WESTERN BIRDS

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Western Specialty:
Willow Flycatcher

Photo by © Peter LaTourrette of Los Altos, California:
Willow Flycatcher (*Empidonax traillii brewsteri*)
Butterbredt Spring, Kern County, California, May 2008
The three western subspecies of the Willow Flycatcher (*E. t. brewsteri, E. t. adastus*, and *E. t. extimus*) are more easily distinguished from the Alder Flycatcher (*E. alnorum*) than is the one eastern subspecies (*E. t. traillii*). The western subspecies have the pale edges of the tertials more softly blended and the wingbars, especially the upper, duller than in the Alder Flycatcher. With the bird in the hand, and even in very sharp photos of living birds, one can see the difference in the shape of the wing that Cin-Ty Lee and Andrew Birch highlight in this issue of *Western Birds*: in the Willow Flycatcher, the tip of primary number 6 is closer to the tip of primary 7 than it is to the tip of primary 5. Other subtle differences in wing shape can also be calculated as well, allowing identification of almost all individuals of these notoriously difficult species.

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Front cover painting by © Andrew Birch of Los Angeles, California: Alder Flycatcher (*Empidonax alnorum*). The bold, crisp white edges of the tertials and the nearly white wingbars, especially the upper, are features in which the Alder Flycatcher differs from the similar Willow Flycatcher (*E. traillii*). But ratios of the spaces between the tips of the primaries, especially of 5 to 6 versus 6 to 7, are also strong differences, as Cin-Ty Lee and Andrew Birch explore in this issue of *Western Birds*.

Back cover photo by © Eric VanderWerf of Honolulu, Hawaii: Purple Gallinule (*Porphyrio martinicus*), Waihee, Maui, Hawaii, 26 February 2018—one of 15 species new to the Hawaiian Islands the Hawaii Bird Records Committee summarizes in this issue of *Western Birds*. The Purple Gallinule has long been renowned for long-distance dispersal over water, but an instance of vagrancy to the Hawaiian Islands is the longest yet recorded from the species' range on the mainland.

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. Particularly desired are reports of studies done in or bearing on North America west of the 100th meridian, including Alaska and Hawaii, northwestern Mexico, and the northeastern Pacific Ocean.

Send manuscripts to Daniel D. Gibson, P. O. Box 155, Ester, AK 99725; avesalaska@gmail.com. For matters of style consult the Suggestions to Contributors to *Western Birds* (at https://westernfieldornithologists.org/publications/journal).

WESTERN BIRDS

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SECOND REPORT OF THE HAWAII BIRD RECORDS COMMITTEE

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ABSTRACT: This is the second report of the Hawaii Bird Records Committee (HBRC). From 2019 to 2024, the HBRC reviewed 37 reports involving 29 bird species, of which 34 reports of 26 species were accepted, two were rejected, and one required recirculation and is still under review. The accepted reports included 15 species new to the Hawaiian Islands, eight second records, one third record, and one sixth record. Two more species were added because of splits to taxa that had been recorded previously. Through 2024, the Hawaiian Islands bird checklist includes 355 species.

The Hawaii Bird Records Committee (HBRC) was formed in 2014 to provide a formal venue and standard protocol for reviewing bird reports in the Hawaiian Islands and to maintain the Hawaiian Islands bird checklist (VanderWerf et al. 2017). The HBRC consists of seven members and is an official committee of the Western Field Ornithologists. The first report of the HBRC was published in *Western Birds* in 2018 (VanderWerf et al. 2018). Prior to formation of the HBRC, Robert Pyle and Peter Pyle served as the *de facto* records committee and maintained the Hawaiian Islands bird checklist (Pyle and Pyle 2017), which has been updated to follow the HBRC's decisions through 2017.

The committee considers the Hawaiian Islands to include all islands that are part of the state of Hawaii plus Midway Atoll (which is part of the Hawaiian Archipelago but is an unincorporated territory of the United States and not part of the state) and all surrounding waters within the U.S. exclusive economic zone, which extends 370.4 km (200 nautical miles) from the coast of the Hawaiian Islands (Figure 1). The Hawaiian Islands bird checklist includes all bird species known to have occurred naturally in this area and

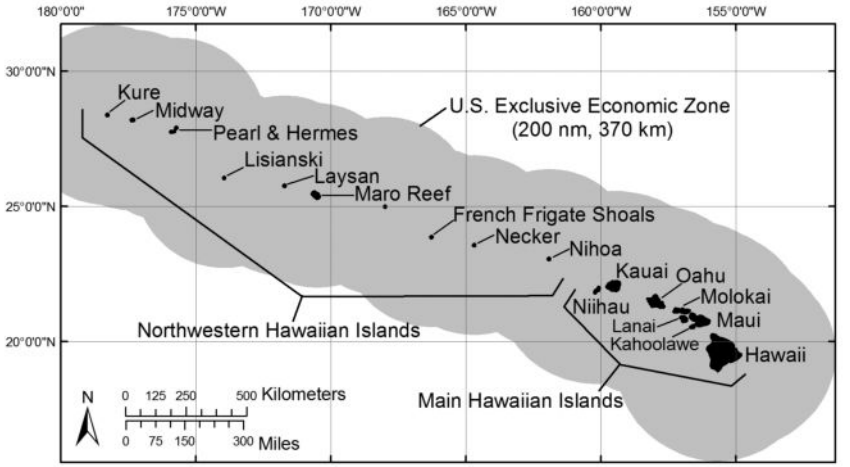

FIGURE 1. Hawaiian Islands, including the U.S. Exclusive Economic Zone (gray shading). All islands shown are part of the state of Hawaii except Midway, which is an unincorporated territory of the United States.

species introduced by humans that have established viable breeding populations in the wild with stable or increasing populations. It includes endemic species that have become extinct since the arrival of Europeans in 1778 and introduced species that once had established breeding populations but are now extirpated, but it does not include species that are known only from fossil or subfossil remains.

A report was accepted if all or all but one member voted in favor of accepting the report (7/0 or 6/1). A report was rejected if it received four or more votes against acceptance (3/4 to 0/7). Reports that received two or three votes against acceptance (5/2 or 4/3) were recirculated for up to three additional rounds of voting until a final decision was reached.

From 2019 to 2024, the HBRC reviewed 37 reports involving 29 species, of which 34 reports of 26 species were accepted, two were rejected, and one required recirculation and is still under review. The accepted reports include 15 species new to the Hawaiian Islands, eight second records, one third record, and one sixth record. Two species were added as a result of taxonomic splits. The new species for the Hawaiian Islands were the Eastern Spot-billed Duck (*Anas zonorhyncha*), Purple Gallinule (*Porphyrio martinicus*), Northern Lapwing (*Vanellus vanellus*), Little Ringed Plover (*Charadrius dubius*), Temminck's Stint (*Calidris temminckii*), Jack Snipe (*Lymnocryptes minimus*), Ross's Gull (*Rhodostethia rosea*), Iceland (Thayer's) Gull (*Larus glaucoides thayeri*), Inca Tern (*Larosterna inca*), Ainley's Storm-Petrel (*Hydrobates cheimomnestes*), Magnificent Frigatebird (*Fregata magnificens*), Rosy-faced Lovebird (*Agapornis roseicollis*), Bohemian Waxwing (*Bombycilla garrulus*), White Wagtail (*Motacilla alba*), and Rustic Bunting (*Emberiza rustica*). Fourteen of these species are vagrants or nonbreeding visitors, while the non-native Rosy-faced Lovebird was accepted on the basis of establishment of a population.

The HBRC accepted records of the Common Gull (*Larus canus*) and Short-billed Gull (*Larus brachyrhynchus*), both of which had been recorded previously as the Mew Gull (Pyle and Pyle 2017)—the recent split of these species (Chesser et al. 2021) resulted in the addition of one species. The split of the Cocos Booby (*Sula brewsteri*) from the Brown Booby (*S. leucogaster*), in response to a proposal submitted by VanderWerf, also resulted in an additional species for the Hawaii list. *Sula leucogaster* is the common form in the central Pacific, but *S. brewsteri* has been recorded with increasing frequency in the last few decades and is breeding in several locations in the Hawaiian Islands (VanderWerf et al. 2023).

Species recorded for the second time included the Baikal Teal (*Sibirionetta formosa*), Elegant Tern (*Thalasseus elegans*), White-winged Tern (*Chlidonias leucopterus*), Ancient Murrelet (*Synthliboramphus antiquus*), American Bittern (*Botaurus lentiginosus*), Gray Heron (*Ardea cinerea*), White Wagtail (first record mentioned above), and Siberian Pipit (*Anthus japonicus*), which previously had been accepted as a subspecies of the American Pipit (*A. rubescens*). The Black-winged Stilt (*Himantopus himantopus*) was recorded for the third time and the Snow Bunting (*Plectrophenax nivalis*) for the sixth time. The HBRC also reviewed a report of the American Pipit from Kauai, which, following the split from the Siberian Pipit (Chesser et al. 2024), would be new to the Hawaiian Islands, but the report required recirculation and a decision has not yet been reached.

The HBRC reviewed and rejected a report of a Glossy Ibis (*Plegadis falcinellus*) on Hawaii Island in October 2017, which most committee members judged to be an immature White-faced Ibis (*P. chihi*), and a Common Sandpiper (*Actitis hypoleucos*) reported on Kure in September 2022, which almost all members agreed was a Spotted Sandpiper (*A. macularius*).

The Hawaiian Islands bird list includes 355 species as of 2024. Of these 355 species, 105 have not been reported elsewhere in the American Birding Association area. At https://eBird,org, only 294 species are listed as having been reported in the state of Hawaii, which is the lowest species total of any U.S. state. There are three reasons for the discrepancy between this number and the number of species on the HBRC's list: (1) 15 species have been reported only on Midway, which is not part of the state of Hawaii; (2) 23 extinct endemic species have never been reported in eBird; (3) older records of vagrants were not entered in eBird.

SPECIES ACCOUNTS

The accounts below include all species reviewed and accepted by the HBRC from 2019 through 2024. The decision about each species is given immediately after the species name, followed in parentheses by the votes for/against during each round of voting and the HBRC's review number.

BAIKAL TEAL *Sibirionetta formosa*. Second record accepted (7/0; HI2021-002). A male was observed on Midway Atoll 11 February 2021 to 26 March 2021 (Figure 2). Males of this species are very distinctive, and there was no debate about the identification. The only previous record in Hawaii was of a male at Hanalei National Wildlife Refuge, Kauai, from December 2002 to March 2003 (Pyle and Pyle 2017).

EASTERN SPOT-BILLED DUCK *Anas zonorhyncha.* New species accepted (7/0;

FIGURE 2. Male Baikal Teal, Midway Atoll. (A), with female Garganey (*Spatula querquedula*), 12 February 2021; (B), 26 March 2021.

Photos by Eric VanderWerf (A), Jonathan Plissner (B)

HI2023-002). A single bird was on Kure Atoll from at least 14 February to 13 March 2023. It was first observed and reported as this species by Tiana Bolosan, a biologist with the Hawaii Division of Forestry and Wildlife, who was stationed on Kure at the time. It was reported to be shy and difficult to approach; photographs were obtained only by an automated trail camera placed at a water source (Figure 3). Alaska records from Adak (Gibson and Byrd 2007) and Kodiak (Trapp and MacIntosh 1978) are the only ones farther east than Kure.

PURPLE GALLINULE *Porphyrio martinicus*. New species accepted (6/1; HI2018-001). A single bird was in a taro field at Waihee, west Maui, from 2 February to May or June 2018. It was first observed by a taro farmer who requested anonymity but reported the bird to biologists with the U.S. Fish and Wildlife Service and the Hawaii Division of Forestry and Wildlife. The farmer was protective of the bird and did not want it to be disturbed. VanderWerf was invited to confirm the identifica-

FIGURE 3. Eastern Spot-billed Duck, Kure Atoll, photographed by an automated camera on 12 March 2023.

Photo provided by Tiana Bolosan

FIGURE 4. Purple Gallinule, Waihee, Maui, 26 February 2018. The dull color of the bill and the brown feathers on the head, neck, and back indicate it was a first-year bird.

Photo by Eric VanderWerf

tion and take photographs for documentation on 26 February 2018 (Figure 4). The dull color of the bill and brown feathers on the head, neck, and back indicate it was a first-year bird. It was last observed by the taro farmer but the exact date is not known. The one dissenting committee member questioned the natural occurrence of the bird, though no unusual feather wear or marks on the legs suggested it had been held in captivity. Northern populations of the Purple Gallinule are migratory, and the species is well known for its vagrancy, having reached remote islands in the Atlantic and Pacific and frequently crossing the Atlantic Ocean (West and Hess 2020). This record is the most remote yet in the Pacific.

BLACK-WINGED STILT *Himantopus himantopus.* Third record accepted (6/1; HI2020-002). A single bird was at the water catchment on Midway Atoll from 18 to 26 April 2020 (Figure 5). The one dissenting member remarked that it appeared to be a typical Black-winged Stilt, adding that the taxonomy of the Black-winged and Black-necked Stilt (*H. mexicanus*) complex is confusing, with intergradation among the populations. The two previous Black-winged Stilts were on Kure 20–30 May 2002 and Midway 2–3 May 1992 (Pyle and Pyle 2017), perhaps establishing a pattern of vagrancy to the Northwestern Hawaiian Islands in the northward spring migration.

NORTHERN LAPWING *Vanellus vanellus*. New species accepted (7/0; HI2023-003). A single bird was on Midway Atoll from 25 April to 9 May 2023 (Figure 6). Committee members made few comments about the identification of this distinctive species. A fall specimen from Shemya Island, Alaska, represents the only other record so far east of this Eurasian species' normal range (Schwitters 2007).

LITTLE RINGED PLOVER *Charadrius dubius.* New species accepted (7/0; HI2018-004). A single bird was on Midway Atoll from 28 March to 2 April 2017 (Figure 7). It was an adult by the uniform wing coverts all representing the basic plumage (first-year birds have some contrastingly worn juvenile coverts) and a

FIGURE 5. Black-winged Stilt, Midway Atoll, 19 April 2020.

Photo by Jonathan Plissner

female by the lack of a full black mask. This record is the easternmost of the Little Ringed Plover, as in Alaska the species has been recorded only in the western Aleutians (Gibson and Withrow 2015).

TEMMINCK'S STINT *Calidris temminckii*. New species accepted (7/0; HI2024-002). A juvenile was on Midway from 17 to 22 August 2024 (Figure 8). Members commented that the most important identifying character was the white outer tail feathers, which are visible in one of the photos and are not found in any other stint. Other features consistent with Temminck's are the dull olive leg color, gray breast,

FIGURE 6. Northern Lapwing, Midway Atoll, 25 April 2023.

Photo by Jonathan Plissner

FIGURE 7. Little Ringed Plover, Midway Atoll, 2 April 2017.

Photo by Jonathan Plissner

fairly long wings and tail, somewhat short legs, and pale supercilium. This Asian species occurs casually in Alaska (Gibson and Withrow 2015), but farther east there are only two records for British Columbia (Toochin and Cecile 2024) and one for Washington (Aanerud 2011).

JACK SNIPE *Lymnocryptes minimus*. New species accepted (7/0; HI2024-003). A single bird was on Midway Atoll from 5 to 14 October 2024 (Figure 9). It was identified by a combination of the relatively short bill, white trailing edge to the secondaries, strong longitudinal stripes above, and small size reported by the observers. Though this is the first record of the Jack Snipe from the Hawaiian Islands, this Eurasian species has been previously reported from Alaska (Gibson and Withrow 2015), Washington (one sight record, Tweit and Skriletz 1996), and California (two specimens, Hamilton et al. 2007).

ROSS'S GULL *Rhodostethia rosea*. New species accepted (6/1; HI2020-001). A single bird was observed flying just offshore from Kure Atoll on 1 January 2020 (Figure 10). It was in its second winter, completing a second prebasic molt, with juvenile outer primaries remaining. The one dissenting member thought that a Little Gull (*Hydrocoloeus minutus*) could not be ruled out because the head pattern was difficult to see in the photos, but the long and wedge-shaped tail allowed confirma-

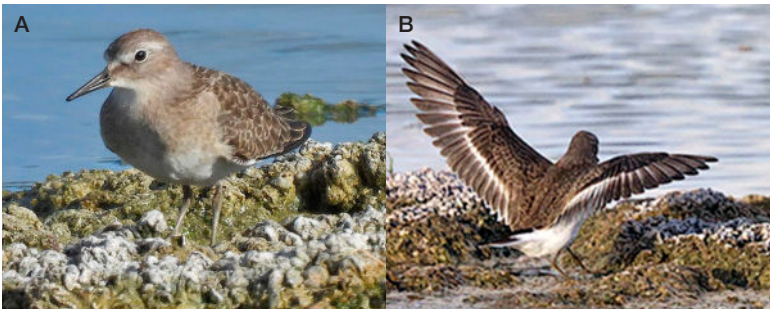

FIGURE 8. Temminck's Stint, Midway Atoll, 20 August 2024.

Photos by Chris Forster (A), Jonathan Plissner (B)

FIGURE 9. Jack Snipe, Midway Atoll, 10 October 2024.

Photo by Jonathan Plissner

tion as Ross's Gull. This record is by far the southernmost of Ross's Gull, surpassing the previous southernmost record from the Salton Sea, California (McCaskie 2007).

COMMON GULL *Larus canus*. New species resulting from taxonomic split, six records accepted (7-0, HBRC 1963-001; 7-0, HBRC 2015-003; 7-0, HBRC 2015-004; 6/1, HBRC 2016-001; 7-0, HBRC 2016-002; 7-0, HBRC 2017-004). There were six records of the Mew Gull in the Hawaiian Islands through 2016, of which five on Kure and Midway were thought to be of subspecies *kamtschatschensis* of the, now, Common Gull (Pyle and Pyle 2017). The HBRC reviewed the five reports in Pyle and Pyle (2017), plus an additional more recent report from Kauai, and accepted all six of them, with locations and dates as follows: (1) Kure Atoll, 22 February 1963; (2) Kure Atoll, first-year bird, 31 October–2 December 2015; (3) Kure Atoll and Midway Atoll, adult, 31 October 2015 on Kure and what was considered the same bird 5 November 2015 on Midway; (4) Midway Atoll, first-year bird, 6 November to end of 2016; (5) Midway Atoll, first-year bird, found dead (specimen apparently not saved), 15 November 2016; and (6) Pacific Missile Range Facility, Kauai, 12 January 2017 (Figure 11).

FIGURE 10. Ross's Gull flying with Brown Noddies (*Anous stolidus*), Kure Atoll, 1 January 2020.

Photo by Andy Sullivan

FIGURE 11. First-year Common Gull, Pacific Missile Range Facility, Kauai, 12 January 2017.

Photo by Eric VanderWerf

SHORT-BILLED GULL *Larus brachyrhynchus.* New species resulting from taxonomic split, three records accepted (7-0, HBRC 2015-001; 7-0, HBRC 2015-002; 7-0, HBRC 2023-007). Through 2016, Hawaii had one record of subspecies *brachyrhynchus* of the Mew Gull (Pyle and Pyle 2017), which now resumes the name Short-billed Gull. The HBRC reviewed that record and two other reports, and accepted all three, with locations and dates as follows: (1) Honouliuli National Wildlife Refuge, Oahu, 1 January to 6 April 2015 (Figure 12A); (2) Pacific Missile Range Facility, Kauai, 15 December 2015 (Figure 12B); (3) Keauhou Beach, Kona, Hawaii Island, 23 October 2023. Presumably the same individual in Kona was subsequently seen and photographed at several nearby locations by numerous observers in November and December 2023, after the HBRC had concluded its review.

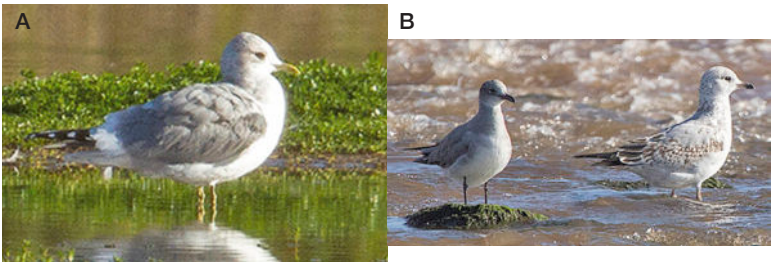

FIGURE 12. (A), adult Short-billed Gull, Honouliuli National Wildlife Refuge, Oahu, 4 January 2015; (B), first-year Short-billed Gull with Laughing Gull (*Leucophaeus atricilla*), Pacific Missile Range Facility, Kauai, 15 December 2015.

