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CHICKNAPPED! TWO KELP GULL CHICKS BROODED AND DEFENDED BY AN AFRICAN PENGUIN AT HALIFAX ISLAND, NAMIBIA

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Alloparental behaviour, the temporary or permanent adoption of nonlinearly-related or entirely unrelated young through brooding, feeding or defending, is well known in birds (Riedman 1982). In penguins, alloparental care by conspecifics has been recorded in Emperor *Aptenodytes forsteri*, King *A. patagonicus*, Adélie *Pygoscelis adeliae* and Little *Eudyptula minor* Penguins (Riedman 1982, Jouventin *et al*. 1995, Wienecke 1995, Lecomte *et al*. 2006, Beaulieu *et al*. 2008). Alloparental behaviour by penguins towards young of other species, however, appears to be rare and has, to my knowledge, only been reported once, involving a King Penguin and a Subantarctic Skua *Stercorarius antarcticus* chick (Oosthuizen and de Bruyn 2009). Here I detail observations of an African Penguin *Spheniscus demersus* brooding and actively defending two Kelp Gull *Larus dominicanus* chicks from other gulls, including from the chicks' assumed true parents.

Halifax Island (S 26°37', E15°04') is situated off the coast of southern Namibia, and supports about 800 pairs of African Penguins that mostly breed in five well-defined and discrete colonies on the 10 ha island (Figure 1), with additional nests scattered across the island. Roughly 350 pairs of Kelp Gulls also breed on the island; about half of them nest in a loose aggregation on the flat, gravelly central plain ("Gullplain", Fig 1), an area generally not frequented by penguins,

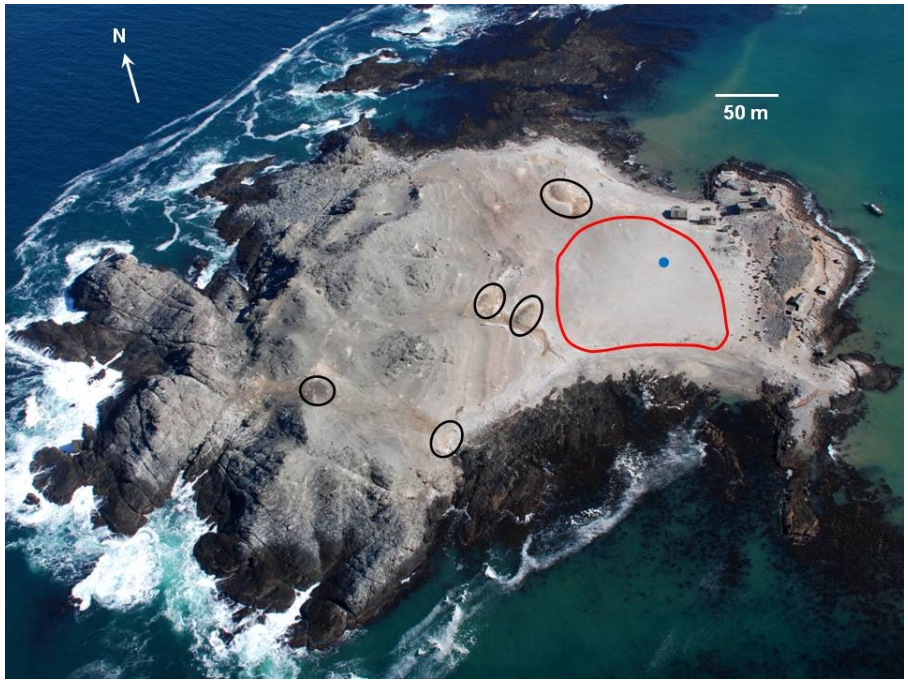

Fig 1 – Halifax Island, Namibia, showing the location of the five main penguin colonies (black) and Gullplain (red), and the position of the penguin providing parental care to two gull chicks (blue dot).

with the remaining pairs nesting singly or in small groups elsewhere on the island. Penguins breed throughout the year at Halifax Island, with breeding activities there peaking in winter (July-August) and mid-summer (December-January) (Kemper *et al*. 2007). Kelp Gulls breed at Halifax Island between November and February (JK pers. obs.).

On 9 January 2014, during a routine bird count at Halifax Island, I noticed an adult African Penguin on Gullplain, brooding two Kelp Gull chicks. The chicks appeared to be siblings and probably represented a full brood (Crawford and Hockey 2005). The chicks were still

Fig 2 – The penguin charged and attacked the ringed gull parent at 15:22…

Fig 3 – …and regained custody of the chicks…

entirely downy and were estimated to be about two weeks old. After my initial observation at 10:53 I continued my bird count until 15:20 but intermittently observed the penguin from a distance. After completing the count, I monitored the interaction between the penguin, the chicks and their assumed true parents (hereafter referred to as parent gull(s)) more closely until 18:35, when I left the island. The observation took place on an unseasonably hot day, with mid-day temperatures peaking around 30°C in nearly windless conditions. All surface-breeding penguins at Halifax Island displayed signs of heat stress (body erect, flippers held away from the body, panting) from late morning to late afternoon, and many penguins with large, post-guard stage chicks temporarily abandoned their nests to cool off in the sea. Most Kelp Gull chicks and some adults also appeared heat-stressed during that period.

