ANOTHER LOOK AT THE WESTERN AND YELLOW-FOOTED GULLS

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With recognition of the Yellow-footed Gull (*Larus livens*) as a distinct species, separate from the Western Gull (*Larus occidentalis*) (American Ornithologists Union 1982), there is renewed interest in the dark-mantled gulls of western North America. In order to correctly identify these birds it is important to understand how they progress from juvenal to adult plumage, and when molts occur.

Jonathan Dwight's definitive work, *The Gulls of the World* (1925), includes much valuable information on plumages and molts, but was designed for museum workers with specimens in hand, and is now difficult to obtain, being long out of print. Recently, Peter Grant (1982) provided a masterpiece on all the gulls known to occur in the western Palearctic, *Gulls: A Guide to Identification*, with emphasis on field identification. It is from this book that the chart showing the sequence of plumages and molts, as well as the topographical terminology, is taken.

Most gulls molt twice a year, with a complete molt in late summer and early fall, and a partial molt involving only head and body feathers in late winter and early spring. The time taken to advance from juvenal to adult plumage varies among species but, in general, the larger the bird the longer it takes to attain adult plumage. Small gulls reach adult plumage in their second winter, medium-sized gulls in their third winter, and large gulls in their fourth winter. Needless to say, there are exceptions (e.g., some large gulls reach adult plumage in third winter). In addition, some individuals, particularly among the larger species, show signs of immaturity during the first year as adults (e.g., adult-plumaged birds with dark markings retained in the tail), while others advance towards adult plumage in a more rapid or retarded rate than expected (e.g., a large species of gull in third-winter plumage could possibly be in its second winter if progressing at a more rapid rate than expected, or in its fourth winter if retarded), and sick or injured birds may fail to molt at the appropriate times. Figure 1 indicates the typical sequence of plumage and the approximate seasons of molts for the three sizes of gulls as they advance from juvenile to adult. It also includes the age terminology (e.g., first-winter) in common use, which is used throughout this paper.

A basic knowledge of the various plumages of Western Gulls is necessary to identify Yellow-footed Gulls with certainty, and is essential to those interested in the differences that helped establish the Yellow-footed Gull as a distinct species in the minds of those studying the bird. Consequently, a complete review of Western Gull plumages is in order.

WESTERN GULL *Larus occidentalis*

This species is the common dark-mantled gull of the Pacific coast of North America, nesting from the vicinity of Destruction Island in northern Washington south to Guadalupe Island off the west coast of central Baja

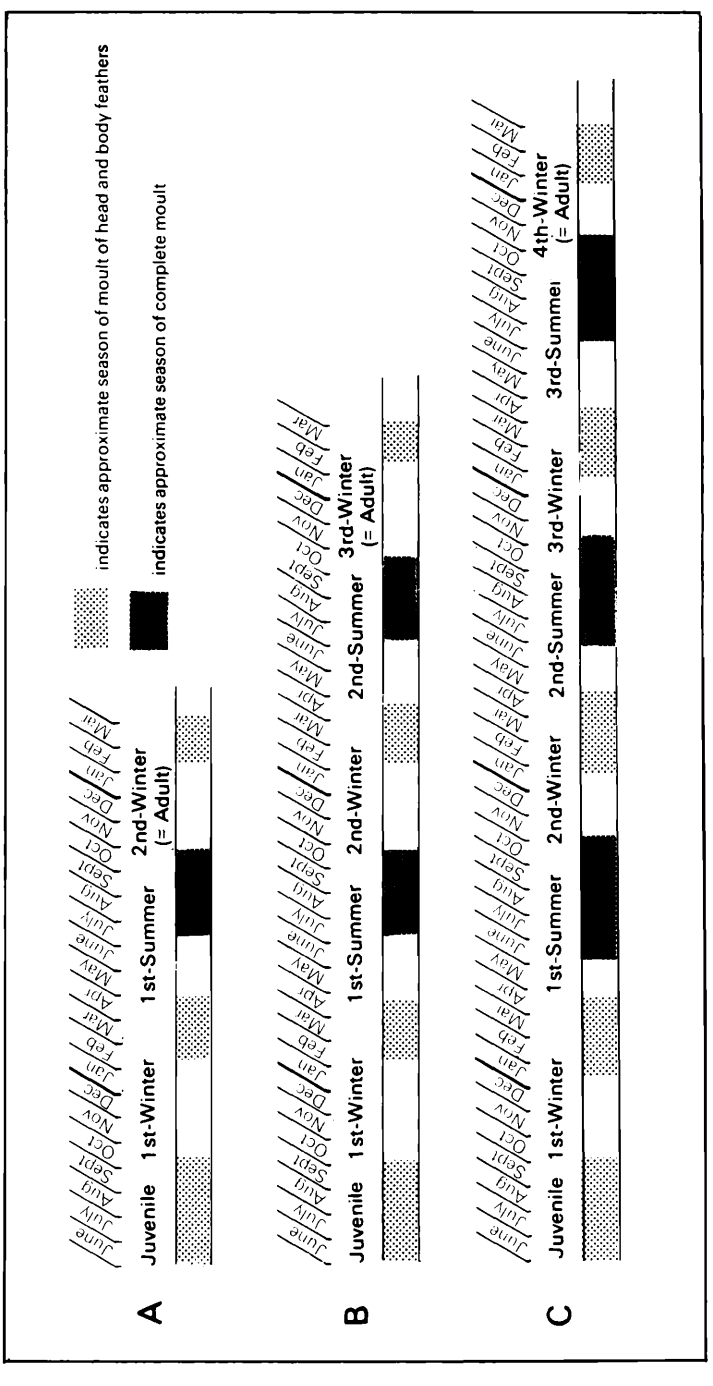

Figure 1. Sequence of plumages and moults from juvenile to adult of typical small (A), medium (B) and large (C) gulls.

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California. There are two races, the nominate form *occidentalis*, nesting from the Farallon Islands off central California northward, and the darker-mantled form *wymani*, nesting from the vicinity of Monterey Bay southward (Figure 2). At the northern limit of the range Western Gulls interbreed with the closely related Glaucous-winged Gull (*Larus glaucescens*), resulting in many intergrades (Scott 1971, Hoffman et al. 1978). In winter some birds move northward into coastal southwestern British Columbia, with a straggler recorded as far north as near Chignik on the Alaska Peninsula (Kessel and Gibson 1976:46), while others move as far south as the southern tip of the Baja California peninsula, with stragglers having reached Guaymas, Sonora, on the coast of mainland Mexico (Devillers et al. 1971). However, the species as a whole is mostly sedentary, remaining in the immediate vicinity of the coast. Feeding areas (e.g., garbage dumps) and bathing spots attract flocks a few miles inland along the coastal plain, and spawning salmon have been reported to attract individuals up major rivers (LaFave 1965, Weber 1981), but the species is otherwise accidental inland.