Photos by Eric VanderWerf

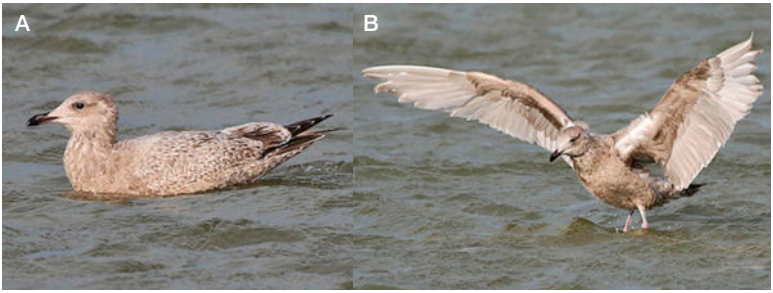

FIGURE 13. First-year Thayer's Gull, Midway Atoll, 1 February 2018.

Photos by Jonathan Plissner

ICELAND (THAYER'S) GULL *Larus glaucoides thayeri*. New species accepted (1st round 5/2, 2nd round 6/1; HI2017-005). A first-year bird was observed on Midway Atoll from 17 November 2017 to 1 February 2018 (Figure 13). Originally reported as a Herring Gull (*L. argentatus*), this bird was the subject of much debate and scrutiny. Experts consulted (Alvaro Jaramillo, Amar Ayyash) commented that it showed some characters of Thayer's Gull, which is now considered part of the Iceland Gull, but also differed in some respects. The HBRC accepted it as a Thayer's Gull after two rounds of voting. Characters important in the identification were the relatively small, rounded head, slender bill with parallel sides and weak gonydeal angle, and overall light grayish-brown color. Some experts and committee members noted that it probably was not possible to rule out a hybrid with complete confidence, but that Thayer's Gull was the most likely identification.

INCA TERN *Larosterna inca*. New species accepted (6/0; HI2021-001). A single individual was present on Hawaii and Oahu for almost 10 months, from 10 March 2021 to 8 January 2022. See VanderWerf (2022) for a detailed account with photographs, including the cover of *Western Birds* 53(3). Analysis of the observation dates and the bird's appearance over time indicated there was a single individual that moved between islands twice. It was observed at sea and riding on boats during both transits between islands. This is the first record of the Inca Tern in the United States, the northernmost record of the species (slightly north of Guatemala), and the first away from the American continents. It was first observed at South Point, Hawaii Island, on 10 March 2021 by J. J. Balucan, following an overnight storm. When first observed at South Point, it had dark caruncles on the gape, dark mottling in the white moustache plumes, and very worn brownish juvenile flight feathers but mostly dark gray definitive adult body feathers, indicating it was in its first plumage cycle. Toward the end of its stay in Hawaii at Halona Point, Oahu, it had acquired complete definitive (adult) plumage.

WHITE-WINGED TERN *Chlidonias leucopterus*. Second record accepted (7/0; HI2024-002). A single bird was on Midway Atoll from 22 July to 9 September 2018. It was in definitive alternate (adult breeding) plumage when it first appeared and gradually molted into basic plumage during its stay (Figure 14). The timing of the occurrence is consistent with the southward fall migration. The first Hawaiian record of this Eurasian species was of an adult on Molokai from 25 May to 8 June 2012 (Pyle and Pyle 2017, VanderWerf et al. 2018).

ELEGANT TERN *Thalasseus elegans*. Second record accepted (7/0; HI2018-007). A single bird was seen at Heeia Fishpond, Oahu, on 7 February 2019 (Figure 15). The identification as an Elegant Tern was confirmed by several characters, including

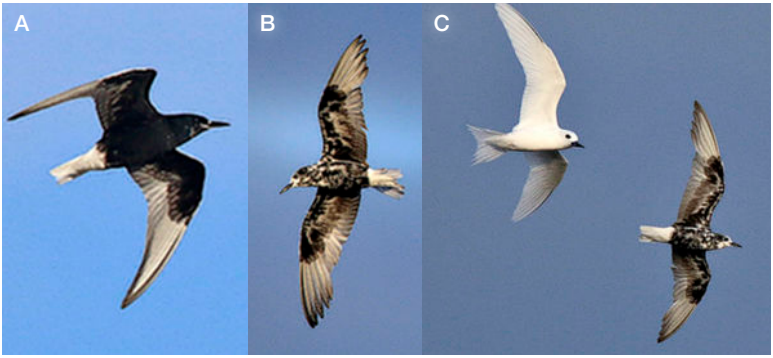

FIGURE 14. White-winged Tern, Midway Atoll. (A), 23 July 2018; (B), 21 August 2018; (C), being pursued by a White Tern (*Gygis alba*), 5 September 2018.
Photos by Jonathan Plissner

the long, thin orange bill with a yellow tip and the black in the primaries less than in a Royal Tern (*T. maximus*). It was in its first winter by the dark marks on the secondaries, which had been retained from juvenile plumage. Hawaii's only previous Elegant Tern was at Aimakapa Pond, Kaloko-Honokohau National Historical Park, Hawaii Island, in March and April 2012 (Pyle and Pyle 2017, VanderWerf et al. 2018). Another report of this species, from Laie Point, Oahu, on 5 December 2018, might have represented the same individual but was not accepted because the only photograph of the distant bird was of poor quality and did not show details of the bill adequately to allow identification.

ANCIENT MURRELET *Synthliboramphus antiquus.* Second record accepted (7/0; HI2018-003. A surfer found an adult alive in the shore break at Fleming's Beach, Kapalua, west Maui, on 17 March 2018, but it died before biologists could take it to a rehabilitation facility (J. Penniman pers. comm.). It was prepared as a specimen by Molly Hagemann at the Bernice P. Bishop Museum in Honolulu (BPBM 186471; Figure 16). The only previous record of the Ancient Murrelet from the Hawaiian Islands involved similar circumstances, a first-year male being found alive on Koolina Beach on the west side of Oahu on 27 November 2003; it was taken to a rehabilitation facility at Sea Life Park, where it died the following day and was subsequently prepared as a specimen at Bishop Museum (BPBM 184589; Pyle and Pyle 2017).

FIGURE 15. Elegant Tern in first fall plumage, Heeia Fishpond, Oahu, 7 February 2019.
Photo by Michael Young

FIGURE 16. Adult Ancient Murrelet, photographed at the Bishop Museum on 22 December 2018. It was found alive by a surfer at Fleming's Beach, Kapalua, Maui, on 17 March 2018 but died shortly thereafter.

Photo by Eric VanderWerf

AMERICAN BITTERN *Botaurus lentiginosus*. Second record accepted (7/0; HI2018-005). A first-year bird (as indicated by buff-tipped primary coverts) was at James Campbell National Wildlife Refuge, Oahu, from at least 3 November 2018 to 12 February 2019 (Figure 17). The only previous record of this species in the Hawaiian Islands was of another first-year bird at a watercress farm in Pearl Harbor from 16 January through 29 March 2013 (Pyle and Pyle 2017, VanderWerf et al. 2018).

GRAY HERON *Ardea cinerea*. Second record accepted (7/0; HI2024-002). Two individuals at the water catchment on Midway Atoll from 2 to 8 April 2024 (Figure 18) were distinguished from the similar Great Blue Heron (*A. herodias*) by their white rather than chestnut thighs and white rather than mauve-gray necks. From their lack of pale edges to the wing coverts and body feathers, both birds appeared to be adults. Interestingly, the only previous record of this species in the Hawaiian Islands, on Kure Atoll from 13 April to 25 May 2011, also involved two individuals at roughly the same season.

AINLEY'S STORM-PETREL *Hydrobates cheimomnestes*. New species accepted (7/0; HI2024-003). This species was documented in Hawaiian waters by Medrano et al. (2024), who tracked birds tagged with geolocators from their only nesting colony on Islote Negro (Morro Prieto), off Guadalupe Island, Mexico, where the species nests in winter. At least one of four tracked individuals spent time in Hawaiian waters, but the dates were not reported. Field marks distinguishing Ainley's Storm-Petrel are still unknown, but in this case the identification was not an issue

FIGURE 17. First-year American Bittern, James Campbell National Wildlife Refuge, Oahu, 12 February 2019.

Photo by Eric VanderWerf

because the birds were tracked from the breeding colony. Townsend's Storm-Petrel (*H. socorroensis*) nests on the same islet but in summer and was not present when the birds were fitted with geolocators.

MAGNIFICENT FRIGATEBIRD *Fregata magnificens*. New species accepted (6/1; HI2023-001). An adult female was at Kilauea Point National Wildlife Refuge, Kauai, since at least 5 November 2022. It was first identified and reported by David Sibley on 17 August 2023, subsequently seen and photographed by many observ-

FIGURE 18. Adult Gray Heron, Midway Atoll, 2 April 2024.

Photo by Jonathan Plissner

FIGURE 19. Female Magnificent Frigatebird, Kilauea Point National Wildlife Refuge, Kauai, 29 August 2023.

Photo by Laurel Smith/USFWS

ers, and sporadic reports with photographs have been posted via https://eBird.org through October 2024. The species was identified by the combination of the pointed black throat, white collar on the back of the neck, large bluish-gray bill, and similar size in comparison with Great Frigatebirds (*F. minor*; Figure 19). The one dissenting member wanted stronger evidence on which to base the identification, believing that the Magnificent Frigatebird should have appeared larger than Great Frigatebirds. Presumably the same bird was photographed at Kilauea Point by Keane Sammon on 5 November 2022, eight months before it was first identified by Sibley, but its identity was not recognized at that time. In November 2024, the observer realized it was a Magnificent, posted photos at eBird, and the HBRC agreed with the identification. It is possible the bird was present even earlier but was not noticed.

ROSY-FACED LOVEBIRD *Agapornis roseicollis*. Non-native species accepted as established (7/0; HI2024-001). The Rosy-faced Lovebird has been present in the Hawaiian Islands since at least 1973, and Pyle and Pyle (2017) included it on their list of non-established species. Numbers on Maui began increasing rapidly in the early to mid-2000s, and currently the species is widespread over much of that island, including some montane areas. On Hawaii Island it has a more restricted distribution primarily on the western side of the island, but it is reproducing and spreading. Escaped birds also have been observed sporadically on Kauai and Oahu (Pyle and Pyle 2017). For a more thorough account of the occurrence of the Rosy-faced Lovebird in Hawaii, including a geospatial-temporal analysis of eBird data on Maui and Hawaii and distribution maps, see VanderWerf and Kalodimos (2021). This African species is also established in Arizona and Florida (Uehling et al. 2021).

BOHEMIAN WAXWING *Bombycilla garrulus*. New species accepted (7/0; HI2019-001). From 22 to 24 December 2019, two birds, one of which was photographed on 24 December (Figure 20), were reported on Kure Atoll. The bird was distinguished from the Cedar Waxwing (*B. cedrorum*) and Japanese Waxwing (*B.*

FIGURE 20. Bohemian Waxwing, Kure Atoll, 24 December 2019.

Photo by Andy Sullivan

japonica) by the pattern and color of markings on the head and wings, but the photos were not adequate to determine if the bird belonged to the Asian subspecies *B. g. centralasiae* or the American *B. g. pallidiceps*. The observer first reported two passerines, both of which likely were waxwings, but photographs were obtained of only one bird, and the identity of the second bird was not confirmed. Although this record is unprecedented in historical times, genetic studies have shown that an endemic Hawaiian bird family, the Mohoidae, descended from a passerine group that includes the waxwings and silky flycatchers (Fleischer et al. 2008). The Mohoidae include five species in the genera *Moho* and *Chaetoptila*, which previously were thought to be honeyeaters (Meliphagidae). Sadly, all five species are now extinct. The occurrence of this Bohemian Waxwing also resulted in the addition of a bird family, the Bombycillidae, to the Hawaiian Islands checklist.

WHITE WAGTAIL *Motacilla alba*. New species accepted, two records (7/0; HI2023-005, 7/0; HI2023-006). Remarkably, two individuals were in the Hawaiian Islands simultaneously, one on Midway Atoll from 22 October 2023 to at least 25 March 2024 (Figure 21), and one at Honouliuli National Wildlife Refuge, Oahu, from 7 to 14 November 2023 (Figure 22). Both birds were hatch-year males in formative plumage, but they differed somewhat in appearance. The Oahu bird was of the subspecies *M. a. lugens*, which formerly was considered a separate species, the Black-backed Wagtail (Badyaev et al. 2020). The subspecific identity of the Midway bird was not certain at first, but during its lengthy stay on Midway it molted into alternate plum-

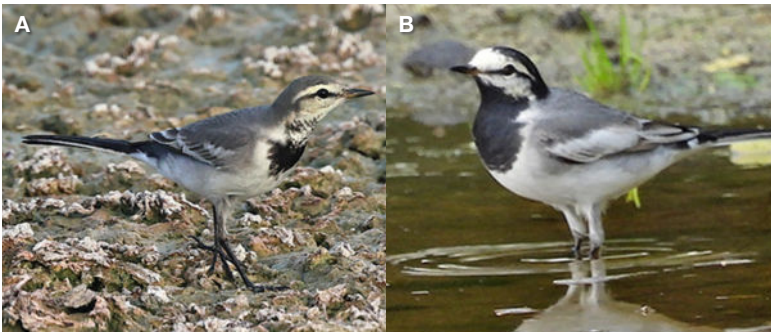

FIGURE 21. White Wagtail, Midway Atoll. (A), 24 December 2023; (B), 25 March 2024.

Photos by Jonathan Plissner (A), Chris Forster (B)

FIGURE 22. White Wagtail, Honouliuli National Wildlife Refuge, Oahu, 14 November 2023.

Photos by Eric VanderWerf

age, showing most characters of the subspecies *M. a. ocularis*, but its black rump in alternate plumage and yellowish face in formative plumage suggest it might have been a hybrid or intermediate between the subspecies. The Midway bird is the first White Wagtail for the Hawaiian Islands, and the Oahu bird is the first for the state of Hawaii.

SIBERIAN PIPIT *Anthus japonicus*. Second record accepted (6/1, HI2020-003). A single bird was observed on Midway Atoll on 17 and 18 October 2020 (Figure23). The bird was identified by a combination of the lack of streaking on the back, a strong dark malar mark, heavy dark streaking on the upper breast, and the call. The bird originally was reported as an American Pipit (*A. rubescens*), and the HBRC reviewed and accepted it as that. After the Asian form was split as a separate species (Chesser et al. 2024), the HBRC re-reviewed it and accepted it as a Siberian Pipit. The only previous record of this taxon in the Hawaiian Islands was of a first-cycle female collected on Kure on 25 October 1963 (Pyle and Pyle 2017).

SNOW BUNTING *Plectrophenax nivalis*. Sixth record accepted (7/0; HI2017-006). A single bird was observed on Kure Atoll on 8 November 2017. It was identified as first-fall female in formative plumage by the brownish (not gray or black) markings on the crown and back and the rusty patches on the wing coverts (Figure 24). The Hawaiian Islands' five previous Snow Buntings were on Kure in 1963, Midway in the winter of 1964–65, 1998, and 2006, and French Frigate Shoals in 1979 (Pyle and Pyle 2017).

RUSTIC BUNTING *Emberiza rustica*. New species accepted (1st round 3/4, 2nd round 6/1; HI2018-002). A single bird was observed on Kure Atoll on 17 November 2018 (Figure 25). The observer saw the bird only briefly, and although he managed to take several photos of it in flight, they were either out of focus or showed the bird

FIGURE 23. Siberian Pipit, Midway Atoll, 17 October 2020.

Photo by Jonathan Plissner

FIGURE 24. First-year female Snow Bunting, Kure Atoll, 8 November 2017.

Photo by Melanie Mancuso

flying away, which made the identification difficult. During the first round of voting several committee members did not feel they could identify the bird from the photos and that experts on the species should be consulted. The photos were sent to experts on Asian buntings, and Paul Leader replied that he believed the bird could be identified with confidence as a Rustic Bunting from the mantle pattern, extensively chestnut rump, upper tail coverts with paler fringing, and, especially, the pattern on the rectrices, with a very long and narrow area of white on the second-to-outermost feathers. All committee members but one were satisfied with Leader's identification and accepted the record on that basis.

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The HBRC thanks all the observers who contributed the reports and photographs contained in this report, including Tiana Bolosan, Chris Forster, Melanie Mancuso,

FIGURE 25. Rustic Bunting, Kure Atoll, 17 November 2018.

Photo by Andy Sullivan

Jonathan Plissner, Laurel Smith, Andy Sullivan, Alex Wang, and Michael Young. The assistance of outside experts who provided valuable information about particular species, including Amar Ayyash, Michael Force, Daniel D. Gibson, Alvaro Jaramillo, Nial Moores, and David Sibley, is also greatly appreciated. The Bernice P. Bishop Museum allowed examination of specimens that aided in identifying several birds. The manuscript was improved by comments from Jodhan Fine and Jack Withrow, and editor Philip Unitt.

LITERATURE CITED

Aanerud, K. 2011. Eighth report of the Washington Bird Records Committee. Wash. Birds 11:35–55.

Badyaev, A. V., Gibson, D. D., Kessel, B., Pyle, P., and Patten, M. A. 2020. White Wagtail (*Motacilla alba*), *in* Birds of the World (S. M. Billerman, ed.). Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/bow.whiwag.01.

Chesser, R. T., Billerman, S. M., Burns, K. J., Cicero, C., Dunn, J. L., Hernández-Baños, B. E., Jiménez, R. A., Kratter, A. W., Lovette, I. J., Mason, N. A., Rasmussen, P. C., Remsen, J. V. Jr., Stotz, D. F., and Winker, K.. 2021. Sixty-second supplement to the American Ornithological Society's *Check-list of North American Birds*. Auk 138(3): ukab037; doi.org/10.1093/ornithology/ukab037.

Chesser, R. T., Billerman, S. M., Burns, K. J., Cicero, C., Dunn, J. L., Hernández-Baños, B. E., Jiménez, R. A., Johnson, O., Kratter, A. W., Mason, N. A., and Rasmussen, P. C. 2024. Sixty-fifth supplement to the American Ornithological Society's *Check-list of North American Birds*. Ornithology 141(3); doi.org/10.1093/ornithology/ukae019.

Fleischer, R. C., James, H. F., and Olson, S. L. 2008. Convergent evolution of Hawaiian and Australo-Pacific honeyeaters from distant songbird ancestors. Current Biol. 18:1927–1931; doi.org/10.1016/j.cub.2008.10.051.

Gibson, D. D., and Byrd, G. V. 2007. Birds of the Aleutian Islands, Alaska. Nuttall Ornithol. Club and Am. Ornithol. Union. Ser. Ornithol. 1.

Gibson, D. D., and Withrow, J. J. 2015. Inventory of the species and subspecies of Alaska birds, second edition. W. Birds 46:94–185.

Hamilton, R. A., Patten, M. A., and Erickson, R. A. (eds.). 2007. Rare Birds of California. W. Field Ornithol., Camarillo, CA.

McCaskie, G. 2007. A Ross's Gull reaches southern California. W. Birds 38:137–140.

Medrano, F., Hernández-Montoya, J., Saldanha, S., Bedolla-Guzmán, Y., and González-Solís, J. 2024. Contrasting migratory ecology of two threatened and allochronic storm-petrels breeding in the Mexican Pacific. Endangered Species Research 54:331–339; doi.org/10.3354/esr01344.

Pyle, R. L., and Pyle, P. 2017. The birds of the Hawaiian Islands: Occurrence, history, distribution, and status, version 2.0. B. P. Bishop Mus., Honolulu; http://hbs.bishopmuseum.org/birds/rlp-monograph.

Schwitters, M. T. 2007. First record of a Northern Lapwing in Alaska and western North America. W. Birds 38:145–146.

Toochin, R., and Cecile, D. 2024. The first and second records of Temminck's Stint (*Calidris temminckii*) in British Columbia; https://bcrarebirdrecords.ca/species/temminck-s-stint#1.

Trapp, J. L., and MacIntosh, R. A. 1978. First North American specimen of the Spotbill Duck. W. Birds 9:127–128.

Tweit, B., and Skriletz, J. 1996. Second report of the Washington Bird Records Committee. Wash. Birds 5:7–28.

Uehling, J. J., Tallant, J., and Pruett-Jones, S. 2021. Introduced and naturalized parrots in the contiguous United States, *in* Naturalized Parrots of the World: Distribution, Ecology, and Impacts of the World's Most Colorful Colonizers

(S. Pruett-Jones, ed.), pp. 193–210. Princeton Univ. Press, Princeton, NJ; doi.org/10.2307/j.ctv1g13jxb.16.

VanderWerf, E. A. 2022. An Inca Tern in the Hawaiian Islands: First record for Hawaii and the United States. W. Birds 53:208–215; doi.org/10.21199/WB53.3.3.

