



# Los Angeles Birders Presents - *Seven Deadly Stints and their Friends:* The Calidris Sandpipers Part 2 by Jon L. Dunn

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# *Seven Deadly Stints and their Friends*

*An Introduction to Calidris  
Sandpipers – Part 2*  
**Jon L. Dunn**

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**Larry Sansone photos**

**20 October 2020**

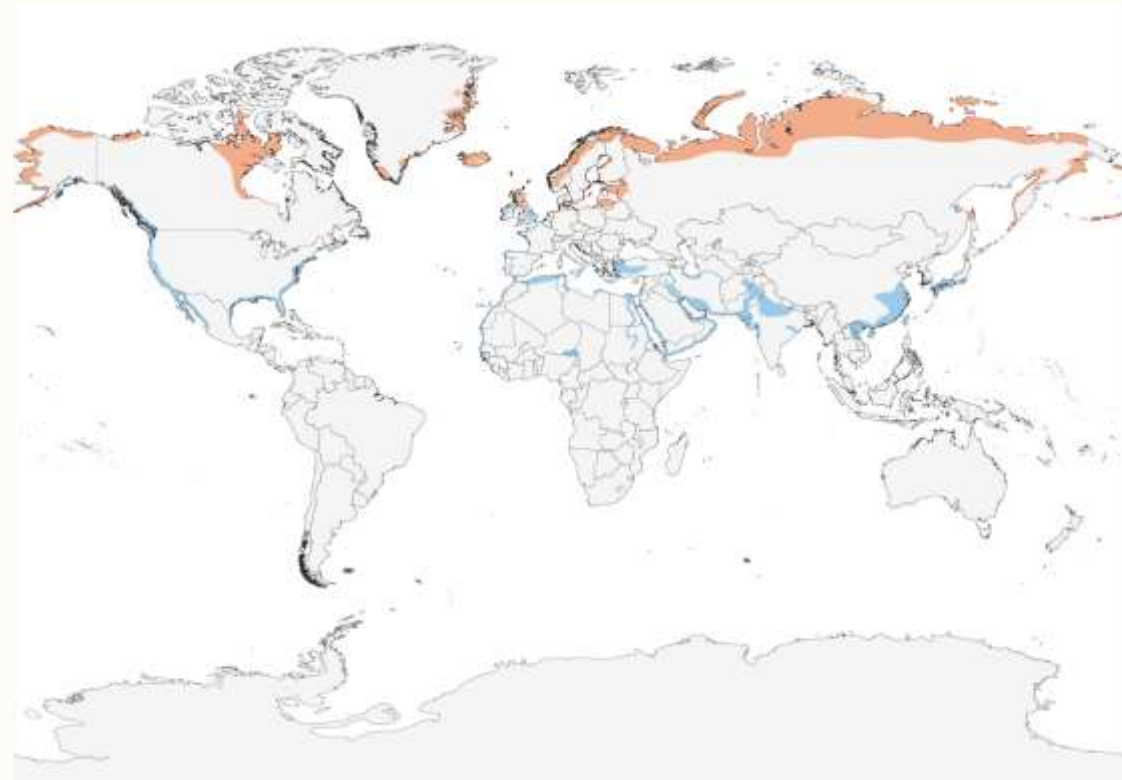
**Los Angeles Birders**

# Dunlin

## *Calidris alpina*

(Linnaeus) 1758 (in Lapponia = Lapland = arctic regions of northern Norway, northern Sweden, northern Finland, and the Kola Peninsula in northwestern Russia in Europe)

- **Breeds** in Holarctic. Ten recognized subspecies, divided into two groups, a smaller mainly European group that breeds from Greenland east to Taimyir, Siberia, Russia (three subspecies) and a larger northern Asian group from Lena River east and North America (seven subspecies).
- **Winters** primarily (mainly coastal regions and north of Equator) from West, Gulf and East Coasts, British Isles and south to West Africa, and east to Arabian Peninsula, Persian Gulf, coastal China and southern Japan.
- Common **migrant** along Pacific Coast and central Great Plains east; rare in eastern Great Basin to western Great Plains, reflecting partly the gap in breeding ranges between *pacifica* and *arctica* with eastern North American *hudsonia*.





# Dunlin

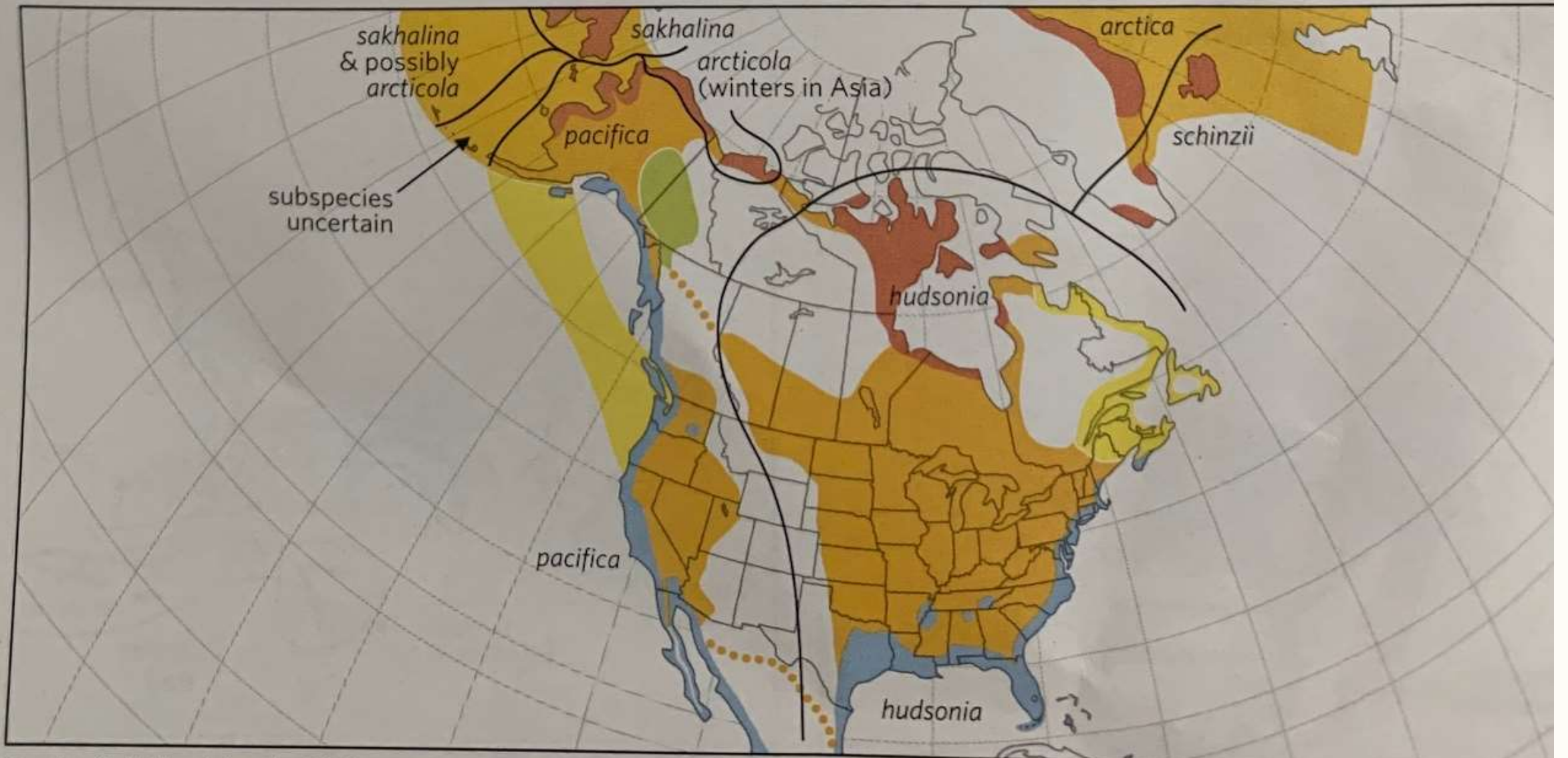
## *Calidris alpina*

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### Geographical Variation

- European birds are significantly smaller with shorter and straighter bills. They all apparently migrate to the winter grounds in western Palearctic, then molt to a dull, basic plumage.
- East Asian and North American birds are mostly larger with longer and more decurved bills and molt on, or not far, from breeding grounds, so arrive fairly late (usually not before mid-September) in lower 48 in a basic-like plumage.
- *This alone perhaps suggests two species.*





Dunlin, *Calidris alpina* (p. 140)



# Dunlin

## *Calidris alpina*

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- **European Group – *C. a. arctica*** Endemic breeder to northeast Greenland. The smallest subspecies with a quite short and rather straight bill.
- ***C. a. schinzii*** Breeds Iceland, Faroes, British Isles, Western Europe and Baltic Region; some breed southeast Greenland; this subspecies is intermediate in size between smallest *arctica* and larger *alpina*.
- ***C. a. alpina*** Breeds northern Fennoscandia, northwestern Russia and east to about Lena River, east of Taimyr. Winters western Europe and coastal Middle Eastern region.



