

First North American Record of Greater Sandplover

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Greater Sandplover on Bolinas Lagoon, 5 February 2001.
Photograph by Peter LaTourrette.

On the afternoon of 29 January 2001, during a Point Reyes Bird Observatory (P.R.B.O.) shorebird and waterfowl census, an unfamiliar *Charadrius* plover was discovered roosting on the southern shore of Bolinas Lagoon, Marin County, California. At approximately 1300 Pacific Standard Time, Abbott and Howell were finishing the census at Seadrift, a gated community in Stinson Beach, when the bird was spotted and initially identified it as a Snowy Plover (*Charadrius alexandrinus*). When Howell looked at it more closely, however, he knew that it was not a Snowy Plover. Its body size, long legs, large bill, and lack of a white hind collar suggested that it was a sandplover.

For about 15 minutes, while the bird roosted next to a Black-bellied Plover (*Pluvialis squatarola*), Howell and Abbott observed it in good light at about 30–40 m through 60x telescopes, made sketches, and took notes. Abbott then left to contact P.R.B.O. biologists, including Pyle, who arrived at about 1400. Pyle's initial reaction when he saw the bird through binoculars at about 300 m range was that it was a Snowy Plover; but upon closer examination, the large bill and pale legs suggested a Wilson's Plover (*C. wilsonia*). Howell noted, however, the lack of a white hind collar, the olive-colored legs, and turnstone-like call, thus ruling out Wilson's Plover. Based mainly on bill size and leg color, both Pyle and Howell agreed that it was unlikely a Mongolian Plover (= Lesser Sandplover; *C. mongolus*) of the east Asian *mongolus* subspecies group, to which all North American records refer. Both observers had prior field experience with Greater Sandplover (*C. leschenaultii*) and considered that possibility, but neither felt confident that it was not a large-billed Lesser Sandplover of the west Asian *atrifrons* subspecies group (see Hirschfeld et al. 2000 for taxonomy).

Due to the difficulty of distinguishing between Greater and Lesser Sandplovers, the bird remained unidentified for several weeks. Birders arrived at Bolinas Lagoon from across North America, beguiled by a bird that even experts could not identify in the field. It remained faithful to the site, most often seen alone, but at times, particularly when feeding, it associated loosely with other shorebirds. Its preferred feeding habitat was relatively sandy mud (N. Warnock, pers. comm.); when the tide inundated this area, the bird roosted among high tide debris on a near-

by sand spit. Its behavior was largely dependent on tidal cycles, and there were periods of up to a week when it was not found. After initial debate, most opinion favored Greater Sandplover. For example, based on examination of photos and observations on a birding website (<http://fog.ccsf.org/~jmorlan/sandplover.htm>), E. Hirschfeld and T. Hardaker (both versed in sandplover identification) felt strongly that this was, indeed, a Greater Sandplover.

On 15 March 2001, the bird was captured on Stinson Beach by P.R.B.O. biologist Doug George and was measured, photographed, and released without harm by Pyle and Howell. Based on comparisons of these measurements to those of museum specimens (Table 1), we confirmed the bird as a Greater Sandplover—the first record for North America. The last corroborated sighting of the bird was on 8 April 2001 (Howell and Richard A. Erickson). Seadrift personnel received sightings by unknown observers through 28 April, including reports that the bird had “turned orange,” but these remain as yet unconfirmed.

DESCRIPTION

Size, Structure, and Bare Parts: Howell and Abbott considered the bulk of the sandplover to be about one-third that of a Black-bellied Plover. Compared to Dunlin (*Calidris alpina*) present at the same site, Pyle estimated the bulk of the bird to be about one-and-one-half times greater. The bird was approximately half the height of a Black-bellied Plover and slightly taller than Dunlin and Sanderling (*C. alba*). When compared directly with a Snowy Plover (on 1 April), the sandplover appeared at least twice as large. When standing, the wing tips projected well beyond the tail, with the tail tip about equal to the tip of the eighth primary. The sandplover appeared “flat headed,” similar to Snowy and Wilson's Plovers, but its longer legs gave a comparatively lanky appearance. Pyle estimated its tarsus to be about one-and-one-half to one-and-three-quarter times that of a Sanderling. Leg color usually appeared medium-pale, dull yellowish olive (Frontispiece, Figures 1–2); in bright sun, the legs looked paler, while in overcast lighting they seemed duller and more grayish. A dull flesh or pinkish tone to the legs was apparent in low angle sunlight and in the hand. The bill was black, heavy, and stout

(Figure 1), the "nail" (the distal bulge of the upper mandible) appeared to comprise about half of the bill's length, and the bill tip was relatively pointed (Figure 2). The large bill was proportionally comparable to that of a Black-bellied Plover. When observed in flight, there was a slight, yet distinct, toe projection beyond the bird's tail (Figure 3).