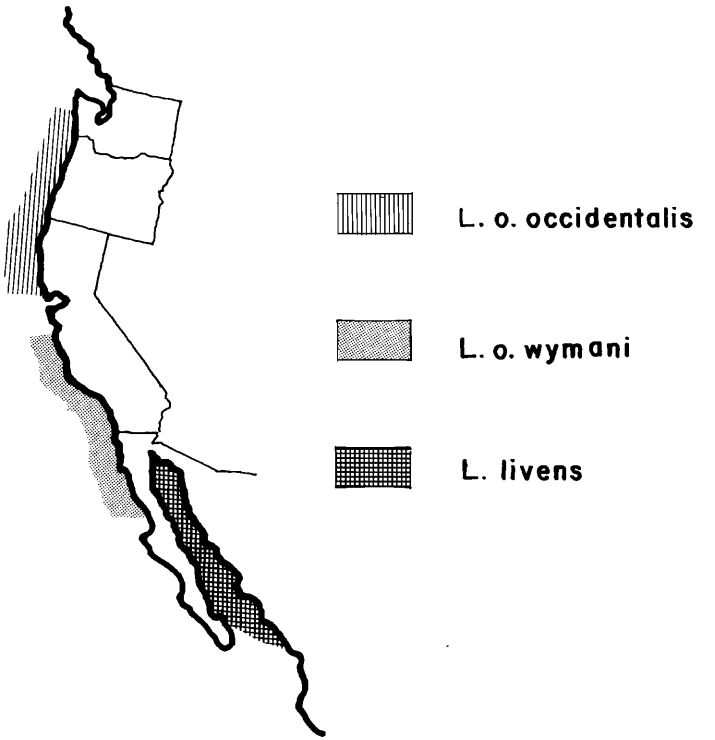

Figure 2. Breeding range of Western Gull (*Larus o. occidentalis* and *L. o. wymani*) and Yellow-footed Gull (*L. livens*).

The only occurrences from the true interior in the western United States are one (*L.o.occidentalis*) collected along the Colorado River above Parker Dam (Monson and Phillips 1981) and four seen on the Salton Sea in southeastern California (a third-winter bird along the south shore between 17 January and 13 February 1965, another there on 29 March 1969, an adult judged to be *wymani* at Salton City on 26 September 1982, and a third-winter bird, also judged to be *wymani*, there on 11 and 28 November 1982—McCaskie pers. obs.). Reports of one seen near Denver, Colorado (Am. Birds 32:1038, 1978) and another seen on Lake Mead, Nevada (Am. Birds 35:210, 1981) lack substantiating details, and all other published records from the Salton Sea are now believed to have been *L. livens*.

The Western Gull is a large gull, taking about 3½ years to acquire adult plumage. It is about the size of a Herring Gull (*Larus argentatus*), possibly a bit larger, but stockier, with a stouter bill and shorter wings, having much the body size and shape of a Glaucous-winged Gull. The southern form *wymani* is darker mantled than the northern birds at all ages, and acquires a pale eye as an adult. The nominate form *occidentalis* more closely resembles the Glaucous-winged Gull, normally having a dark eye as an adult, and having some darkness on the head and neck in winter plumage. However, the distinction between the southern birds and the northern birds is not obvious, there being more of a clinal trend, with the darkest-mantled birds in the south and the lightest-mantled birds in the north, the latter being quite similar in appearance to the more southern Glaucous-winged Gulls. The following discussion and detailed descriptions apply to the southern birds.

In juvenal plumage the Western Gull appears much like a juvenile Herring Gull, but is darker, the overall coloration being sooty-gray rather than gray-brown, and the pale edges to the feathers of the upper parts being narrower, giving the bird a less mottled appearance than juvenile Herring Gulls. The rump of the Western Gull appears whiter than that of the Herring Gull, there being a greater contrast between the back and rump than on a Herring Gull. The tail is also darker, helping to emphasize the pale rump. The flight feathers on both species are blackish, but Western Gulls lack pale areas on the inner webs of the inner primaries that form pale windows in the wings of young Herring Gulls.

First-winter Western Gulls are similar to the juveniles, but have more conspicuous white in the rump, and lack the patterning on the upper parts formed by the pale edges to the mantle and scapular feathers on the juvenile, the overall appearance being streaked and smudged. First-winter Western Gulls do not exhibit the pale-headed appearance evident on most first-winter Herring Gulls. First-summer Western Gulls are similar to first-winter, but tend to be paler about the head and underparts, with the now 1-year-old wing and tail feathers showing evidence of wear and fading, varying from little to extensive (some individuals of all gull species have primaries and rectrices that appear to be mere feather-shafts in summer). The minor differences that separate juvenile Western and Herring gulls hold true through the first summer.

In second-winter the head and body are mostly white, and the mantle and scapulars show much of the dark gray worn by the adult. The bird acquires the eye color of the adult late in the winter (pale yellow or gray to whitish for most *wymani*, but dark brown to blackish for most *occidentalis*). The wings appear

much as they did in first-winter, with only a minimal amount of dark gray feathering on the wing coverts, but the primaries remain entirely blackish. The tail shows a little more white at the base than in first-winter, but is nonetheless mostly dark, contrasting sharply with the whitish rump. From this stage onward the coloration of the mantle and scapulars makes differentiating Western and Herring gulls much easier than in first-winter and first-summer. Second-summer birds are whiter about the head and underparts with relatively conspicuous white rumps. The dark gray on the upper parts becomes a little more extensive, but the wings and tail are the same as in second-winter, though showing the effects of wear.

Third-winter birds look more similar to adults, having the dark gray of the upper parts extending across the wing coverts. However, the primaries are uniform blackish without the white mirrors. There is normally some brown coloration evident on the wing coverts, and some black is always present in the tail. The bill may start to acquire some of the yellow color of the adult, but is more normally pinkish with black towards the tip (bill color is variable on most immature gulls, and is not recommended for use in aging individuals, especially after the first winter). Third-summer birds look much the same, but never show any dusky coloration about the head and neck, and many individuals have bare parts matching those of the adult.

