

First nest and juvenile plumage descriptions of the Ashy Robin *Heteromyias albispecularis* of Vogelkop Peninsula, West Papua

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Ringkasan. Secara tradisional, terdapat lima anak jenis burung Robin Badut yang menempati wilayah pegunungan berbeda sepanjang pusat barisan pegunungan New Guinea. Namun demikian, beberapa studi terakhir, menjelaskan bahwa *nominate form* di Semenanjung Vogelkop Papua Barat secara genetik dan juga secara morfologis berbeda dari *form* yang berada dibagian timur, yang sudah dikelompokkan kedalam satu spesies yang tersebar secara luas yaitu Black-capped Robin *H. armiti*. Dalam laporan ini untuk pertama kali kami menjelaskan dua sarang, satu telur dan satu burung muda Robin Badut yang endemik di Vogelkop dan mendiskusikan musim berbiaknya. Struktur dan komposisi sarang serta lokasi-lokasi sarang memiliki kesamaan dengan Black-capped Robin dan Grey-headed Robin yang endemik Australia. Jumlah telur (satu) Robin Badut nampaknya sama seperti yang sebelumnya, tapi beberapa ciri pada telur mungkin unik. Tidak seperti dua spesies yang lain, musim berbiak Robin Badut termasuk musim dingin austral (Juni) dan panas (Desember). Warna tubuh sebagian burung muda nampaknya lebih memiliki kesamaan dengan Grey-headed Robin dibanding dengan Black-capped Robin dalam hal kurangnya garis mata yang jelas dan bagian pipi yang gelap.

Introduction

The Australasian robins (Petroicidae) are a group of small insectivorous passerines consisting of about 46 species, of which 40 occur in Australia and New Guinea (Boles 2007). Almost nothing is known of the nesting biology of more than half of the 25 species of New Guinean robins. Until recently the robin genus of *Heteromyias* has comprised just two, primarily montane species: the Grey-headed Robin *Heteromyias cinereifrons* of north-eastern Australia and Ashy Robin *H. albispecularis* of New Guinea (Boles 2007). Although the former species is sometimes lumped with the latter, a study of DNA sequence data indicated that the two taxa are genetically distant, and moreover, that the New Guinea forms may comprise more than one species (Christidis *et al.* 2011). Indeed, Pratt & Beehler (2015) separated the Ashy Robin of the Arfak and Tamrau Mountains on the Vogelkop Peninsula of West Papua (formerly part of Irian Jaya), from the two to four other New Guinea subspecies, which were combined into a single species named the Black-capped Robin *H. armiti*.

In this report, we provide photographs and descriptions of two nests and a juvenile of the Vogelkop-endemic Ashy Robin, which as far as we know constitute the first account of the breeding behaviour of this taxon.



Plate 1. Adult Ashy Robin, above Syoubri village, West Papua, December 2008.

Observations

All observations were made in the vicinity of the “German Camp” (01°07’19”, 133°54’08”) and “Sicklebill Camp” (01°07’38”S, 133°54’20”E), at 2040 and 2150 m above sea-level (asl), respectively, in the cloud forest above the village of Syoubri (1480 m asl), in the Arfak Mountains of the Vogelkop Peninsula, West Papua. The Ashy Robin (Plate 1) appears to be a common resident at these altitudes (ZW, pers. obs.). On 4 December 2008, ZW showed TL a nest of an Ashy Robin near the “Sicklebill Camp”. It was built in the top of a low tree-fern c.1.0m from the ground, and contained one egg. Although no measurements of the nest or egg were taken, the photograph (Plate 2) suggests that the ground colour of the egg was pale buffy-yellow, overlain with scattered pale brown and grey spots, and at the larger end, blotches of brownish-grey, surrounded by pale orange-brown stains.

Almost seven years later, on 20 June 2015, ZW and RP discovered another nest of the Ashy Robin, c.150m from the “German Camp”. The nest was situated in a fork of a sapling tree c.1.3m from the ground, and was composed of vines and rootlets, with an outer covering of moss and lichen (Plate 3). It contained a single hatchling (Plate 4), which was naked, though primary quills were already present. The nest also contained a large eggshell fragment, visible under the foot of the chick in the photograph.

