Featured Photo

Use of Environmental Context in Bird Identification

Many sandpipers are microhabitat specialists, but what do they do when their favored haunts are literally washed over by ocean waves?

It doesn't take long for beginning birders to start applying environmental context, including habitat, to successful bird identification. Certain assumptions are rather, shall we say, certain. That mixed passerine flock moving through the treetops is not going to include a Sedge Wren or a Baird's Sparrow, the bird scrounging on the ground under the blackberry thicket will not be an Eastern Kingbird or a White-throated Swift, and the bird at your seed feeder in winter will not be a Black-vented Shearwater.

But sometimes birds can be somewhat out of their habitat or environmental element. Extreme weather or fire events, for example, can result in American Flamingos along wooded riverbeds or White-headed Woodpeckers in backyard gardens. These are easy identifications. Vagrants such as Connecticut Warblers and Veeries can be walking or hopping, respectively, around on exposed rocks on the barren Farallon Islands, or taking refuge in marine-sculpted caves. Spring Cerulean Warblers and Scarlet Tanagers can be foraging for sand flies on Texas or Ontario beaches after long over-water flights. And then there are the subtle cases involving more difficult identifications. We think of Marsh Wrens as keeping to their eponymous marshes, but around my home in Mendocino Co., California, they confoundingly breed and winter in dry upland scrub and grasslands, inviting confusion with Northern House Wrens during a typically obscured view. Also, there are the instances in which context has a fuzzy or probabilistic element to it: On the West Coast, *most* wintering scaup, dowitchers, and small *Podiceps* grebes in freshwater environments are Lessers, Long-billeds, and Eareds, respectively, whereas *most* found in estuarine environments are Greaters, Short-billeds, and Horneds, respectively; but exceptions occur, even on the wintering grounds, and especially during migration.

The bottom line: Environmental context and habitat can be very useful in bird identification, but caution is sometimes warranted.

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Our featured photo is of a shorebird in California on Nov. 1. The habitat appears to be the edge of a mudflat, perhaps in the Central Valley or at a Southern California coastal lagoon. To ID this bird, let's start with some shorebird families. It's certainly not a stilt or avocet (family Recurvirostridae) or oystercatcher (Haematopodidae), and the plover family Charadriidae is ruled out by this bird's streaked flanks, complexly patterned upperparts, and compact body shape. So it's a sandpiper, family Scolopacidae. Within that diverse family, we have many genera to sort through, but most can quickly be eliminated. The distinctive genera *Numenius* (curlews and godwits), *Gallinago* (snipes), and *Limnodromus* (dowitchers) are ruled out by gross plumage pattern alone. The legs are too short for anything in the speciose genus *Tringa*. What about a Spotted Sandpiper, genus *Actitis*? The microhabitat is plausible, but several things are not right for this species: The bird is too plump and the upperparts are darker gray and too marked up with dusky feather centers and covert fringing. The rounded posture recalls genus *Arenaria* (turnstones), but neither Black Turnstone nor Ruddy Turnstone shows dark gray upperparts like this. So this leaves *Calidris*, the genus in which our subject bird belongs.

Of the most likely *Calidris* sandpipers in California, we can start by eliminating Sanderling, Least Sandpiper, and Western Sandpiper. Those have fairly

● **Featured Photo—"Northern" Rock Sandpiper, *Calidris ptilocnemis tschuktschorum*, in basic (winter/nonbreeding) plumage. *Ten-mile Beach, Mendocino Co., California; Nov. 1, 2024. Photo by © Peter Pyle.*** Shorebirds in winter are hard enough. Small sandpipers in the speciose genus *Calidris* can be especially vexing. And one walking directly away from us—sheesh. But all is not lost! There are many clues in this photo, actually. In this installment of the *Birding* Featured Photo, we consider the feathers and bare parts on this bird, as well as the environmental and climatological contexts of the sighting.

uniform backs in winter, paler grayish or brownish than our bird, and with fine scaling that helps them blend in with sandy beaches or otherwise monotone, muddy backgrounds. The bird also seems a bit large and plump for a small peep, so what about Dunlin or Red Knot? Both of these can have darker gray backs and show fringed wing coverts like this. But, what is the first thing we usually turn to when encountering a *Calidris* sandpiper? Leg color! And here it appears dull yellowish, eliminating the Dunlin and, for the dreamers among us, the Curlew Sandpiper. The Red Knot in nonbreeding plumage often shows dull yellow-green legs, but not as yellow as this; also, the knot's wing-covert fringing is more uniform, less dramatic than here. Among other yellow-legged *Calidris* sandpipers, the back of our bird is too grayish for Pectoral, Sharp-tailed, Buff-breasted, and Stilt sandpipers, casual or accidental at this time of year in California.

