First nest and breeding behaviour of Tricoloured Parrotfinch *Erythrura tricolor* on Atauro Island, Timor-Leste

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Ringkasan: Sarang aktif Bondolhijau Triwarna *Erythrura tricolor* ditemukan pada bulan Maret 2014 di pulau Atauro, Timor-Leste. Sarang ditemukan di dinding berlumut hutan tropis yang hijau sepanjang tahun, Gunung Manucoco pada ketinggian sekitar 940 m dpl. Temuan ini merupakan laporan pertama sarang dan perilaku berbiak spesies ini yang berhasil didomumentasikan di habitat alaminya, juga memperkuat temuan dan pendapat sebelumnya mengenai perilaku berbiak spesies ini yang sempat dilaporkan (Februari sampai Maret) di Atauro dan kawasan Timor.

Introduction

The Tricoloured Parrotfinch *Erythrura tricolor* has a restricted range, occurring only in the central and eastern Lesser Sundas, including Timor, Atauro, Wetar, Romang, Damar, Babar and Tanimbar (Coates & Bishop 1997; Payne 2010). Its population size has not been estimated, but it is not considered threatened (Birdlife International 2014). The species mostly inhabits lowland forest edge and small clearings in monsoon forest, woodland, secondary growth, bamboo thickets and cultivated areas from sea-level to 1200 m (Coates & Bishop 1997) or 1400 m (Payne 2010). Recent field observations have, for example, shown that it is fairly common on Wetar (Trainor 2009) and locally abundant on Babar Island (Trainor & Verbelen 2013**),** though generally it is uncommon to rare.

Lying 23 km north of Timor Island, Atauro is politically part of Timor-Leste, which comprises the eastern half of Timor island, although all neighbouring islands such as Alor to the northwest and Wetar to the northeast are part of Indonesia (Fig. 1). The occurrence of Tricoloured Parrotfinch on Atauro was first reported by Trainor & Soares (2004), and further fieldwork suggested that the species was occasional on the island with few observations (Trainor & Leitao 2007). Although the nest, eggs and young of the species have been described for captive birds (Payne 2010), the breeding season in the wild is unknown (R.B. Payne *in litt*. 2015).

Nest observations

I visited Atauro island from 15 to 22 March 2014 and focused my fieldwork on the forested areas between Makadade village (8°15’43”S, 125°33’40”E) and the summit of Mount Manucoco (8°15’57”S, 125°34’30”E). Small numbers (1-5) of Tricoloured Parrotfinch were observed on a daily basis suggesting that the species was relatively common in the limited forested areas of the central plateau of Atauro. During the first few days, my observations were limited to views of birds in flight when they were flushed as I walked through dense vegetation along the forest edge. Some individuals were also observed foraging inconspicuously within the dense foliage of tall trees in the forest. The typical high pitched and rather soft “tsee-tsee” contact calls were usually the first indicator of their presence. However, due to the recent discovery of an undescribed parrotfinch taxon (that resembles the Tricoloured Parrotfinch rather closely) in the mountains of Indonesian Timor Barat (Birdtour Asia 2012), I was particularly vigilant and tried to obtain good views of every parrotfinch that I found on Atauro.

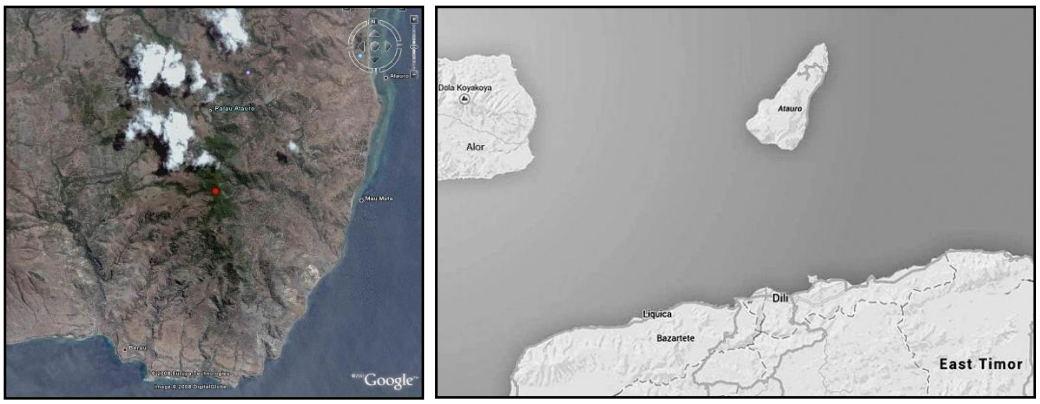

Figure 1. Location of tropical evergreen forest and observation site (red dot) on Mount Manucoco on Atauro Island (left), and location of Atauro in relation to Timor-Leste and Alor Island (right).