# Dunlin

## *Calidris alpina*

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### Asian and North American Group

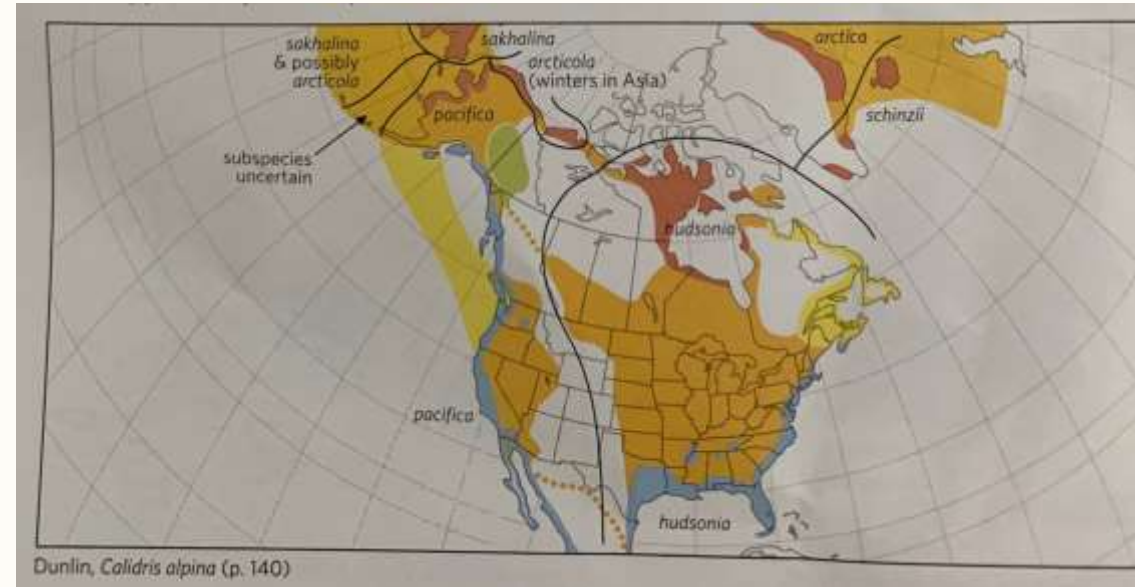
- ***C. a. centralis*** Breeds Arctic Ocean Coast between Lena River and Caunsk Bay (170 degrees east). Winters on west Pacific coast of Asia, mostly China and southern Japan.
- ***C. a. sakhalina*** Breeds in Chukotka Peninsula north of 62 degrees north and west to Chaunsk Bay, and on Wrangel Island. Regular migrant western Alaska islands.
- ***C. a. kitchinskii*** Breeds southwest Koryyak highlands, northeast coast of Sea of Ochotsk, Kamchatka, and northern Kurile Islands, all south of 62 degrees north. Described in 1986.
- ***C. a. actites*** Another small subspecies and a restricted breeder to the northern half of Sakhalin Island, Russia. This is the main breeding area for the distinctive and threatened Nordmann's Greenshank, *Tringa guttifer*. This small Dunlin subspecies was not described until 1987/1988.
- ***C. a. arctica*** Breeds in Alaska north of 65 degrees north and east to Mackenzie River delta in northwest Mackenzie (N.W.T), Canada. Winters coastal Asia.
- ***C. a. pacifica*** Breeds in Alaska south of 65 degrees north. Winters on West Coast. Migrates east to western Great Basin. The largest subspecies.
- ***C. a. hudsonia*** Breeds arctic Canada from south end of Victoria Island to northwestern James Bay, northwest Ungava Peninsula, Québec and southwest Baffin Island. Winters East and Gulf Coasts. Migrates west to central Great Plains.

# Dunlin

## *Calidris alpina*

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- Dunlin is rare from the western Great Plains to the eastern Great Basin.
- This reflects the gap where no Dunlins breed in much of western arctic Canada, and those that breed in Mackenzie to northern Alaska (*arctica*) migrate to East Asia!





# Dunlin

## *Calidris alpina*

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### Brief tips

- Often probes in the water, somewhat like a dowitcher, or a Western Sandpiper.
- In winter brownish-gray overall including across chest, somewhat appearing like a giant Least Sandpiper with a long decurved bill.



©Larry Sansone

Dunlin alt *pacifica* 0717 6May09 Ventura, CA



©Larry Sansone

Dunlins alt *pacifica* 26Apr08 Los Angeles Co., CA





Dunlin 1<sup>st</sup> basic *pacifica* 15Nov98 Ventura, CA

©Larry Sansone



Dunlin 1<sup>st</sup> basic *pacifica* 27Sept09 Ventura, CA note juv Pectoral Sandpiper in background





Dunlin alt *hudsonia* April02 Bolivar Flats, TX



©Larry Sansone



Dunlin alt *hudsonia* April02 Bolivar Flats, TX





Dunlin juv Scarborough, ME Aug 2020 H. Nelson & C. Duncan





Dunlin juv schinzii 21July2020

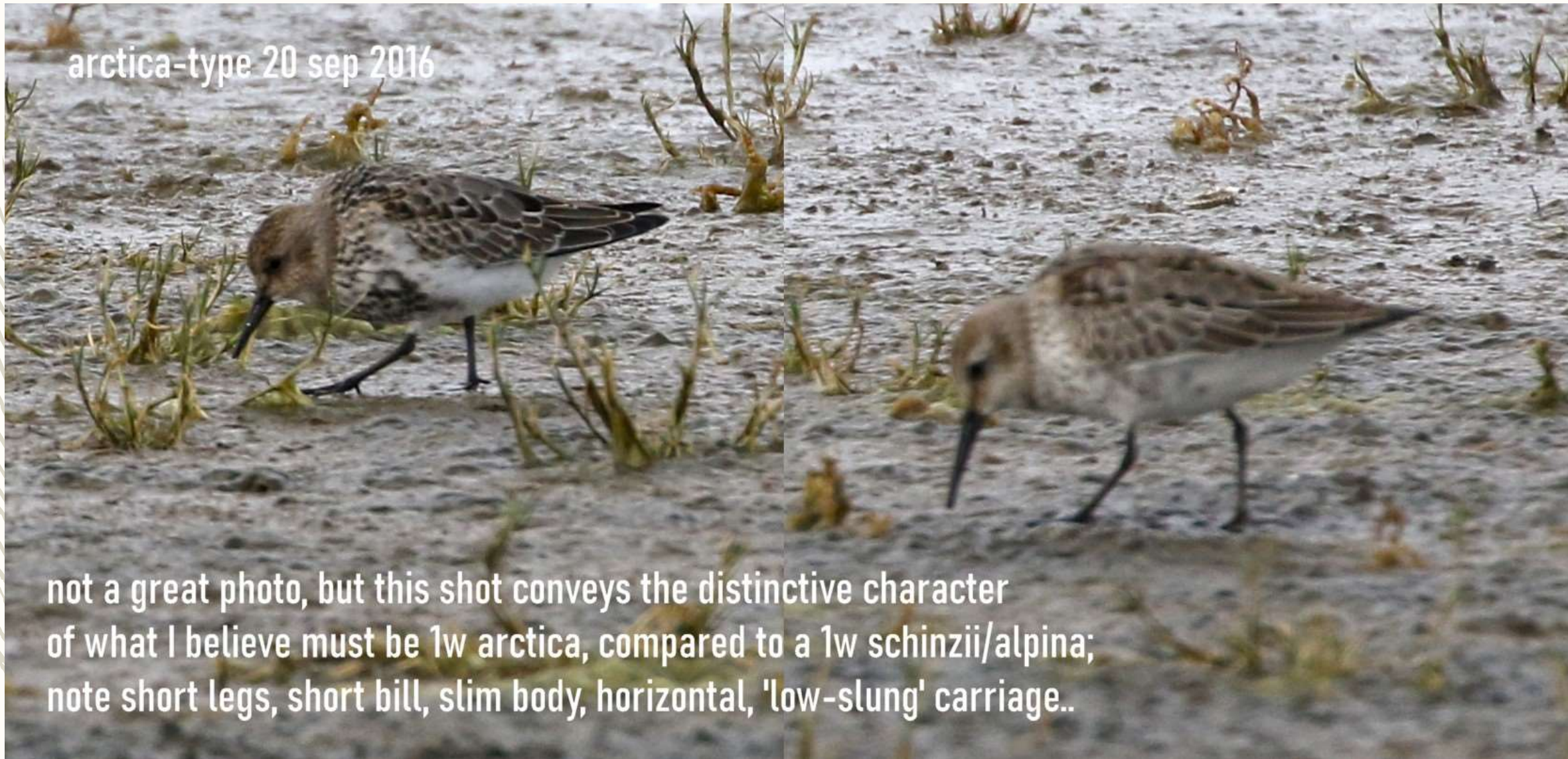


arctica 30 April 2020





arctica-type 20 sep 2016



not a great photo, but this shot conveys the distinctive character of what I believe must be 1w arctica, compared to a 1w schinzii/alpina; note short legs, short bill, slim body, horizontal, 'low-slung' carriage..

