

## DISTRIBUTION, BREEDING AND STATUS OF THE STRIATED CARACARA *PHALCOBOENUS AUSTRALIS* (GMELIN, 1788) IN SOUTHERN CHILE

### DISTRIBUCIÓN, NIDIFICACIÓN Y ESTATUS DEL CARANCHO NEGRO *PHALCOBOENUS AUSTRALIS* (GMELIN, 1788) EN EL SUR DE CHILE

Manuel Marín<sup>1, 3</sup>, Alejandro Kusch<sup>2, 3</sup>, David Oehler<sup>3</sup> & Scott Drieschman<sup>3, 4</sup>

#### ANTECEDENTS

The genus *Phalcoboenus* of caracaras is a New World group that is comprised of four medium size species, mainly scavenger birds of prey. The four species are linked mainly to vegetation free zone along the Andean-patagonian axis, from Ecuador south to the southern end of South America (Vuilleumier 1970, 1991). The Striated Caracara (*Phalcoboenus australis*) has been considered a rare and near-threatened species, very local or with unknown status, inhabiting the southern islands of extreme southern South America, including the Falklands Islands (or Islas Malvinas), and as a casual visitor to the southern and southeastern coast of the Isla Grande de Tierra del Fuego (Blake 1977, Collar 1986, Jaksic & Jiménez 1986, del Hoyo *et al.* 1994). Here we present new information on distribution, breeding and status of this species in Chile.

We review and summarize published accounts, additional information from museum specimens, and our own personal observations on the species gathered throughout the southern islands, channels, and fjords of southern Chile. We include observations from three cruises between Punta Arenas

and Noir Island, between 11-16 November 2003, 14-21 November 2004 and 8-11 November 2005. One trip through the exterior islands between Noir, Recalada and Inman Islands on 12-18 November 2005. Additional observations were made by (MM) during cruises on board of M/V Terra Australis and Mare Australis, on 13 different passages between the strait of Magellan and Beagle Channel, from 2001 through 2003 and dates ranging from December to April (2001: 27 January to 3 February; 10-17 February; 3-10 March; 10-17 March; 17-24 March; 14-21 April; 1-8 December; 2002: 19-26 January; 9-16 February; 9-16 March; 23-30 March; 2003: 25 January to 1 February; 22 February to 1 March). We also include observations by (MM) on 24 different passages between Puerto Montt and Cape Horn on board of the M/S Nordnorge on dates ranging from December to February, between 2002-2006. (2002: 14-19 December; 20-26 December; 2003: 11-16 January; 17-22 January; 9-13 February; 14-19 February; 13-18 December; 19-25 December; 2004: 11-16 January; 17-22 January; 7-12 February; 13-19 February; 11-16 December; 17-23 December; 2005: 8-14 January; 15-20 January; 5-10 February; 11-16 February; 10-16 December; 17-22 December;

<sup>1</sup> Section of Ornithology, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles CA 90007, USA, *Current address*: Casilla 15 Melipilla, Chile. mma559@yahoo.es

<sup>2</sup> Casilla 19, Punta Arenas, Chile.

<sup>3</sup> Feather Link, Inc. 1013 Westchester way, Cincinnati, OH 45244, USA.

<sup>4</sup> Wildlife Concepts International, Inc., Grant Pass, OR 97527, USA.

2006: 6-13 January; 14-19 January; 3-9 February; and 10 to 16 February). Observations made during one cruise by (AK) on board of L. A. M. Austral II from Punta Arenas south to Cape Horn, between 18 - 24 October 2002. Two cruises made by (AK) on board of R/R Pto. Edén, from Puerto Natales to Puerto Montt, between 17-20 and 25-27 November 2000. We used a Garmin portable GPS for geographical positions otherwise latitude and longitude localities were taken from Riso Patron (1924), Paynter (1988) or navigational charts. The nomenclature of egg shape follows Preston *in* Palmer (1962). Egg measurements were taken with a dial caliper to the nearest 0.1 mm. Egg masses were taken with an AVINET 100 g Pesola.