VanderWerf, E. A., and Kalodimos, N. P. 2021. Status of naturalized parrots in the Hawaiian Islands, *in* Naturalized Parrots of the World: Distribution, Ecology, and Impacts of the World's Most Colorful Colonizers (S. Pruett-Jones, ed.), pp. 211–226. Princeton Univ. Press, Princeton, NJ; doi.org/10.2307/j.ctv1g13jxb.17.

VanderWerf, E. A., David, R. E., Donaldson, P., May, R., Pratt, H. D., Pyle, P., and Tanino, L. 2017. Hawaiian Islands bird checklist—2017. ʻElepaio 77:33-42.

VanderWerf, E. A., David, R. E., Donaldson, P., May, R., Pratt, H. D., Pyle, P., and Tanino, L. 2018. First report of the Hawaii Bird Records Committee. W. Birds 49:2–23; doi.org/10.21199/WB49.1.1.

VanderWerf, E. A., Frye, M., Gilardi, J., Penniman, J., Rauzon, M., Pratt, H. D., Steffy, R. S., and Plissner, J. 2023. Range expansion, pairing patterns, and taxonomic status of Brewster's Booby *Sula leucogaster brewsteri*. Pacific Science 77:1–12; doi.org/10.2984/77.1.8.

West, R. L., and Hess, G. K. 2020. Purple Gallinule (*Porphyrio martinica*), *in* Birds of the World (A. F. Poole and F. B. Gill, eds.). Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/bow.purgal2.01.

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IDENTIFICATION OF WILLOW AND ALDER FLYCATCHERS BY PRIMARY-TIP SPACING: THE P6:7 RATIO

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ABSTRACT: Discrimination of silent Alder (*Empidonax alnorum*) and Willow Flycatchers (*E. trailli*) has long been considered exceedingly difficult from photographs or under field conditions. Through extensive specimen and field research, we explored the applicability of primary-tip spacings on a folded wing to field identification. We found that the distance from the tip of primary 5 to primary 6 divided by the distance from the tip of primary 6 to primary 7, which we term the "P6:7 ratio," is a nearly diagnostic field mark. In our sample of 217 Alder Flycatcher specimens, 95% have P6:7 < 1.02, whereas in our sample of 371 Willow Flycatcher specimens 95% have P6:7 > 1.05. Because the dividing line between the two species is close to a P6:7 ratio of 1, this field mark is discernible from photos and, with experience, in the field.

Distinguishing the Alder (*Empidonax alnorum*) and Willow (*E. traillii*) Flycatchers from visual field marks alone has often been thought to be impossible. So similar in appearance, they were confused as one species, the Traill's Flycatcher, from the time of the original description of *E. traillii* until Stein's (1963) thorough study in the zone of range overlap showed that the two species have distinctly different songs and calls. With the realization that individuals with different vocalizations had slightly different habitat preferences, nest structures, and morphology (Stein 1963), the checklist committee of the American Ornithologists' Union recognized two separate species (Eisenmann et al. 1973). Knowledge of vocal differences between these two species, combined with the recent proliferation of our ability to record vocalizations, has since made identification easier.

Identification of silent individuals, however, remains challenging. Because the structural and plumage field marks distinguishing the *Empidonax* flycatchers are subtle and often overlap, no single field mark is diagnostic when it comes to *Empidonax* identification. Instead, the holistic approach is recommended (Whitney and Kaufman 1985, 1986, Kaufman 1990, Rowland 2009, Lee and Birch 2023), in which a combination of multiple field marks and structural features is applied. This holistic approach significantly improves the rate of success of identifying *Empidonax* flycatchers in the field, but visual differences between the Alder and Willow Flycatchers are so subtle that much uncertainty remains. There is thus a need for an objective and quantitative method by which silent Alder and Willow Flycatchers can be distinguished.

In this study, we explore whether the relative distances between the tips of the primaries of the Alder and Willow Flycatchers differ. We present the results of extensive specimen research, focusing specifically on relative proportions rather than absolute dimensions. We introduce a novel method of using relative primary-tip spacing that can greatly aid the identification of silent Alder and Willow Flycatchers in the field or from photographs.

CURRENT KNOWLEDGE OF IDENTIFICATION CRITERIA

Plumage and Structural Field Marks

As summarized by Lee and Birch (2023), the Alder Flycatcher tends to have a rounder head, a smaller and stubbier bill, a thin but crisp eye-ring, more contrasting wingbars, and a whiter chest (Figure 1). The Willow tends to have a more peaked crown, a longer and thinner bill, a less contrasting eye-ring, duller wingbars, and slightly grayer chest (Figure 1). The Alder is also a rounder and thicker-bodied bird, resembling a Least Flycatcher at times, while the Willow is slenderer and more likely to be confused with wood-pewees than with the Least Flycatcher. In Texas, where both species occur side by side (during migration), we have had the opportunity to test this holistic approach after subsequent validation with vocalizations. From our own experience, we have applied this holistic approach with reasonably good success, but an immense amount of field experience is still needed for identifications to be made by the holistic approach. A good deal of humility is required, and over-confidence can be problematic. With our current state of knowledge, only with vocalizations can one arrive at an identification with near 100% certainty, especially in the case of potentially extralimital birds.

Morphometrics

Considerable work has already been done on the genus *Empidonax* in terms of structural measurements of wing morphology and dimensions of bills, tarsi, and rectrices (Stein 1963, Phillips et al. 1966, Unitt 1987, Benson and Benson 1988, Browning 1993, Pyle, 1997a, b, 2022, Rowland 2009, Paxton et al. 2011). Pyle's seminal compilation of morphological metrics into a single handbook significantly advanced the identification of birds in the hand. For *Empidonax*, however, absolute values of any given metric unfortunately overlap too much, so no single metric can be used for confident identification, especially in the case of the Alder and Willow Flycatchers (Pyle 2022). Identification of Alder and Willow Flycatchers has so far relied on scatter diagrams relating bill length (nares to tip) versus a wing-formula index, specifically, the difference in the distances between the tips of two primaries, F1 = (longest P – P6) – (P5 – P10), where P stands for primary. While there is considerable overlap between the species in bill length and F1, Stein (1963) showed that the two species cluster differently when these variables are plotted, defining an empirical line of separation, which has become known as Stein's formula and subsequently adopted or modified (Hussell 1991, Seutin 1991, Pyle 1997b, 2022). Pyle (1997b, 2022) suggested that 85% of specimens could be distinguished by these formulae. In a study where the two species are sympatric in eastern Canada, however, Seutin (1991) showed that Stein's formula correctly identified about 80% of Alder Flycatchers but fewer than 70% of Willow Flycatchers.

Because P9 and P10 are hidden on a folded wing, absolute measurements cannot be made in a natural setting. Application of Stein's formula is thus restricted to birds in hand (specimens or banded birds), but great care must be taken to measure the primaries accurately because the absolute differences in primary-tip spacings are <1 mm.

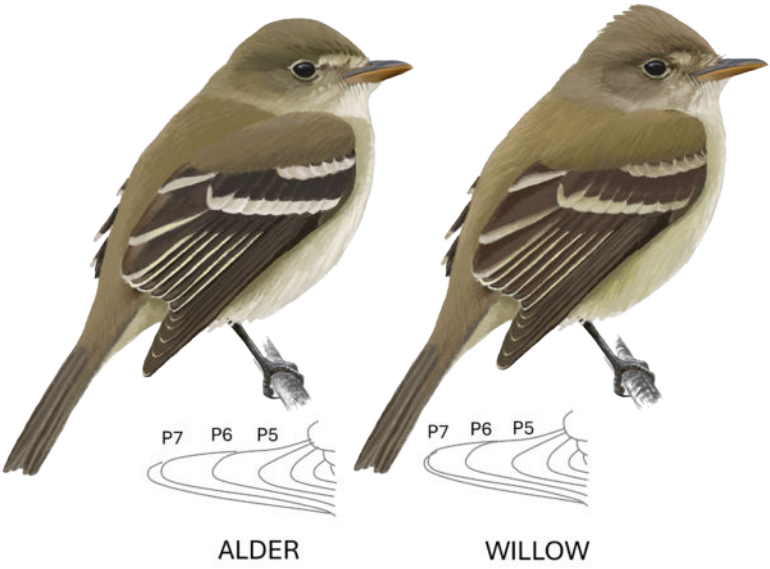

FIGURE 1. Summary of overall plumage and structural differences between the Alder (left) and eastern Willow (right) Flycatchers, showing [P7–P6] greater than [P6–P5] in the Alder Flycatcher and [P7–P6] less than [P6–P5] in the Willow Flycatcher.

Illustration by Andrew Birch

METHODS

We examined specimens from the Museum of Vertebrate Zoology at the University of California, Berkeley, the Museum of Natural Science at Louisiana State University, Baton Rouge, the American Museum of Natural History, New York, and the Field Museum, Chicago. All four subspecies of the Willow Flycatcher were represented in our study (*brewsteri*, *adastus*, *traillii*, and *extimus*). We have, however, considerable concern over whether specimens were correctly identified, especially for those collected before the Traill's complex was split. We report data only for those specimens we could independently and confidently identify. Our first criterion was that the identifications conform with the species' known geographic and temporal patterns of breeding, migration, and wintering. For example, we assumed any Traill's Flycatcher collected in the conterminous United States west of the Rocky Mountains to be a Willow Flycatcher because the Alder Flycatcher is only a rare vagrant to the west of them. A Traill's Flycatcher collected from the boreal forests of Canada and Alaska during the breeding season can be unequivocally assumed to be an Alder Flycatcher. We excluded specimens collected in areas where the species' breeding ranges overlap unless the collector had identified the species by voice. We considered winter birds (October to April) collected in western Mexico to be Willow Flycatchers. Specimens collected during migration (and hence away from breeding grounds) in eastern North America were problematic because both Alder and Willow Flycatchers pass through

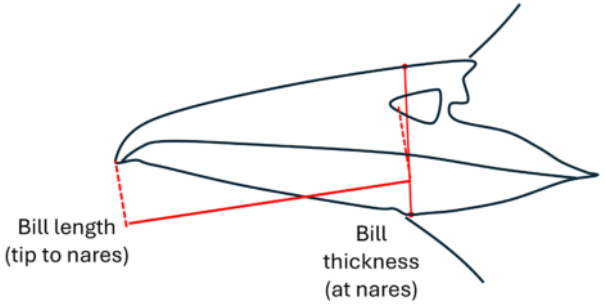

FIGURE 2. Bill morphometrics reported in text. Bill length here refers to the distance from the front of the nares to the tip of the bill. Bill thickness and width are measured at the nares.

the same region roughly simultaneously. For these specimens (<10% of the sample set), we used the holistic approach outlined above for identification, considering only those that were clearly identifiable. Applying all these criteria, we measured 217 Alder and 371 Willow Flycatcher specimens.

Sex was noted if such information was provided by the collector, but we did not analyze the influence of sex on wing morphometrics. Age (adult versus hatch-year) was evaluated based on plumage and molt (Carnes et al. 2021, Pyle and Carnes 2022) or by extent of skull pneumatization reported by the collector. Fresh-plumaged birds with buffy wingbars in fall were identified as juveniles. Variably worn spring specimens with a clear contrast between two generations of primaries were denoted as second-year birds. Specimens with missing or growing flight feathers (which were often fall adults) were excluded from analysis.

Bill dimensions and flight-feather metrics were measured. For bill dimensions, we measured the distance from the front of the nares to the tip of the maxilla, the bill thickness at the nares, and bill width at the nares (Figure 2). For flight feathers, we measured the spacings between the tips of the primaries directly, that is, the distance between the tips of *adjacent* primaries on a folded wing (Figure 3), rather than measuring the total length of each primary and then taking the difference. This approach minimizes measurement and propagation errors. On the basis of our experience, the reproducibility of determining the start of the feather base is not sufficient for calculating primary-tip spacing distances at the level of precision needed. We did not measure primary projection because this index may be compromised during preparation of the skin. If primaries were slightly spread, we aligned them to ensure that their tips were colinear. All measurements were done with a digital caliper rather than a ruler to ensure the highest precision (±0.05 mm).

By convention, the primaries are numbered from the inside outward, e.g., P10 corresponds to the outermost primary (Figure 3). Our convention for reporting primary-tip spacings is as the distance from an outer primary to an inner one. For example, [P10–P9] corresponds to the distance between the tips of P10 and P9, and [P8–P5] corresponds to that between the tips of P8 and P5. If the outer primary is shorter than the inner primary, then the

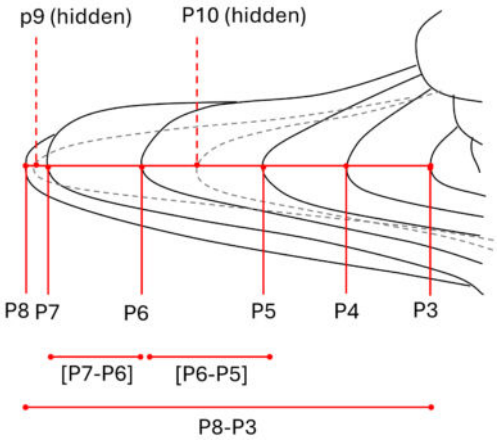

FIGURE 3. Numbering of the 10 primaries of the Alder and Willow Flycatchers, from the innermost primary (P1) to the outermost (P10). P10 and P9 are always hidden on a folded wing and denoted here with dashed lines. P8 projects only slightly and is often the same length as P7 and sometimes not visible. Spacings between the tips of the primaries are denoted as the difference between primary-tip lengths, e.g., [P7–P6], which represents the spacing between P7 and P6.

value is negative. In *Empidonax* flycatchers, P9 and P10 are always shorter and stacked beneath P8 and never visible on a folded wing, thus [P10–P9] and [P10–P8] are always negative (Figure 3). In the Alder and Willow Flycatchers, the longest and outermost exposed primary is usually P8, although the amount of P8 exposed can sometimes be limited, especially in the Willow. Tip spacings from P7 or P8 inward are always positive (e.g., [P8–P6], [P7–P6], [P6–P5], etc.). We did not measure distances to P1 or P2 as on a folded wing these primaries are usually hidden beneath the secondaries (see Figures 3 and 4). A summary of how these measurements are applied to specimens is shown in Figure 5.

Directly measured distances between adjacent tips, e.g., [P7–P6], can be added to calculate spacings between non-adjacent tips, e.g., [P7–P5]. We recalculated tip spacings relative to P3 by consecutively summing spacings between adjacent tips, beginning with [P4–P3] (Table 1), that is,

$$[P_i{-}P_3] = \Sigma_4^i\,[P_i{-}P_{i-1}] \quad (1)$$

For example, [P7–P3] = [P4–P3] + [P5–P4] + [P6–P5] + [P7–P6] from Equation 1. Once done, calculating any other spacing of non-adjacent primaries is straightforward. For example, [P7–P5] = [P7–P3] – [P5–P3]. All distances are reported in mm. To obtain nondimensional indices, we calculated the ratios of two primary-tip spacings, i.e., [P6–P5]/[P7–P6]. When this ratio is >1, [P6–P5] is greater than [P7–P6].

We report mean and median values of measurements and variability in a morphometric index with the 5 and 95 percentiles. For example, the 5% value of a morphometric indicates that only 5% of measurements fall below this

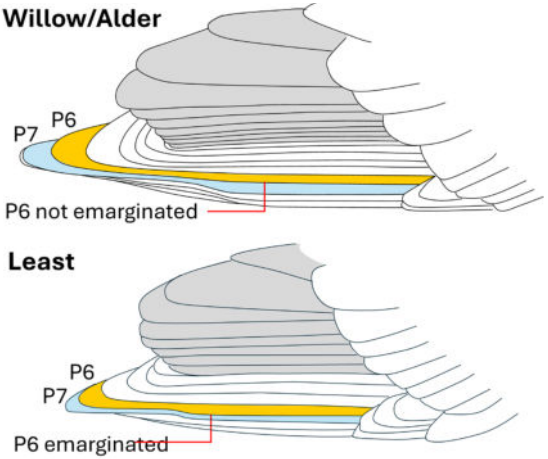

FIGURE 4. Differences in emargination of outer primaries of *Empidonax*. In both wing diagrams, blue represents P7 and orange P6. In the Willow, Alder, and Acadian Flycatchers, P6 is not emarginated. In the Least and other species of *Empidonax*, P6 is emarginated. Note that in the Least [P7–P6] is distinctly short and P7 can be mistaken for P8, so great care must be taken in identifying the primaries accurately before the spacings between the primaries' tips are measured.

FIGURE 5. Comparison of primary-tip spacings of Alder and Willow Flycatchers. Willow has [P6–P5] > [P7–P6]. Alder has [P6–P5] < [P7–P6]. Specimens from the Field Museum of Natural History, Chicago.

value (or, equivalently, 95% of measurements fall above this value). The 95% value indicates that 95% of measurements fall below this value (or, equivalently, only 5% of values fall above this value). The range of values between the 5% and 95% percentiles reflects 90% of measurements.

To test the applicability of measurements of primary-tip spacing in the field, we also examined high-quality photographs of 50 Willow and 50 Alder Flycatchers available through the Cornell Laboratory of Ornithology's Macaulay Library of photos. Identifications were based on vocalizations or geographic range according to the same criteria discussed above. For taking measurements from photos we used the "ruler" tool in Adobe Photoshop.

RESULTS

The Alder and Willow Flycatchers differ subtly in overall wing structure (Figure 5). Table 1 presents direct measurements of the spacings between the tips of adjacent primaries as well as indices calculated from these measurements.

In both species, P8 is the longest primary, but there is a slight tendency for P8 to project out more in the Alder, as measured by its value for [P8–P7] averaging slightly longer than in the Willow. Consistent with previous work (Pyle 2022), our measurements showed that the Alder has slightly longer wings than the Willow, as exemplified by the Alder's longer [P8–P3] (Figures 6 and 7; Pyle 2022). Subtle differences were also seen in the length of P10 relative to P5 ([P10–P5]). In the Alder, P10 tended to be longer than P5 (i.e., [P10–P5] ≥ 0; Figure 7). In the Willow, P10 was equal to or slightly shorter than P5 ([P10–P5] ≤ 0). We found [P7–P6] to be generally longer in the Alder than in the Willow (Figure 8). However, we found considerable overlap between the two species in these direct measures, so these differences can be described only as tendencies and should not be used as diagnostic except at the extremes.

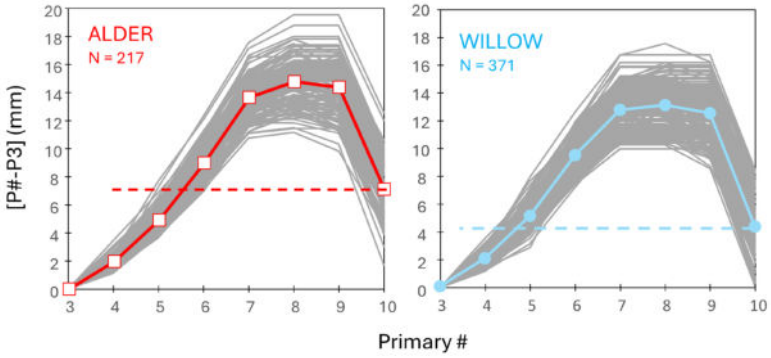

FIGURE 6. Lengths of the primaries of the Alder and Willow Flycatchers relative to P3, e.g., [P_i–P3]. Each gray line represents one specimen. Solid colored line in each panel represents the mean. Alder Flycatchers have slightly more pointed wings than do Willow Flycatchers, as evidenced by the Alder's longer P8 and P9. On average, P10 is longer than P5 in the Alder (red dashed horizontal line) but equal to or shorter than P5 in Willow (blue dashed horizontal line).

