

OBSERVATIONS OF A JACKDAW ATTEMPTING TO FEED A PIGEON FLEDGLING

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Abstract. The Jackdaw can be a serious nest predator of Feral Pigeon colonies located in the towers and attics of urban buildings if these areas are easily accessible. Jackdaws were responsible for the destruction of about 6 % of eggs and 18 % of nestlings in one of the five colonies of Feral Pigeon in Słupsk (NW Poland) studied over 1998–2001 years. In 2000, I observed a Jackdaw attempting to feed a Feral Pigeon fledgling. As full documentation of the factors leading to such behaviour is lacking, I propose the hypothesis that this was the result of misdirected parental behaviour or misdirected sexual behaviour.

Key words: Jackdaw, *Corvus monedula*, Feral Pigeon, *Columba livia*, behaviour, adoption.

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Наблюдение попытки кормления галкой слетка сизого голубя. - Т. Гетманский. - Беркут. 14 (2), 2005. - Галка может приносить серьезный ущерб колониям сизых голубей, расположенных на башнях и чердаках построек, если они легко доступны. На долю галки приходилось 6 % гибели яиц и 18 % – птенцов в одной из пяти колоний в г. Слупске (северо-запад Польши), на которых проводились исследования в 1998–2001 гг. В 2000 г. наблюдалась попытка кормления галкой одного из слетков. Предполагается, что причиной этого могло стать нарушение родительского или сексуального поведения.

In ornithological studies, adoption is defined as care given to eggs or young by unrelated adults. Intraspecific adoption is seen more frequently (Holly, 1981; Ferrer, 1993; Smith et al., 1996; Dukstra et al., 1997) than interspecific adoption (Lozano, Lemon, 1998; Čapek et al., 2002; Paz, Eshbol, 2002). Adoption can happen when alloparenting occurs instead of breeding (Dukstra et al., 1997) or when parental behaviour is misdirected (Čapek et al., 2002). The most interesting cases of interspecific adoption are those that occur between species that differ significantly in their appearance, behaviour and food preferences (Paz, Eshbol, 2002). Very few cases of interspecific adoptions have been confirmed for predators (Anthony, Fairs, 2003). This paper presents the first confirmed case of a misdirected attempt at feeding a Feral Pigeon fledgling by a wild Jackdaw. However, because there is incomplete documentation on this type of behaviour among Jackdaws, I was unable to unequivocally determine if this was the result of misdirected parental behaviour.

The Jackdaw (*Corvus monedula*) inhabits all of Europe (Fraissinet et al., 1997). It mainly feeds on insects, while in the fall and winter it

also eats waste found in garbage bins at dumps and food provided by humans. Jackdaws are also nest predators, stealing eggs and nestlings. The Jackdaw is known to be a serious predator of Feral Pigeons' eggs and chicks (*Columba livia f. domestica*). However, the degree a Jackdaw can penetrate a pigeon colony depends on how easily it can access its location, related mainly to the number of egresses present (Dabert, 1987).

Material and methods

From 1998–2001, I studied the breeding ecology of the Feral Pigeon at five breeding colonies in the city of Słupsk (NW Poland, 54° 28' N, 17° 10' E). In addition to conducting nest checks, I observed the pigeons for several hours from blinds set up in the colonies (see Hetmański, 2004; Hetmański, Wołk, 2005 for further details about the study methods). During this study, the Jackdaw was found to be the only nest predator of the Feral Pigeon. However, Jackdaws penetrated the pigeons' nests in only one colony, located in a tower with many egresses. Jackdaw predation resulted in a loss of 6 % of the eggs and 18 % of



the nestlings. During the four years of research, I witnessed the attack of one or two Jackdaws on pigeon nestlings while their parents were temporarily absent. The greatest loss occurred among those nestlings that had already achieved normothermy and were of several days to several dozen days old. Such nestlings were left alone without parental care for a longer period of time. Eggs and small nestlings were taken from the nests, whereas the older nestlings died as a result of deep wounds on the head and torso.

Results and discussion

In 1998, Jackdaws did not nest in the tower occupied by the pigeon colony. The next year, only one pair of Jackdaws attempted to nest, but was unable to find an appropriate site, most likely due to the high density of pigeon pairs. In 2000, a pair of Jackdaws was able to occupy part of the territory of a pigeon pair on a narrow ledge about 0.6 m long and 0.25 m wide (0.15 m²). This space was about evenly divided into two territories between the Jackdaws and adult pigeons, with fights occurring between the two pairs only when their territorial borders were crossed. The distance between the two nests was about 30–40 cm.

During breeding, the Jackdaw pair exhibited strong territorial behaviour when other Jackdaws attempted to enter the tower.

