

## SHORT COMMUNICATIONS

**Notes on the Uruguayan Population of *Larus belcheri*.**—The ornithological literature contains very little information about the population of Belcher's Gull (*Larus belcheri*) distributed on the Atlantic coast of South America. This population was described from Argentina by Olrog as *Larus belcheri atlanticus* (Acta Zool. Lilloana, 15:8-9, 1958).

The following notes contain data collected during six years of field work carried out periodically along 200 km of the coast of Uruguay from Playa Penino (30 km west of Montevideo, Depto. San José, near the mouth of the Río Santa Lucía) to Playa José Ignacio (20 km east of Punta del Este, Depto. Maldonado, near the mouth of Laguna José Ignacio). Most of the observations were made 8 km east of Punta del Este, at the mouth of Arroyo Maldonado. Records were obtained from April to November; that is, during autumn, winter, and spring in Uruguay.

**Winter habitat.** As I have already reported (Condor, 64:510, 1962), Belcher's Gull is a winter resident in Uruguay. Some new facts must be mentioned. This gull was never seen in large numbers on the seacoast, near the sewers of the cities of Montevideo and Punta del Este, on the beaches near carcasses of sea lions (*Otaria byronia*) and southern fur seal (*Arctocephalus australis*), or at sea following in the wake of fishing boats—places where the Kelp Gull (*L. [marinus] dominicanus*) and the Patagonian Brown-headed Gull (*L. [ridibundus] maculipennis*) commonly congregate because of their omnivorous and scavenger habits. Belcher's Gull was seen in numbers near the mouth of rivers and brackish lagoons, and also on the neighboring seacoast. The relative distribution in these places seems to be indirectly the result of the tides and wind. At low tide and with northern land winds the gulls are abundant on the uncovered muddy flats. At high tide or with southern sea winds, when the flats are covered with brackish water, the birds are noted also on the seashore near rocky places. The discontinuity of distribution of the Atlantic population on the seacoast seems strikingly different from that reported by Murphy (Oceanic Birds of South America, p. 1053, 1936) for the Pacific coast of South America. I believe that this is the result of a different diet. The Pacific birds have a continuous distribution on the arid Peruvian coast southward to northern Chile probably because of their omnivorous habits. In the case of the Atlantic populations the concentration of birds on or near the rivers and lagoons seems correlated with the specialized animal diet. This was first suggested by Daguerra (Hornero, 5:214, 1933).

**Food habits.** Of 10 specimens collected by the author, 8 obtained on mudflats had the gullet and stomach full of crabs as follows: 1 with *Cyrtograpsus* sp., 6 with *Chasmognathus granulatus*, 1 with *Chasmognathus* sp. and several specimens of mussels (Mytilidae). Two specimens obtained at the seashore had gullets full of mussels.

Crabs are rarely picked up on the mud, where they are commonly males with great claws. The birds catch principally female crabs that have small claws, seizing them from behind and swallowing them whole. In hunting, the birds habitually swim in shallow channels having turbid, silty water. The prey is obtained below the water as deep as the birds can reach with the head and neck submerged. Where the water is deeper, the swimming birds may take flight with a few flaps and then plunge downward like terns from a height of 1 to 3 meters. The crabs are found entire in the esophagus and the anterior part of the stomach, but at the posterior end they are broken into pieces of about 2 cm or less in diameter.

Mussels are obtained by the same hunting technique by the gulls swimming near the rocky seacoast and submerging their heads to get the prey. Mussels torn away by the surf and scattered on nearby beaches are also eaten by the gulls. The mussels are also swallowed whole; they are found intact in the birds' gullets, and the shells are broken at the posterior end of the stomach. The cloaca and droppings contain many fragments of mussel shells. Many casts of disgorged crab shells were observed on the sites where the birds rest.

On their feeding grounds the gulls are noisy and display a quarrelsome behavior, especially noted in young in pursuit of other gulls carrying prey in the bill. At this time their voices are similar to guttural calls of hens, and can be heard from a considerable distance, helping the field worker to locate the gulls. On the resting grounds the gulls are silent.

