Vocalisations, Morphology and Possible Nest of Black-chinned Robin *Poecilodryas brachyura* at Cyclops Mountains Nature Reserve, Irian Jaya (Papua)

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Ringkasan. Robin Dagu-hitam *Poecilodryas brachyura* kami amati dan kami tangkap memakai jala kabut di Cagar Alam Pegunungan Cyclops, 14 km sebelah Baratlaut dari Sentani, Papua. Spesies robin ini memiliki badan lebih berat dan sayap lebih panjang daripada Robin Belang *P. hypoleuca* yang simpatrik, tetapi dengan penyebaran lebih luas. Robin Dagu-hitam juga lebih peka terhadap gangguan pada lingkungannya maka belum pernah ditemukan di hutan sekunder. Beda dari yang dilaporkan pada umumnya, kicauan Robin Dagu-hitam terdiri dari dua siulan pendek, disusuli "ii-tong" di mana bagian kedua nadanya jauh lebih rendah. Diberikan deskripsi sarang dan telur yang mungkin berasal dari robin ini dan ditemukan pada 11 September 2003.

The Black-chinned Robin *Poecilodryas brachyura* is a little-known lowland robin with a relatively restricted distribution in north-western New Guinea, ranging from the Sepik River to the Vogelkop Peninsula and Yapen Island (Rand & Gilliard 1967; Beehler *et al.* 1986). Throughout its range it is broadly sympatric with the more widespread Black-sided Robin *P. hypoleuca*, but whereas the latter species may be found at the forest edge and in secondary growth, the Black-chinned Robin is said to keep to the forest interior (Stein 1936; Diamond 1986; Coates 1990). The nests and eggs of neither species have been described (Rand & Gilliard 1967; Coates 1990).

During a mist-netting study in the Jayapura region of West Papua, we made observations of both species between 9 September and 8 November 2003. In this paper we describe the calls and a possible nest and egg of the Black-chinned Robin, and contrast its habitat and morphology with that of the Black-sided Robin (Plate 1). The study was conducted at two sites: (1) foothill rainforest (180 m asl) near the western end of the Cyclops Mountains Nature Reserve (2°30'27"S; 140°24'49"E), 14 km northwest of Sentani, and (2) floodplain forest (50 m asl) near Nimbokrang (2°32'25"S; 140° 4'28"E), 48 km west of Sentani. At each locality, we established two 16 ha (400 x 400 m) mist-netting plots: one in pristine primary rainforest and the other in nearby logged (secondary) rainforest. Each of the four plots was sampled for 80 h over nine consecutive days. Using dial calipers, we measured the following on all newly captured individuals: wing, head-bill (from the tip of the bill to the back of the skull),

exposed culmen, tail and tarsus length; weights were taken using Pesola spring balances.

Habitat and morphology

Nine Black-chinned Robins were caught at Cyclops Mountains NR, and five Black-sided Robins were caught at Nimbokrang. The Black-chinned Robins were mist-netted on five transects in primary (foothill) rainforest only, while two of the five Black-sided Robins were trapped on two transects in logged forest, and the remaining three individuals on two transects in primary (floodplain) forest. Although we did not record the Black-sided Robin at our study sites in Cyclops Mountains, Petocz *et al.* (1983) listed this species, but not the Black-chinned Robin, for Cyclops Mountains NR. Neither species was recorded during the RAP survey at Yongsu Dosoyo (40-70 m asl; 2°25.994'S; 140°29.147'E) on the northern edge of Cyclops Mountains NR (Setio *et al.* 2002). However, Jared Diamond and David Bishop found both species on the southern side of these mountains: the Black-sided Robin in second growth at the base, and the Black-chinned Robin in the forest at higher altitudes (J. Diamond 2009, *in litt*.). The two species were also sympatric in a remote area of the Van Rees Mountains (to the west of the Jayapura region), where the Black-sided Robin was again common in natural second growth and forest tree-fall gaps, whereas the less abundant Black-chinned Robin was confined to the forest interior. Moreover, the two species apparently differed in their foraging ecology, the Black-chinned Robin foraging mostly between 5 and 15 m above the ground, while the Black-sided Robin foraged in the understorey, rarely ascending to 7 m (J. Diamond 2009, *in litt*.).

At our study sites, Black-chinned Robins were significantly heavier (t = 4.16, df = 7, $p < 0.01$), and had longer wings (t = 3.52, df = 10, $p < 0.01$) and tarsi (t = 4.30, df = 9, $p < 0.01$), than Black-sided Robins (Table 1).

