New or Confirmatory Information on Some Species of New Guinean Birds

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Summary

Information is presented on *Nettapus coromandelianus* (extension of range); *Aviceda subcristata* (herbivory); *Harpyopsis novaeguineae* (hunting); *Falco severus* (attacking waders); *Turnix maculosa* (tree roosting); *Eulabeornis plumbeiventris* (extension of range, habitat, breeding, identification); *Reinwardtoena reinwardtsi* (ground feeding); *Chalcophaps indica* (speed of flight); *C. stephani* (nesting); *Henicophaps albifrons* (nesting, calls, flushing); *Gallicolumba rufigula* (foraging on display grounds of *Diphyllodes,* calls); *Trugon terrestris* (flushing, calls, attraction to running water); *Ptilinopus nanus* (nectarivory); *Ducula pinon* (display); *Chalcopsitta scintillata* (drinking fermented liquids, melanism and/or affinities with *C. atra,* feeding of fledglings, size of parties); *Neopsittacus musschenbroekii* and *N. pullicauda* (comparison of behaviours); *Micropsitta pusio* (eating termites); *Opopsitta gulielmitertii* (eating hard seeds); *Scythrops novaehollandiae* (breeding status); *Ptilorrhoa caerulescens* (nesting); *Rhipidura threnothorax* (foraging); *Monarcha melanopsis* (possible breeding in New Guinea); *M. chrysomela* (display, nesting); *Arses telescophthalmus* (appeasement display); *Pachycephala leucogaster* (extension of range, affinities with *P. monacha*); *Aplonis metallica* (nectarivory, nesting with raptor); *Mino anais* (extension of range, nesting).

Introduction

During residences in Papua New Guinea, 1964-68, 1970-71 and 1975-78, I took many anecdotal observations which revealed new or confirmatory information on species of New Guinean birds. These observations were usually not part of a major study and are unlikely to ever be followed up by me. They are presented so that others may possibly make use of them. Almost certainly other field ornithologists in Papua New Guinea have made similar observations on some, at least, of the species discussed but unfortunately most do not publish.

The main two areas of observation are Brown River, an area of lowland rainforest described elsewhere (Bell 1982a), and Port Moresby, an area of *Eucalyptus* savanna, both in Central Province. These, and other locations referred to in the text, are shown in Figure 1.

Nomenclature is from the field guide to be published by the Wau Ecology Institute in 1984 and now adopted by the Papua New Guinea Bird Society as the standard list for the birds of New Guinea.

Annotated List

White Pygmy-Goose *Nettapus coromandelianus*

White Pygmy-Geese are recorded from the lowlands of northern New Guinea while the Green Pygmy-Goose *N. pulchellus* is confined to southern lowlands east to Port Moresby (Rand & Gilliard 1967). Both local and expatriate informants have told me of a small white duck on highland lakes where water lilies grew, Lakes Kopiago and Kandep (c. 1300 m), and I have seen, from the air, small white waterfowl on the surface of Lake Kandep.

In July 1966 a shooter gave J. R. Wheeler a spirit specimen of what was supposed to be a Garganey *Anas querquedula*, taken at Kandep. The specimen, hardly recognisable inside the bottle, was registered in the Papua New Guinea Museum (B562) as a Garganey; hence Diamond's (1972) record, based on my misinformation to him. The specimen was later prepared as a study skin and is an immature White Pygmy-Goose.

When resident at Lae in 1970-71 I recorded the species at Lake Wanum, a lily-covered crater lake. This is farther East than previous records. It is likely that the White Pygmy-Goose occurs on all suitable habitats in the highlands and in the northern lowlands of New Guinea.

Pacific Baza *Aviceda subcristata*

Brown & Amadon (1968) recorded the food of the Pacific Baza as reptiles, frogs and arthropods with fruit considered to be taken accidentally. They remarked, as did Cupper & Cupper (1981) on the species in Australia, that it hovers at and into foliage in order to take insects. Gilliard & LeCroy (1967) recorded it eating fruits in New Britain. On 11 November 1977, at Brown River, I saw a bird consuming small whole fruits of a *Ficus* sp. On repeated occasions the hawk flew to a branch and flapped its wings while hanging on to the extremities of the foliage as it ate the fruits. Perhaps ten figs were eaten before the bird left. R. D. Mackay (pers. comm.) has seen fruits of *Trema orientalis* eaten by the species. Fleay (1981) found that his captive birds would readily eat lettuce leaves and in fact would not breed without inclusion of lettuce in their diet. It seems that herbivory is more than just 'accidental'.

New Guinea Harpy Eagle *Harpyopsis novaeguineae*

Visitors to New Guinea often claim sightings of this species soaring high in the sky. While it certainly flies from one mountain top to another it may possibly never soar; the bird seen soaring by visitors is probably Gurney's Eagle *Aquila gurneyi*. For some years I could not identify a large raptor that flew low over the canopy of the rainforest, but in August/September 1971 at Mount Bosavi, Southern Highlands Province, I was able to observe such flights daily and identify the bird as *Harpyopsis*. The eagle would break away out of the canopy, fly low over its contours for about 500 m and then disappear inside it. Hereafter almost all of my information is second-hand, but the scarce knowledge of the species, and the consistency of my local informants, make it worth repeating. My informants included people from the Southern Highlands, Eastern Highlands and Oro Provinces, but

