

Noteworthy records and natural history comments on rare and threatened bird species from Santa Cruz province, Patagonia, Argentina

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ABSTRACT: Santa Cruz province is the second largest province in Argentina, and also the least populated. This province makes up the southern tip of continental Argentina. Although it has low population density and is remote from big cities, in the past it received well-deserved attention from researchers. This was probably due to the presence of many interesting species, among them some threatened, with taxonomic singularities, and/or endemism. The goal of this work is to update knowledge of the distribution and natural history of 21 species from Santa Cruz, including five new to the province.

KEY-WORDS: Argentina, distribution, natural history, new records, Santa Cruz.

INTRODUCTION

Knowledge of the distribution and status of the birds of Argentina has improved substantially since the 1990's, especially after the first edition of Narosky and Yzurieta's (1987) guide "*Birds of Argentina and Uruguay*." That improvement has had a noticeable impact on the quality and quantity of articles and short notes on distribution, biology, and natural history, which increased even more after the publication of the "*Annotated Checklist of the Birds of Argentina*" (Mazar Barnett and Pearman 2001). We base our work on the distribution of rare species within the country on this last Checklist.

For Santa Cruz province, 229 species have been recorded (Darrieu *et al.* 2008, 2009a, 2009b). The diversity on the southern tip of the continent is a consequence of the mixture of several habitat types: Austral *Nothofagus* forest, Patagonia steppe, Magellanic steppe, seashore, highland and lowland lakes and ponds, mountain top habitat, and the last remnants of the Argentinean endemic

habitat, the "*monte* desert" (Cabrera 1971). Most of the province is covered by Patagonian steppe, a known low bird diversity habitat. The highest land bird diversity in these latitudes is found in the ecotone between the forest and the steppes, along the Andes. The Atlantic Ocean coast is also important in contributing to biodiversity, with several species of Nearctic migrants that reach South America during the austral summer concentrating in the area (Darrieu *et al.* 2008). This high coastal biodiversity tends to concentrate principally in rather small areas, like river estuaries or sheltered sites. These estuaries are also important for austral migrants that spend their winter there, including the critically endangered Hooded Grebe *Podiceps gallardoi* (Imberti *et al.* 2004; Roesler *et al.* 2012).

Santa Cruz is the southernmost and second largest continental province of Argentina. Although it is the least populated region of the country and far away from the city of Buenos Aires, where most of the important institutions for research and collections are located (e.g., Argentina Museum of Natural Sciences, the non-profit

Aves Argentinas/Asociación Ornitológica del Plata, etc.), it has gained some attention regarding its fauna, mainly because it holds some biologically important sites, like Los Glaciares National Park (hereafter NP), with the superb Perito Moreno Glacier and the Deseado River estuary on the Atlantic Ocean coast. Another important reason why Santa Cruz has managed to call the attention of many naturalists and researchers from all over the world is the presence of populations of some of the most threatened species in Argentina, for example, the critically endangered *Podiceps gallardoi*, the national critically endangered (and probably globally endangered) Ruddy-headed Goose *Chloephaga rubidiceps*, the long-thought-to-be-extinct and nowadays globally vulnerable Austral Rail *Rallus antarcticus*, and the intriguing Magellanic Plover *Pluvianellus socialis*, among others. All these rare species have been the focus of several studies, most of them regarding natural history, distribution, and conservation trends (Fjeldså 1984, 1986; Beltran *et al.* 1992; Ferrari *et al.* 2008; Imberti *et al.* 2007; Roesler *et al.* 2012; Mazar Barnett *et al.* 2013). Also, some important areas and even the complete province has been the focus of research (Imberti 2003; 2005; Darrieu *et al.* 2008; 2009a; 2009b), but its enormous size, the remoteness of the landscape, the inaccessibility of most of its sites, and the extreme climate conditions, still allow for gaps in the knowledge of rare taxa and natural history information of even more common species that are locally distributed or have low natural densities.

The goal of this work is to update the information presented by Darrieu *et al.* (2008; 2009a; 2009b), and improve the knowledge of the natural history of poorly known species. Among the information presented here are anecdotal data about breeding biology, seasonal movements, and habitat use.

METHODS

Study Area

Santa Cruz province comprises the southernmost part of continental Argentina, located between 46° and 52°S and 65° and 73°W. It is limited by the Atlantic Ocean to the east and the Andes mountain range on the west. The climate is temperate cold with mean temperatures of 5°C. Precipitation varies from 100 to 250 mm in the drier steppes up to *c.* 3,000 mm along the Andes, and it occurs mainly during winter and spring seasons, falling as mostly snow (Cabrera 1971). The Andes acts as a natural barrier for the predominant west and southwest wet winds from the Pacific Ocean, which release humidity mostly on the western slopes. The little remnant moisture that reaches the eastern slopes favors the growth of *Nothofagus* forest along a fine strip (< 70 km) from the Chilean border.

This forest vanishes quickly to the east, giving way to a different ecotone of open and grassy habitat (for *c.* 20-30 km), with scattered *Nothofagus antarctica* patches. Farther east, the rest of the province is dominated by a desert-like steppe, formed by a mosaic of short grasses, low bushes, and bare soil. In the southern portion (mostly below 51°S) the low elevation of the Andes allows the moisture of the winds to reach farther east, a factor that, combined with lower temperatures and different soil conditions, favors a grassy (mostly *Festuca* sp.) steppe with no bare soil, known as Magellanic Steppe.

An important but little-known habitat is the steppe on the top of the sub-Andean basaltic plateaus (500 to 1,500 m.a.s.l.), present on the western portion of the province. Those plateaus form a parallel line east of the Andes, and are dominated by grasslands, with important botanical influence from high Andean habitats. They are considered part of the austral high Andes district (Cabrera 1971). Also, each plateau has a variable number of lakes and ponds, from just a few (i.e., Vizcachas, Viedma, and El Moro plateaus) up to over a thousand (i.e., Strobel plateau). These wetlands also vary greatly in size, and temporality; most of them are present just after the melting period, while others are permanent. The lakes are used by a large number of water-bird species, including Nearctic waders and flamingoes, but few of those species breed in the area (Lancelotti *et al.* 2009; IR, pers. obs.). In the past, the highland lakes were fishless, but nowadays many of them have been stocked with at least four species of exotic Salmonids, mostly Rainbow Trout *Onchorhynchus mykiss* (Lancelotti *et al.* 2009).