Table 1. Morphometrics of Black-chinned and Black-sided Robins (n = 7 and 5, respectively) in the Jayapura region, Papua. All measurements in millimetres (mm) except weight.

Character	Species		***P***
	P. brachyura	*P. hypoleuca*	
Weight (g)	24.6 (1.99)	18.8 (2.61)	**
Wing length	81.1 (4.34)	73.4 (3.29)	**
Tarsus length	24.3 (1.47)	21.5 (0.74)	**
Tail length	52.0 (2.52)	53.0 (5.34)	ns
Head-bill length	36.6 (1.92)	37.1 (1.83)	ns
Exposed culmen	19.2 (0.76)	19.9 (2.48)	ns

However, there were no significant differences between the two species in the length of the tail, head-bill or exposed culmen ($p > 0.05$; Table 1). These data indicate that the Black-chinned Robin is relatively short-tailed and short-billed, compared to the Black-sided Robin. The weight and wing-length differences in our sample are consistent with body length measurements given by Beehler *et al.* (1986): 145 mm and 140 mm for Black-chinned and Black-sided Robins, respectively; although Rand & Gilliard (1967) gave the maximum body length for both species as 6 inches (152 mm).

Calls and possible nest

Both Beehler *et al.* (1986) and Coates (1990) describe the song of the Black-chinned Robin as a short whistled syllable usually given about nine times in a rather plaintive, rapid, descending series, and resembling the call of the Fan-tailed Cuckoo *Cacomantis flabelliformis*. During our observations of two pairs of this species around our camp in Cyclops Mountains NR, however, we never heard such a song. Tape recordings and notes taken in the field prove that the most frequent song consisted of two short whistled notes at about 1 s intervals, the second note slightly lower than the first, followed 2-3 s later by a disyllabic whistle "ee-tong", the first syllable slightly higher in pitch than the first of the previous two notes, and the second syllable much lower than the first. The disyllable was prefaced by a soft melodious phrase, audible only at close range. The song was repeated 10 or more times at 6-8 s intervals. Diamond (2009, *in litt.*) described the song in both the Cyclops Mountains and Van Rees Mountains as high-pitched, loud and piercing, consisting of short phrases of two notes alternating with phrases of three notes, the final note of either phrases being a "crescendoing down-slur". He also likened the call to that of *Pachycephala* (typical whistlers) and a loud version of the Rusty Mouse-warbler *Crateroscelis murina*. Therefore, Diamond's and our song descriptions share two key elements: three (or two) notes, the last of which is lower than the others, i.e. inflected downward.

On 11 September 2003 we captured a presumed female Black-chinned Robin that had a well-developed brood patch. A nest was later found c. 50 m from the site where this bird was caught. The nest was a deep cup covered in green moss in the fork of a sapling tree, 2.2 m from the ground, and only 40 cm from the top of the plant. It contained a single egg that was white with profuse reddish-brown markings at the larger end. As no activity was observed at the nest during six visits over 36 h, we presume that the nest was abandoned. The composition and site of this nest is similar to, albeit higher than, that described for the Banded Yellow Robin *P. placens*, which Stein (in Rand & Gilliard) described as "about 2.5 feet up in a sapling" and "built of moss". It also resembles that of the closely related Grey-headed Robin *Heteromyias albispecularis* in northeast Queensland (Frith & Frith 2000).

At Brown River, in southeast Papua-New Guinea, the Black-sided Robin was found breeding in September, November, December and January (Bell 1982; Coates, pers. obs.), indicating breeding in the late dry season and early wet season of that region, although there is also evidence of breeding in April and May (see Coates 1990). Breeding by Black-chinned Robins in September therefore seems plausible, and we suggest that further field observations of this species at this time would be beneficial in confirming or refuting our observations.

In conclusion, our data on the habitat and morphology of the Black-chinned Robin accord with the scant information available for this species, but our recordings of its song do not. Our descriptions of its song are, however, quite consistent with those made by J. Diamond, suggesting that either the literature is incorrect in this regard, or the species has two (or more) vocalisations. Although our sample size is small, the larger Black-chinned Robin appears to be less tolerant of disturbance than the Black-sided Robin, as the former was never observed in secondary (logged) forest. This agrees with observations by Diamond (2009, *in litt.*), who observed this species only in the forest interior in four mountain ranges (including the Bewani and Torricelli Mountains of PNG).

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Plate 1. Black-chinned Robin *P. hypoleuca* near Nimbokrang, Papua.