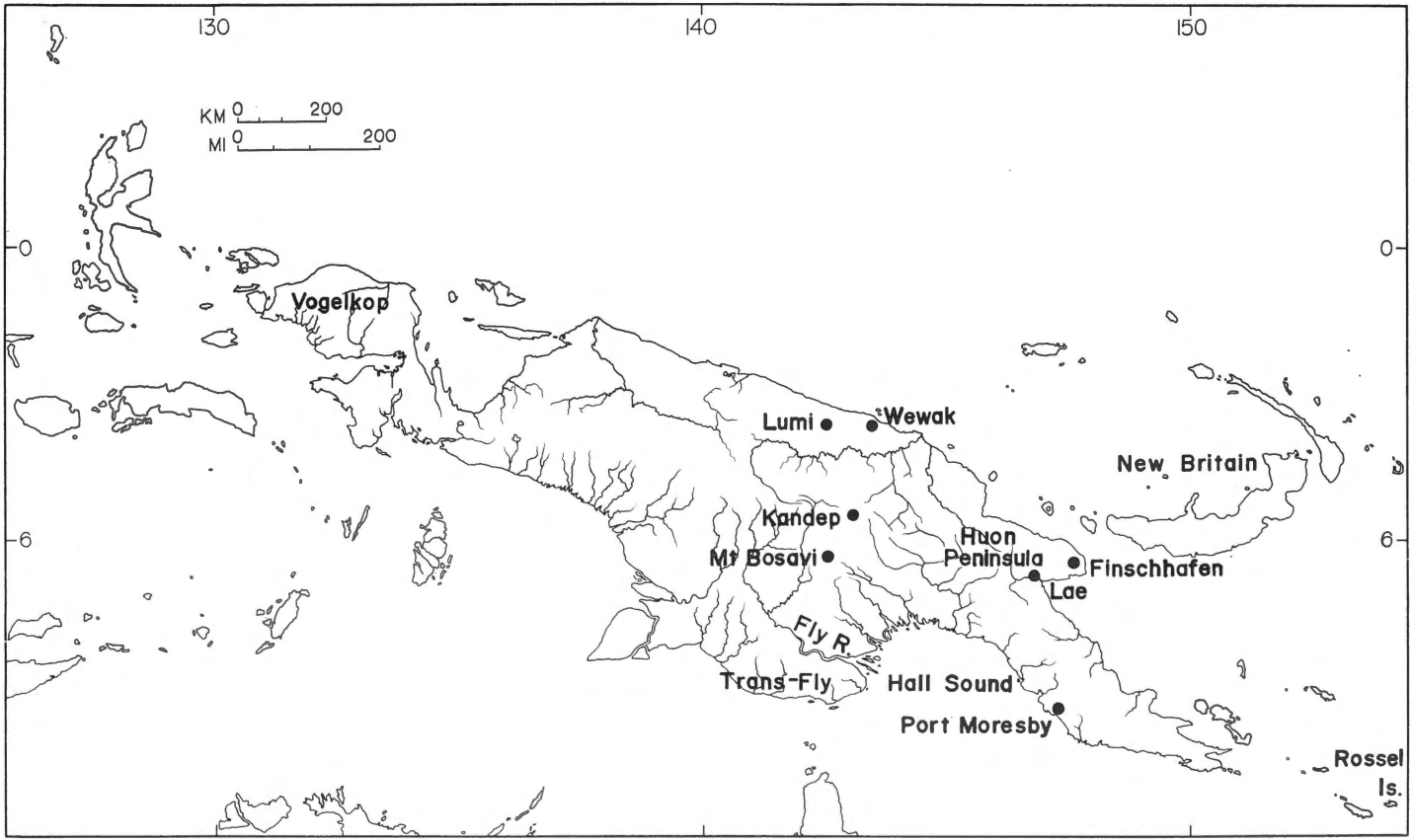


Figure 1. New Guinea, showing localities mentioned in text.

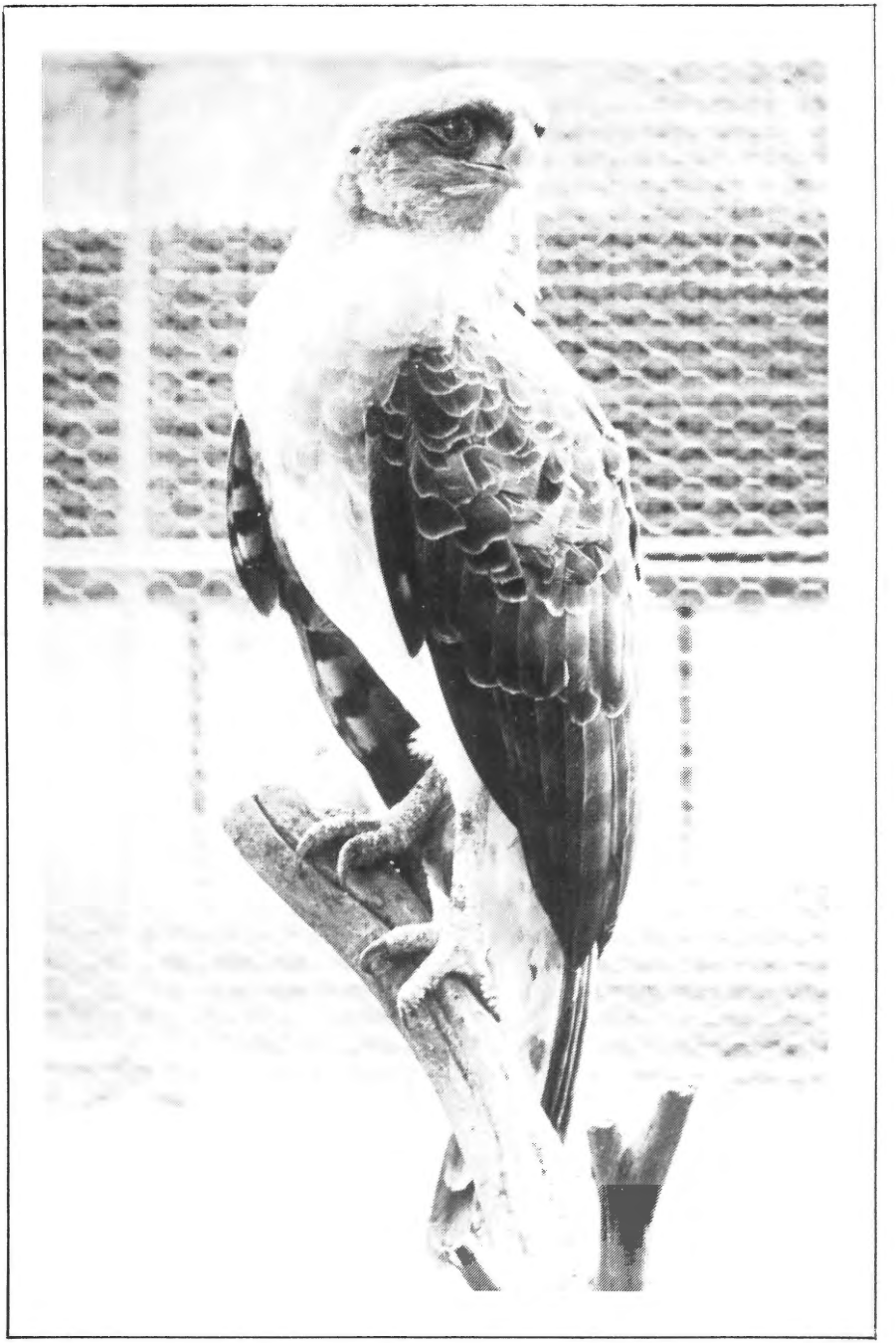
particularly several very knowledgeable hunters among the Koiari people of the Central Province.

