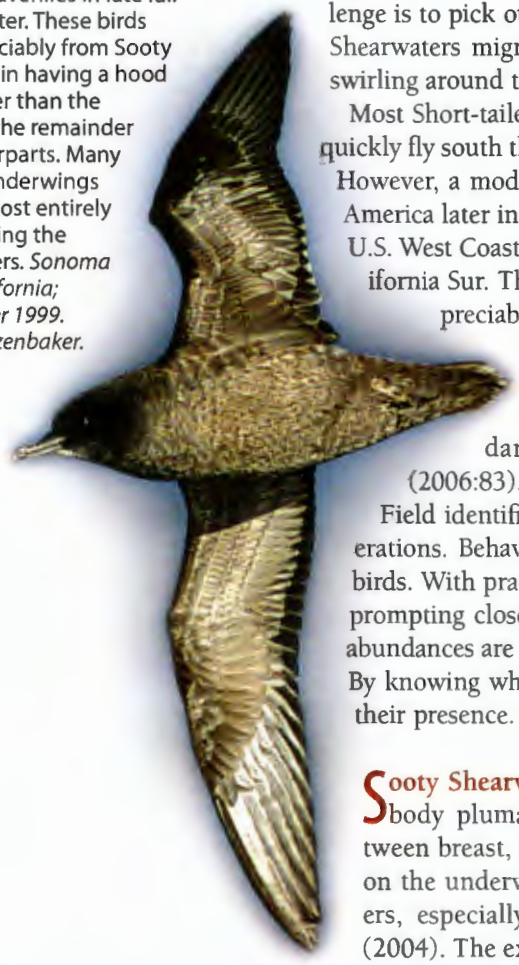
The separation of Short-tailed Shearwater from Sooty Shearwater is one of the most challenging field identification problems for birders in western North America.

Field Separation of Sooty and Short-tailed Shearwaters



Most sightings of **Short-tailed Shearwater** off Washington, Oregon, and California are of presumed juveniles in late fall or early winter. These birds differ appreciably from Sooty Shearwater in having a hood that is darker than the breast and the remainder of the underparts. Many also have underwings that are almost entirely pale, including the flight feathers. *Sonoma County, California; 12 November 1999.* © *Mike Danzenbaker.*

Both species are medium-size dark shearwaters that show variable amounts of paleness on the underwings. South of Alaska, Short-tailed Shearwaters are decidedly uncommon off western North America. For birders off the U.S. West Coast, the challenge is to pick out a Short-tailed Shearwater from among the thousands of Sooty Shearwaters migrating just offshore from a favored promontory, or to spot one swirling around the chum on a pitching boat during a pelagic trip.

Most Short-tailed Shearwaters leave Alaskan waters in September. The majority quickly fly south through the central Pacific to their breeding grounds off Australia. However, a modest number regularly migrate down the western coast of North America later in fall. They pass along southeastern Alaska, British Columbia, the U.S. West Coast (Washington, Oregon, California), Baja California, and Baja California Sur. The majority of these birds are juveniles that are in a plumage appreciably different from any Sooty Shearwater—at least it's appreciable once one learns the key marks. Such birds have pale throats and breasts, contrasting dark helmets, and evenly pale underwings. This diagnostic plumage is not illustrated in the standard field guides; however, see the photograph in Alderfer (2006:83).

Field identification marks for these shearwaters go beyond plumage considerations. Behavior, shape, and flight style differences also help separate most birds. With practice, these behavioral differences will catch one's attention first, prompting closer inspection. Not to be ignored, the seasonal distributions and abundances are markedly different between these two species on the West Coast. By knowing when to expect Short-tailed Shearwaters, one can be more alert to their presence.

Sooty Shearwaters are dark sooty gray, becoming browner with wear. The body plumage appears evenly dark throughout, with little contrast between breast, throat, and head. This species shows obvious white feathering on the underwing coverts that contrasts strongly with the dark flight feathers, especially the primaries, as accurately noted by McKee and Terrill (2004). The extent of white on the underwing varies somewhat among birds. However, the broadest and brightest area of white is located on the primary coverts on the outer wing.

