which had a single egg in it when examined on 3.10. On 17.10.87 a sitting adult was flushed from a 12 m high nest presumably containing an egg or small nestling.

The nest is very large for the size of the bird, suspended in a horizontal forking branch, externally consisting predominantly of moss. Another nest, 5.5 m above ground, was found on 26.10.87 containing a single nestling c. one week from nest departure. A nest 6.1 m high contained an unseen, but heard, nestling on 23.12.88.

Blue-faced Parrot-Finch *Erythrura trichroa*

Common below the Gap, toward Tari, but highly secretive and difficult to observe. One immature bird netted in the Gap moss forests in late October 1986 (Frith & Frith 1992), another bird seen by BF in late August 1989 (Hicks 1990b).

Hooded Mannikin *Lonchura spectabilis*

Common below the Gap. Recorded in the Gap only by BF.

Mountain Firetail *Oreostruthus fuliginosus*

Common in the Gap where it feeds amongst the low shrubs and grasses bordering the forest, and is frequently seen at the road edge. Tame and fearless, often perching for periods on low branches, or calling from inside bushes. Nest building seen in September. A disused, previously unknown, nest is described and illustrated by Frith & Frith (1990a). The call is a loud, nasal upslurred *seeeeeer* and subdued chips.

Great Wood-swallow *Artamus maximus*

Recorded in the Gap by BF only.

Archbold's Bowerbird *Archboldia papuensis*

Uncommon and rarely seen unless at a bower. Hops amongst epiphytes in the mid-canopy level, but also comes down low to feed in scrub. A loud call is a harsh, drawn out *waagh waagh*, but males at bowers perform much more diverse vocalisations including avian and other mimicry.

During late November and early December 1987 we discovered three old, four incomplete and one complete nest containing an egg (see Plates 387-388 in Coates 1990) of this bowerbird (Frith & Frith 1988b, 1991). We subsequently discovered and studied an additional nine active nests (Frith & Frith in prep.) and made observations at several bowers. At six of these bowers we made the novel discovery that bower-owning males decorate their bower mat with the head plumes of male King of Saxony Bird of Paradise *Pteridophora alberti* (Frith & Frith 1990d).

Macgregor's Bowerbird *Amblyornis macgregoriae*

Very rare in the Gap. This species is common in forests of lower altitudes but was not seen in the gap forests. Surprisingly, however, a single bower was found in *Nothofagus* moss forest in the Gap. It consisted of a 46 cm high tower of sticks on one side of the central bower sapling only, but with a substantial moss column about its base (see Gilliard 1969, Cooper & Forshaw 1977). The circular 'saucer' of moss about the tower was poor and dishevelled, consisting of a mere flat circle of moss laid on the forest floor. This was, however, decorated with some small fruits and black fungus pieces. No insect frass decorated the lower tower sticks.

As nidification data are rare (Coates 1990) we note here a nest 2.4 m high in a *Pandanus* tree crown in a forested gully adjacent to native gardens on the Benaria Road at c. 2000 m a.m.s.l., with a single-egg clutch that hatched on 17.10.87. Another nest was found on 24.10.87 2.1 m high in a *Pandanus* crown containing a single egg measuring 44.0 x 28.1 mm and weighing 18.9 g the next day.

Crested Bird of Paradise *Cnemophilus macgregorii*

Common in the Gap but difficult to see, particularly adult males. Birds often feed unobtrusively low down in the scrub, and are often first detected by their harsh *crssh* scolding call note (BF). Several nests of this little-known, taxonomically interesting species were found, and parental activity (see Plates 427-428 in Coates 1990) and nestling growth observed (Frith & Frith 1993b).

Loria's Bird of Paradise *Cnemophilus loriae*

Much more frequently encountered below the Gap. This species was not observed free-flying by the authors but five birds were netted in the Gap forests (Frith & Frith 1992). The male has a rarely heard ringing call given from an exposed low perch, otherwise it is a quiet species.

Brown Sicklebill *Epimachus meyeri*

Fairly common in the Gap, female-plumaged birds far more so than males. Forages amongst epiphytes and most frequently seen feeding by probing its long bill between the bases of *Pandanus* crown fronds. Feeds on the ground at times. The call of the male is unmistakable, an extremely loud rattle sounding like machine-gun fire.

A female-plumaged bird was watched repeatedly visiting what we assume to have been a nest in the base of fronds of a *Pandanus* crown, 12 m high in disturbed secondary growth area of forest adjacent to old, disused native hunting huts on 6.11.87. On 13.11 a female-plumaged bird, assumed to be the same individual, visited this nest site with a mole-cricket held in the bill tip and then remained on the nest for 4 minutes before departing.

