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3 **Predation of Greylag Goose (*Anser anser*) gosling by Carrion Crow (*Corvus corone corone*)**

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10 **Abstract**

11 Evidence of avian predation on Greylag Goose (*Anser anser*) goslings is generally inferential. Here,
12 we report an observation of a Carrion Crow (*Corvus corone corone*) preying on a gosling in Port
13 Meadow, Oxford, United Kingdom. Our observation demonstrates that, in addition to being an egg
14 predator, Carrion Crows are opportunistic predators of Greylag Goose goslings. To our knowledge,
15 this is the first time that this interaction has been documented in the literature.

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17 **Keywords:** avian predation, behavior, defense, ecology, geese, prey
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An aquatic and terrestrial herbivore, the Greylag Goose (*Anser anser*) is widespread but patchily distributed in the United Kingdom, breeding in Spring (Holden and Cleeves 2002). Based on research of the well-known Konrad Lorenz flock of Greylag Geese in Grünau, Upper Austria, it is estimated that gosling survival to fledging rarely exceeds 25% (Scheiber et al. 2013). Breeding and fledging success is determined by many factors including weather conditions and predation by both mammalian and avian predators (Scheiber et al. 2013). Mammalian predators of Greylag Geese include red foxes (*Vulpes vulpes*) and American mink (*Mustela vison*) and/or Western Polecat (*M. putorius*), which are known to target eggs within nests (Kristiansen 1998). Foxes have been observed preying on Greylag Goose goslings (Young 1972), and mink are known to target goslings of other species (Fondell et al. 2008). Regarding avian predators, a rapid review of the literature indicates that evidence for predation is usually inferential, rather than observational (Young 1972, Kristiansen 1998, Zduniak 2006). We found numerous accounts of avian egg predation which refer to predator signs found at destroyed nests (e.g., species-specific patterns of egg damage, Zduniak 2006) but little documented evidence of gosling predation. To our knowledge, only Great Black-Backed Gulls (*Larus marinus*) have been directly observed consuming Greylag Goose goslings (Newton and Kerbes 1974). Major avian egg predators in Europe include Carrion Crows (*Corvus corone*) and Hooded Crows (*C. c. cornix*) (Young 1972, Kristiansen 1998, Zduniak 2006), but predation of goslings by Carrion Crows does not appear to have been documented in the literature. Indeed, it is assumed that adult geese would be able to successfully defend goslings against crows (Kristiansen 1998).

Here, we report on an observation of an adult Carrion Crow preying on a Greylag Goose gosling at Port Meadow, Oxford, United Kingdom in June 2021. Port Meadow is a mixed-use pasture (132 ha) in the Upper Thames Valley (McDonald 2007) and is home to a resident population of ~300 Greylag Geese. In the United Kingdom, Greylag Geese begin nesting in March though breeding is asynchronous between pairs and continues into May-June. Thus, flocks in late Spring and early Summer comprise breeding pairs with broods of varying ages (e.g. day old to 4+ months old) and non-breeding adults. Carrion Crows are also common within and around the meadow. On 20th June 2021, we observed a foraging flock of approximately 100 Greylag Geese, including multiple broods of goslings. The majority of the broods were 1–3 months old, but two broods were ~14 days old.

Following observation of various adult Greylag Geese attempting to chase off a pair of Carrion Crows, we subsequently witnessed one of the adult Crows standing on, and clutching, one of the (apparently healthy) younger goslings, which was still alive (Fig. 1; Supplemental Material 1). The Crow proceeded to remove down from the gosling and appeared to dispatch it with blows to the neck, including stripping the skin, before opening the abdomen and consuming part of the entrails; the Crow subsequently flew off with the gosling in response to an approaching dog. Once the Crow had begun dispatching the gosling, we observed no discernible reaction from the surrounding adult geese.

While predation is documented to be a significant cause of mortality in Greylag Goose goslings (Scheiber et al. 2013), predation events themselves appear to be rarely observed. Our observation demonstrates that, in addition to being an egg predator, Carrion Crows are opportunistic predators of Greylag Goose goslings. Carrion Crows have been observed consuming young of other species (Lapwing, *Vanellus vanellus*, and Black-tailed Godwit, *Limosa limosa*, Teunissen et al. 2008; Black-headed Gull, *Chroicocephalus ridibundus*, Kruuk 1964), so this observation is not unexpected, but adults of these species are smaller than Greylag Geese and might therefore be expected to have less success in defending young against crows. Greylag Geese have been shown to deter Carrion Crows from depredating their nests (Wright and Giles 1988) and are known to defend their young aggressively (Szibl et al. 2019). To our knowledge, this is the first time that the predation of a Greylag Goose gosling by a Carrion Crow has been documented in the literature.

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115 **Fig. 1 | Carrion crow preying on a Greylag Goose gosling.**

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117 **Supplemental Material 1 | Video of Carrion Crow preying on a Greylag Goose gosling in Port**

118 **Meadow, Oxford, UK. Available at: <https://doi.org/10.6084/m9.figshare.15049452.v1>.**

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