The underwing primaries and secondaries are typically dark gray throughout. The greater coverts on both the primaries and secondaries are gray with paler bases and trailing webs, but essentially appear dark in the field. In stark contrast, the median primary coverts are entirely bright white. The lesser primary coverts are mostly white, but the outermost feathers often show some darker mottling. The median and

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A perennial challenge for birders on West Coast pelagic trips is the separation of **Sooty Shearwater** (left) and **Short-tailed Shearwater** (right). This article reviews plumage differences between the two species. It clarifies the difference in intensity and distribution of white feathering on the underwings, and describes a distinction involving contrast between the head and breast. The article also looks at how behavioral and distributional cues can be valuably integrated into the identification process for this difficult species-pair. *Watercolor on paper. © Noah Strycker.*

Field marks on this **Sooty Shearwater** include the longer, stout bill; the dark chin and throat that do not contrast with the rest of the underparts; and primaries that reach only to the tip of the tail. *Lincoln County, Oregon; 25 August 2007. © Greg Gillson.*

lesser secondary coverts are white with darker tips and progressively more gray mottling toward the base of the wings. Thus, the whitish secondary coverts form a bar that gradually narrows and disappears toward the body. The dark tips and white bases of these feathers create noticeable narrow dark and white lines on the inner wing. The tiny marginal covert feathers are pale with dark tips, but usually appear fairly dark at any distance. On the underwing, this creates a dark wedge on the leading edge on the inner part of the wing, which contrasts strongly with the white lesser and median secondary coverts. The narrow white secondary coverts and broad white primary coverts create a distinctive "Victorian butter knife" pattern against the rest of the dark underwing.

On the water, Sooty Shearwaters appear evenly dark. The folded wingtips extend to, or just past, the tail. The neck is short. The head has a rather flat crown that usually forms a gentle sloping forehead angle with the bill. The bill is nearly as long as the head. It is fairly stout at the base with a "pinched-in" middle and a heavy, hooked tip (Alderfer 2006).

The characteristic commuting flight of Sooty Shearwaters in calm winds is 3–7 quick, stiff-winged flaps, low along the water, followed by a glide of 3–5 seconds. In a moderate breeze Sooty Shearwaters flap briefly low along the water. Then they arc up in a longer glide with the ventral side facing into the wind. This

The white on the underwings of **Sooty Shearwater** is most prominent on the median primary coverts. The flight feathers usually appear all dark. *Lincoln County, Oregon; 20 August 2006. © Troy Guy.*

The extensively white median primary coverts and the thin white median secondary coverts on **Sooty Shearwater** contrast strongly with the dark flight feathers and dark marginal coverts on the inner underwing. This creates a unique white "Victorian butter knife" pattern. *Monterey Bay, California; September 1990. © Mike Danzenbaker.*

pattern is repeated continuously. The flight progression is smooth, without jerky movements or sudden direction changes. Even at a great distance, Sooty Shearwaters can be provisionally identified by this habitual flight style. In strong winds they may shoot up very high with a long downward glide and fly without flapping.

Sooty Shearwaters usually are not very interested in chum (fish scraps, popcorn, and other food items tossed from the boat to attract certain seabirds). However, they will investigate a flock of gulls, fulmars, and albatrosses feeding on chum by flying past and perhaps sitting down on the periphery of the feeding flock. Rarely do they join in a feeding flock under these circumstances. They are, however, readily attracted to schools of baitfish on the surface or the by-catch from active commercial fishing boats pulling in nets of live fish or shrimp. Under these circumstances they form wild, squealing mobs, with frenzied birds diving, flapping, circling, foot-pattering, and splashing chaotically.

Sooty Shearwaters nest in the southern hemisphere, laying eggs in November and December on islands off Chile and New Zealand (Harrison 1983). In the non-breeding season they are widespread in the North Pacific, north to the continental shelf of the Gulf of Alaska, and less abundantly in the Bering Sea (Denlinger 2006). They arrive off the West Coast in March, and their numbers build through July. They remain abundant through September at the inner continental shelf. Southward migration begins in August, but numbers do not drop appreciably until October. During this time of peak abundance, Sooty Shearwaters often are spotted from shore, sometimes with hundreds of thousands of birds per hour streaming past coastal observers. By November few birds remain. Sooty Shearwater is rare in winter. In fact, the species is virtually absent in January and most of February north of Monterey Bay (Stallcup 1990).