Dunlin arctic type (Left) photo and text by Killian Mullarney



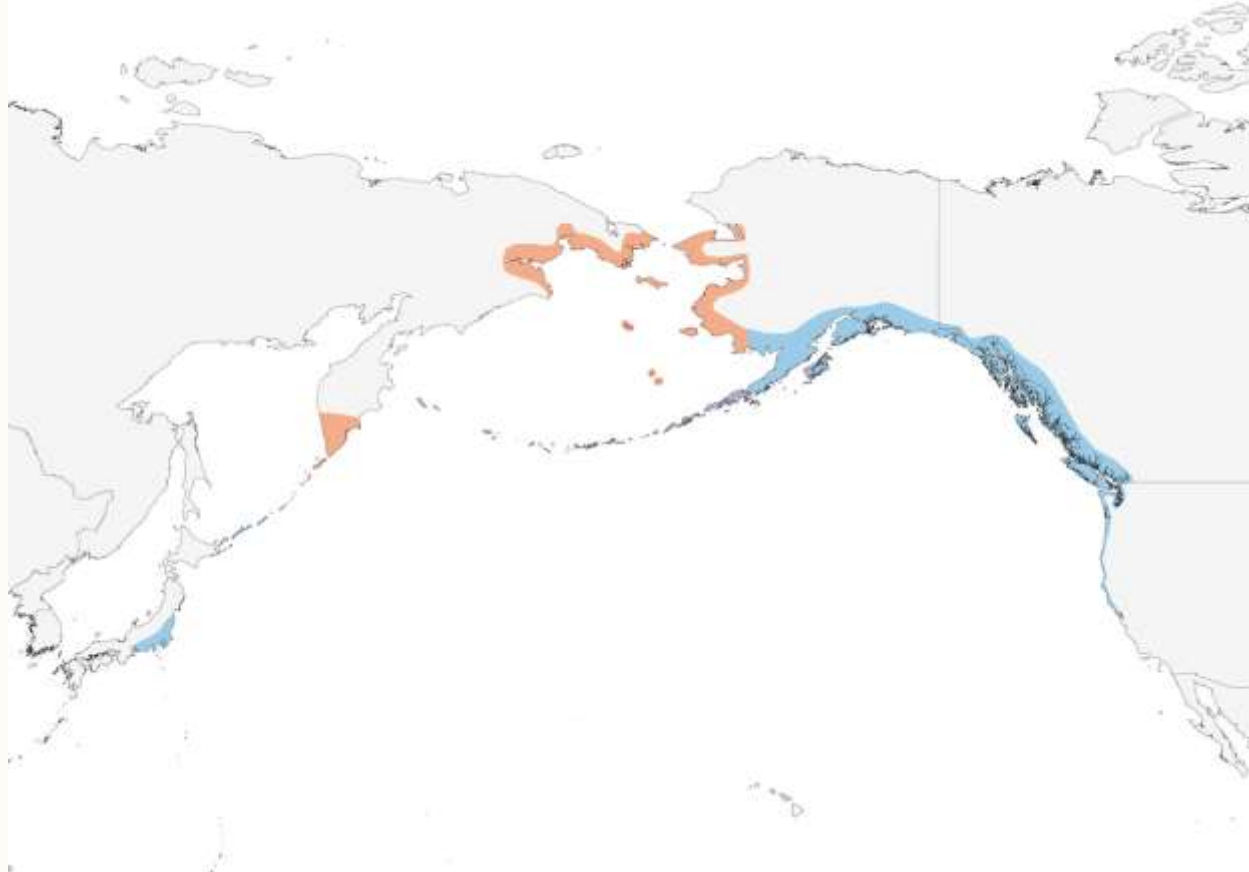


Dunlin *pacifica* flight 16 April 2016 Ventura, CA

# Rock Sandpiper

*Calidris ptilocnemis* (Coues) 1873  
St. George Island, Pribilof Islands.

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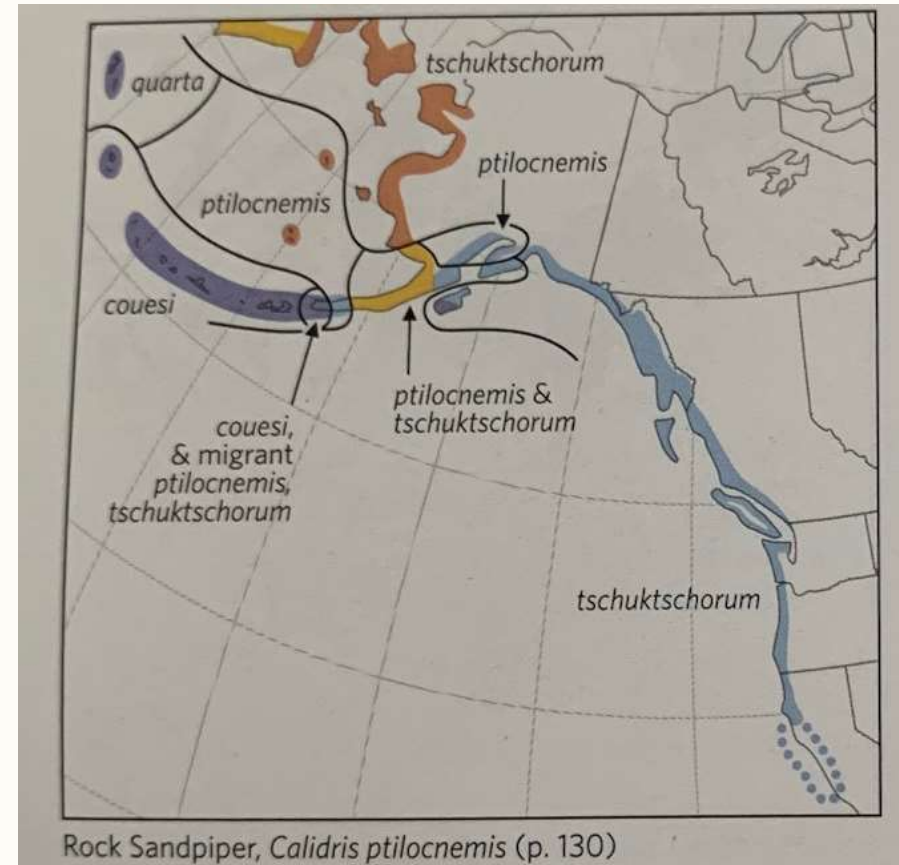


# Rock Sandpiper

## *Calidris ptilocnemis* (Coues) 1873

### St. George Island, Pribilof Islands.

- Rock Sandpipers in alternate plumage show average sexual dimorphism; males have more white around head, more black on belly. At least at Gambell it is easy to sex birds in spring.
- A polytypic species (four subspecies) that breeds around the Bering Sea and the North Pacific. The four described subspecies are:
  - ***C. p. ptilocnemis*** Breeds Pribilof Islands, St. Matthew and Hall Islands. Winters primarily on ice flows in Cook Inlet, Anchorage area. Accidental coastal Washington. The largest and palest subspecies.

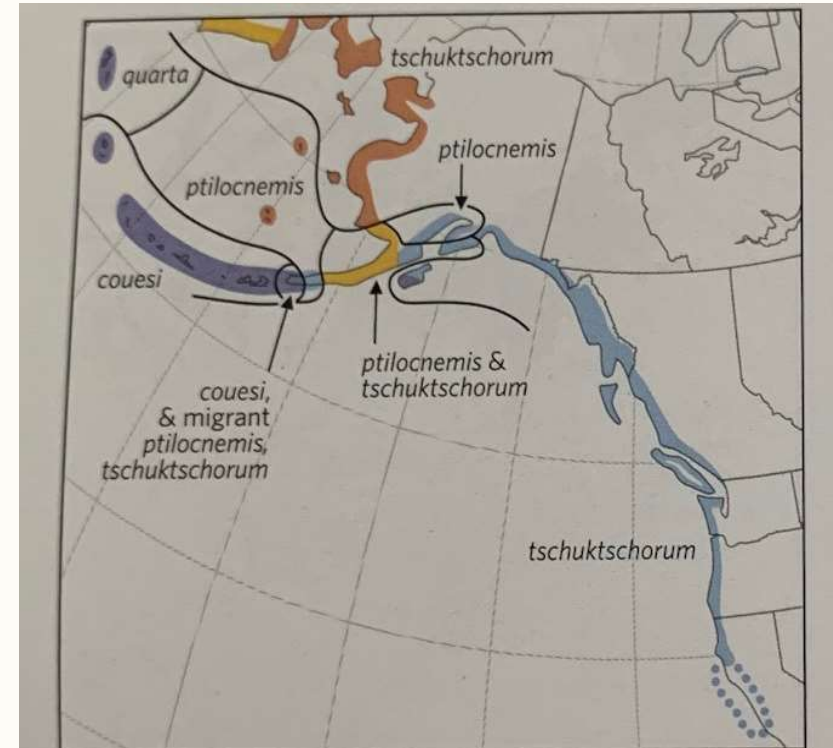


# Rock Sandpiper

## *Calidris ptilocnemis* (Coues) 1873

### St. George Island, Pribilof Islands.

- ***C. p. tschuktschorum*** Breeds coastal western Alaska from Seward Peninsula south and St. Lawrence and Nunivak Islands, and Chukotka Peninsula, Russian Far East. Winter south-coastal Alaska and south in small and diminishing numbers down West Coast, a few to coastal northern California. Casual south to Los Angeles County (Playa del Rey). A specimen (RBCM 5798) record from Atlin, British Columbia on 29 Oct 1932, is the only record away from the coast (specimen should be checked for a Purple Sandpiper).
- ***C. p. couesi*** Breeds (resident) on Aleutian Islands and western Alaska Peninsula.
- ***C. p. quarta*** Breeds on Commander Islands and northern Kurile Islands; winters northern Japan (Hokkaido). Casual (2 specimens) from Shemya Island, western Aleutians.