Adult Western Gulls in the winter are entirely white about the head and throughout the underparts. The mantle and upper sides of the wings are dark gray merging into the black primaries. White tips to the primaries and secondaries form a prominent white trailing edge to the wing, and the outermost primary contains a small white mirror. The dark flight feathers contrast noticeably with the white underwing coverts, and the white trailing edge to the wing is quite evident from below. The rump and tail are entirely white. The bill is yellow with a reddish-orange spot at the gonys. Southern birds have only a minimal amount of dusky spotting about the head and neck (difficult to see on many individuals), but this mottling is more evident on winter adults from the more northern populations, and is most evident on those hybrids with Glaucous-winged Gulls. Summer adults are similar, but normally lose the white tips to the primaries due to wear, and the bare parts are more brightly colored at the onset of the breeding season. All dusky markings about the head and neck are gone. A more detailed description of each plumage follows.

Juvenile (Figures 3A, 4, 5, and 7A).

HEAD Rather uniform sooty-gray, darkest immediately ahead of the eye and on the ear-coverts, with diffused pale gray streaking on the crown, nape and neck.

BODY Underparts sooty-gray flecked with white, the individual feathers dark sooty-gray finely edged with pale gray to white, the lower belly and vent being somewhat paler than the rest of the underparts. Mantle and scapulars dark sooty-gray liberally flecked with white, the individual feathers blackish finely edged with white, the larger scapulars presenting a "scaled" appearance. Rump and uppertail coverts whitish liberally flecked with black, appearing paler than the back, but not strikingly so.

WINGS Wing coverts sooty-gray flecked with white much as the mantle and scapulars, the individual feathers being sooty-gray edged with white, but also having extensive pale brown blotches, this brown coloration being most evident on the greater coverts and tertials. Primaries blackish and secondaries dark brown to blackish with a narrow line of pale gray at the very tip of the inner primaries, and more noticeable pale

buffy-gray tips to the secondaries, forming a narrow pale trailing edge to the wing. Underwing coverts and axillaries blackish, appearing darker than the underside of the flight feathers.

TAIL Blackish with pale buffy-gray terminal stripe formed by light tips to feathers.

BARE PARTS Iris blackish. Orbital ring dark gray to black. Bill entirely black. Legs and feet blackish with traces of dirty pink throughout, the extent of pink varying from individual to individual.

First-winter (Figure 3B). Acquired by post-juvenal head and body molt between August and November. There is much variation in the length of time individuals retain juvenal plumage, some having acquired first-winter plumage by early October while others are still in juvenal plumage in November.

HEAD AND BODY Head sooty gray-brown, slightly paler than in juvenile, with the area immediately ahead of the eye and ear-coverts being the darkest, and the nape and hindneck tending to be the palest. Underparts smudged sooty gray-brown, the white flecking of the juvenile now appearing more diffused. Mantle and scapulars sooty gray-brown smudged with light gray, the "scaled" appearance of the juvenile gone, the individual feathers being sooty gray-brown with diffused pale gray edges. Rump and uppertail coverts whitish liberally flecked with sooty gray-brown, still appearing paler than the back.

WINGS AND TAIL Wing coverts sooty gray-brown matching the coloration and pattern of the mantle and scapulars. Primaries and secondaries dark brown to blackish, underwing coverts and axillaries blackish, and tail blackish as in juvenile.

BARE PARTS Iris blackish. Orbital ring dark gray to blackish. Bill black with varying amounts of dirty pink at the extreme base, particularly at the base of the lower mandible. Legs and feet dirty pink.

First-summer (Figure 3C). Acquired by head and body molt between February and April, with wing and tail feathers of the juvenile retained.

HEAD AND BODY Head much as in first-winter but somewhat lighter, with the dark area around the eye retained. Body much as in first-winter with underparts tending to be somewhat paler, and the markings on the upperparts appearing smudged.

WINGS AND TAIL Wing coverts dark gray-brown like the mantle and scapulars. However, wear and bleaching affects the appearance and color of the feathers, particularly the greater coverts which can be anything from pale brown to almost whitish. The primaries and secondaries, now a year old, tend to show the effects of wear, and are decidedly brownish. The tail, also a year old, matches the primaries.

BARE PARTS Iris now detectably paler than the pupil, but still quite dark. Orbital ring dark gray. Bill much as in first winter, but with more dirty pink at the base. Legs and feet pinkish with a gray tone.

Second-winter (Figure 3D). Acquired by a complete molt between July and October.

HEAD Mostly white with varying amounts of dusky-gray smudging and spotting, particularly around the eye, and most noticeably ahead of the eye.

BODY Underparts mostly white with varying amounts of dusky-gray scalloping on the breast and belly, the lower belly and vent tending to look cleaner than the breast. Mantle and scapulars mostly uniform dark gray, but containing some gray-brown feathering. Tips of the longest scapulars pale brown to whitish forming pale scapular crescents, and the tips of the longest tertials whitish forming pale tertial crescents. Rump and uppertail coverts white with a minimal amount of dark flecking and smudging.

WINGS Wing coverts much as in first-winter, but having a little more of the dark gray feathering on the lesser coverts, contrasting sharply with the much more uniformly colored back. Primaries blackish with no trace of white mirrors, though inner primaries tipped pale gray to white. Secondaries dark brownish-gray tipped with pale gray forming a pale line along the trailing edge of the wing. Underwing coverts and axillaries dirty brown mottled with white, appearing quite dark, and matching the color of the underside of the flight feathers.

