

First nesting observations of the Negros Bleeding-heart *Gallicolumba keayi* from Panay, Philippines

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Of the seven species of bleeding-heart doves, five occur in the Philippines: Luzon Bleeding-heart *Gallicolumba luzonica*, Mindoro Bleeding-heart *G. platenae*, Mindanao Bleeding-heart *G. criniger*, Sulu Bleeding-heart *G. menagei* and Negros Bleeding-heart *G. keayi*. Previously, lumped as a single species, the five forms are now classified as closely related allospecies which evolved on separate islands (Gibbs *et al.* 2001). Bleeding-heart doves are characterised by a golden or red patch on the breast. All are terrestrial, living singly or in pairs, and feeding on seeds, berries and invertebrates (Gibbs *et al.* 2001).

Negros Bleeding-heart, once thought to be endemic to Negros, was discovered on the neighbouring island of Panay in 1996 by the Philippine Endemic Species Conservation Project (PESCP; Klop *et al.* 1998). The first behavioural observations of the Panay birds, made largely in captivity, suggested that there were no morphological differences between the Negros and Panay forms (Curio 2001). The species is shy and secretive, and thus is very difficult to observe in the wild. Populations on both Negros and Panay are thought to be small and decreasing owing to extensive deforestation and destruction of forest habitat, which is exacerbated by hunting. The species is listed as Critically Endangered (BirdLife International 2004). Only described in 1900, Negros Bleeding-heart was the last of the five Philippine endemic bleeding-hearts to be discovered (Clarke 1900, Dickinson *et al.* 1991). Thus, data for this species are scarce and there have been few observations in the wild, with the only detailed observations coming from a wild bird, caught during banding operations by PESCP, and held in a rehabilitation cage in the Panay forest for one and a half years (Curio 2001). The only previous nest of Negros Bleeding-heart was found in the north-west Panay peninsula in March 1999, but the two eggs were depredated within a day of discovery (Curio 2001). Here we report on the first observations of a successful nest.

METHODS

Observations were made from a ridge opposite the nest, 15–20 m away, using a spotting scope, and 10×42 binoculars; photographs were taken from within a few metres of the nest after the adult birds had taken flight. The nest was observed from 30 May to 13 June 2003. Approaching the nest without the sitting parent taking flight proved difficult, as approach to the nest was either round a bend in the riverbed or over the ridge opposite the nest, c.15–20 m away. At the first sign of movement the parent would take flight, and despite the observer sitting in silence on the ridge, the adult would not reappear until the observer had gone. Thus, obser-

vations on parental care were not risked, and the nest was only observed for periods of 30 minutes every 2–3 days. Photographs of the nest and hatchlings were taken using a digital camera (A. Schneider) and a video camera (E. Slade), with a zoom to avoid getting too close to the nest.

RESULTS

A nest of Negros Bleeding-heart was discovered on the bank of a seasonally dry river bed in primary forest, c.500 m from the research station of PESCP, in Sibaliw (11°49'N 121°58'E), Buruanga municipality, Aklan province, Philippines. This area is located on the north-west Panay peninsula mountain range at an average elevation of 450 m, and it consists largely of virgin lowland forest partly intersected by secondary growth. The climate on the peninsula is perhumid (Dickinson *et al.*, 1991).

The nest was placed amidst the leaves of a flat, epiphytic 'bird's-nest' fern, attached to a small tree. The vegetation around the nest was dense. The nest was c.1 m above the ground, and made of loosely arranged twigs, and lined with the tendrils of vines (Plate 1). The nest was first discovered on 30 May 2003, when an adult sitting on the nest was flushed accidentally, revealing two glossy white eggs.

On 31 May, one of the eggs had hatched. The chick had a light coating of white down, and the eyes had not opened yet (Plate 2). By 2 June, the second chick had hatched. By 6 June, one chick had its eyes open, and primary feathers mostly in quills were visible on both chicks (Plate 3). No vocalisations were ever heard from the chicks. On 9 and 10 June, the young had full feathers and seemed almost ready for fledging. The young were brown, with a small whitish patch on the throat/chest and three wing-bars (two prominent, and the third small, perhaps because of less-developed feathers (Plate 4). The wing-bars seemed to have less buff than Mindanao Bleeding-heart juveniles (as illustrated in Gibbs *et al.* 2001). The nest was not approached closely after this date, and no further photos were taken, to prevent the chicks leaving the nest prematurely. However, the nest was still observed from the top of the ridge, and fledging of the first chick was recorded on 12 June, followed by the second chick on 13 June.

DISCUSSION

These are the first observations on the nesting of Negros Bleeding-heart. The only other previously known nest also had a clutch of two white eggs, and was placed in a very similar nest site. However, obser-



Plate 1. Negros Bleeding-heart nest on epiphytic fern, Panay. Photograph by A. Schneider.



