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Notes on Chilean birds, with descriptions of two new subspecies

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Among South American countries Chile is relatively well studied ornithologically, but it still contains some areas which have seldom, if ever, been visited by ornithologists and this is particularly true for the northernmost portions of the country. From 1980 to 1986 the Western Foundation of Vertebrate Zoology (WFVZ) conducted several surveys of birds, mostly under the direction of Peña (LP), in northern Chile. In addition, a survey of the birds of Isla Chiloé was made by Marin (MM) from January to April 1981. This report presents significant new information on bird distribution and breeding records obtained during these studies.

In the following accounts the species nomenclature and sequence are mostly those of Meyer de Schauensee (1966). The terms of Palmer (1962: 13) are used to describe egg shape, and capitalized and numbered colour names are those of Smithe (1975, 1981). Measurements were made using the techniques described by Baldwin *et al.* (1931). Since few weights of Chilean birds have appeared in the literature, such data are included where available. All specimens collected by MM and LP are presently housed at the WFVZ. Material from the Museum of Comparative Zoology (MCZ), American Museum of Natural History (AMNH), and the Field Museum of Natural History (FMNH) was also examined.

COLLECTING LOCALITIES

Tarapacá Province

1. Mamiña, 100 km NE of Iquique (20°05'S, 69°14'W); 2700 m. A small E–W transverse valley mostly devoted to agriculture with cacti, grasses and *Baccharis* sp. on the steep dry slopes.
2. Quebrada de Camarones, 70 km S of Arica (28°40'S, 70°39'W); 500–900 m. An E–W transverse valley, heavily modified by agriculture with

scattered stands of *Schinus molle* and *Baccharis* sp. and, in well-watered spots, *Cortaderia* sp. The slopes are sandy and almost devoid of vegetation.

3. Quebrada de Parca, 100 km ENE of Iquique (20°01'S, 69°12'W); 2700 m. Like Mamiña.

4. Quebrada de Suca; 25 km S of Camarones (19°12'S, 70°00'W); 900 m. Like Quebrada de Camarones.

5. Valle de Lluta, c. 30 km NE of Arica (18°25'S, 70°06'W); 940 m. Like Quebrada de Camarones.

Antofagasta Province

6. Tular (2450 m), Quitor (2500 m) and Guatin (3200 m). These are 3 well populated small oases near San Pedro de Atacama (22°55'S, 68°13'W), which is surrounded by much agricultural activity (mostly fruit orchards). The slopes of the valleys are covered with the 'pimiento' (*Schinus molle*) and several cacti and grass species. The dominant plant along the creeks is a *Cortaderia* sp.

7. Quebrada Paposo (25°02'S, 70°29'W); 650 m. A large transverse canyon extending inland from the Antofagasta coast. The vegetation is xerophytic, including an abundant shrub, the 'lechero' (*Euforbia lactiflua*), and several cacti (*Copiapoa* and *Opuntia*), but the area is frequently immersed in coastal fog.

Malleco Province

8. Pichinahuel, 110 km S of Concepción, Cordillera de Nahuelbuta (38°09'S, 72°39'W); 800 m. An area dominated by beech (*Nothofagus*) forests with *Araucaria* trees at higher elevations.

Chiloé Province

9. Laguna Coluco, 60 km S of Ancud, Isla Chiloé (42°06'S, 73°57'W); 25 m. A small lake, c. 70% of it covered with aquatic plants (*Heleoarchis* sp.) at the time of MM's visit.

10. Islas Talcahue (or Las Negras), 50 km W of Ancud, Isla Chiloé (41°53'S, 74°02'W); 5 m. Two small rocky islets with a few scattered patches of vegetation c. 200 m off the NW coast of Isla Chiloé.

SPECIES ACCOUNTS

SNOWY EGRET *Egretta thula*

Johnson (1967) regarded this species as an abundant resident in Chile as far south as Valdivia, but as only a casual visitor to Llanquihue and Chiloé. More recently, Wheelwright (1978) reported an apparent straggler from Magallanes Prov. in May 1976, and a specimen was also collected 8 km S of Punta Arenas, Magallanes Prov. in May 1979 (Venegas & Jory 1979), both records occurring in the non-breeding season.

During his survey of Isla Chiloé, MM found a breeding colony containing 9 pairs of these egrets on 15 Jan 1981. The colony was at site 10 on one of the 2 islets called Talcahue (or Las Negras), located c. 200 m off the northwestern coast of Isla Chiloé. The nests were placed on long-leaved plants (*Gregia* sp.) and were built with its leaves. The centres of the nest platforms were lined with feathers. Most of the nests contained young a



Figure 1. Map of northern Chile showing WFVZ collecting localities (numbers match those given site descriptions in the text).

few weeks old. A fresh C/2 was collected (WFVZ 129,145), the eggs measuring 40.0×31.9 mm and 42.35×33.6 mm, with whole weights of 22.0 and 26.0 g respectively. The eggs were elliptical and subelliptical in shape and pale bluish-green in colour.

CINEREOUS HARRIER *Circus cinereus*

Although Johnson (1972) implied that this species occurs in Chile north to Arica, there are no specimens or documented sight records for it

north of Valle de Copiapó, Atacama Prov, where a male was collected on 25 Aug 1923 (Hellmayr 1932). In the Antofagasta Range, between 1 and 11 Sep 1982, LP collected a female (WFFVZ 24,111) at Quito, 480 km N of the Valle de Copiapó.

DOLPHIN GULL *Leucophaeus scoresbii*

During MM's 15 Jan 1981 visit to the Talcahue islets off Isla Chiloé (site 10), he found a small breeding colony of *Phalacrocorax atriceps*, several scattered nests of *Phalacrocorax magellanicus* and *P. gaimardi*, and a breeding colony of c. 37 pairs of *Sterna hirundinacea*. The nests of all these species were at various stages, ranging from freshly laid eggs to well-grown chicks. Among the *Sterna hirundinacea* nests were 2 nests of *Leucophaeus scoresbii*, c. 8 m apart. One of them contained 2 eggs and the other held one, all of them pipping; none was collected. The eggs were subelliptical and, olive-brown, with dark brown blotches and spots. The nests were bulky elevated platforms built mainly with seaweed and some grass.