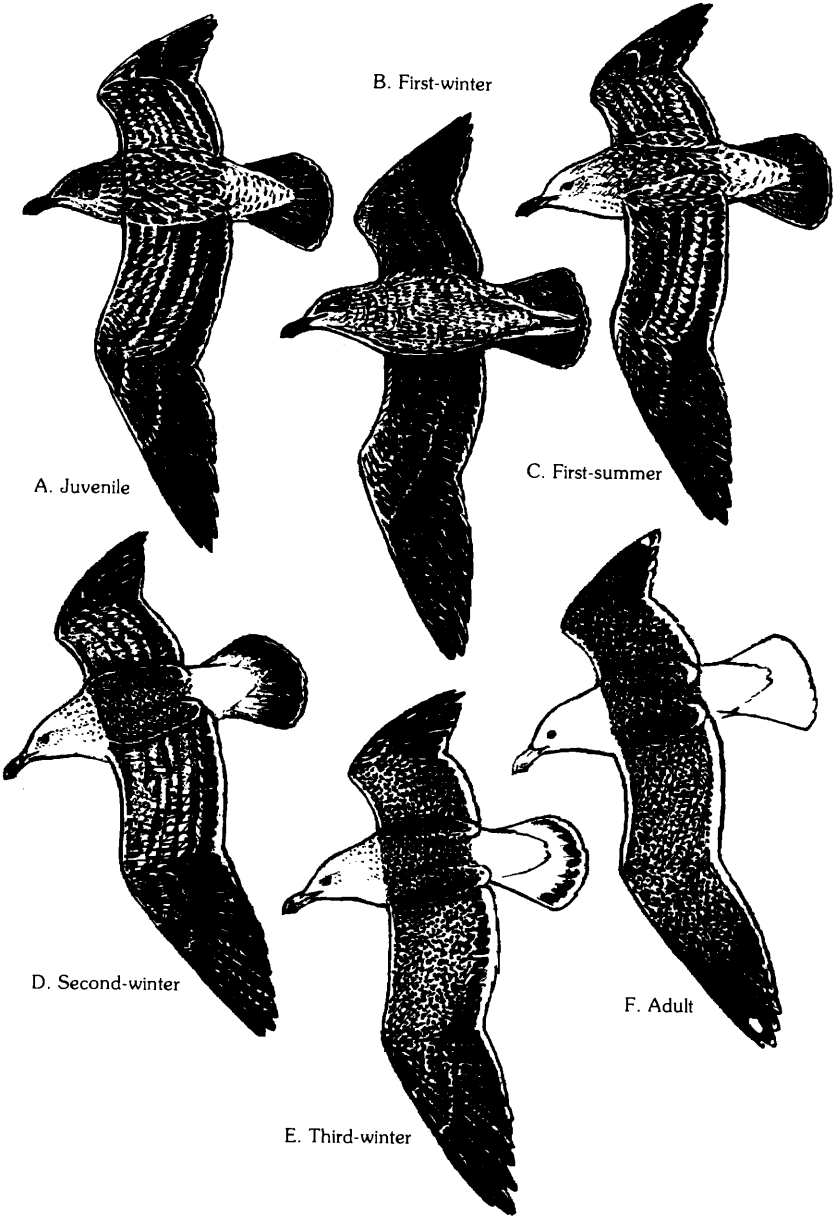

Figure 3. Western Gull (*Larus occidentalis*).

TAIL Mostly blackish, but some white mottling towards the base, particularly at the base of the outer tail feathers, and narrow pale terminal band formed by pale gray tips to the individual feathers.

BARE PARTS Iris pale gray-brown. Orbital ring gray. Bill pink with varying amounts of black on the tip, though the very tip is normally whitish, the black merging into the pink rather than appearing sharply separated as in first-winter California Gulls (*Larus californicus*). Legs and feet dusky-pink.

Second-summer. Acquired by head and body molt between February and April, the wing and tail feathers of second-winter being retained.

HEAD AND BODY Much as in second-winter, but head and underparts whiter, and mantle and scapulars acquiring more of the uniform dark gray associated with the adult.

WINGS AND TAIL Much as in second-winter, but wing coverts acquiring a little more of the dark gray, and the underwing coverts and axillaries appearing a little whiter. The flight feathers are normally paler due to wear and bleaching.

BARE PARTS The orbital ring may show a trace of yellow and the bill can show some yellow tones in the areas of pink, with the black at the tip becoming more restricted.

Third-winter (Figures 3E and 6). Acquired by complete molt between July and October.

HEAD White with dusky mottling, particularly around the eye, and on the nape and hindneck, the extent of this mottling being more than that present in adult, but much less than that of a Herring Gull.

Figure 4. A juvenile Western Gull showing pattern of upperparts. Carmel, Monterey County, California, August 1982. *Photo by Don Roberson*

BODY Underparts mostly white with varying amounts of dusky mottling about the sides of the breast, clearest on the center of the breast and upper belly. Mantle and scapulars uniform dark gray with a hint of brown, the ends of the longest scapulars and tertials being white forming scapular and tertial crescents. Rump and uppertail coverts white.

WINGS Similar to adult in winter, the entire upper surface being uniform dark gray merging into the black of the primaries, and the white tips on the secondaries and inner primaries forming a bold white line along the trailing edge of the wing. However, the outer primaries lack the white tips and there is no mirror on the outer primary, and varying amounts of blackish coloration are present along the leading edge of the outer wing. including the primary coverts and alula. Most individuals retain some brown feathering on the wing coverts that disrupts what would otherwise be the uniform appearance of the adult. Underwing coverts and axillaries white flecked with dark brown, appearing mostly white.

TAIL White with black subterminal marks of highly variable extent and pattern forming an irregular black band toward the tip of the tail.

BARE PARTS Like adult except for bill which is typically pinkish with varying amounts of black towards the tip and which often lacks red at the gonys.

Third-summer. Acquired by head and body molt between February and April, the wing and tail feathers being retained.

Similar to third-winter, except head and underparts entirely white, all dusky mottling having been lost. Flight feathers, particularly the primaries, show evidence of wear

Figure 5. A juvenile Western Gull in flight. Carmel, Monterey County, California, August 1982. Compare this with the juvenile Yellow-footed Gull in Figure 10.
Photo by Don Roberson

(white tips to primaries lost). Bill frequently contains red at the gonys along with the black near the tip and is now decidedly yellow (some individuals have adult bill coloration in third-summer).

Adult winter (fourth winter) (Figure 3F). Acquired by complete molt between July and October.

HEAD AND BODY Head entirely white with faint dusky mottling evident on most individuals (this mottling can be somewhat restricted and difficult to see unless carefully looked for). Underparts entirely white. Mantle and scapulars uniform dark gray. White tips to longest scapulars and tertials form bold white scapular and tertial crescents. Rump and uppertail coverts entirely white.