Sooty Shearwater appears slightly more lanky, with longer wings and a longer tail and neck, than the more-compact Short-tailed Shearwater. Flight style variations are often more noticeable than subtle differences in shape, however. The smooth, repetitive flight progression of Sooty Shearwater is often in stark contrast to the erratic flight of the Short-tailed Shearwater. *Sonoma County, California; 8 September 2006. © Mike Danzenbaker.*

This **Short-tailed Shearwater** shows the typical all-pale underwings—including the obviously pale primaries—of late fall and winter birds off the shores of western North America. Additionally, this bird shows a pale throat and breast that contrast with the darker crown and nape. *Aleutian Islands, Alaska; 3 September 2006. © Troy Guy.*

Short-tailed Shearwaters are dark brownish-gray, closely resembling Sooty Shearwaters, but with more individual plumage variation. Rarely, the underwings appear all dark. Usually, however, they appear very pale gray or brownish-gray and reflect a silvery sheen. This sheen is quite dependent upon the angle of sunlight and the position of the bird.

Over the years, field guide authors and artists have had problems accurately describing and portraying the plumage variation of Short-tailed Shearwater. For instance, Peterson (1969) wrote in his field guide that the clinching field mark for Short-tailed Shearwater is the dark wing linings. He did mention, though, that some birds have pale wing linings and are indistinguishable from Sooty Shearwater. Dunn (1979) wrote an excellent early article on separating Short-tailed and Sooty Shearwaters. He berated the field guides for emphasizing dark wing linings on Short-tailed Shearwater, calling it "misinformation." He wrote, "Only a very small percentage of Short-taileds show uniformly dark underwings; the vast majority display some pale gray coloration, and in many the underwing is nearly as pale as that of the Sooty." Tim Manolis created excellent drawings showing the range of underwing patterns of Short-tailed Shearwater in Stallcup (1990). To this day, however, field guides continue to over-emphasize dark wing linings.

Whether dark or pale, the entire underwing lining on a given Short-tailed Shearwater is fairly uniform. If any part of the wing linings is brighter, it might be the median secondary coverts rather than the median primary coverts as is the case for Sooty Shearwater (Alderfer 2006). Unlike Sooty Shearwater, there is not always a strong contrast between the wing linings and the flight feathers.

Many juvenile Short-tailed Shearwaters in late fall and winter have entirely pale underwings. Specifically, the individual feathers on the wing linings are very pale gray, often with pale brown tips. The underwing flight feathers, especially the

bases of the primaries, have a silvery sheen throughout. The underparts of these birds are brown and especially pale on the breast, neck, and throat, contrasting with a dark helmet covering the crown and ear coverts. Many birds appear pale brown with blackish heads. This plumage is diagnostic.

It is true that some Short-tailed Shearwaters appear very similar to Sooty Shearwater. These individuals appear rather dark on the underbody, with a restricted amount of paleness on the underwing coverts. The pale underwings often form a broad, evenly pale wing panel, though, unlike the unique white pattern of narrow secondary coverts and broad primary coverts always found on Sooty Shearwater. Such confusing birds must be confirmed by comparing shape and behavior.

The pale throat contrasting with the dark hood is obvious on this **Short-tailed Shearwater.** Note also that the wingtips extend well beyond the short tail. The bill is thin compared to that of Sooty Shearwater. Many Short-tailed Shearwaters have bills shorter than this individual, making them noticeably shorter-billed than Sooty Shearwater. *Lincoln County, Oregon; 18 November 2005.* *© Troy Guy.*