Other important habitats are the valleys of the Santa Cruz, La Leona, Chico, Gallegos, and Deseado Rivers, among others. The flatlands of these valleys are temporarily flooded after the melting period. This regular flooding cycle favors the presence of marshlands, some of them natural but some others are man made for cattle feeding. They are covered principally in lush grasses including occasional stands of taller rushes (*Schoenoplectus* sp.), and some other species of aquatic plants. They are of capital importance for the reproduction of many bird species, including the vulnerable *R. antarcticus* (Mazar Barnett *et al.* 2013). These flatlands along rivers are also the chosen sites where the local “*estancias*” (hereafter Ea.) have their houses, which are usually surrounded by planted trees, also important for many bird species, even for northern vagrant species (i.e., Militello and Schieda 2011).

Sampling Methods

Within the context of the “Hooded Grebe Project” (“*Proyecto Macá Tobiano*”) we extensively monitored the western half of Santa Cruz province (Fig. 1), between January 2009 and October 2013. Most of the fieldwork was conducted during the summer, from December

to March/April, but at least five winter campaigns and many occasional outings where undertaken in May, June, July, and August. During the five years of research we accumulated over a 1,000 man/days of fieldwork. Also, regular winter censuses of *Podiceps gallardoi* on the three main estuaries of Santa Cruz allowed us to gather information about some migratory habits and some scattered records of uncommon species. We followed the systematic arrangement, taxonomy and English names proposed by Remsen *et al.* (2013).

Species Accounts

Patagonian Tinamou *Tinamotis ingoufi*

Tinamotis ingoufi is uncommon but regular in Santa Cruz. Here we present 22 new records for the province (Table 1), most of them from the western part. The highest elevation records were obtained on the Buenos Aires plateau (northernmost plateau), at 1,220 m.a.s.l. on a grassy steppe (Table 1–13). Although many unique records occurred in areas where we had done extensive fieldwork, we repeatedly gathered multiple observations from the same localities, which could indicate that this species tends to live in established territories. Consistent with Pozzi (1923), our data suggest that while courtship behavior may start as soon as September, the nesting period is mid-late November up to early-mid December (one couple in early December), with hatching in late December and early January. The largest number of chicks we detected was eight (the two adults with 15 young could represent two independent groups), but most of the groups were 4–5 individuals. The biggest flock of adults was on the coastal area, during the winter period, which could represent individuals from that area congregating during the nonbreeding period, or an increase in the number of individuals due to migration from the western part of the province, or even both phenomena combined. The occurrence of aggregations was mentioned by Pozzi (1923), who reported groups of up to 50 individuals in autumn, also in the eastern part of the province (after April). We did not record this species during our winter surveys in western Santa Cruz province, nor on the slopes of the plateaus, but that could just be a consequence of the low sampling effort put forth during that time of the year. The latest inland record outside of the breeding season was a medium/large flock of 17 individuals in mid-April (see Table 1–21), which could represent a winter group similar to the ones observed on the coastal region.

This elusive species has been considered as uncommon but it is probably expanding due to the expansion of the patches of “*mata negra*” (*Verbena tridens*) caused by overgrazing (Cabot 1992). Although we could not fully support nor disclaim this hypothesis, it is interesting that groups were seen repeatedly in sites with large patches of *mata negra*. In concordance with Imberti

(2003), we found that the former published elevational range of 200 to 800 m.a.s.l. (Cabot 1992), or up to 1,000 m.a.s.l. (Vuilleumier 1993), was underestimated, which could be a result of the difficulty accessing upper plateau habitat. As mentioned for other tinamous, during breeding season adult *T. ingoufi* seem to move in groups of three individuals (see records on Table 1).

Hooded Grebe *Podiceps gallardoi*

On 10 February 2013 a group of 10 individuals (five breeding pairs) of the critically endangered *Podiceps gallardoi* was found at a 5-ha pond in Ea. Cerro Fortaleza, Mata Amarilla plateau (50°04'06"S, 71°13'42"W; 863 m.a.s.l.; IR, LGP, PH, M. Bertinat). Four of the five nests were successful and four chicks were seen on 5 April 2013 (IR). This pond was the only one of the three suitable in the area where the species was present, and was also the richest in water bird species.

Populations of *Podiceps gallardoi* seem to have decreased greatly since the 1980's (Roesler *et al.* 2012). After five years of research, the actual breeding range of *Podiceps gallardoi* is well known. During our fieldwork we monitored over 400 suitable ponds and lakes on eleven plateaus and some extra-plateau lakes; this population at Mata Amarilla plateau was the only new site we found where it was not recorded during the 1980's and 1990's (*cf.* Roesler *et al.* 2012; Codesido, unpubl. data). This record represents the second plateau east of National Road (NR) 40 with a breeding population of *Podiceps gallardoi*, while the other plateau, Cerro Ventana, does not hold individuals at present, given that most of the lakes and ponds are dry (IR and PH, pers. obs.). Note that the lake on Mata Amarilla plateau is less than 50 km away from the type locality of the species, Escarchados Lake, on Vizcachas plateau, where the species seems to have almost disappeared.

Stripe-backed Bittern *Ixobrychus involucris*

On 16 January 2013, at 0650 h, one individual of *Ixobrychus involucris* was detected calling from the dense marshlands near the main houses of Ea. La Angostura (48°37'43"S 70°38'50"W; 377 m.a.s.l.; LGP). Despite further searches in the same area, we failed to find it again (LGP, IR, JK).

Accordingly to Darrieu *et al.* (2008) this represents the first record for the province. The marshland habitats at Ea. La Angostura are extremely similar to those within the known range of the bittern, and they hold most of the same species, so it is highly likely that the species probably occurs at low densities, but is not a vagrant—just overlooked. This is an important range extension of nearly 1,000 km to the south from the regular known range of the species, in La Pampa and Neuquén provinces (Narosky and Yzurieta 2010; Rodriguez Mata *et al.* 2006; Veiga *et al.* 2005).

