BEAK DEFORMATION IN A SOUTHERN GIANT PETREL *MACRONECTES GIGANTEUS* CHICK

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At Harmony Point (62°17′S, 59°13′W), Nelson Island, South Shetland Islands on 25 January 2003, we found a Southern Giant Petrel *Macronectes giganteus* chick with a bill abnormality. The chick was accompanied by its parent. The date was approximately 21 days after hatching had started. The upper mandible showed torsion to the left involving not only keratin but also bony structures (Fig. 1). Before leaving the island (24 March), the bird was checked and was found to still be alive. Seven months later, a new expedition of scientists arrived on the island. The Southern Giant Petrel chick was found dead on the nest. Although the body was not complete, most of its skin and feathers were in good condition. The chick was completely feathered, and according to the length of the tarsus (84.1 mm), it was approximately 65 days old (Conroy 1972)—although it could have been older if rate of growth was reduced by the deformed bill.

Fig. 1. Deformation of the beak in a Southern Giant Petrel *Macronectes giganteus* chick at Harmony Point colony (two views of the same chick).

Beak deformation, and many other abnormalities, are generally uncommon in wild birds and can be caused by diet, injuries, diseases, parasites and exposure to pollutants, among other possibilities (Gylstorff & Grimm 1987, Blus *et al.* 1998, Barker 1999). Bill aberrations in Antarctica have been reported in chicks of Emperor Penguins *Aptenodytes forsteri* (Pütz & Plötz 1991, Splettstoesser & Todd 1998) and Antarctic Cormorants *Phalacrocorax bransfieldensis* (Casaux 2004). The present record is the first published of an abnormal bill in *Macronectes giganteus* in the Antarctic. Although survival is not necessarily reduced by bill abnormalities (see Fox 1952), Casaux (2004) noted, in relation to beak deformation in Antarctic Cormorants, that "such an anomaly is likely to reduce survival."

The feeding behaviour of the Procellariiformes has been described in many publications (see Warham 1990, for details). According to Warham, the lower mandible is the most important in the feeding because that portion works as a "trough" to get the food. Given that the chick was completely feathered and that its lower mandible showed no abnormalities, we hypothesize that the chick was receiving enough food from its parents for survival, but that its growth rate was reduced and that it died of starvation after being abandoned by its parents. Although this presumption is plausible, other factors such as an inability to defend itself from predators, or complications caused by internal deformities could also have been the cause of death.

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REFERENCES

BARKER, M. 1999. Mysterious bill deformities seen in Alaskan chickadees. *Birdscope* 13: 9–10

BLUS, L.J., MELANCON, M.J., HOFFMAN, D.J. & HENNY, C.J. 1998. Contaminants in eggs of colonial waterbirds and Hepatic Cytochrome P450 enzyme levels in pipped tern embryos, Washington State. *Archives of Environmental Contamination and Toxicology* 35: 492–497.

CASAUX, R. 2004. Beak deformation in an Antarctic Cormorant *Phalacrocorax* [*atriceps*] *bransfieldensis* chick. *Marine Ornithology* 32: 109–110.

CONROY, J.W. 1972. Ecological aspects of the biology of the Giant Petrel, *Macronectes giganteus* (Gmelin), in the Maritime Antarctic. *British Antarctic Survey Scientific Report* 75: 1–74.

FOX, W. 1952. Behavioral and evolutionary significance of the abnormal growth of beaks of birds. *Condor* 54: 160–162.

GYLSTORFF, I. & GRIMM, F. 1987. Vogelkrankheiten. Stuttgart: Verlag Eugen Ulmer. 609 pp.

PÜTZ, K. & PLÖTZ, J. 1991. Beak deformation in Emperor Penguin *Aptenodytes forsteri* chicks. *Polar Record* 163: 367.

SPLETTSTOESSER, J.F. & TODD, F.S. 1998. Further observations of beak deformations in Emperor Penguin *Aptenodytes forsteri* chicks. *Marine Ornithology* 26: 79.

WARHAM, J. 1990. The petrels, their ecology and breeding systems. London, UK: Academic Press. 440 pp.