

REDISCOVERY

Defying extinction? The possible rediscovery of Scarlet-breasted Lorikeet *Trichoglossus forsteni* form *mitchellii* on Bali, Indonesia

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The taxa which comprise the Indonesian endemic species Scarlet-breasted Lorikeet *Trichoglossus forsteni*, also known as the Sunset Lorikeet (Eaton *et al.* 2016, del Hoyo *et al.* 2019), were previously treated as a group of subspecies in the widespread Rainbow Lorikeet *T. haematodus* complex, but differ from the morphologically closest forms *T. haematodus*, *T. rosenbergii* and *T. moluccanus* in plumage and/or size (del Hoyo & Collar 2014). Currently four subspecies of Scarlet-breasted Lorikeet are recognised: *T. f. forsteni* from Sumbawa, Lesser Sundas, *T. f. mitchellii* from Bali and Lombok, *T. f. djampeanus* from Tanahjampea Island in the Flores Sea, and *T. f. stresemanni* from Kalaotoa Island, also in the Flores Sea (del Hoyo *et al.* 2019). Here we report the rediscovery of *Trichoglossus forsteni* in the wild on Bali, where it was declared to be extinct in 2015 (Eaton *et al.* 2015).

On 26–27 October 2019 six lorikeets were observed in a forested highland area near Bedugul, Bali, behaving in a relatively conspicuous and noisy manner—flying, perching, foraging and squeaking. The identification as form *T. f. mitchellii* was verified by extensive video footage and still photographs. The form *mitchellii* is the smallest and is characterised by the adults having a blackish-brown head; crown showing olive-green streaks; often a rufous-tinged occiput; a red breast with minimal or no barring; yellow-green collar lacking a dark blue band; purple-black abdomen; the least blue-tinged black belly-patch; and the least amount of dark bars that tend in the other taxa to coalesce into a blackish mantle-patch. A comprehensive review of the characters that may be used to assign individuals to subspecies is the subject of Collar (2017), and study of this is strongly recommended.

The Rainbow Lorikeet was reported as common on Bali above 1,300 m in the 1910s and 1920s (Stresemann 1913, Rensch 1930), but thereafter it was apparently heavily exploited, with large numbers exported to Europe (Eaton *et al.* 2015). Latterly it has seldom been seen, e.g. it was not seen in 1982 by Ash (1984) during his surveys of Bali, although as Victor Mason stated in Mason & Jarvis (1989) ‘... as recently as three or four years

ago, I used to see these Lorikeets, often in pairs, offered for sale in the Candikuning market-place at Bedugul. I was assured that they were of local provenance and were trapped high up in the mountains, which was doubtless true try as I might, I could never find them in the wild....’. He also affirmed that they ‘answered the description of the race *mitchelli*’. MacKinnon & Phillipps (1993)

Plate 1. Tall *Dacrycarpus imbricatus* conifer trees where Scarlet-breasted Lorikeet *Trichoglossus forsteni mitchellii* were found foraging, near Bedugul, Bali, Indonesia, October 2019.





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Plates 2 to 4. Scarlet-breasted Lorikeet, near Bedugul, Bali, 26 October 2019.

stated that Rainbow Lorikeet was rare on Bali but suggested that escaped birds were also seen and might occasionally breed, and that it had formerly been common 'in sub-montane forests near lake Bratan, Bali' (Bedugul lies by this crater lake). Subsequently, Mason (2011) listed the species as rare on Bali, whilst Eaton *et al.* (2015, 2016) declared *mitchellii* to be extinct on Bali on the strength of repeated fruitless searches by T. Arndt. However, on Lombok, where it had also not been seen for many years, Amin & Yusuf (2018) published an image taken there on 13 September 2011, and a flock of 18 was found above 1,800 m on Gn Rinjani in September 2015 (Eaton *et al.* 2015).

Prior to our fieldwork reported below, we obtained preliminary information from local villagers, from Department of Natural Resources (BKSDA) forestry officers and from former biology students of Udayana University, Bali, who advised us that in 2000 they had successfully surveyed mountains west of Bedugul for Yellow-throated Hanging Parrot *Loriculus pusillus* with BKSDA field staff and had also found a flock of 10 Rainbow Lorikeet on Gn Pohen. Unfortunately, although they reported this to BKSDA officials, they did not publish their work and they have no confirmatory photographic documentation.