## DISTRIBUTION

Historically, the Striated Caracara (*Phalco-boenus australis*) apparently was first mentioned for Chile (*sensu* Hellmayr & Conover 1949) by Forster *in* Darwin, *Zoology of the Beagle* in 1838. Without much specific localities, they reported the species from small islands near Tierra del Fuego, Diego Ramírez, Ildefonso, etc. Gay (1847) mentioned the species as occurring in the extreme south of Chile; his account was based mainly on Darwin's accounts of the *Beagle*. Hellmayr & Conover (1949) also reported for Chile a specimen collected by Cassin in 1858, at Orange Harbour (55°S) (Hoste Is.) and "Tierra del Fuego". For localities and geographical positions, see figure 1 and appendix 1). Curiously, the Striated Caracara was not included in the Southern Hemisphere species list Cassin (1855). Most of the information on the species came from the Falklands Islands (Malvinas) in the 1930's and thereafter.

It is worthwhile to mention that Reynolds (1932) reported a sight record from the Woodcock Islands (also known as Becasses (55°S) (on Argentinean territory which is less than 2 km from the Chilean border) on the Beagle Channel. Hellmayr (1932) on his publication on Chilean birds did not include the species, because he did not consider birds from the far south. Apparently, the next account for the species on Chilean territory was by Reynolds (1935) on which breeding was first reported for Chile. He indicated that a number of birds were breeding on some of the islands of the Wollaston Archipelago (55°S), Freycinet, Deceit, and Barnevelt. Nevertheless,



Fig. 1. Map showing the different localities where the Striated Caracara have been found in Chile (see also appendix 1 for names and geographical positions).

he only mentioned two nests for Barnevelt Island (see below). The species was not mentioned by Reed & Philippi (1938) and Housse (1945). The next account for the species was by Orlog (1948) who mentioned the sighting of isolated birds in February on Yendegaia (54°S) and Puerto Navarino (54°S). On 13 visits to Yendegaia and 7 to Puerto Navarino between 2001 and 2005, in December, January, February, March and April, the Striated Caracara was never observed there, although subadults and adults of the White-throated Caracara (*Phalco-boenus albogularis*) were occasionally present. Later, Orlog (1950), reported without providing any details the Striated Caracara for all the islands of the Cape Horn Archipelago, with a specimen from Herschel Island (55°S) and breeding on Grevy, Bayly, Freycinet, and Herschel Island. Goodall *et al.* (1951) citing Reynolds, mentioned that species did occur on the islands south of the Beagle Channel.

According to Philippi (1964), the species was found in Chile only on the islands south of the Beagle Channel and the Wollaston and Cape Horn

Archipelagos. Johnson (1965), Meyer De Schauensee (1970), and Blake (1977) repeated the same information. Humphrey *et al.* (1970) did not add much new information about the species in Isla Grande de Tierra del Fuego, in addition to what was already published, except that it was an uncommon species, and “possibly is a breeding resident along the southern and northeastern coast of Isla Grande de Tierra del Fuego”. Barros (1976) observed a pair on Nueva Is. and local people did inform him that the species breed on the southeastern end of the island.

On the next account, Venegas & Jory (1979) indicated that the Striated Caracara was not only restricted to the southernmost islands, as mentioned by previous authors, but was a relatively common species along the western outer islands of the Magellanic region. Venegas & Sielfeld (1979) mentioned a series of sightings for this species along the coastal islands of the XII Region, and found four birds at Vorposten islands (49°S). These islands seem to be the northernmost sites for the species along the Chilean coast (see also Appendix 1). They also reported the observation of 18 birds at Recalada Island. Venegas (1982) reported but without providing detailed information, dates, etc., the species breeding at Diego Ramírez Islands, with a sight record in March 1980, at estancia Consuelo (ca. 50°S), prov. Última Esperanza. Schlatter & Riveros (1987) reported the species as resident on the Diego Ramírez, islands but did not comment further. Wallace (1991) reported the observation on 23 February 1989, of 15 birds at Gonzalo Island, one of the islands of the Diego Ramírez Archipelago. Curiously, during two visits by MM to Gonzalo Island, on 6 January 2006 and on 3 February 2006, the species was not observed. Oddly enough, Clark *et al.* (1992) writing on the birds of Cape Horn Islands (55-56°S) mentioned the species on Guarello Island (50°S).