All informants said that the species hunts from a fixed perch within the canopy. If it fails to encounter prey it flies out over the canopy to a new perch; this may explain the many short flights that I witnessed. Diamond (1972) reported the Fore of Okapa, very competent naturalists, as saying that the species hunts at night. This was denied by all my informants, including one Fore, although they and I have heard it call at night. K. Muller, late curator of birds at Taronga Zoo, Sydney, stated (pers. comm.) that the bird captive there for over thirty years was not active at night. I believe the species' facial discs are not related to nocturnal hunting but to detecting prey, largely terrestrial, moving out of sight under the forest understorey. All informants said that the bird hears the prey and dives through the sub-canopy and understorey towards it. They stated that if the prey was missed the bird would run after it on the ground. R. D. Mackay (pers. comm.) reports that the young male now in Baiyer River Sanctuary was captured by a highlander who chased the bird that was in turn chasing a wallaby into a cleft of rocks. B. J. Coates (pers. comm.) and I have separately seen a captive bird at Moitaka Wildlife Station, Port Moresby, fly to the ground on the approach of a dog, and chase the dog along the cage front. When the bird at Taronga Zoo was eventually placed into a cage with an earth instead of concrete floor, it spent all its time on the ground for the brief period in which I watched it. When on the ground the species stands more like a bustard than an eagle, with its tail well clear. The evidence points to considerable terrestrial agility for a raptor.

Peckover & Filewood (1976) stressed the taking of arboreal prey such as phalangers and tree-kangaroos, but my informants all claimed the terrestrial wallabies *Dorcopsis* spp. as the major prey. Highlanders from diverse areas informed Mackay that Harpy Eagles tear apart large clumps of moss in which arboreal mammals are roosting, and also deliberately shake foliage in order to induce small mammals to poke their heads out of hollows. These views probably represent regional bias; there are more kinds of wallabies in lowland areas and because of the comparatively low hunting pressure there, terrestrial animals would be more abundant than in the highlands. However, the pademelon *Thylogale bruijni* is also taken in the highlands (Mackay, pers. comm.). The informants stated that the bird carries its prey to a perch and will remain there holding the prey, sometimes for days, until it is consumed. The bird at Taronga Zoo behaved similarly.

Oriental Hobby *Falco severus*

The Oriental Hobby is well known as a hunter of birds, among other prey (Rand & Gilliard 1967). I have two records of it chasing waders, without effect. At Busu River, Lae, Morobe Province on 17 January 1971 an Oriental Hobby flew from a tree about 30 m high and stooped at a Terek Sandpiper *Tringa terek* about 200 m distant, on a shingle-flat. The sandpiper took flight well before the falcon arrived and flew upwards and away, the falcon in pursuit. After 500 m the falcon gave up the chase. A similar instance on 26 September 1975 at Moitaka sewerage works, Port Moresby, involved stooping at a Sharp-tailed Sandpiper *Calidris acuminata,* with a similar outcome. Both waders, flying both away and upwards, clearly outflew their pursuer.



Captive New Guinea Harpy Eagle *Harpyopsis novaeguineae*

Plate 49

Photo: R. D. Mackay

Red-backed Button-quail *Turnix maculosa*

This species is abundant in the savanna grasslands around Waigani, Port Moresby. At 0500 h on 12 January 1977 Simon Gandi brought me a live female Red-backed Button-quail. He told me that he caught it perching in a tree. Disbelieving the account, I asked to be shown the spot. It was an upright fork of a *Eucalyptus* sp. growing in a mown lawn 10 m from a classroom. I found a feather adhering to the bark and it was compatible with the breast feathers of the captive bird. Mr Gandi is an excellent naturalist who proved his accuracy to me on many occasions so I have no reason to doubt his account. The grasslands at Waigani abound with both Carpet Pythons *Morelia spilotes* and Taipans *Oxyuranus scutellatus,* both of which take warm-blooded prey, so tree roosting would be advantageous to the Button-quail.

Bare-eyed Rail *Eulabeornis (Gymnocrex) plumbeiventris*

Rand & Gilliard (1967) excluded south-east New Guinea from the range of this species, but it is present and breeds at Brown River (Bell 1982a,b). What little was known about it seems to be from local informants. Gilliard & LeCroy (1966) and Rand & Gilliard (1967) stated that it is found near streams and swamps but Ripley (1964) and I agree that it is a true forest rail. Bare-eyed Rails are regular breeding migrants in the wet season to Brown River, arriving in December and leaving in April (Bell 1982b). Movements of the species are unknown. On 11 January 1977 a bird, presumably on passage, was found at night up a tree in the centre of Port Moresby, distant from suitable habitat; its occurrence coincided with the (late) onset of the wet season. Two birds have been taken in the highlands (R. D. Mackay, pers. comm.), so it may migrate there in the non-breeding season.

I never saw Bare-eyed Rails outside primary rainforest, not even in edge secondary growth, where the Bush Hen *Amaurornis olivaceus* occurred. Far from favouring swamps, it was observed to consistently avoid puddles on the forest floor and I always found its footprints leading around and not through pools. The two highlands records were also in wet rainforests.

The rails always occurred in pairs, one bird in each being noticeably smaller. They were diurnal, foraging all day and constantly on the move, probing their beaks deep into the ground about every metre, sometimes struggling with prey. While feeding they flicked their tails and constantly uttered a low pig-like grunt, presumably a contact call. Although hard to see on the dark forest floor they were, for ground birds, not particularly shy. On two occasions when I lay on the ground to observe the canopy a Bare-eyed Rail came to within 2 m and circled me. When alarmed they gave a 'crek-crek' and flicked their tails quickly. Another call, heard only in the early wet season, was a deep gulping 'wow-wow-wow-wow-wow', possibly territorial advertisement. The bird captured at Port Moresby uttered a drawn-out growling moan similar to a cat.