Rock Sandpiper, *Calidris ptilocnemis* (p. 130)



# Rock Sandpiper

*Calidris ptilocnemis* (Coues) 1873  
St. George Island, Pribilof Islands.

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## Brief tips

- In basic (winter) plumage may not be separable with certainty from Purple Sandpiper. The few that winter along the California Coast are nearly invariably mixed with Surfbirds and Black Turnstones.



©Larry Sansone

Rock Sandpiper juv subspecies, *tshuktschorum* 27Aug06  
Gambell, AK



Rock Sandpiper (*ptilocnemis*) worn alt female 20July04 St Paul AK





Rock Sandpiper (*ptilocnemis*) worn alt female; note primary molt 20July04 St Paul AK

©Larry Sansone



Rock Sandpiper 1st basic 23Nov06 Los Angeles, CA







Rock Sandpiper 1st basic 24Nov06 Los Angeles, CA



©Larry Sansone



Rock Sandpiper juv *tschuktschorum* 27Aug06 Gambell, AK







Rock Sandpiper *tschuktschorum* alt male from Gambell, St. Lawrence Island, AK on 31 May 2019. JLD





Rock Sandpiper *tschuktschorum* alt male from  
Gambell, St. Lawrence Island, AK on 31 May 2019.  
*JLD*



Dunlin alt *pacifica* 0717 6May09 Ventura, CA





Rock Sandpiper *tschuktschorum* alt female from Gambell, St. Lawrence Island, AK on 31 May 2019. JLD

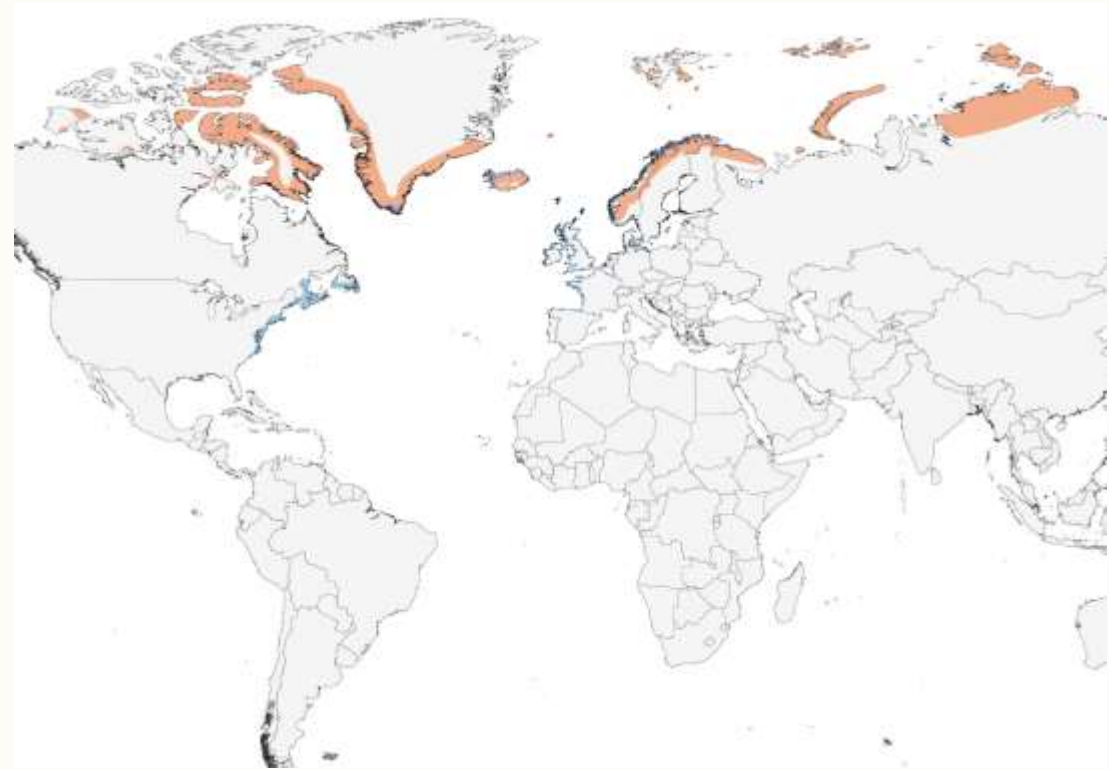
# Purple Sandpiper

*Calidris maritima*

(Brünnich) 1764 (E Christiansöe & Norvegia =  
Christiansöe, Denmark)

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- **Breeds** northern portion and eastern shore of Hudson Bay, arctic Canada, Iceland, Svalbard, and to Taimyr Peninsula, Siberia, Russia.
- **Winters** East Coast and northwest Europe. Rare to uncommon migrant Great Lakes.
- Casual elsewhere in the interior to Montana and Utah and on Gulf Coast in winter.
- Accidental California, one discovered wintering on the east shore of the Salton Sea on 25 Mar 2016 (Salt Creek), Riverside County, was last seen 17 April, then seen again eight days later on 25 April at Pt. Reyes (photos confirmed same bird involved)!





# Purple Sandpiper

*Calidris maritima*

(Brünnich) 1764 (E Christiansöe & Norvegia =  
Christiansöe, Denmark)

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## Brief tips

- Habits and rocky habitats much like its close relative, Rock Sandpiper.
- In basic (winter) plumage, based on current knowledge, not separable with certainty from that species.



Purple Sandpiper c 28Apr96 Port Aransas, TX



Purple Sandpiper first basic 29Nov96 OH J.L. Dunn





Purple Sandpiper 27 March 2016 Riverside County, CA



Purple Sandpiper 27 March 2016 Riverside County, CA





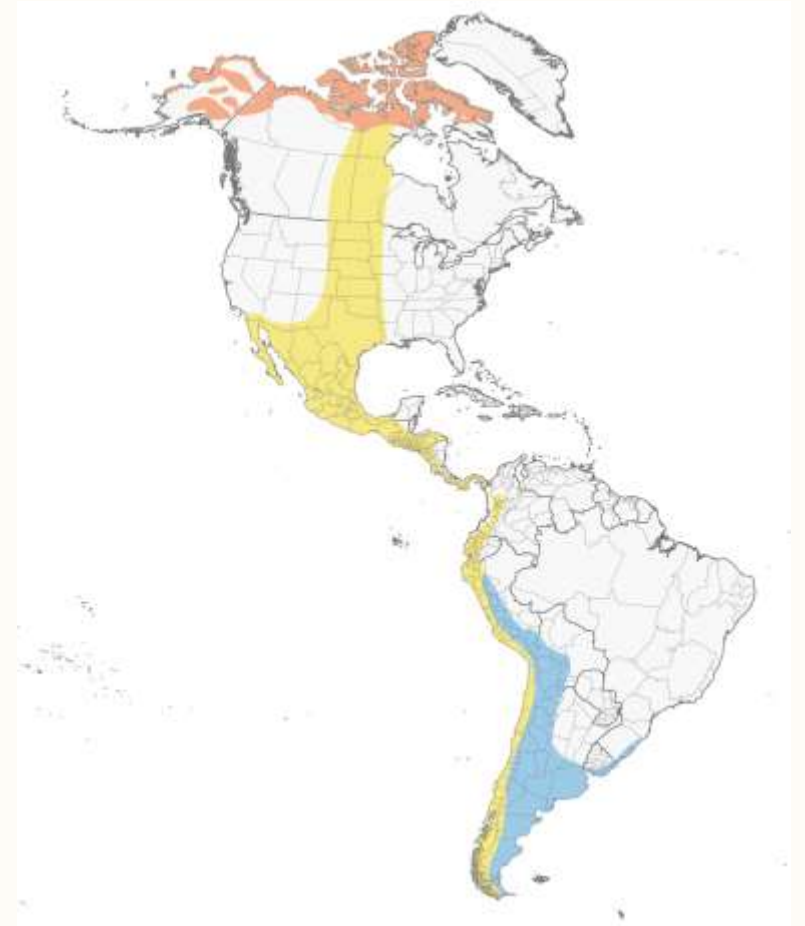
Purple Sandpiper 27 March 2016 Riverside County, CA

# Baird's Sandpiper

*Calidris bairdii* (Coues) 1861 Fort Resolution,  
Great Slave Lake, Mackenzie, Canada

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- **Breeds** western and northern Alaska across arctic Canada to northwest Greenland; also Chukotka and Wrangel Island, Russian Far East, Russia. **Winters** western, including Andes, and southern South America. Most (?) winter inland Patagonia.
- **Migrates** mainly through Great Plains. Smaller numbers of juveniles west and east to both coasts. Adults are rarely observed outside of main Great Plains flyway. Rare to uncommon in California, primarily August-September. Counts at Owens Lake, Inyo County in fall have neared or exceeded 100. Sewage treatment plants are favored locations.