The only previously documented breeding localities for this species in Chile are Camp la Punta Estación Gente Grande, Isla Grande, Tierra del Fuego, where 50 pairs were found nesting in Nov 1952 (Philippi *et al.* 1954), and at nearby Isla Magdalena in the Straits of Magellan (Olrog 1948, Parmelee & MacDonald 1975). The Isla Chiloé nests thus represent a northward extension of c. 1500 km of the known breeding range of this species in Chile. Whether this record is of a regular occurrence or an anomalous one requires further study. Hellmayr (1932) speculated that the species was found at Isla Chiloé only during the non-breeding season. Goodall *et al.* (1951) and Johnson (1967) were uncertain as to how far north the species nests in Chile, although Murphy (1936) felt that the species breeds well northward through the Chilean Archipelago.

TRUDEAU'S TERN *Sterna trudeaui*

Few breeding localities are known for this rather uncommon species in Chile. Johnson (1967) provided a synopsis of the earlier account of Barros (1940), who found a small nesting colony at Laguna de Torca, Curicó Prov. Barros also suspected nesting near Maullin, Llanquihue Prov. The WFFVZ collection contains a set of 2 eggs (WFFVZ 12,018) collected by D. Roel at Corral, Valdivia Prov. on 24 Jan 1932.

On 25 Jan 1981 MM found a nesting colony of c. 15 pairs at Laguna Coluco (site 9) on Isla Chiloé, well to the south of the aforementioned localities. The nests were dispersed into groups of 3–6 pairs, which were on the perimeters or among the outer edges of Brown-hooded Gull *Larus maculipennis* colonies, a tendency also noted by Barros (1940). The nests were large floating platforms with small central depressions and were composed completely of small pieces of a freshwater plant (*Heleoarchis* sp.). Most contained 2 eggs. A set of 2 fresh eggs (WFFVZ 129,145) was collected; they are olive-brown with irregular dark brown spots and blotches over the entire surface, oval and long oval in shape, measuring 42.3×30.9 and 44.1×30.1 mm. Each whole egg weighed 21.0 g.

FERRUGINOUS PYGMY-OWL *Glaucidium brasilianum*

The relationships of the widespread *Glaucidium brasilianum* and the austral form, *G. nanum*, have not been well defined. Wetmore (1922,

1926) suggested that they might prove to be conspecific, and Hellmayr (1932) and Peters (1940) subsequently treated *nanum* as a race of *G. brasilianum*. However, Meyer de Schauensee (1966) regarded them as separate species. The 2 forms have previously been regarded as being allopatric in Chile, *G. brasilianum* being known only from the northernmost province, Tarapacá (Johnson 1967) and *nanum* north only to Atacama Prov. (Johnson 1967). A single geographically disjunct specimen ascribed to *nanum* was reported from Moquegua, southwestern Peru by Chapman (1929).

Wetmore (1926) characterized *nanum* as differing from nominate *brasilianum* by its darker dorsum and heavier markings on the underparts. Chapman (1929) noted that *nanum* has more extensive dark markings on the ventrum and heavier spotting on the sides of the breast, as well as rufous tail bars. Hellmayr (1932) stated that *brasilianum* could be distinguished from *nanum* by having white instead of rufous tail bands, generally only 6 tail bands, and by its greyish-brown upperparts (in contrast to the rufous-brown dorsum characteristic of *nanum*). Finally, Meyer de Schauensee (1970) stated that *nanum* can be separated from other pygmy-owls by having numerous white spots on the wing coverts and scapulars and by its narrowly banded tail. There are no reports of size differences between the 2 forms.

Among our series of Chilean *Glaucidium* specimens are 4 with the characters reported to be diagnostic for *G. brasilianum*, i.e., all have 6 white tail bands and greyish-brown backs. All were collected by LP, one at Valle de Lluta (site 5), and the other 3 at Quebrada de Parca (site 3), both localities lying within the previously reported range of this form in Chile.

There are as well 9 Chilean specimens with the characters ascribed to *nanum* in the WFFVZ collection, including 3 from Valle de Lluta, and single specimens from: Quebrada de Parca; Farellones, Santiago Prov; Dalcahue, Isla Chiloé, Chiloé Prov; Chaitén, Chiloé Prov. and Puerto Aysén, Aysén Prov. All these specimens have rufous-brown backs, cinnamon-brown tail bands and spots on the back, and more numerous tail bands, including one with 8, one with 9, one with 10, and 6 with 11. The specimens from the Tarapacá Prov. localities represent a significant northward extension of the range of *G. nanum* in Chile.

The WFFVZ collection in addition contains 6 Chilean specimens which appear to be intermediate between these 2 extremes. They have medium brown backs, white spots with brownish edges on the back and tail, larger and more oval tail bands than those of typical *nanum* and an intermediate number of white tail bands with brownish edges, including 4 with 7, one with 8, and one with 9. All the specimens with intermediate characters are from Tarapacá Prov, 5 from Valle de Lluta (site 5) and the other from Quebrada de Camarones (site 2). However, the influence of *brasilianum*-type characters may extend much farther south. An additional specimen from Punitaqui, Ovalle, Coquimbo Prov. within the expected range of *nanum* also shows a whitish tinge to the tail bars and dorsal spots. Furthermore, of the aforementioned *nanum* specimens, those from the southernmost localities are distinctly darker-backed than the ones from northern Chile.

Even among the specimens clearly identifiable as *nanum*, there is considerable variability in the relative widths of the light and dark tail bars. This relationship was the main character used by Wetmore (1922) in designating the central Chilean population as a separate race, *vafrum*, which was described as having dark tail bars twice the width of the light ones in contrast to the equal-sized tail bars of the more southern populations. Thus, we agree with Hellmayr (1932) and Peters (1940) in not recognizing *vafrum*.