According to Humphrey *et al.* (1970), the Striated Caracara is rare and with uncertain status on Tierra del Fuego. During our cruises we observed one or two and up to three birds between 2001 to 2003 and dates ranging from December to April, on mainland Tierra del Fuego, at Seno Agostini, prov. Antártica, in an area locally named as “Condor Bay” (54°S). On 24 February 2003, we found a bird in juvenal plumage at “Condor Bay”, which might indicate breeding on or near the site. If that were the case it would be the first breeding site on

mainland Tierra del Fuego. In this area, there are about five to six small colonies (ranging from 5 to 10 pairs) of Rock (*Phalacrocorax magellanicus*) and Imperial cormorants (*Phalacrocorax atriceps*) and nearby, within  $\pm 2$  km a small colony of South American Sea Lions (*Otaria flavescens*) those colonies can serve as food sources. Another potential breeding site observed during those cruises was on the smallest of the three major and northernmost islands Tucker (54°S), prov. Tierra del Fuego. On 16 February 2001, we encountered two adults, on 15 April 2001 a single adult, on 19 January 2005, we encountered two juvenile birds, on 18 January 2006 we encountered a single adult, on 15 February 2006 we encountered two adults, on the same island. On this island, there is a colony of over 800 pairs Magellanic Penguins (*Spheniscus magellanicus*) about 300 and 50 pairs of Imperial and Rock cormorants, respectively plus gulls and other birds. We must mention that during 24 passages between December and February between Cape Horn and Puerto Montt, the Striated Caracara was only observed in four areas, namely: islands Tucker, Solitario, Terhalten, and Hornos. During two cruises between Puerto Natales and Puerto Montt in November, it was not observed. Even though the internal channels offer several potential sites for the species.

We found very few Chilean specimens in museums, and most of them with little or no information. The localities and dates of specimens are listed in appendix 1. The dates of observations or collections range from October to April. We did not find, or have any reliable data for the austral winter months, although, Couve & Vidal (1998) and Matus & Barría (1999) mentioned the species as accidental winter visitor, in Torres del Paine National Park, but did not provided further information on it. However, it is likely that, both publications refer to either or both, Venegas (1982) report [which was actually on March] at estancia Consuelo, prov. Última Esperanza; and/or a photo published by Garay & Guineo (2000)[however, the actual photo was taken at Laguna Amarga (51°S) in March/April; O. Guineo pers. com. to AK]. Both records are in autumn and actually outside of the park limits; as a consequence, there are no actual winter records for the area. Jaksic *et al.* (2002) in a recent review of the raptors of Torres del Paine National Park do not mention the species for the park nor referred

to its potential presence in the area. The species might make short inland moves but it is primarily a coastal species. Strange (1996) indicated that, in some regions of the Falkland Islands (Malvinas), some Striated Caracaras, particularly immature, are nomadic and have a post-breeding dispersal from mid-April to July. Similar behavior should be expected for Chile, but how far or as to where do Chilean birds go is unknown.