A pair with three young was seen on 31 March 1976. The young, fully-feathered, were half the size of the parents. When crossing a track the presumed male walked across first, waited and grunted; the female then crossed and waited; then the three young quickly ran across. The species seems to be aggressive; twice it was seen to chase off a Common Paradise Kingfisher *Tanysiptera galatea* that was feeding on the ground, and once a Thick-billed Ground-Pigeon *Trugon terrestris.*

Plate 50 **Bare-eyed Rail** *Eulabeornis plumbeiventris* Photo: H. L. Bell

The illustration of Ripley (1977) is very misleading. The most diagnostic feature is the large ring of bright pink skin surrounding the eye. Presumably this fades and shrinks on specimens; hence the absence of this feature in illustrations. The species co-exists with the Red-necked Rail *Rallina tricolor* of similar colour. However, the Bare-eyed Rail is much larger, is diurnal and carries itself more in a 'fore-and-aft' position, like the Australian native-hens *Gallinula* spp., rather than the more upright stance of the Red-necked Rail. Another posture, adopted by the captured bird referred to earlier is to 'freeze', with tail depressed and wings drooping to the ground.

While the meagre published information summarised by Ripley (1977) may well accurately describe the species' habits elsewhere in New Guinea I believe that they are based, at least partly, on erroneous identification, very likely when working through interpreters without the benefit of specimens or pictures.

Great Cuckoo-Dove *Reinwardtoena reinwardtsi*

The Great Cuckoo-Dove is well known to frequent stream beds and take gravel (e.g. Majnep & Bulmer 1977). My records at Brown River (Bell 1982c) show it to forage mainly in the sub-canopy and lower canopy. However, I frequently disturbed on the ground an unidentified very large bird that flew upwards with a loud clapping noise, and on arrival at the spot always saw a Giant Cuckoo-Dove perched about 5 m above, not feeding. Quite often a

noise, like a human loudly groaning, was heard at these spots. I believe that as a seed grinder, as indicated by taking of gravel, the species probably regularly feeds on the ground, possibly on hard seeds voided by fruit-pigeons. R. D. Mackay (pers. comm.) confirms that the species regularly feeds on the ground.

Emerald Ground-Dove *Chalcophaps indica*

On 20 December 1975, while driving past the National Botanic Gardens I flushed an Emerald Ground-Dove from the road side. It flew parallel to the car 2 m above ground for 300 m, maintaining itself level with the car which was moving at 60 km/h. This species is often seen flying swiftly, low to the ground, between the patches of monsoon forest in the savannas of Port Moresby.

Stephan's Ground-Dove *Chalcophaps stephani*

This species and the Emerald Ground-Dove both breed at Brown River, Stephan's being confined to primary forest and the Emerald to secondary growth (Bell 1982d). Meyer (1933), reporting on nests found in New Britain, stated that they are never high and that two eggs are laid. A nest found at Brown River on 12 January 1977 was 6 m up in the base of a frond of a Fish-tail Palm *Caryota* sp. A female bird was sitting but at 1130 h a male flew up to a perch 6 m high, then on to the nest. The female then flew off, leaving the male to incubate or brood (the clutch was not visible). Frith (1982) did not discuss the roles of the sexes in the breeding cycle of the well-known *Chalcophaps indica.*

New Guinea Bronzewing *Henicophaps albifrons*

The nest of the New Guinea Bronzewing appears not to be described (Goodwin 1970). In March 1966 I found an occupied nest at Iomari Creek, Brown River. The nest was c. 10 m above ground in a tangle of vines inside the sub-canopy. As far as could be seen it was a typical pigeon's nest. A bird was sitting.

Goodwin (1970) stated that the heavy pointed beak of this species may be used as a pick-axe, but did not state the source of his information. The only bird of this species that I actually succeeded in watching while it was foraging, turned over leaves and stuck its beak deeply into the soil. It is therefore likely to be at least partly insectivorous. Ogilvie-Grant (1915) stated that when flushed the species flies for a considerable distance, but he must surely have been mistaken. Always, when I flushed it from the ground it flew 10-12 m up to a bare perch 2-4 m high. Then, in contrast to its otherwise incredibly shy behaviour when on the ground, it remained on the perch and looked at the observer. Almost all birds of this species observed by me have been seen in such circumstances.

The call is described as a 'coo' (Goodwin 1970). The only call I identified, which occurred mainly in the late wet season, was probably territorial. The call is a loud 'oot' (as in 'put'), at the rate of two per second and repeated for sustained periods (measured times: 43, 62, 30, 46, 34, 28, 26 secs). All birds so calling were perched close to the ground. Twice a presumed pair, c. 10 m apart, called together. One pair called with short breaks of a few seconds from 0600 to 0900 h (22 September 1977), but then only occasionally for the rest of the day.

Cinnamon Ground-Dove *Gallicolumba rufigula*

Coates (1976) has drawn attention to this species frequenting the display grounds of the Magnificent Bird of Paradise *Diphyllodes magnifica.* A number of observers (B. J. Coates, R. D. Mackay, W. S. Peckover, J. D. Searle and myself) all agree that by merely waiting for a short time at a display ground (<1 h), the ground-dove will be seen. By contrast, at Brown River I saw this species only once per seven hours in spite of constantly hearing its call. Unfortunately observers at the display grounds were observing the bird of paradise and not the pigeon so the latter's activities were not noted. However, the species' presence on display grounds is not just coincidental and it doubtless forages there because of an assured supply of voided seeds at the one spot, the bird of paradise being largely a frugivore. The habit cannot be an obligate one; the pigeon also occurs in lowlands where the bird of paradise is absent. W. S. Peckover (pers. comm.) has also seen the pigeon frequenting playgrounds of the Fawn-breasted Bowerbird *Chlamydera cerviniventris.* The genus *Gallicolumba* appears to consist of grinders of hard seeds, from my observations of captive *G. jobiensis* and *G. luzonica.* Similar associations of seed grinders frequenting assured sources of seeds voided by other species occur elsewhere. In the Neotropics the pigeon genus *Geotrygon* forages on the display grounds of manakins *Manacus* spp., feeding on seeds regurgitated by the manakins (Herlots 1961; D. W. Snow, pers. comm.). Nesting colonies of the Metallic Starling *Aplonis metallica*, where there are large outputs of seeds voided by nestlings, are frequented by Stephan's Ground-Dove in New Guinea (Diamond et al. 1977) and the Emerald Ground-Dove in Australia (MacGillivray 1917). Mrs Mary LeCroy (pers. comm.) has seen the Grey-headed Ground-Dove *Gallicolumba beccarii* frequently in playgrounds of Lawes' Six-wired Bird of Paradise *Parotia lawesi.*

The call is indistinguishable to me from that of the Bleeding-heart Pigeon *G. luzonica* in the Phillippines, which I have both observed in the field and tended in captivity. This 'purring' call is frequently heard at Brown River in the late wet season.

