

IDENTIFICATION OF JUVENILE LONG-TAILED JAEGER
FROM PHOTOGRAPHS¹

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As one who enjoys pelagic bird photography, I have often reflected on the implications of Wayne Petersen's thoughtful article printed in these pages in 1982, which addressed, among other things, the difficulty of using photographs to identify small shearwaters. The pictures reprinted in that article were taken on a Bird Observer trip to offshore waters south of Martha's Vineyard. They succeeded in placing the identity of one particular small shearwater, believed at the time to be an Audubon's (*Puffinus lherminieri*), in more or less perpetual limbo.² The debate that centered on these photographs was a catalyst for close study of small shearwater identification, and thus they did serve a useful purpose. On the other hand, the photographs did not resolve the question of species identification that they had raised, and their failure to do so pointed up significant limitations in the use of photographs for field verification, a shortcoming noted in Petersen's article.

As a photographer, what I found disturbing was the thought that pelagic photographs - taken as they often are from pitching decks under deplorable lighting conditions - might actually cloud the question of a bird's identity more often than clarify it. This possibility looms especially large in the case of juvenile jaegers, a group that can be as forbidding to identify in the field as any pelagic birds, and whose distinguishing field characteristics, discussed more fully below, seem especially elusive to the camera. It is satisfying, then, to report here a situation in which a juvenile jaeger identification was made using photographs. The individual in question, originally thought to be a Parasitic Jaeger (*Stercorarius parasiticus*), now seems clearly to have been an intermediate-morph juvenile Long-tailed (*S. longicaudus*). Especially encouraging is the fact that the photographs were useful in isolating field marks that may assist in future observations of the species. (The correct identification of the photos presented here was first pointed out by Wayne Petersen. The identification has since been corroborated by Benton Basham, Noble Proctor and Tom Davis.

The Sighting.

The jaeger photographed was one of a small flock of three to five individuals sighted on September 7, 1985, on the continental

¹The author wishes to thank Peter Joost of New York and Wayne Petersen and Noble Proctor for their comments on the draft of this paper.

²Even three and a half years later, it is difficult to make a conclusive case regarding the mystery shearwater of 1982. With the passage of time, the argument for Audubon's has gained ground in this author's mind.

shelf near an underwater feature known as Hydrographer Canyon.³ The sighting took place during a 48-hour Bird Observer trip to offshore waters southeast of Nantucket. The jaegers in the flock were smaller than a nearby Pomarine Jaeger and flew in ternlike style with uneven wing motions, in contrast with the more even, direct flight of the Pomarine. As the flock approached the Pomarine, one of the small jaegers broke off and began harassing its larger congener. The Pomarine took evasive action, and the two birds made several passes across the bow before the smaller jaeger dropped down rather suddenly and flew off at low altitude. None of the small jaeger flock were seen after this encounter.

The small jaegers at the time were identified as Parasitic, even though the sighting took place far offshore, where the Parasitic is a comparatively scarce bird. Although several observers initially considered the possibility of Long-tailed Jaeger, the overall brownish cast of the bird described above (as compared with the grayish coloration generally ascribed to Long-tailed Jaegers in the field guides) influenced the final consensus identification.

Photographs taken at the time (Figures 1 and 2) show a dark, slender jaeger with a delicate bill and strong, evenly spaced barring on the upper and lower tail coverts and underwing. The crown is indistinctly marked with dark brown feathering, and the nape is surrounded by a broad, buff yellow band. The back is blackish brown and the flight feathers a dull black. The tail and wings appear long and thin, and the central rectrices are rounded at the end, rather than pointed. The white patch at the base of the primaries, seen from below, is slight and crescent-shaped; from above, only the shafts of the two outer primaries show white.

The photographs also provide some evidence as to the behavior of the small jaeger - its jizz, to use the British term describing the overall impression that a bird conveys in the field (see Harrison 1983, p. 20). Several of the chase shots (Figure 1 is representative) show a slight and highly agile pursuer that characteristically flew with bent wings and demonstrated a high degree of maneuverability. The dorsal shot (Figure 2) shows the bird having just dropped abruptly toward the water surface after breaking off its chase, gliding in shearwater style, on stiff wings, into the wind.

In concluding that the small jaeger photographed at Hydrographer Canyon was a Long-tailed, several pieces of evidence were taken into account, including behavioral characteristics noted in the

³Hydrographer Canyon is located southwest of Georges Bank at approximately 69 degrees longitude, 40 degrees latitude. It is close to the "front line" between cooler shelf waters and the continental slope waters warmed by the Gulf Stream. Its configuration creates upwellings of nutrients from deep waters, which support a rich pelagic ecosystem, including cetaceans as well as pelagic birds.