## BREEDING

Gay (1847) mentioned a general account on the breeding of the species as nesting on small islands and in rock crevices, but did not specify nests sites. Gay based his account on Darwin's observations during the Beagle voyage. As far as we know, the only reliable accounts on breeding in Chile are by Reynolds (1935); that have been repeated by multiple and subsequent authors. Reynolds mentioned two nests with a single nestling each, in December. Both nestlings were in a yellow-downy plumage. He described the nests as being placed in fissures, crevices, or ledges at the top of perpendicular cliffs, running from the sea. The nests were similar in shape and form to those of the Crested Caracara (*Caracara plancus*), made mainly of bents, roots, grasses and seaweeds. Although the species was mentioned as resident by Schlatter & Riveros (1987) in the Diego Ramírez Archipelago, there is no mention of nesting or nests in the area. We found a nest on 12 November 2003 at Noir Island (Figs. 2 y 3). The nest was located about 3 m from the ground, in a crevice, in a beach boulder and the

boulder was covered on the top with vegetation. The nest platform, c. 35 cm in diameter, was made of fine sticks, and lined with fine, soft and brownish vegetation. The nest contained 3 eggs, all short sub-elliptical in shape, cream-colored, overlaid irregularly from light to heavy, brown and reddish-brown blotches, covering the entire surface. The eggs of the Striated Caracara were similar in color to those of other caracara species. They measured 62.3 x 45.1 mm (63 g), 62.1 x 45.5 mm (60 g), and 62.3 x 45.3 mm (63.5 g). A second nest was found on Noir Island on 9 November 2005, clearly seen with binoculars, the adult bird was sitting on the nest, and most likely with eggs, but we could not check the contents. This nest was located among some live plants on a crevice on a cliff at about 15 m from the ground.

## STATUS

In accordance with previous observations on the species, we mainly observed the Striated Caracara directly associated with colonial birds or mammals (see also below). However, the observations with no association to a colonial bird or mammal, e.g., Woodcok Island, Agostini Sound, Condor Bay, Hornos Island, either penguins, cormorants or marine mammals colonies were within short distance. The only main exceptions were the two "inland" records at Estancia [Pto.] Consuelo and at Laguna Amarga, both in prov. Última Esperanza. Along the Chilean territory, all observations of Striated Caracaras involve from one to four birds; exceptionally large numbers have been reported in association with



Fig. 2. Adult Striated Caracara (*Phalacrocorax australis*).



Fig. 3. Nest and eggs of Striated Caracara at isla Noir.

Rockhopper Penguins (*Eudyptes chrysolophus*) (Clark 1988, Venegas & Soto 1992). The same occurred on Falkland Islands (Malvinas) (Strange 1996), Staten Island (Schiavini *et al.* 1999), Año Nuevo and Staten Islands (Frere *et al.* 1999). At Noir Island the species was mainly observed over and around Rockhopper Penguin colonies, but also observed over Macaroni Penguins (*Eudyptes chrysocome*), Magellanic Penguins, Imperial Cormorants and Giant Petrels (*Macronectes giganteus*) colonies, although in smaller numbers on the last species. However, out of 28 observations on different locations, 71% of the cases were associated with cormorants, 60% with penguins, 25.5% with marine mammals, 14% no association and 7% with petrels or albatrosses.

At Condor Bay, Noir and Hershel Islands, the birds spent a considerable amount of time on rocks or beaches of the intertidal zone, during low tide, apparently foraging on mollusks. According to Strange (1996) the species feed on limpets and mussels on the Falklands Islands (Malvinas), and southernmost Chile.

In November 2003, 2004 and 2005, we found a healthy population of Striated Caracaras on Noir Island. The maximum number of birds observed in a single count at one point of the island was 18 individuals (both sub-adults and adult birds). Counts of 7 to 10 birds at different points of the island were not uncommon. The population of Noir Island (15.3 km<sup>2</sup>) was in the order of 150 individuals. Similarly, F. Todd (*vide* Strange 1996) that visited Noir Island in November 1984, estimated the population to reach at least 100 birds. This agree with G. S. Clark (*vide* Strange 1996) that visited Noir in February 1984 and found it very common on the island counting seven at one time. Reynolds (1935) reported 200 birds on Barnevelt Island (55°S) in 1932. However the largest concentration observed by us was 38 birds in a single count, on 14 November 2005 at Islote Leonard (53°S). Leonard, is a small island of 500 x 200 m, on Otway Bay, near Recalada Island, that contains a colony of Imperial Cormorants of about 400 -500 breeding pairs, several seals, and penguins. The second largest concentration of Striated Caracaras was observed at Terhalten Island (55°S) on 4 February 2006, where 30 birds were observed on a single count around a colony of Imperial Cormorants (ca. over 500 pairs) and next to a colony of fur seals. We agree with the assertions

