Figure 1. Newly hatched Common Eider *Somateria mollissima* chick in a Great Black-backed Gull *Larus marinus* nest, Er Valant Island, France, 20 May 2010. © *Arnaud Le Nevé*.

Interspecific brood parasitism by the Common Eider *Somateria mollissima* at Er Valant Island, Brittany, France

Le Nevé, A.[1*], Delord, K.[2], Barbraud, C.[2], Barbraud, J.-C.[3] & Fortin, M.[4]

**Correspondence author.*
Email: arnaud.le-neve@wanadoo.fr
[1] *Groupe Ornithologique Breton, BP 42, F-56110 Gourin, France;* [2] *CEBC-CNRS UPR 1934, F-79360 Villiers en Bois, France;* [3] *4 impasse du Vignaud, La Nougerée, F-17770 Bercloux, France;* [4] *Bretagne Vivante – SEPNB, Réserve naturelle des Marais de Séné, Brouël Kerbihan, F-56860 Séné, France.*

Interspecific brood parasitism (IBP) involves individuals of one species leaving the incubation and rearing of their brood to another species, while conspecific brood parasitism (CBP) involves a female laying its eggs in the nest of another of the same species (Robert & Sorci 2001; Lyon & Eadie 2008). CBP is a common reproductive tactic in Anatidae, found in 46% of species including the Common Eider *Somateria mollissima* (Yom-Tov 2001), while IBP is infrequent in precocial species such as Anatidae (Robertson 1998).

On 20 May 2010, we conducted a seabird population survey on the 300 m long Er Valant Island (île aux Chevaux; 47°21'N 2°58'W), Brittany, at the northern end of the Bay of Biscay. Species breeding on the island in 2010 included European Shag *Phalacrocorax aristotelis* (109 pairs), Lesser Black-backed Gull *Larus fuscus* (5 pairs),

Herring Gull *L. argentatus* (45 pairs), Great Black-backed Gull *L. marinus* (213 pairs) and Eurasian Oystercatcher *Haematopus ostralegus* (5–10 pairs).

During the survey we found a 1–2 day old Common Eider (hereafter 'Eider') chick in a Great Black-backed Gull nest, which also contained a newly-hatched chick and two eggs of Great Black-backed Gull, one of which was hatching (Figure 1). Although no Eider egg shell was found, we assumed an Eider egg had been laid in the gull's nest because: (1) the Eider chick was too young to walk alone and reach the gull's nest by itself without an accompanying adult; (2) no other Eider nest, chick or adult was seen on the island, or offshore using telescope and binoculars; (3) deliberate deposition of the egg into the gull's nest by man was unlikely since access to the island is prohibited. We cannot exclude the unlikely possibility that the Eider chick became separated from a brood being walked from a nest to the sea by a female, but stongly suspect an instance of IBP. We were unable to follow the fate of the Eider chick, but it is unlikely that it survived given the absence of other Eider broods nearby, and the differences in diet and breeding strategies of the two species (precocial versus semi-precocial).

Following the extinction of the 20 known breeding pairs due to the *Erika* oil spill in 2000 (Yésou & Sériot 2002), the Eider is now a rare breeding bird in France, with 2–4 pairs in 2008–10 scattered along the Channel and Atlantic coasts of Brittany, and one pair in the Jura mountains on a dam's lake, Ain county, eastern France (Le Nevé 2011). Since the first post-*Erika* coastal nest was discovered on Er Valant in 2006 (Yésou 2007), this island is now the most regular breeding site in France (none in 2007, 1 pair in 2008, 1–2 in 2009). One previous case of IBP by an Eider has been reported in France: a pair of Herring Gulls incubating a nest containing four Eider eggs, on 25 May 1987 on Évens Island, 46 km southeast of Er Valant (Leray & Yésou 1988). That parasitic clutch was 2 m away from a female Eider incubating her own eggs.

Sayler (1992) listed the occurrence of brood parasitism in waterfowl and considered IBP to be infrequent in the Common Eider. In a study in western Scotland between 1996 and 2009, gulls were the main hosts of the Eider, with 16–17 Herring or Lesser Black-backed Gull nests (n = 32,819), four Common Gull *Larus canus* nests (n = 10,547) and one Great Black-backed Gull nest (n = 2,678) being parasitised; one Herring Gull nest contained a newly-hatched Eider chick and two Herring Gull eggs, one of which was hatching (Craik 2010). The Eider incubation period (22–28 days: Cramp & Simmons 1977; Hagen 2008)

Figure 2. Newly hatched Common Eider *Somateria mollissima* chick in a Great Black-backed Gull *Larus marinus* nest, Er Valant Island, France, 20 May 2010. © *Arnaud Le Nevé*.

is similar to that of Great Black-backed Gull (27–28 days: Cramp & Simmons 1983; Cadiou 2002), and its ability to lay the first egg of a mixed clutch (Waldeck & Andersson 2006), the similar laying dates of the two species, and the size of the Great Black-backed Gull colony on Er Valant can explain the choice of host and incubation success of the Eider egg.

