

PORT MORESBY RINGING REPORT : 1988

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This paper presents a summary of our ringing activities in the Port Moresby area during 1988. We are licensed to ring birds by the Department of Environment and Conservation (DEC) and by the Australian National Parks and Wildlife Service (ANPWS). The ANPWS administer the Australian Bird and Bat Banding Scheme (ABBBS) and supply us with all our rings. This is the second annual ringing report we have produced (Hicks & Burrows 1989).

RINGING SITES

Thirteen ringing sites were used in the Port Moresby area in 1988, (this includes the more distant Lake Omha at English Peaks and Myola). Nine of these sites had been used in 1986-87 while four sites had not been used before. Two sites used in 1986-87 (Ilimo Farm and Pacific Adventist College) were not revisited in 1988. A brief description of each site is given below. The two numbers after each site refer to the PNG 1:100,000 topographical survey map sheet number and the eight figure map reference number.

a) Brown River (8379, EK213857)

North of the Hiritano Highway, c.5 km beyond the Brown River bridge and c.40 km from Port Moresby. During 1988 many of the trails from logging activities in early 1987 had become overgrown. We set mist nets along the few trails which we managed to keep open. This area is a mixture of dense secondary growth and disturbed rainforest. Approximately 150 species of birds have been recorded here in the past three years.

b) Maui Islet, Fisherman's Island (8378, EK045472)

Maui Islet is a raised coral platform, lying c.500 m to the south-west of Fisherman's Island, that protrudes at most 4 m above sea-level at low tide. Various species of seabirds have been recorded nesting amongst the sparse vegetation on top of the island.

c) Ilimo Farm/Pacific Adventist College (8379, EK298620/EK303612)

Not used in 1988. These two sites lie either side of the Hubert Murray Highway about 8 km from the Nine-Mile (Hubert Murray/Hiritano Highway) junction.

d) Lake Omha (8380, EL543317)

This site lies at approximately 3620 m on English Peaks in the Owen Stanley mountain range, between Mount Victoria and Mount Albert Edward. Ringing activities have been carried out here as part of an investigation into the breeding biology, food and habitat

preferences of Macgregor's Bird of Paradise *Macgregoria pulchra*. The habitat consists of extensive areas of sub-alpine grassland and bog, with large stands of the podocarp tree *Dacrycarpus compactus* on drier ground. Trapping has been concentrated in and around the forested areas. Evidence is accumulating that many species occurring here lead a nomadic existence, invading these areas at times of rich food supply.

e) Moitaka Settling Ponds (8379, EK213623)

The sewage settling ponds lie to the north of Port Moresby, at the southern end of Waigani Swamp. There are five settling ponds of varying size separated by grassy banks. Around the edges of the ponds exposed sludge attracts palearctic waders on passage. Between the settling ponds and Waigani Swamp there are extensive reed beds.

f) Motupore Island (8378, EK311470)

Motupore is a small hilly island located about 15 km south-east of Port Moresby in Bootless Bay, 1 km from the mainland. Most of the land is eucalypt savanna, but there are some pockets of monsoonal woodland, extensive mangroves and a limited strand formation. Netting has been carried out in all these habitats with the range of species caught reflecting the impoverished nature of this small island's avifauna.

g) Myola (8479, EK842894)

Myola is a village-style lodge, situated at 2080 m in the Owen Stanley Mountain range, a short distance from the Kokoda trail and less than half an hours flying time from Port Moresby. The village is on the edge of a large marshy grassland basin which is surrounded by extensive montane moss forest. Close to the village are some old gardens, and where the forest has been cleared, but the land is not utilised, and there is dense secondary growth. Mist nets have been set in all these habitats, although most netting has been done in the forest and secondary growth.

h) University of PNG (UPNG) Campus (8379, EK197591)

This site is IB's back garden on UPNG campus. Mist nets have been set occasionally, but the success rate has been low. Persistence pays however, and this is the sole site of capture for 5 species.

i) Varirata National Park (8379, EK395560)

This national park lies 40 km east of Port Moresby, on the scarp of the Astrolabe mountain range at c.750 m. The habitat is mainly rainforest with savanna on the drier ridge tops. Three ringing sites have been used: in a stream valley south-east of the Gare's Lookout trail, along the Boundary trail which lies south of the access road and begins about 0.5 km before the toll gate; and on a low ridge alongside the Varirata Lookout trail about 0.5 km from the

lookout. Permission to trap and ring within the park was granted by the DEC. Nearly 200 species of bird have been recorded in the park in recent years.

j) Veimauri (8379, EL050100)

Another area of lowland rainforest that has become accessible as a result of logging operations. Many of the logging trails remain to be explored but already some rarely recorded species, most notably Banded Yellow Robin *Poecilodryas placens*, have been captured.

k) Bootless Bay (8379, EK291510)

Bootless Bay lies c. 10 km south-east of Port Moresby along the Magi Highway. Our ringing site has been amongst the mangroves and savanna at the head of Dogura inlet. Not many species have been caught, but it has been the sole site of capture for Mangrove Gerygone *Gerygone levigaster* and Large-billed Gerygone *Gerygone magnirostris*.

l) Mount Diamond (8379, EK322534)

The shafts of the old copper mines near Mount Diamond are used as nest sites by Glossy Swiftlets *Collocalia exculenta*. A mist net was strung across the mouth of one mineshaft to catch adults entering and leaving the mine. Some unfledged young were also ringed.

m) Madilogo Ridge (8479, EK585817)

Madilogo Ridge lies above a village of the same name in the foothills of the Owen Stanley Ranges. This area has recently become accessible along a private road that runs parallel to the Kokoda trail and connects the upper Koiari villages with Port Moresby. Our ringing site is on a ridge top at c. 1200 m where the habitat is lower montane forest, predominantly *Castanopsis* forest.