# Baird's Sandpiper

*Calidris bairdii* (Coues) 1861 Fort Resolution,  
Great Slave Lake, Mackenzie, Canada

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## Brief tips

- Colored like Least, but larger and with long wings (distinct primary projection past tertials, and wings extend well beyond tail) and horizontal feeding posture.
- Juveniles show pale fringes above giving scaly appearance.
- Hard, rough call is distinctive.



©Larry Sansone

Baird's Sandpiper worn alt adult 3354 20July13 Owens Lake, Inyo Co., CA



©Larry Sansone

Baird's Sandpiper juv 10Sept11 Ventura, CA





Baird's Sandpiper juv 13Sep97 Santa Barbara, CA



Baird's Sandpiper juv 22August2020 California



# Least Sandpiper

*Calidris minutilla* (Vieillot) 1819 (Amérique jusqu' au delá du Canada = Halifax, Nova Scotia)

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- **Breeds** in arctic areas of North America, but farther south than other *Calidris*, so often in bogs within forested regions; also nests on Pribilof Islands.
- **Winters** southern USA to central South America. Our hardiest winter *Calidris*, often wintering, or attempting to winter from cold interior regions.
- **Migrates** throughout North America.



# Least Sandpiper

*Calidris minutilla* (Vieillot) 1819 (Amérique jusqu' au delá du Canada = Halifax, Nova Scotia)

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## Brief tips

- Our smallest sandpiper. Sometimes English names are well chosen! From Western darker in all plumage with strongly washed and somewhat to strongly patterned breast.
- Bill short, thin, and slightly decurved. From Long-toed Stint, pale supercilium extends to base of bill and usually across forehead.
- Call higher pitched, less scratchy than Western, much higher than Semipalmated Sandpiper.
- No primary projection and wing tips do not extend past tail, unlike Baird's, which it often is confused with by overly hopeful observers.
- **Forget relying on leg color!**



©Larry Sansone

Least Sandpiper worn alt adult 6099 12July14 Ventura, CA





©Larry Sansone

Least Sandpiper worn alt adult 12July14 Ventura, CA





©Larry Sansone

Least Sandpiper worn alt adult 23July12 Ventura, CA





Least Sandpiper worn alt adult 12Aug12 Ventura, CA





Least Sandpiper juv 02Aug89 ME JLD



©Larry Sansone



Least Sandpiper molting juv 9Sept10 Ventura, CA





Least Sandpiper juv Nov84 San Francisco, CA Alan Hopkins





Least Sandpiper juv 9Sept10 Ventura, CA



Long-toed Stint juv fall 1982 Saltholme Pools, Cleveland County Durham, UK photographer ?



Least Sandpiper basic 12 Nov79 Ventura Co., CA





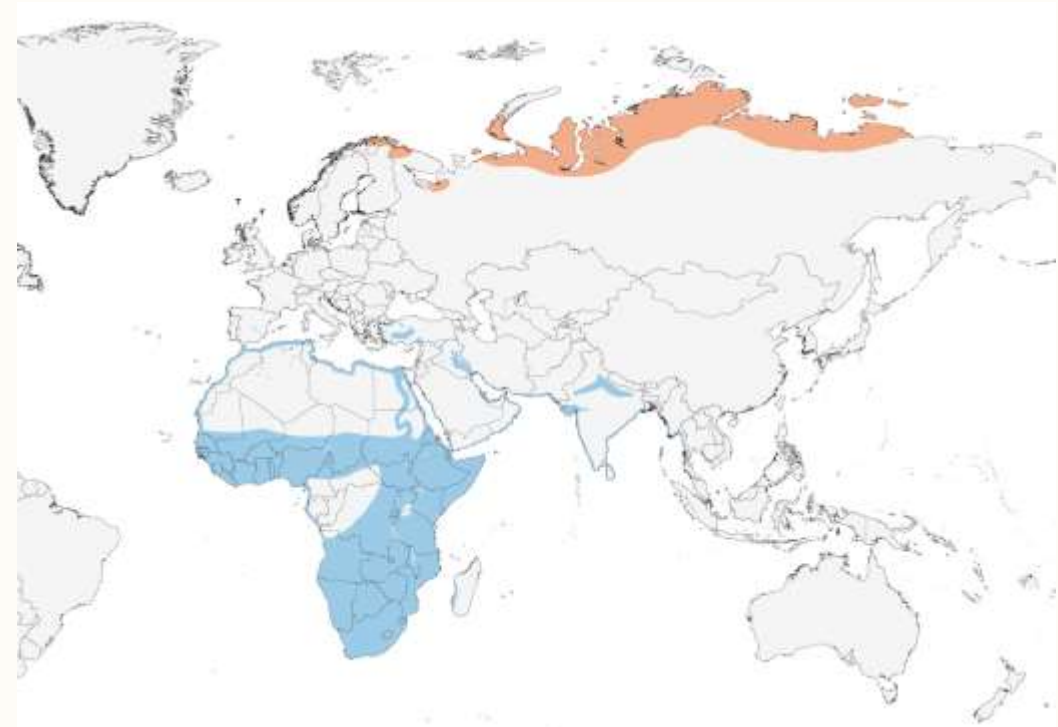
Least Sandpiper fresh alt Owens Lake on 18 April 2020 JLD

# Little Stint

*Calidris minuta* (Leisler) 1812 Region of Hanau am Main, Germany

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- **Breeds** from Scandinavia and much of arctic Russian Arctic Coast. Attempted breeding this year (2020) at Utqiaqvik (Barrow), Alaska.
- Most **winter** in Africa, south of the Sahara and east to Indian Subcontinent. Some winter in southern Europe, a very few in Southeast Asia.
- Very rare to casual across North America. The majority of records are in fall. Annual now in California (as likely as Red-necked Stint) with late fall, even winter (San Diego) records.





# Little Stint

*Calidris minuta* (Leisler) 1812 Region of Hanau  
am Main, Germany

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## Brief tips

- Breeding and juvenal plumage quite colorful above.
- All plumages show distinct split supercilium.
- For juveniles tertials and secondary coverts key from separation of Red-necked Stint.