Table 1 Summary of Morphometric Data from Specimens of the Alder and Willow Flycatchers

	Alder (n = 217)				Willow (n = 371)			
Metric	Mean	Median	5%[a]	95%[b]	Mean	Median	5%[a]	95%[b]
Measured values								
Bill length (BL)[c]	8.79	8.82	7.85	9.54	9.61	9.61	8.71	10.60
Bill thickness (BTh)[d]	4.15	4.14	3.58	4.67	4.20	4.19	3.75	4.67
Bill width (BW)[d]	6.67	6.65	6.05	7.33	6.83	6.84	6.18	7.40
[P10–P9]	–7.31	–7.29	–8.62	–5.95	–8.12	–8.03	–9.66	–6.49
[P9–P8]	–0.39	0.00	–1.58	0.00	–0.59	0.00	–1.91	0.00
[P8–P7]	1.01	1.07	0.00	1.96	0.37	0.00	0.00	1.34
[P7–P6]	4.60	4.52	3.67	5.79	3.23	3.21	2.29	4.17
[P6–P5]	3.95	3.94	3.05	4.74	4.33	4.24	3.41	5.39
[P5–P4]	2.80	2.76	2.04	3.74	2.99	2.87	2.20	4.01
[P4–P3]	1.91	1.93	1.18	2.64	1.97	1.96	1.18	2.87
Calculated values								
[P10–P3]	6.56	6.57	3.26	9.87	4.16	4.19	1.15	7.55
[P9–P3]	13.9	14.0	10.7	16.7	12.3	12.2	9.6	15.2
[P8–P3]	14.3	14.3	11.3	16.9	12.9	12.9	10.4	15.4
[P7–P3]	13.2	13.2	10.7	15.6	12.5	12.4	10.3	14.8
[P6–P3]	8.65	8.60	6.65	10.4	9.27	9.23	7.63	11.29
[P5–P3]	4.69	4.67	3.33	6.12	4.95	4.87	3.72	6.43
[P4–P3]	1.89	1.92	1.14	2.64	1.96	1.96	1.14	2.87
[P8–P4]	12.4	12.4	9.68	14.6	10.9	11.0	8.70	13.2
[P7–P4]	11.4	11.4	9.18	13.5	10.5	10.5	8.60	12.6
[P6–P4]	6.75	6.77	5.37	8.14	7.31	7.23	5.99	8.86
[P10–P5]	1.87	2.00	–0.54	4.36	–0.80	–0.91	–3.49	2.08
[P6–P5]	3.96	3.94	3.04	4.74	4.32	4.24	3.41	5.35
Ratios								
P6:7 = [P6–P5]/[P7–P6]	0.87	0.88	0.64	1.02	0.87	0.88	0.64	1.02
[P6–P4]/[P8–P4]	0.55	0.55	0.48	0.61	0.55	0.55	0.48	0.61
[P6–P4]/[P7–P4]	0.59	0.60	0.53	0.65	0.59	0.60	0.53	0.65
BL/BTh	2.13	2.13	1.87	2.46	2.13	2.13	1.87	2.46
[P7–P6]/BL	0.52	0.52	0.41	0.66	0.52	0.52	0.41	0.66

[a]Value beneath which only 5% of specimens fall and which 95% of specimens exceed.

[b]Value above which only 5% of specimens fall and which 95% of specimens do not reach.

[c]Measured from anterior edge of nares to tip of bill.

[d]Measured at the nares.

More considerable differences were borne out in the ratios of primary-tip spacings because ratios normalize out the effect of variation in size. This result is particularly significant because the most diagnostic primary tips are always visible on a folded wing, which lends itself to identification of birds both in the hand and well photographed. The most important derived index is the ratio [P6–P5]/[P7–P6], which we refer to as the "P6:7 ratio." This ratio is greater in the Willow Flycatcher, the median being 0.88 in the Alder and 1.33 in the Willow (Figure 8). The P6:7 ratio was <1.02 in 95% of Alder Flycatchers and >1.05 in 95% of Willow Flycatchers so is usefully diagnostic. A value of P6:7 = 1.035 effected maximum separation between the two species. Thus [P6–P5] was typically greater than [P7–P6] in the Willow, whereas

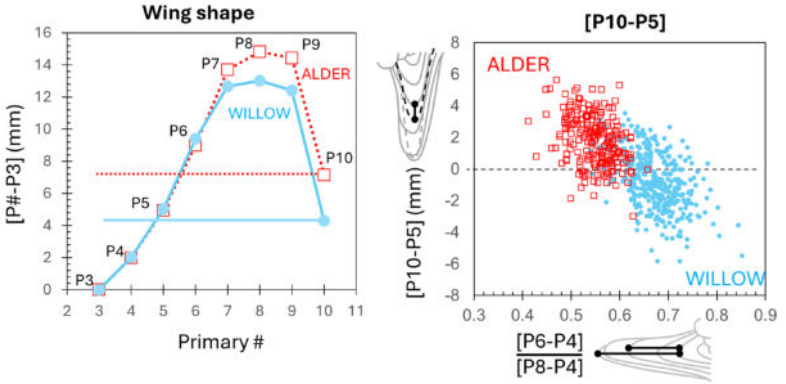

FIGURE 7. Left, average wing shapes of the Alder and Willow Flycatchers as measured from the lengths of the primaries relative to P3 (see Figure 6). Right, [P10–P5] versus [P6–P4]/[P8–P4]. The relative length of P10 in the Alder is generally greater than in the Willow. The Alder has the [P6–P4]/[P8–P4] ratio lower than in the Willow because of its longer P8 and P9.

[P6–P5] was shorter than [P7–P6] in the Alder. About 5% of specimens fell within the overlap zone and are not distinguishable from this ratio alone. We found no Alders with this ratio >1.2 and no Willows with it <1.0. Because the separation between Alder and Willow was conveniently at P6:7 of ~1, this ratio can be readily seen and quantified in the field or from good-quality photographs. Using photographs of live birds, we arrived at median values of the P6:7 ratio of 1.25 and 0.82 for Willow and Alder, respectively, which are identical to within error to values determined from specimens. Only 6%

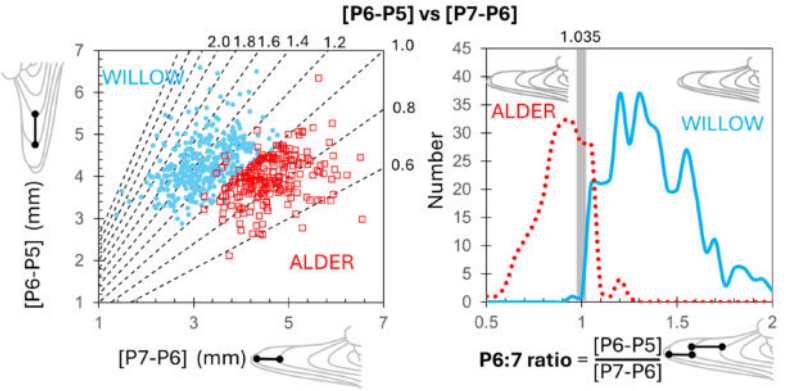

FIGURE 8. Left, [P6–P5] versus [P7–P6] in the Alder and Willow Flycatchers. The Alder has [P7–P6] slightly longer than in the Willow, but there is considerable overlap. There is complete overlap in [P6–P5]. The two species differ, however, in the P6:7 ratio ([P6–P5]/[P7–P6]) (dashed lines in left panel). Right, frequency distribution of this ratio. Vertical gray line represents P6:7 = 1.035, the line of maximum separation between the two species. This ratio is relatively easy to observe in the field.

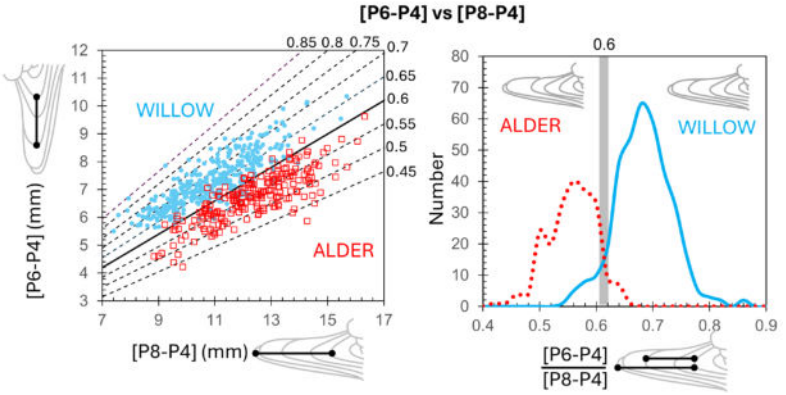

FIGURE 9. Left, measured values of [P6–P4] versus [P8–P4]. There is complete overlap in absolute spacings, but in the ratio of these two quantities the two species diverge (dashed lines represent [P6–P4]/[P8–P4]). Right, frequency distribution of [P6–P4]/[P8–P4]. This ratio must be measured from specimens or photographs as it is difficult to visualize in the field.

of the birds photographed fell out of the species' ranges as determined from specimen measurements.

We also explored whether the Alder and Willow might be differentiated with other indices of primary-tip spacing. We found no difference in [P6–P4], [P7–P4], and [P8–P4], but their ratios were significantly different (Figure 9). Ratios [P6–P4]/[P8–P4] and [P6–P4]/[P7–P4] were consistently higher in the Willow than in the Alder (Figures 9–11). Because these ratios do not involve adjacent primary tips, they are more difficult for the human eye to evaluate. However, these ratios are nearly as diagnostic as the P6:7 ratio.

For completeness, we also report the results of our measurements of bill dimensions (Table 1 and Figure 12). As reported by Pyle (2022), there is

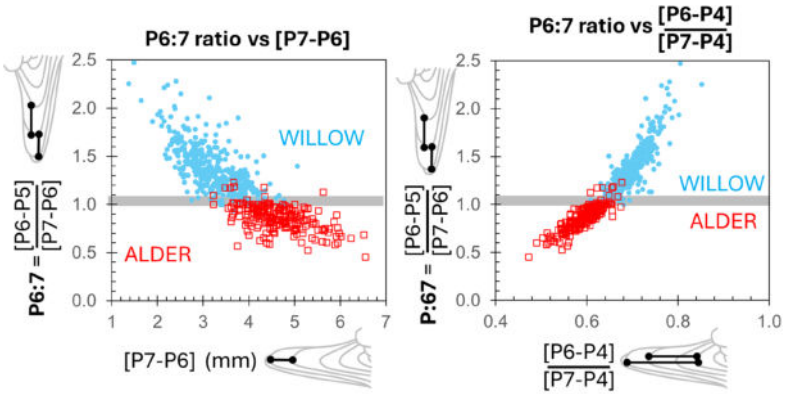

FIGURE 10. Left, the P6:7 ratio ([P6-P5]/[P7-P6]) versus [P7–P6] in the Alder and Willow Flycatchers. Right, the P6:7 ratio versus [P6–P4]/[P7–P4].

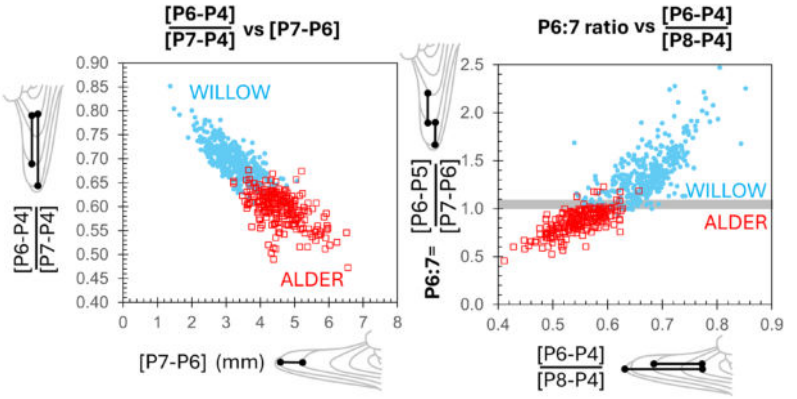

FIGURE 11. Left, [P6–P4]/[P7–P4] versus [P7–P6] in the Alder and Willow Flycatchers. Right, [P6–P5]/[P7–P6] versus [P6–P4]/[P8–P4].

considerable overlap between the two species in bill length. Only Willow Flycatchers were found to have bill lengths >10 mm, so any Traill's with a bill >10 mm is almost surely a Willow. Bill lengths <10 mm unfortunately fall in the zone of overlap. We note that many (but not all) long-billed Willows represent one of the three western subspecies (especially *extimus*), so western Willows often appear longer-billed than the Alder; in the eastern subspecies of the Willow the bill structure is more similar to the Alder (Pyle 2022). Rather than by absolute bill length, the Alder and Willow are better differentiated when bill length and primary-tip morphometrics are examined together. For example, Figure 13 shows that the Alder and Willow are differentiated by the ratio of [P7–P6] to bill length ([P7–P6]/BL). While absolute bill dimensions

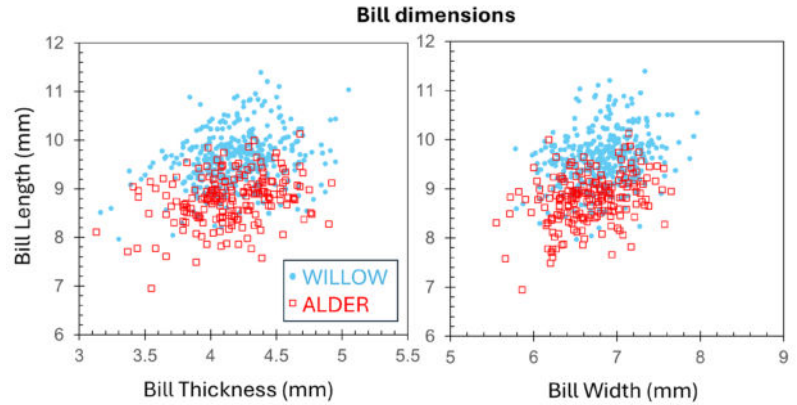

FIGURE 12. Left, bill length (nares to tip) versus bill thickness at nares in the Alder (red squres) and Willow (blue dots) Flycatchers; right, bill length versus bill width at nares panel). The Willow tends to have a bill longer than the Alder's, but only at the extremes can bill length be used for identification. The two species overlap completely in bill thickness and width.

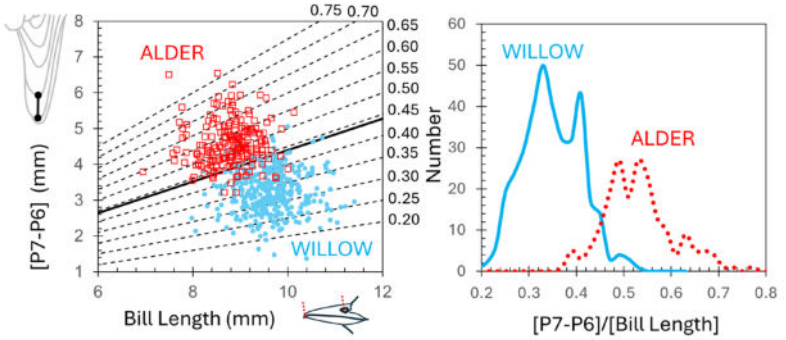

FIGURE 13. Left, [P7–P6] versus bill length (nares to tip) in the Alder and Willow Flycatchers. There is considerable overlap in absolute dimensions, but the species diverge in the ratio between these two measures (right). This ratio must be measured from specimens, birds in the hand, or photos taken in profile.

cannot be measured without the bird in hand, this ratio can be measured from photographs, provided the bill and wing are in the same focal plane so that image distortion from a telephoto lens is minimized.

DISCUSSION

We found that ratios of primary-tip spacing are more robust than absolute wing metrics for distinguishing the Alder and Willow Flycatchers. Table 1 and Figures 14 and 15 consolidate all the relevant morphometrics for ease of use. Compared to the Willow, the Alder has longer primaries and wider spacing

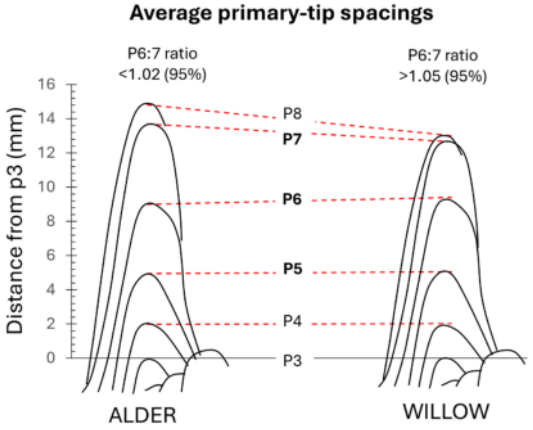

FIGURE 14. Primary-tip formulas of the Alder and Willow Flycatchers. [P6–P5]/[P7–P6] > 1.035 in 95% of Willow Flycatcher specimens and <1.035 in 95% of Alder Flycatcher specimens.

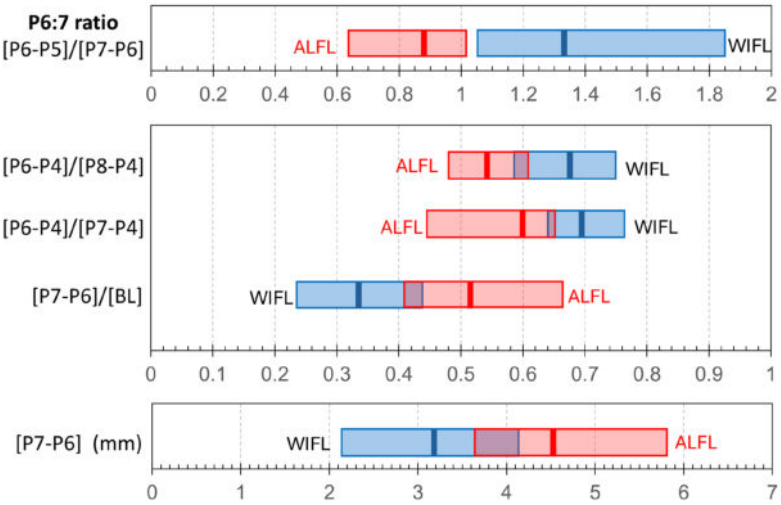

FIGURE 15. Summary of morphometric data. Red horizontal bars represent the Alder Flycatcher (ALFL), blue horizontal bars the Willow Flycatcher (WIFL). The width of each bar corresponds to 90% of sampled specimens, with the lower bound corresponding to the 5% percentile and the upper bound corresponding to the 95% percentile. Thick vertical bars represent the median value of each morphometric for each species. Fewer than 5% of the Willow and Alder Flycatchers overlap in the P6:7 ratio, [P6–P5]/[P7–P6].

between P7 and P6, which results in a smaller P6:7 ratio. Presumably these differences are related to the Alder's migrations being longer than the Willow's.

The use of ratios, especially the P6:7 ratio, allows measurements to be made from photographs when absolute scale is missing. Application of the P6:7 ratio is illustrated in Figures 16 and 17 with close views of Alder and Willow wings. Additional photos of Alder (Figures 18–23) and Willow (Figures 24–28) Flycatchers illustrate both the use of the P6:7 ratio and other field marks in identification. Figure 29 shows a direct comparison of Alder and Willow Flycatchers in the hand, illustrating how these indices can be applied to banded birds. When birds are captured for banding, photos of the folded wing may be all that is necessary for identification (provided other species of *Empidonax* have been ruled out), reducing the amount of time spent taking measurements on a live bird.

In measuring specimens, one has the advantage of measuring ideally folded wings. In the field, conditions are ideal for assessing wing structure only when the bird is close, with high-quality optics. Field identification thus requires taking good-quality photographs of the wing. The wing should be photographed in one focal plane, minimizing foreshortening, which may distort ratios. It is important to remember that photographs of live birds are instantaneous snapshots, yielding more variability in ratios because feather arrangements can shift slightly when a bird moves its wings. Finally, despite the robustness of the P6:7 index, we still recommend a holistic approach

FIGURE 16. Juvenile Alder Flycatcher in fresh plumage, photographed 16 September 2023 in Galveston, Texas. P6:7 = 0.73. Note the bold wingbars and tertial edges that contrast with the wing's blackish ground color and olive mantle. Note that P7 is emarginated but not P6, helping to distinguish the Alder and Willow Flycatchers from most other species of *Empidonax*, including the Least. Identification verified by voice.

Photo by Cin-Ty Lee

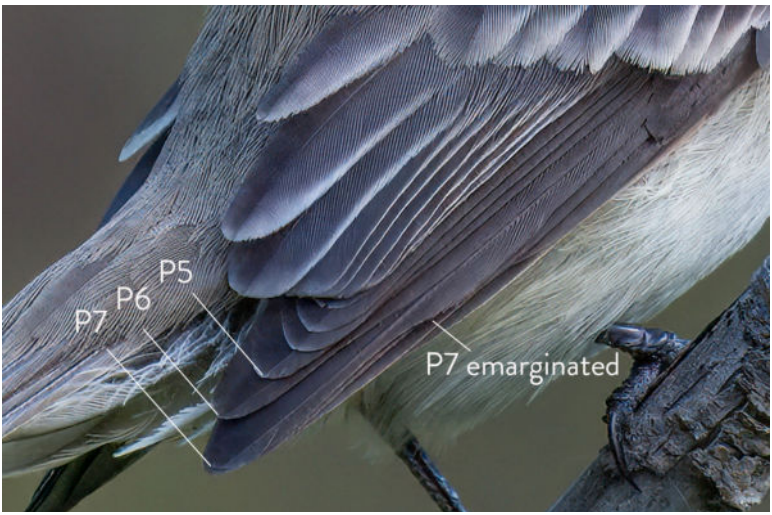

FIGURE 17. Adult Willow Flycatcher, photographed 21 June 2024 at Sibbald Lake near Kananaskis, Alberta, Canada. P6:7 = 1.23. Note the dull wingbars and tertials that show less contrast with the wing's ground color and mantle than in the Alder (Figure 16). Note that P7 is emarginated but not P6, helping to distinguish the Willow and Alder Flycatchers from most other species of *Empidonax*. Identification verified by voice and range.

