

AN INCA TERN IN THE HAWAIIAN ISLANDS: FIRST RECORD FOR HAWAII AND THE UNITED STATES

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ABSTRACT: An Inca Tern (*Larosterna inca*) was observed and photographed at several locations in the Hawaiian Islands from 10 March 2021 to 8 January 2022, constituting the northernmost and westernmost record for this species, which breeds on the Pacific coast of South America, and the first for the United States. Here I provide details about the appearance and inter-island movements of this individual, along with evidence indicating that only a single individual was involved in all sightings. The Hawaiian Islands occurrence, along with recent documentation of the Inca Tern in Central America north to Guatemala, points to yet another South American seabird moving north with increasing frequency in the Pacific Ocean.

The Inca Tern (*Larosterna inca*) is among the most unusual and distinctive of terns, with dark body plumage, a bright red bill, white moustache plumes, and yellow caruncles at the gape of the bill. It is fairly common on the west coast of South America from northern Peru to central Chile, where it is found in inshore waters near rocky cliffs and guano islands (Gochfeld and Burger 2016). It is resident in that region, with no regular migratory movements, but may move opportunistically to follow food resources, especially during episodes of El Niño–Southern Oscillation (Gochfeld and Burger 2016). It regularly reaches Ecuador, and vagrants have been recorded in Panama (nine reported via <https://eBird.org>), Costa Rica (since 2013, Obando-Calderón et al. 2014; seven subsequent reports via eBird, most recently on 14 February 2021, <https://eBird.org/checklist/S82667914>), and the most northerly previous record in Guatemala on 27 April 2019 (eBird.org/checklist/S55487610, with multiple photographs). The Inca Tern feeds primarily on small fish, usually anchoveta (*Engraulis ringens*), but it also feeds on planktonic crustaceans, fishing scraps, and offal, and often is attracted to fishing boats (Gochfeld and Burger 2016).

An Inca Tern was observed and photographed at several locations in the Hawaiian Islands from 10 March 2021 to 8 January 2022, a period of 305 days. Reports of the bird through 28 March 2021, all from Hawaii Island, were reviewed and accepted by the Hawaii Bird Records Committee on 5 April 2021, and the record subsequently was accepted by the American Birding Association (ABA) Checklist Committee in June 2021 (Pyle et al. 2021). This is the first record of the Inca Tern in the Hawaiian Islands, the United States, and the ABA checklist area, and it is the northernmost record of the species (slightly north of Guatemala) and the first away from the American continents. In this paper I summarize information about Inca Tern observations in Hawaii, which I compiled from 165 independent reports (at different times and by people not in the same group), including my own observations, direct communications to me from other observers, eBird checklists, and public social-media posts. In part on the basis of putative reports of observations of two birds on the same date, Pyle et al. (2021) reported that two Inca Terns were seen in Hawaii, one on Hawaii Island and one observed later on Oahu, but here I provide evidence that only a single bird was present and moved between islands.

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HAWAII OBSERVATIONS MARCH 2021 TO JANUARY 2022

At about 01:00 on 10 March 2021, J. J. Balucan, a fisherman and boat captain, noticed an unusual bird at a popular fishing spot at South Point, Hawaii Island, the southernmost tip of the island. He photographed the bird because he knew it was something unusual. The bird's arrival coincided with a storm that passed through from the south during the night of 9–10 March. On 12 March, Mary Spears visited South Point, saw the bird, and posted photographs of it on Facebook asking for help identifying it. The distinctive bird was quickly identified from the photographs by several people. Word spread quickly, and by the morning of 13 March several Hawaii birders had seen and photographed the bird. The tern was observed regularly at South Point until 3 June 2021, with at least 63 independent reports on 21 days spanning those dates.