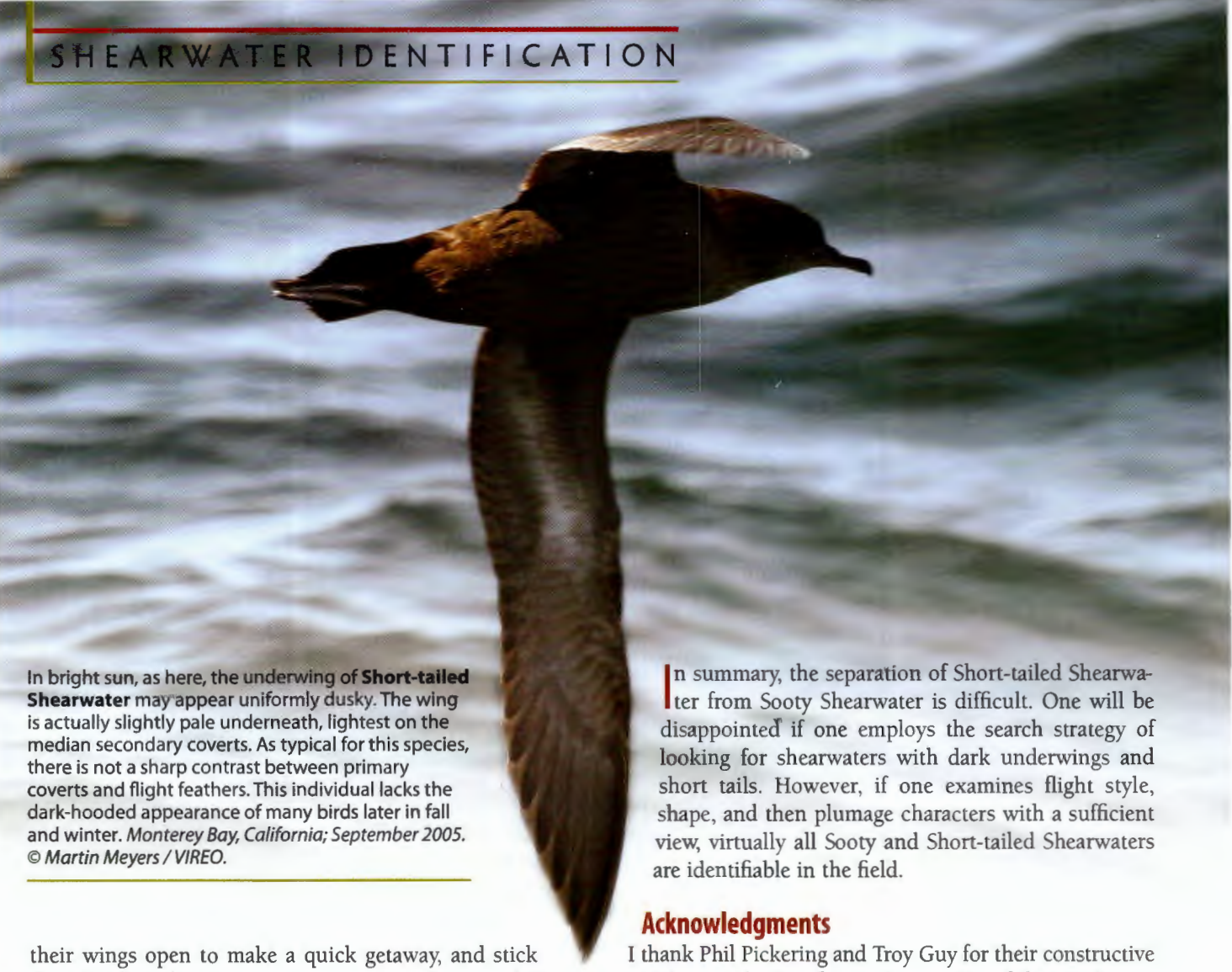
On the water, Short-tailed Shearwater appears dark gray-brown, often with a pale throat and chin contrasting with a dark crown and ear coverts. The folded wing tips extend noticeably past the short tail. In the field, the bill of Short-tailed averages obviously shorter (29.3–33.8 mm) than that of Sooty (38.5–45.5 mm), according to data provided by Richdale (1944) and Serventy et al. (1971). The bill of Short-tailed is also much thinner, whence its former name of Slender-billed Shearwater. Short-tailed's forehead is steeper and is accentuated by its smaller, more rounded head, imparting a "cute" look.