Photo by Cin-Ty Lee

FIGURE 18. Juvenile Alder Flycatcher in fresh plumage, photographed 16 September 2023 in Galveston, Texas. P6:7 = 0.73. Note the bold wingbars and tertial edges that contrast with the wing's blackish ground color and dark olive mantle, unlike the browner wings and duller wingbars of the Willow. The crown is rounded instead of the more peaked appearance of the Willow. This bird's eye ring is more distinct than typical for an Alder. P7 is emarginated but not P6. Identification verified by voice.

Photo by Cin-Ty Lee

to identifying *Empidonax*. With these caveats in mind, we provide below a workflow for identification of the Alder and Willow Flycatchers.

Workflow for Identification

Step 1: Documentation. In the field or with birds in the hand, make every attempt to record vocalizations and take photographs from various angles. The ideal photographs are lateral profiles and dorsal views of the folded wing in the same focal plane. Ventral views are important for assessing chest coloration and underpart/upperpart contrast, which can be helpful in distinguishing the Alder and Willow from other flycatchers. If possible, one should also take photos of the spread wing and tail. Such photos, while not ideal for measuring primary-tip spacings, are useful for age determination.

Importantly, because spacings between primary tips can be measured later from photographs, the observer in the field should prioritize obtaining good-quality photos and noting other aspects such as habitat, behavior, vocalizations, and structural features that may not be captured well in photographs. For banders, *Empidonax* flycatchers are notorious for struggling in a bander's grip, making them difficult to photograph. Inexperienced banders faced with a struggling bird can often become rushed or nervous, resulting in incomplete

Figure 19. Adult Alder Flycatcher photographed 18 August 2024 in Houston, Texas. P6:7 = 0.88. Typical of the Alder are the bold wingbars (especially the lower) and tertial edges, contrasting with the olive mantle. The dark ground color of the wing accentuates the wingbars' contrast. The rounded crown is typical of the Alder. Identification verified by call.

Photo by Cin-Ty Lee

Figure 20. Adult Alder Flycatcher photographed 10 August 2024 in Houston, Texas. P6:7 = 0.80. The round crown, thin eye ring, relatively white contrasting wingbars and tertial edges, wing's blackish ground color, and relatively strong contrast between whitish throat and dark face and upperparts also point to the Alder. The tail appears wider than in a Least Flycatcher. Eye-ring too thin and crisp for the Least. Identification verified by call.

Photo by Cin-Ty Lee

FIGURE 21. Adult Alder Flycatcher photographed 28 May 2023 in Tadoussac, Quebec. P6:7 = 0.98. The distinct eye-ring, rounded crown, and wide tail are also consistent with the Alder. Identification verified by song.

Photo by Cin-Ty Lee

documentation of a bird. The most consistent technique for getting a profile-view photo of an *Empidonax* is to hold it in a loose version of a bander's grip and turn it to face the camera in profile (Blaine Carnes pers. comm.).

Step 2: Rule out other flycatcher species. Before applying any of the criteria we present, all other flycatchers and pewees must be first ruled out. The most likely sources of confusion are the wood-pewees and Least Flycatcher. The Willow Flycatcher tends to be more easily confused with wood-pewees because of its slightly longer body, duskier chest, duller wingbars, indistinct eye-ring, and occasionally peaked crown. However, wood-pewees have much longer primary projections than any *Empidonax*, precluding confusion if the wings can be seen well. Wood-pewees give a "pip" call that can sound like an Alder Flycatcher to the inexperienced ear, but wood-pewees do not give the "whit" calls characteristic of the Willow Flycatcher.

The Least Flycatcher, however, can appear remarkably like the Alder. On average the Alder has a whiter chest, brighter wingbars, bolder eye-ring, and more compact body than the Willow, and these features can make the bird superficially resemble the Least Flycatcher. However, the Alder's eye-ring, while complete, is usually thin and crisp, whereas the Least tends to have a bolder but messier eye-ring whose thickness varies and edges are more diffuse. The Alder and Willow also appear to have wider tails than the Least. The Least's narrow tail often seems to narrow toward the body, but the Alder's rarely does so. The shapes of the primaries can also be useful. Primaries are

FIGURE 22. Juvenile Alder Flycatcher photographed 6 September 2023 in Sugar Land, Texas. P6:7 = 0.66. The bold wingbars and white edges to the tertials contrasting with the wing's blackish ground color are typical of the Alder and differ from the Willow's more muted wing pattern and browner tones. Note also the strong contrast between dark upperparts and whitish throat. The thin and crisp eye-ring is consistent with an Alder. Identification verified by call.

Photo Cin-Ty Lee

emarginated if the outer vane has a curved margin that broadens abruptly toward the base of the feather and unemarginated if there is no broadening of the outer vane. The edges of the broad outer vane on emarginated feathers are usually paler than the main feather itself and thus can often be seen on a folded wing. In the Least Flycatcher, P6 to P10 are emarginated, but in the Alder and Willow, only P7 to P10 are emarginated (Figure 4). The spacings between the primaries' tips are also useful. In the Least, [P7–P6] is considerably shorter than [P6–P5], which is opposite that of the Alder. However, note that the longest primary is usually P7 in the Least and P8 in the Alder. Because the Least's [P7–P6] is very short, one could mistake its P7 for P8, resulting in misidentification of a Least as an Alder. Use of the spacings and emargination of the primaries requires those feathers be identified accurately.

Step 3: Number primary tips. Correctly numbering primary tips is critical but can be challenging, especially in the field or when photographs are of poor quality. There are two reference points that may help one count primaries. In the Willow and Alder Flycatchers, P8 is the longest primary (be aware that in other species of *Empidonax* P7 may be the longest). On a folded Willow or

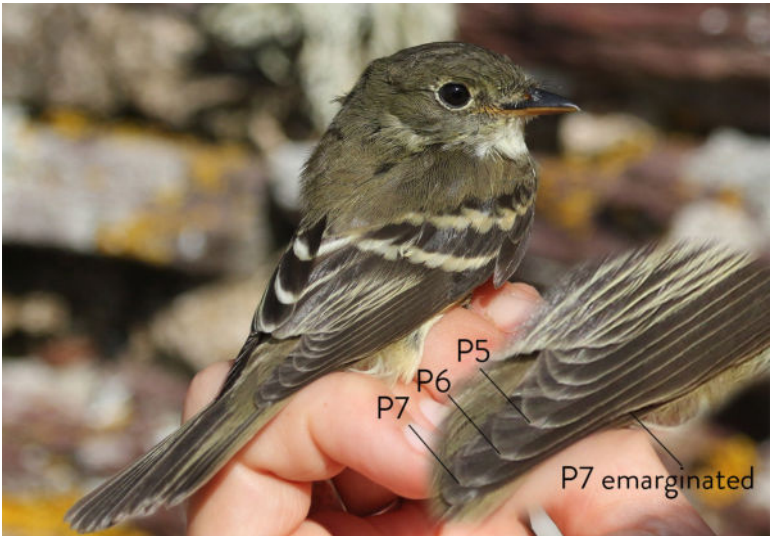

FIGURE 23. Juvenile Alder Flycatcher photographed 21 September 2023 in Skokholm, Wales. P6:7 = 0.91. This vagrant is the first Alder Flycatcher recorded for Wales and the third for Great Britain. Blackish wing ground color, bright and strongly contrasting wingbars and tertial edges, strong contrast between throat and upperparts, and thin, crisp eye-ring are consistent with the Alder. DNA extracted from a feather and a few fecal deposits confirmed the identification (Woollard 2024).

Photo by Richard Brown (https://macaulaylibrary.org/asset/609121814)

Alder wing, the tip of the wing is P8, which typically extends beyond P7 only slightly. That is, [P8–P7] is much shorter than [P7–P6]. In some cases, [P8–P7] is so short that P7 may appear to be the longest primary (more often in the Willow), but P8 is usually visible on careful inspection. The outermost visible primaries that differ conspicuously in length are thus P7 and P6 (Figure 14).

Another useful reference point is to identify the innermost emarginated primary (Pyle 1997b, 2022; Figure 4). In the Willow and Alder Flycatchers, the outermost primaries (P7 to P10) are emarginated, but the innermost primaries (P1 to P6) are not. Thus the innermost emarginated primary is P7. Some caution, however, is warranted in using this criterion because sometimes the outer web of P6 tapers slightly toward the tip, which can be mistaken for emargination.

Step 4: Determine the P6:7 ratio. The easiest and most important criterion is the relation between [P7–P6] and [P6–P5]. The maximum separation between the two species is near the point at which the two spacings are of equal length, when the P6:7 ratio ~1, that is, when the tip of P6 lies exactly halfway between the tips of P5 and P7. This criterion can often be assessed by the human eye even without a ruler. As a rule of thumb, if [P6–P5] is noticeably greater than [P7–P6], the bird is a Willow Flycatcher. If [P6–P5] is noticeably less than [P7–P6], the bird is an Alder Flycatcher. If [P6–P5] is the same as [P7–P6], additional morphometric ratios or other features must be considered.

FIGURE 24. Adult Willow Flycatcher (*E. t. extimus*) photographed 8 July 2023 in San Diego County, California. P6:7 = 1.23. This bird could have been identified solely from plumage and structural features: weak plumage contrast, dull wingbars, dull tertial edges, light brown/gray upperparts, pale gray underparts, brown wings, lack of eye-ring, and long heavy bill are consistent with the Willow. Note how the wingbars, especially the upper, are almost the same color as the mantle. Emarginated P7 and unemarginated P6 visible in inset. The plumage of adult Willow Flycatchers, particularly those from the southern parts of their breeding range, tends to wear quickly after the birds arrive in their breeding range. Identification verified by song and range.

Photo by Cin-Ty Lee

Step 5: Additional ratios. Additional ratios that are useful are [P6–P4]/[P8–P4], [P6–P4]/[P7–P4], and [P7–P6]/BL, where bill length is measured from the anterior edge of the nares to the tip. These ratios are not easy for the human eye to assess quantitatively and should be based on measurements—which can be readily made from a photograph.

CONCLUSIONS AND FUTURE DIRECTIONS

In summary, we show here that relative differences of the spacings between the tips of the primaries, especially the P6:7 ratio, are useful for distinguishing the Willow and Alder Flycatchers. Provided good photographs of a folded wing can be obtained, this tool can be applied in the field. Combined with other field marks, these morphometrics allow silent Traill's Flycatchers to be identified with confidence. In the future, we hope to extend these morphometric analyses to other *Empidonax* flycatchers. Application of these morphometrics will help clarify differences in temporal and spatial patterns of *Empidonax* migration, which are currently confused in areas where multiple species pass through.

FIGURE 25. Adult Willow Flycatcher (*E. t. traillii*) photographed 10 May 2024 in Detroit, Michigan. P6:7 = 1.07. Plumage features consistent with the Willow include the dull tertial edges and weakly contrasting wingbars (especially the upper, almost concolorous with the mantle). Identification verified by voice.

Photo by Cin-Ty Lee

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LITERATURE CITED

Benson, R. H., and Benson, K. L. P. 1988. The pocket computer: A new tool for identifying eastern *Empidonax* flycatchers in the hand. N. Am. Bird Bander. 14(3): 4.

Browning, M. R. 1993. Comments on the taxonomy of *Empidonax traillii* (Willow Flycatcher). W. Birds 24:241–257.

Carnes, B. H., Godwin, C. M., Foster, K. R., and Pyle, P. 2021. Clarification of molt

FIGURE 26. Adult Willow Flycatcher (*E. t. traillii*) photographed 10 May 2024 in Detroit, Michigan. P6:7 = 1.13. Plumage and structural features are typical for the Willow: dull tertial edges, wingbars almost concolorous with a brownish mantle; gray throat weakly contrasting with brown face and crown; indistinct eye-ring; long bill; flattish crown. The wing's ground color is brown instead of the more blackish of the Alder. P7 is emarginated but not P6, eliminating most other flycatchers. Identification verified by song.

Photo by Cin-Ty Lee

FIGURE 27. Adult Willow Flycatcher (*E. t. traillii*) photographed 8 June 2023 at Lacreek National Wildlife Refuge, South Dakota. P6:7 = 1.17. Again, typical of the Willow are dull wingbars and tertial edges, muted contrast between chest and upperparts, brown ground color of the wing, indistinct eye-ring, and long heavy bill. Identification verified by voice.

Photo by Cin-Ty Lee

FIGURE 28. Adult Willow Flycatcher (*E. t. adastus*) photographed 24 June 2024 near Golden, British Columbia, Canada. P6:7 = 1.81. Plumage and structural features typical of the Willow: dull wingbars weakly contrasting with the upperparts, dull tertial edges, the wing's brown ground color, almost nonexistent eye-ring, peaked crown, and long bill. Identification verified by song.

Photo by Cin-Ty Lee

strategies in three *Empidonax* flycatchers. Wilson J. Ornithol. 133:34–42; doi.org/10.1676/20-00109.

Eisenmann, E., Amadon, D., Banks, R. C., Blake, E. R., Howell, T. R., Johnson, N. K., Lowery, G. H., Parkes, K. C., and Storer, R. W. 1973. Thirty-second supplement to the American Ornithologists' Union Check-List of North American Birds. Auk. 90:411–419; doi.org/10.2307/4084369.

Hussell, D. T. 1991. Spring migrations of Alder and Willow Flycatchers in southern Ontario. J. Field Ornithol. 62:260–270; http://www.jstor.org/stable/4513605.

Kaufman, K. 1990. Advanced Birding. Houghton Mifflin Harcourt, Boston.

Lee, C.-T., and Birch, A. 2023. Field Guide to North American Flycatchers: *Empidonax* and Pewees. Princeton Univ. Press, Princeton, NJ; doi.org/10.1515/9780691244327.

Paxton, E. H., Unitt, P., Sogge, M. K., Whitfield, M., and Keim, P. 2011. Winter distribution of Willow Flycatcher subspecies. Condor. 113:608–618; doi.org/10.1525/cond.2011.090200.

Phillips, A. R., Howe, M. A., and Lanyon, W. E. 1966. Identification of the flycatchers of eastern North America, with special emphasis on the genus *Empidonax*. Bird-Banding 37:153–171; doi.org/10.2307/4511283.

Pyle, P. 1997a. A further examination of wing and tail formulae in *Empidonax* and *Contopus* flycatchers, The Era of Alan R. Phillips: A Festschrift (R. W. Dickerman, compiler), pp. 147–154. Horizon Communications, Albuquerque.

Pyle, P. 1997b. Identification Guide to North American Passerines. Slate Creek Press, Bolinas, CA.

FIGURE 29. Juvenile Alder (left) and juvenile Willow (right) Flycatchers. P6:7 = 0.89 for the Alder and 1.22 for the Willow (measurements were done from photos). Note also the Alder's blacker wings, more contrasting wingbars, and thin crisp eye-ring as compared to the browner wings and tail, duller wingbars, and lack of eye-ring in the Willow. The Alder banded on 8 September 2024, the Willow on 2 August 2024, both at the Rice Creek Field Station in Oswego, New York.

Photos by Daniel Baldassarre

Pyle, P. 2022. Identification Guide to North American Birds, part 1 (2nd ed.). Slate Creek Press, Point Reyes Station, CA.
Pyle, P., and Carnes, B. H. 2022. Molt strategies by age and subspecies in the Willow Flycatcher. W. Birds 53:216–231; doi.org/10.21199/WB53.3.4.
Rowland, F. 2009. Identifying *Empidonax* flycatchers, the ratio approach. Birding 41:30–38.
Seutin, G. 1991. Morphometric identification of Traill's flycatchers: An assessment of Stein's formula. J. Field Ornithol. 62:308–313.
Stein, R. C. 1963. Isolating mechanisms between populations of Traill's Flycatchers. Proc. Am. Philos. Soc. 107:21–50; www.jstor.org/stable/985467.
Unitt, P. 1987. *Empidonax traillii extimus*: An endangered subspecies. W. Birds 18:137–162.
Whitney, B., and Kaufman, K. 1985. The *Empidonax* challenge. Part I. Introduction. Birding 17:151–158.
Whitney, B., and Kaufman, K. 1986. The *Empidonax* challenge. Part III: Willow and Alder Flycatchers. Birding 18:153–159.
Woollard, D. 2024. Report on rare birds in Great Britain in 2023. Br. Birds 117: 664–736.

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GRAY VIREOS WINTERING IN FRAGRANT BURSERA (*BURSERA FAGAROIDES*) IN CENTRAL SONORA

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ABSTRACT: The Gray Vireo (*Vireo vicinior*) winters primarily around the Gulf of California in coastal arid lands with high densities of the Elephant Tree (*Bursera microphylla*), eating a diet specialized on the fruit of this plant. We describe likely territorial behavior of the Gray Vireo at a site 112 km from the nearest coast in Sonora, Mexico, where the Fragrant Bursera (*Bursera fagaroides*) was the dominant *Bursera* species and Elephant Trees appeared to be absent. We also document the first observation of frugivory by a Gray Vireo on the fruit of Fragrant Bursera. Given that the Gray Vireo is vulnerable to habitat loss and population declines, our observations highlight the importance of investigating wintering Gray Vireos' diet in areas beyond the distribution of the Elephant Tree.

The Gray Vireo (*Vireo vicinior*) is a small songbird that breeds in the southwestern United States and extreme northern Mexico and winters primarily around the Gulf of California in coastal deserts where Elephant Trees (*Bursera microphylla*) are abundant. Populations wintering in Arizona and Sonora typically inhabit lowland desert scrub with little rainfall (Bates 1992a), as do those wintering in Baja California Sur (Hargrove et al. 2023). In most of its winter range, the Gray Vireo shifts from a largely insectivorous summer diet to one of primarily Elephant Tree fruit; the birds defend this resource in stable, individually held territories (Bates 1992a, b). Some populations, however, do not specialize on Elephant Trees: Gray Vireos that winter in Texas remain primarily insectivorous and/or possibly feed on unidentified local fruit (Barlow et al. 2020). In Mexico, studies of wintering Gray Vireos have been limited to their main habitat in the coastal deserts of the Gulf of California, so the diet of Gray Vireos that winter farther inland where Elephant Trees are less common or absent remains poorly documented.

OBSERVATIONS

While searching potentially suitable habitat for wintering Gray Vireos near Hermosillo, Sonora, as part of a study on migratory connectivity, we came across a site with vegetation structure suitable for the Gray Vireo (desert scrub with *Bursera* trees) but apparently lacking Elephant Trees. Instead, *Bursera* was represented by the Fragrant Bursera (*B. fagaroides*), which was typically tree-sized and, to a lesser extent, by the Torote Prieto (*B. laxiflora*). Given that Gray Vireos have been reported in the nonbreeding season from inland sites of Sonora where Elephant Trees are rare or absent (www.eBird.org), we

surveyed this site to assess whether Gray Vireos might be present despite the lack of Elephant Trees and, if so, whether the birds behaved territorially. Gray Vireos produce three main vocalizations related to territorial behavior. The primary song of the male functions in territory establishment and maintenance, attraction of mates, and informing the female of the male's location; trills are given in agonistic and territorial contexts, such as when intruders trespass into a territory, and as a general signal by females to males; and scold calls are typically directed at potential predators, or at neighboring males on both winter and breeding grounds (Barlow et al. 2020).

We surveyed for Gray Vireos on 25 February 2024 within Rancho PATROCIPES (Patronato del Centro de Investigaciones Pecuarias del Estado de Sonora), a management unit for the conservation of wildlife located in the municipality of Carbó, approximately 38 km north of Hermosillo. The terrain at our site was hilly with an average elevation of 527 m above mean sea level. Vegetation included Velvet Mesquite (*Prosopis velutina*), Yellow Paloverde (*Parkinsonia microphylla*), Ironwood (*Olneya tesota*), Fragrant Bursera, Torote Prieto, Brittlebush (*Encelia farinosa*), Wolfberry (*Lycium* sp.), Mexican Tree Ocotillo (*Fouquieria macdougalii*), and Organ Pipe Cactus (*Stenocereus thurberi*). Buffelgrass (*Cenchrus ciliaris*) was also present in the understory, and there were abundant signs of livestock grazing. We surveyed at 16 call points spaced at least 100 meters apart within the first three hours after sunrise. At each point, the 5-minute survey consisted of 1 minute of passive listening followed by 3 minutes during which we alternated broadcast of Gray Vireo vocalizations with periods of passive listening. The survey then ended with 1 more minute of passive listening. Broadcast vocalizations consisted of 1 minute of each of trills, song, and scold calls, interspersed with periods of silence. During the survey, the observers constantly scanned the surroundings for silent birds and stopped broadcasts as soon as a Gray Vireo was detected. To minimize the chances of double-counting individual Gray Vireos, we surveyed only at points located at least 200 meters from points that yielded a Gray Vireo detection. During our survey we searched for Elephant Trees within 100 meters of each of our 16 call points.