The bird was first observed standing on the wooden platform of a fishing boat hoist on top of a cliff and seemed very tired and reluctant to fly (J. J. Balucan pers. comm.). It seemed interested in pieces of fish he used as bait, so he started feeding it and continued to feed it for the duration of its stay on the island. It occasionally took fish from his hand but usually waited until the fish was placed on the ground before eating it. The tern also was seen and photographed foraging in the ocean just offshore and seizing prey on the surface. From the frequency of reports, the bird appears to have remained at this location continuously and spent most of its time standing on rocks on top of the cliff and on the wooden platform, but it also on landed on ledges below the cliff top, where it was not visible sometimes. It was not shy and tolerated people within a few meters of it. It showed no signs of difficulty when it flew.

When first observed at South Point, the Inca Tern had dark (not yellow) caruncles on the gape, white moustache plumes with dark mottling, very worn brownish juvenile flight feathers, including the primaries, secondaries, rectrices, and wing coverts, and mostly dark gray definitive adult body feathers (Figure 1), indicating it was in its first plumage cycle. Photographs taken on 18 May 2021 (<https://ebird.org/checklist/S88785632>) show three remaining worn juvenile outer primaries and all other flight feathers new or growing in. Photographs taken on 6 June show the bird with all new flight feathers. Photos on both those dates show the caruncles were mottled dark and dull yellow.

On 24 June 2021, an Inca Tern was photographed by a nonbirder at 13:00 on a scuba-diving boat south of Oahu. Information about this observation was given to Maria Constantini, who realized the bird was unusual and posted information about it on social media. The original observer reported that it landed on the bow of the boat and stayed for about 3 minutes before flying north toward land, and that it seemed in good health and flew well. The exact location was not recorded, but Diamond Head, a prominent landmark on Oahu, is visible in the background of the photos, appearing to be about 2 km away.

On 14 July 2021, while monitoring Red-tailed Tropicbird (*Phaethon rubricauda*) nests near Halona Point, Oahu, close to the southeastern tip of the island, I spoke with a fisherman and asked if he had seen any unusual birds recently. I had suspected the Inca Tern might visit Halona Point because it is close to the location where it was photographed on 24 June, has rocky habitat similar to



FIGURE 1. Inca Tern at South Point, Hawaii Island, 14 March 2021. The dark caruncles at the gape, white moustache plumes with dark mottling, and very worn juvenile primaries, secondaries, rectrices, and wing coverts all indicate a bird in its first plumage cycle, probably about a year old.

Photo by Eric VanderWerf

that in its native range and to that at South Point, and because it is frequented by fishermen who often discard bait on the rocks. He described a bird with a “red beak, black body, and white things on the face” without any leading information from me, and said he had first seen the bird there on 9 July 2021. On 15 July 2021, Nick Kalodimos observed and photographed an Inca Tern flying and landing on the rocky shoreline around Halona Point. Nick quickly notified other birders, several of whom saw and photographed it later that day. There were at least 94 independent observations of the Inca Tern on Oahu on 54 subsequent days, with a gap in observations from 30 October to 26 November. The last report of the Inca Tern on Oahu (by me) was on 8 January 2022.

On 4 November 2021 a fisherman video-recorded an Inca Tern riding his fishing boat south of Lanai, and Alex Wang shared the video with me on social media. Then on 10 November J. J. Balucan saw an Inca Tern again at South Point on Hawaii Island. It was reported there almost daily until 15 November, but not thereafter.

Photographs of the tern south of Oahu on 24 June 2021 showed that the caruncles were mostly light in color but still not bright yellow as in an adult Inca Tern. In mid-July, when the tern was first observed on land on Oahu, the white moustache plumes still had some dark mottling and the caruncles were dull yellow with a dark central groove (Figure 2). By September 2021 the moustache plumes were completely white and the caruncles were completely bright yellow (Figure 3).

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FIGURE 2. Inca Tern at Halona Point, Oahu, 16 July 2021. The bird has definitive plumage except for the white moustache plumes, which still have some dark mottling. The caruncles are dull yellow with a dark central groove.