of Venegas & Jory (1979) that the species is more common, particularly farther north, as initially thought by many authors, e.g., Philippi (1964), Johnson (1965), Humphrey *et al.* (1970). Still recent summaries on Chilean birds e.g., Jaramillo *et al.* (2003) have their distributional map off by several hundred kilometers. However, based on present data, Striated Caracaras are far more common and their distribution is farther north than indicated by most publications. The species should be considered locally abundant on the outer islands of the XII region of Chile, most likely north to the southern part of the Taitao Peninsula. The listing of this species as rare in Chile, is perhaps a reflection of how infrequent ornithological surveys are conducted on the outer islands of southern Chile.

#### ACKNOWLEDGMENTS

We are grateful to the museum curators and collection managers for providing data from Striated Caracara specimens (when the acronyms are in parenthesis indicated they had Chilean specimens of the species): P. Sweet, American Museum of Natural History (AMNH); John Bates, Field Museum of Natural History (FMNH); Claudio Venegas, Instituto de la Patagonia (CZIP); A. Pirie, Museum of Comparative Zoology at Harvard University; J. Artigas, Museo Zoología Universidad de Concepción; J. C. Torres-Mura, Museo Nacional Historia Natural, Santiago; R. Schlatter, Museo Zoología Universidad Austral (MZUA); Kimball Garret, Natural History Museum of Los Angeles County; Gary Graves and James Dean, United States National Museum; Western Foundation of Vertebrate Zoology; Kristoff Zyskowski, Yale Peabody Museum. This work was supported by Feather Link, Inc. By grants-in-aid for scientific research from local and international foundations. We would like to thank Briant Hunt, African Safari Wildlife, Park and Faunia for their support of this and past expeditions. Our gratitude must also be expressed to W. Roger Fry and Leonard Weakly, Jr. For their Continued support and participation in this project. We also are grateful to Fantástico Sur Birding, to the crews of the M/V Terra Australis, M/V Mare Australis, M/S Nordnorge, L.A.M. Austral II, and M/V Chonos, for transport to different parts of the austral seas. We are also grateful to the reviewers for comments and improving the manuscript.

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Appendix 1. Dates, localities and positions of sightings and specimens of the Striated Caracara from southern Chile. Localities are ordered from south to north.