We detected four Gray Vireos during our survey. While we did not detect any Elephant Trees within 100 m of our call points, we usually located several Fragrant Burseras within this distance (Figure 1). The Fragrant Burseras were typically leafless, and of 26 plants that we checked, 73% were in fruit. Torote Prieto was also present at our site but was less abundant and less conspicuous because of its smaller size. The first Gray Vireo quietly approached us within the first minute of our broadcast. The second Gray Vireo, which was approximately 320 m from the first detection, silently flew into a shrub approximately 12 m away from the surveyors during the third minute of broadcast, after which the bird flew into a tree-sized Fragrant Bursera in fruit (Figure 2). The Gray Vireo remained quiet during the approximately 1 minute we observed it within the tree. Prior to flying away from the tree, we observed the bird holding a Fragrant Bursera fruit in its beak and promptly swallowing it. We could not discern whether the capsule that encases the seed and aril was still present. We observed the third Gray Vireo two call points away, skulking within nearby vegetation during the third minute of our broadcast, after which it produced a trill. The fourth Gray Vireo, which

FIGURE 1. (A) Fragrant Bursera (*Bursera fagaroides*) in desert scrub in the municipality of Carbó, ~38 km north of Hermosillo, Sonora; (B) leaf; (C) fruit.

Photos by Nora Clark and Stephanie Cobbold

FIGURE 2. Gray Vireo perched near the fruit of a Fragrant Bursera (other plants are visible in this photograph). Shortly after the photo was taken, this individual ingested one of the fruits of this tree.

Photo by Ryan O'Donnell

we did not see, produced a trill within 20 seconds of the start of our broadcast and was approximately 580 m from the previous detection.

DISCUSSION

A total of four Gray Vireos approached us, two of which trilled in response to our broadcast calls. Thus the species was present and likely behaving territorially at a location where the Fragrant Bursera was the dominant *Bursera* species. While we did not hear singing, trills were the most frequent vocalization Bates (1987) reported during territorial interactions among Gray Vireos wintering in Sonora. The easternmost records of the Elephant Tree lie near our study site, where its presence may be determined by competition with the Fragrant Bursera and Torote Prieto (Turner et al. 2005). Floristic inventories suggest that the Elephant Tree is absent or rare near our study site, including at similar elevations. For instance, in a 3117-ha portion of Rancho PATROCIPES approximately 7 km to the north of our site, at elevations from approximately 467 to 815 m above sea level, *Bursera* is represented only by the Fragrant Bursera, Red Elephant Tree (*B. hindsiana*), and Torote Prieto (CEDES 2024). The Elephant Tree is also absent from the plant inventory compiled by Grupo Neoen (2017) for a 20,819-ha area near the town of Carbó and approximately 12 km north of our site. The inventory, which was based on field surveys and a review of existing botanical data, covered elevations ranging from 427 to 678 m above sea level.

Our observation of frugivory on the Fragrant Bursera suggests that Gray Vireos were likely defending territories with trees of this species at our site. We have observed a similar behavior during Gray Vireo surveys in Elephant Tree habitat, in which a bird initially drawn in by our broadcast begins to forage shortly afterward and occasionally is observed ingesting fruit. The size and shape of Fragrant Bursera fruit are similar to those of Elephant Tree fruit (http://swbiodiversity.org/seinet), which suggests that Fragrant Bursera fruit is within the range of the Gray Vireo's bill gape. The seeds of both species are covered by a pseudaril that is orange-red at maturity (Johnson 1992) and rich in lipids, making the seeds attractive to birds (Ramos-Ordoñez et al. 2013). In addition, both the Elephant Tree and Fragrant Bursera produce fruits that ripen gradually and a few at a time, as is typical of *Bursera* species that produce trivalvate fruit (Johnson 1992). In contrast, in *Bursera* species whose fruit is bivalvate, such as the Torote Prieto, the fruits appear to mature more or less simultaneously (Johnson 1992). Thus the gradual ripening of Fragrant Bursera fruits may generate a stable and reliable food resource enabling Gray Vireos to maintain winter territories at this site. While this is the first report of the Gray Vireo's frugivory on the Fragrant Bursera, the frequency of this interaction remains to be determined.

The Gray Vireo's close association with the Elephant Tree may explain the extensive overlap between the bird's winter range and the Elephant Tree's distribution (Bates 1992a, b, Unitt 2000). Nevertheless, in Sonora some Gray Vireos appear to winter in areas that lack Elephant Trees. For instance, reports and photographs at eBird.org document Gray Vireos in the winter south of Alamos, in an area of tropical deciduous forest that is beyond the Elephant Tree's distribution as depicted by Turner et al. (2005). In general,

the winter distribution of the Gray Vireo may be more widespread than is currently recognized, as suggested by the collection of a healthy Gray Vireo in the state of San Luis Potosí, Mexico, by Fry et al. (1996). On the basis of that observation and other reports of the Gray Vireo in southwestern Coahuila and Durango, Fry et al. (1996) suggested that Gray Vireos breeding in the Chisos Mountains of Texas and the Sierra del Carmen in Coahuila may winter as far south as San Luis Potosí.

The Elephant Tree is typically a desert scrub species (Borchert et al. 2004) that is more restricted to extremely hot and arid habitats, reaching its best development along the central and northern coasts of the Gulf of California (Johnson 1992). Given that the Fragrant Bursera, widespread in Sonora, occurs in desert scrub, thorn scrub, tropical deciduous forest, and the lower edge of oak woodland (Johnson 1992), it may represent a resource for Gray Vireos wintering in parts of Mexico that lack Elephant Trees.

In the Yucatán Peninsula, Greenberg et al. (1995) reported a close association between the White-eyed Vireo (*Vireo griseus*) and the Gumbo Limbo (*Bursera simaruba*) similar to that between the Gray Vireo and the Elephant Tree, with birds defending long-term winter territories. In Veracruz, however, wintering White-eyed Vireos eat the fruit and disperse the seeds of the Fragrant Bursera (Ortiz-Pulido and Rico-Gray 2006), and in the coastal southeastern United States they appear to rely on the Common Wax Myrtle (*Myrica serifera*; Borgmann et al. 2004), indicating that frugivory in wintering White-eyed Vireos is not restricted to one plant species. Similarly, the Gray Vireo may rely on the Fragrant Bursera and perhaps other plant species where Elephant Trees are rare or absent. Our observations highlight the need for further study of wintering Gray Vireos' diet in areas beyond the distribution of the Elephant Tree. The Gray Vireo's relatively small distribution and population size make the species vulnerable to habitat loss and population declines (Fink et al. 2023). A more thorough understanding of the species' winter ecology could prove critical for future conservation efforts.

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LITERATURE CITED

Barlow, J. C., Leckie, S. N., and Baril, C. T. 2020. Gray Vireo (*Vireo vicinior*), *in* Birds of the World (A. F. Poole and F. B. Gill, eds.). Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/bow.gryvir.01.

Bates, J. M. 1987. Winter ecology of the Gray Vireo (*Vireo vicinior*) in Sonora, Mexico. M. S. thesis, Univ. Ariz., Tucson.

Bates, J. M. 1992a. Frugivory on *Bursera microphylla* (Burseraceae) by wintering Gray Vireos (*Vireo vicinior*, Vireonidae) in the coastal deserts of Sonora, Mexico. Southwest. Nat. 37:252–258; doi.org/10.2307/3671866.

Bates, J. M. 1992b. Winter territorial behavior of Gray Vireos. Wilson Bull. 104:425-433.

Borchert, R., Meyer, S. A., Felger, R. S., and Porter-Bolland, L. 2004. Environmental

control of flowering periodicity in Costa Rican and Mexican tropical dry forests. Glob. Ecol. Biogeogr. 13:409–425; doi.org/10.1111/j.1466-822X.2004.00111.x.

Borgmann, K. L., Pearson, S. F., Levey, D. J., and Greenberg, C. H. 2004. Wintering Yellow-rumped Warblers (*Dendroica coronata*) track manipulated abundance of *Myrica cerifera* fruits. Auk 121:74–87; doi.org/10.1642/0004-8038(2004)121[0074:WYWDCT]2.0.CO;2.

CEDES (Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora). 2024. Estudio previo justificativo, propuesta de Área Natural Protegida "Área de Conservación-Rancho PATROCIPES" bajo la categoría de Reserva Privada de Conservación (order from CEDES, Calle Gral. Bernardo Reyes 93, San Benito, Hermosillo, Sonora 83190).

Fink, D., Auer, T., Johnston, A., Strimas-Mackey, M., Ligocki, S., Robinson, O., Hochachka, W., Jaromczyk, L., Crowley, C., Dunham, K., Stillman, A., Davies, I., Rodewald, A., Ruiz-Gutierrez, V., and Wood, C. 2023. eBird status and trends, data version: 2022. Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/ebirdst.2022.

Fry, A. J., Rojas-Soto, O. R., and Navarro, A. G. 1996. A winter record of the Gray Vireo from San Luis Potosí, Mexico. W. Birds 27:54–455.

Greenberg, R., Foster, M. S., and Marquez-Valdelamar, L. 1995. The role of the White-eyed Vireo in the dispersal of *Bursera* fruit on the Yucatan Peninsula. Trop. Ecol. 11:619–639; doi.org/10.1017/S0266467400009184.

Grupo Neoen (ENR CHI S.A. de C.V). 2017. Parque solar "Carbó" manifestación de impacto ambiental modalidad regional. Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), México; https://apps1.semarnat.gob.mx:8443/dgiraDocs/documentos/son/estudios/2017/26SO2017E0132.pdf.

Hargrove, L., Unitt, P., Marrón, G., Gaona-Melo, T., and Ruiz-Campos, G. 2023. Breeding status of the Gray Vireo on the Baja California Peninsula. W. Birds 54:162–180; doi.org/10.21199/WB54.3.1.

Johnson, M. B. 1992. The genus *Bursera* (Burseraceae) in Sonora, Mexico and Arizona, USA. Desert Plants 10:126–144; http://repository.arizona.edu/handle/10150/609146.

Ortiz-Pulido, R., and Rico-Gray, V. 2006. Seed dispersal of *Bursera fagaroides* (Burseraceae): The effect of linking environmental factors. Southwest. Nat. 51:11–21; doi.org/10.1894/0038-4909(2006)51%5B11:SDOBFB%5D2.0.CO;2.

Ramos-Ordoñez, M. F., del Coro Arizmendi, M., Martínez, M., and Márquez-Guzmán J. 2013. The pseudaril of *Bursera* and *Commiphora*, a foretold homology? Rev. Mex. Biodivers. 84:509–520; doi.org/10.7550/rmb.32114.

Turner, R. M., Bowers, J. E., and Burgess, T. L. 2005. Sonoran Desert Plants: An Ecological Atlas. Univ. of Ariz. Press, Tucson.

Unitt, P. 2000. Gray Vireos wintering in California Elephant Trees. W. Birds 31:258–262.

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NOTES

FIRST NORTH AMERICAN RECORD OF A KENTISH PLOVER (*ANARHYNCHUS ALEXANDRINUS*)

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ABSTRACT: On 29 May 2023, Pohlen discovered an adult male Kentish Plover (*Anarhynchus alexandrinus*) at Eareckson Air Station, Shemya Island, Aleutian Islands, Alaska—a first record for North America. Features identifying the bird as a Kentish Plover and distinguishing it from the similar Snowy Plover (*A. nivosus*) include the rufous or tawny tinge to the crown, solidly black lores, and limited black auricular patch. The weather patterns leading up to the discovery were conducive to drift vagrancy from Asia.

On 29 May 2023, along South Beach on Shemya Island, the island's most extensive sandy beach, Pohlen found a plover associating with a single Gray-tailed Tattler (*Tringa brevipes*). Both birds flushed shortly after discovery, but the plover remained nearby on the beach, allowing Pohlen to study it for over an hour before it eventually flew off. The plover was noticeably smaller than the Gray-tailed Tattler and had clean white underparts and sandy brown upperparts with a white collar that extended around the hindneck and distinct black spurs on the sides of the upper breast. The head was noticeably patterned, with a distinct black patch behind and below the eye. A black loral stripe extending from the bill to the eye was nearly as thick as the bill. A black forecrown bar contrasted with the white forehead and eyebrow and a rufous-tinged crown that extended to the white collar on the hindneck. The rufous of the crown was visible at all angles and contrasted with the sandy brown back. It seemed most vibrant above the white collar, eyebrow, and forecrown, and became slightly less vibrant closer to the top of the head. The legs were dark (Figure 1A). The feathering around the lores on the right side of the bird appeared wet and disheveled, giving the appearance of even wider dark lores (Figure 1B). The feathering on the left side of the face appeared normal (Figure 1A). In flight, the plover showed overall sandy brown wings and back, with a slightly darker tail and white outer tail feathers. The flight feathers had white bases, narrower in the secondaries and broader in the inner primaries, giving the bird a distinctive, nearly complete, white bar across the upperwing (Figure 1C). After being flushed initially, the plover seemed unsettled on the beach and flushed three additional times over the next hour of observation. It vocalized just once, when it gave three clear "dip...dip...dip" calls in flight, somewhat reminiscent of a Sanderling (*Calidris alba*).

The black spurs on the upper breast, white collar on the hind neck, and rufous-tinged crown eliminate most similar looking plovers and leave four candidate species: the White-faced (*Anarhynchus dealbatus*), Malaysian (*A. peronii*), Kentish (*A. alexandrinus*), and Snowy (*A. nivosus*). The White-faced, Malaysian, and Kentish Plovers have not been previously recorded in North America (Chesser et al. 2024).

The Malaysian Plover is nonmigratory and unlikely to be found north of southeast Asia and the Philippines. The uniform sandy brown back from the white collar to the tail observed on the Shemya plover is inconsistent with the Malaysian Plover, which has pale fringes to the mantle feathers in all plumages and a black

FIGURE 1. Kentish Plover at Shemya Island, Alaska, 29 May 2023. (A, macaulaylibrary.org/asset/584795781), left side; (B) right side, and (C, macaulaylibrary.org/asset/584797021) in flight.

Photos by Zachary M. Pohlen

collar below the white collar on the hind neck (Hayman et al. 1986, Bakewell et al. 2023). The migratory White-faced Plover breeds in China, winters in southeast Asia, and lacks the distinct black eyeline, bold black forecrown, black spur on the upper breast, and the black ear-patch evident on the Shemya plover (Kennerly et al. 2008, Limparungpatthanakij and Pyle 2023). The final two species, the Kentish Plover and Snowy Plover, are closely related and have been considered conspecific. Cassin first described the Snowy Plover as a species distinct from the Kentish Plover in 1858, but Oberholser (1922) merged the two, given their similarities in adult plumage. Various authorities maintained this opinion, while others suggested they be regarded as allospecies (Snow 1978, Sibley and Monroe 1990). The American Ornithologists' Union (1944) followed Oberholser (1922) and treated them as conspecific until Chesser et al. (2011) reversed this decision. This split was based on Küpper et al. (2009), who found significant morphological and genetic differences between the

two, with the Kentish Plover more closely related to the White-fronted Plover (*A. marginatus*) than to the Snowy Plover.

Because of their disjunct ranges, however, analysis of the phenotypic characteristics distinguishing the Kentish and Snowy Plovers is limited. While plumage features can overlap (Oberholser 1922), the published material on the species' field identification focuses on the extensiveness and vibrancy of the rufous on the crown, the presence and thickness of the black lores, and the size and shape of the auricular patch of alternate-plumaged males (Hayman et al. 1986, Pyle et al. 2024). The Shemya plover was an alternate-plumaged male by its rufous crown, black forecrown, and black chest spurs. Adult male Snowy Plovers can show a rufous wash to the crown at the beginning of the breeding season, but it is less vibrant and less extensive than shown by adult male Kentish Plovers (and the Shemya plover). Uncommonly, some adult male Snowy Plovers can also show dark lores, but the dark patch is usually less uniform, narrows as it approaches the eye, does not extend below the eye, and/or is not completely black, as seen on the Shemya plover and adult male Kentish Plovers. Also as in the Shemya plover, the Kentish Plover's black auricular patch is more restricted, does not wrap around the posterior end of the supercilium, or extend onto the nape as in the Snowy Plover (Pyle et al. 2024). All these differences can be subtle, however, and there is overlap. Because of this, some birds may best be left unidentified without genetic or morphometric analysis (wings and tarsi longer on average in the Kentish Plover, although extremes overlap; Küpper et al. 2009, Almalki et al. 2016, Eberhart-Phillips et al. 2020, Page et al. 2023). In the case of the Shemya plover, the lack of conflict in any characteristic supports the bird's identification as a Kentish Plover.

Shemya Island is in the Near Island group of the western Aleutian Islands (Figure 2A). It is a well-known location for migratory birds of the East Asian-Australasian Flyway (Gibson 1981, Schwitters 2015). The Kentish Plover is widely distributed in the Old World with resident and migratory populations that breed across the temperate and subtropical zones of Africa, Europe, and Asia. The breeding Kentish Plovers closest to Shemya occur on Sakhalin Island and in the southern Kuril Islands (del Hoyo et al. 2023, Birdlife International 2024; Figure 2A).

With some records of vagrants, it may be informative to explore the mechanisms that led to the extralimital occurrence. On Shemya Island, this may also be helpful when evaluating whether a bird arrived from Asia (e.g., a Kentish Plover) or from North America (e.g., a Snowy Plover), given the weather patterns in the days leading up to the discovery. In the case of the Shemya plover, winds were favorable for Asiatic drift vagrants to the western Aleutians (Figure 2B). Beginning on 26 May, southwest winds from northern Honshu and Hokkaido, Japan, began blowing northeast through the Kuril Islands and to the east of the Kamchatka Peninsula (Figure 2B, 67 hours before Pohlen's observation). These southwest winds continued for 24 hours, through 27 May, off the eastern shore of the Kamchatka Peninsula (Figure 2B, –39 hours). Shemya Island continued to experience southwest winds through 28 May, but winds shifted to south just south of the Kamchatka Peninsula (Figure 2B, –16 hours). Winds calmed on Shemya on 29 May, the day the plover was discovered (Figure 2B, +8 hours).