I believe that this species should be included in the *luzonica* superspecies: if the golden breast patch was replaced by the 'bleeding heart' of *luzonica* the two species would be hard to tell apart. The golden patch fades on at least some specimens, hence Iredale's (1956) illustrations of the species lacking this most distinguishing feature.

Thick-billed Ground-Pigeon *Trugon terrestris*

Goodwin (1970) figured the Thick-billed Ground-Pigeon with a prominent convex crest. While there is undoubtedly a cape of feathers on the crown I have never seen this species show the slightest sign of a crest. This is an exceedingly shy bird. When approached it flies about 20-30 m to a low perch but if further approached it flies off. The only bird I have seen actually foraging moved quickly along the ground in a circuitous route, constantly flicking its tail up and down, and stretching out its neck to peck at the ground. The only calls heard were a single low moan and a very loud single 'woo', similar to the call of the Trumpet Manucode *Manucodia keraudreni.*

One rather bizarre aspect seems too coincidental. I could never get to within 20 m of this species, and even when I remained stationary for hours it

never came near. I saw it sixteen times in 725 hours of observation. Yet on six other occasions the species walked up to within 2 m from me. On two occasions I was pouring water into a dish; on the other four I was urinating. If, as Goodwin (1970) suggested, the thick bill serves as a nutcracker to crush hard woody seeds, the bird would need access to water. In the dry season at Brown River often the only surface water is in hollows in boles of trees into which condensing dew trickles (relative humidity under the canopy at night is close to 100% even in the dry season, see Bell 1982a). An ability to hear a trickle would be advantageous to the species.

Dwarf Fruit-Dove *Ptilinopus nanus*

On 24 November 1976 I saw at Brown River two Dwarf Fruit-Doves in a flowering tree, with twenty Metallic Starlings. The fruit-doves appeared to be tearing at the base of the tubular flowers and eating the pith. On 12 January 1977 I saw a Dwarf Fruit-Dove fly out of a flowering *Eugenia* tree in which honeyeaters and lorikeets were feeding on nectar. Three hours later two Dwarf Fruit-Doves flew into this tree and immediately walked up to the flowers, but their actual activity could not be observed. This species is the smallest of a very large genus. It weighs but 47 g compared with 77 g, the next smallest *Ptilinopus* of the eight at Brown River (most being >100 g). It occurs in very low densities, unlike others of its genus (Bell 1982a). I believe that it is nectarivorous, as well as frugivorous (as shown by Frith et al. 1976).

Pinon Imperial-Pigeon *Ducula pinon*

What appears to be a display flight of the Pinon Imperial-Pigeon, possibly as part of pair forming, was observed near Morehead, Western Province, in the Trans-Fly. On 29 November 1970 two birds flew out of a patch of monsoon forest. One flew in level flight. The other flew upwards for c. 30 m and then dived down, catching up with the first bird and then flying alongside it. During the dive the bird pressed its beak flat against the breast and fanned its tail. Unfortunately I did not note whether it flew or kept its wings closed in the dive. On 1 December 1970, on the banks of the Morehead River, a pair was seen to carry out exactly the same performance.

Greater Streaked Lory *Chalcopsitta scintillata*

Although I have found this species to be more frugivorous than nectarivorous (Bell 1984), it apparently drinks fermenting fluids. On 29 November 1970 at Rouku village, Trans-Fly, the local people were producing an alcoholic drink called 'tuba', which is made by tapping a live coconut and draining the fluid into a bamboo tube where it ferments. A number of honeyeaters and lorikeets were seen to fly to these tubes and drink the fluid. Five Greater Streaked Lories were so intoxicated that they lay rolling helplessly on the ground below. The local people do not appear to molest the birds. Intoxication of lorikeets is well known in South Australian vineyards.

Among the Greater Streaked Lories was a bird identical to the Black Lory *C. atra* of the Vogelkop. My field notes read 'all purplish-black but with the exact red patches of *scintillata*'. The bird could have been a melanistic *scintillata*, or a stray *C. atra*. It is possible that both are in fact one species, something which study in the main zone of contact, the southern Vogelkop, will reveal.

Little seems known of parental participation by the species when breeding. On 7 February 1976 at Brown River I saw two birds feeding another which by its shorter tail was probably a young bird. Both adults fed fruits of *Brassaia* to the young bird, so its seems likely that both sexes feed the young.

Forshaw (1973) stated that the species is often seen in parties of thirty or more birds. This was not the case at Brown River where size of parties (number of occurrences in brackets) were: 1(28), 2(39), 4(4), 5(1), 6(2), 7(1).

Yellow-billed Lorikeet *Neopsittacus musschenbroekii*
Orange-billed Lorikeet *Neopsittacus pullicauda*

This species pair occurs in montane forest throughout New Guinea, the Orange-billed usually in the higher cloud forest but with some overlap where the two meet. Peckover & Filewood (1976) have already referred to behavioural differences exhibited by captive birds of both species held by me in 1970-71, and additional unpublished and more complete details are presented here. The Yellow-billed Lorikeet refused a honey and milk mixture and its food preferences in order, were: raisins, fruit cake, seed (canary mixture) and flowers. By contrast the Orange-billed consumed, in order of preference: flowers, raisins, seed, cake, honey and milk mixture and fruit. It favoured above all else the flowers of *Clerodendron* sp., tearing at the base of the inflorescences and eating the pith. A sample of one bird per species is hardly conclusive but local people who know both species state that the