TABLE 1. Observations of Patagonian Tinamou *Tinamotis ingoufi* in Santa Cruz province between 2009 and 2013.

#	Date	Locality	No. ind.	Coord.	Elev. (m.a.s.l.)	Comment	Observer
1	21/12/09	Ea. La Julia, NR 288, Gdor. Gregores.	3	49°35'09"S 69°34'12"W	81	2 of them copulates	IR
2	03/01/10	NR 3, north of San Julian	6	48°24'59"S 67°43'50"W	170	Adult and 5 chicks	IR, HC, H. Slongo
3	20/01/10	Ea. La Criolla, Asador plateau	12	47°46'44"S 71°01'34"W	770	Adults (Juveniles?)	HC
4	10/12/10	Punta Gualichu, Calafate	3	50°17'36"S 72°11'37"W	190	Adults	SI
5	06/01/11	Ea. Cerro Ventana, Cerro Ventana plateau	2	48°54'20"S 70°21'50"W	450	Adults	IR, HC, JK
6	23/05/11	Puerto Deseado	23	47°21'06"S 66°51'30"W	162	Adults	IR, SI, PH, D. Punta Fernández
7	13/10/11	RP 71, north of Gdor. L. Piedrabuena	3	49°39'14"S 68°43'30"W	50	Adults	SI
8	12/10/11	Ea. La Estela, Lago Viedma	3	49°47'08"S 72°01'46"W	270	Adults	SI
9	10/12/11	RP 71, north of Gdor. L. Piedrabuena	3	49°39'14"S 68°43'30"W	50	Adults	IR
10	14/12/11	Ea. Las Coloradas, Strobel plateau	9	48°47'42"S 71°00'09"W	800	Adult and 8 chicks	IR, PH, L. Fasola
11	11/02/12	Ea. La Criolla, Asador plateau	6	47°46'44"S 71°01'34"W	770	Adult and 5 chicks	IR, D.P. Fernández, R. Lapidó
12	16/02/12	Strobel plateau	3	48°27'26"S 71°18'1"W	943	Adult and 2 young	IR, HC
13	15/01/12	Ea. 9 de Julio, Buenos Aires plateau	6	47°10'13"S 71°12'26"W	1,220	Adult and 5 chicks	IR, HC
14	20/02/12	Ea. El Sauce, Buenos Aires plateau	7	47°14'18"S 71°11'03"W	770	Adult and 6 chicks	IR
15	25/03/12	Ea. Las Coloradas, Strobel plateau	5	48°47'42"S 71°00'09"W	800	Adults (Juveniles?)	IR
16	26/03/12	Ea. La Angostura	3	48°37'43"S 70°38'50"W	420	Adults	IR
17	16/11/12	Strobel plateau	2	48°35'30"S 71°14'06"W	920	Adults	IR, PH
18	Jan. 2013	Ea. 9 de Julio, Buenos Aires plateau	5	47°14'18"S 71°11'03"W	770	2 Adults; 3 chicks	IR, PH
19	11/01/13	Strobel plateau	6	48°35'30"S 71°14'06"W	928	Adult and 5 chicks	IR, JK
20	24/01/13	Asador plateau	17	47°46'44"S 71°01'34"W	770	2 adults and 15 young	LGP, L. Fasola
21	31/01/13	RN 40, 10 km south of Bajo Caracoles	3	47°24'7"S 70°58'13"W	605	Adults	IR, LGP, JK, S. Hardy, L. Fasola
22	17/04/13	Ea. El Sauco	17	47°20'41"S 71°14'19"W	520	Adults	SI

Harris's Hawk *Parabuteo unicinctus*

One individual was observed on 9 February 2013, at the margins of La Lechuza Stream, next to where it flows into the Santa Cruz River (50°11'57"S, 70°55'42"W; 145 m.a.s.l.; IR). The individual was in a patch of forest dominated by *Salix* sp. and *Populus* sp. in an area of abandoned houses of Ea. Condor Cliff. It was a first year individual, with completely marked underparts, and no rufous on the thighs. Further searches during the second week of February didn't detect the species (IR, LGP).

This observation represents the third record for Santa Cruz province, the first being an individual photographed at Río Gallegos city (Alvarado *et al.* 2009) and another individual (without details) at Ea. La Angostura (Darrieu *et al.* 2009b). The individual from Río Gallegos was also a juvenile and remained in that area for a long period. Probably the species' populations are spreading south following human-planted woodlands around ranches and cities. These individuals could represent a dispersal of juveniles from nearby areas where the species is frequent, most likely from southeastern Chubut and Río Negro provinces (IR, pers. obs.). *Parabuteo unicinctus* seems to be increasing its distributional range across Argentina, following cities and other forested areas (IR and LGP, pers. obs.; SH Seipke, pers. comm.). The only raptor census conducted in the area did not mention the species south of La Pampa province (Olrog 1979).

Andean Gull *Chroicocephalus serranus*

On 19 December 2009 two individuals of *Chroicocephalus serranus* in breeding plumage were observed flying over the marshes on the banks of the Chico River at Ea. La Angostura (IR). These two individuals were part of a mixed gull group including individuals of Brown-hooded Gull *C. maculipennis*, allowing direct comparison in the field. They differ from the previous species by the color pattern of the wings, with almost entirely black primaries (which makes it look darker than in *C. maculipennis*) with a white spot on the sub-terminal portion of the last primaries. In later visits to the site (January 2010) we failed to detect *C. serranus* (IR, HC).

There are no previous records of this species for Santa Cruz (Darrieu *et al.* 2008, 2009b) or Chubut (Schulenberg 2010) provinces; the nearest known populations are on Neuquén province (Veiga *et al.* 2005). On the western side of the Andes (Chile), the species reaches further to the south, to the latitude of Río Negro province (Jaramillo 2003; Schulenberg 2010). It is probable that the Andean Gull is much more frequent in lakes and marshlands of northern Patagonia, but might be overlooked because its plumage is similar to the much more common *C. maculipennis*.