Photos by Eric VanderWerf

DISCUSSION

The timing of the observations around Hawaii, Oahu, and Lanai indicate there was a single Inca Tern in Hawaii that moved among the islands. The bird was never observed on both Hawaii and Oahu on the same date, and the observation south of Lanai on 4 November corroborates the bird's movement from Oahu to Hawaii. The intervals between observations on Oahu and Hawaii (21, 11, and 9 days) seem reasonable for a bird to cover the straight-line

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FIGURE 3. Inca Tern at Halona Point, Oahu, 8 January 2022. The caruncles are bright yellow and the moustache plumes are completely white. The serrated pectinate claw on the middle toe is visible.

Photo by Eric VanderWerf



FIGURE 4. Inca Terns at Pucusana, Peru, 21 July 2016. The right bird is an adult. The center bird is in its first plumage cycle and has mostly brownish juvenile body feathers and some gray back feathers of the formative plumage, dark caruncles, and short dark moustache plumes. The left bird also is in its first plumage cycle but is older, with most body feathers representing the formative plumage, mottled caruncles, and white moustache plumes mottled with dark.

Photo by Eric VanderWerf

distance of 335 km between South Point and Halona Point, though the bird undoubtedly did not follow a straight path and traveled farther than that. The longest gaps between reports on Oahu, apart from the 26-day gap from 30 October to 26 November when the bird was observed off Lanai and returned to Hawaii Island, were 5, 8, 11, and 14 days. It is possible the bird visited additional locations during those absences or that it was at sea.

Initial reports that Inca Terns were present on both Hawaii and Oahu through mid-July and an initial examination of photographs resulted in Pyle et al. (2021) reporting that a second Inca Tern was seen on Oahu starting in June 2021, but more comprehensive observational and photographic information that has become available since then indicates there was only a single individual. The appearance of the bird in all photographs is consistent with it being the same individual. When it first arrived at South Point the dark color of the caruncles, the dark mottling of the moustache plumes, very worn brownish juvenile flight feathers, and mostly definitive body feathers indicate it was about a year old. Juvenile Inca Terns have brownish body feathers with pale edges, a dark bill, small dark caruncles, and short dark moustache plumes (Figure 4). The caruncle color in adult Inca Terns can vary from dull orange to bright yellow, but only immature birds have dark coloration to the caruncle (Velando et al. 2001). The bird continued its first complete molt during its first stint on Hawaii Island, acquiring almost complete definitive plumage by early June. The completely white moustache plumes were the last definitive adult feathers acquired, in late September. The color of the caruncles changed gradually from dark to bright yellow, with adult coloration acquired by September. These ornaments function in mate choice in the Inca Tern, and length of the white moustache plumes is a reliable signal of body condition and reproductive performance (Velando et al. 2001). The simultaneous attainment of adult coloration in both characters likely is a signal of sexual maturity. In the Inca Tern's usual range in Peru and Chile its breeding season is protracted, with pairs often raising two broods per year (Velando et al. 2001). The breeding season appears to vary by location and year, with some birds apparently breeding year round (Gochfeld and Burger 2016), making it difficult to determine the age of the Hawaii individual more precisely. Study is needed to answer the question of whether or not the first complete molt should be considered the preformative molt, as reported for migratory North American terns, or the second prebasic molt following a partial preformative molt, as reported for tropical species of noddies (*Anous* spp.; Pyle 2008).

The Inca Tern likely was attracted to South Point, Hawaii, and Halona Point, Oahu, because they provide habitat and foraging opportunities similar to those in its native range in Peru and Chile (Gochfeld and Burger 2016). Both sites consist of rocky cliffs with many ledges for perching, relatively deep water close to shore for foraging, and often have discarded bait and offal left by fishermen. At Halona Point, Ruddy Turnstones (*Arenaria interpres*) also have learned to eat fishing scraps and sometimes approach fishermen closely (pers. obs.). This type of rocky coastal habitat is widespread in Hawaii, and many locations in the islands are frequented by fishermen, so it is possible the Inca Tern also visited other similar locations. The rocky habitat at Halona Point has attracted several unusual birds, including Hawaii's only recorded Surf-bird (*Calidris virgata*; VanderWerf 2013) and the Red-billed Tropicbird (*Phaethon aethereus*) (VanderWerf and Young 2007), which has become regular in occurrence in the past several years.