WINGS AND TAIL Upper surface of wing uniform dark gray merging into black primaries. White feathering at the marginal coverts form a thin white line along the

Figure 6. A third-winter Western Gull in flight showing typical tail pattern. A second-winter Yellow-footed Gull looks similar, but would have much more black in the tail, and would lack dusky markings about the head. *Photo by Don Roberson*

leading edge of the inner wing. White tips to the secondaries and inner primaries form a bold white trailing edge to the wing. Outer primaries black with small white tips and somewhat restricted white mirror on outer primary (white mirror present on second primary in some individuals). Underwing coverts and axillaries pure white, contrasting sharply with black underside of primaries and dark gray underside of secondaries (white trailing edge to the wing is a prominent feature on Western Gulls viewed from below). Tail entirely white.

BARE PARTS Iris pale gray to white. Orbital ring pale yellow. Bill yellow with orange-red spot at gonys and whitish tip. Legs and feet dark pinkish.

Adult summer. Acquired by head and body molt between February and April, the wing and tail feathers being retained.

As adult winter, except all traces of dusky marking about the head lost, the bird appearing clean white throughout with dark gray mantle and upper wings merging into the black primaries. White tips to outer primaries invariably lost due to wear. Coloration of bare parts more intense at the onset of nesting, the yellow of the orbital ring being brighter, and the color of the bill deeper.

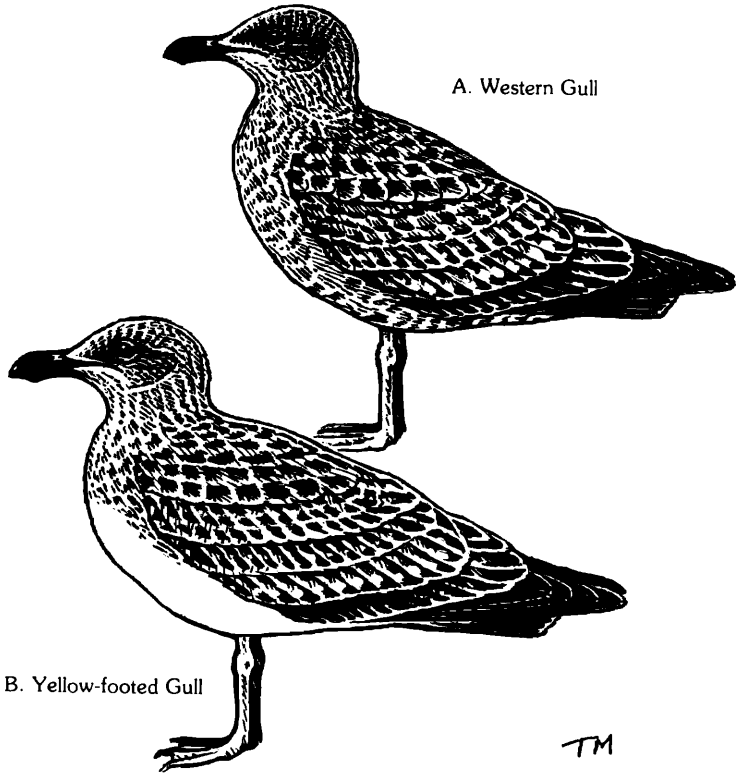

Figure 7. Juvenal plumage of Western Gull (*Larus occidentalis*) and Yellow-footed Gull (*L. livens*).

YELLOW-FOOTED GULL *Larus livens*

This species is the large dark-backed gull that is resident in the Gulf of California. A historic review of this species, and the Western Gull with which it had until recently been considered conspecific, illustrates the state of confusion surrounding this bird. John James Audubon (1839) first described the Western Gull from two specimens collected near the mouth of the Columbia River in southern Washington in early October 1836, and named the bird *Larus occidentalis*. Subsequent ornithologists believed the range to be the entire west coast of North America from Washington to the tip of Baja California and throughout the Gulf of California. Dwight (1919) pointed out that the more southern Western Gulls had noticeably darker mantles, and on the basis of a specimen collected on San Jose Island in the Gulf of California, described the darker mantled birds as a new race *Larus occidentalis livens*, retaining *Larus occidentalis occidentalis* for the more northern paler-mantled birds, and stated that both forms have yellow feet. *Larus occidentalis livens* was believed to range from central California south to the tip of Baja California and throughout the Gulf of California.

Following Dwight's description of *livens* there was a period of disagreement among authorities as to the color of the legs and feet of Western Gulls, with Allan Brooks (1922) stating that all Western Gulls along the Pacific coast have pink legs. However, in 1925 A. J. Van Rossem correctly assessed the situation, pointing out the fact that all Western Gulls on the Pacific coast have pink legs, while those in the Gulf of California have yellow legs. This observation led to the separation of the Western Gull into three races, the nominate form *occidentalis* occurring along the Pacific coast from Washington to central California, a newly described dark-mantled, pink-legged form *wymani* occurring from central California to the Pacific coast of Baja California, and the yellow-legged birds of the Gulf of California retaining the name *livens* (Dickey and Van Rossem 1925). Donald Dickey and A. J. Van Rossem suggested the yellow-legged birds of the Gulf of California might be specifically distinct, but lacked current knowledge about the breeding distribution in Baja California, and the possible intergradation between *wymani* and *livens*.

We now know that the vocalizations of Yellow-footed Gulls differ from those of Western Gulls, in particular in the "long call" of *livens*, which is noticeably lower pitched, justifying suggestions that the Yellow-footed Gull be treated as a separate species from the Pacific coast birds (Hand 1981). In addition, breeding colonies of Yellow-footed Gulls differ from those of Western Gulls. Yellow-footed Gulls place their nests on beaches in a row roughly paralleling the tide line, allowing them unimpeded access to the water without having to cross other territories (Hand et al. 1981); in sharp contrast, Western Gulls form clustered colonies high above the water. These differences support the suggestion that *livens* is a distinct species. It is also believed that the Yellow-footed Gull is confined to the Gulf of California as a breeding bird, and that the Western Gull breeds no farther south than halfway down the Pacific coast of Baja California (Figure 2); thus nesting areas do not overlap. In actuality, there is very little contact between these two species at any time of the year, since few Western Gulls enter the Gulf of California, and the Yellow-footed Gull is accidental along the Pacific coast.

