

Cases of harassment by kelp gulls (*Larus dominicanus*) on right whales (*Eubalaena australis*) of Southern Brazil

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Resumo

Os gaivotões (*Larus dominicanus*), uma espécie de ave marinha comum e largamente distribuída no Hemisfério Sul, podem ser observados pegando pedaços de pele descamada do dorso de baleias francas austrais (*Eubalaena australis*). Quando atacadas por essas aves, as baleias reagem bruscamente arqueando seu dorso, erguendo a cabeça e a cauda e, algumas vezes, submergindo rapidamente ou mergulhando para longe. Dois episódios de molestamento por gaivotões foram observados no litoral sul do Estado de Santa Catarina durante um estudo sobre a distribuição e o comportamento da população de baleias francas austrais em sua área de procriação e berçário no litoral sul do Estado de Santa Catarina. O primeiro episódio de molestamento ocorreu em 31 de agosto de 1998 na Praia do Rosa. O comportamento do par de mãe e filhote molestado pelos gaivotões foi registrado durante quatro horas de observação no dia do episódio, e em cinco dias subsequentes. Durante todas as observações subsequentes, o comportamento do par seguiu o mesmo padrão registrado durante o período de observação

realizado antes do episódio e nenhum outro ataque foi observado. Em 03 de setembro de 2000, um segundo episódio de molestamento a um par de mãe e filhote por gaivotões foi observado na praia de Garopaba. Este par manifestou a mesma resposta demonstrada ao ataque na primeira vez em que este foi observado em 1998. Qualquer fonte de molestamento, mesmo sendo raros eventos como os ataques por gaivotões relatados aqui, podem causar impacto na recuperação desta população. O estudo contínuo desta população é necessário para o monitoramento dos efeitos a longo prazo e o potencial aumento na frequência destes ataques.

Unitermos: baleia franca austral, molestamento por gaivotas, comportamento, sul do Brasil.

Summary

Kelp gulls (*Larus dominicanus*), a very common and widespread species of seabird in the Southern Hemisphere, were observed picking pieces of sloughed skin from a southern right whale's (*Eubalaena australis*) back. When attacked by these birds, whales reacted violently by arching the back, raising the head and tail, and submerging quickly, swimming away under water. Two episodes of kelp gull harassment on right whales were observed during part of an ongoing study of the distribution and behavior of the Brazilian right whale population on its nursery ground along the southern coast of Santa Catarina State. The first episode of harassment occurred on August 31 1998 at Rosa Beach. The behavior of a mother-calf pair was recorded during 4 hours of observation on the day when the gull harassment took place, and on five subsequent days. During all subsequent observations, the behavior of the pair followed the same pattern recorded in the first period of observation during the day of the attack, and no other gull attack was observed. On September 03

2000 a second episode of mother-calf harassment by kelp gulls was observed at Garopaba Beach. This pair displayed the same response to the gull attack as the first one observed in 1998. Any potential source of harassment, even a rare event such as the gull attack reported here, may impact on the recovery of this population. The continuing study of this population is necessary to monitor the long-term effect and potential increase in the frequency of these attacks.

Key words: southern right whale, kelp gull harassment, behavior, southern Brazil

Kelp gulls (*Larus dominicanus*), a very common and widespread species of seabird in the Southern Hemisphere, can be seen flocking where southern right whales (*Eubalaena australis*) have breached to pick pieces of sloughed skin from the water (Thomas, 1988; Victoria Rowntree, personal communication). More recently gulls have been observed feeding on pieces of skin and gouging blubber from the backs of right whales. This presumably learned behavior may be seen at the Peninsula Valdés calving ground in Argentina (Thomas, 1988; Rowntree et al., 1998). Such behavior is spreading in the gull population and may seriously impact this right whale population (Rowntree et al., 1998). When attacked by these birds, whales react violently by arching the back, raising the head and tail, and sometimes submerging quickly or swimming away under water (Thomas, 1988). Most of the attacks by gulls reported by Thomas (1988) were directed against the mothers of mother-calf pairs, and more recently gull attacks were directed only on mother-calf pairs Rowntree et al. (1998).

The southern coast of Brazil is a nursery ground for southern right whales (Simões-Lopes et al., 1992; Lodi et al., 1996; Palazzo and Flores, 1998). From late May to early December, right whales

approach the coast in order to mate, give birth and nurse their calves (Palazzo and Flores, 1998). These right whales are part of a remnant population that was severely depleted by whaling activities along the Brazilian coast that spanned from the early 17th century until 1973 (Palazzo and Carter, 1983). Right whales off the coast of Santa Catarina State have been surveyed from the shore and by aircraft since 1981. Mother-calf pairs have been found to aggregate between Santa Catarina Island ($\sim 27^{\circ}30'S$, $48^{\circ}32'W$) and the Cape of Santa Marta ($28^{\circ}36'S$, $48^{\circ}49'W$) (Simões-Lopes et al., 1992; Palazzo and Flores, 1998). This section of the coast is characterized by a number of small bays and coves that offer protection against the predominant strong winds affecting the region during the winter/spring season. Mother-calf pairs are commonly seen just beyond the breaking waves. The groups can remain in the same bay for several days or weeks or swim slowly along the coast (Simões-Lopes et al., 1992; Palazzo and Flores, 1998).