Two further sites, Mount Bosavi and Ambua Lodge, Tari, both in Southern Highlands Province were used in 1988 by M.J.G. Hopkins.

SPECIES ACCOUNTS

In 1988, 542 birds of 105 species were ringed compared to 360 birds of 95 species in 1986-87 (Hicks & Burrows 1989). Ringed individuals of two further species were retrapped so 107 species were processed in 1988. We had not handled 45 of these species previously (Appendix 1) but 32 species ringed in 1986-87 are not represented in the 1988 totals (Appendix 2). For 38 species only one individual was ringed and for 79 species five or fewer birds were ringed. More than 20 birds were ringed for only six species: Island Thrush, Large Scrub-Wren, Little Shrike-Thrush, Fan-tailed Berrypecker, Crested Berrypecker and Rufous-banded Honeyeater. Twenty-eight species were caught at more than one site. Little

Shrike-Thrush, Dwarf Honeyeater and Slaty-chinned Longbill were each caught at five sites. Ninety birds of 32 species have been retrapped, none away from the original site of capture.

Since we began ringing in PNG in October 1986 we have ringed 902 birds of 138 species. For 48 species only one bird was processed, while for 98 species five or fewer were ringed. More than 20 birds have been ringed for only eleven species, the above six plus Sharp-tailed Sandpiper, Sacred Kingfisher, White-ringed Robin, Dwarf Honeyeater and Sooty Melidictes.

In the list of species caught in 1988, presented below, the numbers after each name refer to the following

- Royal Australasian Ornithologists Union species number;
- Ring size used: where this differs from the ABBBS recommended size the latter number is shown in brackets;
- Number of birds ringed;
- Number of birds retrapped;
- Number of sites at which that species was trapped.

The name of the site(s) where the bird was caught is the first item in the species account. Where applicable the "age" (time from original capture to latest retrapping) of the "oldest" bird is given (when this exceeds one year). No analysis of the biometric data collected has been attempted if less than ten birds of that species were ringed since we began ringing in P.N.G. All weights are in grams and lengths in millimetres. Significance tests given are all 2-tailed, 2-sample t-tests.

The following abbreviations have been used in the species list:

ad = adult; CL = exposed culmen length; Diamond = Diamond (1972); HB = head and bill length; I = island; imm = immature; NP = National Park; R&G = Rand & Gilliard (1967); Rogers = Rogers *et al.* (1986); SP = Settling Ponds; Wt = weight; WL = wing length.

Wedge-tailed Shearwater *Puffinus pacificus*
69, 16, 1, 0, 1. Motupore I. Found entangled in an old fishing net at the nearby Loloata I resort and brought into UPNG where it was fed and subsequently released at Motupore I.

Grey-headed Goshawk *Accipiter poliocephalus*
3067, 8, 1, 0, 1. Brown River.

White-headed Stilt *Himantopus leucocephalus*
147, 8, 1, 0, 1. Moitaka SP.

- Masked Lapwing *Vanellus miles*
133, 8, 1, 0, 1. Moitaka SP. Prater *et al.* (1977) was used to age all birds caught. To date 11 have been ringed (8 in 1986-87 & 3 in 1988). Ten were in adult winter plumage, retaining the juvenile inner median coverts.
- Swinhoe's Snipe *Gallinago megala*
169, 6, 2, 0, 1. Moitaka SP. Identified in the hand by number of tail feathers and wing length (<150 mm) (after Prater *et al.* 1977).
- Rufous Woodcock *Scolopax saturata*
?, 7, 1, 0, 1. Lake Ohma.
- Sharp-tailed Sandpiper *Calidris acuminata*
163, 4/5, 16, 0, 1. Moitaka SP. 8 males & 8 females, sexed on wing length. All first winter birds, as shown by their buff inner median coverts (sexed and aged after Prater *et al.* 1977). Since 1986 we have caught 22 birds, 11 males and 11 females, all in first winter plumage. Measurements agree closely with Prater *et al.* who give mean wing length for males 140.1 mm (adults) and 139.9 mm (juvs), and for females 131.2 mm (adults) and 130.2 mm (juvs).
- | | Wt | HB | WL | TL | CL |
|--------------|-------|-----------|---------|-----------|-----------|
| Male mean | 58.9 | 52.5 | 140.7 | 29.1 | 26.34 |
| (n=11) range | 51-71 | 51.1-53.7 | 136-146 | 26.3-33.4 | 24.7-29.8 |
| Female mean | 48.2 | 49.1 | 131.9 | 26.7 | 24.5 |
| (n=11) range | 36-64 | 46.2-52.1 | 127-135 | 24.7-30.2 | 22.9-25.8 |
- Red-necked Stint *Calidris ruficollis*
162, 3, 2, 0, 1. Moitaka SP.
- Curlew Sandpiper *Calidris ferruginea*
161, 4, 2, 0, 1. Moitaka SP. One male and one female, sexed on bill length (Prater *et al.* 1977).
- Brown Noddy *Anous stolidus*
122, 6, 1, 0, 1. Maui I.
- Emerald Ground-Dove *Chalcophaps indica*
33, 7, 1, 0, 1. Brown River.
- Peaceful Dove *Geopelia striata*
30, 5, 1, 0, 1. UPNG.
- Bronze Ground-Dove *Gallicolumba beccarii*
3211, 6, 6, 0, 1. Myola. 2 males and 4 immatures.
- Plum-faced Lorikeet *Oreopsittacus arfaki*
3237, 3, 1, 0, 1. Lake Omha.