The occurrence of dichromatic morphs in *Glaucidium* complicates the interpretation of the Chilean situation. Geographical variation in the frequency of colour morphs in numerous *Glaucidium brasiliannum* populations was analysed by Ridgway (1919), who concluded that it was not possible to draw a sharp line between the plumage types. We agree with his conclusions and also note that the range of colour variation exhibited by our combined series of Chilean *Glaucidium* specimens is no greater than that found within single Mexican populations of *brasiliannum*, as demonstrated by series in the WFVZ collection. Furthermore, the patterns of variation seen within such samples essentially match the sets of characters used to define the differences between *nanum* and *brasiliannum*, i.e., specimens with white tail bars have greyish-brown backs, and rufous-brown backs are associated with numerous cinnamon tail bars. As in northern Chile, various intermediate versions occur between these extremes.

Size appears to be highly variable within *Glaucidium* (e.g. Hellmayr 1932), and we found no geographical size trends among our Chilean specimens when they were segregated by sex (Table 1). Therefore, unless measurements of a larger sample of austral *Glaucidium* specimens reveal significant size differences between nominate *brasiliannum* and the more southerly populations, we question the wisdom of recognizing *nanum* as a separate taxon. We suspect that further study will show that the *Glaucidium* populations presently called '*nanum*' are not subspecifically distinct from *brasiliannum*, but merely represent a predominance of the darker rufous-brown morph. Ridgway (1919) reported an apparently equivalent situation in his large Texas sample of *G. brasiliannum* in which only a single colour morph (rufous tail bands and greyish-brown backs) was found. Several authors, including Chapman (1929) and Kelso (1937) have suggested that the colour morphs in *Glaucidium* are correlated with local environmental conditions, and Marshall (1967) discussed the apparently similar situation in *Otus*. It seems likely, therefore, that more information on the geographical frequencies and possible ecological significance of such morphs is needed before plumage variation in this group can be interpreted taxonomically.

BAND-WINGED NIGHTJAR *Caprimulgus longirostris bifasciatus*

Five specimens of this nightjar collected by LP at Quebrada Paposo (site 7) represent a significant northward range extension of the race *bifasciatus*. The specimens agree with this form in their colour and also on the basis of their long wing length (av. 162.9 mm; range 158.5–166) and tails (122.1 mm; range 121–124.5). Johnson (1965) gave wing and tail measurements of *C. l. bifasciatus* at 162.9 and 119.1 mm, respectively.

TABLE 1
Measurements (mm) and body weights (g) of Chilean *Glaucidium* specimens in the WFVZ collection

WFVZ No.	Locality	Sex	Wing	Culmen	Tail	Wt
With <i>brasilianum</i> colour characters:						
39,222	Valle de Lluta (site 5), Tarapacá Prov.	M	98.5	10.4	74.5	70
34,150	Qbda. de Parca (site 3), Tarapacá Prov.	M	97.5	10.2	74.5	58
34,151	Qbda. de Parca, Tarapacá Prov.	M	99.8	10.8	75.5	63
34,148	Qbda. de Parca, Tarapacá Prov.	F	104.0	11.0	74.5	69
Intermediate characters, but nearest <i>brasilianum</i> :						
29,678	Punitaqui, Coquimbo Prov.	M	102.5	10.7	71.0	75
39,219	Qbda. de Camarones (site 4), Tarapacá Prov.	M	101.0	10.5	74.5	53
39,225	Valle de Lluta, Tarapacá Prov.	M	101.0	10.8	80.0	60
39,224	Valle de Lluta, Tarapacá Prov.	M	102.5	10.3	77.5	60
39,221	Valle de Lluta, Tarapacá Prov.	M	97.0	10.0	75.5	64
39,223	Valle de Lluta, Tarapacá Prov.	F	106.5	10.7	77.2	—
39,226	Valle de Lluta, Tarapacá Prov.	F	104.5	10.8	81.5	68
Intermediate characters, but nearest <i>nanum</i> :						
39,227	Valle de Lluta, Tarapacá Prov.	M	97.5	10.3	75.5	62
39,228	Valle de Lluta, Tarapacá Prov.	F	103.5	11.4	76.5	70
39,220	Valle de Lluta, Tarapacá Prov.	F	107.0	11.5	78.5	82
34,149	Qbda. de Parca, Tarapacá Prov.	F	106.0	11.2	84.5	77
With <i>nanum</i> colour characters:						
36,390	Chaitén, Chiloé Prov.	M	92.5	11.4	65.5	61
36,391	Puerto Aysén, Aysén Prov.	M	95.6	11.0	71.5	60
36,392	Puerto Aysén, Aysén Prov.	M	95.5	10.9	66.5	62
34,825	Farellones, Santiago Prov.	F	112.0	12.7	91.5	—
34,824	Dalcahue/Mocopulli, Chiloé Prov.	?	104.5	11.6	79.5	—

The average body weight of the 5 Quebrada Paposo specimens was 42 (40–45) g.

SPARKLING VIOLETEAR *Colibri coruscans*

Widely distributed in the Andean and adjacent montane regions of South America, but not previously reported from Chile. LP collected an adult female (WFVZ 34,003), weighing 6 g, at Mamiña (site 1) on 26 Jul 1985. Mamiña is c. 580 km SSE of Arequipa, the southernmost locality for the species in the western Andes of Peru (Johnson 1967). Although this species regularly descends to the coast in Peru in the non-breeding season (Koepcke 1970), it may be a permanent resident in the Tarapacá Andes, judging from this winter record.

WHITE-SIDED HILLSTAR *Oreotrochilus leucopleurus*

LP took 2 female specimens (WFVZ 39,246–7) on 19 and 20 Jul 1986, respectively, at Quebrada Paposo. This represents a significant range extension of this species, which is known north of Atacama Prov. from only a single specimen taken at Hueso Parado, near Taltal, Antofagasta Prov. (Hellmayr 1932). In addition, this is evidently the first winter record for this hummingbird from Chile. Johnson (1967) suggested that the species may migrate in March from its montane breeding grounds in Chile across the Andes to lower altitudes in northeastern Argentina. It is

possibly significant, therefore, that the specimens reported here were taken at 600 m, an unusually low elevation for this species.

