

## ADOPTION OF A SOUTHERN ROCKHOPPER PENGUIN (*EUDYPTES CHRYSOCOME*) CHICK BY A BLACK-BROWED ALBATROSS (*THALASSARCHE MELANOPHRIS*)

Laurent Demongin<sup>1</sup>, Maud Poisbleau<sup>1,2</sup>, Rafael Matias<sup>3</sup>, & José Pedro Granadeiro<sup>4</sup>

<sup>1</sup>Max Planck Institute for Ornithology, Vogelwarte Radolfzell, Schlossallee 2, 78315 Radolfzell, Germany. *E-mail*: laurentdemongin@gmail.com

<sup>2</sup>University of Antwerp, Campus Drie Eiken, Department Biology - Ethology, Universiteitsplein 1, 2610 Antwerp (Wilrijk), Belgium.

<sup>3</sup>Eco-Ethology Research Unit, Instituto Superior de Psicologia Aplicada, Rua do Jardim do Tabaco 34, Lisboa, Portugal.

<sup>4</sup>Centro de Biologia Ambiental, Museu Nacional de História Natural, Rua da Escola Politécnica 56, 1269-102 Lisboa, Portugal.

**Un pichón de Pingüino Penacho Amarillo (*Eudyptes chrysocome*) adoptado por un Albatros de Ceja Negra (*Thalassarche melanophris*).**

**Key words:** Southern Rockhopper Penguin, Black-browed Albatross, adoption, parasitism, Falkland Islands.

### INTRODUCTION

Although described in many species (Riedman 1982), adoption or kidnapping of offspring by birds is not a common phenomenon in altricial or semi-altricial species. However, its occurrence is more likely in colonially ground-nesting seabirds because of close proximity of neighbouring pairs and high mobility of the chicks (Graves & Whiten 1980, Pierrotti & Murphy 1987).

All penguin chicks are semi-altricial. Although entirely dependent on their parents for thermoregulatory control and food, they possess downy feathers at hatch and have some locomotor ability (Williams 1995).

Failed breeders of Emperor Penguin (*Aptenodytes forsteri*) are well known for their attempts to kidnap juveniles from other pairs (Jouventin *et al.* 1995, Angelier *et al.* 2006), while Little Penguins (*Eudyptula minor*) are able to perform true adoption of foreign chicks (Wienecke 1995). Southern Rockhopper Penguin (*Eudyptes chrysocome chrysocome*) chicks often try to beg towards adults other than their parents (Warham 1975), especially during the crèche period when both parents are absent from the colony during most of the day (pers. observ.). This behaviour is generally unsuccessful, parents being able to recognize calls of their own chicks before the end of the guard stage

(Warham 1975, Marchant & Higgins 1990, Williams 1995).

Quite differently from penguins, in most albatross species the single chick remains in the nest until it fledges, precluding adoptions to occur. However, cross-fostering experiments between Black-browed Albatross (*Thalassarche melanophris*) and Grey-headed Albatross (*Thalassarche chrysostoma*) have shown that breeders can accept a chick from a different species and rear it until fledging (Prince & Ricketts 1981).

In altricial or semi-precocial species, the only cases of an adult feeding a chick of a different species are usually considered as parasitism (cf. del Hoyo *et al.* 2005). In this paper, we report the temporary feeding of a Southern Rockhopper Penguin chick by a pair of breeding Black-browed Albatrosses.

## OBSERVATIONS

The Settlement Rookery on New Island (51°43'S, 61°17'W), Falkland Islands, was visited daily during the Austral summer 2008–2009 to monitor breeding Black-browed Albatrosses and Southern Rockhopper Penguins. The monitored albatross nest 152 was occupied by two color-ringed adults, both marked in October 2008 (Paulo Catry pers. com.). The albatross chick hatched on 24 December 2008, at the end of the hatching period (9–26 December). On 27 December, a Southern Rockhopper Penguin chick of an unknown nest was observed inside the nest 152 together with the albatross chick. It was begging for food towards the male albatross but did not receive any food during our observations. At this date all the Southern Rockhopper Penguin chicks were between 15 and 25 days old (Poisbleau *et al.* 2008) and they had started to gather in crèches. Therefore, this particular chick was c. 20 days old and was in an apparent normal body condition, not especially fat or lean. On 28 Decem-

ber, both adult albatrosses were present at the nest at 09:30 h and soon after the male left and the female started its brooding shift, sitting over both chicks. The penguin chick then immediately started to beg, while the albatross chick did not show any reaction. We clearly observed the albatross feeding the penguin chick on several occasions within the first 30 min after the female's arrival (Fig. 1). On 29 December, only the albatross chick was present in the nest with the adult female. This chick eventually died on 7 January, weighing only 170 g (c. 20% of the normal weight for that age).

## DISCUSSION

Although this “adoption” of a penguin chick by an albatross lasted for only two days, it is very interesting in several respects. The species involved are members of two orders (Sphenisciformes and Procellariiformes) and their morphologies are very different, although they are closely genetically related (Hackett *et al.* 2008). Several particular circumstances probably converged to allow the successful feeding of the penguin chick by the albatross. Both species share the same colony with nests heavily intermingled (Strange 1982). Both chicks hatched in December but the penguin chick was older, bigger, and more active than the albatross chick. Parents of both species need the stimulation provided by the pecking of the chick at their bills, and they enclose the chick's bill with their own for food transfer (Warham 1975, 1996). They feed on the same types of prey in the Falkland Islands (Huin 2003).

During the crèche period, Rockhopper Penguin chicks often beg without discernment towards any nearby adult (pers. observ.). Nevertheless, these begging attempts never result in food being given to the chick (Warham 1975). Therefore, while it was not really surprising that a Rockhopper Penguin chick



FIG. 1. A Southern Rockhopper Penguin chick fed by a Black-browed Albatross.

tried to beg towards an albatross, it was totally unexpected that the albatross allowed the penguin chick to enter its nest, to beg for food, and eventually to be fed. Usually, when a penguin is in such close proximity to an occupied albatross nest, the parent will attempt to peck at the penguin, sometimes causing it severe injury (pers. observ.).

Adoption has sometimes been attributed to reproductive errors (Riedman 1982) resulting from failure of parents to recognize their offspring (Pierroti 1991). It has been previously demonstrated that Black-browed Alba-

trosses either do not recognize their own chicks or ignore their identity when feeding the occupants of their nests (Tickell & Pinder 1972). In the event we report, the error is quite obvious. This pair of albatrosses was breeding in this colony for the first time (Paulo Catry pers. com.), and their lack of experience is also supported by the late hatching date. It seems that these inexperienced albatrosses were not able to recognize the penguin chick as foreign when it occupied their nest despite the strong differences in appearance between both chicks (color, size,

calls, etc.). They hence responded to the chick's begging with a standardized feeding behavior. This event was also probably made easier because of the early age and the poor body condition of the albatross chick.

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