Little Stint juv Sept83 Attu, AK, Gerald Maisel

©Larry Sansone



Little Stint alt 22 April18 Lesvos, Greece







Little Stint alt 23May91 Attu, AK, Monte Taylor



©Larry Sansone



Red-necked Stint alt 21July13 Los Angeles Co., CA







Little Stint full alternate adult 24July11 Edwards AFB CA



©Larry Sansone

Little Stint ad alt beginning to molt 30Aug09 Owens Lake, Inyo Co., CA





Little Stint juv Sept83 Attu, AK, Gerald Maisel



Red-necked Stint juv 13Sept83 Osaka, Japan, T. Shiota

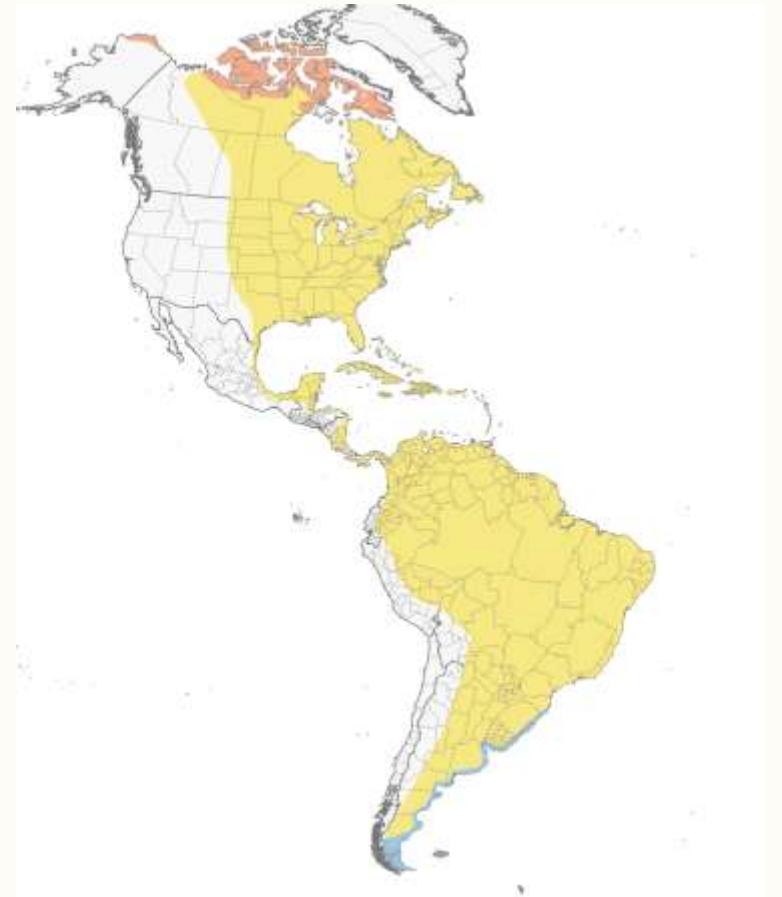


# White-rumped Sandpiper

## *Calidris fuscicollis* (Vieillot) 1819 Paraguay

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- **Breeds** in high arctic of Canada east to Baffin Island; a few west to northern Alaska.
- **Winters** in southern south America east of Andes.
- **Migrates** through eastern half of North America. In spring most up through Midwest, west to Central Great Plains. Very late spring migrant. None on Gulf Coast before mid-April (my earliest on Gulf Coast was 17 April). Still migrating in spring in late June!
- In fall migrates from eastern Midwest to and off Atlantic Coast. Adults arrive August, juveniles late September. Very rare on Great Plains in fall (all recorded seem to be adults, but more research needed). Small numbers in spring west to Rocky Mt. region.
- Casual in California, the great majority of records from late spring (mid, mostly late May to mid-June); a half dozen or so fall records of adults.



# White-rumped Sandpiper

## *Calidris fuscicollis* (Vieillot) 1819 Paraguay

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### Brief tips

- Size and shape like Baird's wing long wing tip projection past tail and primary projection past tertials, typical of those shorebirds that migrate to southern South America.
- Grayer (less brownish) than Baird's.
- White rump is concealed when feeding and usually at rest.
- Call is very high pitched, totally unlike Baird's.



White-rumped Sandpiper alt ad 16June78 T. Davis





White-rumped Sandpiper alt 24Apr96 Anahuac NWR, TX



White-rumped Sandpiper alt beginning molt 8May05 Tamaulipas, MX





White-rumped Sandpiper worn alt 17Aug80 Edwards AFB, CA



White-rumped Sandpiper ad basic OH late Sept





White-rumped Sandpiper juv (late Sept East Coast)



Baird's Sandpiper juv 22August2020 California

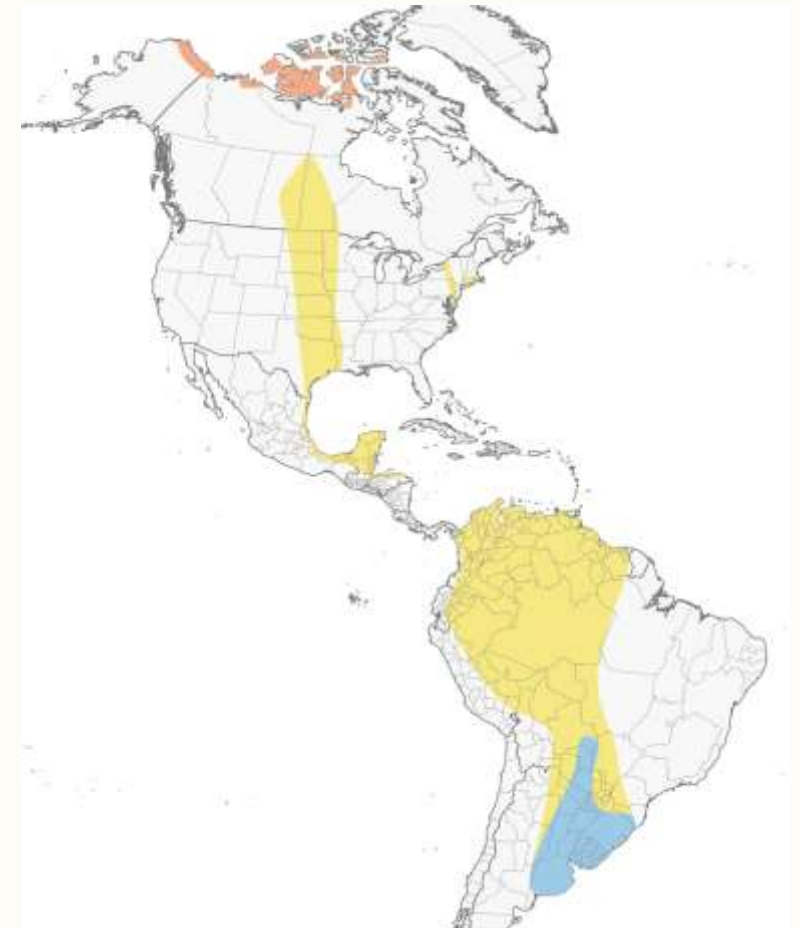


# Buff-breasted Sandpiper

*Calidris subruficollis* (Vieillot) 1819 Type by original designation, *Tringa rufescens* Vieillot = *Tringa subruficollis* Vieillot Paraguay

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- Formerly (until 2020) placed in its own genus, *Tryngites*.
- **Breeds** arctic Canada west of Hudson Bay to northern Alaska, and locally along Arctic Coast of Chukotka, Russian Far East.
- **Winters** in the pampas region of Argentina.
- **Migrates** mainly through central Great Plains. Juveniles in fall move south on a broader front with small numbers to Atlantic Coast, and rarely down West Coast (casual in interior of West).



# Buff-breasted Sandpiper

*Calidris subruficollis* (Vieillot) 1819 Type by original designation, *Tringa rufescens* Vieillot = *Tringa subruficollis* Vieillot Paraguay

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- Large dark eye stands out on blank buffy face; buffy and largely unmarked below.
- Long wings.
- Adults form leks on breeding grounds. Males extend and wave wings in display showing flashy white underwing with dark crescent. Some males with spring migrant flocks in April and early May are often seen practicing their display.
- Juveniles are scaly above.



Buff-breasted Sandpiper juv 3794 4Sept06 Gambell, AK





Buff-breasted Sandpiper in flight <https://www.youtube.com/watch?v=FOlhMgt9-Qc>

©Larry Sansone



Buff-breasted Sandpiper juv 10Sep95 Saticoy CA







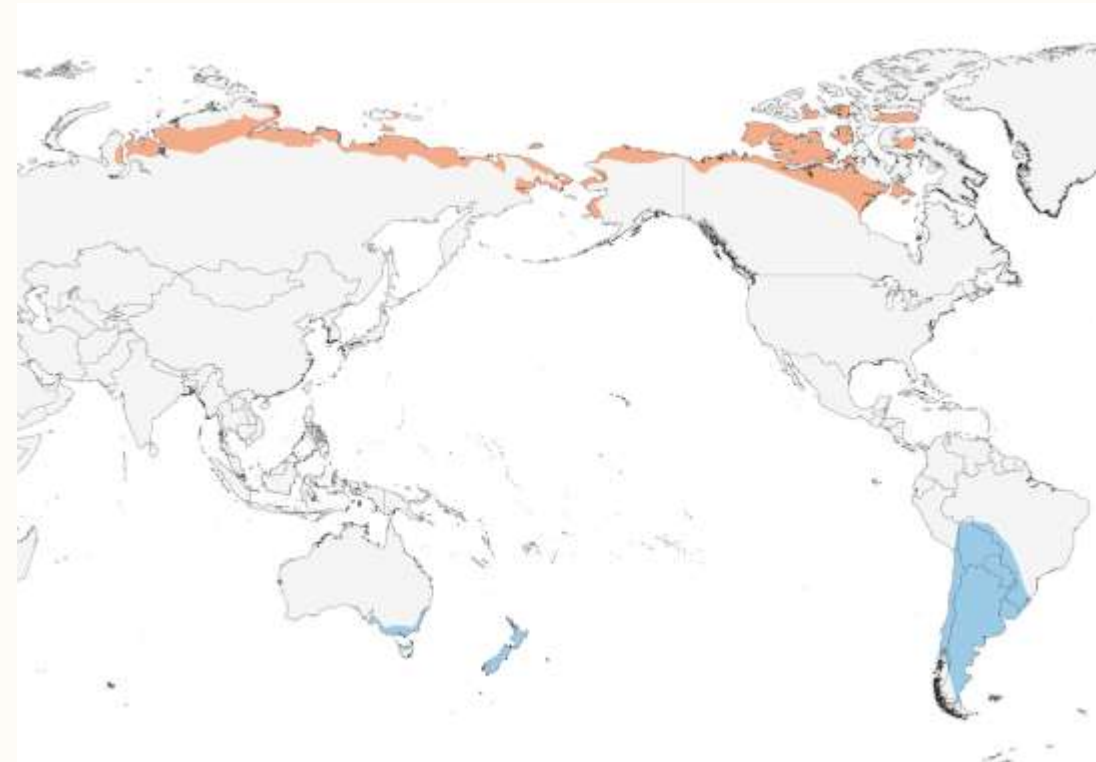
Buff-breasted Sandpiper juv 10Sep95 Saticoy CA

# Pectoral Sandpiper

*Calidris melanotos* (Vieillot) 1819 Paraguay

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- **Breeds** arctic Canada, east to Devon Island and northern Baffin Island, west to northern and northwestern Alaska, also west at least 2500 miles to Taimyr, Siberia, Russia.
- **Winters** southern South America. A few winter southern Australia. For those that breed west to Siberia, they are likely the most migratory birds in the World, given the journey to and from southern South America.
- Most **Migrate** through Midwest. This is an early spring migrant (by March). Adults are seen in fall by early July. Juveniles (first arrivals late August) are regular to East and West Coast, during peak from late September to mid-October, can almost be locally fairly common in CA with a few high double-digit counts.