RUFIOUS-BANDED MINER *Geositta rufipennis*

A series of 15 specimens collected by LP at Quebrada Paposo represents a northward range extension of over 200 km for this species in Chile from its previous northern limits in Atacama Prov. In addition, examination of the series indicates that the specimens represent an unnamed race, which may be known as follows:

***Geositta rufipennis harrisoni* subsp. nov.**

Holotype. Adult male, WFFVZ 39,266, Quebrada Paposo, Antofagasta Province, Chile (22°02'S, 70°29'W); elevation 650 m, collected 17 Jul 1986, by Luis Pena G., original field number 1698, prepared by Denys Veas.

Measurements of the holotype (mm). Wing (chord) 99.0, tail 53.0, exposed culmen 14.9, tarsus 21.95. Weight 28 g.

Diagnosis. Most similar to *G. rufipennis fasciata*, but much smaller and with a more slender bill, a paler, more whitish belly, virtually lacking rufous markings on flanks and crissum, and with the tips of the longest primaries barely tipped with cinnamon or not at all.

Range. Presently known only from the type locality.

Etymology. Named in honour of Ed N. Harrison, whose contributions to the Western Foundation of Vertebrate Zoology have greatly advanced the knowledge of the birds of Chile.

Remarks. A detailed mensural comparison of this form with *G. r. fasciata* is given in Table 2. The most striking feature of the new form is its much smaller size, averaging about a third less than *fasciata* in body weight and 10% smaller in wing length. In addition, the series of *harrisoni* is generally paler than *fasciata*. The conspicuous Kingfisher Rufous (24) markings on the flanks and crissum characteristic of *fasciata* are almost completely lacking in *harrisoni*, as are the Cinnamon (39) to Cinnamon Rufous (40) tips of the longest primaries characteristic of most specimens of *fasciata*. Most of the specimens of *harrisoni* possess darker, more prominent streaks on the crown than do the majority of the *fasciata* series, although this does not appear to be a wholly reliable character.

Specimens examined (including the holotype).

G. r. harrisoni: 6 ♂♂, 6 ♀♀, 3 unsexed. All from Quebrada Paposo, Antofagasta Prov, Chile.

G. r. fasciata: 8 ♂♂, 12 ♀♀. Coquimbo Prov: Punitaqui, Ovalle 1 ♀ (WFFVZ), Cerro Guaquilón 2 ♂♂, 8 ♀♀ (WFFVZ); Santiago Prov: El Yeso 1 ♂ (WFFVZ), Lo Valdés 1 ♂ (WFFVZ), Lagunillas 1 ♂ (WFFVZ), Altos de Cantillana 3 ♂♂, 2 ♀♀ (WFFVZ); O'Higgins Prov: Alto de los Gusanos 1 ♀ (WFFVZ).

SCALE-THROATED EARTH CREEPER *Upucerthia dumetaria hypoleuca*

Previously known in Chile northward to the Río Loa, Antofagasta Prov (Philippi 1964). Two specimens collected by LP at Quebrada de Suca (site 4) extend the known Chilean range of the species c. 250 km northward. A male (WFFVZ 39,276) collected on 7 Jul 1986 weighed 39.0 g; a

TABLE 2
Measurements of subspecies of *Geositta rufipennis*

MALES					FEMALES				
	n	\bar{X}	Range	S.D.		n	\bar{X}	Range	S.D.
Wing chord					Wing chord				
<i>harrisoni</i>	6	95.6	94.0–99.0	3.18		6	95.3	93.0–97.5	1.88
<i>fasciata</i>	8	105.75	103.5–111.5	2.91		12	105.45	101.0–109.5	2.51
Exposed culmen					Exposed culmen				
<i>harrisoni</i>	6	14.5	13.55–15.45	0.72		6	14.6	13.9–15.35	0.60
<i>fasciata</i>	8	14.9	13.4–16.5	0.94		12	14.2	12.9–16.1	0.94
Exposed culmen/bill height at base					Exposed culmen/bill height at base				
<i>harrisoni</i>	6	3.76	3.47–3.92	0.18		6	3.64	3.39–3.88	0.16
<i>fasciata</i>	8	3.25	2.95–3.63	0.25		9	3.30	2.79–3.73	0.27
Tail					Tail				
<i>harrisoni</i>	6	52.1	50.0–53.0	1.12		6	50.6	49.5–52.0	1.24
<i>fasciata</i>	8	56.9	53.0–61.0	2.58		12	56.3	52.0–60.0	2.06
Tarsus					Tarsus				
<i>harrisoni</i>	6	22.1	21.1–23.5	0.86		6	22.2	21.25–23.6	1.00
<i>fasciata</i>	8	23.9	22.5–25.8	1.12		12	23.75	22.9–24.7	0.48
Body weight					Body weight				
<i>harrisoni</i>	6	26.7	25–29	1.63		6	26.6	24–29	2.25
<i>fasciata</i>	6	39.2	36–42	2.04		12	39.5	37–44	2.22

female (WFFVZ 39,275) taken on the following day weighed 41.0 g. The male was not in breeding condition; the testes measured 1.5 × 1.4 mm. The specimens agree in size and colour with other examples of the montane race *hypoleuca* in the WFFVZ collection, rather than with the coastal *saturation*. Our series supports the arguments of Hellmayr (1932), Goodall *et al.* (1942), and Johnson (1967) for not recognizing the race *U. d. hallinani*, which Chapman (1919) described from only a single specimen from El Tofo, 60 km (given erroneously as miles by Chapman) NNE of Coquimbo, Coquimbo Prov.