**Plumages.** The analysis of plumage sequence of Atlantic birds, not reported previously, is based on female specimens collected in midwinter and on one unsexed specimen obtained in

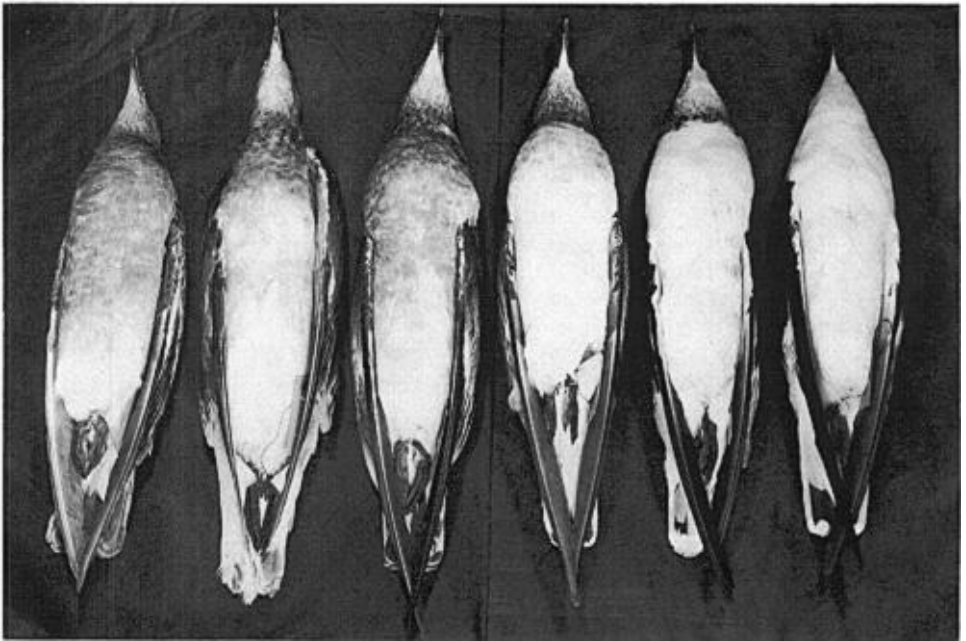
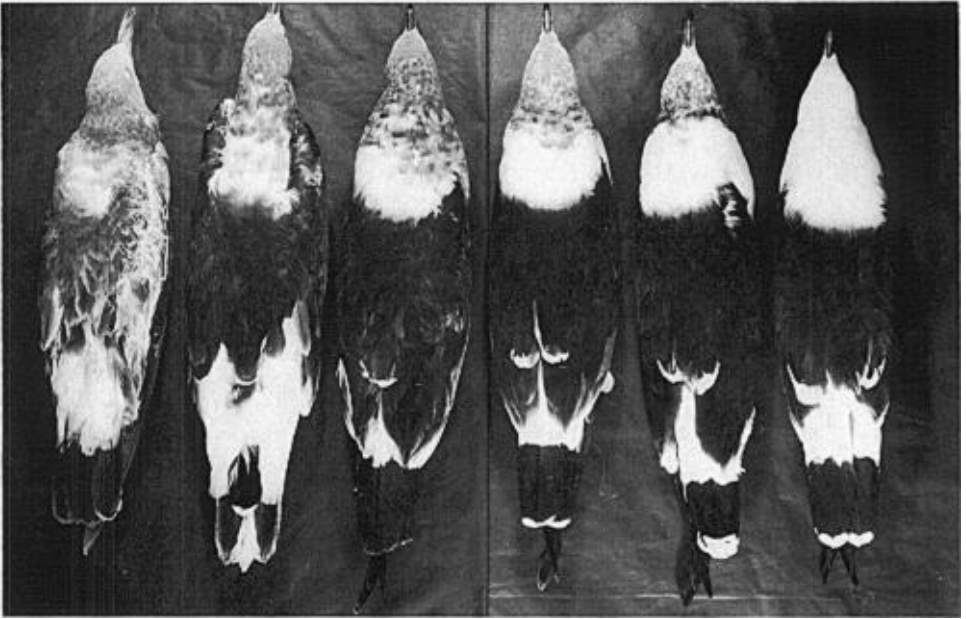


Figure 1. Some skins of Belcher's Gull in the author's collection are arranged from left to right showing the plumage sequence. For more details see text. Quantitative data of the specimens are those of the table, nos. 626, 601, 637, 632, 638, and 631.