- Orange-billed Lorikeet *Neopsittacus pullicauda*
?, 5, 1, 0, 1. Lake Omha.
- Painted Tiger-Parrot *Psittacella picta*
?, 5, 4, 1, 1. Lake Omha.
- Mountain Owlet-Nightjar *Aegotheles albertisi*
3301, 4, 3, 1, 1. Lake Omha & Myola.
- Glossy Swiftlet *Collocalia esculenta*
882, 1, 9, 0, 1. Mount Diamond. Three nestlings ringed.
- Common Paradise-Kingfisher *Tanysiptera galatea*
334, 5, 10, 5, 2. Brown River & Veimauri. Eighteen have been ringed since 1987 (9 in 1987 & 9 in 1988). One bird (ring no. 051 34710) was retrapped four times between 14 Feb & 29 May 1988. Five immatures have been caught; two in May 1987 and three in May 1988. None have been retrapped. Immatures tended to be smaller than adults, particularly lighter, with shorter head and bill length, and wing length. Males and females may differ in wing length, but further data is required to confirm this.

	Wt	HB	WL	TL	CL
Adult mean	53.44	61.72	106.73	16.47	32.12
(n=5) range	48-64	59.5-64.3	104-112	11.8-19.2	27.3-35.4
Imm. mean	46.4	54.46	98.4	16.63	26.18
(n=5) range	39-53	44.4-57.8	91-105	14.8-19.3	23.75-28.30

- Sacred Kingfisher *Halcyon sancta*
326, 5, 13, 6, 2. Motupore I & UPNG. "Oldest" bird 551 days (1 year 6 months 4 days), Motupore I. Twenty-eight have now been ringed (15 in 1986-87 & 13 in 1988). All six retraps were originally ringed in 1987. One bird was retrapped once in 1987 and twice in 1988, each time on Motupore I. We have tried to sex the birds using the colour of the back under refractive light (Disney *et al.* 1974). However, using this method two of the six retraps changed sex. Eleven of the birds ringed in 1988 were first winter birds and seven were adults. The first winter birds were generally smaller. The means of head and bill length ($t=4.56, p<0.01$), wing length ($t=3.604, p<0.01$) and culmen ($t=3.173, p<0.01$) were significantly different, although it would not be possible to separate adults from first year birds on these measurements. There is no evidence to suggest sexual dimorphism in our sample.

	Wt	HB	WL	TL	CL
All birds (n=28)					
mean	43.27	67.44	92.39	13.21	36.15
range	37-52	61-72	85-96	10.4-18.4	32.3-40.9
1988					
adult mean	43.00	68.79	93.57	13.51	37.97
(n=7) range	40-49	66.2-70.0	91-96	12.4-14.5	36.5-39.0
imm. mean	41.46	67.17	91.73	13.53	35.24
(n=11) range	37-45	65.2-69.0	89-96	10.4-18.4	32.3-37.0
Rogers ad.	40-51	66.7-72.7	91-98	-	-
imm.	38.7-43.0	62.4-66.7	93-96	-	-

Dwarf Kingfisher
3321, 2, 1, 0, 1. Veimauri.

Ceyx lepidus

Alpine Pipit
?, 4, 3, 0, 1. Lake Omha.

Anthus gutturalis

Island Thrush
3374, 5, 23, 3, 1. Lake Omha. The following figures include four birds caught at Myola in 1987.

Turdus poliocephalus

	Wt	HB	WL	TL	CL
(n=27)					
mean	74.93	52.89	126.25	38.35	20.97
range	62-89	50.9-55.4	114-132	35.5-41.2	19.1-22.9
R&G (size varies with subspecies)			120-140	33-40	-

Blue Jewel-Babbler
3385, 4, 2, 1, 1. Brown River. This species appears to suffer stress when being extracted from the net and/or while being handled in bright sunlight. We suggest handling of this species is kept to a minimum, i.e., only take weight and wing length, ring birds as close to the site of capture as possible and release promptly.

Ptilorrhoa caeruleascens

Chestnut-backed Jewel-Babbler
3384, 4, 1, 0, 1. Varirata NP.

Ptilorrhoa castanonotus

Blue-capped Ifrita
3387, 4, 2, 0, 1. Myola.

Ifrita kowaldi

Rusty Mouse-Warbler
3410, 2, 2, 0, 2. Varirata NP & Mount Bosavi.

Crateroscelis murina

Mountain Mouse-Warbler
3412, 2, 6, 1, 3. Lake Omha, Myola & Ambua Lodge, Tari. Eleven have been caught since 1987, three at Myola, seven at Lake Omha and one at Ambua Lodge, Tari. As the latter probably belongs to a different subspecies (Rand & Gilliard 1967) it is omitted from the following calculations. Birds from higher elevations are supposedly noticeably larger (Rand & Gilliard 1967) but there is no evidence of this in our albeit small sample.

	Wt	HB	WL	TL	CL
mean	16.45	35.69	62	28.44	14.9
range	13.5-18.7	33.4-37.0	61-66	25.6-32.0	11.7-18.8
R&G	-	-	60	28	-

Pale-billed Scrub-Wren
3401, 1, 1, 0, 1. Mt Bosavi.

Sericornis spilodera

Large Scrub-Wren
3405, 2, 20, 5, 3. Lake Omha, Myola & Ambua Lodge, Tari. "Oldest" bird 421 days (1 year 1 month 23 days), Lake Ohma. Eighteen birds have been caught at Lake Omha and nine at Myola. We had expected the birds at Lake Ohma to be larger than those at Myola in keeping with the traits of the subspecies to be found at different altitudes. In SE New Guinea *S.n. oorti* should occur from 4000' - 9000' (1230 - 2800 m) (Rand & Gilliard 1967). Myola lies in the middle of this range at 2080 m. *S.n. monticola* occurs at higher altitudes, > 10,000' (> 3080 m) (Rand & Gilliard 1967). Lake Omha is at 3660 m. However, there was no significant difference between the samples in any measurement: weight ($t = 1.915$, d.f. = 24), wing length ($t = 0.551$, d.f. = 24), head and bill length ($t = 0.272$, d.f. = 21), exposed culmen length ($t = 1.96$, d.f. = 21) and mean tarsus length ($t = .237$, d.f. = 21). Females are smaller than males in the Eastern Highlands (Diamond 1972) but such dimorphism is not apparent in our sample.