DUSKY-TAILED CANASTERO *Asthenes humicola*

LP collected individuals (WFFVZ 39,296–9) of this species on 17, 18, 20 and 22 Jul 1986 at Quebrada Paposo, extending the known range northward c. 230 km from its previously reported Chilean limit, Caldera, Atacama Prov (Hellmayr 1932). A comparison of this series with 25 specimens of the nominate race from Atacama to Maule Provinces, central Chile, indicates that the Quebrada Paposo population represents an undescribed subspecies, which may be known as:

Asthenes humicola goodalli, subsp. nov.

Holotype. Adult male, WFFVZ 39,296, Quebrada Paposo, Antofagasta Province, Chile, elevation 650 m, collected 22 Jul 1986, by Luis Pena G; original field number 1758, prepared by Denys Veas.

Measurements of the holotype (mm). Wing (chord) 64.1, tail 72.5, exposed culmen 15.0, tarsus 21.45. Weight 20 g.

Diagnosis. Most similar to *A. h. humicola*, but with more slender bill, less pronounced streaking on breast, more streaks on lores and auricular

TABLE 3
Measurements (mm) of *Asthenes humicola* subspecies

MALES					FEMALES				
	n	\bar{X}	Range	S.D.		n	\bar{X}	Range	S.D.
Wing chord					Wing chord				
<i>goodalli</i>	3	64.0	64.0–64.1	0.05	1	63.0			
<i>humicola</i>	12	64.8	61.0–69.0	2.40	12	65.4	60.0–69.0	2.80	
<i>polysticta</i>	5	67.1	64.5–70.0	2.32	4	65.1	65.0–65.5	0.25	
Exposed culmen					Exposed culmen				
<i>goodalli</i>	3	14.85	14.45–15.1	0.35	1	15.1			
<i>humicola</i>	12	12.5	11.2–13.35	0.72	10	12.4	11.15–13.7	1.11	
<i>polysticta</i>	5	12.7	12.25–12.95	0.28	4	12.55	12.0–12.85	0.37	
Exposed culmen/bill height at base					Exposed culmen/bill height at base				
<i>goodalli</i>	3	3.90	3.73–4.09	0.18	1	3.91			
<i>humicola</i>	11	3.26	2.98–3.68	0.21	9	3.29	2.99–3.61	0.22	
<i>polysticta</i>	5	3.07	2.89–3.39	0.19	4	3.05	2.72–3.33	0.25	
Tail					Tail				
<i>goodalli</i>	3	69.8	69.0–72.5	2.36	1	78.0			
<i>humicola</i>	10	72.4	70.0–76.5	2.65	10	72.3	70.0–74.5	2.65	
<i>polysticta</i>	5	74.4	73.0–76.5	2.32	4	72.5	69.5–74.5	2.27	
Tarsus					Tarsus				
<i>goodalli</i>	3	21.7	21.1–22.5	0.72	1	21.2			
<i>humicola</i>	12	22.1	21.4–23.3	0.50	9	22.15	21.1–23.25	0.69	
<i>polysticta</i>	5	22.9	22.0–24.25	1.02	4	22.0	21.25–22.5	0.53	
Body weight					Body weight				
<i>goodalli</i>	3	19.7	19.0–20.0	0.57	1	18			
<i>humicola</i>	6	21.5	20.0–24.0	1.76	3	22.3	22–23	0.57	

area, darker crown, and conspicuously brighter cinnamon shoulder patch, flanks, and crissum.

Range. Presently known only from the type locality.

Etymology. Named in honour of the late J. D. 'Jack' Goodall for his lifetime of contributions to Chilean ornithology.

Remarks. See detailed comparison of mensural characters with *T. h. humicola* and *T. h. polysticta* in Table 3.

We follow Meyer de Schauensee (1966) in placing this species in *Asthenes*; Vaurie (1980) assigned it to *Thripophaga*.

Specimens examined (including the holotype).

A. h. goodalli: 3 ♂♂, 1 ♀. Antofagasta Prov: Quebrada Paposo (WFFVZ).

A. h. humicola: 12 ♂♂, 12 ♀♀. Coquimbo Prov: Romero 1 ♀ (FMNH), La Compañía 1 ♂ (FMNH), Punitaqui 2 ♂♂, 2 ♀♀ (WFFVZ), Cerro Guaquilón (SE of Punitaqui) 2 ♂♂ (WFFVZ); Aconcagua Prov: Hda. Limache, Papudo 1 ♂ (FMNH), Zapallar 1 ♀ (MCZ); Valparaíso Prov: Olmué 1 ♂ (FMNH); 'Central Chile' 1 ♀ (MCZ); Santiago Prov: Las Condes 1 ♂, 1 ♀ (MCZ), San Jose de Maipo 1 ♀ (FMNH), Peñalolén 1 ♂ (FMNH), Batuco 1 ♀ (FMNH), Lagunillas 1 ♀ (WFFVZ), Cerro Mantancilla 2 ♂♂ (WFFVZ); O'Higgins Prov: San Francisco 1 ♀ (FMNH); Colchagua Prov: Cauquenes 1 ♀ (FMNH); Talca Prov: Tamarico 1 ♂ (MCZ); Desembocadura, Río Maule 1 ♀ (MCZ).

A. h. polysticta: 6 ♂♂, 4 ♀♀. Maule Prov: Pilén Alto 1 ♂, 1 ♀ (FMNH); Concepción Prov: Gualpencillo 3 ♂♂, 3 ♀♀ (FMNH), Concepción 1 ♂ (AMNH); Cautín Prov: Traiguén 1 ♂ (MCZ).