The female Jackdaw laid the first egg on April 21, 2000, and her total clutch consisted of 5 eggs. On this day, the pigeon pair was incubating two nestlings about 2 days old in the neighbouring nest. As Jackdaw incubation lasts about 18 days, it was assumed that their first nestling most likely hatched around May 9. However, I found three dead nestlings and two unhatched eggs in the Jackdaw nest on May 11, and was unable to determine the cause of death. One of the Jackdaws of this pair may have died, resulting in the brood loss, but I was unable to document this. The pigeon nestlings were 22 days old by then and fully feathered.

While in the blind on May 20, 2000, I witnessed an attempt by a Jackdaw to feed a pi-

geon fledgling. As the Jackdaws had not been ringed earlier, I was not sure if the bird feeding the young pigeon was one of the breeding pair from the tower. However, this is highly likely, as it flew directly to the territory occupied earlier by the breeding pair when it entered the tower. I did not observe both individuals of that Jackdaw pair at one time on that day, and for this reason I surmise that one of the partners died. After reaching its territory, the Jackdaw approached a young pigeon standing nearby and offered it food placed at the tip of its bill. I noted two such feeding attempts of the fledgling over a three-hour period of observations on that day. The fledgling did not react to the Jackdaw, did not show any signs of fear, nor did it take the food. Normally, pigeon nestlings assume a defensive position to frighten a predator. There was no such behaviour in this case. Such calm behaviour by the young pigeon leads me to assume that the Jackdaw may have attempted to feed the pigeons earlier, and that the nestlings had grown accustomed to the presence of this predator. During the next observation period on May 30, I confirmed a similar feeding attempt by the Jackdaw. The fledglings were 41 days old and ready to leave the nest. They were in good condition, as they had been consistently fed by their parents.

I believe that the cause of such behaviour by the Jackdaw could have been the loss of its own nestlings, which consequently may have led to the appearance of misdirected parental behaviour. However, there may be one other explanation connected to the breeding behaviour of Jackdaw nesting pairs. The male feeds the female while she incubates the eggs and nestlings. But I have also witnessed such behaviour during non-breeding periods. It is then possible that the individual feeding the pigeon nestling was the male, who, after losing his mate, transferred this behaviour to a pigeon fledgling of similar size present in his territory. Unfortunately, it is very difficult to determine if this was the result of misdirected parental behaviour or misdirected sexual behaviour because I was unable to confirm the death of the female of this Jackdaw pair.



In the following year, only one Jackdaw pair also attempted to breed in the tower, but it built its nest on the territory of a neighbouring pair of pigeons that had earlier been evicted. The Jackdaw nestlings of this brood also died in their first days of life, but the adult Jackdaws did not try to feed any of the pigeon nestlings in the colony. A week after the Jackdaw brood was lost, the female Feral Pigeon that had earlier been evicted from the territory laid an egg in the Jackdaw nest. I observed the female pigeon as she tried to incubate the egg, but the Jackdaws would not allow her near the nest. The Jackdaws did not destroy the egg, but they also did not adopt it. The pigeons ultimately abandoned the egg. What is intriguing, however, is why the Jackdaws, during their breeding season, did not destroy any of the Feral Pigeon clutches and broods in the entire colony. In the first two years of this study, when the Jackdaws did not breed in the pigeon colony, egg and nestling losses occurred during every season of the year. In the following two years, when the Jackdaws bred, no egg or nestling losses were confirmed during the Jackdaws' breeding period. Based on observations from the blind, I found that the breeding Jackdaw pair served as a security guard for the entire pigeon colony, as they aggressively chased out any other Jackdaws that tried to enter the tower during this time. The loss of eggs and nestlings among the pigeons rose significantly after the end of the Jackdaws' breeding season, but it was impossible to determine whether this was due to the activity of the pair that had attempted to breed in the colony, or to other Jackdaws from outside.

Cases of predators adopting nestling prey are known from ornithological research. For example, a pair of Bald Eagles (*Haliaeetus leucocephalus*) adopted a Glaucous-winged Gull chick (Anthony, Faris, 2003). Eagles raised the nestling that appeared in the nest as a result of nonlethal predation. This example shows that a predator may adopt a nestling of a different species when it appears still alive within the nest. In such cases, misdirected parental behaviour may occur even when nest-

lings have significantly different appearances, behaviours and food preferences. This confirmed case of a Jackdaw feeding a Feral Pigeon fledgling, then, may be another example of misdirected parental behaviour. However, another explanation for this behaviour may exist, as a full observation of this event is lacking. It may have also been a case of misdirected sexual behaviour as a result of the loss of the female.

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