# Pectoral Sandpiper

*Calidris melanotos* (Vieillot) 1819 Paraguay

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## Brief tips

- Like Ruff, males distinctly larger than females. Strongly streaked neck and breast distinctive in all plumages.
- Juveniles are more streaked above, not scaled like juvenile Baird's.
- Much larger than any of our small peeps.
- Main separation in fall is from Baird's and from the much rarer Sharp-tailed Sandpiper.
- Distinctive call is low pitched, like Baird's, but is richer in quality.



©Larry Sansone

Pectoral Sandpiper worn alt ad 7598 2Aug14 Edwards AFB, CA





Pectoral Sandpiper 20April13 Edwards AFB, CA





Pectoral Sandpiper juv 27Sept09 Ventura, CA



Sharp-tailed Sandpiper juv 25Sept12 Ventura, CA



Pectoral Sandpiper juv 27Sept09 Ventura, CA



©Larry Sansone



Pectoral Sandpiper juv feeding 27Sept09 Ventura, CA







Pectoral Sandpiper juv (darker than normal) 5Sept11 Ventura, CA





©Larry Sansone

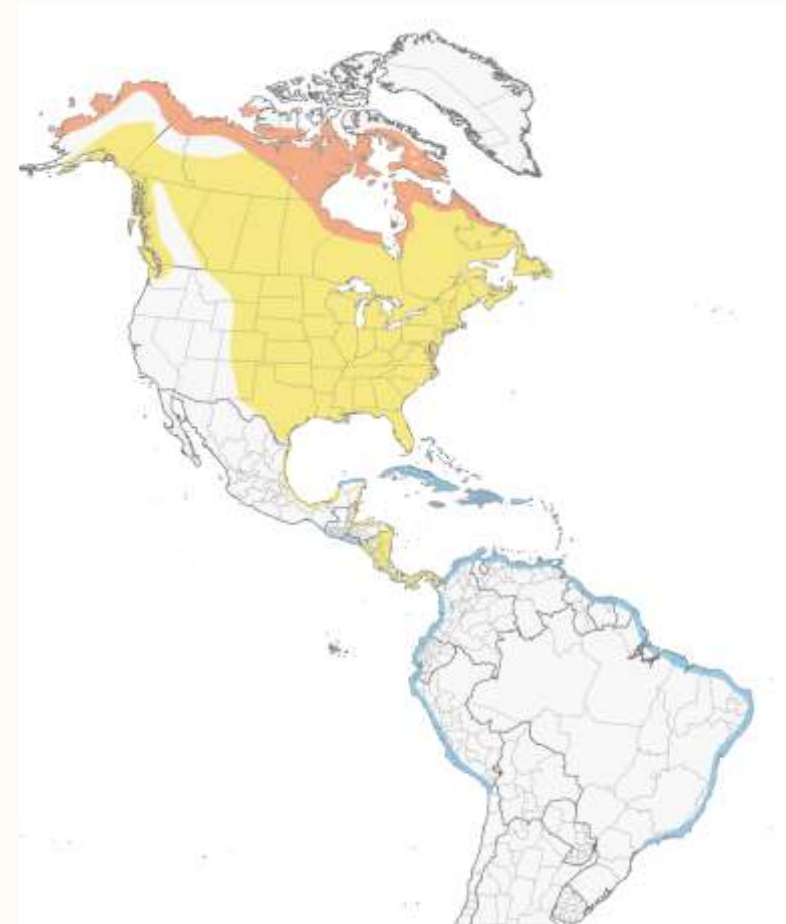
Pectoral Sandpiper juv in flt 5Sept13 Ventura, CA

# Semipalmated Sandpiper

*Calidris pusilla* (Linnaeus) 1766 (in Domingo = Hispaniola)

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- **Breeds** western Alaska to Baffin Island and Labrador.
- **Winters** Middle America to central South America; some to West Indies, a very few in South Florida.
- **Migrates** Common migrant, mostly through eastern 3/5 of North America. Common west to Rocky Mountains. Rare in Pacific States, mostly juveniles in fall from late July to late August (peak middle third of August, sometimes earlier); very rare in spring, mostly May.
- **Geographical Variation** Treated as monotypic, but bills increase in length from west to east. Males have shorter bills than females, thus a male from western Alaska has a very short and stubby bill, while a long-billed female from eastern Canada will appear long billed, more like Western Sandpiper (but bill straight). West Coast birds mostly look stubby billed.





# Semipalmated Sandpiper

*Calidris pusilla* (Linnaeus) 1766 (in Domingo = Hispaniola)

## Brief tips

- Bill shape is always the best field mark (short, thick and tubular bill with no decurvature).
- Juveniles have dark face and lores area (paler in Western) which accentuates pale supercilium).
- Overall looks somewhat plump with a small rounded head. Picks more, less probing, than Western (average feeding behavior) and feeds at the edge of the water/mud, not back from the water more like Least, or out in the water like Western, but lots of overlap.
- Gives short, low-pitched, call.



Semipalmated Sandpiper ad alt 19Apr02 TX



Semipalmated Sandpiper bright juv 6Aug11 Ventura, CA





Semipalmated Sandpiper juv 11Aug14 Ventura, CA



Semipalmated Sandpiper juv 09Aug15 Ventura, CA





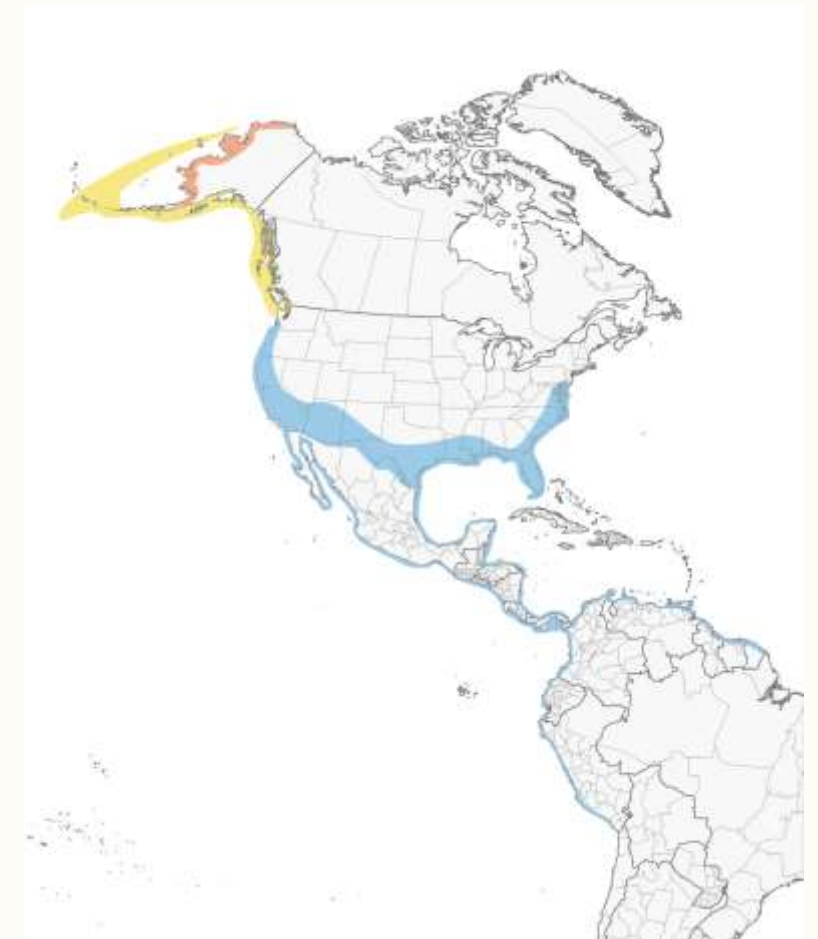
Semipalmated Sandpiper juv 4Sept79 Ventura Co., CA

# Western Sandpiper

## *Calidris mauri* (Cabanis) 1857 Cuba

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- **Breeds** northern and western Alaska; also Chukotka, Russian Far East.
- **Winters** West, East and Gulf Coasts, West Indies, and North and Northwest South America. Unlike Least generally does not winter inland, except at places like Salton Sea. Some also at Owens Lake and a few in San Joaquin Valley, Kings County.
- **Migrates** Common to abundant migrant (mid-March to mid-May in West. Also in East, but scarcer, except on coasts. Casual in upper Midwest.