TABLE 4
Measurements of *Scelorchilus albicollis* subspecies

	n	MALES			n	FEMALES		
		\bar{X}	Range	S.D.		\bar{X}	Range	S.D.
		Wing chord				Wing chord		
<i>albicollis</i>	16	82.3	79.5–89.0	2.51	13	80.1	77.5–83.0	1.99
<i>atacamae</i>	4	79.3	78.5–81.0	1.22	11	75.9	73.0–78.5	1.99
		Exposed culmen				Exposed culmen		
<i>albicollis</i>	17	17.7	16.15–18.9	0.71	14	17.2	16.3–18.5	0.71
<i>atacamae</i>	4	17.5	15.65–19.6	1.63	9	17.0	15.2–19.7	1.15
		Tail				Tail		
<i>albicollis</i>	17	76.9	69.0–84.0	4.28	14	73.5	66.0–82.5	4.49
<i>atacamae</i>	4	70.4	67.5–75.1	3.29	11	69.4	61.5–77.5	5.23
		Tarsus				Tarsus		
<i>albicollis</i>	17	34.85	33.7–36.7	0.84	14	33.8	32.2–35.4	0.99
<i>atacamae</i>	4	33.15	31.2–34.5	1.40	11	33.5	32.2–35.7	1.02
		Body weight				Body weight		
<i>albicollis</i>	6	54.8	52–60	2.92	2	46.5	45–48	2.12
<i>atacamae</i>	1	44			1	39		

WHITE-THROATED TAPACULO *Scelorchilus albicollis*

One was collected between 17 and 19 Sep 1982 (WFVZ 25,978) and another 2 on 19 Jul 1986 (WFVZ 39,306–7) by LP at Quebrada Paposo. This becomes the northernmost locality for the species in Chile, as it was previously unrecorded north of Quebrada (Aguada) del Leon, near Caldera, Atacama Prov. The July specimens, a male and a female, weighed 44 and 39 g, respectively. Examination of 48 Chilean specimens indicates that there is pronounced north–south clinal variation, the more northern birds being characterized by their smaller size and more numerous ventral bars, whereas the more southern populations are larger and have a darker mantle and fewer ventral bars. It appears that specimens north of El Tofo, 60 km NNE of Coquimbo, Coquimbo Prov, where the Cordillera Romero abuts the coast and serves as an altitudinal barrier, can be assigned to the race *S. a. atacamae*, whereas those to the south of El Tofo are most conveniently considered to be the nominate race. Measurements of the 2 forms, defined in this manner are given in Table 4.

GREY-BELLIED SHRIKE-TYRANT *Agriornis microptera*

Previously known from only a single locality in Chile, at 4000 m on the Río de Collacagua, inland from Iquique, Tarapacá Prov. (Philippi 1964, Johnson 1967). LP collected a female (WFVZ 39,309) at Valle de Lluta (c. 180 km N of Collacagua) on 14 Jul 1986, and another female at Quebrada de Camarones on 4 Jul 1986. The birds weighed 62 and 63 g respectively. Taken during the austral winter, it suggests there is a seasonal movement to these relatively low elevations. LP also collected 7 additional specimens near San Pedro de Atacama in the Antofagasta Range, as follows: 2 males (WFVZ 27,241, 27,244) and 2 females (WFVZ 27,243, 27,245) at Quitor on 1 and 2 Aug 1982, another female (WFVZ 27,242) at Tulor on 2 Aug 1982, and a male (WFVZ 27,239) and a female (WFVZ 27,240) at Guatin between 24 and 30 Aug 1982. These records, which represent a southerly range extension of 330 km, indicate

that the species is widespread and presumably resident in this region. Goodall *et al.* (1946) predicted that it might occur in the Antofagasta Range and farther south in Chile. Including both sexes, the average measurements of our series ($n=9$), wing 119.2 mm (116.5–127), tail 98.8 mm (95.0–105.5) and bill 25.2 mm (24.3–25.7), agree with those given by Hellmayr (1927) for the race *A. m. andecola*.

GREAT KISKADEE *Pitangus sulphuratus*

Apparently an uncommon visitor to Chile, since a female (WFBZ 39,379) collected by LP at Quebrada de Suca on 7 Jul 1986 represents only the second specimen for the country. It weighed 54 g, and its ovaries were granular. The only previous Chilean specimen was a bird collected by F. Behn in Jan 1967 near Los Angeles, Bio-Bio Prov. (Johnson 1967).

BRAN-COLOURED FLYCATCHER *Myiophobus fasciatus rufescens*

In Chile, previously known from only a single specimen taken in Sep 1949 by F. Behn in Poconchile, Valle de Lluta, Tarapacá Prov. (Philippi 1964). During LP's surveys in Tarapacá Prov. in Jun and Jul 1986, 5 additional specimens (WFBZ 39,380–4) were collected at Quebrada de Camarones. Four of them (2 males, 1 female, 1 sex undetermined) weighed 9 g, and another female weighed 8 g. None of the specimens had enlarged gonads.

TUFTED TIT-TYRANT *Anairetes parulus parulus*

Common in central Chile from the coast to the brush-covered valleys of the Andean foothills to an elevation of c. 2000 m. However, Philippi (1964) and Johnson (1967) reported it north only to Valle de Copiapó, Atacama Prov. Between 17 and 19 Jul 1986 LP found it relatively abundant at Quebrada Paposo, 230 km north of its previous unquestioned limit in Chile. Four specimens (WFBZ 39,386–9) were taken: 2 females weighing 4 g, a male and an unsexed bird each weighing 5 g. The specimens agree in colour with a large series of the nominate race in the WFBZ collection.

PIED-CRESTED TIT-TYRANT *Anairetes reguloides reguloides*

Goodall *et al.* (1946) considered this to be a very rare species in Chile, recording it only from Arica, Tarapacá Prov. in extreme northern Chile. Between 30 Jun and 3 Jul 1986, LP found it very abundant in Quebrada de Camarones, 70 km to the south. The representative series he collected includes several immature birds, indicating breeding in the area. Four males weighed 6 g, and another weighed 8 g. Three females weighed 5 g, and 3 others weighed 6 g. All the specimens have the immaculate yellow belly typical of the nominate race.

PATAGONIAN TYRANT *Colorhamphus parvirostris*

Three nests of this flycatcher were found by MM in the vicinity of Pichinahuel, 19–20 Jan 1976. The first nest contained 3 well-grown chicks, and the others contained 2 tiny nestlings each. All the nests were in the thick understory of a beech (*Nothofagus*) forest, at 50–110 cm from the ground in 80–120 cm tall shrubs growing along creeks. They were cup-shaped structures of grass and moss, lined with fine grasses and some

feathers. On several occasions the adults were observed feeding butterflies to the young. The only previous nesting record for this species in Chile was a set of 3 eggs (WFVZ 55,630) taken in Dec 1938 by C. Jensen and T. Peddar in Tierra del Fuego, 1700 km south of the Cordillera de Nahuelbuta (Johnson 1967).