TABLE 1  
MEASUREMENTS AND WEIGHTS OF *L. belcheri* IN URUGUAY

Specimen number	Date	Age and sex	Wing mm	Tail mm	Culmen mm	Tarsus mm	Middle toe mm	Weight g	Total length mm
505	9 July 1959	Ad. ♂	405	167	55.9	64	59 + claw	—	557
506	9 July 1959	Juv. ♀	380	145	52	64.3	57 + claw	—	534
507	9 July 1959	Sub. ♂	410	160	55.7	65.5	56.3+ claw	—	565
1320	7 June 1959	Juv. ♂ (?)	404	161	57	60	39 — claw	—	567
1551	20 Aug. 1960	Ad. ♀	392	165	46	52	44 — claw	—	—
601	28 Nov. 1960	Sub. ?	377	135	56	62	44 — claw	—	—
614	19 May 1963	Ad. ♀	392	157	50	56	41 — claw	—	—
615	19 May 1963	Ad. ♀	416	160	54	57	43 — claw	—	—
625	8 July 1964	Ad. ♂	415	165	55	61	48 — claw	—	—
626	8 July 1964	Juv. ♀	368	144	46	57	43 — claw	—	—
631	18 July 1964	Ad. ♀	371	151	47	55.8	39 — claw	—	—
632	5 Aug. 1964	Sub. ♀	402	151	49	58	41 — claw	—	—
633	5 Aug. 1964	Juv. ♀	374	141	50	60.2	42 — claw	970	—
637	6 July 1965	Sub. ♀	407	159	54	61	44 — claw	910	565
638	13 July 1965	Sub. ♀	387	143	47	62	44 — claw	790	530

Data about skins 505–507 were obtained from Zorrilla (Bol. Soc. Taguató, 1 (2):57–60, 1959) and those of 1320 and 1551 from Vaz-Ferreira & Gerzenstein (Com. Zool. Mus. Hist. Nat. Montevideo, 5 (92):29–31, 1961). Skins 601–638 are in the author's private collection; 601, 632, and 633 were collected at Playa Penino; 614, 615, 625, 626, 637, and 638 at Arroyo Maldonado; 631 at Playa Brava, Punta del Este. Abbreviations: Ad. = adult; Sub. = subadult or intermediate stage; Juv. = young; + claw = with claw; — claw = without claw.

November. The sexes are alike. The juvenal plumage of the first year (fig. 1, first from the left) passes to an intermediate stage as the year ends. The large number of birds of this general appearance, which shows considerable variation, suggests that two years may be spent in similar immature plumages. The sequence after the juvenal seems to be as follows (fig. 1, specimens 2 to 5 from left): Light-colored zones of the upper and under parts spread forward, becoming increasingly light (to white) all around the neck and under surface, and so reducing the brownish drab zones of these regions. The back and wings turn dark brown and the tail may maintain this color (fig. 1, 3rd skin from left) or acquire the adult pattern (4th and 5th skins; see also the growing rectrices of the 2nd skin, which was collected in November). Perhaps in the third year the back and wings become partially slaty black, as in *L. dominicanus*; but the head displays a mottling variegated with white, forming a "hood" (fig. 1, 5th specimen from left). This "hood" seems to be lost during the fourth year when the head becomes fully white (6th specimen from left).

Atlantic and Pacific populations of *L. belcheri* differ from one another in coloration. In Atlantic populations the light-colored zones of the adult are white to bluish-white (UUC-19-6/3°, according to the terminology of Villalobos-Dominguez, Atlas de los Colores, ed. Ateneo, Buenos Aires, 1947). The lining of the wing is also white, but is gray in Peruvian specimens. Dark areas of the back and wing are slaty black, resembling *L. dominicanus* but differing from the brownish black of Peruvian specimens of *belcheri*. The broad band on the tail is glossy black in Atlantic specimens. The dark hood of the Pacific birds is not evident in winter specimens from the Atlantic population (fig. 1, 6th from left).

*Dimensions and weights.* Measurements and body weights were obtained for Uruguayan specimens belonging to Sociedad Taguató de Montevideo (3), Museo de Historia Natural de Montevideo (2), and the author's private collection (10). This is the largest series of skins studied from the Atlantic coast of South America. The data are summarized as follows: Wing (chord, in mm), 4 ♂♂, mean = 408 (404–416); 9 ♀♀, mean = 389 (371–416). Body weight (g), 3 ♀♀, mean = 890 (790–910). Data for individual specimens are given in table 1.