The plumage characteristics point to the identification of the Shemya plover as an adult male Kentish Plover, presumably *A. a. nihonensis* (Deignan, 1941), given that subspecies' breeding range on Sakhalin Island and in the southern Kuril Islands (del Hoyo et al. 2023). The location of the sighting in the western Aleutian Islands and weather patterns leading up to the sighting also favored the likelihood of a Kentish Plover over the Snowy Plover. In July 2023, the Alaska Checklist Committee accepted this observation as the first record of Kentish Plover in Alaska (see University of Alaska Museum Department of Ornithology https://universityofalaskamuseumbirds.org/bird-collection/), and the American

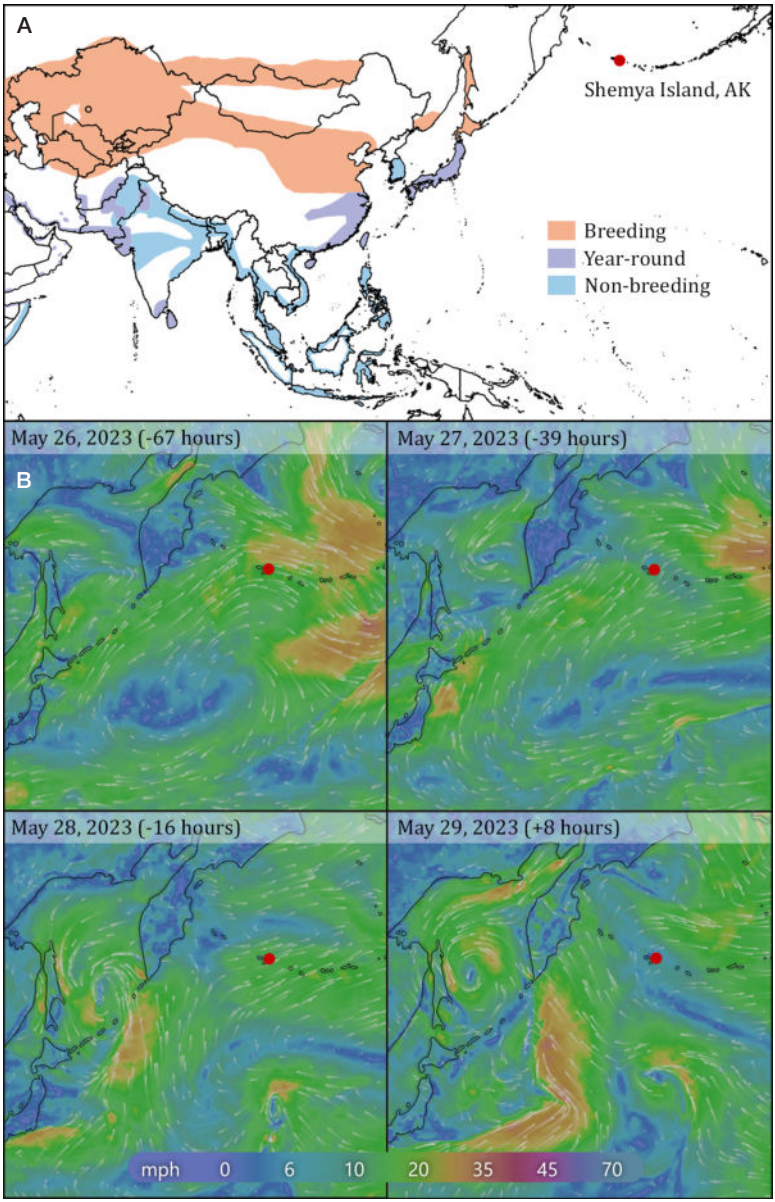

FIGURE 2. (A) The eastern range of Kentish Plover in relation to Shemya Island, Alaska (BirdLife International and Handbook of the Birds of the World 2024). (B) Surface wind directions between Japan and Shemya Island (red dot) on 26 May (67 hr before discovery), 27 May (39 hr before discovery), 28 May (16 hr before discovery), and 29 May (8 hr after discovery; windy.com).

Birding Association Checklist Committee accepted it as the first Kentish Plover for its checklist area (Pyle et al. 2024).

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LITERATURE CITED

Almalki, M., Kupán, K., Carmona-Isunza, M. C., López, P., Veiga, A., Kosztolányi, A., Székely, T., and Küpper, C. 2016. Morphological and genetic differentiation among Kentish Plover *Charadrius alexandrinus* populations in Macaronesia. Ardeola 64:3–16; doi.org/10.13157/arla.64.1.2017.ra1.

American Ornithologists' Union. 1944. Nineteenth supplement to the American Ornithologists' Union Check-List of North American Birds. Auk 61:441–464; doi.org/10.2307/4079517.

Bakewell, D., Wiersma, P., Kirwan, G. M., and Boesman, P. F. D. 2023. Malaysian Plover (*Anarhynchus peronii*), version 2.1, *in* Birds of the World (B. K. Keeney, ed.). Cornell Lab Ornithol, Ithaca, NY; doi.org/10.2173/bow.malplo1.02.1.

BirdLife International and Handbook of the Birds of the World. 2024. Bird species distribution maps of the world, version 2024.2; https://datazone.birdlife.org.

Chesser, R. T., Banks, R. C., Barker, F. K., Cicero, C., Dunn, J. L., Kratter, A. W., Lovette, I. J., Rasmussen, P. C., Remsen, J. V. Jr., Rising, J. D., Stotz, D. F., and Winker, K. 2011. Fifty-second supplement to the American Ornithologists' Union *Check-List of North American Birds*. Auk 128:600–613; doi.org/10.1525/auk.2011.128.3.600.

Chesser, R. T., Billerman, S. M., Burns, K. J., Cicero, C., Dunn, J. L., Hernández-Baños, B. E., Jiménez, R. A., Johnson, O., Kratter, A. W., Mason, N. A., Rasmussen, P. C., and Remsen, J. V. Jr. 2024. Check-list of North American Birds (online). Am. Ornithol. Soc.; https://checklist.americanornithology.org/taxa/.

Del Hoyo, J., Wiersma, P., Kirwan, G. M., Collar, N., Boesman, P. F. D., and Sharpe, C. J. 2023. Kentish Plover (*Anarhynchus alexandrinus*), version 1.2, *in* Birds of the World (B. K. Keeney, ed.). Cornell Lab Ornithol, Ithaca, NY; doi.org/10.2173/bow.kenplo1.01.2.

Eberhart-Phillips, L.J., Cruz-López, M., Lozano-Angulo, L., Gómez del Ángel, S., Rojas-Abreu, W., and Küpper, C. 2020. CeutaOPEN version 1.5. Open Science Framework; doi.org/10.17605/OSF.IO/3K4FH.

Gibson, D. D. 1981. Migrant birds at Shemya Island, Aleutian Islands, Alaska. Condor 83:65–77; doi.org/10.2307/1367606.

Hayman, P., Marchant, J., and Prater, T. 1986. Shorebirds: An Identification Guide to the Waders of the World. Houghton Mifflin, Boston.

Kennerley, P. R., Bakewell, D. N., and Round, P. D. 2008. Rediscovery of a long-lost *Charadrius* plover from south-east Asia. Forktail 24:63–79.

Küpper, C., Augustin, J., Kosztolányi, A., Burke, T., Figuerola, J., and Székely, T. 2009. Kentish versus Snowy Plover: Phenotypic and genetic analyses of *Charadrius alexandrinus* reveal divergence of Eurasian and American subspecies. Auk 126:839–852; doi.org/10.1525/auk.2009.08174.

Limparungpatthanakij, W. L., and Pyle, P. 2023. White-faced Plover (*Anarhynchus dealbatus*), version 2.1, *in* Birds of the World (B. K. Keeney, ed.). Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/bow.whfplo2.02.1.

Oberholser, H. C. 1922. Notes on North American birds. XI. Auk 39:72–78; doi.org/10.2307/4073508.

Page, G. W., Stenzel, L. E., Warriner, J. S., Warriner, J. C., and Paton, P. W. 2023. Snowy

Plover (*Anarhynchus nivosus*), version 1.1, *in* Birds of the World (A. F. Poole, ed.). Cornell Lab Ornithol., Ithaca, NY; doi.org/10.2173/bow.snoplo5.01.1.
Pyle, P., DeCicco, L., Gochfeld, D., Harter, L., Heindel, M., Jaramillo, A., Kratter, A., Mutchler, M., and Sibley, D. 2024. 35th report of the ABA Checklist Committee 2024. N. Am. Birds 75:36–45.
Schwitters, M. T. 2015. Bird species found at Shemya Island, Alaska 1999–2010. Report to Alaska Maritime National Wildlife Refuge, Homer, AK; https://www.arlis.org/docs/vol1/FWS/AMNWR/2015/AMNWR2015-01.pdf.
Sibley, C. G., and Monroe, B. L. Jr. 1990. Distribution and Taxonomy of Birds of the World. Yale Univ. Press, New Haven, CT.
Snow, D. W. 1978. An Atlas of Speciation in African Non-passerine Birds. Brit. Mus. (Nat. Hist.), London.

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INTERSPECIES FEEDING AND DEFENSE OF LEWIS'S WOODPECKER BY FEMALE WESTERN TANAGER

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ABSTRACT: Interspecific help caring for young is an uncommon behavior in birds. Observations of an individual of one species caring for young in the nest of another typically entail species with the same nest type. Our observation of a female Western Tanager (*Piranga ludoviciana*) guarding and feeding a Lewis's Woodpecker (*Melanerpes lewis*) nestling adds to the meager body of observations of interspecies parental care for species with differing nest types.

The feeding and care of offspring by birds other than the biological parents are not uncommon for individuals of the same species (Cockburn 2006, Griesser et al 2017). Apart from situations of social breeding or brood parasitism, however, occurrences of this behavior between different species are uncommon (Shy 1982, Krištín 2009). Interspecific feeding has been attributed to misdirected parental care in response to the stimulus of begging nestlings, close nest proximity, or the helper's nest having failed (Shy 1982). Helpers generally tend to be male and have nest types that match the host's, and there have been few documented records of species that build open-cup nests helping a cavity-nesting host (Harmáčková 2021).

On 30 June 2024 we were checking nests of Lewis's Woodpeckers (*Melanerpes lewis*) to study that species' breeding and movement ecology at White River Wildlife Area in Wasco County, Oregon. At about 08:57, we observed a female Western Tanager (*Piranga ludoviciana*) attempting to feed an older Lewis's Woodpecker nestling (25+ days old) that was regularly poking its head out of the nesting cavity. The tanager foraged in small Oregon white oak (*Quercus garryana*) saplings, grabbing small grubs below the nest tree and then flying up to the cavity and trying to land near the cavity's opening (Figure 1). She tried to land on a branch above the cavity and reach down to the cavity or fly to either hover near the cavity or land on the trunk to feed the nestling. Most of the attempted feedings appeared unsuccessful because of the tanager's inability to find a stable landing close enough to reach the nestling or to the nestling's retreating back inside the cavity. The awkwardness of these attempts may have been related to the tanager's not being a cavity nester, or to her still learning in a novel situation. The tanager foraged and attempted to feed the woodpecker nestling multiple times, but it was unclear if she ate, cached, or dropped the food when the attempt was unsuccessful.

When an adult Lewis's Woodpecker approached the cavity to feed the nestling, the tanager got aggressive, flying at the woodpecker, alarm-calling, and chasing it away (Figure 2). On multiple occasions, this behavior prevented a successful feeding by either adult woodpecker. We did not observe a successful feeding by an adult woodpecker during our observation period. At one point, the tanager's alarm calls attracted a male tanager that flew into the adjacent tree, but he exhibited no aggressive behavior toward the woodpeckers before flying off after about two minutes and never reappearing during our observation. When an adult woodpecker returned to foraging 50 meters or more from the cavity, the tanager stopped making alarm calls and returned to foraging and attempting to feed the nestling. We returned later in the day around 16:30 and watched the female tanager continuing to defend and attempt to feed the woodpecker nestling for another 20 minutes.

In other reported cases of cup-nesting birds feeding young of cavity nesters, the helper did not behave aggressively to the nestling's parents (e.g., McNair and Duyck 1991) or it was feeding young already fledged (e.g., Hayward 1937). We find

FIGURE 1. The female Western Tanager trying multiple methods to land near the Lewis's Woodpecker nest cavity to feed the nestling: (A) landing with feet on the lip of the cavity, (B) hovering near the opening, (C) grasping the tree, and (D) landing on the branch above and reaching down to the cavity.

Photos by Cameron Piper

no previous records of either the Western Tanager or Lewis's Woodpecker as helper or host in interspecies feeding.

The next day, on 1 July, we approached the cavity to capture one nestling to attach a Motus radio tag. The female tanager was still there, this time flying around and scolding us with alarm calls while we set up our ladder and capture equipment. We did not see the tanager further after returning the nestling to the cavity. We returned the following morning to find the nestling had fledged and then resighted it on 3 July over 600 meters to the northeast of the nest. The female tanager was not seen again either at the cavity or feeding or defending the tagged woodpecker.

The reason for this interspecies feeding is unclear. Woodpecker nestlings are loud, and their begging could have stimulated the female tanager to feed them even if her nest had already fledged young or failed. However, interspecific feeding is more likely among species that fail to recognize their offspring, including those that are more susceptible to brood parasites (Jiang et al. 2016). The Western Tanager's nest success is dramatically reduced by parasitism by the Brown-headed Cowbird

FIGURE 2. The female Western Tanager defending the Lewis's Woodpecker nestling when the adult woodpeckers approached the cavity with food. The tanager would make alarm calls, fly at the woodpeckers, and chase them away from the cavity tree.

Photos by Cameron Piper

(*Molothrus ater*) (Fischer et al. 2002), so heterospecific feeding by the Western Tanagers might be more likely than among species not targeted by brood parasites.

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LITERATURE CITED

Cockburn, A. 2006. Prevalence of different modes of parental care in birds. Proc. Royal Soc. B. 273:1375–1383; doi.org/10.1098/rspb.2005.3458.

Fischer, K. N., Prather, J. W., and Cruz, A. 2002. Nest site characteristics and reproductive success of the Western Tanager (*Piranga ludoviciana*) on the Colorado Front Range. W. N. Am. Nat. 62:479–483.

Griesser, M., Drobniak, S. M., Nakagawa, S., and Botero, C. A. 2017. Family living sets the stage for cooperative breeding and ecological resilience in birds. PLoS Biol. 15:1–17; doi.org/10.1371/journal.pbio.2000483.

Harmáčková, L. 2021. Interspecific feeding in birds: A short overview. Acta Ornithol. 56:1–14; doi.org/10.3161/00016454AO2021.56.1.001.

Hayward, W. J. 1937. Incidents in bird behavior. Wilson Bull. 49:47.

Jiang, A., Jiang, D., Goodale, E., Zhou, F., and Wen, Y. 2016. Olive-backed Sunbird *Cinnyris jugularis* assisting Crested Bunting *Melophus lathami* at the nest: Substantiated evidence for interspecific feeding, Guangxi, south-west China. Forktail 32:93–96.

Krištín, A. 2009. Interspecific feeding at bird nests: *Ficedula albicollis* as a helper at the nest of *Turdus philomelos*. Tichodroma 21:98–101.

McNair, D. B., and Duyck, B. 1991. Interspecific feeding among some oscines. Chat 55:9–11.

Shy, M. M. 1982. Interspecific feeding among birds: A review. J. Field Ornithol. 53:370–393.

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FIRST RECORD OF APPARENT HYBRIDIZATION BETWEEN THE YELLOW-BILLED AND BLACK-BILLED MAGPIES

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ABSTRACT: The Yellow-billed Magpie (*Pica nuttalli*) and Black-billed Magpie (*P. hudsonia*) are closely related, but their ranges are allopatric. Both species are nonmigratory and highly sedentary, with few extralimital records. In April 2023, a Black-billed Magpie was discovered in Redding, Shasta County, California, in an area occupied by Yellow-billed Magpies. The Black-billed Magpie occurred regularly with a Yellow-billed Magpie at a bird-feeder, and subsequently two juvenile magpies with light pink and gray bills were seen together there. Because of the rarity of this bill coloration and the coincidence with a mixed-species pair, we conclude that the juveniles were the pair's hybrid offspring. A literature review and records search indicate that each species occurs in the other's range exceedingly rarely, and this appears to be the first record of presumed hybridization between the species.

Hybrid birds are of interest because their frequency, survival, and reproductive success can indicate relatedness of parental types (Short 1971, McCarthy 2006). They also can indicate changes in habitat and geographic ranges that may increase encounter rates and result in increased competition or genetic introgression (Hanna et al. 2018).

The Yellow-billed Magpie (*Pica nuttalli*) and Black-billed Magpie (*P. hudsonia*) are closely related (Lee et al. 2003, Song et al. 2018, Kryukov et al. 2024), and both occur in California, albeit allopatrically. The Yellow-billed Magpie is endemic to the lowlands of the Central Valley, lower portions of the surrounding foothills, and the central Coast Ranges of California (Beedy and Pandolfino 2013, Koenig et al. 2022). The widespread Black-billed Magpie, on the other hand, occupies the colder basins and mountains of western North America from Alaska south to northeastern Arizona and northern New Mexico and occurs in eastern California at medium elevations at the western edge of the Great Basin (Beedy and Pandolfino 2013, Trost 2020).

The two magpies occur in different parts of Shasta County, California (Figure 1), an area of range separation between many related taxa in the Great Basin and Central Valley (Cicero 1996, 2004, Cicero and Johnson 1998, Delaney et al. 2008). The Yellow-billed Magpie is locally common within the Sacramento Valley portion of the county, generally up to 150 m elevation (Beedy and Pandolfino 2013, https://eBird.org; Figure 1). The Black-billed Magpie occurs in small numbers in the eastern portion of the county only in the Fall River Mills area (at about 1000 m elevation). The species' ranges in this region are about 75 km apart and are separated by mountains and coniferous forest. The range separation in Shasta County is narrower than the extensive separation created by coniferous forest to the north and forest and alpine habitat at higher elevations of the Sierra Nevada to the south (Figure 1).

Both species are nonmigratory and are seldom found outside of their breeding ranges. Yellow-billed Magpies generally remain year round within 3.5 km of breeding areas (Linsdale 1937, Verbeek 1973, Koenig et al. 2022), whereas Black-billed Magpies move somewhat more (Linsdale 1937, Trost 2020), with individuals found sparingly out of range in coastal northern California, the San Francisco Bay Area, Sacramento Valley, and Death Valley region (McCaskie et al. 1979, Small 1994, Heindel and Heindel 2023, eBird.org). Some extralimital records along the northern

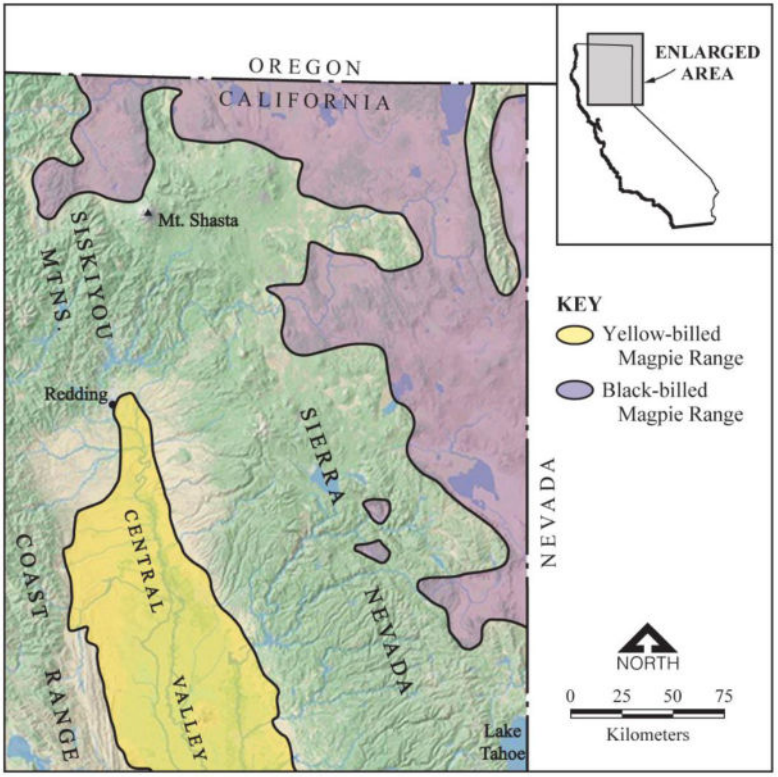

FIGURE 1. Geographic ranges of the Yellow-billed Magpie (yellow) and Black-billed Magpie (purple), in northern California near the location of the putative hybrid in Redding, California. Source: reports to eBird.org and vegetation interpretation from Google Earth.

California coast and in southern coastal California are believed to represent escaped captives (eBird.org).

The species' narrow range separation makes it surprising that hybridization has never been reported before, philopatry notwithstanding. No records of hybrids were reported in Linsdale's (1937) extensive treatment of both species, in either species' account in *Birds of the World* (Trost 2020, Koenig et al. 2022), a review of records of avian hybrids in eBird (Justyn et al. 2020), and in the compendiums of avian hybrids worldwide by McCarthy (2006) or Ottenburghs et al. (2015). Here we report apparent successful hybridization between the Yellow-billed and Black-billed magpies.

In April 2023, Yutzy was informed of a Black-billed Magpie accompanying Yellow-billed Magpies at a residential bird feeder in Redding, California, where Yellow-billed Magpies occur regularly. The Black-billed Magpie remained in the area for several months and was observed paired with a Yellow-billed Magpie. Later in the season, two fledglings there showed characteristics different from typical fledglings of each species, implying hybridization.

Observations were made at John Muegge's home in an older mixed residential

and industrial neighborhood and the adjacent Nur Pon Open Space Park along the east bank of the Sacramento River at 170 m elevation (Figure 1). Woody vegetation consisted of tall gray pines (*Pinus sabiniana*), valley oaks (*Quercus lobata*), western sycamores (*Plantanus racemosa*), Fremont cottonwoods (*Populus fremontii*), and willows (*Salix* sp.) Suitable nearby herbaceous foraging habitat (Airola et al. 2021) consisted of annual grassland on vacant fields and lots, a school turf field, and a golf course.