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Fieldwork leading up to our sightings

On 1–3 May 2019, ODP and MS explored the Bedugul area, looking specifically for Scarlet-breasted Lorikeet based on the preliminary information summarised above, and searched the forests on Gn Mangu, Gn Pohen and the valley between these peaks. On 2 May we were guided in the forests on Gn Pohen by a local villager who frequently visited the area to search for passion fruits and claimed that he had seen lorikeets in flocks of 10–16. At 14h20 we found four lorikeets perched, resting and squeaking, high up in the canopy of a *Dacrycarpus imbricatus* conifer tree—*imbricatus* is confined to Java, Bali, the Lesser Sunda islands (Lombok–Timor) and south-west and central Sulawesi; it grows up to 50 m tall (50–70 cm dbh) and has a straight clear bole of up to 20 m and often a dome-shaped crown and abundant, spreading branches. We had the birds in view for about five minutes before they flew away. The back light was very bad and as a result our images were very poor and did not help in identification. Although we were certain that they were *Trichoglossus* lorikeets, we were not sure which taxon they were. This observation was made about 108 years after Stresemann found lorikeets in this same general area. In the meantime, it appears that local villagers were aware that lorikeets frequented this habitat but they had not been recorded again by ornithologists or birdwatchers.

Five months later, on 20 October 2019, MS and WKW visited forests lying between Gn Bratan and Gn Pohen; at about 09h00 four *Trichoglossus* lorikeets were found close to a trail and they were watched hopping about, foraging and making a great deal of noise on a coniferous tree for about an hour. MS and WKW obtained many images, which were sent to ODP for confirmation of identity. The images were again unsatisfactory because neither the neck collar nor the head colour could clearly be seen.

Consequently, at 08h00 on 26 October 2019 ODP, MS and HN returned and waited under the same canopy where the birds had been seen the previous week; four lorikeets were first seen at 09h19 on the top of the conifer canopy, hopping around and making loud squeaks while they searched for and ate the tree's small red fruits. The birds occasionally flew to other trees before returning to the most abundant fruiting tree. ODP, MS and HN watched this group until 09h43, using binoculars and prosumer cameras with digital zoom up to 3,000 mm and a DSLR camera with 200–500 mm lens, and finally succeeded in obtaining better video and still images for identification. ODP confirmed the subspecies identification after checking the *mitchellii* identification features (Collar 2017): the

blackish-brown heads with greyish-green on crown to cheeks and yellow-green collars lacking dark blue bands were clearly seen on the images. Later, at 12h34, a group of six lorikeets came to the same tree and remained there for about 10 minutes; this group probably included the four birds seen earlier in the morning. On 27 October at 12h13, four birds were again seen on the same trees.

Discussion

The location where we found the birds was close to that mentioned by Stresemann (1913). It is possible that a small population of *mitchellii* has persisted in this area since that time despite the acknowledged exploitation, although the possibility that the population is the outcome of escaped cage-birds finding a refuge in the area cannot be entirely ruled out. Escaped individuals are seen from time to time on Bali, e.g. on 2 October 2013 a single *mitchellii* was seen in the company of a Marigold Lorikeet *T. capistratus fortis* type bird at Ulu Watu, south Bali, obviously an escape (J. A. Eaton *in litt.* November 2019). However, ODP has visited bird markets and bird shops in Bali (including one close to the Bedugul area) every 2–3 months since 2016 and has never seen a race *mitchellii* bird for sale, whilst race *forsteri* birds are often for sale and confirmed by the vendors as originating from Sumbawa. ODP believes that today in Bali only the Begawan Foundation still has race *mitchellii* lorikeets in captivity, but they have not bred very well and only three individuals remain. Speculation that there has been a repopulation of Bali by *mitchellii* from the Gn Rinjani area of Lombok seems implausible, given both the small numbers reported from Lombok and that there are several forested uplands on Bali lying east of Bedugul which might attract birds moving west across the Lombok Strait, e.g. the coastal Seraya Range, Gn Agung and Gn Batur, but no lorikeets have been reported from these areas.

All Indonesian parrot species, including Scarlet-breasted Lorikeet, are now included in the country's list of protected species (Ministry of Forestry and Environment 2018). BirdLife International (2019) estimate that the total number of Scarlet-breasted Lorikeet of all races is 1,600–7,000 individuals, with the population of form *T. f. forsteri* on Sumbawa being the largest and most stable at around 1,000 mature individuals. ODP has visited Sumbawa several times in 2017–2019 and feels that the population is no longer stable. In 2017, he saw six birds in Tatar Sepang forest in west Sumbawa, and in 2018 saw four in Batudulang forest in Sumbawa Besar Regency but during six visits in 2019, no birds were seen. There has been much deforestation in the last five years in order

to plant corn, particularly in east Sumbawa where farmers have cleared additional land because they have received a subsidy to grow this crop from the local authorities. The loss of mature trees is evidently bad for the lorikeet population and has also led to serious flooding.

There is still little ecological data on the species, such as its movements, food and feeding, and breeding season (del Hoyo *et al.* 2019). The species is presently classified as Vulnerable (BirdLife International 2019) but in the light of the estimates of population numbers in Eaton *et al.* (2015) and ODP's observations this classification may require revision. Studies are needed to collect further data on the Scarlet-breasted Lorikeet's range, population and behaviour, and conservation actions initiated to protect it.

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