SHINY COWBIRD *Molothrus bonariensis*

Hellmayr (1932) summarized the early history of this species in Chile. It is not clear whether the Shiny Cowbird became established in Chile as a result of deliberate introductions, from natural dispersal of the birds from Argentina through low passes in the southern Andes, or both, but the species has continued to expand its range steadily from the Santiago region since the last century (Johnson 1967). For example, G. R. Millie collected the first specimen as far north as the Valle del Huasco, Atacama Prov. on 22 Feb 1943 (Goodall *et al.* 1957), but by the 1960s the species was reportedly common from Atacama to Aysén Provinces (Johnson 1967). The incremental spread of the Shiny Cowbird in Chile, based on specimen records given in Hellmayr (1932) and subsequent summaries by Philippi (1964) and Johnson (1972), is shown in Fig. 2.

LP collected a male (WFVZ 39,632) on 15 Jun 1986 at Quebrada de Camarones, 910 km north of its previous limit in Chile. We are unaware of any reports of *Molothrus bonariensis* from southwestern Peru and are thus inclined to assume that this bird came from more southerly populations, rather than from any to the north. It is probable that the species is now moving gradually northward along the coast of Chile.

GREY-HOODED SIERRA-FINCH *Phrygilus gayi*

Common in many areas in Chile, especially in the Andean foothills, but previously known only from Atacama Prov. southward. LP collected a series of specimens (WFVZ 39,491–39,504) at Quebrada Paposo between 17 and 21 Jul 1986, a northerly range extension of 230 km. Collected in the austral winter, the birds had probably descended from inland breeding areas located at higher elevations. Measurements (mm) of 14 individuals were as follows: wing chord 82.3 (75.6–88.9), exposed culmen 13.9 (12.85–14.5), tail 60.9 (55.25–63.5). These are similar to the figures given for the nominate race by Johnson (1967), i.e., wing 86.1, 'bill' 12.5, tail 63.2, but exceed the equivalent measurements (wing 75.6, 'bill' 12.8, tail 56.4) he gave for the smaller race, *P. gayi minor*. Average weights of 8 Paposo males was 22 g, and of 5 females 19 g.

To the south this species ranges well into montane elevations, but it has not been recorded from the Antofagasta Range lying directly inland from Quebrada Paposo, an area occupied by the closely related *P. atriceps*, whose relationships with *P. gayi* have not been clear. An apparent male hybrid (WFVZ 26,147) between *atriceps* and *gayi* was collected by LP between 24 and 30 Aug 1982 at Guatín, 300 km NE of Quebrada Paposo. A detailed comparison of the hybrid with males of *P. atriceps* and *P. gayi* is given in Tables 5 and 6. In general, the specimen more closely resembles *P. atriceps* than *P. gayi* in most details, and suggests that further study is needed to clarify the relationships between the 2 taxa. They were treated as subspecies by Hellmayr (1938), but as species by Meyer de Schauensee (1966), Johnson (1967) and Paynter & Storer (1970), whose