	Wt	HB	WL	TL	CL
Lake Omha					
n	17	14	17	14	14
mean	15.83	33.59	67.94	25.99	13.21
range	13.9-17.0	32.2-39.0	64-71	24.3-28.3	11.90-15.25
Myola					
n	9	9	9	9	9
mean	14.92	33.29	66	25.76	14.6
range	12.5-17.0	32.3-35.3	62-69	24.00-27.15	12.85-18.90
R&G <i>S.n. monticola</i>	-	-	69	-	-
<i>S.n. oorti</i>	-	-	62	-	-

Buff-faced Scrub-Wren *Sericornis perspicillatus*

3406, 1, 4, 0, 2. Myola & Ambua Lodge, Tari.

Papuan Scrub-Wren *Sericornis papuensis*

3408, 1, 5, 0, 2. Lake Omha & Myola. The following figures include data from five birds caught in 1986-87 (one from Lake Omha and four from Myola). It is not possible to differentiate between the sexes using the measurements from our sample although data from the Eastern Highlands (Diamond 1972) suggests the wing length of the female may be shorter than that of the male.

	Wt	HB	WL	TL	CL
n	10	9	10	9	9
mean	9.79	29.67	57.81	21.67	10.17
range	8.55-9.40	28.10-30.75	53.1-61.0	20.15-23.45	9.55-11.60
R&G male	-	-	55-61	20-21	-
Diamond male	10.7	-	55-61	-	-
female	10.3	-	52-53	-	-

New Guinea Thornbill *Acanthiza murina*

3414, 1, 10, 2, 1. Lake Omha. "Oldest" bird 506 days (1 year 4 months 19 days). Three caught in 1986, also at Lake Omha, are included in the following calculations.

	Wt	HB	WL	TL	CL
n	13	10	12	10	10
mean	9.09	28.39	61.3	20.95	9.15
range	7.9-10.0	27.2-30.9	57-64	19.9-23.6	8.45-10.50
R&G	-	-	62	19	-
Diamond	-	-	62	-	-

Yellow-bellied Gerygone *Gerygone chrysogaster*

3416, 1, 2, 0, 1. Brown River.

Large-billed Greygone *Gerygone magnirostris*

457, 1, 2, 0, 1. Bootless Bay.

Mangrove Gerygone *Gerygone levigaster*

?, 1, 1, 0, 1. Bootless Bay.

Sooty Thicket-Fantail *Rhipidura threnothorax*

3452, 2, 6, 2, 2. Brown River & Veimauri. "Oldest" bird 13 years 3 days. This is the oldest ever recorded for this species.

Black Thicket-Fantail *Rhipidura maculipectus*

3426, 2, 0, 2, 1. Brown River. "Oldest" bird 384 days (1 year 18 days).

Black Fantail *Rhipidura atra*

3432, 1, 5, 1, 2. Myola & Ambua Lodge, Tari. Seven males and five females have been ringed since 1987.

Chestnut-bellied Fantail *Rhipidura hyperthra*

3433, 1, 1, 0, 1. Veimauri.

Friendly Fantail *Rhipidura albolimbata*

3434, 1, 4, 0, 1. Myola.

Northern Fantail *Rhipidura rufiventris*

363, 1, 1, 0, 1. Veimauri.

Willie Wagtail *Rhipidura leucophrys*

364, 2/3, 4, 0, 2. UPNG & Motupore I. The following calculations include data from 8 birds caught in 1986-87. No size dimorphism is discernible in this sample.

	Wt	HB	WL	TL	CL
n	12	5	12	5	5
mean	23.59	38.95	97.33	24.99	13.23
range	22-26	38.2-39.4	93-101	23.3-26.4	11.9-14.5
R&G	-	-	99-108	25	-
Diamond	23.0-29.5	-	95-103	-	-

Black Monarch *Monarcha axillaris*

3437, 1, 4, 0, 2. Myola & Mount Bosavi.

Spot-winged Monarch *Monarcha guttula*

3443, 2, 10, 1, 2. Brown River & Veimauri. The following calculations include four birds caught in 1987 (three at Brown River and one at Veimauri). There is no evidence of size dimorphism in this sample (n = 14).

	Wt	HB	WL	TL	CL
mean	16.02	36.06	78.96	17.53	14.2
range	14-17	33.8-37.5	73-81	12.7-19.0	12.4-17.8
R&G	-	-	80	17	-
Diamond	14.0-18.3	-	77-83	-	-

Frisled Monarch *Arses telescopthalmus*

371, 2, 1, 0, 1. Brown River One female.

Shining Flycatcher *Myiagra alecto*

372, 2, 2, 0, 1. Motupore I. One male and one female.

Black-breasted Boatbill *Machaerirynchus nigripectus*

3456, 1, 1, 0, 1. Myola. One female.

- Olive Flycatcher *Microeca flavirescens*
3461, 1, 1, 0, 1. Veimauri.
- White-faced Robin *Tregellasia leucops*
397, 1, 7, 1, 3. Varirata NP, Madilogo Ridge & Mount Bosavi.
- Ashy Robin *Poecilodryas albispecularis*
389, 3, 4, 5, 1. Myola. "Oldest" bird 388 days (1 year 22 days). Seventeen have now been caught at Myola, the only site of capture. Two birds retrapped in Oct 1988 were originally ringed in Sept 1987. Males are larger than females and we think this size dimorphism is evident in our sample, e.g., six birds could be considered small (and therefore probably female) and ten large (and probably male) based on four measurements: weight, wing length, head and bill length, and tarsus length. However, the sample is too small for further analysis. The majority of birds caught (11/17) have had pale tips to their bills. Rand & Gilliard (1967) imply this is a rare feature. It appears to remain consistent with time, i.e., birds that had pale tips when originally caught were the same when retrapped (2 birds) and the single dark-tipped retrap was also dark-billed when first ringed.
- Black-sided Robin *Poecilodryas hypoleuca*
3469, 2, 2, 0, 1. Brown River.
- Banded Yellow Robin *Poecilodryas placens*
3470, 3, 5, 0, 1. Veimauri.
- Northern Scrub-Robin *Drymodes superciliaris*
442, 3, 1, 0, 1. Varirata NP.
- Lesser Ground-Robin *Amalocichla incerta*
3377, 3, 1, 0, 1. Myola. One adult and one immature.
- White-winged Robin *Peneothello sigillatus*
?, 2/3, 15, 5, 1. Lake Omha. "Oldest" bird 494 days (1 year 5 months 6 days). Eighteen adults and 3 immatures ringed including 6 adults ringed in 1986, also at Lake Omha.