Dates	Localities	Latitude/Longitude	Sources
1832-1836 ??	Diego Ramírez Islands	5632/6843	Hellmayr & Conover (1949)
Dec.- Feb. 1980-81	Diego Ramírez Islands	5632/6843	Schlatter & Riveros (1987)
23 Dec. 1980	Diego Ramírez Islands	5632/6843	MZUA
24 Dec. 1980	Diego Ramírez Islands	5632/6843	MZUA
23 Feb. 1989	Islote Gonzalo	5632/6843	Wallace (1991)
18 Dec. 1914	Hornos Island	5554/6717	AMNH
21 Oct. 2002	Hornos Island	5554/6717	Present Study
20 Jan. 2005	Hornos Island	5554/6717	Present Study
11 Jan. 1949	Herschel Island	5551/6720	Orlog (1950)
21 Oct. 2002	Marcial Cove, Herschel Island	5551/6706	Present Study
1832-1836	Ildefonso Island	5550/6917	Hellmayr & Conover (1949)
18 Dec. 1914	Ildefonso Island	5550/6917	AMNH
Dec. 1932	Deceit Island	5550/6707	Reynolds (1935)
26 Mar. 1916	Hermite Island	5550/6740	FMNH
Dec. 1932	Barnevelt Island	5549/6648	Reynolds (1935)
Dec. 1932	Freycinet Island	5547/6713	Reynolds (1935)
16-17 Jan. 1948	Freycinet Island	5547/6713	Orlog (1950)
6-8 Jan. 1948	Baily (=Bayly) Island	5540/6740	Orlog (1950)
20 Feb. 1980	Baily (=Bayly) Island	5540/6740	CZIP
25 Feb. 1980	Lientur Cove, Wollaston Island	5539/6721	CZIP
19 Oct. 2002	Lientur Cove, Wollaston Island	5539/6721	Present Study
3-6 Jan. 1948	Grevy Island	5533/6740	Orlog (1950)
1858	Orange Harbour	5531/6803	Hellmayr & Conover (1949)
22 Dec. 2005	Terhalten Island	5526/6704	Present Study
4 Feb. 2006	Terhalten Island	5526/6704	Present Study
24 Feb. 1968	Nueva Island	5515/6635	Barros (1976)
15 Jan./1 Feb. 1977	Island Hoste	5505/6850	Sielfeld (1977)
4 Feb. 2006	Solitario Island	5459/6708	Present Study
Feb. 1940	Puerto Navarino	5455/6820	Orlog (1948)
Feb. 1940	Yendegaia	5452/6845	Orlog (1948)
11 Feb. 2002	Cockburn / Occasion Channels	5430/7203	Present Study
14-22 Feb. 1984	Noir Island	5429/7302	Clark (1988)



Dec. 1983	Noir Island	5429/7302	Venegas (1993)
Nov. 1984	Noir Island	5429/7302	Strange (1996)
11-16 Nov. 2003	Noir Island	5429/7302	Present Study
14-21 Nov. 2004	Noir Island	5429/7302	Present Study
6-19 Nov. 2005	Noir Island	5429/7302	Present Study
29 Jan. 2001	Agostini Sound, "Condor Bay"	5427/7027	Present Study
11 Feb. 2002	Agostini Sound, "Condor Bay"	5427/7027	Present Study
12 Mar. 2001	Agostini Sound, "Condor Bay"	5427/7027	Present Study
19 Mar. 2001	Agostini Sound, "Condor Bay"	5427/7027	Present Study
16 Apr. 2001	Agostini Sound, "Condor Bay"	5427/7027	Present Study
10 Nov. 2003	Dora Island	5416/7228	Present Study
18 Jan. 2006	Tucker Island	5409/7017	Present Study
19 Jan. 2005	Tucker Island	5409/7017	Present Study
15 Feb. 2006	Tucker Island	5409/7017	Present Study
16 Feb. 2001	Tucker Island	5409/7017	Present Study
16 Mar. 2001	Tucker Island	5409/7017	Present Study
15 Apr. 2001	Tucker Island	5409/7017	Present Study
3 Feb. 1984	(Cerro) Helado Sound	5352/7225	Clark, in Strange (1996)
Mar. 1997	Carlos III Island	5340/7220	Present Study
14 Nov. 2005	Leonard Island	5323/7404	Present Study
14 Nov. 2005	Recalada Island	5319/7412	Present Study
15 Nov. 2005	Recalada Island	5319/7412	Present Study
14 Nov. 2005	Inman Island	5318/7417	Present Study
23 Mar. 1979	Recalada Island	5317/7415	CZIP
No date/March (?)	Recalada Island	5317/7415	Venegas & Sielfeld (1979)
No date	Cabo Pilar	5244/7441	Venegas & Sielfeld (1979)
Mar. 1980	Estancia Consuelo [Puerto Consuelo]	5136/7238	Venegas (1982)
April/March (?)	Laguna Amarga	5059/7248	Garay & Guineo (2000)
22 Jan. 1984	Buenaventura Island	5045/7509	Clark in Strange (1996)
No date	Guarello Island	5022/7519	Clark <i>et al.</i> (1992)
No date	Cabo Primero	4952/7535	Venegas & Sielfeld (1979)
No date	Grupo Vorposten	4922/7542	Venegas & Sielfeld (1979)

