

**NESTLING CROW-TITS *PARADOXORNIS WEBBIANA*
EJECTED FROM THEIR NEST BY COMMON CUCKOO
*CUCULUS CANORUS***

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ABSTRACT. - We observed a Common Cuckoo (*Cuculus canorus*) ejecting two Crow-tit (*Paradoxornis webbiana*) nestlings from their nest at Yangso-myon, South Korea. Even so, the Crow-tit parents fed all nestlings, either in or out of the nest and all nestlings successfully fledged. This is the first record of ejection of nestling Crow-tits by the Common Cuckoo in Korea.

KEY WORDS. - Nestling ejection, Common Cuckoo, Crow-tit, Brood parasitism.

In Korea, Common Cuckoos *Cuculus canorus* parasitize on Bull-headed Shrikes *Lanius bucephalus*, Great Reed Warblers *Acrocephalus arundinaceus*, Black-browed Reed Warblers *Acrocephalus bistrigiceps*, White Wagtails *Motacilla alba* and Crow-tits *Paradoxornis webbiana* (Won 1993). In the course of our socio-ecological studies of the Crow-tit (Kim et al., 1995a,b), we observed a common cuckoo ejecting two Crow-tit nestlings out of a nest in the shrub *Rubus parvifolius*, at Yangso-myon, Yangpyong-gun, Kyonggi-do, South Korea.

On 5 July 1994, we set up a video camera (CCD EM-102 II ELMO) from 08:00 to 10:10 am about 30 cm away from the nest which contained six nestlings about eight days old. At 09:09, when the parents were absent from the nest, a cuckoo (sex unknown) came and perched on the rim of the nest, and all the nestlings opened their mouths widely begging for food. The cuckoo pecked one nestling on the head four times and tried to throw it out of the nest. Although the nestling strongly grasped the nest material and brood mates, the cuckoo held it from the base of the wing (Fig. 1) and eventually threw it out of the nest. At 09:10, the cuckoo threw second nestling out of the nest. Subsequently, Crow-tit parents returned to the nest with caterpillars and chased the cuckoo away. The parents fed both the nestlings in and out of the nest following this event. On 8 July, four nestlings in the nest successfully



Fig. 1. A common cuckoo tried to throw a nestling crow-tit out of a nest (copied from video).

fledged. Although we could not observe the two expelled nestlings, we were able to confirm that all six nestlings survived at least until 10 July.

There are many examples of killing of nestling hosts by the Common Cuckoo *Cuculus canorus*. Headley & Jourdain (1915) and Wyllie (1975) reported nestlings of Pied Wagtails *Motacilla lugubris* and Reed Warblers *Acrocephalus scirpaceus* killed by cuckoos at nests from which cuckoo's eggs were experimentally removed. Headley & Jourdain (1915) and Milburn (1915) reported also killings of nestling Dunnocks *Prunella modularis* and Meadow Pipits *Anthus pratensis* by a cuckoo. There are similar observations concerning Great Spotted Cuckoo *Clamator glandarius* and Hooded Crow *Corvus corone* (Zahavi 1979), Common Cuckoos and Stonechats *Saxicola torquata* (Kinoshita & Kato 1995), and Common Cuckoos and Great Reed Warblers (Matsuda et al., unpublished data).

In general, it is assumed that the cuckoo might kill host nestlings in order to make the host breed again and thus increase the number of available host nests (Wyllie 1981). On the other hand, Zahavi (1979) hypothesised that cuckoos revisited the parasitized nests after hatching and preyed upon the host nestlings when there was no cuckoo nestling. He assumed that the predatory habits of a brood parasite might result in very low reproductive success for discriminating hosts and therefore prevent the evolution of discrimination in the host population. Later, Soler et al. (1995) modified this hypothesis and postulated that by depredating host nest contents where parasite eggs have been apparently ejected, the brood parasite creates more opportunities to parasitize when the host renests. Soler et al. (1995) termed this hypothesis as the "Mafia hypothesis".

In our case, it should be stressed that nestlings out of the nest also received food from their parents and could survive, so the cuckoo did not provoke re-nesting by this crow-tit pair. Because we have no evidence whether the crow-tit's nest had been previously parasitized by a cuckoo, we cannot specifically comment on the validity of the Mafia hypothesis in this case. However, this is the first record of ejection of nestling Crow-tits by the cuckoo in Korea.

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