APPENDIX 1

BACKGROUND INFORMATION

The genus *Calonectris* shearwater comprises four species: Streaked Shearwater *leucomelas* (Temminck 1835; van der Land 2008) that breeds in the North Pacific mainly on islands off Korea, Japan, and Taiwan. Scopoli's Shearwater *diomedea* (Scopoli 1769) breeds mainly in the Mediterranean Sea. It was first described by Joannes Antonius Scopoli and was considered the nominotypical subspecies of the polytypic Cory's Shearwater. Cory's Shearwater *borealis* (Cory 1881) breeds mainly on islands in the Northeast Atlantic. Charles Barney Cory obtained the type specimen killed near Chatham Island, Cape Cod, Massachusetts, USA, and gave the subspecific designation *borealis*. Cape Verde Shearwater *edwardsii* (Oustalet 1883) is an endemic breeder of the Cape Verde Islands.

Developments in the taxonomy of *Calonectris* shearwaters are extensive (e.g., Bourne 1955, Massa & Lo Valvo 1986, Randi *et al*. 1989, Bretagnolle & Lequette 1990, Grandeiro 1993, Cabo *et al*. 1993, Wink *et al*. 1993, Heidrich *et al*. 1998, Carneiro da Silva *et al*. 1999, Sangster *et al*. 1999, Rabouam *et al*. 2000, Gómez-Díaz *et al*. 2006, Gómez-Díaz *et al*. 2009). Based on these and other findings, at the time of writing, three of the four main ornithological taxonomic systems treat all four taxa as distinct species (BirdLife International Checklist of the Birds of the World, The Howard and Moore Complete Checklist of the Birds of the World, and The IOC World Bird List), while the eBird/Clements Checklist of Birds of the World treats *borealis* as a subspecies of the nominotypical *diomedea*. The Dutch Committee for Avian Systematics (CSNA) treat *borealis*

and *diomedea* as specifically distinct based on phylogeographic analysis of allozymes (Randi *et al*. 1989) and mitochondrial DNA (Heidrich *et al*. 1996), qualitative differences in vocalisations (Bretagnolle & Lequette 1990), and phenetic analysis of morphological characters (Granadeiro 1993).

Species breeding limits are extensively studied (e.g., Thibault & Bretagnolle 1998, Dias *et al*. 2011, Genovart *et al*., 2013, Munilla *et al*. 2016, Zidat *et al*. 2017). Recent evidence shows that the breeding divide between *borealis* and *diomedea* lies in the western Mediterranean at the Almería-Oran Oceanographic Front (AOOF) rather than at the Strait of Gibraltar (Flood & Gutiérrez 2019). However, there is a growing number of well-documented records of *borealis* to the east of AOOF, either in or near *diomedea* breeding colonies, or at sea away from colonies. Several pairs of *diomedea* have bred in the Arcachon basin, Gironde, along the Biscay coast of south-western France (Mays *et al*. 2006, Robb *et al*. 2008). Hybridisation and introgression of *diomedea* and *borealis* occurs in the Mediterranean Sea (Gómez-Díaz *et al*. 2009), though based on current evidence this is small relative to the overall sizes of the breeding populations. Our findings are presented with this caveat, though it is likely that the impact of hybridisation on our study is negligible (further research required).

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