Plumage

The plumage markings and color of the sandplover (Figures 1-5) were remarkably similar to those of a Snowy Plover in basic plumage. Its crown, auriculars, upperparts, and chest patches were sandy gray-brown, and its nape was only slightly paler, sandy-buff brown, unlike the distinct white hind collar shown by similar North American *Charadrius*. As in Snowy Plover, there was a small patch of white just above the sandplover's bill and lores; the whitish supercilium appeared variable in extent and shape, depending on lighting and angle of viewing; and the throat and underparts were entirely white. When seen alongside a female-plumaged Snowy Plover on 1 April, the sandplover's upperparts appeared slightly darker and grayer. The upperwings showed dark remiges with a whitish wingstripe broadest across the inner primaries (Figure 3); the underwings were bright whitish overall, but their appearance varied greatly with lighting. The uppertail coverts and tail base were pale sandy, contrasting with the dark brown subterminal tail band and sandy gray-brown back and rump. In bright light, however, the rump and uppertail often appeared concolorous, while in overcast conditions the paler uppertail coverts and tail contrasted noticeably with the rump.

In late January, the striking contrast between fresher (first basic) scapulars and worn, bleached (juvinal) upperwing coverts immediately identified the bird as being in its first winter (Figure 4); a scattering of mantle and scapular feathers were also juvinal. (Adults would show a more uniform appearance at this time of year.) The bird continued to molt throughout its stay, gradually replacing the juvinal tertials, tertial coverts, scapulars, and most median and lesser upperwing coverts. The longest juvinal tertial was retained on 29 January, when the inner tertials had been shed; on 13 February the longest juvinal tertial had been shed (Figure 4), the new inner tertials were mostly grown, and some outer lesser and median coverts had been shed. By 12 March, the longest new tertial had grown in, as had the new, white-tipped subscapular, and many juvinal median and lesser upperwing coverts had been replaced, but a worn and faded juvinal covert panel remained in the carpal region (Figure 5). The juvinal primaries, secondaries, and rectrices had been retained.

Vocalizations

On 29 January (during windy conditions), Howell and Abbott heard the bird call in flight and likened it to the call of a Black Turnstone (*Arenaria melanocephala*): a dry, rattled, three-syllable *trr-i-rrt* or *tri-i-it*. On later dates (in calm weather), the call sounded mellower, more reminiscent of a Ruddy Turnstone (*A. interpres*): a three-syllable, slightly sharp, rattled *tu-tu-tu* or *teu-t-tu*, in slightly descending series or with the middle note slightly higher (Figure 6). The bird also gave simpler, two-note calls, such as *tu-tu*, and less frequently a single *tu* or *teu*.

Measurements

With the bird in hand (Figures 7-9), Pyle and Howell independently measured (hence the range of values) and double-checked various parameters: exposed culmen length (24.0-24.7 mm; Figure 7); bill nail length (12.2-12.9 mm); bill depth at base (7.3-7.4 mm); bill depth at deepest point of distal bulge (5.4-5.5 mm); wing chord (137.7-138.0 mm); and tarsus length (35.8-37.0 mm). In addition, Pyle measured the flat wing (139.1 mm) and tail length (48.3 mm).



Figure 1. Greater Sandplover roosting on Stinson Beach, 15 March 2001. Note large bill with long nail and relatively pointed tip. Photograph by S. N. G. Howell.



Figure 2. Greater Sandplover on Bolinas Lagoon, 5 February 2001. Note the heavy, black, stout bill. Compare this with other photographs presented here: in various postures, against different backgrounds, and under various lighting conditions, the bird took on rather different appearances. Photograph by P. LaTourrette.



Figure 3. Greater Sandplover in flight at Bolinas Lagoon, 1 February 2001. Note slight toe projection beyond tail tip and shape of wing stripe. Photograph by L. Sansone.