On 21 March 2014 I was photographing and recording calls of a pair of Tricoloured Parrotfinch that was foraging in a tree in the montane forest at c. 939 m asl on Mount Manucoco (8°15'52"S, 125°34'31"E). I followed the female, distinguished from the adult male by its duller plumage, as it moved through the dense foliage of the forest trees until it flew into a nest. The nest was a domed structure with a side entrance hole, and was composed of fine twigs and moss (Plate 1). It had been built on a small, hanging side-branch of an old rainforest tree, c. 11 m above the ground on a very steep ridge, but was well hidden between the leaves and epiphytes growing on the surrounding branches. Due to the height of the nest it was impossible to check if there were eggs or nestlings in the nest, but the female was repeatedly observed entering the nest for very short periods (less than 60 s). The female was not seen carrying any nesting material but it is not known whether or not she was carrying food. Based on her regular visits to the nest, every 10-15 min on average, over c. 3 h of observation, I assumed she was feeding young.

Although the male was often seen foraging in trees in the immediate vicinity of the nest (Plate 2), he was never observed entering the nest. The subtle, high pitched trilling calls of the male were heard on several occasions and also sound recorded (XC 182041). When both birds were foraging in the tree foliage, they seemed to stay close together. On two occasions, the birds were observed chasing each other through the canopy, which on one occasion lasted for more than one minute. At the end of one such "pursuit flight" the male and female landed together on a branch and started preening each other. After several minutes of allopreening, the male flew a very short distance (c. 75cm) and landed again on the same branch and both female and male now separately continued to preen their feathers for more than 5 min (Plate 3).

Discussion

The above observations appear to represent the first documentation of the nesting of Tricoloured Parrotfinch in the wild. Captive birds have been reported nesting in the tops of coconut palms, but there are no descriptions of their nests or nest sites (Clement *et al.* 1993; Payne 2010). The nest I found appears to resemble those of other parrot-finches, which are described as being ball-shaped with a side entrance. The nest site is also broadly consistent with those of its congeners; the Tawny-breasted Parrotfinch *E. hyperythra*, for instance, builds its nest 1-12 m above the ground in a tree, among ferns, orchids or moss (Payne 2010), while nests of the Blue-faced Parrotfinch *E. trichroa* have been recorded

as high as 33 m in rainforest trees (Higgins *et al.* 2006). Although most species in the family to which parrotfinches belong (Estrildae) are known to indulge in allopreening, some including the Gouldian Finch *E. gouldiae* and other parrotfinches are not known to preen their social partners (Payne 2010). Thus my observations of allopreening by the nesting pair of Tricoloured Parrotfinches may be the first for the genus.

Plate 1. Active nest of the Tricoloured Parrotfinch, Atauro island.

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Plate 2. Adult male near nest.

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Plate 3. Female (left) and male (right) together on branch near nest.

Based on the incubation and nestling periods typical of the genus *Erythrura*, which last 12-14 days and 21 days respectively (Payne 2010), and assuming the nest I observed had young, the clutch was probably laid in February or early March. This is remarkably consistent with previous observations on Atauro, where two fledglings were observed on 22 April 2005, suggesting that egg-laying had occurred in late February or early March (Trainor & Leitao 2007). The only other documented breeding record of this species refers to a juvenile collected in mid-June at Bonleo, Timor Barat (Hellmayr 1914), suggesting that eggs were laid in March or early April. The only congener in the Lesser Sundas, the

Tawny-breasted Parrotfinch, is recorded as nesting in May and June on Flores (Verheijen 1964).

Breeding records of Black-faced Munia *Lonchura molucca* and Scaly-breasted Munia *L. punctulata* on Flores and Timor indicate that other grassfinches nest mostly from March to June or July, coinciding with the end of the rainy season and start of the dry (Verheijen 1964; Noske 2003). This breeding season is also consistent with that of most grassfinches in the monsoon-tropical savannas of northwest Australia, and coincides with the period of peak availability of grass seeds (Tidemann & Woinarski 1994). Moreover observations of the Blue-faced Parrot-finch in northeast Australia suggest breeding from March to May (Higgins *et al.* 2006), despite their primary food, unlike most of the above species, being grass seeds on the edge of rainforest (Craig 2003).

Acknowledgements

I thank Colin Trainor for providing me with literature and practical information prior to my trip to Atauro Island, Thomas Soares for guiding on Mount Manucoco and accommodating me in his house in Makade village, Ian de la Rosa and Rick Jacobsen and Leonie Venroij for their help and hospitality while I was in Dili, and Richard Noske for his assistance with the literature and revisions of this paper. Thanks also go to Peter Clement for clarifying information on breeding and elevation use, to Robert Payne for clarifying breeding information and to James Eaton for comments on the paper. Adam Supriatna kindly provided the Indonesian summary.

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