

The First Record of a Himalayan Cuckoo (*Cuculus saturatus*) Killing Nestlings in a Potential Host's Nest

中杜鵑殺死潛在寄主巢中雛鳥的首次紀錄

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Abstract

We recorded a Himalayan cuckoo (*Cuculus saturatus*) killing two grey-cheeked fulvetta nestlings (*Alcippe morrisonia*), then picking them up in its bill, and tossing them out of the nest. The event occurred in a secondary forest on the hills of Huben Village, Linnei Township, Yunlin County in the central Taiwan on 10 April 2007. To our knowledge, it is the first record of an adult Himalayan cuckoo killing nestlings in a potential host's nest.

摘要

本文描述 1 次中杜鵑(*Cuculus saturatus*)殺死繡眼畫眉(*Alcippe morrisonia*)巢中雛鳥並將之咬起

拋出巢外的事件。該事件於 2007 年 4 月 10 日發生於台灣中部雲林縣林內鄉湖本村的次生林中。據我們所知，這是中杜鵑殺死潛在寄主巢中雛鳥的首次紀錄。

Key words: *Cuculus saturatus*, *Alcippe morrisonia*, brood parasite

關鍵詞：中杜鵑、繡眼畫眉、巢寄生

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Cuckoos of the genus *Cuculus* are obligatory interspecific brood parasites and have evolved unique strategies for locating hosts and maximizing the survival of their offspring (Davies 2000). Six members of *Cuculus* have been recorded on Taiwan. Among them, common cuckoo (*C. canorus*), Indian cuckoo (*C. micropterus*) and Hodgson's hawk cuckoo (*C. fugax*) are vagrants, little cuckoo (*C. poliocephalus*) is a rare transient species, and both Himalayan cuckoo (*C. saturatus*) and large hawk cuckoo (*C. sparveroides*) are common summer visitors to Taiwan. Himalayan cuckoo is well known as a parasite of small passerines and has been reported to parasitize rufous-capped babbler (*Stachyris ruficeps*) (Hsieh 1989), eastern crowned leaf warbler (*Phylloscopus coronatus*) (Tojo *et al.* 2002) and Hume's warbler (*P. humei*) (Wang *et al.* 2004). This paper reports a predation event where a Himalayan cuckoo killed two grey-cheeked fulvetta nestlings (*Alcippe morrisonia*) and, instead of eating them, tossed them out of the nest.

On 21 March 2007 we found a nest of grey-cheeked fulvetta on a scarlet gilybower

(*Clerodendrum kaempferi*) in a secondary forest on the hills of Huben Village, Linnei Township, Yunlin County in central Taiwan (120°37.1'E, 23°44.5'N). We monitored the nest by a video system which consisted of an infrared camera, digital recorder (ESDR400H, EverFocus Electronics Corporation, Hsi-Chih, Taipei, Taiwan) and a cable powered by 12 volt deep cycle batteries. A camera mounted on a tripod was placed 1.5m from the nest. The video recording system was set up 100m from the nest to reduce the likelihood of human activities that would disturb the nest site. The video system continuously recorded the nest activities for 24 hours a day at a speed of 5 frames/sec. We visited the recorder and replaced the batteries every other day.

We found that the grey-cheeked fulvetta female laid the first egg in the nest on 24 March, the second egg on 26 March, and the third egg on 27 March. After incubation all the eggs hatched on 7 April. On 10 April a Himalayan cuckoo came to the nest. It stood in the nest from 06:36 to 06:40, and killed all the grey-cheeked fulvetta nestlings with its bill. Then, the cuckoo picked

up the dead nestlings with its bill one by one in a very precise action and tossed them out the nest (Fig. 1). After this incident, we continued our monitoring until 08:31 on 12 April. No Himalayan cuckoo revisited the nest. When checking the nesting site on 12 April, we found the nestlings' remains on the ground near the nest. They had partially been eaten by ants (Fig. 2).

Brood parasites usually remove or damage at least one host egg before laying their own egg to enhance their hatching success and reduce nestling competition (Sealy 1992; Soler *et al.* 1997; Davies and Brooke 1998). They may also gain significant nutrients by eating host eggs (Scott *et al.* 1992), or eat host nestlings in nests that they have already parasitized (Zahavi 1979). This behavior is likely to enhance the survival of brood parasitic young, and may provide additional nutrients to fuel future egg production.



Fig. 1. The Himalayan cuckoo (*Cuculus saturatus*) with a dead grey-cheeked fulvetta (*Alcippe morrisonia*) nestling (the red arrow) in its bill moments before tossing it out of the nest. The video was taped between 06:36 - 06:40 on 10 April 2007.

After hatching cuckoos usually revisit the

parasitized nests. When they find that their offspring is not in the nest, they destroy or prey upon the host eggs or nestlings to retaliate for the rejection of parasitic eggs by the host (Zahavi 1979; Soler *et al.* 1995). However, in our case the grey-cheeked fulvetta's nest was not parasitized by the Himalayan cuckoo.



Fig. 2. The remains of grey-cheeked fulvetta (*Alcippe morrisonia*) nestlings found near the nest at Huben Village, central Taiwan, 12 April 2007.

To our knowledge, this was the first record of Himalayan cuckoo predation on a grey-cheeked fulvetta's nest. Although we did not have a direct evidence that the grey-cheeked fulvetta was a host of the Himalayan cuckoo, the egg sizes of the Himalayan cuckoo are 21.2×14.0 mm (Johnsgard 1997) fairly similar to 19.0×14.6 mm of the grey-cheeked fulvetta (Lin 1996). In addition, their eggs are whitish-buff ground-color with reddish brown spots on the eggshells. With the consideration of the egg size, coloration, and the breeding habit of the grey-cheeked fulvetta, it seems that the grey-cheeked fulvetta is a potential host of the Himalayan cuckoo.

Brood parasitism and predation on hatch-

lings of host birds are often linked, because depredation of nests by parasites could enhance future opportunities for parasitism (Chance 1940; Zahavi 1979; Arcese 1996; Soler *et al.* 1995). It is difficult for us to extrapolate strategies based on an isolated event. However, we hypothesize that this behavior might prompt the host to build another nest and start a new breeding cycle. A renewed breeding cycle may provide a new opportunity for interspecific brood parasitism to occur, perhaps under conditions more favorable to survival of brood parasitic offspring. This isolated event should prompt future research on interspecific brood parasitic strategies for Himalayan cuckoos in Taiwan.

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