On the morning of 25 August 2015, BG observed a robin in the vicinity of the “German Camp”. Its head and wing pattern was obviously that of the adult Ashy Robin, but the rufous feathering on its breast and head (Plate 5, Fig. 1) indicated that it was a young bird. The bird was clearly undergoing moult, replacing its juvenile plumage with adult-type feathers. Whilst the head was still mostly juvenile, the back and underparts were mostly new grey and whitish feathers. The remiges and rectrices were seemingly of one generation, and fairly unworn. The details of the wing coverts were overlooked in the field, but the photographs showed rufous tips to the greater and median coverts. The colour of the iris could not be ascertained, but from the photographs they look dark grey.



Plate 2. Nest and egg of Ashy Robin, above Syoubri village, West Papua, December 2008.

During the few minutes it was under observation, it foraged amongst the leaf litter of the forest floor, and seemed quite independent, and not reliant on parents for food. Perching upon fallen sticks, it was almost motionless until it pounced on a food item and hopped off to a new vantage point. Although an adult was seen c. 50 m away, there was no reason to assume it was the parent of the young bird.

Discussion

Nest and clutch size

Although our examination of each of the two nests of Ashy Robins was cursory, our photographs suggest that they resemble nests of the other *Heteromyias* robins. The Black-capped Robin's nest is described as an untidy shallow cup composed of rootlets, vine-tendrils, twigs, fibrous stems, leaves and a little moss, and lined with fine rootlets, placed 0.9 to 3.0m up on a slender branchlet of a sapling, next to the main stem (Rand & Gilliard 1967; Harrison & Frith 1970; Coates 1990). The nest of the Australia-endemic Grey-headed Robin is similar, but also contains leaf skeletons, bark-fibre, spider-web and lichen, with moss incorporated round and beneath the external rim, and lined with horsehair fungus as well as finer blackish tendrils and rootlets (Frith & Frith 2000; Higgins & Peter 2002). Moss appeared to be a major constituent of the exterior of the 2015 Ashy Robin nest (Plate 3), while the interior was lined with black rootlets and tendrils (Plate 4). Plate 3 also shows many twigs or orchid stems hanging below the nest, resembling some nests of the Grey-headed Robin that have portions of material that hang 30-60 cm below nest (Frith & Frith 2000). Of 73 nests of the Grey-headed Robin, 59% were built in upright forks of Lawyer Vine *Calamus* sp (rattan or climbing palm), while 40% were built in a fork of a sapling and the remaining one (1.4%) in the crown of a tree-fern. The two Ashy Robin nests belonged to the latter two categories, despite the presence of Lawyer Vine in the Arfak Mountains (Gibbs 1917).



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Plate 3. Second nest (2015) of Ashy Robin above Syoubri village, West Papua.



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Plate 4. Nestling Ashy Robin, June 2015. Note eggshell under its foot.



BEN GREEN

Plate 5. Juvenile Ashy Robin, above Syoubri village, West Papua.



BEN GREEN

Fig. 1. Watercolour painting of juvenile Ashy Robin, based on photographs and field sketches.

Clutch size is known for eight of the 19 montane and hill-forest New Guinean robins, and three of the six lowland species (Donaghey 2015). Six of the montane robins, including the Black-capped Robin, have a one-egg clutch, while the remaining two species at least sometimes lay two eggs. In the Grey-headed Robin of Australia, 58% of clutches were of two eggs, and the remainder of one (Frith & Frith 2000, n=46; Higgins & Peter 2002, n=26). Consistent with the Black-capped Robin, the 2008 Ashy Robin nest

had one egg (Plate 2), and the 2015 nest, one nestling (Plate 4), though the latter nest also contained some eggshell. The latter feature is most unusual as eggshell is normally removed from the nest, soon after hatching, by one of the parents. Of 70 eggs of Grey-headed Robin, only 12 failed: remains of yolk and/or shell fragments of four eggs were found beneath the nest; two eggs were infertile; two eggs were deserted; and four disappeared (three from one-egg clutches), presumably taken by a predator (Frith & Frith 2000). None of the 48 nests in the latter study contained eggshell. It is possible that the eggshell in the Ashy Robin nest belonged to a whole egg that did not hatch, and subsequently became buried in the nest lining, in which case it would probably have been laid prior to the one from which the nestling hatched.