	Wt	HB	WL	TL	CL
Adult n	18	14	17	15	15
mean	23.21	38.2	96.88	31.36	11.73
range	31-47	39.8-53.0	91-109	29.1-39.8	14.2-19.0
Imm. n	3	3	3	3	3
mean	23	38.38	95.67	30.5	11.55
range	22-24	38.0-38.6	94-98	30.25-31.00	10.85-12.10
R&G male	-	-	94-100	27-31	-
female	-	-	86-99	-	-

- Blue-grey Robin *Peneothello cyanus*
3475, 3, 3, 0, 1. Ambua Lodge, Tari.
- White-eyed Robin *Pachycephalopsis poliosoma*
3479, 4, 2, 0, 1. Mt. Bosavi.
- Mottled Whistler *Rhagologus leucostigma*
3481, 2, 2, 0, 1. Myola.
- Regent Whistler *Pachycephala schlegelii*
3484, 2/3, 6, 1, 1. Lake Omha. "Oldest" bird 414 days (1 year 1 month 17 days). Eleven females and 3 males, including 7 females and 1 male ringed in 1986-87. Two males were caught at Lake Omha and one at Myola. Six females were caught at Lake Omha and 5 at Myola. Birds above 2800 m have been shown to be larger than birds from lower altitudes (Rand 1937, 1942). Our sample is small but the mean wing length of females caught at Lake Omha is significantly greater than that of females caught at Myola ($t = 5.153$, $p < 0.01$, $d.f. = 9$).

	Wt	HB	WL	TL	CL
Males					
Myola (n=1)	21.8	37.0	84	25.1	15.1
Omha (n=2)	21-27	39.0-39.4	93-94	24.4-27.6	12.3-12.4
R&G	-	-	85-94	24	-
Diamond	20.5-24.5	-	81-89	-	-
Females					
Myola mean	22.26	38.71	86.6	26.44	13.06
(n=5) range	20.1-24.5	38.0-39.5	84.5-90.0	24.2-28.1	11.85-14.2
Ohma mean	24.06	37.76	91.83	27.7	12.45
(n=6) range	21.0-26.3	35.6-39.9	89-95	27.2-28.5	11.5-13.0
Diamond	19.4-24.8	-	81-86	-	-

- Grey Whistler *Pachycephala simplex*
406, 2, 3, 0, 2. Brown River & Veimauri.
- Rufous-naped Whistler *Pachycephala rufinucha*
3494, 4, 1, 1, 1. Myola.
- Little Shrike-Thrush *Colluricincla megarrhyncha*
413, 3/4, 21, 4, 4. Brown River, Varirata NP, Veimauri & Madilogo Ridge. The following calculations include 5 birds caught in 1987 (4 Brown River and 1 Varirata).

	Wt	HB	WL	TL	CL
n	26	26	26	26	26
mean	32.90	44.42	90.62	25.51	18.36
range	30-40	42.15-45.8	84-97	21.5-28.3	16.8-20.2
R&G	-	-	89-105	27	-

Grey Shrike-Thrush 408, 5, 1, 0, 1. UPNG.	<i>Colluricincla harmonica</i>
Hooded Pitohui 3499, 5, 1, 0, 1. Madilogo Ridge.	<i>Pitohui dichrous</i>
Rusty Pitohui 3501, 6, 2, 0, 2. Brown River & Veimauri.	<i>Pitohui ferrugineus</i>
Crested Pitohui 3502, 6, 1, 0, 2. Brown River.	<i>Pitohui cristatus</i>
Black Berrypecker 3512, 2, 10, 2, 3. Brown River, Veimauri, Varirata NP. "Oldest" bird 393 days (1 year 1 month 2 days).	<i>Melanocharis nigra</i>
Mid-mountain Berrypecker 3513, 2, 1, 0, 1. Madilogo Ridge.	<i>Melanocharis longicauda</i>

Fan-tailed Berrypecker *Melanocharis versteri*
3514, 1/2, 46, 10, 1. Myola. "Oldest" bird 383 days (1 year 17 days). 13 males and 33 females caught in 1988. The following calculations include 34 birds caught in 1987, all at Myola. The total for 1987-88 is 80 birds (23 males, 48 females, 9 immatures). One female (023 57351) has been retrapped three times since originally ringed in September 1987 (Dec 87, Jun 88, Oct 88). Two males caught at Ambua Lodge, Tari, have been omitted from the following calculations as they probably belong to a different subspecies. *M. v. maculiceps* should occur at Myola and *M. v. virago* at Tari (Rand & Gilliard, 1967).

	Wt	HB	WL	TL	CL
Males (n=23)					
mean	12.89	30.59	64.04	24.88	11.97
range	10.5-17.6	27.9-39.9	59-69	22.5-26	10.1-13.6
R&G	-	-	61	23	-
Diamond	9.7-13.7	-	59-64	-	-
Females					
n	48	46	47	46	46
mean	15.49	30.42	67.65	25.68	12.19
range	11-20	27.5-33.0	63-79	21.8-30.0	9.4-14.5
R&G	-	-	68	-	-
Diamond	16.7-20.0	-	63-72	-	-
Immatures (n=9)					
mean	14.72	30.78	67.44	24.46	11.54
range	11-17	29.7-31.6	64-72	23.0-25.5	10.5-13.2

Crested Berrypecker *Paramythia montium*
3518, 3, 68, 6, 1. Lake Omha. The following figures include five birds ringed in 1986, also at Lake Omha. Males are larger than females (Rand & Gilliard 1967) although there is no evidence of this in our sample.