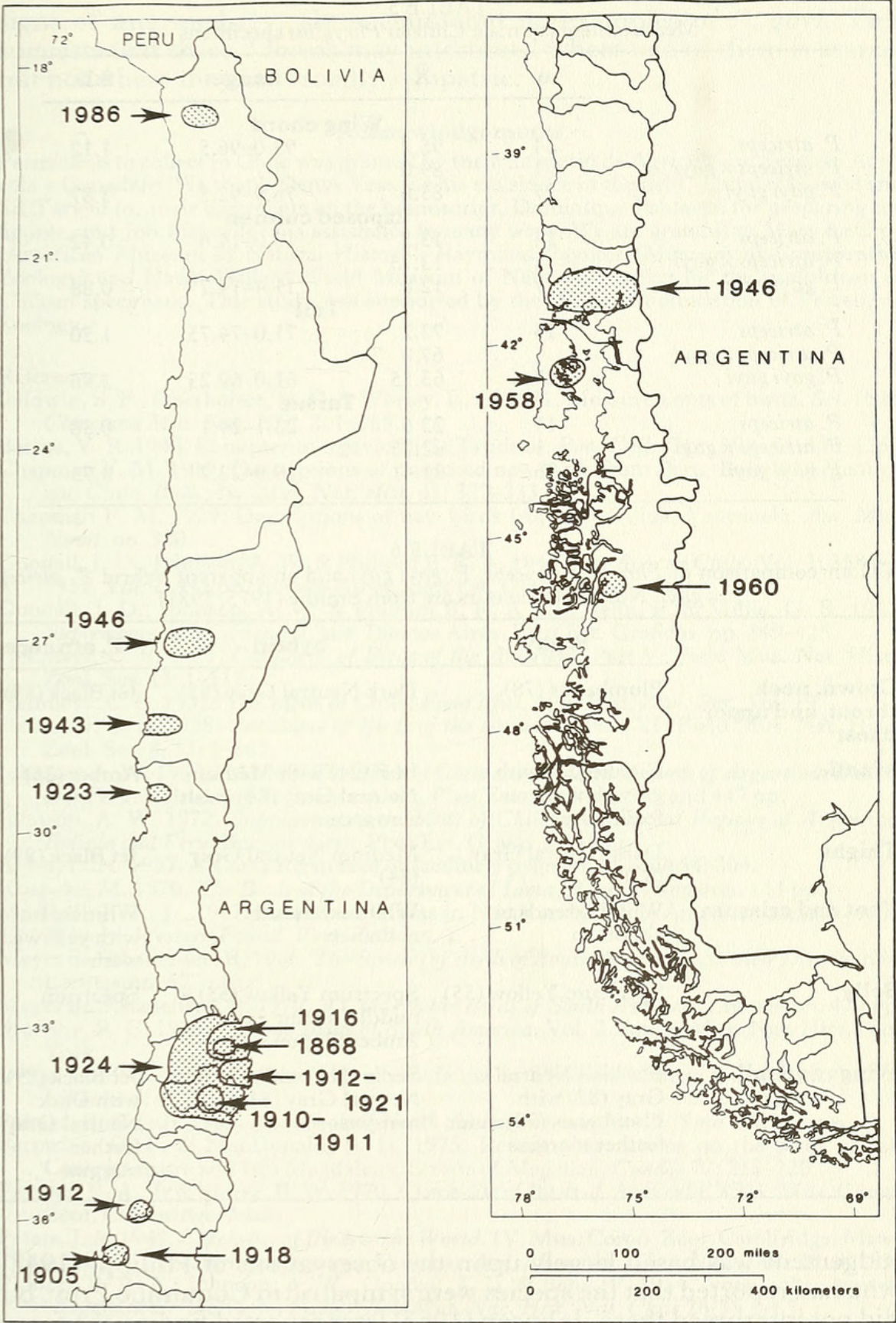


Figure 2. Map showing historic range expansion of the Shiny Cowbird *Molothrus bonariensis* in Chile.

TABLE 5
Measurements of male Chilean *Phrygilus* specimens

	n	\bar{X}	Range	S.D.
Wing chord				
<i>P. atriceps</i>	14	95.2	93.0–96.5	1.12
<i>P. atriceps</i> × <i>gayi</i>	1	89.0		
<i>P. gayi gayi</i>	27	85.6	78.9–92.5	3.87
Exposed culmen				
<i>P. atriceps</i>	14	13.5	13.0–14.6	0.42
<i>P. atriceps</i> × <i>gayi</i>	1	13.75		
<i>P. gayi gayi</i>	27	12.8	11.4–14.7	0.88
Tail				
<i>P. atriceps</i>	14	73.2	71.0–74.75	1.50
<i>P. atriceps</i> × <i>gayi</i>	1	67.0		
<i>P. gayi gayi</i>	27	63.55	61.0–69.25	2.96
Tarsus				
<i>P. atriceps</i>	14	23.6	23.1–24.1	0.38
<i>P. atriceps</i> × <i>gayi</i>	1	22.75		
<i>P. gayi gayi</i>	26	21.4	19.9–22.7	0.73

TABLE 6

Colour comparison of *Phrygilus atriceps*, *P. gayi gayi* and an apparent hybrid *P. atriceps* × *gayi*. Numbered colours are from Smithe (1975, 1981)

	P. gayi	hybrid	P. atriceps
Crown, neck, throat, and upper chest	Plumbeous (78)	Dark Neutral Gray (83)	Jet Black (89)
Mantle	Citrine (51) with greyish wash on feather tips	Buff (24) with Medium Neutral Gray (84) wash across centre	Amber (36)
Thighs	Dark Neutral Gray (83)	Medium Neutral Gray (84)	Jet Black (89)
Vent and crissum	White extends to abdomen	White extends to abdomen	Whitish, but with yellowish wash
Belly	Spectrum Yellow (55)	Spectrum Yellow (55) in middle, shading to Amber (36) on sides	Spectrum
Wings and tail	Blackish Neutral Gray (82) with Plumbeous (78) outer feather margins	Sepia (119) with Medium Neutral Gray (84) feather margins	Jet Black (89) with Dark Neutral Gray feather margins

judgement was based largely upon the observations of Philippi (1942), who had reported that the species were sympatric in Coquimbo Prov, but did not interbreed there. Johnson (1967) later reported finding the forms occurring sympatrically from Atacama to Coquimbo Provinces without any apparent interbreeding.

LP took a large series of *P. atriceps* in the Antofagasta Range, where the hybrid specimen was collected, but none of those specimens showed any

signs of intermediacy. He encountered no examples of *P. gayi*. This suggests that these 2 forms may interbreed where one of them is scarce, but not where they are broadly sympatric.

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Notes on behaviour and breeding of the Razo Lark *Alauda razae*

by C. J. Hazevoet

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The Razo Lark *Alauda razae* lives exclusively on the arid islet of Razo (7 km²) in the Cape Verde Islands. It was discovered in 1897 by Boyd Alexander, who named it *Spizocorys razae*, without giving reasons for referring it to that genus (Alexander 1898a). Shelley (1902) placed it in *Callandrella* (*sic*), also without comment. Bianchi (1905) pointed out that the species has a small but distinct first primary, this being absent in *Spizocorys* and *Calandrella*. Although he thought it was close to the latter, he found it sufficiently different to erect the monotypic genus *Razocorys* for it. It remained there until Meinertzhagen (1951) lumped both *Spizocorys* and *Razocorys* in *Calandrella*, regarding *razae* as "a relict species developed in isolation from an age-old migration of one of the *C. rufescens* group". Finally, Hall (1963) made it clear that *razae*, in view of its structural characters, is closest to *Alauda*, especially *A. gulgula*, and that the differences between *razae* and *A. arvensis* (small size, less pointed wing and longer bill of *razae*) are all attributable to adaptations for life on a small island. She noted that *razae* in general appearance seems to lie between *Alauda* and *Galerida*. Burton (1971), who agreed entirely with Hall's conclusions, drew attention to the remarkable sexual size dimorphism, especially in bill length, in *razae*, pointing to a difference in feeding ecology between the sexes. de Naurois (1969) suggested a relationship between *razae* and *Pseudalaemon fremantlii* of northeastern Africa on account of similarities in structure and plumage pattern. Hall & Moreau (1970) submerged *Pseudalaemon* in *Galerida*. Earlier, Harrison (1966) had already advocated the forming of a wide genus *Alauda*, combining many small or monotypic genera of larks, including *Galerida* and *Pseudalaemon*, but not *Calandrella*. Obviously, there is no agreement about the nearest relative of *razae*, but a recent consensus has developed that it is a



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