● **The Big Picture: Environmental Context.** The author has started to upload to eBird photos with dramatic waves, lunging whales, etc., noting that that the Macaulay Library seems to at least accept, if not encourage, artistic creativeness, humor, and other hokey or overdramatic images as long as there is a correctly identified bird somewhere in the photo—and, even in certain cases no bird, such as those showing habitats or nests. After all, these sorts of photos provide important environmental context. In these images, large waves off Ten-Mile Beach, Mendocino Co., California, on Nov. 1, 2024—much larger than any tsunami-driven waves that occurred here following a magnitude 7.0 earthquake 35 days later and just 80 miles to the northwest—completely inundated the coastal rocks, forcing rocky-intertidal shorebirds to nearby beaches, where they had to continue to contend with rogue waves. Flying among the waves, clockwise from top left, are a Surf Scoter (adult male), two Brown Pelicans (adult and second-calendar-year bird), a Short-billed Gull (adult), and a California Gull (adult). See the complete eBird checklist at ebird.org/checklist/S201053216. *Photos by © Peter Pyle.*

Surfbird! We tend to forget about this species when considering *Calidris*. The plump body, the yellow legs, and the spots on the sides of the flanks fit. And, yes, Surfbirds do occasionally leave their rocky intertidal habitats for sand flats and the like. The mixed dark grayish and blackish upperparts results in serviceable crypsis against their favored haunts in winter, jetties and other rocky backgrounds. So if you guessed Surfbird: Good call! And you are about to be further enlightened.

This Rock Sandpiper was present at the south end of Ten-mile Beach, about 10 miles north of Fort Bragg, which explains the name, as the beach is about three miles long. But why was the bird on this flat, rather than on a

● **Taking a Closer Look: Microhabitat Cues.** Heavy surf forced these "rockpipers"—Black Turnstones and a Rock Sandpiper—out of their typical habitat at Ten-mile Beach, Mendocino Co., California, on Nov. 1, 2024. Can you spot the Rock Sandpiper at the right in this image? See complete eBird checklist at ebird.org/checklist/S201053216. *Photos by © Peter Pyle.*

jetty or sea rocks, the microhabitat classically associated with this species?

Between Oct. 30 and Nov. 1, 2024, monstrous swells hit the Mendocino Co., California, coastline (see photos, p. 59), washing over all rocky substrates. A few days before that, I had found this bird, at this species' southernmost regular wintering site in California, among a group of 50 or so Black Turnstones. The Rock Sandpiper and the turnstones had been feeding on seaweed-festooned rocks, but during the swells all the birds were forced from their comfort zone to the pools on the beach created by rogue waves (see photos above). Why isn't it a Surfbird? Subtle features during partial views can sometimes be diagnostic; in this case, the more-distinct dark centers to the scapulars and indistinct pale fringing to their outer row (forming indistinct white lines, or "braces") are features not shown by the Surfbird. Other than this, these two birds are remarkably similar in general plumage when roosting or feeding, providing the above-mentioned crypsis for both species. But once we see the head and bill of either species, and, especially once they take flight: Game over.

While I have your attention, let's have a little chat about sex, molt status, age, subspecies, and the interactions among the four. If your eyes suddenly glazed over or widened in terror, no worries, as this can happen among the best of ornithologists, and multivariate analyses are not for everyone. We've been discussing this a bit here in California regarding wintering Orange-crowned and Wilson's warblers, where aging and sexing becomes paramount to accurate subspecies determinations; for a nice introduction to the four subspecies of Orange-crowned Warblers, see Rajan Rao's article beginning on p. 58 in the Dec. 2024 *Birding*. The same is true of the closely related species in the "solitary vireo" complex; see my online analysis at the Institute for Bird Populations' website (tinyurl.com/Pyle-sovi).