Austral Rail *Rallus antarcticus*

After five seasons of fieldwork in Santa Cruz we found

Rallus antarcticus in only two new localities not reported by Mazar Barnett *et al.* (2013). In January 2011 at least one individual responded to playback on a marshland on provincial road (hereafter PR) 41, four km from the junction with NR 40 (47°20'58"S, 71°0'59"W; 455 m.a.s.l.; SI, IR). In September 2013 one individual on a small marsh 20 km north of Río Gallegos on the side of NR 3 was observed (SI, PH). We visited the PR 41 marshland on several posterior occasions (seasons 2012 and 2013) but no rails were ever detected (IR). The NR 3 marshland had rails at every successive visit (SI). We also looked for the rail in several other suitable sites unsuccessfully (Table 2).

Probably the most interesting finding during our fieldwork was that all sites with adequate habitat (Table 2) hold populations of American mink *Neovison vison* (Fasola and Roesler, unpubl. data.). It is yet unknown the effect of this invasive predator on *R. antarcticus* populations, but it has been considered one of the main potential threats to populations for some time (Fraga 2000; Mazar Barnett *et al.* 2013). It is well known that the American mink has strong negative effects on species that are already declining, being somehow the final stroke for some weak populations, such as the Water Vole *Arvicola amphibius* (Barreto *et al.* 1998). The present distribution of American mink is now known to be much more extensive than previously thought (Fasola and Roesler, unpubl. data), thus proper research is urgently needed to assess the real threat posed by *N. vison*.

Picazuro Pigeon *Patagioenas picazuro*

On 18 February 2013 one individual of *Patagioenas picazuro* was observed in a poplar (*Populus* sp.) and willow (*Salix* sp.) implanted forest, next to the Chálía River valley (49°29'3"S, 71°37'44"W – 262 m.a.s.l.), 18 km (straight line) northwest of Tres Lagos town (IR). The individual was in a group of the more common and widespread Eared Dove (*Zenaida auriculata*).

Although the *P. picazuro* is one of the most abundant pigeon in open (and less open) habitats of central and northern Argentina, this is the first observation for Santa Cruz province (Darrieu *et al.* 2008; 2009b). This species, and probably *Z. auriculata*, is expanding its range to the south, and becoming more abundant following the expansion of croplands and increase of grain production. In Patagonia, vagrants or rare species from more humid areas tend to be associated with human settlements, normally with cities or man-made forest in ranches or "puestos" (small houses in isolated areas of the ranches—IR, pers. obs.). The observation of *P. picazuro* could either represent a sign of recent colonization in the area or just a vagrant individual.

Miners *Geositta* spp.

Three species of Miners inhabit western Santa Cruz

province. Their habitat is mostly well separated. The Rufous-banded Miner *G. rufipennis* is common in rocky places on the slopes of plateaus or in basaltic formations, principally around lakes or ponds. It seems to prefer areas with higher cliffs, including sedimentary formations between 400 to 900 m.a.s.l., becoming rarer both in lower and higher elevations. The southernmost area where the species is common is in the central part of Los Glaciares NP, the access to the Guanaco area (49°20'01"S 72°52'55"W – 403 m.a.s.l.; SI). During early autumn and winter this species appears in open areas at lower elevations in nearby areas of the plateaus, down to 300 m.a.s.l. The Short-billed Miner *G. antarctica* is the most common Miner on the higher parts of plateaus, up to 1,600 m.a.s.l., but also inhabits lower areas (down to sea level) during the breeding season and it is found there in wintering flocks as well. It seems to prefer grassy and very open habitats, with few or no bushes, including areas with almost no vegetation at all. In early March it forms flocks of 100 (or more) individuals, which disappear from the highland plateaus by late march. Lastly, the Common Miner *G. cunicularia* is more widespread than the previous two species, and although it overlaps in distribution with both of them, it seems to prefer lowland

habitats, being common up to 800 m.a.s.l., mostly in bushy habitats with less open ground. The populations of this species migrate to northern and central Argentina, disappearing from Santa Cruz by late April or early May.

The Rufous-banded Miner has been previously recorded at just eight localities in Santa Cruz, including one record in the El Turbio area, which represents the southernmost record for the species (Darrieu *et al.* 2009a). The lack of other previous records is possibly due to the inaccessibility of the upper plateau habitat, where the species is fairly common to common. The other two species are well known for the province (Darrieu *et al.* 2009a), but there is scant information about habitat use and microhabitat preferences.

Straight-billed Earthcreeper *Ochetorhynchus ruficaudus*

The *Ochetorhynchus ruficaudus* was first detected in the province on 6 January 2010 at El Moro plateau (49°04'40"S 71°57'41"W – 1,126 m.a.s.l.), when at least two individuals were seen in a rocky gorge (HC, IR). On that occasion, a nest with similar characteristics to the ones described for the species was detected in the area (IR, pers. obs.). On 23 January 2011 another two individuals

TABLE 2. List of sites where searches of Austral Rail *Rallus antarcticus* were unsuccessful between 2009-2013.

#	Date	Locality	Coord.	Elev. (a.s.l.)	Comment	Obs.
1	15/03/09	Ea. La Federica, San Martín Lake	49°01'16"S 72°14'34"W	260	Extremely good habitat. More searches are necessary. American mink was detected.	SI
1	05/01/11	Ea. Cerro Ventana	48°57'30"S 70°13'39"W	236	This place was searched successfully by Mazar Barnett et al. (2013). Mink found near this locality.	HC, JK, IR
2	15/12/12	Ea. La Verde	48°26'47"S 70°32'10"W	455	Small fragment of habitat, but close to La Angostura, one of the most important spots for the rail. American mink (<i>Neovison vison</i>) was detected on the nearby Río Chico.	IR, PH, L. Fasola
3	11/02/12	Ea. Valle Chacabuco, XI Región, Chile	47°04'55"S 72°23'37"W	457	Although not in Argentina, this area holds massive extensions of habitat next to the international border. The presence of American mink was detected.	HC, SI, IR
4	23/12/12	Ea. El Sauco	47°20'41"S 71°14'19"W	278	Few patches of good habitat. We detected the presence of American mink. Some patches were overgrazed by cows and horses.	IR
5	13/03/13	Ea. San Carlos, Deseado Valley	46°36'01"S 70°42'32"W	490	Massive patch of good habitat. We detected the presence of American mink.	IR, L. Fasola
6	02/06/13	Ea. Las Tunas, Cardiel Lake	48°49'09"S 71°07'23"W	422	0.5 ha of good marshlands. The search was made in early winter, but the marshland was not frozen.	IR, J. Lancelotti.