	Wt	HB	WL	TL	CL
n	72	72	71	73	71
mean	39.44	41.99	99.85	33.82	16.05
range	31-47	39.8-53.0	91-109	29.2-39.8	14.2-19.0
R&G male	-	-	102-123	31	-
female	-	-	98	-	-
Diamond					
male	41	-	97-103	-	-
female	43	-	97	-	-

Yellow-bellied Sunbird *Nectarinia jugularis*
572, 1, 5, 1, 1. Motupore I. Four females & one male caught in 1988.

Tawny Straightbill *Timeliopsis griseigula*
3528, 3, 1, 0, 1. Brown River.

Long-billed Honeyeater *Melilestes mearnsi*
3548, 4, 2, 3, 2. Varirata NP & Brown River.

Slaty-chinned Longbill *Toxorhamphus poliopterus*
3547, 1/2, 8, 1, 5. Varirata NP, Myola, Mt. Bosavi, Ambua Lodge (Tari), Madilogo Ridge. One of our most widely caught species. Caught at five sites ranging from Central to Southern Highlands Provinces and from 700-2700 m.

Dwarf Honeyeater *Oedistoma iliolophus*
3546, 2, 14, 3, 5. Brown River, Madilogo Ridge, Varirata NP, Veimauri & Mt. Bosavi. Another wide ranging species, but generally lower than Slaty-chinned Longbill, from sea-level - 1000 m. the following calculations include 13 birds ringed in 1986-87. Two birds ringed at Mt. Bosavi, SHP have been omitted, as they probably belong to a different subspecies (Rand & Gilliard, 1967). According to Rand & Gilliard, sexes are similar although Diamond (1972) notes male wing length and weight were larger than the females with no overlap in weight. Diamond (1972) considered the birds in the Eastern Highlands were the same subspecies as occurs in SE New Guinea. We are unable to discern any size dimorphism in our sample.

	Wt	HB	WL	TL	CL
n	24	24	25	24	24
mean	12.13	36.59	64.04	20.66	19.11
range	9.1-14.0	34.0-38.9	60-71	17.5-23.2	17.4-21.7
R&G	-	-	64-72	19	-
Diamond					
male	13.0-15.7	-	65-72	-	-
female	11-12	-	61-65	-	-
Dusky Myzomela					<i>Myzomela obscura</i>
590, 1, 1, 0, 1. UPNG.					
Spot-breasted Meliphaga					<i>Meliphaga mimikae</i>
3571, 3, 1, 0, 1. Mt. Bosavi.					
Mountain Meliphaga					<i>Meliphaga orientalis</i>
3572, 3, 2, 0, 1. Mt. Bosavi.					
Puff-backed Meliphaga					<i>Meliphaga aruensis</i>
3569, 3, 4, 0, 1. Brown River, Varirata NP, Veimauri.					
Mimic Meliphaga					<i>Meliphaga analoga</i>
3575, 2/3, 6, 1, 4. Brown River, Varirata NP, Veimauri.					
Graceful Meliphaga					<i>Meliphaga gracilis</i>
612, 2/3, 6, 0, 4. Bootless Bay, Brown River, Varirata NP (2 sites). Three species of Meliphaga, Puff-backed, Mimic and Graceful, were caught in one net at the same time in Varirata NP.					
Spotted Honeyeater					<i>Xanthotis polygramma</i>
3566, 3, 12, 0, 1. Veimauri.					
Helmeted Friarbird					<i>Philemon buceroides</i>
642, 7, 2, 0, 2. Motupore I. & UPNG.					
Rufous-backed Honeyeater					<i>Ptiloprora guisei</i>
3581, 2, 4, 6, 1. Myola. The six retraps were all originally ringed in 1987. Females are smaller than males (Rand & Gilliard 1967, Diamond 1972). There was found to be no overlap of wing length between 10 males and 10 females of the same subspecies <i>P.g. umbrosa</i> (Diamond 1972) whereas the subspecies at Myola is probably <i>P.g. guisei</i> (Rand & Gilliard 1967). The wing lengths of our sample would appear to be bi-modal with small birds (presumably females) ranging from 78-84 mm and large birds (presumably males) ranging from 90.5-95 mm. These ranges are similar to those found in the Eastern Highlands (Diamond 1972). By sexing the birds along these lines, means are obtained for males and females as given below. All six birds retrapped in 1988 were male using these guide-lines and all were males, by measurements, when originally ringed.					

	Wt	HB	WL	TL	CL
Males (n=8)					
mean	24.25	45.68	92.2	28.78	23.61
range	21.5-25.5	43.4-47.9	90.5-95.1	27.4-31.0	21.4-24.9
R&G	-	-	89	27	-
Diamond	21.3-27.7	-	85-94	-	-
Females (n=9)					
mean	19.78	43.16	81.22	26.82	21.57
range	16-25	41.1-46.8	78-84	24.3-29.4	20.1-23.0
R&G	-	-	81	-	-
Diamond	17.6-24.0	-	76-84	-	-

Sooty Melidectes

Melidectes fuscus

3552, 4, 12, 7, 1. Lake Omha. "Oldest" bird 491 days (1 year 4 months 4 days). A formula was devised using the 1986 data by which it would be possible to sex 90 % of birds using head and bill length and wing length (Hicks & Burrows, 1989), i.e.:

Wing length: female < 106 mm < male, head & bill: female < 55 mm < male.