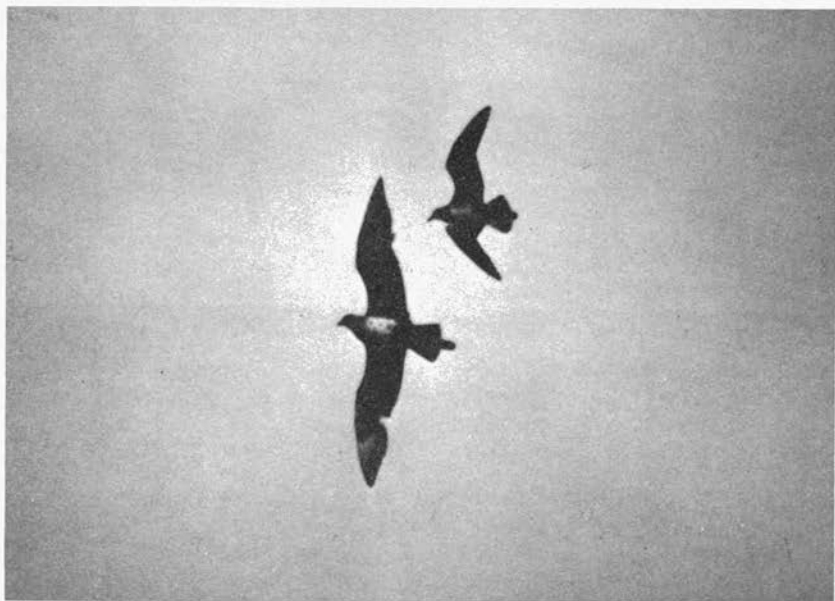


Figure 1. *Juvenile Long-tailed Jaeger (right) harassing Pomarine Jaeger*
Hydrographer Canyon, September 7, 1985
Photo by Rick Cech



Figure 2. *Dorsal view of juvenile Long-tailed Jaeger*
Photo by Rick Cech

field and the date and location of the sighting, as well as the photographic evidence described above. A more fully detailed discussion of the identification of juvenile Long-tailed Jaegers is set forth below.

Ecology of the Long-tailed Jaeger.⁴

The Long-tailed Jaeger is among the most northerly breeding of bird species, with a circumpolar nesting range that extends along the entire marine coastline of the Arctic Ocean. The species typically nests on dry tundra patches and on rocky ground, often farther inland than other jaegers. Conspicuous residents of the arctic summer, breeding Long-tailed Jaegers are noted for hovering in flight over the tundra while hunting lemmings, the staple item in their diet. Although lemmings, in peak concentration years, make up as much as 99 percent of the jaegers' summer food, songbirds, fish, insects, and crowberries (*Empetrum nigrum*) are also taken, especially when rodent populations are thin.

Long-tailed Jaegers arrive on the nesting ground in late May or in June, often in pairs or small groups. The Atlantic spring migration is relatively brief and concentrated, with large flocks sometimes observed (Wynne-Edwards 1935). Nesting takes place in June and July. Typical clutch size is one to three eggs, varying with the availability of prey. Adults defend the nesting territory energetically, especially when downy young are present, attacking even falcons and predatory mammals such as foxes.

Adult and juvenile Long-tailed Jaegers begin to depart the breeding grounds in late July and August, often migrating southward in small groups of three to five individuals. Most sightings in the North Atlantic occur in late August and early September (Cramp 1983). The migration route in the Pacific lies within a narrower corridor and runs closer to shore than the Atlantic path; this may account, at least in part, for the relative frequency of sightings off the Pacific coast. Of all the jaegers, the Long-tailed is the most pelagic during migration. Originally it was believed that this jaeger migrated overland, but this view had been discredited by the mid-1930s.⁵

The winter range of the Long-tailed Jaeger is not as yet perfectly known, although the primary wintering grounds appear to be off the east and west coasts of South America and the east coast of Africa, especially near Namibia. On arriving at the wintering grounds in late September and October, adult jaegers undergo a complete molt.⁶ A partial prenuptial molt of only the body feathers occurs in March and April to produce the adult breeding plumage, including new tail streamers.

⁴Sources for this discussion include Bent (1921), Cramp (1983), Harrison (1983), Terres (1980), and Wynne-Edwards (1935).

⁵Wynne-Edwards (1935) presented early evidence that Long-tailed Jaegers migrate far out at sea, noting that "the current opinion that 'the main migration route is overland rather than coastwise (Bent 1921, p. 27). . . is doubly mistaken."