Orange-billed Lorikeet *Neopsittacus pullicauda*

Plate 51 Photo: W. S. Peckover

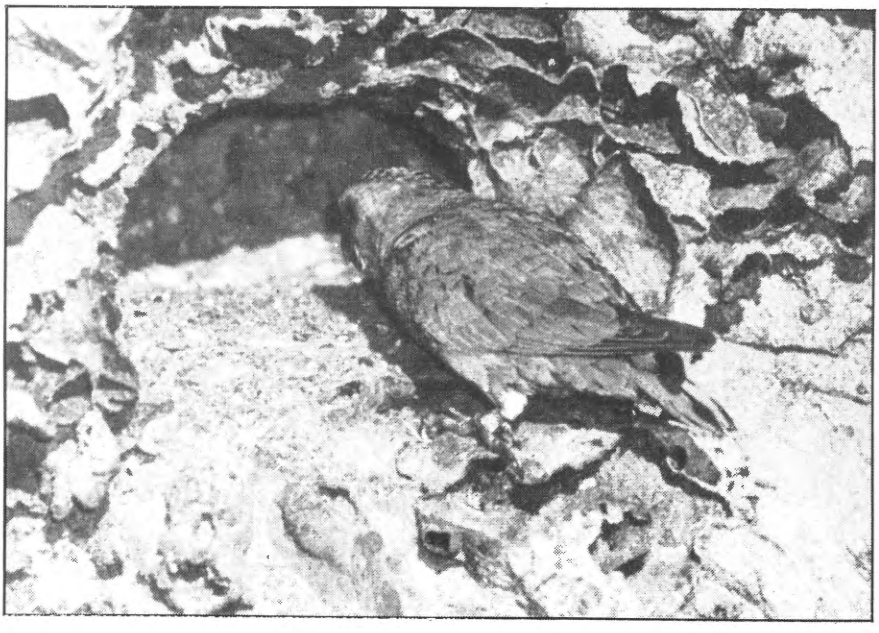
Yellow-billed favours fruit and seeds more than the Orange-billed, which is the more nectarivorous of the two (Majnep & Bulmer 1977).

The Orange-billed ate by holding food in its foot and lifting the food to the beak, even when eating small items such as millet seeds. However, it always ate flowers direct with its beak, sometimes steadying the foliage with its foot. Both raisins and cake were first dipped in water before being eaten.

The two species called differently, the Yellow-billed with a high-pitched disyllabic screech, almost unbearable to the human ear; the Orange-billed with a low pleasant twittering squeaking note. This appears to agree with Forshaw (1973) and Majnep & Bulmer (1977).

Peckover & Filewood (1976) have mentioned that my Orange-billed Lorikeet always slept inside a hollow made nightly under the newspaper lining its cage. The Yellow-billed Lorikeet always slept hanging on to the bars of its cage. This suggests that the species of colder habitat may regularly roost in hollows.

The Orange-billed Lorikeet was very tame, and free-flying in the house. It often gave what was presumably a display, by bobbing its head about fifteen times. The bird was acquired as a fledgling. Its beak was then yellow and turned orange after about six months. This may explain some of the misidentifications of these two species, which in the field are virtually only distinguishable by their calls and the colour of their beaks. The Orange-billed and Yellow-billed often co-exist, and feed in the same trees, at the lower and higher extremities respectively of their altitudinal ranges.



Buff-faced Pygmy-Parrot, *Micropsitta pusio* **nests in arboreal termitaria**

Plate 52 Photo: W. S. Peckover

Buff-faced Pygmy Parrot *Micropsitta pusio*

The food of the pygmy-parrots is given as lichen, fungi, seeds, fruits, insects and their larvae, with lichen most prominent (Forshaw 1973, pers. obs.). At Brown River, 1975-77, I saw on several occasions Buff-faced Pygmy-Parrots, which usually forage on trunks, pecking away at the runways of termites. The runways were broken open so it seems that termites are also part of the diet. The species nests solely in arboreal termitaria.

Orange-breasted Fig-Parrot *Opopsitta gulielmitertii*

Figs are considered the main diet of this species, but Forshaw (1973) considered that the diet probably resembles that of the Double-eyed Fig-Parrot *O. diophthalma* which takes fruit, seeds, nectar and some insect food. Generally, Orange-breasted Fig-Parrots seen by me were tearing apart large fruits, including figs, and eating the soft seeds, leaving the pith to fall to the ground, which behaviour is similar to that of *O. diophthalma.* However on 8 July 1975, at the National Botanical Gardens, Port Moresby, distant from suitable rainforest habitat, I saw ten Orange-breasted Fig-Parrots fly into a tree of *Acacia auriculaeformis* and eat the large (c. 3 mm) hard woody seeds of the mature fruits. At another time in 1976 I saw a similar event at the Waigani campus. Thus the species also includes woody seeds in its diet.

Channel-billed Cuckoo *Scythrops novaehollandiae*

I have already discussed (Bell 1970) my belief that this species is a breeding resident in New Guinea, as well as a wintering migrant (Rand & Gilliard 1967). I agree with Peckover & Filewood (1976) that the resemblance between the cuckoo and the Grey Crow *Corvus tristis* seems too great to be mere coincidence. My observations show that the Torresian Crow *C. orru* in New Guinea attacks Channel-billed Cuckoos on sight, but not other birds, suggesting that the crows in New Guinea recognise the cuckoo as a brood parasite.

Blue Jewel-Babbler *Ptilorrhoa caerulescens*

The nest of this species seems to have been described only once before, in the Fly River area (Rand 1942). The description of the nest was not in detail. A nest found at Brown River on 26 December 1976 was at the base of a tree seedling 75 cm high, on a slight mound inside undergrowth of primary rainforest. The nest was cup-shaped, 100 mm wide and 80 mm deep, built on a closely woven mat of strips of palm frond c. each 7 x 2 cm, with a smaller base of fine rootlets with a thin outer wall of dead leaves c. 25 x 7 mm in size. The Fly River nests appear to have been similar but the leaves were not mentioned. One was between two root buttresses at the base of a sapling. The Brown River nest had four large leaves, 25 x 18 cm leaning against the seedling and covering the nest from view from all but one side. One of the Fly River nests had a large dead leaf worked into the cup, extending over the nest to give the impression of a dome. I removed some of the large leaves at Brown River and returned to find them re-positioned, so obviously the bird emplaces them deliberately.

The nest at Brown River contained two eggs, light flesh colour with a few chocolate specks, with a more solid band of chocolate forming a ring at the

larger end. The eggs were still present on 31 December, with the female incubating, but on 8 January the nest was found predated. Both eggs were pierced and the contents missing, which may have been caused by rails. I have observed similar predation by rails in captivity. The Fly River nests contained two eggs and two young respectively.