Only four of the seven retrapped in 1988 had both head and bill length and wing length measurements taken. However, using the formula, these four birds worked out as 5 males and 7 females. The following calculations include 30 adults (14 males & 16 females) ringed in 1986.

	Wt	HB	WL	TL	CL
1986					
male mean	39.94	58.37	112	38.12	30.93
(n=16) range	36.7-42.9	56.0-61.9	108-115	35.8-40.6	28.3-32.3
female mean	30.94	58.37	100.9	34.36	27.89
(n=16) range	27.9-33.1	50.3-54.9	96-105	32.0-38.2	25.9-29.9
Total					
male mean	38.48	58.05	111.32	38.03	30.81
(n=21) range	32.0-42.9	50.0-61.9	106-116	34.6-41.8	28.3-32.3
female mean	30.61	52.92	101.13	34.25	27.64
(n=23) range	25.0-33.1	50.3-54.9	96-105	32.0-38.2	25.9-29.9
R&G male	-	-	106	34	-
female	-	-	99	-	-

Belford's Melidectes

Melidectes belfordi

3557, 6, 9, 0, 1. Lake Omha. Fifteen (including 6 caught in 1986, also at Lake Omha) have been ringed so far. Males are c.10% larger than females (Rand & Gilliard, 1967) but that is not evident from our sample so no means are presented here.

Common Smoky Honeyeater

Melipotus fumigatus

3550, 4, 1, 0, 1. Myola.

Rufous-banded Honeyeater *Conopophila albogularis*
600, 2, 25, 1, 1. UPNG. The following figures include two adults ringed in 1987, also at UPNG. So far 20 adults and 7 immatures have been ringed. The one retrap, an adult was in immature plumage when originally ringed.

	Wt	HB	WL	TL	CL
Adult					
n	19	20	20	20	20
mean	11.72	30.35	65.6	18.81	12.8
range	10.2-13.9	29.5-32.7	62-70	17.4-19.7	11.7-14.7
Immatures (n=7)					
mean	11.61	30.75	65.29	18.39	12.36
range	10.5-12.5	29.8-31.8	62-67	17.4-19.1	11.3-13.1
R&G	-	-	68	18	-

Blue-faced Parrot-Finch *Erythrura trichroa*
3591, 1, 2, 0, 1. Lake Omha.

Chestnut-breasted Mannikin *Lonchura castaneothorax*
3602, 1, 1, 0, 1. UPNG.

Mountain Firetail *Oreostruthus fuliginosus*
?, 2/3, 5, 0, 1. Lake Omha. Two males and two females.

Mountain Drongo *Chaetorhynchus papuensis*
3618, 3, 1, 0, 1. Mount Bosavi.

White-breasted Wood-Swallow *Artamus leucorhynchus*
543, 5, 2, 0, 1. UPNG.

Black Butcherbird *Cracticus quoyi*
701, 7, 1, 0, 1. Varirata NP.

White-eared Catbird *Ailuroedus buccoides*
3629, 7, 2, 0, 1. Brown River.

Macgregor's Bowerbird *Amblyornis macgregoriae*
3633, 6, 0, 1, 1. Myola.

Crested Bird of Paradise *Cnemophilus macgregorii*
3642, 5, 2, 0, 1. Lake Omha. Two females.

Loria's Bird of Paradise *Cnemophilus loriae*
3640, 5, 2, 0, 1. Myola. One male and one female. Pale gape line shown extending just beyond the eye, on the male bird in Beehler *et al.* (1986) was not always visible on the male in the hand. He appeared to be able to expose and cover it at will.

MacGregor's Bird of Paradise *Macgregoria pulchra*
?, 7, 2, 0, 1. Lake Omha.

Magnificent Riflebird *Ptiloris magnificus*
688, 7, 1, 0, 1. Varirata NP. One female.

Twelve-wired Bird of Paradise *Seleucidis melanoleuca*
3650, 7, 1, 0, 1. Brown River. One female.

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APPENDIX 1. Species ringed for the first time in 1988. 43 species

Wedge-tailed Shearwater <i>Puffinus pacificus</i>	Northern Fantail <i>Rhipidura rufiventris</i>
Grey-tailed Goshawk <i>Accipiter poliocephalus</i>	Black Monarch <i>Monarcha axillaris</i>
White-headed Stilt <i>Himantopus leucocephalus</i>	Friiled Monarch <i>Arses telescopthalmus</i>
Masked Lapwing <i>Vanellus miles</i>	Shining Flycatcher <i>Myiagra alecto</i>
Swinhoe's Snipe <i>Gallinago megala</i>	Black-breasted Boatbill
Rufous Woodcock <i>Scolopax saturata</i>	<i>Machaerirhynchus nigripectus</i>
Curlew Sandpiper <i>Calidris ferruginea</i>	Mountain Robin <i>Petroica bivittata</i>
Brown Noddy <i>Anous stolidus</i>	Banded Yellow Robin <i>Poecilodryas placens</i>
Emerald Ground-Dove <i>Chalcophaps indica</i>	Northern Scrub-Robin <i>Drymodes superciliaris</i>
Plum-faced Lorikeet <i>Oreopsittacus arfaki</i>	White-eyed Robin <i>Pachycephalopsis poliosoma</i>
Orange-billed Lorikeet <i>Neopsittacus pullicauda</i>	Grey Whistler <i>Pachycephala simplex</i>
Painted Tiger-Parrot <i>Psittacella picta</i>	Hooded pitohui <i>Pitohui dichrous</i>
Glossy Swiftlet <i>Collocalia esculenta</i>	Rusty Pitohui <i>Pitohui ferrugineus</i>
Alpine Pipit <i>Anthus gutturalis</i>	Crested Pitohui <i>Pitohui cristatus</i>
Chestnut-backed Jewel-Babbler	Mid-mountain Berrypecker
<i>Ptilorrhoa castanonotus</i>	<i>Melanocharis longicauda</i>
Blue-capped Ifrita <i>Ifrita kowaldi</i>	Dusky Myzomela <i>Myzomela obscura</i>
Pale-billed Scrub-Wren <i>Sericornis spilodera</i>	Spot-breasted Meliphaga <i>Meliphaga mimikae</i>
Large-billed Gerygone <i>Gerygone magnirostris</i>	Spotted Honeyeater <i>Xanthotis polygramma</i>
Chestnut-bellied Fantail <i>Rhipidura hyperthra</i>	Blue-faced Parrot-Finch <i>Erythrura trichroa</i>

