

'Cross-billed' Cory's Shearwaters *Calonectris diomedea*

Various degrees of deformities affecting mainly the eyes and feet have been described in the Procellariiformes, especially on the small-sized members of the order e.g. the Storm Petrels such as *Hydrobates pelagicus* (Murray 1984). Pomeroy (1962) reports a case of bill deformity in a Manx Shearwater *Puffinus puffinus* from the Irish Sea. Nogales *et al* (1990) reported bill malformation in the Cory's Shearwater *Calonectris diomedea* from the Great Selvage Islands in Atlantic. Three 'cross-billed' chicks were found in 1988 out of a total of 801 ringed, while another bird was found in 1989 out of 600 chicks ringed.

In the period 1983 to 1997 four chicks from the Maltese Islands were noted bearing some form of deformity. One had extremely swollen eyes covered with a thin membrane while another two had growths around the eyes and bill. Another bird was found with stunted wings and limp legs. From these four birds it was only the last bird that failed to fledge. It was found dead inside the nesting chamber.

In 1998 a new form of deformity was recorded, bill-malformation. A juvenile bird (see Fig. 1), which became stranded after leaving the nest, was collected for re-release. The shape of the bill was similar to that reported by Nogales *et al.* (1990) but added to this, on the head and especially around the eyes the bird was infested with parasites. In 1999 a chick, which had a normal-looking beak a few days after hatching in one of the study nests, was found to be 'cross-billed' when it was 39 days old. Apart from this deformity, the upper mandible was also severely damaged. Although deformed, the chick managed to fledge successfully, although it is doubtful whether such birds survive - as already suggested by Nogales *et al* (1990).



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Fig. 1.

In the case of the Atlantic birds, it has been suggested that the cause for these bill deformities may be related to sea pollution (Nogales *et al.* 1990). However, in the course of discussion on the matter with some colleagues, a more simple explanation for this phenomenon was brought up. It was suggested that the parent birds might be the cause of these so-called deformities at an early stage during chick feeding (D. Ristow pers. comm.). Vaughan (1980) gives a detailed account of the feeding of chicks by the adults. During the actual feed, the chick points its bill towards the adult, later this develops into a violent almost frenzied motion of pecking and nibbling at the parent's head and bill. The pecks take the form of a rhythmic thrusting and the chick appears to become frantic. The adult responds in a similar behaviour followed by the opening of the bill, and the chick then thrusts its bill inside it.

It seems obvious that inexperienced or first-time breeders together with the overzealous thrusting of the chick's bill into its parent's mouth could be the cause of these rare bill deformities. This must have been the cause of the bill deformity of the 1999 chick. Its parents were both first-time breeders as they had been ringed as prospectors in 1998.

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References

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