Subspecific Identification of the Willet

Catoptrophorus semipalmatus
The Willet is a familiar shorebird to many birders around temperate regions of North, Central, and South America. Its large size, drab plumage, and flashy wing pattern make it relatively straightforward to identify. A more difficult and interesting endeavor is distinguishing between the two subspecies, “Eastern Willet” (C. s. semipalmatus) and “Western Willet” (C. s. inornatus). Morphologically and ecologically, these two populations are distinct and meet most criteria for separate species.
Eastern Willet is a common and conspicuous breeder in salt marshes and mangroves along the Atlantic and Gulf Coasts from Newfoundland to Tamaulipas. Isolated populations also nest in the Bahamas, Greater Antilles, Cayman Islands, and the island of Los Roques off the coast of Venezuela. Breeding birds forage primarily in salt marsh pools, tidal creeks and flats, beaches, and oyster beds. Due to identification difficulties, wintering areas are still poorly known, but most Eastern Willets apparently winter in coastal eastern South America, particularly in Brazil (Morrison and Ross 1989, Sick 1993). Some may also winter as far south as Paraguay and Argentina, and as far north as the West Indies and Central America. Eastern Willet is undocumented in the United States in winter. Spring migrants first arrive along the northern Gulf Coast in early March (K. Karlson, personal communication) and along the Atlantic Coast in early April. Fall migrants depart very early, with peak departure of adults in early–mid July and most gone by early August. Juveniles depart by late July or early August, with a few lingering into September (rarely later).

Unlike its salt marsh relative, Western Willet breeds in interior prairies from southern Alberta and Manitoba to north-central California and Colorado. Breeders and interior migrants forage primarily in wet pastures, in fresh marshes, and on lake shores. Western Willet winters in coastal areas from Washington and New Jersey south to Peru, the West Indies, and northern South America. Coastal migrants and wintering birds prefer rocky coastlines, sod banks, tidal flats, beaches, and shallow bays, where they often associate with Marbled Godwits. They seldom use the mucky tidal creeks frequented by Eastern Willet. Spring migrants depart from coastal wintering areas mostly from mid-April to early May, although a few non-breeders remain on the coast through the summer. Fall migrants return to the coast as early as mid- to late June and are numerous there by early to mid-July. Juveniles arrive along the coast by mid- to late July and are numerous there by August.

Morrison et al. (2001) estimate the total population of Willets at 250,000, with about 160,000 from Pacific and Interior flyways where only Westerns occur. The remaining 90,000 are from the Atlantic Coast and other regions.
presumably where both populations occur. Although the majority of these are likely Easterns, some Westerns (e.g., those migrating along the Atlantic Coast) are surely included, so the total population of Easterns is probably less than 90,000.

The true taxonomic status of Eastern and Western Willets remains unresolved. Differences in structure, plumage, molt patterns, and voice are outlined on pp. 45–46. The two forms breed allopatrically, and I hypothesize that they have been reproductively isolated from one another at least since the late Pleistocene. Mitochondrial DNA evidence has shown Pleistocene glacial events to be responsible for both initiation and completion of speciation in numerous sister species pairs such
as King and Clapper Rails, Nelson’s and Saltmarsh Sharp-tailed Sparrows, and Great-tailed and Boat-tailed Grackles (Johnson and Cicero 2004), species pairs with coastal vs. interior distribution patterns comparable to those of Eastern and Western Willets. Playback experiments have demonstrated that Eastern Willets discriminate between the songs of the two subspecies, responding to playback of Eastern with an 83% frequency and to that of Western with a 22% frequency (Douglas 1998). However, a similar discrimination was not found when other vocalizations were played, and Eastern Willets readily recognized and responded to playback of all Western Willet calls. A thorough study of Willet DNA is needed to clarify the degree of genetic separation between these two taxa.