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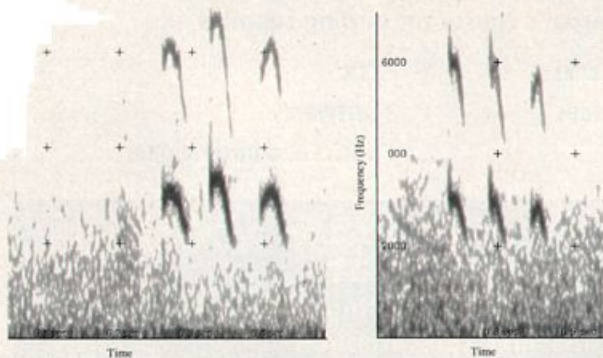


Figure 6. Two examples of flight call of the Greater Sandplover, Bolinas Lagoon, 1 March 2001. Three-note calls, such as these, were most commonly given either with the middle note higher (on left), or with notes in slightly descending series (on right). Recorded by S. N. G. Howell.

There are three subspecies of Greater Sandplover: nominate *leschenaultii* breeds in Mongolia and north-central China; *crassirostris* in southwestern Russia and Afghanistan; and *columbinus* in the Middle East. In winter, *leschenaultii* ranges from southeastern Africa to Australasia (with migrants rare but regular as far east as Japan); *crassirostris* from the Red Sea to the Gulf of Oman; and *columbinus* from the southeastern Mediterranean to the Persian Gulf (Brazil 1991, Marchant and Higgins 1993, Hirschfeld et al. 2000). Measurements of the Stinson sandplover agree with those of the nominate subspecies (Hirschfeld et al. 2000), which breeds the farthest east and is the longest-distance migrant.

We will never know how this bird reached California, but the following scenario seems as plausible as any. A Great Circle line drawn from the wintering grounds of nominate Greater Sandpipers in southeastern Africa to Bolinas Lagoon passes through the region of this taxon's breeding grounds, which lie around the half-way point of this Great Circle distance. It has been suggested that circannual ("built-in") clocks predetermine for how long a young bird flies in its first fall migration which, in conjunction with a correct compass course, would take it to the species's wintering grounds (review by Gwinner 1996). Thus a young bird that flew for the predestined time period from its nesting grounds, but in a 180° misoriented course, could end up in central California, with its route passing through southwest Alaska in fall where refueling could have occurred. It is unlikely that the bird arrived at Bolinas Lagoon on 29 January, and we suspect that it was overlooked through the fall and early winter.

The Greater Sandplover has been recorded as a vagrant at least 66 times in Europe (Hirschfeld et al. 2000) but never before in North America (A.O.U. 1998). The Lesser Sandplover (*mongolus* subspecies group) is casual in North America south of Alaska, where it is a rare but annual migrant that has bred on occasion (A.O.U. 1998). In California there have been eight records of Lesser Sandplover, all from 12 July to 3 October, including one from Marin County (Erickson and Hamilton 2001). No confirmed North American records exist for Lesser Sandpipers of the *atrifrons* group.

Acknowledgments

Foremost, we thank the personnel at Seadrift Association (Dick Kamieniecki, Bob Stevens, Jim O'Miela, Kiren Niederberger, and Tommye Jarvis) for their remarkable hospitality and tolerance in accommodating almost 2500 visitors seeking the sandplover. Without the skill and patience of Gary Page and especially Doug George, we might never



Figure 7. Greater Sandplover on Stinson Beach, 15 March 2001, to show exposed culmen length of >24 mm. Ruler stop is held even with base of exposed culmen. The pale area across the culmen base was scaly, keratinous material, and not feathering; this feature is lost on museum specimens. Photograph by S. N. G. Howell.



Figure 8. Greater Sandplover on Stinson Beach, 15 March 2001. Comparison with in-hand photos of Greater (left) and Lesser (right) sandpipers from Hirschfeld et al. (2001). Photograph by P. Pyle.