On 17.11 DWF observed two female-plumaged birds foraging on the ground for 4 minutes, beside the road, amongst mud and herbage, probing into mud and small plants with their bills. A male was perched on a vertical small shrub 1 m above ground close by.

On 27.12.88 CBF saw a female-plumaged bird feeding an immature of its own size which produced a soft musical bleating call whilst following the adult from tree to tree. On 18.1.89 a fledgling was caught by hand on the forest floor as a female-plumaged adult called from trees above.

Ribbon-tailed Astrapia *Astrapia mayeri*

Abundant in the Gap. Feeds on fruits, especially those of *Schefflera*, and forages for arthropods amongst epiphytes. Can spend very long periods searching the foliage of a single tree, and forages from the ground to canopy levels. Adult males are conspicuous and unmistakable; but some adult females may also have the, characteristically male, long white central tail feathers. We photographed (see Plate 449 in Coates 1990) and studied (Frith & Frith 1993a) such an individual, that incubated an egg and raised the young alone during our 42 days of observation. A male with all-white tail ribbons of such length would also have attained additional male nuptial plumage and would have little or no ventral barring. The bird concerned was, however, in typical female plumage other than the long white tail ribbons. In view of this and of what is known of bird of paradise nesting biology in general, and *Astrapia* spp. in particular, there can be little doubt the bird concerned was female.

Several nests were discovered and parental care and nestling growth at them observed (Frith & Frith 1993a). The call is a sharp clear *wock*, or *waugh*, *whit-whit* that is most characteristic of the species in the Gap.

It should be noted that the Splendid Astrapia *Astrapia splendidissima* is reported to have been seen at the 'Bailey bridge Tari Gap' (Tolhurst 1989). This bridge is not in Tari Gap but is approximately eight kilometres from it and at an altitude significantly below it. The white-tailed nesting female Ribbon-tailed Astrapia reported above and in Coates (1990) casts serious doubt upon the record of *A. splendidissima* in the area, as tail morphology alone was used to eliminate the possibility of the bird being a female Ribbon-tailed Astrapia. We note here that Tolhurst's altitude of c. 3600 m for the Bailey bridge is far too high, it being at about 2200 m.

King of Saxony Bird of Paradise *Pteridophora alberti*

Numerous in the Gap. Adult males not nearly as numerous as the female-plumaged birds, which may be found all through the forest. Generally, plumaged males keep to the canopy whilst the female-plumaged birds range from the canopy down into scrub nearly to ground level. The male advertising call, mainly given at dawn and late afternoon, but also at other times of day less frequently, is a peculiar whistled rattle that sounds like radio static. The call starts off slowly, gets faster as it descends in volume, and fades away. Female-plumaged males are more noisy, and produce loud descending series of harsh churrs. This species is frequently seen eating fruits of the false fig *Timonius belensis*. We describe the previously unknown nest and egg of this species, with notes on parental care of a nestling, elsewhere (Frith & Frith 1990c).

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References

- Beehler, B.M. & Finch, B.W. (1985), Species Checklist of Birds of New Guinea, *R.A.O.U. Monogr.* 1, 1-126, Melbourne.
———, Pratt, T.K. & Zimmerman, D.A. (1986) *Birds of New Guinea*, Princeton Uni. Press, Princeton.