were detected on a rocky area covered with small bushes at the Cardiel Chico plateau (49°01'18"S 71°53'18"W – 1,154 m.a.s.l.; IR, HC, SI, JK), a mere 10-km straight-line distance from the first locality. This plateau is the western part of the greater Siberia plateau. On 13 December 2011 a pair was seen (and photographed) on the Ea. Vega del Osco, along the Barrancoso River, Strobel plateau (48°29'25"S 71°17'06"W – 911 m.a.s.l.; IR, PH, L. Fasola). They were on a rocky wall covered with bushes of *mata negra* (*Verbena tridens*) and *calafate* (*Berberis* spp.). On 7 March 2012 one individual was seen (and photographed) on a bare rocky wall at El Islote Lake, Strobel plateau (48°38'15"S 71°24'51"W – 1,100 m.a.s.l.; IR, G. Aprile). During January-March 2013 at least one individual was detected on several occasions on a rocky wall on the C199 Lake, Siberia plateau (49°01'29"S 71°44'00"W – 1,030 m.a.s.l.; JK, IR, LGP, SI). Lastly, on 10 October 2013 a pair was observed on a rocky outcrop near provincial route 41 (47°15'52"S 71°42'17"W – 550 m.a.s.l.). That last record is the lowest elevation where it had been recorded within the study area, and may represent an elevational movement, considering the early date (SI). All localities are shown in Figure 2.

These records represent the first mentions for Santa Cruz province (Darrieu *et al.* 2009a). The distribution of *O. ruficaudus* along the Andes is probably a continuum along the sub-Andean plateaus of western Patagonia. The lack of records may be a consequence of the inaccessibility of this habitat. All (but one) of our records were obtained in localities above (or just around) 1,000 m.a.s.l., indicating that it probably does not inhabit lower elevations during the breeding period.

Thorn-tailed Raydito *Aphrastura spinicauda*

One individual was detected at Punta Bustamante, at the mouth of the Gallegos Estuary on the Atlantic Ocean coast (51°36'36"S 69°00'39"W – 3 m.a.s.l.), feeding around the base of some bushes on 18 May 2010 (SI). Low Patagonian Steppe covers the site, with absence of nearby patches of forest or any tree vegetation.

Although the species is fairly common in open steppe habitat in some parts of its distribution (Fjeldså and Krabbe 1990), it does not have any known regular movements or migration, and there are hardly any records of the species away from this type of habitat in Santa Cruz (Darrieu *et al.* 2009a). This record is the first for the eastern part of the province and the first published for the continental Atlantic Ocean coast.

Austral Canastero *Asthenes anthoides*

Two nests were found in Santa Cruz province: one (probably abandoned) at Reserva Costera Urbana, in Río Gallegos (51°38'29"S 69°09'55"W – 4 m.a.s.l.), on 11 April 2009 in the bottom part of a 'mata verde' bush (*Lepidophyllum cupressiforme*). This nest was a typical

ovenbird nest constructed with sticks, grasses, and had plastics on its interior (entrance opening diameter = 6 cm; tunnel and chamber length = 25 cm). The second nest was found at Ea. La Alice – at 'El Galpón' (50°20'57"S 72°31'32"W – 187 m.a.s.l.), on 26 September 2009. This last was under construction and both individuals were carrying feathers. Single records of individuals far from the ecotonal habitat are: one individual at Ea. La Angostura, 22 March 2011 (SI); one individual at 'El Frigorífico', Chico River estuary (49°55'45"S 68°35'15"W – 45 m.a.s.l.), 9 June 2011 (SI); and lastly, a single individual seen at the grasslands of Ea. Vega del Osco (48°29'14"S 71°17'6"W – 900 m.a.s.l.), 27 March 2013 (IR).

Although the species is common in the ecotonal habitat of the western part of the province, these records are at the edge of its formerly known distribution (Darrieu *et al.* 2009a). The biology of this canastero is poorly known, therefore the information presented here, although anecdotal, adds some data that improves our understanding on the breeding behavior of this uncommon species. The observation at Ea. Vega del Osco represents the first record in the grasslands of the highland plateaus.

Cinnamon-bellied Ground-Tyrant *Muscisaxicola capistratus*

On 19 January 2011 a large flock of around 100 individuals of *Muscisaxicola capistratus* was found at a large patch of grasslands in Perito Moreno NP (47°46'18"S 72°05'25"W – 898 m.a.s.l.; IR, HC, JK). Principally juveniles composed this flock. The juveniles were identified by the lack of the contrasting regular pattern of the adults, with less-intense cinnamon coloration on the belly, less-defined black on the forehead, and smaller rufous patch on the crown.

Although this is a single record of a big flock, it is interesting due to the early date in the season (mid summer). This tyrant seems to be one of the first migratory species that leaves the region, particularly the highland plateaus where it breeds. Also it is interesting the fact that this ground-tyrant is one of the species that moves farther north, reaching areas of central Andes, northwestern Argentina and Bolivia (Fjeldså and Krabbe 1990). Although it is probably the most common tyrant of the highland plateaus of western Santa Cruz, there is almost no information about movements and population dynamics.

Southern Martin *Progne elegans*

During our fieldwork we found that *Progne elegans* is a regular summer reproductive visitor of Perito Moreno and Bajo Caracoles towns, and within the town limits the species seems to be present at abundances typical of other localities in northern Patagonia (IR, pers. obs.). In those localities it is found from mid/late November

