Notes

Probable filicide by a Kittiwake

On 17th June 2021, we witnessed an adult Kittiwake *Rissa tridactyla* expel a chick from its nesting ledge. The chick fell to its death. We made the observation during our annual monitoring of this species on Lundy. A scan of the colony at 12.13 hrs detected unusual movement in a two-chick nest. One chick, which we designated as the beta chick given its smaller size, was unusually positioned outside the nest away from the alpha chick and the adult, which both remained in the nest. We estimate that the beta chick was about 1–2 days old. The site was such that the floor of the ledge extended well behind the nest to a slightly overhanging back wall, and the chick was scrabbling against this back wall. At 12.25 hrs, in a rapid sequence of movements lasting only seconds, the beta chick turned and moved back in the direction of the nest. As it approached, it came between the adult and a side wall and was then grasped in the adult's beak and expelled in an upward arc, falling into the sea below. No interactions between the alpha and beta were observed.

On both 14th and 15th June, one chick and one egg had been recorded in this nest. On 16th and 17th June (prior to the event), two chicks were recorded. The nest is on a ledge of its own, thus no interloper chicks could have walked into it. Only two neighbouring nests are in the vicinity, on ledges above and to the side. Of these, two eggs were recorded on 14th June and later two chicks on 18th June, after the event detailed here. Thus, there is no indication that the two chicks in the nest were anything other than siblings.

Our initial hypothesis was that the alpha chick must have forced the beta into a vulnerable position. This would fit with current knowledge of siblicide in this species (Braun & Hunt 1983; Dickins 2021). However, our sampling over 16th and 17th June had revealed no pecking or dominant behaviour in this nest. Braun & Hunt wrote that ejections were typically preceded by severe harassment from the older sibling and that, where chicks attempted re-entry, they were admitted only for short periods. Similar adult behaviour has been seen previously on Lundy in the 1980s, when an unrelated chick had fallen into its nest following a sibling aggression in the nest above (D. W. Dickins pers. comm.).

We hypothesise two possibilities for the adult ejection of the chick:

As Kittiwakes do not recognise their young chicks, it is possible that the beta chick's prolonged absence for at least 12 minutes was sufficient for the adult to treat it as an interloper. This is made more likely as the beta chick was not in the nest cup.

The temperature of the chick on attempting to re-enter the nest had lowered such that the adult did not recognise it as a live chick. Chicks do not reach optimum body temperature until ten days old and require adult thermoregulation until that point (Maunder & Threlfall 1972).

This observation suggests a proxy role for adults in siblicide, such that chick aggression is focused on ejection from the nest which in turn leads to further dangers for beta chicks.

References

Braun, M., & Hunt, L. 1983. Brood reduction in Black-legged Kittiwakes. *The Auk* 100: 469–476.

Dickins, D. W. 2021. 'Punishing' pecks and 'siblicidal' pecks in kittiwake (*tridactyla*) chicks. *Learning and Motivation* 73: 101695.

Maunder, J. E., & Threlfall, W. 1972. The breeding biology of the Black-legged Kittiwake in Newfoundland. *The Auk* 89: 789–816.

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