My banding records showed the species to be highly sedentary and to hold pair territories of about 1.2 ha. When approached jewel-babblers always ran away and only took flight if closely pressed. However the sitting bird invariably 'exploded' from the nest in direct flight, which may be a useful clue to finding this species' very well camouflaged nest.

Sooty Thicket-Fantail *Rhipidura threnothorax*

I have already shown that my data on this species' habits conflict strongly with that published elsewhere (Bell 1982c,d); that it was never seen more than 1 m from the ground, and seems as near to flightless as a passerine can get. Rand & Gilliard (1967) described the scolding notes of this species, but its most distinguishing call is a loud ringing 'choo-choo-choo', the most noticeable passerine bird call at Brown River, and which can be heard at any time of day.

The foraging method of the Sooty Thicket-Fantail, which I observed often, was to perch on a root buttress, stump or fallen branch. It would spread out its wings and droop them, and then pounce on the ground under its own shadow. The tail was not fanned while foraging. Of 160 individuals observed I never saw one sally, in contrast to Croxall (1977) who recorded 25% sallying in an unstated number of observations.

The species has large bulbous eyeballs and is obviously suited to foraging in the darkest situations in the forest. Before dawn, when all other birds were still, Sooty Thicket-Fantails were actively foraging. Table 1 compares net-catches, by hours, of Sooty Thicket-Fantails with catches of all small (<32 g) insectivores at Brown River. Only one fantail was caught after 1100 h, and that during a thunderstorm so dark that bats emerged to forage. The calling, and my observations of the species, were not biased towards the morning so the implication is that the fantail's eyesight is such that it can see mist nets, even in the dark understorey of the forest.

Table 1

Net-catches of Sooty Thicket-Fantails and all small insectivores at Brown River by time of day, compared to observations of Sooty Thicket-Fantails.

Time (start of h)	*06*	*07*	*08*	*09*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*
Observations	10	15	26	16	8	6	7	7	13	18	9	3
Net-catches	2	3	5	2	2			1*				
% of all small insectivores caught (2 h periods)	13		18		21		18		17		13	

*Very overcast with thunderstorms

Sooty Thicket-Fantail *Rhipidura threnothorax*

Plate 53 Photo: W. S. Peckover

Black-faced Monarch *Monarcha melanopsis*

The Black-faced Monarch is a regular wintering migrant to Brown River (Bell 1982b), arriving in late March and leaving by October. On 22 November 1977, well after the species had left, I observed in a mixed-species feeding flock what appeared to be an immature Black-faced Monarch. The bird was all grey, with a washed-out chestnut belly, a grey beak and a flesh-coloured gape; almost certainly a fairly recent fledgling. I observed similar individuals on previous occasions: 5 February 1965 at Rigo, near Port Moresby, and 8 August 1965 at Brown River. Other observers (e.g. B. J. Coates, A. W. Layton, pers. comm.) have observed similar birds.

Immature Black-faced Monarchs resemble the Island Monarch *M. cinerascens* but there is no suitable habitat for that species closer than 100 km from Port Moresby. Unfortunately I am unaware of the immature plumage of the Black-winged Monarch *M. frater,* which is very similar to *M. melanopsis. M. frater* is resident in foothill forest behind Port Moresby so perhaps these young 'Black-faced Monarchs' are evicted young of *M. frater.* There is a claim that Black-faced Monarchs are present year-round at the Veimauri River near Port Moresby (Anon. 1977).

I saw very few immature Black-faced Monarchs arrive in March and none after about May so presumably their moult into adult plumage is complete by then. Either these immatures seen out of season are misidentifications or there is a small breeding population of Black-faced Monarchs in New Guinea.

Golden Monarch *Monarcha chrysomela*

What may possibly be a courtship display of the Golden Monarch was observed at Brown River on 19 July 1975. A pair were perched on a dead tree emerging from dense secondary growth along the forest edge. The male perched on a horizontal branch level with the female, lowered its head close to the branch, erected its neck ruff and flicked its tail up and down. After a few seconds it lifted its head, then lowered it again and repeated the performance. After ten minutes of almost non-stop display by the male, both birds flew off.

Little is known of the nesting of this species. On 25 August 1977 a nest was found being constructed 8 m from the ground, close to the top of a 10 m high tree in the sub-canopy. The nest was on a horizontal branch, cup-shaped and covered in moss. Both sexes were seen to bring moss and work it into the nest.

Frilled Monarch *Arses telescophthalmus*

As mentioned elsewhere (Bell 1982e) this species indulges in territorial aggression: male vs male, female vs female, and pair vs pair. Each bird confronts its opponent, at the same level, about 1-2 m apart, erects its nuchal frill and utters loud scolding notes. The intruders (identified by colour bands) would then fly away pursued by the defenders. A retreating bird would fly in a peculiar undulating flight, undulating about $\pm$ 0.5 m from the axis of flight and flicking its tail up and down. The pursuer would fly in a straight line but give up after 20 m. If the intruder returned it did so with a straight flight, only to retreat again using the undulating flight. Presumably this is some kind of appeasement display.

White-bellied Whistler *Pachycephala leucogaster*

The White-bellied Whistler is one of the enigmas of New Guinean ornithology. Rand & Gilliard (1967) showed its distribution as the Port Moresby savanna area from Hall Sound to the Sogeri Plateau, with an isolated and well-marked race on Rossel Island (see Figure 1). From 25-31 July 1970 I was camped at Forok near Wewak, East Sepik Province, on the north coast of New Guinea in an area of disturbed rainforest along a stream. A pair of what appeared to be White-bellied Whistlers were present throughout. The male was distinguishable by its black head and breast band, white throat and white belly. The female was not clearly seen but appeared to be typical of female Rufous Whistlers *P. rufiventris,* with which females of *P. leucogaster* are almost identical. The calls were as for *P. leucogaster,* i.e. almost the same as *P. rufiventris.* Professor J. M. Diamond (pers. comm.) has told me of seeing similar birds at Lumi in the West Sepik Province.