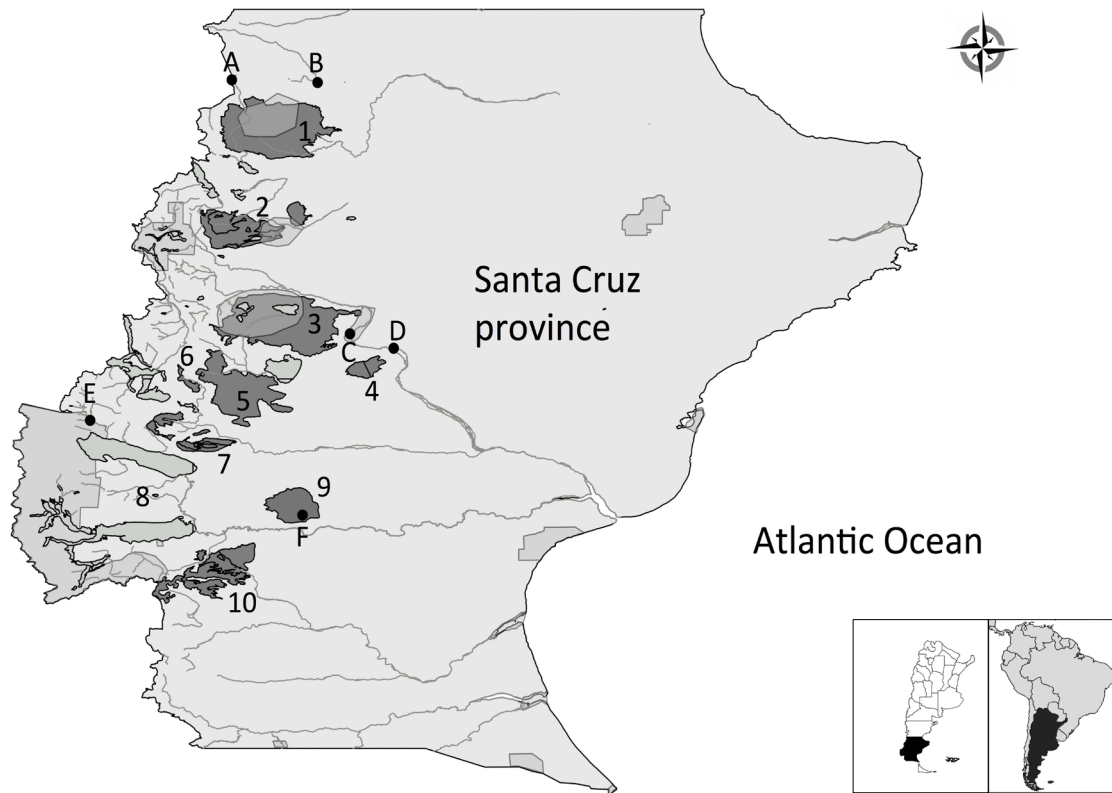


FIGURE 1. Map of Santa Cruz province with important sites. Dark grey, plateaus of western Santa Cruz province: 1) Buenos Aires; 2) Asador (north, central, and southern); 3) Strobel; 4) Cerro Ventana; 5) Siberia; 6) El Moro; 7) Viedma or del Tobiano; 8) La Gringa Lake; 9) Mata Amarilla; 10) Vizcachas. Light grey, Important Bird Areas (IBAs) of Santa Cruz. Medium grey, major lakes. Black dots, important locations mentioned in the text: A) Los Antiguos; B) Perito Moreno; C) Ea. La Angostura; D) Gobernador Gregores; E) El Chaltén; F) La Lechuza Stream, Mata Amarilla plateau.

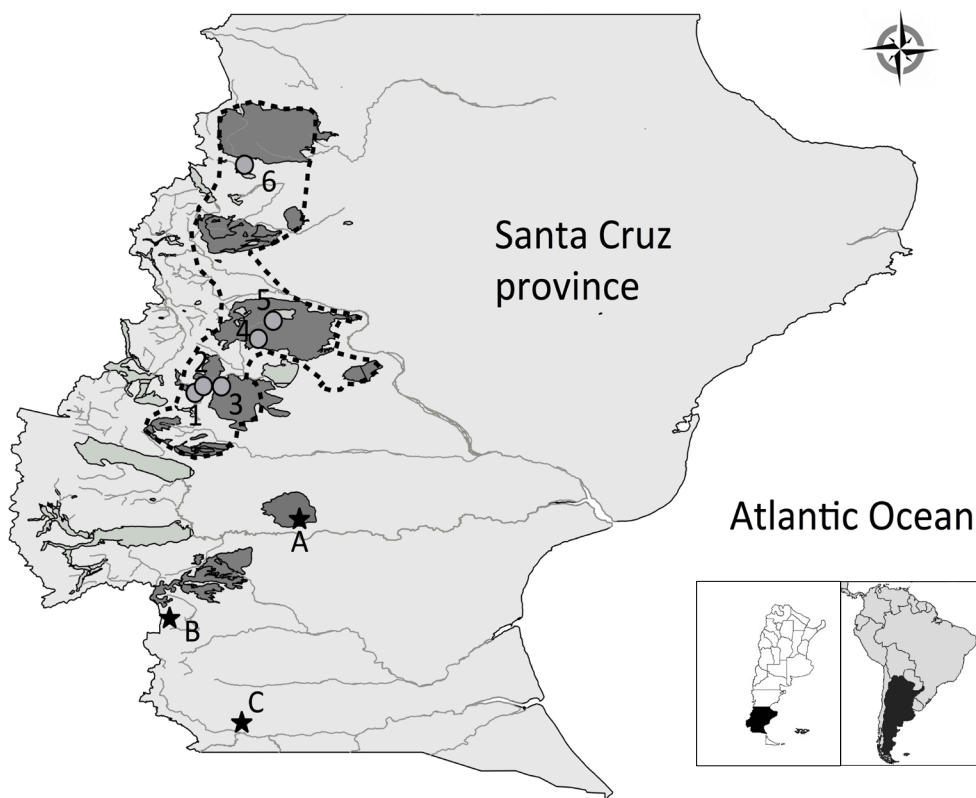


FIGURE 2. Records of Straight-billed Earthcreeper *Ochetorhynchus ruficaudus*, grey dots (arranged south-north): 1) El Moro plateau; 2) Cardiel Chico; 3) C199 Lake; 4) El Islote Lake; 5) Ea. Vega del Osco; 6) RP 41. Greater Yellow Finch *Sicalis auriventris* distribution: open line area shows the continuous distribution and black stars indicate isolated records: A) La Lechuza Stream, Mata Amarilla plateau; B) Los Bagueles massif; C) Los Morros.

to late March. It is also regular at the cliffs of the Ecker River valley, at Ea. La Vizcaína and Ea. Rincon de Piedra (47°07'21"S 70°53'25"W – 704 m.a.s.l.), but with no more than 2-3 pairs every season. We also obtained four records from three new localities: a pair at 'puesto de veranda' ('puesto' used during the summer season) in the Ea. 9 de Julio (47°06'53"S 71°09'10"W – 1,196 m.a.s.l.), on 15 January 2012 (IR, H. Slongo); one individual seen on 20 December 2012 (IR) and 18 January of 2013 (probably the same; JK) at Ea. El Sauco; three individuals (two males and a female) seen on 16 January 2013 at Ea. La Angostura (LGP, JK, IR); one male at a marshland next to the NR 40 (at the intersection with RP 41) (47°21'00"S 71°00'32"W – 457 m.a.s.l.).