Plate 2. Negros Bleeding-heart chick at one day old. Photograph by A. Schneider.



Plate 3. Negros Bleeding-heart chicks at seven and eight days old. Photograph by E. Slade.



Plate 4. Negros Bleeding-heart chicks at nine and ten days old. Photograph by E. Slade.

vations on the hatching and fledging of the chicks were not obtained owing to predation of the nest a day after discovery (Curio 2001). Research station staff have also reported three other suspected Negros Bleeding-heart nests, all of which were depredated within 1–2 days of discovery.

The timing of breeding appears to be slightly later than the previous record for Panay, where eggs were found in the first week of March, but is more similar to records for Mindoro, Mindanao and Luzon Bleeding-hearts, for which nestlings have been recorded in late April and May (Dickinson *et al.* 1991, Gibbs *et al.* 2001). Although information on nesting behaviour for all bleeding-hearts is scarce, nests are typically placed at similar heights from the ground (1–2 m) and usually in bushes, horizontal branches of small trees or tangles of vines. As with Negros Bleeding-heart, the nests were made of sticks, lined with the tendrils of vines and incorporated leaves, bamboo and greenery (Gibbs *et al.* 2001). Interestingly, both nests discovered so far in Panay, and three other suspected nests of Negros Bleeding-heart have been similar, being situated 1–2 m above the ground in epiphytic ferns, and made of loose twigs, with two eggs. None of the other species have so

far been reported to utilise bird's nests ferns. However, of three nests reported for Golden-heart *G. rufigula* of New Guinea, one was on a 'shelf-like platform provided by a bird's nest fern' (Rand 1942). Luzon and Mindoro Bleeding-heart also lay two eggs, although the colour was described as 'bluish-white' and 'pale creamy' respectively, compared to the glossy white eggs of Negros Bleeding-heart, which had no blue tinge. Mindanao Bleeding-heart appears to lay only one creamy-white egg (Gibbs *et al.* 2001).

The nestling period is short, with complete feathers by 9–10 days, and fledging after only 12 days. Such a short nesting period seems typical of bleeding-hearts, with nestlings of both Luzon and Mindanao Bleeding-hearts reported to fledge after only 12 and 16 days respectively, even before the tail feathers were fully grown (Goodwin 1967, Gibbs *et al.* 2001). In captivity, fledging of Luzon Bleeding-heart chicks takes 14–16 days, and full adult plumage is not reached until 10–12 weeks (Hibbert 1997). The short nestling period is presumably an adaptation to the vulnerability of the open and low nest.

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Observations on the nesting and parental behaviour of Ashy-headed Laughingthrush *Garrulax cinereifrons*

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Ashy-headed Laughingthrush *Garrulax cinereifrons* is endemic to Sri Lanka, where it is restricted to wet lowland rainforest in the south-west of the country. It is considered Vulnerable because it has a small, declining population and range, which is also severely fragmented, owing to clearance and degradation of its forest habitat (BirdLife International 2001). The nest of the species was first recorded in 1984 (Banks and Banks 1987), 132 years after the species was discovered, and incubation and parental care have not yet been described (Henry 1998).

We observed the nesting of this species while conducting a long-term field study of mixed-species bird flocks in the Sinharaja World Heritage Reserve (6°26'N 80°21'E, 450 m). Laughingthrushes are common members of mixed-species flocks, being found in 47% of such flocks, and with 91% of individuals observed within mixed-species flocks (Kotagama and Goodale 2004). We observed a group of seven laughingthrushes, two of which we had banded (red/white was banded in August 2001, and pink/pink in September 2003).

Nest

On 24 December 2003, we saw the laughingthrush group by a nest that appeared to be almost complete. It was placed c.1.5 m from a stream in a liana *Calamus zeylonicus* of 33 mm diameter, which climbed approximately 20 m into the canopy. The nest was 5.3 m above ground, nestled between the stem and a leaf petiole. The outside of the nest was made of twigs with some dead leaves; the diameter was c.140 mm, and the height was 115 mm. The internal dimensions of the nest cup were 109 x 97 mm wide, and it was 72 mm deep. The inside of the nest was made of fine roots and vines, probably of *Lygodium* sp. The details of the nest are thus similar to those reported by Banks and Banks (1987) although the timing of nesting is different: Banks and Banks observed nesting in April. Recently, however, two other nests were found in the Sinharaja reserve in November (Warakagoda 2003) and December (Siriwardhene 2004).

Eggs

On the morning of 27 December there were no eggs in the nest, but at 07h00 on 28 December, there were three eggs, which is surprising given that birds