

Effectiveness of Playbacks in Censusing the Fairy Pitta (*Pitta nympha*) during the Breeding Season in Taiwan

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Ruey-Shing Lin, Pei-Fen Lee, Tzung-Su Ding, and Yu-Teh Kirk Lin (2007) Effectiveness of playbacks in censusing the Fairy Pitta (*Pitta nympha*) during the breeding season in Taiwan. *Zoological Studies* 46(2): 242-248. We evaluated the effectiveness of using playbacks of recorded calls to census the presence and abundance of the Fairy Pitta (*Pitta nympha*) in the hills of Yunlin County, west-central Taiwan from late Apr. to May 2001. The responses of Fairy Pittas to playbacks were quick, with 94% occurring in the 1st 5 min. Playbacks substantially increased the likelihood of detecting Fairy Pittas. Both the number of stations at which pittas were detected and the number of pittas detected per station increased with the use of playbacks. In addition, both the number of stations that detected pittas and the number of pittas detected per station were significantly higher in early than mid- and late May, but did not differ among different times of the day (among early morning, noon, and afternoon). Our results indicate that playbacks considerably increased detectability, and 5 min of playback at a station is sufficient. However, it is important to census the Fairy Pitta populations during the pre- to early-nesting period, and this should be carried out at least twice to ensure a high certainty of determining the presence or absence of Fairy Pittas at a station. <http://zoolstud.sinica.edu.tw/Journals/46.2/242.pdf>

Key words: Playback, Census, Pitta, *Pitta nympha*.

The Fairy Pitta (*Pitta nympha*) is a migratory bird that inhabits secondary lowland forests. The species breeds in South Korea, southern Japan, southeastern China, and Taiwan, and winters in the islands of Borneo (BirdLife International 2001). The breeding grounds of the Fairy Pitta have been highly impacted by habitat deterioration, resulting from the clearance, fragmentation, and degradation of subtropical and tropical forests in recent years. The species is listed as vulnerable by the IUCN, while its current population size is estimated to be fewer than a few thousand individuals (BirdLife International 2001). Thus, it is critical to efficiently monitor the breeding ground and population size of the Fairy Pitta for conservation and management purposes (Lambert and Woodcock 1996, BirdLife International 2000 2001).

Using playbacks to elicit vocal responses is an effective technique in determining the presence of elusive birds (Johnson et al. 1981, Marion et al. 1981). For example, it has been used in surveys of Gurney's Pittas (*P. gurneyi*) (Gretton et al. 1993) and Rainbow Pittas (*P. iris*) (Zimmermann and Noske 2003). Particularly, it is a valuable tool for censusing rare species (Wunderle 1994). However, the effectiveness of playbacks as a censusing technique has not been investigated for pittas. To facilitate the monitoring of the breeding distribution and population size of the endangered Fairy Pitta in Taiwan, we investigated the effectiveness of using playbacks in determining the presence of the Fairy Pitta. We hypothesized that playbacks increased the detectability of Fairy Pittas at survey/census points. In addition, we

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