- Bishop, K.D. (1987), 'Interesting bird observations in Papua New Guinea', *Muruk* 2, 52-57.
- Boles, W.E. (1988), *The Robins & Flycatchers of Australia*, Angus & Robertson, Sydney.
- Coates, B.J. (1985-1990), *The Birds of Papua New Guinea*, vols 1 & 2, Dove Publications, Brisbane.
- Cooper, W.T. & Forshaw, J.M. (1977), *The Birds of Paradise and Bower Birds*, Collins, Sydney.
- Eastwood, C. (1989), 'Recent observations July-September 1988', *Muruk* 4, 25-37.
- Finch, B.W., Frith, C., Frith, D. & Gardner, N. (1990), *The Birds of Ambua and Tari district — a Trans Niugini Tours Guide to the Birds in the Vicinity of Ambua Lodge*, Trans Niugini Tours, Mt Hagen.
- Frith, C.B. (1971), 'Some undescribed nests and eggs of New Guinea birds', *Bull. Brit. Ornith. Cl.* 91, 46-49.
- & Frith, D.W. (1987), 'The Logrunner, *Orthonyx temminckii* (Orthonychidae), at Tari Gap, Southern Highlands Province, Papua New Guinea', *Muruk* 2, 61-62.
- & ——— (1988a), 'Nests and eggs of the Papuan Scrub-wren *Sericornis papuensis* (Acanthizidae) and Grey-streaked Honeyeater *Ptiloprora perstriata* (Meliphagidae)', *Aust. Bird Watcher* 12, 168-170.
- & ——— (1988b), 'Discovery of nests and the egg of Archbold's Bowerbird *Archboldia papuensis* (Ptilonorhynchidae)', *Aust. Bird Watcher* 12, 251-257.
- & ——— (1988c), 'The Chestnut Forest-Rail, *Rallina rubra* (Rallidae), at Tari Gap, Southern Highlands Province, Papua New Guinea, and its vocalizations', *Muruk* 3, 48-50.
- & ——— (1990a), 'The nest of the Mountain Firetail *Oreostruthus fuliginosus* (Estrildidae) in Papua New Guinea', *Bull. Brit. Ornith. Cl.* 110, 35-38.
- & ——— (1990b), 'Nesting biology and relationships of the Lesser Melampitta *Melampitta lugubris*', *Emu* 90, 65-73.
- & ——— (1990c), 'Discovery of the King of Saxony Bird of Paradise *Pteridophora alberti* nest, egg and nestling with notes on parental care', *Bull. Brit. Ornith. Cl.* 110, 160-164.
- & ——— (1990d), 'Archbold's Bowerbird *Archboldia papuensis* (Ptilonorhynchidae) uses plumes from King of Saxony Bird of Paradise *Pteridophora alberti* (Paradisaeidae) as bower decoration', *Emu* 90, 136-137.
- & ——— (1990e), 'Nidification of the Chestnut Forest-Rail *Rallina rubra* (Rallidae) in Papua New Guinea and a review of *Rallina* nesting biology', *Emu* 90, 254-259.
- & ——— (1991), 'Say it with bowers', *Wildl. Conserv.* 94, 74-83.
- & ——— (1992), 'Results of a preliminary highland bird banding study at Tari Gap, Southern Highlands, Papua New Guinea', *Corella* 16, in press.
- & ——— (1993a), 'Notes on the nesting biology of the Ribbon-tailed Astrapia *Astrapia mayeri* (Paradisaeidae)', *Emu* 93, in press.
- & ——— (1993b), 'Nidification of the Crested Bird of Paradise *Cnemophilus macgregorii* and a review of its biology and systematics', *Emu* 93, in press.
- Gilliard, E.T. (1969), *Birds of Paradise and Bower Birds*, Weidenfeld & Nicolson, London.
- Gillison, A.N. (1970), 'Structure and floristics of a montane grassland/forest transition, Doma Peaks Region, Papua', *Blumea* 18, 71-86.
- Harrison, C.J.O., & Frith, C.B. (1970), 'Nests and eggs of some New Guinea Birds', *Emu* 70, 173-178.
- Hicks, R. (1988), 'Recent observations October to December 1987', *Muruk* 3, 77-86.
- (1990a), 'Recent observations January-March 1989', *Muruk* 4, 76-84.
- (1990b), 'Recent observations July-September 1989', *Muruk* 4, 125-134.
- Kalkman, C. & Vink, W. (1970), 'Botanical exploration in the Doma Peaks region, New Guinea', *Blumea* 18, 87-135.
- Mackay, R.D. (1988), 'Gurney's Eagle *Aquila gurneyi* in the highlands', *Muruk* 3, 56.
- Rand, A.L. (1942), 'Results of the Archbolds Expeditions no. 43. Birds of the 1938-1939 New Guinea Expedition', *Bull. Amer. Mus. Nat. Hist.* 79, 425-515.
- & Gilliard, E.T. (1967), *Handbook of New Guinea Birds*, Weidenfeld & Nicolson, London.
- Robbins, R.G. & Pullen, R. 1965, 'Vegetation of the Wabag-Tari area', in General Report on lands of the Wabag-Tari Area, Territory of Papua New Guinea, 1960-61 *CSIRO Land Research Series* 15, 100-115.
- Saunders, J.C. 1965, 'Forest resources of the Wabag-Tari area', in General Report on lands of the Wabag-Tari Area, Territory of Papua New Guinea, 1960-61. *CSIRO Land Research Series* 15, 116-124.
- Schodde, R. & Tidemann, S.C. (Eds) (1988), *Reader's Digest Complete Book of Australian Birds*, Reader's Digest, Sydney.
- Sibley, C.G. & Ahlquist, J.E. (1987), 'The Lesser Melampitta is a bird of paradise', *Emu* 87, 66-68.
- Tolhurst, L. (1989), 'Extension of the known range of Splendid Astrapia *Astrapia splendissima* [sic]', *Muruk* 4, 20.
- Whitney, B. (1988), 'Field Guides Inc. tour of PNG 1986', *Muruk* 3, 23-24.