In direct comparison, Short-tailed Shearwater is notably smaller than Sooty. There are some noticeable differences in shape, too. Short-tailed does, indeed, have a shorter, less pointed tail (Onley and Scofield 2007). The feet trail beyond the tail in flight. However, Sooty Shearwater can extend its feet beyond the tail tip sometimes, too. Thus, relative tail-length is not a safe standalone field mark. Short-tailed has a noticeably shorter neck than Sooty. The wings are shorter and narrower than on Sooty, and the width of the wings is more even throughout their length. Thus, the wingtips appear ever-so-slightly more rounded than on Sooty Shearwater, which has longer, tapered wings that come to a sharper point.

Various authors disagree on how much variation Short-tailed Shearwater can show in the angle at the wrist compared to Sooty Shearwater (Sibley 2000, McKee and Terrill 2004, Alderfer 2006). This character seems dependent upon wind speed and the bird's activity. It is an unreliable field identification mark—although any bird appearing different from the others should always be scrutinized more closely.

The flight style of Short-tailed Shearwater is highly variable. This variability is in contrast to Sooty Shearwater, which has a consistent flight style. The difference in consistency is especially evident when the two species are seen together. Wing strokes of Short-tailed Shearwater are more rapid, with longer periods of flapping and usually less arcing and gliding. Conversely, Short-tailed sometimes does considerably more gliding than Sooty. Short-tailed Shearwater often makes darting direction changes. One characteristic unique to the flight of Short-tailed Shearwater compared to other West Coast shearwaters is an occasional rocking back-and-forth while flapping, first with one wing banked lower to the water for a while, then the other, showing the observer first the ventral side of the bird and then the dorsal. The general impression given by Short-tailed Shearwater is that of a more rapid, frantic, erratic flight, rather than the usual smooth, repetitious, direct flight of Sooty (Dunn 1979, Stallcup 1990).

Unlike Sooty Shearwaters, Short-tailed Shearwaters usually are attracted to chum on pelagic birding trips. They regularly fly right in to the stern of the boat and dive actively for sinking chum scraps. Often, while swimming behind the boat they keep



In bright sun, as here, the underwing of **Short-tailed Shearwater** may appear uniformly dusky. The wing is actually slightly pale underneath, lightest on the median secondary coverts. As typical for this species, there is not a sharp contrast between primary coverts and flight feathers. This individual lacks the dark-hooded appearance of many birds later in fall and winter. *Monterey Bay, California; September 2005. © Martin Meyers / VIREO.*

their wings open to make a quick getaway, and stick their heads under the water to peer around for food. In winter, when more common, Short-tailed Shearwaters tend to form pure flocks, especially near the shore. Earlier in the fall, however, most sightings are of single birds mixed in with larger flocks of Sooty Shearwaters.

Short-tailed Shearwaters spend May–August in the northern Pacific off Asia and in the Bering Sea. Fewer birds are found in the Chukchi and Beaufort Seas and the central and eastern Gulf of Alaska (Denlinger 2006). In September they return south through the central Pacific to nest off southern Australia, laying eggs in late November (Harrison 1983). A few adult Short-tailed Shearwaters migrate past the West Coast of the United States during early September and are spotted on offshore pelagic trips. As with many seabird species, Short-tailed Shearwaters do not breed until they are several years old. Larger numbers of non-breeding Short-tailed Shearwaters start to arrive off the West Coast in late October. They peak in November, when singles or loose flocks of 40 or more may be spotted very near shore in the early morning. Fairly good numbers remain into January. They are found offshore in small numbers into March or April. They are extremely rare in summer off the U.S. West Coast.

In summary, the separation of Short-tailed Shearwater from Sooty Shearwater is difficult. One will be disappointed if one employs the search strategy of looking for shearwaters with dark underwings and short tails. However, if one examines flight style, shape, and then plumage characters with a sufficient view, virtually all Sooty and Short-tailed Shearwaters are identifiable in the field.

Acknowledgments

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