While full adult plumage does not occur until the fourth calendar summer (after three winter migrations), immature birds closely resemble the adult by the third calendar summer, except for traces of juvenile plumage such as faint barring on the underparts. The adult bird is unmistakable on a close view, although the diagnostic long tail streamers are often broken or difficult to discern, especially against dark backgrounds. There is a rare dark morph in the adult, but it appears that only the juvenile is regularly polymorphic. This contrasts notably with the plumages of Pomarine and Parasitic jaegers, both of which are polymorphic in adult as well as juvenile plumage.

Like all jaegers, the Long-tailed obtains a portion of its food by harassing other birds, inducing them to disgorge their catch in midair. This practice of piracy is called kleptoparasitism. The Long-tailed is often said to be less piratical than other jaegers. Whether or not this is true (Harrison 1983), the bird is noted for a prolonged chasing behavior, which observers have labeled as "playful":

[Long-tailed Jaegers] appear to be much more playful than the other jaegers, and parties of six or eight may be seen pursuing one another back and forth over the marsh [during the summer]. (Bent 1921)

At other times it will chase and scrap with its companions or any bird at hand, swooping and swerving and turning on its back as if it had no joints at all. (Wynne-Edwards 1935: observation at sea)

Identification of Juvenile Long-tailed Jaegers.⁷

Defining criteria for the differentiation of juvenile Parasitic and Long-tailed Jaegers in the field has been an item of despair in much of the field guide literature:

The smallest of the [jaegers, the Long-tailed is] readily distinguished when an adult by its long central tail feathers, but [is] not recognisable in life in immature plumage. (Alexander 1954)

Immature jaegers . . . must be given up as nigh hopeless to distinguish in the field. . . . You will have to let many of them go by as 'just Jaegers.' Even experts do. (Peterson 1947)

⁶Nonbreeding birds may begin the postnuptial molt as early as July. The plumage sequence in young Long-tailed Jaegers is not fully understood (Harrison 1983).

⁷The juvenile plumage discussed here is that worn in the first southward migration (first calendar year). Second calendar summer birds still apparently retain most aspects of juvenile plumage, though the literature is somewhat tentative on the exact sequence at this point. By the third calendar year, a subadult plumage is worn that is largely similar to adult plumage (Cramp 1983; Harrison 1983). Many field guides refer to all subadult birds as immatures.

There do not appear to be any simple ways of identifying non-adults [Parasitic and Pomarine] except by manner of flight. . . . The separation of non-adult Parasitic and Long-tailed Jaegers is more difficult. (Finch et al. 1978)

Field guides frequently rely on vaguely worded or subjective criteria in the identification of juvenile Long-tailed Jaegers. Size, heaviness of the bill, smallness of the white flash at the base of the primaries, flight characteristics, and overall gray color are mentioned as distinguishing field marks. In the *Audubon Master Guide* (1983), Naveen writes that "[s]ubadults are best distinguished by flight characteristics and shape, although distinguishing them from young Parasitics may be quite difficult Under some conditions, the immature Long-tailed can be recognized by its overall gray color, its narrow wings, and rather even mottling on the underwing."

Such descriptions are not erroneous as such, but their incompleteness and generality limit their value in the field. By comparison, a more reliable profile of the juvenile Long-tailed Jaeger has emerged in recent years that should be of significant assistance in field identification.⁸ The following description includes both "hard" and "soft" field marks but emphasizes objectively verifiable characteristics wherever possible.

1. Size and build. The Long-tailed Jaeger is distinctly smaller than any other jaeger in body length, having only a slight overlap with the Parasitic (12-15 inches versus 14-22 inches).⁹ Size is particularly important when comparing the juvenile Long-tailed with the Pomarine. The body of the Long-tailed is slender, and the wings and tail are long and thin in proportion to the body. The wings are more rounded at the tip than those of Pomarines or Parasitics. In flight, the forewing is frequently carried in a bent position and is conspicuously long. The head is small and the bill is slim, with a proportionately longer "nail" than the Parasitic's. The relative narrowness of the wings can be seen best at the point of attachment to the body.

2. Coloration. It is generally reported that there are three variable color morphs of the juvenile Long-tailed Jaeger - light, intermediate, and dark. It may be more accurate to report a single morph with many intergrades and certain extreme individuals, but this debate is best left to morphologists - or perhaps to semanticists. Unless otherwise noted, the description here applies to the intermediate morph, which is most commonly seen.

⁸In the author's view, the best balanced and most comprehensive description of the plumage and behavioral characteristics of the Long-tailed Jaeger appears in Harrison (1983). Cramp also contains a wealth of information.

⁹These measurements exclude the tail streamers. Total length is misleading since the length of the Long-tailed Jaeger's rectrices greatly exceeds that of other jaegers. The figures are derived from Harrison (1983).