The former known distribution of *P. elegans* in Santa Cruz province was restricted to the Deseado River valley, and cities north of it, with just three localities south of that area, mostly restricted to the eastern and central part of the province. Our records suggest that it is actually widespread in the west, probably associated with wooded areas around ranches. The new southernmost record is that from Ea. La Angostura, but it probably can also be found at Gobernador Gregores town and other ranches farther south, along the Chico River valley. All the known

localities are shown in Figure 3.

Bank Swallow *Riparia riparia*

One pair was observed at S94 Lake, on Strobel plateau (48°35'33"S 71°14'11"W – 916 m.a.s.l.; JK, HC, IR), on 11 January 2011 (Figure 3). The individuals were in a mixed group of swallows, which included Chilean Swallow *Tachycineta meyeni* and Blue-and-White Swallow *Pygochelidon cyanoleuca*.

This observation represents the fourth published record for the province (Darrieu *et al.* 2009a), although there are several scattered unpublished observations (S. Sturzenbaun and A. Morgenthaler, pers. comm.). It is interesting that *R. riparia* is also rare in northern Patagonian provinces, like Chubut and Río Negro, with only one published record (Kirwan 2002).

Hellmayr's Pipit *Anthus hellmayri*

During our fieldwork we detected this species on only three occasions: one individual displaying at El Chaltén (49°19'49"S 72°53'34"W – 950 m.a.s.l.) on 21 December 2009 (IR); at least one individual displaying on several occasions during December 2011 and January 2012 at Ea. La Vizcaína (47°07'29"S 70°56'31"W – 780 m.a.s.l.),

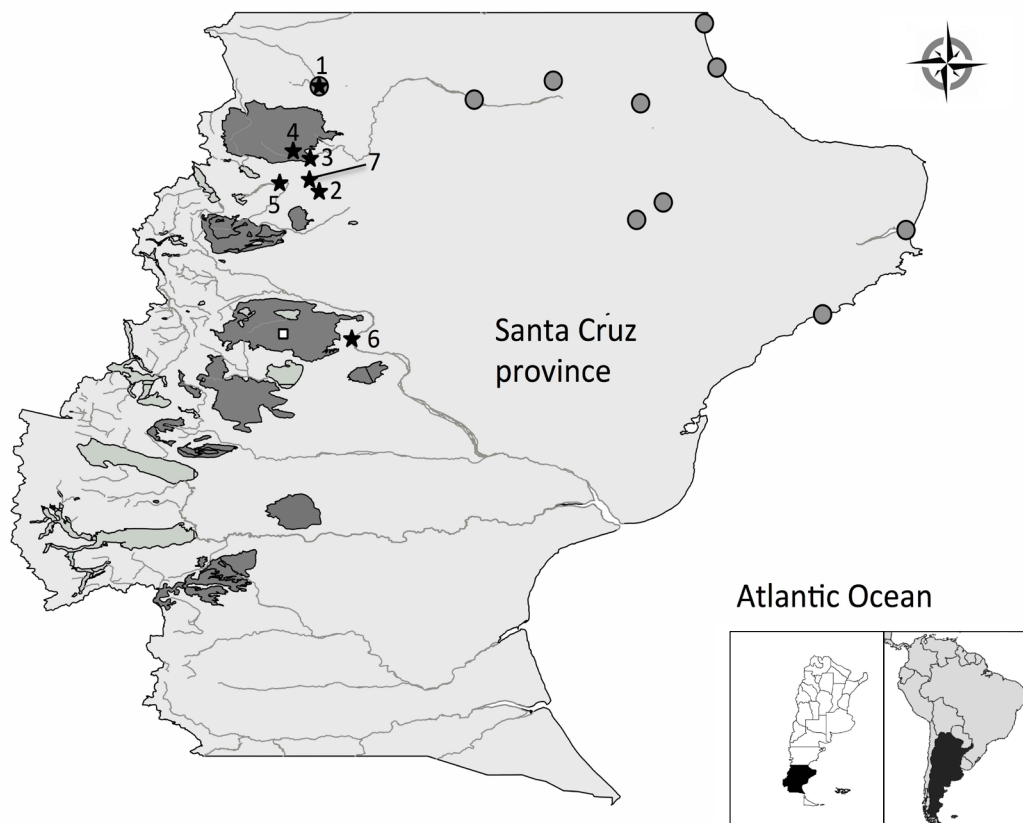


FIGURE 3. Map showing the distribution of Southern Martin *Progne elegans* and Bank Swallow *Riparia riparia* in Santa Cruz province. Grey dots indicate localities previously mentioned for *P. elegans* by Darrieu *et al.* (2009a). New localities for *P. elegans* (black stars): 1) Perito Moreno; 2) Bajo Caracoles; 3) Ecker River valley; 4) puesto at Ea. 9 de Julio; 5) Ea. El Sauco; 6) Ea. La Angostura; 7) marshland at RN 40. The white square indicates the locality of *R. riparia* at Strobel plateau.

Buenos Aires plateau (IR); and at least two individuals displaying at Ea. La Victorina (48°59'43"S 71°30'28"W – 580 m.a.s.l.), La Siberia plateau, on November 2012 (IR, PH).

Although Hellmayr's Pipit has few published records for the province, most of them are from the southern and eastern part. These records along the plateaus of western Santa Cruz may reflect that it is more widespread than previously thought. All our records were obtained on wet, tall (> 30 cm), dense grasslands, mostly on 'vegas' (small patches of wet areas with short vegetation) without cattle. Those 'vegas' could be either natural or artificial, and are created or maintained as important areas for cattle feeding. The repeated observation of displaying individuals may indicate that the species reproduces in those localities.

