

- Greeting-call. A soft 'bui' or 'gui', like 'whaup' call in tone but much softer and only heard on the ground. Made by male when seeking copulation from female, at nest-relief, as greeting between adults or from adult to chick.
- Copulation-call. At wing-lift phase of pre-copulation display and while male has mounted female, male gives a soft but widely audible 'gri-gri-gri-gri....'

2.2. Chick vocalisations

- [Contact call and lost call](#). A 'bi-bü-bü' can be heard from within the egg and up to five weeks after hatching.
- Contented call. A low, quite sonorous 'büüüü büüüüj'. Changes at fledging to strong 'büüüü' or 'bui-bui-buüüü'.
- High-alarm call. A hoarse 'jüüüüü'; later developing into adult high-alarm call.

3. Behaviours

There are a number of key behaviours to look out for whilst monitoring breeding Curlew. A link to a useful video showing various Curlew behaviours during the breeding season can be found on the Resources page of the CRP website. The main behaviours are described in detail in BWP and are summarised below:

- **Pair bonding** – When established pairs meet or reunite on territory, very little courtship is observed. However, males or pairs will perform high, soaring flights on sunny and/or calm days. When both sexes fly together they may glide with wings arched below horizontal.
- **Display flights** – Display flights can occur throughout the breeding season but most frequently at the start, with a peak during incubation. Flight is undulating, usually accompanied by either 'whaup' call or bubbling-song but sometimes neither. Usually begins with bird flying low over ground then rising steeply on fluttering wings, hovering briefly before descending in parachute-display with wings held in shallow V-shape, before ascending again. Bubbling-song repeated during undulating flight, 'whaup' call usually given during parachute-display. Flight often ends with bubbling-song. Wings usually held in brief wings-high display upon landing.
- **Courtship** – Behaviour is similar to that seen in aggressive displays. Male chases female in ducked posture, breast near ground, head and neck drawn in, bill pointed downwards, and tail raised high exposing white rump, giving greeting call. Male then moves around behind female with pattering steps. If the female is not responsive she will adopt an alert posture before flying away or turning and driving the male off. If female is receptive she may only move off a short distance, while male's actions intensify over a period of up to 15 minutes. Male then raises wings with primaries angled backwards and begins fluttering them (wing-lift display), vocalisations switching to copulation call. Male then continues wing-lift display whilst pecking at female's tail feathers. The female may interrupt at any point by running or flying away but if receptive, mating/copulation will commence.
- **Mating/copulation** – To solicit copulation the female assumes a horizontal position, the male then springs onto her back whilst still fluttering and calling and begins pecking at her head and neck. Male may remain on female's back for up to five minutes with several attempted or successful copulations. Wing fluttering and calling ceases after male dismounts.
- **Nest scraping** – Scrape display is performed by the male, especially after a ground display (see courtship). Male will 'sit' down into the vegetation and turn on the spot, flattening out the vegetation in a circular pattern. The male will make a number of scrapes, the female will choose one and line the nest ready for egg laying.
- **Aggression between conspecifics** – If a lone male intrudes into an occupied territory, or on the border between two territories, conflicts may occur between the two males. In mock fighting between the defending and intruding males, both will adopt a threat posture (lower and spread breast, draw back and raise head and neck, raise high and slightly spread tail, exposing white feathers bordering rump round edge of folded primaries). Both birds then start pulling and dropping grass, often in a side-by-side run in which they double back along the same path. If the dispute is not settled through display, the defending male may attack intruder with heavy blows of wings. In most cases the defending male will be victorious. Females will also drive off intruders through direct attack and not via posturing and grass pulling.

- **Anti-predator strategies** – Passive strategies include the off-duty (i.e. not incubating) birds quickly warning their mate of approaching danger (see alarm calls above); the incubating bird may then sit tight on the nest or skulk away. Active strategies against avian threats include off-duty birds chasing and mobbing corvids and raptors, often with assistance from conspecifics and other breeding waders. Active strategies against humans and other threats usually only provoke an aerial response. Other threats (cattle etc.) may receive a more physical response, with attacks with wings, wing-raised strutting and swooping attacks noted. Injury feigning is considered rare but does occur, during which adults will trail wings as if lame in an attempt to draw attention away from the chicks.
- **False feeding** – In addition to the behaviours outlined above, an important behaviour that is often encountered during monitoring is ‘false feeding’. This behaviour is adopted when a bird feels threatened by the presence of a potential predator or intruder (e.g. an observer who has inadvertently got too close to a nest site). Incubating birds that have been flushed off the nest may adopt this behaviour, as will off-duty birds. When an incubating bird becomes aware of a threat, it will often skulk away from the nest before showing up some distance from the actual nest location, appearing to be feeding normally. The bird will walk around pecking at the vegetation, however there will be a certain rigidity to the bird’s movements as it keeps an eye on the perceived threat. The difference between this false feeding behaviour and normal behaviour can be very subtle and an understanding of how relaxed Curlew forage is invaluable here. This false feeding behaviour will continue for as long as the bird feels threatened, which can mislead the observer regarding the location of the nest site, or potentially into thinking there is no nest present at all as only when the perceived threat has gone will the bird return to the nest.

4. References

Cotter, G. (1990). *The Curlew*. Shire Natural History Series. Shire Publications Ltd.

Cramp, S. & Simmons, K.E.L. (1983). *The Birds of the Western Palearctic, Volume 3*. Oxford University Press.

Snow, D.W & Perrins, C.M. (1997). *The Birds of the Western Palearctic, Concise Edition, Volume 1*. Oxford University Press.