The back color of the juvenile Long-tailed ranges from grayish brown to blackish brown ("clove brown" according to Bent 1921). When fresh, the back feathers are edged with a cinnamon brown or a plumbeous color; with wear, this edging becomes white, creating a light dorsal barring (Bent 1921, p. 24; Cramp 1983, p. 683). See Figure 2. The Long-tailed Jaeger never shows tawny or rufous coloration on the back as is seen in the Parasitic Jaeger.¹⁰ As noted above, the bird in Figures 1 and 2 had blackish brown dorsal plumage, a feature misleading to several experienced observers who expected to see grayer tones in birds in juvenile plumage.

The flight feathers of the Long-tailed Jaeger are dull black, contrasting in many cases with the lighter plumage on the remainder of the upperparts. This is an important field mark when visible, but it is not especially helpful when applied to darker colored juvenile birds, since the degree of contrast between the back and the flight feathers in such individuals is lacking. The bird in the photographs illustrates this.

The forehead and crown of the juvenile Long-tailed is streaked with brownish gray feathers and is set off from the body feathers by a paler buff gray or yellowish collar extending around the entire nape. In the light (or "pale-headed") morph, the cap is extremely pale, barely distinguishable from the nuchal collar, which is yellowish white. In the dark phase, the head, neck, and chest are dusky, though still somewhat paler than the remainder of the plumage.

The underparts (not including the sides) of lighter-colored birds are an immaculate white on the lower chest and belly, with a grayish brown breast band in the intermediate phase. Dark morphs have uniformly dark brown underparts.

3. Plumage patterns. Juvenile Long-tailed Jaegers show a conspicuous, even barring of buff and black on the sides, underwings, and upper and under tail coverts. In this regard, they are more similar to the juvenile Pomarine Jaeger than to the Parasitic. The barred region of the upper tail coverts forms a pale, horseshoe-shaped pattern on the lower back.

The white patch at the base of the primaries is different in extent and in shape from that of other jaegers. On the underwing, the "white flash" is small and crescent shaped. See Figure 1 to compare the Pomarine and Long-tailed patterns. Even this small patch fades with maturity, virtually disappearing in the adult. On the upperwing, only the two outermost white primary shafts show white, in marked contrast with the pattern on other jaegers and skuas. When visible, the white pattern on the outer primary quills is distinctive, if not diagnostic.

¹⁰A similar plumage color difference has been noted between the Great Skua (*Catharacta skua*), the body feathers of which are streaked with rufous, and the South Polar Skua (*C. maccormicki*), which is brown or blackish brown in color (Balch 1981).

Another field mark that distinguishes the juvenile Long-tailed Jaeger from juvenile Parasitics is the configuration of the central tail feathers. In first-winter juvenile Long-taileds, the two middle rectrices, which project 1-4 centimeters beyond the rest of the tail, are rounded at the tip, whereas these feathers have pointed tips in juvenile Parasitic jaegers. Such rounding shows clearly in photographs of the bird seen at Hydrographer Canyon on September 7, 1985. In second-winter juveniles, the central tail feathers are longer (projecting 4-10 centimeters) - still shorter than the adult's - and are pointed at the tips as they are in the adult. Thus, roundedness of the two central rectrices is a useful field mark of the juvenile Long-tailed Jaeger at this stage, i.e., the first winter.

4. Behavioral features. Virtually all descriptions of the Long-tailed Jaeger emphasize its graceful, buoyant, ternlike flight, characterized by sudden changes in direction and altitude, especially when compared with the more cumbersome and direct flight of the Pomarine Jaeger. Commentators note the Long-tailed's relatively weak flight into the wind, when it often engages in a flap-and-glide, shearwaterlike pattern near the water surface.

The "playful" chasing of other jaegers, consistent with the behavior of the Hydrographer Canyon bird, was noted above. In the fall, birds in the North Atlantic often are seen in small flocks. Small jaeger sightings in late August and early September on continental shelf waters are especially likely to be Long-tailed. Although none of these secondary behavioral characteristics is diagnostic, each is useful in completing the pattern established by more objective features.

Summary.

Under favorable viewing conditions, it should be possible to arrive at a conclusive identification of many juvenile Long-tailed Jaegers by focusing on a range of diagnostic traits and behaviors. *Most important are size, flight style, gray or blackish brown back color, extent of barring on the tail coverts and underwings, buff yellow collar surrounding the nape, dull black flight feathers, narrow wings and tail, rounded ends on the wing tips and central tail feathers, a small, crescent-shaped white patch at the base of the primaries on the underwing, and white quill shafts limited to the two outermost primaries of the upperwing.* Secondary features such as small head and bill, light dorsal barring, long forewing, characteristic behaviors, and the date and location of the sighting also are material. Although there will always be situations where no identification is possible, better understanding of the relevant field characteristics should reduce the number of inconclusive instances in which a sighting must be relegated to the unsatisfying category of "juvenile jaeger (sp.)."

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