

FURTHER OBSERVATIONS OF BEAK DEFORMATIONS IN EMPEROR PENGUIN *APTENODYTES FORSTERI* CHICKS

JOHN F. SPLETTSTOESSER¹ & FRANK S. TODD²

¹235 Camden Street, Suite 32, Rockland, Maine 04841, U.S.A.
(jspletts@midcoast.com)

²Ecocepts International, 8958 Kobe Way, San Diego, California 92123, U.S.A.

Received 15 November 1997, accepted 16 May 1998

During cruises of the Russian icebreaker *Kapitan Dranitsyn* to the eastern Weddell Sea, Antarctica in November and December 1994, visits by JFS were made to Emperor Penguin *Aptenodytes forsteri* colonies at Atka Bay (70°0'S, 9°W) and Riiser-Larsen (72°S, 17°W). Visits were made by FST by aircraft in several austral summers to the Emperor Penguin colony at Dawson-Lambton Glacier (76°30'S, 29°W) (geographic coordinates for all colonies are from Woehler 1993). On a visit to the Riiser-Larsen colony on 9 December 1994, beak deformation was noted in a single Emperor Penguin chick (Fig. 1). This colony consists of some 5900 breeding pairs (Woehler 1993). An incidence of relatively high chick mortality in the 1994/95 austral summer at this colony has been reported elsewhere (Splettstoesser 1997).

In observations made at the Dawson-Lambton Emperor Penguin colony, several instances of beak deformations in chicks have been noted by FST. Two examples of both mandibles being deformed were noted in the colony in November 1993. The upper mandible was substantially smaller than the lower, which was also reduced in size, and the tips of both mandibles were blunt and discoloured (flesh-coloured) (Fig. 2). Both chicks noted with this condition appeared to be in good condition otherwise, thus they were apparently being fed with their deformed bills appearing not to be a hindrance. This, of course, may change if the chicks fledge, when catching prey at sea may require a normal bill. The Dawson-Lambton colony consisted of some 11 700 breeding pairs in 1986 (Woehler 1993), although FST has noted considerable variation in this figure as a result of five extended visits to the colony.

Incidents of beak deformation have also been noted in the nearby Drescher Inlet colony (72°52'S, 19°25'W) in which the upper mandible was bent to the left in one of the chicks, and to the right in the other (Pütz & Plötz 1991). Further incidents

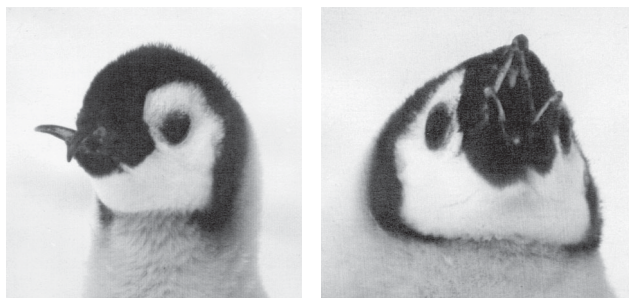


Fig. 1. Deformation of the lower mandible in an Emperor Penguin chick at Riiser-Larsen colony (two views of the same chick).

of this type of deformation have been noted in the same colony since then (K. Pütz pers. comm.). This colony consists of some 6600 breeding pairs (Woehler 1993).

Pütz & Plötz (1991) in first reporting beak deformation in Emperor Penguin chicks mentioned that beak deformations are known in domestic poultry but are rarely recorded in wild birds. They added that beak deformations might be a result of 'congenital defects, deficiency diseases, parasitic infections, injuries, or abnormal feeding of the nestling'. Because the deformations have been found in small numbers of chicks, and in only a few colonies visited, any one of these possibilities might be correct. They might simply be a normal percentage of abnormalities that appear in any organism. Only a few of the 42 or so known Emperor Penguin colonies (Woehler 1993) are visited regularly by investigators, so this feature should be looked for in order to determine its prevalence and perhaps its cause.

ACKNOWLEDGEMENTS

The cruises of the Russian icebreaker were chartered by Zegrahm Expeditions (Seattle, Washington, U.S.A.) and Quark Expeditions (Darien, Connecticut, U.S.A.). Frank Todd's logistics were provided by Adventure Network International (London, U.K.). Peter Harrison contributed to the observations at the Riiser-Larsen colony.

Fig. 2. Deformation of both upper and lower mandibles in an Emperor Penguin chick at Dawson-Lambton colony.



REFERENCES

- PÜTZ, K. & PLÖTZ, J. 1991. Beak deformations in Emperor Penguin *Aptenodytes forsteri* chicks. *Polar Rec.* 27: 367.
SPLETTSTOESSER, J. 1997. Mortality among chicks in the Emperor Penguin (*Aptenodytes forsteri*) colony at Riiser-Larsen Ice Shelf, Antarctica. *Polar Rec.* 33: 63–64.
WOEHLER, E.J. 1993. The distribution and abundance of Antarctic and Subantarctic penguins. Cambridge: Scientific Committee on Antarctic Research.