On 9 April 2023, Muegge (pers. comm.) noticed that a magpie regularly accompanying one to five Yellow-billed Magpies at his feeders had an all-dark bill (Figure 2) and appeared larger than the Yellow-billed Magpies, matching the characteristics of an adult Black-billed Magpie. The group made near-daily visits for a few weeks, after which the Black-billed Magpie appeared only with a single adult Yellow-billed Magpie. The two birds then came together to Muegge's feeders until mid-May. The Black-billed Magpie was photographed at the feeders and at the Nur Pon Open Space during this period by Yutzy, Muegge, and several others (Figure 2).

On 7 June, Yutzy saw the adult Black-billed Magpie within a few feet of a Yellow-billed Magpie at the top of a large western sycamore at the Nur Pon Open Space. The Yellow-billed Magpie fed another magpie, presumably a fledgling. Although its age was not identified with certainty the date is within the Yellow-billed Magpie's typical fledgling period (Koenig et al. 2022). The Black-billed Magpie was not seen feeding the other bird, but its proximity suggested that it could be the mate of the Yellow-billed Magpie and thus the fledgling's other parent.

Subsequently, through the end of June, the Black-billed Magpie came alone to the feeders, although Yellow-billed Magpies continued coming there at other times. The Black-billed Magpie was observed many times during this period. From the end of June until 16 July, the bird visited sporadically and was not seen thereafter in 2023 or 2024 when Muegge observed the feeders nearly daily and Yutzy searched for the birds regularly. Subsequently throughout the summer of 2023 about 18 juvenile Yellow-billed Magpies, identified by their shorter tails and bolder yellow facial markings, frequented the feeders.

On 23 July 2023, Muegge observed one juvenile magpie with a light pink bill with light- to dark-gray blotching near the tip (Figure 3). A few days later he saw two

FIGURE 2. Adult Black-billed Magpie, the presumed parent of the hybrid young, at backyard feeder in Redding, California, 10 June 2023.

Photo by Bob Yutzy

FIGURE 3. Presumed juvenile hybrid Yellow-billed Magpie × Black-billed Magpie in Redding, California, 16 August 2023.

Photo by Bob Yutzy

magpies with bills patterned similarly in pink and gray. The bill coloration of these young differed from the pure yellow of the other juvenile Yellow-billed Magpies that accompanied them. The two pink-and-gray-billed birds were frequently seen and photographed together through the last week in August (Figure 3). The bills of both birds were identical and remained the same over this period. The mostly light pink color of the bill and exposed facial skin of the hybrid young (Figure 3) differed from that of either parental species and from pigment-related abnormalities reported for these species by Linsdale (1937) and van Grouw (2021). Although hybrids usually exhibit either the traits of one parent or intermediate traits (McCarthy 2006), novel coloration in hybrids is reported regularly (e.g., Gholamhosseini et al. 2023).

Yellow-billed Magpie pairs typically fledge two young (Airola et al. 2021, Koenig et al. 2022). Although the bills of both magpie species are pink at hatching, by fledging they turn completely yellow in the Yellow-billed Magpie and mostly black in the Black-billed Magpie (Trost 2020, Koenig et al. 2022). Although Koenig et al. (2022) noted that some Yellow-billed Magpies have slight black at the very tip of the bill, this condition is apparently rare, as Airola has not observed it among hundreds of birds examined in the field, and it appears in only a few photos in Koenig et al. (2022).

We infer the two pink-and gray-billed juveniles to be hybrid offspring for several reasons. First, the Black-billed Magpie regularly associated with a Yellow-billed Magpie during the breeding season. Also, the two juveniles with the uncharacteristic pink and gray bill color were in the same area where the adult Black-billed Magpie spent the breeding season. Finally, no such bill coloration has been previously reported within populations of either the Yellow-billed or Black-billed Magpie. For example, Airola observed at least several hundred juveniles and over 500 adults during studies of the Yellow-billed Magpie in the Sacramento region 2020–2024 (Airola et al. 2021, Airola 2023, unpubl. data) and never encountered a white- or pink-and-gray-billed bird among them.

The adult Black-billed Magpie's disappearance from Redding after 16 July 2023

coincided with daily maximum temperatures over three days exceeding 43 °C, consistent with lab studies in which Black-billed Magpies died when ambient temperatures reached 40 °C (Hayworth and Weathers 1984). The daily high temperature in July averages 37 °C in Redding but only 32 °C at Fall River Mills, within the Black-billed Magpie's typical range (https://www.weatherworld.com/climate-averages/ca). Thus the apparent fate of the Black-billed Magpie in Redding is consistent with high temperature functioning as a barrier to the species' occurrence or persistence in the warmer Central Valley (Hayworth and Weathers 1984, Kryukov et al. 2024).

We searched for extralimital records of each species within the other's range and reports of hybridization in historical bird observations from the Central Valley (Engilis 2013), museum specimens (http://portal.vertnet.org/), eBird.org and a compilation of eBird reports (Justyn et al. 2020), birders' listservs, literature on the two species (Linsdale 1937, Trost 2020, and Koenig et al. 2022), and compendiums of avian hybrids worldwide (McCarthy 2006, Ottenburghs et al. 2015). We found only a few reports of each species occurring in each other's range (Table 1). Four Yellow-billed Magpie reports, all since 1989, were within two areas in the westernmost portion of the Black-billed's range in Shasta and Plumas counties (Table 1). We found only five Black-billed Magpie records, other than ours in Redding, within the range of the Yellow-billed Magpie; all were since 1957 within the Central Valley, scattered from Madera to Yuba County. We found no record or report of a Yellow-billed × Black-billed Magpie hybrid. The rarity of occurrence of each species within

Table 1 Extralimital Records of the Black-billed and Yellow-billed Magpies within the Other Species' Range

Species and dates	Location, county, elevation	Notes	Observer
Yellow-billed Magpie			
16 Dec 1989	Fall River Valley, Shasta Co., 1015 m	One with no other magpies	B. and C. Yutzy
12 Jun–10 Nov 2007	Indian Valley, Plumas Co., 450 m	1 with 10 Black-billed Magpies	C. Dillingham
27 Oct 2018	Fall River Mills, Shasta Co., 1014 m	No Black-billed Magpies in area	L. Jordan
20 Sep 2021	Fall River Mills	No Black-billed Magpies in area	L. Leslie
Black-billed Magpie			
22 Mar 1957	Elkhorn, Yolo Co., 25 m	2 birds	Kimball records[a]
6 Dec 1959	Thorton, Sacramento Co., 21 m.	2 birds	Kimball records[a]
14 Aug and 19 Sep 1971	Courtland, Sacramento Co., 20 m	2 birds	Kimball records[a]
17 Apr 1979	Raymond, Madera Co., 300 m	1 with Yellow-billed Magpies	fide A. Engilis
30 Dec 2015	Earl Rd., Olivehurst, Yuba Co., 20 m	1 with Yellow-billed Magpie	I. Gledhill
9 Apr–29 Aug 2023	Redding, Shasta Co., 170 m	Paired with Yellow-billed Magpie; 2 hybrid young seen subsequently	This study

[a]Sacramento Audubon Society records for 1950–1983 compiled by Betty Kimball (Engilis 2013), in the Museum of Wildlife and Fish Biology, University of California, Davis.

the other's range and lack of previous records of hybridization, despite the apparent ability to do so successfully, appears to result from the separation of the species' geographic ranges (Figure 1), their high degree of philopatry, and low survival rates outside their ranges.

We found no recent changes in the breeding ranges or abundance of either the Yellow-billed or Black-billed magpie that would foster increased contact, and thus this case of hybridization. Contrarily, the arrival of West Nile virus to California in the early to mid-2000s has reduced populations of both species (Airola et al. 2007, Pandolfino 2017, 2020, Taylor and Trost 2021), which presumably reduces the potential for extralimital movements into one another's ranges.

Mitochondrial DNA studies imply that the Yellow-billed Magpie split from the more widespread, ancestral Black-billed Magpie (Lee et al. 2003, Song et al. 2018, Kryukov et al. 2024). The Yellow-billed Magpie has diverged in morphology (yellow bill and skin around eyes, smaller size), vocalizations, behavior (greater coloniality during nesting), and greater tolerance of heat (Hayworth and Weathers 1984, Kryukov et al. 2024). The apparent hybridization in Redding supports the inference of a close phylogenetic relationship between the species (Lee et al. 2003, Song et al. 2018, Kryukov et al. 2024).

Our results showing strong range separation and only a single reported hybridization do not support the suggestion by Lee et al. (2003) that the two taxa, as well as Eurasian forms of *Pica*, be treated as subspecies of *Pica pica*, rather than full species. Nor do they support McCarthy's (2006) inference that the two species interbreed extensively, on the basis of similarities in size and physical characteristics where their ranges are closest together. Rather, it appears more likely that the similarities indicate adaptations to a more similar warmer climate in areas of the species' ranges where they are in closer proximity. Although our observations show that the Yellow-billed and Black-billed Magpies can hybridize and that their offspring are viable, at least through fledging, review of species' distributions, extralimital movements, and lack of any known previous hybrids indicate that the two species are almost entirely reproductively isolated by the gap in their geographic ranges and their sedentary behavior.

We thank John Muegge for calling the Black-billed Magpie and the apparent hybrid young to Yutzy's attention and for his observations, notes, and photos. We thank Larry Jordan and Bill Ruess for their information and photographs and Mary Estep for preparing Figure 1. We also thank the CALBIRD and CVBIRDS listserv members and eBirders for their extralimital records and Brian Sullivan for evaluation of extralimital eBird records. Thanks also to Jack Withrow, Dan Cooper, Robert Gill, and Philip Unitt for review comments.

LITERATURE CITED

Airola, D. A. 2023. Recent increase in the Yellow-billed Magpie population in Sacramento and its possible causes. W. Birds 54:301–308; doi.org/10.21199/WB54.4.2.

Airola, D. A., Hampton, S., and Manolis, T. 2007. Effects of West Nile virus on sensitive species in the lower Sacramento Valley, California: An evaluation using Christmas Bird Counts. Central Valley Bird Club Bull. 10:1–23.

Airola, D. A., Douglas, L. A., and Airola, L. 2021. Yellow-billed Magpie population status and habitat characteristics in urban Sacramento, California. W. Birds 52:222–239; doi.org/10.21199/WB52.3.3.

Beedy, E. C., and Pandolfino, E. R. 2013 Birds of the Sierra Nevada: Their Natural History, Status, and Distribution. Univ. Calif. Press, Berkeley.

Cicero, C. 1996. Sibling species of titmice in the *Parus inornatus* complex (Aves: Paridae). Univ. Calif. Publ. Zool. 128.

Cicero, C. 2004. Barriers to sympatry between avian sibling species (Paridae: *Baeolophus*) in local secondary contact. Evolution 58:1573–1587; doi.org/10.1111/j.0014-3820.2004.tb01737.x.

Cicero, C. and Johnson, N. K. 1998. Molecular phylogeny and ecological diversification in a clade of New World songbirds (genus *Vireo*). Molecular Ecol. 7:1359–1370; doi.org/10.1046/j.1365-294x.1998.00483.x.

Delaney, K. S., Zafar, S., and Wayne, R. K. 2008. Genetic divergence and differentiation within the Western Scrub-Jay (*Aphelocoma californica*). Auk 125:839–849; doi.org/10.1525/auk.2008.07088.

Engilis, A., Jr. 2013. The Kimball journals: An archive of historical bird observations from the Sacramento Valley, California. Central Valley Bird Club Bull. 16:64–69.

Gholamhosseini, A., Aliabadian, M., Topfer, T., and Saetre, G.-P. 2023. Morphology and morphometry of two hybridizing buntings at their hybrid zone in northern Iran reveal intermediate and transgressive morphotypes. Avian Res. 14:100150; doi.org/10.1016/j.avrs.2023.100150.

Hanna, Z. R., Dumbacher, J. P., Bowie, R. C. K., Henderson, J. B., and Wall, J. D. 2018. Whole-genome analysis of introgression between the Spotted Owl and Barred Owl (*Strix occidentalis* and *Strix varia*, respectively; Aves: Strigidae) in western North America. G3: Genes, Genomics, Genetics 12:3945–3952; doi.org/10.1534/g3.w 8.200754.

Hayworth, A. M., and Weathers, W. W. 1984. Temperature regulation and climatic adaptation in Black-billed and Yellow-billed magpies. Condor 86:19–26; doi.org/10.2307/1367336.

Heindel, T. S., and Heindel, J. A. 2023. Birds of Inyo County, California, including Death Valley National Park. Studies of Western Birds 5. W. Field Ornithol., Camarillo, CA.

Justyn, N. M., Callaghan, C. T., and Hill, G. E. 2020. Birds rarely hybridize: A citizen science approach to estimating rates of hybridization in the wild. Evolution 74:1216–1223; doi.org/10.1111/evo.13943.

Koenig, W. D., Reynolds, M. D., and Airola, D. A. 2022. Yellow-billed Magpie (*Pica nuttalli*), version 2.0, *in* Birds of the World (P. Rodewald, ed.). Cornell Lab. Ornithol., Ithaca, NY; doi.org/10.2173/bow.yebmag.02.

Kryukov, A. P., Kryukov, K. A., Collier, K., Fang, B., and Edwards, S. V. 2024. Mitogenomics clarifies the position of the Nearctic magpies (*Pica hudsonia* and *Pica nuttalli*) within the Holarctic magpie radiation. Current Zool. 70:618–630; doi.org/10.1093/cz/zoad048.

Lee, S., Parr, C. S., Hwang, Y., Mindell, D. P., and Choea, J. C. 2003. Phylogeny of magpies (genus *Pica*) inferred from mtDNA data. Molec. Phylogen. Evol. 29:250–257; doi.org/1016/S1055-7903(03)00096-4.

Linsdale, J. M. 1937. The natural history of magpies. Pac. Coast Avifauna 25.

McCarthy, E. M. 2006. Handbook of Avian Hybrids of the World. Oxford Univ. Press, New York.

McCaskie, G., De Benedictis, P., Erickson, R., and Morlan, J. 1979. Birds of Northern California: An Annotated Field List, 2nd ed. Golden Gate Audubon Soc., Berkeley, CA.

Ottenburghs, J., Ydenberg, R. C., van Hooft, P., Van Wieren, S. E., and Prins, H. H. T. 2015. The avian hybrids project: Gathering the scientific literature on avian hybridization. Ibis 157:892–894; doi.org/10.1111/ibi.12285.

Pandolfino, E. R. 2017. Continuing impacts of West Nile virus on birds of California's Central Valley. Central Valley Birds 20:101–109.

Pandolfino, E. R. 2020. Continuing impacts of West Nile virus on the Loggerhead Shrike and other birds in California's Central Valley. Central Valley Birds 23:18–23.

Short, L. L., Jr. 1971. Systematics and behavior of some North American woodpeckers, genus *Picoides* (Aves). Bull. Am. Mus. Nat. Hist. 145:1–118.

Song, G., Zhang, R., Alstrom, P., Irestedt, M., Cai, T., Qu, Y., Ericson, P., Fjeldsa, J., and Lei, F. 2018. Complete taxon sampling of the avian genus *Pica* (magpies) reveals ancient relictual populations and synchronous Late-Pleistocene demographic expansion across the Northern Hemisphere. J. Avian Biol. 2018:e01612; doi.org/10.1111/jav.01612.

Small, A. 1994. California Birds: Their Status and Distribution. Ibis Publ., Vista, CA.

Taylor, D. M., and Trost, C. H. 2021. West Nile virus impacts on Black-billed Magpie populations. Northwest Nat. 102:239-251; doi.org/10.1898/1051-1733-102.3.239.

Trost, C. H. 2020. Black-billed Magpie (*Pica hudsonia*), *in* Birds of the World (S. Billerman, ed.). Cornell Lab. Ornithol., Ithaca, NY; doi.org/10.2173/bow.bkbmag1.01.

Van Grouw, H. 2021. What's in a name? Nomenclature for colour aberrations in birds reviewed. Bull. Br. Ornithol. Club 141:276–299; doi.org/10.25226/bboc/v141i3.2021.a5.

Verbeek, N. A. M. 1973. The exploitation system of the Yellow-billed Magpie. Univ. Calif. Publ. Zool. 99:1–58.

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PREDATION BY A BLACK PHOEBE ON A COMMON SIDE-BLOTCHED LIZARD IN ENSENADA, BAJA CALIFORNIA, MEXICO

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ABSTRACT: On 15 December 2024 a Black Phoebe (*Sayornis nigricans*) captured, killed, and consumed a Common Side-blotched Lizard (*Uta stansburiana*) at Ensenada, Baja California, Mexico, after beating it against a hard surface for 8 minutes. This is the first report of this primarily insectivorous bird eating a reptile.

The Black Phoebe (*Sayornis nigricans*) is a common flycatcher that breeds during spring and summer in the southwestern United States, Middle America, and northwestern South America (Wolf 2020). It prefers habitats near water bodies or riparian corridors, including coastal cliffs, and has now adapted to urban environments (Wolf 2020). Its diet consists primarily of insects and spiders, which it hunts in open spaces, using elevated perches to catch prey in the air, on foliage, or on the ground (Wolf 2020). Nevertheless, the Black Phoebe has also been observed consuming small fish, seeds, and certain berries (Howell 1924, Oberlander 1939, Lawson 1975, Wolf 2020, Sogge 2023). While some species of the family Tyrannidae occasionally prey on small vertebrates, such as frogs and lizards (Skutch 1997), this behavior has not been previously documented in the Black Phoebe. In this note, we report the observation of a Black Phoebe preying on a Common Side-blotched Lizard (*Uta stansburiana*) (Figure 1).

Our observation occurred in the botanical garden of the Faculty of Sciences at the Autonomous University of Baja California, Ensenada, Baja California, México, on 15 December 2024 at 10:37. This garden, composed primarily of native plants from the Baja California Peninsula, plays a vital role in the appreciation and conservation of wildlife in the surrounding urban area. By providing refuge and suitable habitat, it supports both migratory and resident birds.

When first seen, this Black Phoebe was observed holding a lizard with its beak.

FIGURE 1. Black Phoebe catching a Common Side-blotched Lizard in the Botanic Garden of the Autonomous University of Baja California, Mexico.

Photo by Adan Benjamin Mendoza Gastelum

FIGURE 2. Black Phoebe striking a Common Side-blotched Lizard against a wall before consuming it.

Photos by Adan Benjamin Mendoza Gastelum

The bird then tilted its head and repeatedly struck the prey against the floor surface, alternating with small lateral hops to repeat the pattern from different positions. It repeated this behavior several times after brief pauses. Finally, after approximately 8 minutes, the bird consumed the lizard without any apparent difficulty. Subsequently, it flew to a nearby branch, where it perched for a few seconds before moving to a more distant area of the open space (Figure 2).

During the winter, when the abundance of flying insects decreases, some flycatchers (Tyrannidae) adapt their foraging strategy by exploring the ground (Wolf 2020). As a result, they encounter a variety of prey, including spiders, insects, and small vertebrates such as lizards (Wolf 2020). In this context, when consuming larger or more resistant prey, Black Phoebes repeatedly strike captured prey against a hard surface to weaken or kill it, facilitating consumption (Skutch 1997). Although this striking of larger prey has been observed before, intentional or opportunistic ingestion of small lizards by the Black Phoebe had not been documented.

LITERATURE CITED

Howell, A. B. 1924. The Black Phoebe as a fisherman. Condor 26:191; doi.org/10.2307/1363174.

Lawson, C. S. 1975. Fish catching by a Black Phoebe. W. Birds 6:107–109; doi.org/10.2307/1364002.

Oberlander, G. 1939. The history of a family of Black Phoebes. Condor 41:133–151; doi.org/10.2307/1364002.

Skutch, A. F. 1997. The Life of the Flycatcher. Univ. Okla. Press, Norman.

Sogge, M.K. 2023. First report of intentional seed-eating by Black Phoebes. W. Birds 54:317–319; doi.org/10.21199/WB54.4.5.

Wolf, B. O. 2020. Black Phoebe (*Sayornis nigricans*), *in* The Birds of North America (A. Poole and F. Gill, eds.), no. 268. Acad. Nat. Sci., Philadelphia; doi.org/10.2173/bow.blkpho.01.

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Photo by Bob Yutzy of Redding, California:
Apparent hybrid juvenile Black-billed (*Pica hudsonia*) × Yellow-billed (*P. nuttalli*) Magpie, Redding, California, 16 August 2023
Only rarely does a Black-billed Magpie stray into the range of the Yellow-billed Magpie in California's Central Valley, but one that appeared in Redding in April 2023 paired with a Yellow-billed. Later two juveniles with vaguely pinkish bills with dusky tips appeared at bird feeders that the mixed pair had been patronizing, leading to the inference of hybridization, as Daniel A. Airola and Bob Yutzy report in this issue of *Western Birds*.