Blue-and-Yellow Tanager *Pipraeidea bonariensis*

On 16 January 2013 one individual, probably a young male, was detected on the marshlands close to the houses of Ea. La Angostura. Shortly after, it flew towards the implanted woods around the houses of the ranch, and we could not locate it again.

Our conclusion about the age and sex was based on the overall coloration, but especially due to head pattern, which had a tinge of light blue, and the darker coloration on wings coverts. This record represents the first for Santa Cruz province (Darrieu *et al.* 2009a). The fact that this probably was a young male may indicate that it was a vagrant individual dispersing from its breeding grounds.

Greater Yellow Finch *Sicalis auriventris*

This is one of the most common finch species in areas over 700 m.a.s.l. principally around rocky cliffs. It is principally associated with plateau edges, basaltic lagoons, and rocky formations. We found it on all the plateaus we worked. Three juveniles were seen and photographed using a crevasse on 7 January 2013 at a lake on La Siberia plateau (49°05'27"S 71°34'71"W – 999 m.a.s.l.; SI, LGP, and H. Rodríguez Goñi). Apparently they were using it as a roosting place. Two nests were detected in early January 2013 on C199 Lake, also at Siberia plateau (49°01'29"S 71°44'00"W – 1,030 m.a.s.l.; LGP, JK, SI, IR). One of them was located 6 m above the ground on a flat rock wedged inside a crevasse of a 17-m long cliff. It was an open cup made with grass and it had 3 chicks. Fledglings left the nest on the 2 February 2013. The other nest was located on the same rocky outcrop wall, about 100 m from the first one. It contained two chicks, but this one was not monitored. There are several scattered records on the southernmost plateaus, but during our research we only found the species in a gorge of La Lechuza Stream, in Ea. Cerro Fortaleza, Mata Amarilla plateau (50°04'06"S 71°13'42"W – 863 m.a.s.l.) in February 2013 (IR). However, there are records further

south on the south side of Baguales massif, Viscachas plateau (50°54'17"S 72°10'29"W – 328 m.a.s.l.) and at the volcanic formations known as 'Los Morros' in Ea. Glencross (51°44'54"S 71°32'19"W – 244 m.a.s.l.; SI), near the border with Chile. Estimated distribution in Santa Cruz is showed in Figure 2.

As mentioned above, the *Sicalis auriventris* is one of the most common finches of the upper plateau habitat in Santa Cruz province, being present in almost all the basaltic lakes, and in most rocky areas visited. Under 500 m.a.s.l. it becomes much rarer, at least in the northern part of the province, and this could be the reason why it was first mentioned for the province in 2003 (Imberti 2003) and only mentioned for six further localities (Darrieu *et al.* 2009a), while much less abundant in western Santa Cruz, the Patagonian Yellow Finch *Sicalis lebruni*, is well known due to it inhabits lowlands steppes. The scarcity of past records is certainly due to the inaccessibility of the habitat where *S. auriventris* mainly inhabits, being most of the places mentioned by Darrieu *et al.* (2009a) at low elevation. It is interesting that the lowest records are the ones in the southern part of the province.

Grassland Yellow Finch *Sicalis luteola*

One individual was detected in a grassland habitat next to the extensive marshlands of Ea. La Angostura, on 19 December 2009 (IR).

The species is common elsewhere in northern Argentina, but it has only five previously known localities in Santa Cruz province (Imberti 2003; Darrieu *et al.* 2009a), two of them close to the location of our record. It is odd that we found a lonely individual of this gregarious species, thus it could be a vagrant individual.

Shiny Cowbird *Molothrus bonariensis*

During our fieldwork we found this widespread cowbird on three occasions: a pair observed flying over the farmland area of Los Antiguos city (46°33'03"S 71°36'44"W – 212 m.a.s.l.), on 24 January 2011 (IR); at least another two in Ea. El Rincón (46°56'24"S 70°48'55"W – 725 m.a.s.l.), 23 January 2012 (SI); and lastly, three individuals (two males and a female) observed also in Los Antiguos city on 11 October 2013 (HC).

Molothrus bonariensis seems to be spreading south, and it has already reached the northern area of Los Glaciares NP (Imberti 2005; Darrieu *et al.* 2009a) where it is now observed regularly. It is also regular on the Atlantic Ocean coast at Piedra Buena city (N. Moreno, pers. comm. 2009) and in Monte León NP (E. Militello, pers. comm.). There are also records further south in Chile (Venegas and Sielfeld 1998). It seems that either its population remains restricted to human settlements or it has not succeeded establishing a regular population in the province. Although we regularly visited farmlands and towns during our surveys, we failed to obtain further

observations, including in those areas where the species has already been seen (i.e., Perito Moreno NP). Further records will be necessary to assess the situation of the species in Santa Cruz.

DISCUSSION

The observations presented here contribute to the knowledge of the distribution and natural history of the birds of Santa Cruz. We presented data of 21 rare or threatened species, five of which were new to the province. Many of the observations of the poorly known (or new) species for the province could represent actual range expansions of their populations, principally in the cases of the *Molothrus bonariensis*, *Patagioenas picazuro*, and *Parabuteo unicinctus*. The new localities for two threatened species, *Podiceps gallardoi* and *Rallus antarcticus*, brings hope for the future, indicating that perhaps there are still some other unknown localities. In the case of *Podiceps gallardoi*, the lake at Mata Amarilla plateau is of capital importance because it is the closest to the almost extinct population that was initially found on the Vizcachas plateau (Roesler *et al.* 2012). In the case of *Rallus antarcticus*, the relationship between unsuccessful searches in proper habitats and the presence of American mink must be studied in a deeper way. The distribution of the American mink seems to be much more extensive than previously thought within continental Patagonia (Fasola and Roesler, unpubl. data), so the impact of this invasive species on the rail's population could be bigger than previously thought (Mazar Barnett *et al.* 2013). Further studies on the avifauna of Santa Cruz will clarify the situation of several of the species mentioned in this article, but we consider that special emphasis must be given to those areas that still support rare and threatened species.

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Tachyeres
(b.) leucocephalus