Mayr (1981) classed *leucogaster* as a race of the well-known Australian *P. rufiventris.* From its almost identical appearance (white instead of rufous belly) and identical song it undoubtedly is in the *rufiventris* superspecies. Stresemann (1924) suggested, on the basis of a hybrid between *P. leucogaster* and the Black-headed Whistler *P. monacha* from the Sogeri Plateau, that the two were conspecific. Re-examination by Mayr & Gilliard (1954) showed other hybrids, all from the Sogeri Plateau, so they combined the two species, subsequently separated by Rand & Gilliard (1967).

The male Black-headed Whistler is a blackish-grey bird with a black head and white belly, differing from the White-bellied mainly by the absence of a white throat. The female is a grey version of the male whereas the female White-bellied Whistler is very similar to that of the Rufous Whistler: a brown bird with prominent black streaks down the breast. The calls seem dissimilar to me. That of the White-bellied is a typical Rufous Whistler song whereas that of the Black-headed, to me, tends to resemble more the song of the Golden Whistler *P. pectoralis.* R. D. Mackay (pers. comm.) disagrees with the resemblance of the song to that of the Golden Whistler but agrees that it is different from *P. leucogaster.*

The Black-headed is mostly (but not invariably) a species of disturbed habitats, particularly in the highlands where it is one of the most abundant passerines, being very abundant in towns. The White-bellied Whistler occurs near Port Moresby in mangroves (Heron 1977), very sparsely in lowland savannas and very abundantly in the wetter *Eucalyptus tereticornis* savannas of the Sogeri Plateau.

Evidence for hybridisation can be observed in the field, and G. W. Swainson (pers. comm.) showed me that a virtual cline exists, of pure *P. monacha* in rubber plantations, pure *P. leucogaster* in the eucalypts and in between birds with varying degrees of white on the throat. For reasons of access the rubber plantations, established in the late 19th century, were sited in those rainforest areas on the edge of the savannas. Presumably *P. monacha* colonized the rubber, as it does plantations everywhere, and thus came into direct contact with *P. leucogaster*. Importantly, specimens taken distant from the rubber plantations are all pure *P. leucogaster* (Mayr & Gilliard 1954). I believe that the arguments for conspecificity, based solely on man-induced hybridisation, are no more strong than those for Belford's *Melidectes belfordi* and the Yellow-browed Honeyeaters *M. rufocrissalis* (Gilliard 1959) or the Pacific Black Duck *Anas superciliosa* and the Mallard *A. platyrhynchos* (Frith 1967), and that the two whistlers are distinct species.

Metallic Starling *Aplonis metallica*

Most references (e.g. Rand & Gilliard 1967, Frith 1976) class Metallic Starlings as frugivores which occasionally take insects. Of fifty birds that I quantitatively observed foraging, 32% of all feeding was presumed to be on nectar (Bell 1984), but these data may be biased by the opportunistic nature of their collection. Nectar feeding seems entirely on tubular flowers, the starlings inserting their beaks into the corollas. On 24 November 1976 at Brown River, twenty Metallic Starlings were observed inserting their beaks into the tubular white flowers of a large tree. On 18 December 1976 fifteen were seen inserting beaks into flowers of *?Calophyllum* sp. On 15 August 1976 at Bereina, 80 km from Port Moresby, in dry monsoon forest 200 were seen feeding at the red tubular flowers of *Brachychiton* sp. On 25 August 1977 at the same spot sixty were seen feeding at the same *Brachychiton* and others were there on the following day. It seems that nectarivory is more than accidental.

The speed of establishment of nesting colonies was shown at Brown River in 1977. On 13 August 1977 there were no starlings at a tall tree emergent

among secondary growth. On 22 August there were 91 of the pendant nests of the species, which were still under construction, and all but twenty were almost complete. By 6 September there were 96 nests completed with the birds sitting. The nest of a Grey-headed Goshawk *Accipiter poliocephalus* in the same tree was shown to me by B. J. Coates. The goshawk was sitting on 6 September while the starlings were sitting, and produced young when the starlings still had young in their nest (being fed apparently solely on fruit, the young starlings remain a long time in the nest). I have caught Grey-headed Goshawks in nets as they attempted to take captured birds, so the species could easily take a starling. The goshawks appeared to ignore the starling colony so there may be some mutual benefit to both species by this nesting association.

Golden Myna *Mino anais*

The Golden Myna is often quoted as an example of a New Guinean bird with an unaccountably discontinuous distribution (e.g. Rand & Gilliard 1967, Diamond 1975, 1980), being stated to not occur in the Huon Peninsula. This is quite erroneous. On 30 April 1970 at Jivevenang village near Finschhafen, I observed five in a tree feeding with a large flock of the Yellow-faced Myna *M. dumonti*. I took no detailed description; the Golden Myna can hardly be mistaken for any other New Guinean bird. On 5 February 1977 at Sialum north of Finschhafen I found the species abundant, in pairs, in a remnant patch of rainforest of c. 0.5 km^2. Two birds were seen to leave a hole 20 m up in the trunk of a 30 m high *Pometia* tree, and one was seen to return.

Many species are considered absent from the Huon Peninsula but several of these absentees have already been seen there, such as the Varied Pitohui *Pitohui kirhocephalus* (B. J. Coates, pers. comm.) and the Common Paradise Kingfisher *Tanysiptera galatea* (Bell 1971). On the north-eastern coast of the peninsula the mountains (c. 4000 m) fall direct to the sea and there originally could only have been a very narrow band of lowland rainforest. The area is in a rain shadow (McAlpine et al. 1975), therefore prehistoric man was probably able to maintain disclimax vegetation. As a result the lowland rainforest exists only as tiny fragments in a few deeply eroded watercourses; most of the streams from the mountains are subterranean and emerge near sea level. It would not be surprising if many lowland species failed to survive in these small remnants, but the Golden Myna is definitely not one of them.

Little has been recorded on nesting (Rand & Gilliard 1967). On 19 July 1975 a nest was found at Brown River, 10 m up in a hole in the side of the trunk of a dead tree. Two birds came into the nest, one entering and soon leaving. The other perched on the entrance, threw its head back as if regurgitating, then thrust its head inside the hollow, repeating this four times. On 30 August 1975 at Veimauri River another nest was in a similar situation 30 m up in a living tree. Two birds arrived, both carrying fruit in their beaks. Both entered and left the nest, one twice during the same visit. The nest was still being attended on 18 October. It appears that both sexes feed the young and that the food is possibly all fruit, with a consequent lengthy rearing time.

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