# Western Sandpiper

## *Calidris mauri* (Cabanis) 1857 Cuba

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### Brief tips

- Bill shape always the best feature. Rather (males) to very (females) long bill with slight to moderate decurvature. Bill thins near tip, less tubular like Semipalmated. Coloration on upperparts distinctive for breeding adults and juveniles.
- Extensive arrow marked on underparts distinctive on breeding birds. Paler coloration (including whitish breast and gray above) best field mark in winter (basic) plumage from much darker and browner Least.



©Larry Sansone  
Western Sandpiper worn alt ad 6223 12July14 Ventura, CA

# Western Sandpiper

## *Calidris mauri* (Cabanis) 1857 Cuba

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### Brief tips

- Don't bother with leg color!
- Western and Semipalmated have foot palmations, unlike the other five stints/peeps. Despite Westerns being much more abundant than Semipalmated, first juveniles in late July could well be Semipalmated Sandpiper.
- Juvenile Westerns arrive in large numbers by the end of the first week of August.
- Call, harsher, scratchier than Least, higher-pitched than Semipalmated.



Western Sandpiper worn alt ad 6223 12July14 Ventura, CA





Western Sandpiper ad alt 19Apr02 TX



Semipalmated Sandpiper ad alt 19Apr02 TX



©Larry Sansone

Western Sandpiper juv 6Aug11 Ventura, CA





Western Sandpiper juv 03Sept14 Ventura, CA



Semipalmated Sandpiper juv 09Aug15 Ventura, CA



©Larry Sansone

Western Sandpiper first basic with Least Sandpiper 29Sept09 Ventura, CA





Western and Least Sandpipers basic



Western Sandpiper Owens Lake on 18 April 2020 JLD





Western Sandpiper - note foot webbing -Owens Lake 18 April 2020 JLD



Least (2) and Western Sandpiper Owens Lake 18 April 2020 JLD



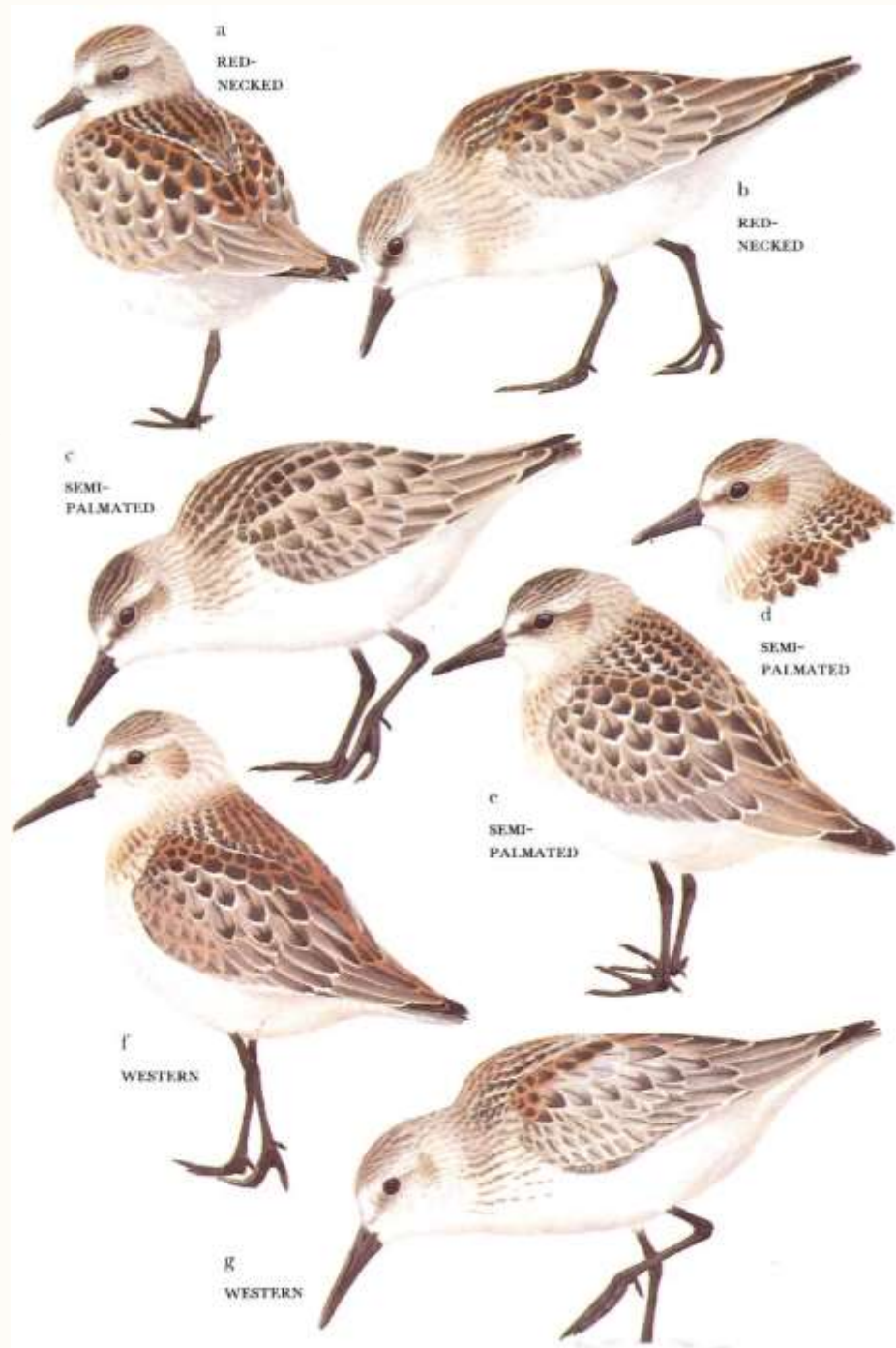


Larry Sansone, photographer



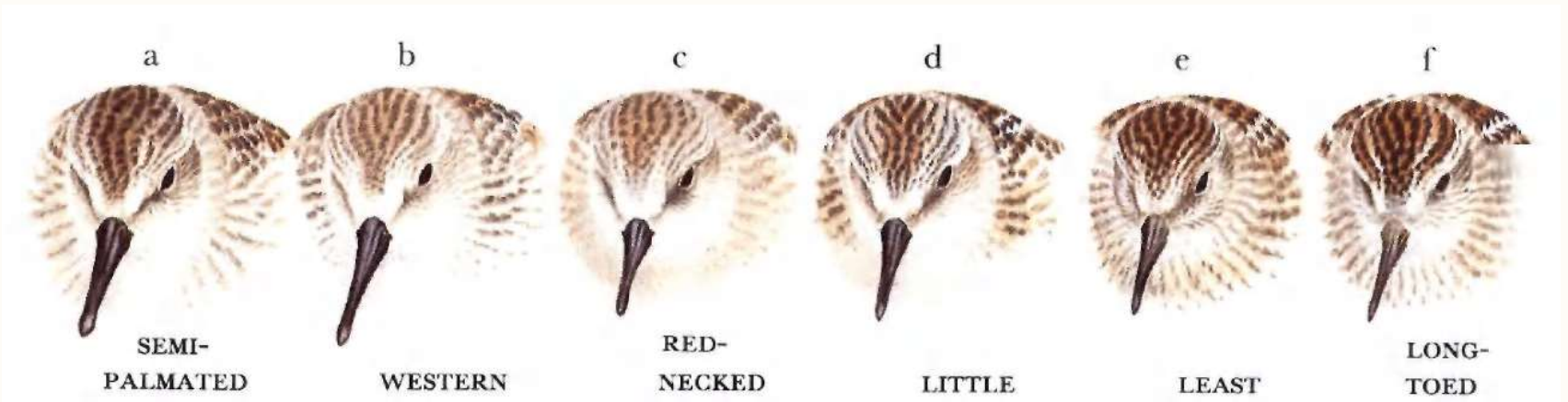
Lars Jonsson June 84 Gambell, AK J.L. Dunn





**Art by Lars Jonsson**

# Six of the Seven Deadly Stints Who's missing?



Art by Lars Jonsson



# Feathers from rear of upper row of lower scapulars of juvenile stints

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**Art by Lars Jonsson**

# Thank you!

- 
- Jonathan Alderfer
  - Louis Bevier
  - Killian Mullarney
  - National Geographic Birds of North America
  - Birds of the World
    - <https://birdsoftheworld.org/bow/home>







# References

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- Grant, P.J., and L. Jonsson. 1984. Identification of stints and peeps. British Birds 76:293-315. **One of the best identification articles ever written!**
- Hayman, P., J. Marchant, and T. Prater. 1986. Shorebirds, an identification guide. Houghton Mifflin Company. **The best overall reference on shorebirds.**
- O'Brien, M, R. Crossley, and K. Karlson. 2006. the Shorebird Guide. Houghton Mifflin Company. **An excellent reference for photos of shorebirds.**
- Paulson, D. 1993. Shorebirds of the Pacific Northwest. University of Washington Press.



# Thank you, Jon

– *Please, type your questions into the Q and A*