Nest confusion can probably be excluded to explain this instance of IBP as it generally occurs at high nest densities and short distances between guest and host nests (Craik 2010), which was not the case at Er Valant. This suggests that the mixed clutch was formed by an Eider attempting brood parasitism. Assuming IBP as an adaptative behaviour, the absence of other Eider nests may have forced the female to lay in the nest of another bird species, resulting in a 'best-of-a-bad-situation' decision making (Sorenson 1998). The choice of a Great Black-backed Gull nest could result from the coincidence between the laying dates of both species.

Acknowledgments

We thank Bernard Cadiou, Sébastien Reeber, Karl Schulze-Hagen, Gabriele Sorci, Bård G. Stokke and Pierre Yésou for providing references, Bård G. Stokke for his incentive to write this short note, and an anonymous referee for useful comments.

References

Cadiou, B. 2002. *Les oiseaux marins nicheurs de Bretagne*. Les Cahiers Naturalistes de Bretagne. Éditions Biotope, Mèze.

Craik, J. C. A. 2010. Mixed clutches at seabird colonies in west Scotland 1996–2009. *Seabird* 23: 41–52.

Cramp, S. & Simmons, K. E. L. (eds.) 1977. *The Birds of the Western Palearctic*. Vol. I. Oxford University Press, Oxford.

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

Hagen, J. I. 2008. *"Parasitized by your own kind" - The life of the Svalbard Eider* (Somateria mollissima). MSc Thesis, University of Tromsø.

Le Nevé, A. 2011. Eider à duvet *Somateria mollissima*. In: De Seynes, A. & les coordinateurs espèce 2011. Les oiseaux nicheurs rares et menacés en France en 2010. *Ornithos* 18: 145–181.

Leray, G. & Yésou, P. 1988. Incubation d'une ponte d'Eider à duvet *Somateria mollissima* par un Goéland argenté *Larus argentatus*. *L'Oiseau & RFO* 58: 351–352.

Lyon, B. E. & Eadie, J. M. 2008. Conspecific Brood Parasitism in Birds: A Life-History Perspective. *Annual Review of Ecology, Evolution, and Systematics* 39: 343–363.

Robert, M. & Sorci, G. 2001. The evolution of obligate interspecific brood parasitism in birds. *Behavioral Ecology* 12: 128–133.

Robertson, G. J. 1998. Egg adoption can explain joint egg-laying in common eiders. *Behavioral Ecology and Sociobiology* 43: 289–296.

Sayler, D. 1992. Ecology and Evolution of Brood parasitism in Waterfowl. In: Batt, B. D. J., Aftoen, B. D., Anderson, M. G., Ankney, C. D., Johnson, D. H., Kadlec, J. A. & Krapu, G. L. (eds.) *Ecology and management in breeding waterfowl*: 290–322. University of Minnesota Press, Minneapolis.

Sorenson, M. D. 1998. Patterns of parasitic egg laying and typical nesting in Redhead and Canvasback Ducks. In: Rothstein, S. I. & Robinson, S. K. (eds.) *Parasitic birds and their hosts: studies in coevolution*: 357-375. Oxford University Press, New York.

Waldeck, P. & Andersson, M. 2006. Brood parasitism and nest takeover in Common Eiders. *Ethology* 112: 616–624.

Yésou, P. 2007. Eider à duvet *Somateria mollissima*. In: Riegel J. & les coordinateurs espèce 2007. Les oiseaux nicheurs rares et menacés en France en 2005 et 2006. *Ornithos* 14: 137–163.

Yésou, P. & Sériot, J. 2002. Eider à duvet *Somateria mollissima*. In: Sériot, J. & les coordinateurs espèce 2002. Les oiseaux nicheurs rares et menacés en France en 2000. *Ornithos* 9: 225–241.

Yom-Tov, Y. 2001. An updated list and some comments on the occurrence of intraspecific nest parasitism in birds. *Ibis* 143: 133–143.