

# Notes

## Clutch abandonment as a result of brood adoption in the Red Grouse

The Langholm Moor Demonstration Project is a partnership between the Game & Wildlife Conservation Trust, Scottish Natural Heritage, Buccleuch Estates, the RSPB and Natural England, and aims to reconcile grouse-moor management and raptor conservation interests. The site, in southern Scotland, straddling Dumfries & Galloway and Borders, covers approximately 30 km<sup>2</sup> of heather moorland. In 2014, nest cameras were set up to monitor the nests of radio-tagged female Red Grouse *Lagopus lagopus*, to determine the causes of nesting failures. One adult female (at least two years old) laid a clutch of eight eggs, located on 3rd May 2014 when the nest was equipped with a camera and a dummy wax egg. On 20th May, while that female was still incubating her own clutch, another brood appeared on the camera footage (plate 168). After brooding

the foster chicks for a day, the female abandoned her own clutch and left the nest with the adopted brood on 21st May. Subsequently, researchers cracked open the abandoned eggs to discover that they were within a day or two of hatching. On 30th May, the female was located by radio telemetry and the chicks caught using a trained pointer dog. She had seven foster chicks, approximately 14 days old, which meant that the chicks had been about four days old when adopted.

Although there is ample evidence for both clutch or brood desertion and brood adoption/amalgamation in the grouse family (for example, Maxson 1978, Watson & Moss 2008, Dahlgren *et al.* 2010), a case where a female would abandon her own clutch to adopt another brood has not previously been reported. In this case, it might have been facilitated by the fact that the female's own eggs were close to hatching: it is known from Red Grouse, and some species of wildfowl, that females will leave the nest the day after the first eggs hatch with their brood and abandon all unhatched eggs (Steen & Gabrielsen 1986; Fortin *et al.* 2000; Elston *et al.* 2001).

### References

- Dahlgren, D. K., Messmer, T. A., & Koons, D. N. 2010. Achieving better estimates of Greater Sage-Grouse chick survival in Utah. *J. Wildlife Manage.* 74: 1286–1294.



**168.** Nest-cam images from Langholm, in May 2014, showing (a) an adopted Red Grouse *Lagopus lagopus* chick being brooded by the female; (b) an adopted chick alongside the incubating female, with unhatched eggs clearly visible; and (c) the abandoned clutch, once the female has departed the nest with the adopted brood (the smaller white egg in the foreground is the dummy egg).