Leucistic Cory's Shearwater *Calonectris borealis* off São Miguel, Azores, in November 2019

Fadia Al Abbar[1*], Mariana A. B. Silva[1] and Steve C. V. Geelhoed[2]

** Correspondence author. Email: fadia.alabbar@gmail.com*

[1] *Futurismo Azores Whale Watching, Portas do Mar, Shop 26, 9500-771, Ponta Delgada, São Miguel Island, Azores, Portugal;*

[2] *Wageningen Marine Research, Ankerpark 27, NL-1781 AG Den Helder, The Netherlands*

Introduction

The Cory's Shearwater *Calonectris borealis* is the most abundant seabird in the Azores. It breeds along the coast of all islands and on most islets in the archipelago (Monteiro *et al*. 1996a). Birds attend colonies and adjacent waters from late February to late October (Monteiro *et al*. 1996b), when they can be seen daily around most islands. From mid-November to late January most birds have migrated to wintering areas in the tropical and southern Atlantic (Camphuysen & van der Meer 2001; González-Solís *et al*. 2007).

Aberrant colourations such as albinism, leucism, and melanism have been reported in a wide range of seabird species. One of the aberrant colourations, leucism, is defined as a loss of pigment of entire feathers. A loss of pigmentation may also

Figure 1. Leucistic Cory's Shearwater *Calonectris borealis* photographed south of São Miguel, Azores, 23 November 2019. © *Mariana Silva*

occur in the legs and bill however, excluding a change in colour of the eyes (van Grouw 2006). This loss of pigmentation, or lack of eumelanin, is due to congenital and heritable failure of pigment-producing melanoblasts to reach some or all areas of the skin (van Grouw 2013). In this note, we document an observation of an aberrantly coloured Cory's Shearwater in the Azores.

Description

During a whale watching trip off the south coast of São Miguel, the largest island of the Azores, an aberrantly coloured Cory's Shearwater was observed in a mixed species feeding association (MSFA) on 23 November 2019. The MSFA consisted of approximately 100 Atlantic Spotted Dolphins *Stenella frontalis* and at least one large tuna *Thunnus sp.*, joined by an estimated 200 Great Shearwaters *Ardenna gravis*, 20 Cory's Shearwaters, a Manx Shearwater *Puffinus puffinus,* and c. 20 Yellow-legged Gulls *Larus michahellis*. The aberrantly coloured bird was observed for c. 25 minutes whilst it was joining and leaving the MSFA. When leaving, it flew around at approximately 500 m distance from the other seabirds in the MSFA. This behaviour was not observed in the other seabirds, as they circled within a radius of approximately 100 m or rested at the surface at 50–100 m radius of the MSFA. The aberrant Cory's Shearwater was seen diving at least twice.

A direct comparison of the aberrant individual with other Cory's Shearwaters showed no apparent differences in size and structure, nor in the colouration of bare parts. The bill was yellow with a dark smudgy tip and the eye was dark (Figures 1–2). The leg colour could not be established. The bird's mantle, back, scapulars, and tailband were greyish brown with a few white, irregularly distributed feathers on the back and upper tail. The upper tail coverts had white fringes, contrasting with the dark tail band. The upper wing had a dark trailing edge, a white inner flag on the left outer primary (p10) with, more or less, symmetrical white coloured primaries on both the left and right side of the wing (p5–p7). It also had a piano key-like band with dark and white patches from the inner greater primary coverts extending to the greater and median coverts, and some white spots on the forewing. Apart from one white primary, the colouration of the underparts looked normal.

Figure 2. Leucistic Cory's Shearwater *Calonectris borealis* photographed south of São Miguel, Azores, 23 November 2019. © *Mariana Silva*

Discussion

Albinism, leucism, and melanism have been recorded in various populations of the Cory's Shearwater and the former subspecies Scopoli's Shearwater *Calonectris diomedea*. These cases have mainly been recorded in the Atlantic Ocean, on the Canaries and the Azores (Bried *et al*. 2005), but also in the Mediterranean Sea (Leopold & Keijl 2005; Ristow & Witte 2004). The more or less symmetrical white or light feathers on the upper side, combined with the normal coloured bare parts, point to leucism as a cause of the aberrant colouration in this individual; a loss of pigment of

entire feathers (van Grouw 2006). An albino should have aberrant coloured bare parts (e.g. a red eye) and should be all-white, not partially white.

Incidence of leucism in the Cory's and Scopoli's Shearwater appears to be low. Only a handful of cases have been documented in breeding colonies, where several thousands of adult breeders and even higher numbers of fledglings and chicks have been checked (see review in Bried *et al*. 2005). The incidence in Malta at 3.5% (n = 3,200) is the highest reported we could find. The qualification as leucism, however, was less conservative than most studies; one or two white feathers on the head were qualified as leucism.

In most cases, the aberrant colouration due to leucism was less extensive than the individual we describe here. Aberrant colouration was restricted to a few white feathers. Re-sightings of a male breeder in Crete, Greece, showed it consistently had one white left tail feather between 30 May 1993 and 8 July 1997 (Ristow & Witte 2004). More extensive leucism, as seen in this individual, could be a form of progressive greying, a heritable loss of pigment cells (van Grouw *et al*. 2011), where the feathers become white with age. The documentation of this aberrant colouration of the leucistic Cory's Shearwater off São Miguel allows future re-sightings, as well as in other areas in the Atlantic.

Acknowledgments

We would like to thank Futurismo Azores Whale Watching for providing the whale watching platform. Comments from Laura González Garcia and Mardik Leopold on a draft improved this note.

References

Bried, J., Fraga, H., Calabuig-Miranda, P. & Neves, V. C. 2005. First two cases of melanism in Cory's Shearwater *Calonectris diomedea*. *Marine Ornithology* 33: 19–22.

Camphuysen, C. J. & van der Meer, J. 2001. Pelagic distribution, moult and (sub-) specific status of Cory's Shearwaters *Calonectris [d.] diomedea/borealis* wintering off southern Africa. *Marine Ornithology* 29: 89–96.

González-Solís, J., Croxall, J., Oro, D. & Ruiz, X. 2007. Trans-equatorial migration and mixing in the wintering areas of a pelagic seabird. *Frontiers in Ecology and the Environment* 5: 297–301.

van Grouw, H. J. 2006. Not every white bird is an albino: sense and nonsense about colour aberrations in birds. *Dutch Birding* 28: 79–89.

van Grouw, H. 2013. What colour is that bird? *British Birds* 106: 17–29.

van Grouw, H., Russell, S. & Merne, O. 2011. Notes on colour aberrations in Common Guillemot *Uria aalge* and Northern Gannet *Morus bassanus*. *Seabird* 24: 33–41.

Leopold, M. F. & Keijl, G. O. 2004. Meer zeevogels met kleurafwijkingen. *Nieuwsbrief Nederlandse Zeevogelgroep* 5: 2–3.

Monteiro, L. R., Ramos, J. A. & Furness, R. W. 1996a. Past and present status and conservation of the seabirds breeding in the Azores. *Biological Conservation* 78: 319–328.

Monteiro, L. R., Ramos, J. A. & Furness, R. W. & del Nevo A. J. 1996b. Movements, morphology, breeding, molt, diet and feeding of seabirds in the Azores. *Colonial Waterbirds* 19: 82–97.

Ristow, D. & Witte, L. 2004. Albinistic cases in adult and juvenile Cory's shearwaters *Calonectris diomedea*. *Avocetta* 28: 31–32.