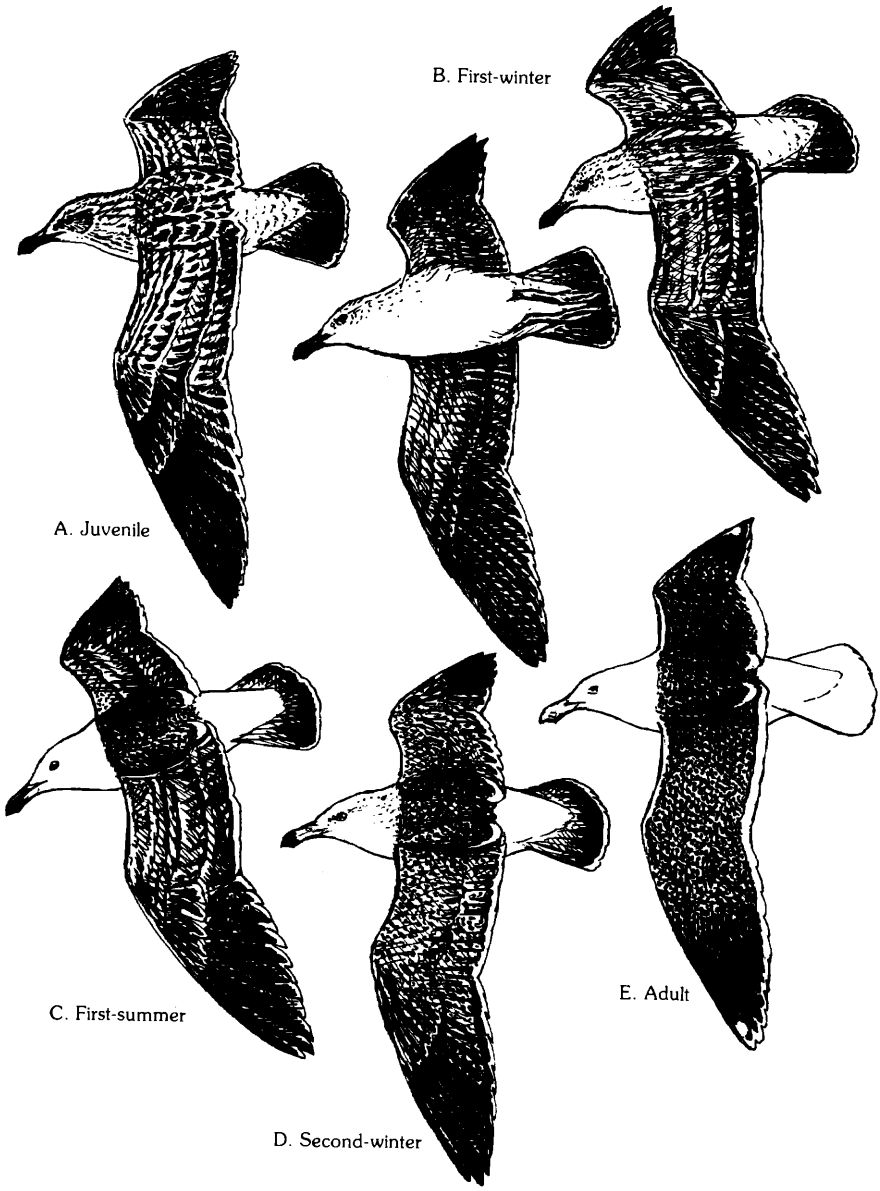

Figure 8. Yellow-footed Gull (*Larus livens*).

Sketches by Tim Manolis

The Salton Sea in southeastern California is the only locality in the United States where Yellow-footed Gulls regularly occur, and their occurrence there is a relatively recent phenomenon. The first record was of an adult found near Salton City on 22 August 1965 (Devillers et al. 1971). Numbers gradually increased through the 1960s, with as many as 45 individuals a day recorded during July 1969. This increase continued through the 1970s, and today the Yellow-footed Gull is a relatively common late summer visitor (e.g., 250+ on 7 August 1982), present between late June and the end of September, with smaller numbers (15 maximum) remaining through the winter, and an occasional straggler found in spring and early summer. Most are found along the bare sandy shores and around rocky jetties, as at Salton City, being much scarcer on mudflats, as at the mouth of the Whitewater River, but occasionally found in irrigated fields, as south of the Salton Sea. Most individuals found in winter and spring are in first-year plumage, there being no records of adults at this time of the year. Juveniles appear in early July (10 July 1976, 1977 and 1982 are the earliest arrival dates for juveniles in the past 10 years) at the time the species is most numerous on the Salton Sea.

There are only four records from along the coast of California, all in San Diego County: a second-summer female collected in San Diego on 23 June 1966 (San Diego Natural History Museum 36001); an adult seen in the Imperial Beach/Otay area on 7 December 1978 and 19 January 1979 (Am. Birds 33:314, 1979); and two adults (one a third-winter bird showing some black in the tail) seen around Otay between 13 and 28 February 1981 (Am. Birds 35:336, 1981).

The Yellow-footed Gull is one of the larger gulls occurring along the west coast of North America, being on average slightly larger than the similar appearing Western Gull, but with a heavier bill. However, unlike all other large gulls occurring in North America, the Yellow-footed Gull acquires adult plumage in only 2½ years. Yellow-footed Gulls nest early in the year, with eggs laid by early April, and young fledged by late June. The complete molt of late summer occurs earlier than that of the more northern large gulls, and starts as early as May, being virtually complete by September. The partial molt of late winter also occurs earlier, with birds showing evidence of molt in December; this molt is completed by March.

The juvenile Yellow-footed Gull is strikingly different from the juvenile Western Gull, having more boldly patterned upperparts, conspicuous white underparts, and a whiter rump. The overall color is quite dark about the head and neck, though paler than a juvenile Western Gull, and not as brown as a Herring Gull. The back is more boldly patterned than that of a juvenile Western Gull, the feathers being broadly edged with light gray-buff, adding a slight brownish tone, though still extremely dark. The belly and undertail coverts are mostly white, strikingly different from the sooty-gray underparts of the juvenile Western Gull, and the rump is conspicuously whiter (less spotted with dark flecking) than that of a juvenile Western Gull, contrasting sharply with the dark tail and back.

In the first winter the Yellow-footed Gull acquires much white about the head and neck, but loses much of the bold patterning on the upperparts, the back being a more uniform gray-brown. At this stage it more closely resembles a second-winter Western Gull, but lacks any of the dark gray feathering on the

mantle. The dark gray feathering like that worn by adults is present on the mantle in first-summer plumage, and the bird now resembles a second-summer Western Gull, but having more black in the tail and with the legs showing traces of yellow.

