

The barred grass snake *Natrix helvetica* as a potential predator of sand martin *Riparia riparia* chicks

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In Great Britain, the barred grass snake *Natrix helvetica* is widespread throughout most of England and Wales, with a limited distribution in Scotland (Cathrine, 2014). It is a semi-aquatic predator living in close proximity to water and in a site in southern England was found to feed mostly on amphibians and fish (73%), small mammals (25%) and just rarely on birds (1%) (Gregory & Isaac, 2004). A listing of ten bird species that have been observed as prey of *Natrix* spp in Britain and mainland Europe is given by Di Nicola & Zabbia (2021).

The sand martin *Riparia riparia* is the smallest of the European hirundines, these are agile flyers that feed when flying over water, mainly on insects (Holden & Gregory, 2021). They arrive in Europe during March and April where they reproduce, before returning to their African wintering grounds from August (Holden & Gregory, 2021). They can be distinguished from other hirundines by the presence of a distinctive dark chest bar, dark brown upper parts and pale under parts with a slightly forked dark tail. Sand martins breed in vertical sandy banks, often using artificial banks that have been especially created for them to nest in alongside

lakes and canals. They are widespread throughout the British Isles during the breeding season (Holden & Gregory, 2021).

On 31 July 2023, at Blashford Lakes, New Forest, Hampshire (50.87510, -1.78610), an adult female grass snake was observed in a sand martin artificial nesting bank (Fig. 1). At approximately 11:15 h, a juvenile *R. riparia* fell into the water below the artificial nesting bank, which later tried to climb to a nearby concrete foundation after failing to climb the sheer face of the bank. It was at this time that the *N. helvetica* was first observed exiting one of the *R. riparia* nests, at which point the adult birds started to mob it. For almost 30 minutes, the snake was watched as it navigated the nesting bank, while the juvenile *R. riparia* was fed by its parents despite the mishap. Both species were acutely aware of one another, and even though no direct observations of feeding were recorded, the long-time that the *N. helvetica* remained within the nesting holes suggests that it was consuming chicks and/or eggs that would have been readily available.

This is the first report suggesting that *N. helvetica* may prey upon *R. riparia*. While the ingestion of avian prey is a



Figure 1. An adult female barred grass snake *Natrix helvetica* in a sand martin *Riparia riparia* artificial nesting bank- **A.** The snake emerging from one of the nesting holes, **B.** The sand martins are alerted to the snake's presence and start to mob it

seemingly relatively rare occurrence in *N. helvetica*, this observation and others like it suggest that *N. helvetica* is an opportunistic hunter that may feed on birds, when they are available. It is likely that *N. helvetica* preys on amphibians early in the year when they are plentiful, but then it may be forced to switch to other potential food sources when amphibians have dispersed away from their breeding ponds and are much harder to find. Our observation was made during the late summer when both adult and metamorph amphibians would have dispersed into the surrounding environments. Instead of expending energy trying to locate them around Blashford Lakes, the *N. helvetica* may instead have sought out more easily located prey in the artificial nesting bank.

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Accepted: 13 October 2023