Figure 9. Greater Sandplover on Stinson Beach, 15 March 2001. Note upperwing and tail patterns. Photograph by P. Pyle.

have confirmed the identification. At the National Museum of Natural History (U.S.N.M.), Smithsonian Institute, Washington, D.C., James Dean and Christina Gebhard facilitated Pyle's examination of plover specimens. Joe Morlan's website provided a forum for opinions from around the world; Maya Decker, Roger Harshaw, Peter LaTourrette, Les and Cindy Lieurance, Larry Sansone, and David Seay kindly contributed photographs for study; Chris Corben, Annika Forsten, Antero Lindholm, and Danny I. Rogers helped with discussions relating to field identification; Corben and Diana Stralberg produced the sonograms in Figure 6. Among many others who assisted in various ways, we would like to acknowledge Keith Hansen, Guy McCaskie, Jackie Miller, Sandy Scoggin, Lynne Stenzel, and Nils Warnock. The manuscript benefited from comments by Thomas Gardali, Erik Hirschfeld, Gary Page, and Nils Warnock.

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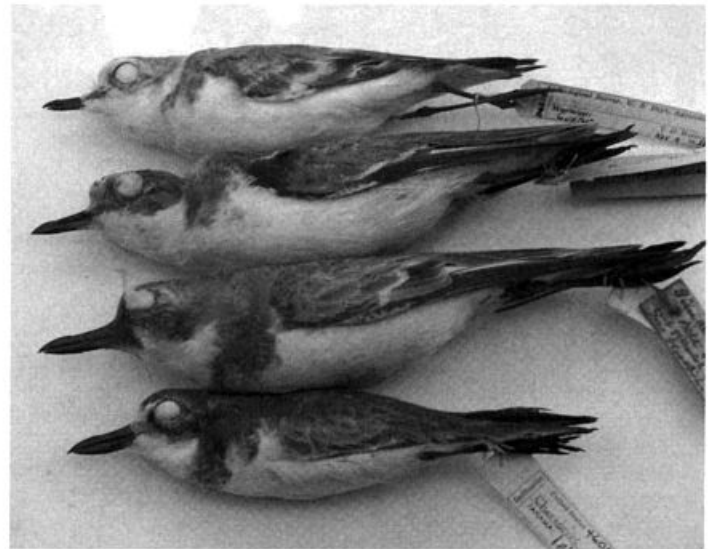


Figure 10. Comparison of (top to bottom) a typical Snowy Plover (USNM 342132; female; *C. a. tenuirostris*), Lesser Sandplover (USNM 172914; female; exposed culmen 19.8 mm), Greater Sandplover (USNM 179026; female; exposed culmen 24.5 mm), and Wilson's Plover (USNM 460599; female; *C. w. beldingi*). Note relative bill sizes and body size differences. Due to specimen preparation, hind collar differences cannot be discerned. Photograph by P. Pyle.

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Table 1. Measurements (mm) of the Stinson Beach Greater Sandplover compared to those of specimens of Greater Sandplover and Lesser Sandplover.

	Greater Sandplover ¹		Stinson bird	Lesser Sandplover ¹	
	Mean	Range	Mean ²	Mean (±S.D.)	Range (±S.D.)
Exposed Culmen	23.8 (1.09)	22.0-26.9	24.5 ³	17.6 (1.08)	16.3-19.8
Wing Chord	135.9 (3.18)	132-142	137.9	126.7 (4.18)	118-133
Culmen/Nail	1.98 (0.07)	1.78-2.11	1.94	2.26 (0.13)	2.07-2.53
Wing/Culmen	5.71 (0.27)	4.91-6.28	5.63	7.22 (0.57)	6.26-8.10

¹ Measurements taken by Pyle of 20 Greater Sandplover and 19 Lesser Sandplover specimens at the USNM. All were first-year birds collected on the wintering grounds, most in Southeast Asia (and, therefore, likely represent the nominate subspecies of both taxa); however, some were collected elsewhere in Asia and Africa. We use the international name Lesser Sandplover rather than the name "Mongolian Plover" for *C. mongolus* for the sake of convenience.

² Measurements of the Stinson bird taken by Pyle and Howell on 15 March 2001. The value reported here is the mean of 3-4 measures taken with both ruler and calipers. For each measure the range was <5.6% of the mean (see text).

³ Exposed culmen measures are subject to shrinkage between live birds and specimens; e.g., Engelmoer and Roselaar (1998) found 2.8-4.25% shrinkage in plovers. Applying these values to the Stinson bird would result in specimen culmen length of 23.5-23.8 mm.