*Summary and conclusions.* The population of *Larus belcheri* wintering in Uruguay differs obviously from the nominate Peruvian birds in measurements, as was pointed out for specimens from Argentina by Olog (loc. cit.), and also in body weight. The mean weight for Uruguayan

females is 890 g, compared with a mean weight of 670 g in a male and female of the Peruvian population (Murphy, *op. cit.*, 1053). Although the samples are very small, this suggests that the birds from Uruguay are 20 to 30 per cent heavier. Feeding behavior and diet differs between Atlantic and Peruvian birds; this may account for the discontinuous distribution on the Atlantic coast and for the fact that the Atlantic birds were overlooked for so long by ornithologists. Wing measurements of *L. belcheri* taken in Uruguay are smaller than those reported from Argentina. Olog ( *op. cit.*) for 2 ♂♂ reports 420 and 428 mm, and for 2 ♀♀, 400 and 408 mm.

Belcher's Gull is in some sense a permanent resident in Buenos Aires province, for it has been collected in summer as well as in midwinter by Runnacles (Hellmayr and Conover, *Cat. Birds Amer., Field Mus. Nat. Hist., Zool. Ser. 13, Part 1 (3), 256-257, 1948*; Steullet and Deautier, *Obr. Cin. Mus. La Plata, p. 654, 1936-1946*). At present we do not know the breeding area of the birds that winter in Uruguay. Additional research is needed on the populations of Argentina, Uruguay, and perhaps also of Brazil.—RODOLFO ESCALANTE, *Montevideo, Uruguay, 11 October 1965*.

**Wanderings of the Ancient Murrelet: Some Additional Comments.**—A recent article (Munyer, *Wilson Bull., 77:235, 1965*) concerning the inland wanderings of the Ancient Murrelet (*Synthliboramphus antiquum*) has, in large part, rendered superfluous a similar report of my own that was accepted for publication in the *Condor* on 24 June 1965, but which I subsequently withdrew. My contribution was prompted by the first record for Montana (Rogers, *Audubon Field Notes, 18:472, 1964*). It is of interest that my hypothesis explaining the inland occurrence of the Ancient Murrelet was identical with that developed by Munyer and was reached completely independently, lending support to its validity. I suggested that during spring and fall migration some Ancient Murrelets drift inland as the result of off-shore storms coupled with conditions of poor visibility along the coast.

There are a few points from my manuscript that deserve attention. Two records have thus far escaped the ornithological literature. One immature bird was found alive at St. James, Manitoba, 8 October 1953 (The Manitoba Museum 2702, courtesy J. Baillie, Royal Ontario Museum, and R. W. Sutton, The Manitoba Museum). A second bird, a female, was found dead at Logan, Cache County, Utah, by Gregory Wagner 24 November 1962 (Utah State University, courtesy W. H. Behle, University of Utah, and K. L. Dixon and F. H. Wagner, Utah State University).

The inland distribution pattern (see Munyer) is roughly located between 40 and 50 degrees N latitude and falls within the shifting belt of the westerlies, roughly located between 35 and 65 degrees. In the total distribution pattern there appear to be two centers: one west of the Continental Divide and one around the Great Lakes. The seasonal distribution (fig. 1) shows that the

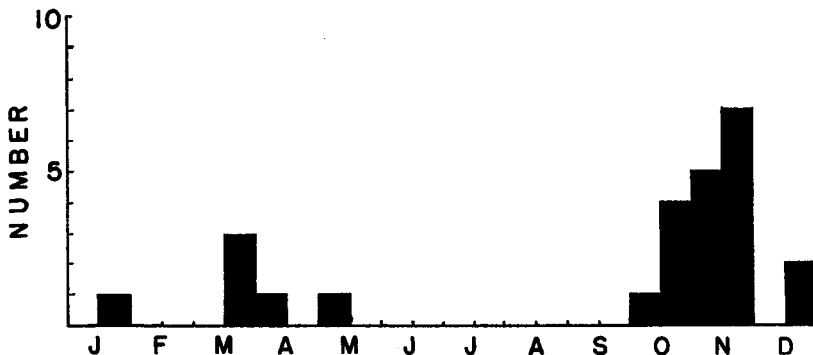


Figure 1. Seasonal inland distribution pattern of 25 Ancient Murrelets, in biweekly periods.