The egg of the Ashy Robin (Plate 2) generally resembles those of the Black-capped Robin, which Coates (1990) describes as being “pale cream, slightly olivaceous, blotched and spotted with browns, buff and purple-grey, the markings more intense at the large end where there is some brown-black streaking” (p. 190). However, no streaks are evident on the egg in Plate 1. Most eggs of the Grey-headed Robin are dull creamy-buff, thickly covered with indistinct markings of yellowish or pale brown, especially towards the larger end, but other eggs are greenish-white, spotted and blotched brown, with underlying markings of bluish-grey (Frith & Frith 2000; Higgins & Peter 2002). The orange-brown markings on the Ashy Robin egg seem to be unique, but it is not known if this is a consistent feature of the species.

Breeding season

The photographed Ashy Robin egg was presumably laid in late November or early December. Assuming the incubation period of the Ashy Robin is similar to that of the Grey-headed Robin, which lasts 17-19 days (Frith & Frith 2000), the nestling in Plate 4 probably hatched from an egg that was laid within the first two days of June or last two days of May. Young Grey-headed Robins fledge 11 to 14 days after hatching, and are still dependent on their parents more than 45 days after fledging (Frith & Frith 2000). The abovementioned juvenile Ashy Robin appeared to be independent, so it had probably fledged in early July, and by further extrapolation, probably emanated from an egg laid c.30 days previously, i.e. early June. As this estimated month of egg-laying matches that of the nestling in Plate 4, it is possible that the two sets of observations refer to the same individual. In short, the breeding season at this site appears to include both the austral winter (June) and summer (December).

In contrast, both the Black-capped and Grey-headed Robins appear to breed mainly in the austral spring and early summer, coinciding with the late dry and early wet seasons, which is generally when most insectivorous birds breed in New Guinea (Coates 1990; Pratt & Beehler 2015) and the Wet Tropics of northeast Australia (Lavery et al. 1968; Frith & Frith 2005). A nest and egg of the Black-capped Robin was collected in far south-eastern PNG in late December (Harrison & Frith 1970), while several nests, each with a single nestling, were found on Mount Hagen in mid-September to early October (Loke in Sims 1956). Furthermore, a juvenile was obtained on the Huon Peninsula in early November (Coates 1990). These records indicate that the breeding (egg-laying) season extends from early September to late December at least.

A detailed study of the Australia-endemic Grey-headed Robin revealed that, as in the Black-capped Robin, eggs were laid from September to December, with a peak in October, while the peak fledgling month was November (Frith & Frith 2000). However,

climatic differences between sites affected the start of the breeding season. At a higher, more northerly site, where spring temperatures increased earlier and heavier winter rains ensured greater litter invertebrate abundance, nesting began three to four weeks earlier than in the lower, southern site (Frith & Frith 2000). In the Arfak Mountains, at least 20 bird species breed during the austral autumn and winter (Z. Wonggor & R. Noske, unpubl. data), suggesting that the local climate differs from that of montane Papua-New Guinea.

Juvenile plumage

The juvenile plumage of the Black-capped Robin is described by Coates (1990) as having the crown and back chestnut, indistinctly streaked lighter, and the ear-coverts being dark chestnut, while the eyebrow and underparts are lighter chestnut. Immatures are described as being like adults, but with some greater wing-coverts tipped rufous-chestnut, and the bill being pale with a darker base. Pratt & Beehler (2015) include an illustration of the juvenile Black-capped Robin, though only the foreparts are shown. It depicts a largely rufous bird with dark brown on the crown, nape, chin, lores and cheeks.

The only description of the juvenile Grey-headed Robin of Australia is based on a specimen of a bird moulting from juvenile to first immature plumage, like the bird we describe, as well as photographs of a fledgling c.17 days old (Higgins & Peter 2002). The latter description suggests that the juvenile's upperparts, excluding the white wing markings, are uniformly rufous-brown except for the lighter eyebrow, chin and throat, and darker lores (Higgins & Peter 2002). Immature Grey-headed Robins resemble adults except for the retained juvenile alula, remiges, primary wing coverts and a few secondary coverts. The Arfak juvenile also apparently retained its juvenile median coverts.

In summary, this bird seems to have greater resemblance to the partial juvenile Grey-headed Robin than the Black-capped Robin in its lack of an obvious eyebrow and dark cheek patch. This is not surprising given that the adult plumage of the Ashy Robin is arguably more similar to that of the Grey-headed Robin than to the Black-capped Robin.

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