During almost eight hours of observation, the chicks were cared for by the penguin during five periods totalling five hours, and by the gull parents (one of which was ringed and therefore identifiable) during three periods totalling almost three hours (see Table 1 and Figures 2-5 for details). Throughout the observation period, during which the penguin, the chicks and at least one of the gull parents remained in close proximity to each other (2-10 m), the chicks never solicited food from penguin, but did not object to being shaded, brooded and defended by the penguin. The penguin showed no signs of wanting to feed or groom the chicks and displayed no aggression toward them, but was highly protective of them when they were in its care.

It was not possible to follow up the fate of the penguin or the two gull chicks on the following day (10 January 2014). However, the island

Fig 4 – …with the gull eventually settling nearby the heat-stressed penguin that was shading the two chicks.

Fig 5 – The penguin vigorously defended the gull chicks from potential aggressors, including from the gull parents.

was scanned with binoculars and a camera from a vantage point on the mainland on 11, 12 and 13 January 2014. No penguin was present on Gullplain, and it is assumed that the penguin had given up parenting the chicks.

From my observations it was clear that this was not a case of the two chicks merely opportunistically seeking shade from a resting penguin, but that the penguin actively and repeatedly "kidnapped" the gull chicks from the gull parents, and brooded/shaded and resolutely defended the chicks from potential aggressors, including from the chicks' parents. The reasons behind the penguin's unusual behaviour are obscure. The penguin clearly did not derive any evolutionary advantage from providing parental care to chicks of a species that contributes considerably to breeding failure in African Penguins through egg and chick predation (Kemper *et al*. 2007). Moreover, guarding chicks of a semi-precocial species was particularly energy-demanding, and on several occasions the already heat-stressed penguin had to run after the mobile chicks to prevent them from wandering off. It is therefore unlikely that the penguin would have been able to keep up its guarding efforts for long.

In Emperor and King Penguins, where parental care includes long absences from the nest while foraging, the hormone prolactin is thought to maintain parental care behaviour, and elevated levels in

failed breeders and non-breeding individuals have been linked to the relatively common phenomenon of intraspecific adoption in these species (Jouventin *et al*. 1995, Jouventin and Mauget 1996). Hormonal levels were also postulated as a possible cause behind the only other known – and strikingly similar – interspecies adoption event involving an adult penguin, in that case a King Penguin and a Subantarctic Skua chick (Oosthuizen and de Bruyn 2009). It is possible that the penguin at Halifax Island had just lost its nest contents and elevated "parental care" hormone levels caused it to compensate by adopting another set of chicks. However, unlike Emperor and King Penguins, African Penguins breed throughout the year, readily lay replacement clutches, and not even incidences of intraspecific alloparental care have to date been reported for this species. Jouventin *et al*. (1995) further postulated that the absence of nests and territories in Emperor Penguins appears to facilitate alloparental behaviour in that species. This is unlikely to be an explanatory factor here because African Penguins have clearly defined nests. Therefore, although hormonal levels may have played a role, the penguin's behaviour of extending parental care to another species remains puzzling.

Table 1 – Detailed description of the interaction between an African Penguin extending parental care to two Kelp Gull chicks and the chicks' assumed true parents (hereafter referred to as gull 1 and gull 2). P = penguin, G = gull.

Local time	Observation	Parental care by
10:53	A penguin brooding two chicks is first noted.	P
13:16	The chicks walk to a calling gull 1; the penguin darts after the chicks, but does not catch up before they reach gull 1. The penguin does not attack gull 1 and settles nearby.	G
13:23	Two other gulls in the vicinity cause gull 1 to take off; the penguin makes a dash for the chicks, stands over them, flippers outstretched, in a defensive pose.	P
13:31	The chicks walk back to gull 1. The penguin stays put and shows signs of heat stress and is clearly uncomfortable.	G
14:23	The penguin walks to gull 1 and leans defensively over the chicks. Gull 1 assumes a threat pose, with outstretched wings and open beak, but eventually settles close to the penguin.	P
14:53	The chicks return to gull 1. The penguin does not pursue them.	G

15:22	The penguin charges gull 1 from about 3 m away, causing it to fly off, then settles with the chicks, shading them. Gull 1 is agitated, but is not making an attempt to attack the penguin. Eventually gull 1 settles within 5 m, chasing away other gulls that venture near the penguin and chicks (Figures 2-4).	P
15:34	The penguin and chicks appear unconcerned about the observer slowly approaching and sitting down nearby (10 m); gull 1 constantly paces between the penguin and observer, uttering alarm calls.	P
16:15	Gull 2 joins the pacing and alarm calling.	P
16:55	The observer retreats.	P
16:56	Gull 1 calls its chicks from 2 m away; the chicks dash to gull 1, with one chick immediately and unsuccessfully soliciting food from gull 1.	G
18:10	A small disturbance causes gull 1 to fly up; the penguin races to the chicks and broods them. Gull 1 is agitated but unable to chase away the penguin.	P
18:35	The observer leaves the island; the penguin is still guarding the chicks, with gull 1 standing close by.	P

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