**Identification**

Distinguishing between Eastern and Western Willets is mostly a matter of size, structure, and overall color. On average, Westerns are larger, paler, longer- and slimmer-billed, longer-legged, and longer-necked than Easterns. Each of these characters is somewhat variable, however, and a small percentage of birds look intermediate. Also, populations of Eastern Willets on the Gulf Coast look subtly larger, paler, and longer-billed, on average, than Atlantic Coast birds. Despite
this variation, a combination of characters is distinctive in most individuals. See Figs. 1–12 for details.

Molt patterns differ slightly between the two subspecies. From an identification standpoint, the most useful difference is the geographic region in which the prebasic flight-feather molt takes place. Both subspecies undergo this molt on or near the wintering grounds, which, for Western Willet, includes the southern coasts of North America. Easterns retain full flight feathers while in North America. Similarly, Easterns undergo only limited prebasic body molt before departure in fall, whereas local wintering Westerns undergo their entire molt here.

Vocalizations often provide a useful means of distinguishing between Eastern and Western Willets. Differences in the primary “pill will will” song are particularly distinct. Eastern’s song is an urgent, rapidly-repeated pidl-will-willit. Western’s is a slower, lower-pitched, more clearly announced p’d-weeel-will-wit with the second note more drawn-out and the last two notes more clearly separated. With a little practice, the difference is obvious. In both subspecies, songs are given by both sexes, primarily on the breeding grounds but also occasionally during spring migration. Differences between calls are much less distinct than those between songs. All calls of Western average lower-pitched and more drawn-out than those of Eastern, but much overlap exists and many calls are not readily identifiable to subspecies. The flight call is a loud, strident klaay-drr or klaay-dr-dr, typically with a lower, husker, Marbled Godwit-like quality in Western and a higher, Laughing Gull-like quality in Eastern. With practice, classic examples of these calls are distinctive but variation precludes the identification of some. When flushed, both subspecies utter a higher, more excited kli-li-li-li, often with a trilled quality (on average, more distinctly trilled in Western). The breeding alarm call is a sharp, repeated kleep or kalip, lower and more muffled in Western. The year-round alarm is a more drawn-out, screaming klaayii and variations, often with a distinctly curlew-like quality, particularly in Western.

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Literature Cited
Fig. 10 (above). Juvenile/non-breeding Western (left) and Eastern (right) Willets. In flight, Eastern looks more compact, with a shorter body, with slightly narrower, often more angled wings, and with quicker wingbeats. Western looks somewhat more elongated, with a deep-keeled or heavy-chested look. Although the legs are longer in Western, foot projection is about the same due to its longer body. As on standing birds, bill shape is one of the best clues. Eastern is darker and browner overall and often has more-extensive dark mottling along the flanks. Western looks paler and grayish overall, with paler upperwing coverts and often whiter-looking flanks that contrast more with the black wing markings. Both subspecies show great variation in wing-stripe thickness, to the point that variation in Eastern is completely overlapped by variation in Western. However, Western’s wing stripe averages broader, and many Westerns show distinctively broad wing stripes. Pen-and-ink on paper by © Michael O’Brien.

Fig. 11 (right). Worn breeding Western Willet. The slim, fine-tipped, relatively dark bill; the long legs; and the long neck are distinctive. Birds in mid-summer show heavier markings, often approaching Eastern. Note the pale, neutral gray ground color to the upperparts, contrasting strongly with the barring and subtly with the buff ground color to the breast. Barring on the underparts averages thinner, sparser, and paler than on Eastern, although the breast spotting is often more pronounced. North Carolina; early July 2005. © Michael O’Brien.

Fig. 12 (below). Mostly non-breeding Western Willet (left) with worn breeding Eastern Willets. This Western looks distinctively pale, largely because it has already acquired extensive non-breeding plumage. It may be an early molting adult but, at this early date, is more likely a first-summer (one-year-old) bird that never acquired full breeding plumage. Such birds often spend the summer in coastal areas, where they look strikingly paler than the local breeding Easterns. Easterns usually hold most of their breeding plumage until the wintering grounds are reached. It should be emphasized that Easterns in full non-breeding plumage (including first-summer plumage) are undocumented in the U.S. North Carolina; early July 1998. © Michael O’Brien.