The Plot Thickens

Our Rock Sandpiper hung around well into Jan. 2025. On Dec. 7, 2024, it was joined by three others on a separate set of rocks down the beach. Two of the newcomers were dull and dark, just like our early arrival back in late Oct. 2024, but another one of the newcomers was frosty and scaled (see photos, p. 61). Plumage does not vary by sex in the Rock Sandpiper, so that leaves age or subspecies differences as possible explanations for this variation.

Aging Rock Sandpipers in December is not easy, involving, as it does with many shorebirds in the Northern Hemisphere, examination of the upperwing coverts for *molt limits*, a term used by bird banders to indicate the visible boundary between two different feather generations; the presence of such limits indicates a bird in its first year of life. Additional assessment of the breadth, shape, wear, and color of the outer primaries and rectrices usually improves our confidence about the bird's age.

Through the miracle of digital photography and resourceful comparison with images in the Macaulay Library, I concluded that one of the three dull birds was in its first year while the other three, including our featured bird and the frosty one, were adults. This reduces age as a possible explanation. So could the frosty bird be of a subspecies different from the others?

I sent my eBird checklist (ebird.org/checklist/S204846538) to Alaskan shorebird and Rock Sandpiper experts Bob Gill and Dan Ruthrauff. They opined that the paler bird looked like a classic nominate *ptilocnemis*, with "frosty" a good descriptor of that taxon's overall plumage in winter. They added that the speckling on the breast of nominate *ptilocnemis* is sparser and the background color more washed out

than on subspecies *tschuktschorum*, the taxon expected in California in winter; and that the amount of white in the wing is also diagnostic, the dull birds showing white mostly in the secondaries, but the bright bird showing white extending well into the primaries.

This represents California's first report of nominate Rock Sandpiper, which breeds on the Pribilof Islands and usually migrates only as far as the western Aleutian Islands. There is one other record south of Alaska, from Ocean Shores, Washington, during the winter of 2000–2001; see Tom Aversa's documentation and discussion in *North American Birds* (tinyurl.com/Aversa-RoSa).

A final factor might enter into the equation: species. Although restricted almost entirely to the North Atlantic basin, the closely related Purple Sandpiper is prone to vagrancy, with multiple records for western Canada, Mexico, and the U.S., including coastal California. The paler plumage and dullish (for an adult) yellow legs and bill base of the frosty bird likely eliminate that species; however, to be certain that Purple Sandpiper is ruled out for this and the others (especially the first-year bird), we may have to await commencement of the prealternate molt in spring, when plumage differences become diagnostic.

So, what started out for me as an out-of-microhabitat observation evolved into documenting a new subspecies for the state. It was a classic adventure in the joy of birding, both in and out of environmental context.

● **Feather Birding: Sorting Out Ages and Subspecies.** Multiple Rock Sandpipers were present near Ten-mile Beach, Mendocino Co., California, on Dec. 7, 2024. Aging Rock Sandpipers is accomplished by noting (1) the presence or absence of molt limits and (2) the narrower and browner juvenile rectrices and outer primaries of first-year birds *vs.* the broader and grayer basic feathers of adults. In Fig. 1, the left bird is a first-year Rock Sandpiper, the middle bird is a Surfbird, and the right bird is an adult Rock Sandpiper; note that the primaries and rectrices are slightly browner on the first-year Rock Sandpiper than on the adult Rock Sandpiper. Both of these Rock Sandpipers are of the subspecies *tschuktschorum*, the only Rock Sandpiper subspecies expected in winter south of Alaska. Fig. 2 shows the first-year Rock Sandpiper by itself. The birds in Fig. 3 are adult Rock Sandpipers, so age-related differences cannot explain the plumage variation indicated here. The bird at upper right in Fig. 3 is notably "frosty." This same individual is shown by itself in Fig. 4. This distinctively frosty individual has been identified by Alaskan shorebird experts Bob Gill and Dan Ruthrauff as the nominate, or Pribilof Islands, subspecies, *ptilocnemis*, of the Rock Sandpiper—the first report of this subspecies from California! See further details in the complete eBird checklist at ebird.org/checklist/S204846538. *Photos by © Peter Pyle.*