Mountain Firetail <i>Oreostruthus fuliginosus</i>	Loria's Bird of Paradise <i>Cnemophilus loriae</i>
White-breasted Wood-Swallow	Magnificent Riflebird <i>Ptiloris magnificus</i>
<i>Artamus leucorhynchus</i>	Twelve-wired Bird of Paradise
Black Butcherbird <i>Cracticus quoyi</i>	<i>Seleucidus melanoleuca</i>

APPENDIX 2. SPECIES RINGED IN 1986-87 BUT NOT IN 1988. 32 SPECIES.

Eastern Reef-Egret <i>Egretta sacra</i>	Emperor Fairy-Wren <i>Malurus cyanocephalus</i>
Black-mantled Goshawk	Orange-crowned Fairy-Wren <i>Clytomyias insignis</i>
<i>Accipiter melanochlamys</i>	Bicoloured Mouse-Warbler
Comb-crested Jacana <i>Irediparra gallinacea</i>	<i>Crateroscelis nigrorufa</i>
Lesser Golden Plover <i>Pluvialis fulva</i>	White-bellied Thicket-Fantail
Whimbrel <i>Numenius phaeopus</i>	<i>Rhipidura leucothorax</i>
Terek Sandpiper <i>Tringa terek</i>	Rufous-backed Fantail <i>Rhipidura rufidorsa</i>
Black-billed Cuckoo-Dove	Golden Monarch <i>Monarcha chrysomela</i>
<i>Macropygia nigrirostris</i>	Canary Flycatcher <i>Microeca papuana</i>
Stephan's Ground-Dove <i>Chalcophaps stephani</i>	Garnet Robin <i>Eugerygone rubra</i>
Large-tailed Nightjar <i>Caprimulgus macrurus</i>	Greater Ground-Robin <i>Amalocichla sclateriana</i>
Brown-headed Paradise-Kingfisher	New Guinea White-Eye <i>Zosterops novaeguineae</i>
<i>Tanysiptera danae</i>	Olive Straightbill <i>Timeliopsis fulvigula</i>
Hook-billed Kingfisher <i>Melidora macrorrhina</i>	Scrub White-eared Meliphaga
Gray's Grasshopper-Warbler	<i>Meliphaga albonotata</i>
<i>Locustella fasciolata</i>	Yellow-gaped Meliphaga <i>Meliphaga flavirictus</i>
Clamorous Reed-Warbler	Black-throated Honeyeater
<i>Acrocephalus stentoreus</i>	<i>Lichenostomus subfrenatus</i>
Tawny Grassbird <i>Megalurus timoriensis</i>	Grey-headed Mannikin <i>Lonchura caniceps</i>
Golden-headed Cisticola <i>Cisticola exilis</i>	Singing Starling <i>Aplonis canteroides</i>
	Black-backed Butcherbird <i>Cracticus mentalis</i>

RANGE EXTENSION FOR THE CLARET-BREASTED FRUIT-DOVE *PTILINOPUS VIRIDIS*

ROGER K. HICKS

On a visit to Manus in May 1989, Claret-breasted Fruit-Doves were noted on two occasions. As this species had not previously been recorded from Manus (Coates 1985) details of these observations are presented here.

On the evening of 11 May 1989, while bird-watching c. 3 km from Lorengau on the Trans-Island Highway, a pair of Claret-breasted Fruit-Doves were observed for nearly 20 minutes while they sat in an unidentified fruiting tree, in the company of a pair of Cicadabirds *Coracina tenuirostris*, Black-headed White-Eyes *Zosterops hypoxantha* and a Singing Starling *Aplonis cantoroides*. The fruit-doves were in view nearly the whole time and I watched them using 10x binoculars from a distance of less than 30 m. The following notes were made: both birds were mainly "fruit-dove" green with a broad, triangular-shaped (apex uppermost) claret patch extending from the throat onto the breast. The head was greyer than the body and the undertail coverts were off-white. I did not note the colour of the bill nor any markings on the inner wing. This breast patch was smaller on the presumed female, but was not a small crescentic mark as in the northern New Guinea race *P. v. salvadorii*, suggesting these birds are one of the eastern races *P. v. vicinus* or *P. v. lewisii*. The second observation on 12 May 1989, c. 10 km from Lorengau along the Trans-Island Highway was brief, but long enough to identify the species. Other fruit-doves were seen but not identified. I have previously seen Claret-breasted Fruit-Dove once, on Bougainville in June 1986.

The Superb Fruit-Dove *P. superbus*, with which I am familiar from the Port Moresby area and the Yellow-bibbed Fruit-Dove *P. solomonensis*, which I have seen once on Bougainville, have both been recorded on Manus. I identified neither during my stay on Manus, but do not think either could be mistaken for a Claret-breasted Fruit-Dove.

In PNG the Claret-breasted Fruit-Dove has a disjointed range, being found along the north coast of New Guinea east to Madang, in the D'Entrecasteaux islands (Goodenough, Fergusson and Normanby) and the North Solomon Islands (Nissan, Buka and Bougainville) (Coates 1985). In the Bismarck Archipelago it is known only from Lihir Island, north of New Ireland (Coates 1985, Burrows 1987). Manus lies c. 250 km north of Madang and c. 600 km west of Lihir, so this observation represents a considerable range extension for this species.

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