Second-winter birds look much more similar to adults, having the dark gray of the mantle extending across the wing coverts and merging into the black of the primaries. However, the primaries lack white mirrors, and the wing coverts show a definite brownish cast. At this stage the bird most closely resembles a third-winter Western Gull, but has much more black in the tail, the bill is yellow with a black tip, and legs and feet are yellow. Second-summer birds look much the same, but are whiter about the head and show signs of wear on the wings and tail. Many second-summer birds have the full colored bill of an adult.

Adult Yellow-footed Gulls in winter are entirely white about the head and underparts, with dark gray mantle and uppersides to the wings merging into the black of the primaries, looking similar to the Western Gulls found along the coast of southern California. However, these adults appear to lack dusky markings on the head in winter, and have bright yellow legs and feet instead of the pink legs and feet of the Pacific coast birds. In summer the white tips to the primaries are lost due to wear, and the color of the bare parts is brighter, but the plumage is otherwise identical to winter. A more detailed description of each plumage follows.

Juvenile (Figures 7B, 8A, 9 and 10).

HEAD Top of head and hindneck gray-brown finely streaked with white, the individual feathers being gray-brown finely edged with white. Eye-crescent and ear coverts darker gray-brown, lacking white streaking, giving the bird a dark facial appearance. Chin, throat and foreneck white liberally marked with diffused elongated spots of gray-brown, the individual feathers being mostly white mottled with gray-brown, these diffused spots terminating in a somewhat well-defined line across the lower breast, forming an obvious line of demarcation between the dark breast and the white belly.

BODY Underparts mostly white with some diffused gray-brown mottling on the flanks, and widely spaced spots on the undertail coverts. Mantle and scapulars relatively boldly patterned, the individual feathers being dark gray-brown boldly edged with pale whitish-buff, the entire upperparts appearing fresh and unworn. Rump and uppertail coverts white with limited dark gray-brown flecking throughout, this flecking being noticeably reduced from that found on juvenile and first-winter Western Gulls, resulting in a whitish rump that contrasts sharply with the blackish tail and dark back.

WINGS Wing coverts dark gray-brown boldly patterned with whitish-buff matching the mantle and scapulars. However, greater coverts (including primary coverts) are darker with pale edgings more restricted. Primaries and secondaries uniform blackish with no obvious pale edges on the primaries, but narrow pale tips on the secondaries form a narrow line along the trailing edge of the wing. Underwing coverts and axillaries dark gray-brown, with a minimal amount of white flecking visible, appearing almost blackish in the field, and looking darker than the undersides of the flight feathers.

TAIL Entirely blackish with pale gray tips to the individual feathers forming a narrow terminal band.

BARE PARTS Iris dark. Orbital ring dark gray. Bill entirely black with small amount of white at the very tip (some individuals show small amount of pink at the very base of the lower mandible). Legs and feet a dirty-looking pinkish with no indication of yellow at this early stage of development.

First-winter (Figures 8B, 11 and 12). Acquired by post-juvenal molt of head and body feathers between July and September, the wing and tail feathers being retained.

HEAD AND BODY Head and neck much whiter than in juvenile, there being no contrast in color between the breast and belly because most of the diffuse gray-brown elongated spotting has been lost. In addition, much of the darkness around the eye and on the ear coverts is lost, the facial area being mostly whitish with dark feathering restricted to the area immediately around the eye (mostly ahead of the eye). Mantle and scapulars more uniform dark gray-brown, having a definite gray cast; most of the bold whitish edgings to the feathers are now gone. Light gray-brown tips on the longest tertials form pale diffused tertial crescents. Rump and uppertail coverts white with only a limited amound of gray-brown flecking, appearing whiter than in the juvenile.

WINGS AND TAIL Wing coverts gray-brown similar to the mantle and scapulars, most of the pale edges to the individual feathers having been lost. Underwing coverts and axillaries much as in juvenile. Primaries, secondaries and tail feathers are those of the juvenile.

BARE PARTS Iris remains dark and the orbital ring remains dark gray. Bill mostly black with varying amounts of pinkish-yellow at the base, particularly on the lower mandible, and small amount of white present on the very tip. Legs and feet pinkish, much as in juvenile.

First-summer (Figures 8C, 13 and 14). Acquired by partial molt involving only head and body feathers between December and March, the juvenal wing and tail feathers being retained.

Figure 9. A mixed group of Yellow-footed Gulls including four juveniles, one bird in transition from first-summer to second-winter plumage (the adult-like bird in the center) and two full adults. Salton City on the Salton Sea, July 1982.

Photo by Richard E. Webster

HEAD AND BODY Appearance much as in first-winter, except head and underparts now generally whiter with diffuse brown streaking confined to hindneck, and a limited amount of brown spotting in the immediate area of the eye. Mantle and scapulars now mostly uniform dark gray with a brownish cast, the feathers themselves being dark gray with a trace of brown. Rump and uppertail coverts white, virtually devoid of dark flecking.

WINGS AND TAIL Wing coverts remain much as in first-winter plumage, contrasting with the uniform gray appearance of the mantle and scapulars, but due to wear are now paler, the greater coverts often showing much abrasion. Primaries and secondaries, along with the tail feathers, are those worn in juvenal plumage, but now appear browner due to wear and bleaching. Underwing coverts and axillaries show more white flecking than in first-winter, but remain quite dark.

Figure 10. A juvenile Yellow-footed Gull in flight showing the white underparts. Mouth of the Whitewater River at the north end of the Salton Sea, July 1982.
Photo by Richard E. Webster

BARE PARTS Iris is now noticeably paler than in juvenile, some individuals acquiring noticeably whitish iris by the end of the first summer. Orbital ring remains gray, slightly paler than in juvenile. Bill pinkish-yellow at the base and black at the tip, the pinkish-yellow merging with the black at about the mid-point of the bill, and the very tip of the bill retaining the small area of white. Legs and feet now show strong traces of yellow.

Second-winter (Figures 8D and 15). Acquired by a complete molt between June and September.

HEAD Mostly white with fine diffuse gray-brown streaking on the crown and ear coverts extending down the nape, and becoming more conspicuous (long diffuse gray-brown streaks) on the hindneck, and occasionally extending to the sides of the breast.