On August 31 1998, an episode of kelp gull harassment on a right whale was observed at Rosa Beach ($28^{\circ}08'S$, $48^{\circ}38'W$) during part of an ongoing study of the distribution and behavior of the right whale population along the southern coast of Santa Catarina (Groch, 2000). As part of the study, observations were made systematically from several sites along the coast that were located 20–90 m above sea level. Whales were observed using 10 x 50 mm binoculars and 22 x 60 mm spotting scope. The behavior of two mother-calf pairs was documented during 4 hours of observation between 09:40 and 12:30 and from 15:20 to 16:30. During the first period of observation, the mother-calf pairs remained in the same location and alternated periods of rest and play. During the first seven minutes of the second period of observations, both pairs were in the same location, resting and swimming slowly. At 15:27, five kelp gulls approached one of the two mother-calf pairs and began hovering over the whales. A minute later, one gull pecked the back of the mother in the mid-

dorsal region. The mother arched her back immediately, raised her head violently above the water, and slapped her tail twice. The mother-calf pair then increased their swimming speed and rapidly moved towards the northern side of the bay. The gulls continued to hover above the pair and ten minutes later another episode of pecking occurred. Another attack was observed five minutes later. In both cases, the mother showed the reaction noted previously. The pair continued swimming fast, but changed their direction twice (first to the south and then to the north again) until 16:00, at which time the gulls left the mother-calf pair and were not seen to approach them again within the next 30 minutes. During this period the mother raised her head several times, decreased her swimming speed, and moved towards the open sea. The pair was followed until they were out of sight. They appeared to move out of the bay.

Individual identification of this mother-calf pair was possible by the precise drawing of the unique callosity patterns on the mother's head (Payne et al., 1983). The mother-calf pair was resighted on the day following the gull attack below the same observation site and on four subsequent days at three different locations, ranging from 10 to 40 km away from the first sighting. The pair traveled at least 70 km within a period of 20 days. During all subsequent observations, the behavior of the pair followed the same patterns as those recorded in the first period of observation on the day of the attack, and no further gull attacks were observed.

On September 03 2000 a second episode of mother-calf harassment by kelp gulls was observed at Garopaba Beach. The behavior of this mother-calf pair was recorded during four hours and a half of observation on the day when the gull harassment took place (one hour before the episode and three and a half hours after that). During the first 40 minutes of observation, the mother-calf pair was resting and at 13:00 began to swim slowly towards the southern part of the bay. At 13:30 five kelp gulls

approached the pair and two of them landed onto the mother's back in the mid-dorsal region. The mother displayed the same response as the first one observed in 1998 by arching her back immediately and raising her head strongly above the water and dove during 30 seconds. The mother-calf pair then changed the swimming direction, increased the swimming speed and moved towards the open sea during five minutes. Afterwards the pair decreased their swimming speed and then approached the southern part of the bay where they resumed the behavior pattern prior to the gull attack. During the next three hours their behavior was recorded and no further gull harassment was observed, though the gulls were in the neighborhood. This pair was individually identified through distinct propeller scars on the mother's caudal peduncle and was resighted four days after the harassment, 20 km away from the first sighting.

Rowntree et al. (1998) reported that the gull harassment at Peninsula Valdés increased five times in 1995 compared to the first study by Thomas (1988) in 1984. In 1971, gulls were never seen to gouge out a whale's flesh but merely to occasionally take strips of peeling skin (Cummings et al., 1972). The actual biting of flesh observed at Valdés is responsible for lesions on the backs of 32 % of the whales identified in 1990 (Rowntree et al, 1998).

White lesions caused by gulls, like those described by Rowntree et al. (1998) and Thomas (1988), were not seen during the period of observation reported in this study. Similar lesions to the ones reported at Valdés were observed off the Santa Catarina coast in previous years although no gulls direct attacks on whales were seen. (Paulo A.C. Flores, personal communication). Since the gull "pecking bouts" reported here were very fast and there were no obvious lesions on the whale's back, it appears that the gulls were taking only pieces of peeling skin.

According to Rowntree et al. (1998) gouging flesh from whales' backs appears to be a recently learned behavior that is

spreading through the gull population at Peninsula Valdés. Possible causes for the increase in the frequencies of the attacks at Valdés include 1) the rapid growth of the gull population due to the increase in food provided at waste disposal sites from fish processing plants and human waste; 2) the increased time spent by particular individual gulls attacking whales; or 3) the possibility that a larger proportion of the gull population is feeding on whales.

Along the Brazilian coast, kelp gulls occur from Rio Grande do Sul to Espírito Santo State (Sick, 1997). This is the most abundant gull species on the Santa Catarina coast (Rosário, 1996), and breeding colonies are found on many coastal islands along the study area where whales are found (Bege and Pauli, unpublished report; Soares and Schiefler, 1995; Rosário, 1996). Concentrations of kelp gulls are also found in four bays within the study area (Pinheira, Garopaba, Imbituba and Laguna), where birds are seen feeding on discards of shore fisheries. Population numbers of kelp gulls in this region and movements between Brazil and Argentina are not known, but the latter seems unlikely. However, there is a potential for the spread of this gouging behavior among kelp gulls in this region.

Right whale mother-calf pairs, in undisturbed states, spend most of their time resting on the surface and swimming slowly (Taber and Thomas, 1982; Thomas and Taber, 1984). According to Thomas and Taber (1984), the first 4-6 months of lactation is an important period for the growth and development of calves, and of energy conservation for right whale mother-calf pairs prior to their migration to feeding grounds. Gull attacks disrupt the quiescent behavior that can be vital for lactating right whales (Thomas, 1988).

Avoidance reactions of the whales in relation to the gull attacks observed at Peninsula Valdés caused significant impact on the whale's behavior and may disrupt their distribution (Rowntree et al., 1998; Rowntree et al., in press). Although there

is no current estimate for the southern right whale population in Brazilian waters it is likely that like others right whale populations, it is estimated at less than 10% of its pre-exploitation size (IWC, 1998). Any potential source of harassment, even a rare event such as the gulls' attacks reported here, may impact on the recovery of this population. The continuing study of this population is necessary to monitor the long-term effect and potential increase in these attacks.

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