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The Inca Tern's behavior on Hawaii Island shortly after it arrived differed somewhat from its behavior on Oahu. On Hawaii Island it was fairly tame and readily accepted food from fishermen. It was almost always present in the same area, though sometimes it was not easily visible from the cliff top when it landed on ledges. On Oahu it was present only sporadically and spent considerable time elsewhere, likely at sea foraging. I visited the area around Halona Point regularly while monitoring a colony of Red-tailed Tropicbirds (VanderWerf 2021), and I saw the Inca Tern on only five of 16 visits to the area during the time it was reported on Oahu. On two occasions it was several hundred yards offshore in a mixed-species foraging flock and did not approach land, and on 22 December 2021 it was photographed from a fishing boat several miles offshore south of Oahu (Lucas Morgan pers. comm.).

After this Inca Tern was discovered, there was discussion and some doubt expressed on social media about the provenance of the bird and whether its arrival in Hawaii might have been ship-assisted, whether it might have escaped from a zoo or some other facility keeping captive birds in Hawaii or elsewhere, or if it could have been held in captivity on a ship. The bird was not banded and showed no abrasions on the tarsi indicating it had been banded previously, and there was no physical evidence suggesting it had been held in captivity. The degree of wear on the juvenile feathers when it first arrived in Hawaii is not unusual for birds of this age. There was no indication of abrasions on the feet or abnormal wear on the tips of the rectrices, remiges, or breast feathers, which can occur in captivity. Although the bird accepted food from fishermen, this behavior is common in its natural range and is not an indication of captivity. The ABA Checklist Committee agreed with this conclusion (Pyle et al. 2021).

The Inca Tern is known to have landed on boats when it was observed south of Oahu and also south of Lanai as it was returning to Hawaii Island from Oahu, but on each occasion it rode the boat for only a short time. It is possible the bird also landed on a boat before it reached Hawaiian waters, but there is no way to know this. Moreover, the Inca Tern is a seabird and capable of traveling long distances at sea under its own power and obtaining food from the pelagic environment. Any instances of its landing on a ship resulted from convenience and opportunity, not from necessity.

Of 17 reports via eBird of the Inca Tern in Central America, four reports involved individuals that landed on a boat, briefly in all cases, and three other reports involved birds that landed on a pier or other structure. All but one of these vagrants were reported from April to September, with a concentration of 11 reports in May and June, but the variability and lack of seasonality in the species' breeding season makes the timing of those observations difficult to interpret.

The Inca Tern in the Hawaiian Islands was farther north and west from its usual range than any previous report, and its occurrence in Hawaii may be part of a developing pattern of several species of seabirds that occur primarily in the eastern Pacific reaching Hawaii and its offshore waters for the first time or in greater numbers than usual. These include increasing numbers of the Nazca Booby (*Sula granti*) and Brewster's Brown Booby (*Sula leucogaster brewsteri*; VanderWerf et al. 2008), Red-billed Tropicbird (VanderWerf and Young 2007), and first reports of the Pink-footed Shearwater (*Ardenna creatopus*) and Wedge-rumped Storm-Petrel (*Oceanodroma tethys*), though the latter was not accepted

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by the Hawaii Bird Records Committee (Pyle and Pyle 2017, VanderWerf et al. 2018). These emerging distributional changes may be related to changes in oceanographic and atmospheric conditions, but thus far the occurrence of these unusual species in the central Pacific does not seem to be related to typical cyclical patterns such as the El Niño–Southern Oscillation. In addition to the excitement they provide to birders, vagrants such as the Inca Tern can help reveal the influence of climate on a species' distribution and movement.

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