BODY Underparts mostly white, but not appearing clean white as in the adult. Mantle and scapulars uniform dark gray (a shade paler than the dark gray of the adult) with a trace of brown. White tips to the longest scapulars and tertials form prominent scapular and tertial crescents. Rump and uppertail coverts white.

WINGS Wing coverts uniform dark gray matching the mantle and scapulars, but containing a trace more brown coloration. The fresh primaries and secondaries are blackish, with pale tips to the secondaries and inner primaries forming a white line along the trailing edge of the wing. Underwing coverts and axillaries dark brown liberally flecked with white, with the greater underwing coverts being mostly white.

TAIL Mostly blackish with whitish terminal band formed by pale gray tips to the feathers, the individual feathers being dark gray with broad black borders, there being only a minimal amount of white mottling at the very base of the feathers, and that confined to the inner webs of the feathers. The overall effect is of a uniform blackish tail contrasting sharply with the white rump. Although the bird now appears most like the third-winter Western Gull, the tail itself appears mostly dark, never showing the white at the base which is so evident on third-winter Western Gulls.

Figure 11. A Yellow-footed Gull in transition from juvenile to first-winter plumage showing the paleness about the head and neck. North end of the Salton Sea, August 1982. *Photo by Richard E. Webster*

Figure 12. A first-winter Yellow-footed Gull in flight showing the contrasting pale rump. Red Hill at the south end of the Salton Sea, November 1982. *Photo by Jerry Oldenettel*

Figure 13. A first-summer Yellow-footed Gull standing among Ring-billed Gulls (*Larus delawarensis*) indicating relative size, and showing uniform dark gray on the mantle. Salton City on the Salton Sea. *Photo by Richard E. Webster*

BARE PARTS Iris now appears whitish, but not the pale white of an adult. Orbital ring pale yellowish. Bill yellow with terminal third black, and the very tip whitish, there being a relatively well-defined line of demarcation between the yellow of the base and the black of the tip, and a trace of red at the gonydial angle of some individuals. Legs and feet yellow with traces of pink disappearing as the winter progresses.

Second-summer. Acquired by partial molt of head and body feathers between December and March, the wing and tail feathers being retained.

HEAD AND BODY Head and neck pure white as are the entire underparts. Mantle and scapulars uniform dark gray with a slight brownish tone. White tips of the longest scapulars and tertials form prominent scapular and tertial crescents. Rump and upper-tail coverts entirely white.

WINGS AND TAIL Wing coverts uniform dark gray matching the mantle and scapulars, but showing a little more brown coloration, especially on the greater coverts (feather wear will exaggerate the brown coloration). Blackish primaries and secondaries now showing the effects of wear. Underwing coverts and axillaries virtually uniform white with only a minimal amount of dark flecking confined to the lesser underwing coverts. Tail mostly blackish as in second-winter, but like wing feathers, showing effects of wear. The presence of varying numbers of all-white rectrices in some individuals results in a checkered pattern, and suggests that some tail feathers may be molted when the gull goes from second-winter to second-summer.

Figure 14. A Yellow-footed Gull in transition from first-summer to second-winter plumage, showing extent of diffused streaking on the head and neck. Salton City on the Salton Sea, July 1982. *Photo by Richard E. Webster*

BARE PARTS Iris pale yellow to whitish. Orbital ring pale, showing traces of yellow. Bill mostly yellow at the base with black near the tip becoming much more restricted, and varying amounts of reddish color present at the gonys, with the very tip whitish. Legs and feet yellow.

Adult winter (third-winter) (Figure 8E). Acquired by complete molt between June and September.

HEAD AND BODY Entire head and underparts pure white, there being no apparent dusky markings about the head as in most other large species of gulls in winter. Mantle and scapulars uniform dark gray with prominent white scapular and tertial crescents. Rump and uppertail coverts pure white.

WINGS AND TAIL Wing coverts uniform dark gray matching the color of the mantle and scapulars, merging into the black of the primaries. White feathers at the marginal coverts form a thin white line along the leading edge of the inner wing. The fresh primaries are black with restricted white spots at the very tips, and a small white mirror near the tip of the outermost primary. Secondaries dark gray to blackish with white tips forming a line along the trailing edge of the wing. Underwing coverts and axillaries entirely white contrasting with the blackish coloration on the underside of the primaries and secondaries. Tail entirely white (a number of individuals in third-winter show small amounts of black on the inner webs of some of the feathers).

BARE PARTS Iris pale yellow to whitish. Orbital ring pale yellow. Bill yellow with orange-red spot at the gonys. Legs and feet yellow matching the bill color.

Adult summer. Acquired by head and body molt between December and March.

Identical to adult winter. However, white tips to primaries lost due to wear, and the coloration of the bare parts more intense at the onset of the nesting season. The orbital ring is bright yellow (some individuals show a trace of orange), the bill is bright yellow with red spot at the gonys, and the legs and feet match the yellow color of the bill.

Figure 15. A second-winter Yellow-footed Gull showing similarity to adult birds. Red Hill at the south end of the Salton Sea, November 1982. *Photo by Jerry Oldenettel*

Although the Yellow-footed Gull most closely resembles the Western Gull as indicated above, confusion between the two is rare since their ranges seldom overlap. On the Salton Sea Herring Gulls are common in winter (mid-October to mid-April), but never show white underparts in first-winter plumage as do all Yellow-footed Gulls, and normally show some pale gray on the mantle when more than a year old. California Gulls are not as large as Yellow-footed Gulls, and have decidedly smaller bills. However, they can appear dark-mantled, and do have yellow legs in spring, but all California Gulls have dark eyes (Yellow-footed Gulls have light eyes after the first year), and never have the very dark mantle of a Yellow-footed Gull. Other large gulls found on the Salton Sea include Glaucous-winged Gulls (rare) and Thayer's Gulls (*Larus thayeri*) (rare), both having noticeably pale primaries in immature plumages, particularly from the underside, that separate them from Yellow-footed Gulls. These same species can be found associating with Yellow-footed Gulls in the Gulf of California, and are all relatively common winter visitors along the Pacific coast of southern California where the occasional Yellow-footed Gull has occurred.

Armed with the above information, today's observer can confidently go into the field, and not only correctly identify adult Western and Yellow-footed gulls, but can also identify and age those birds in immature plumages, and possibly attempt to assign some of the Western Gulls to race. Extralimital occurrences should be documented with carefully taken notes and/or good photographs. The accumulation of these records will aid in our understanding of the distribution and movements of these birds.

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