

Celebrating Hawaii's Birds

The ABA says aloha to the Akikiki, *Oreomystis bairdi*

NOTE: In this issue, we continue a year-long ABA aloha to the remarkable avifauna of Hawaii. We kicked off the series in the February issue, with ABA president Jeffrey A. Gordon's tribute to the 2018 Bird of the Year, the Iiwi. In this issue, Hawaiian ornithologists Lisa Crampton and Helen Raine lead us in an appreciation of the critically endangered Akikiki—subtle in appearance, but striking in behavior and ecology. —Ed.

The Akikiki is Hawaii's answer to a nuthatch, hanging upside down and contorting itself into knots to chase down insects and spiders among bark, lichens, and mosses. Found only on the island of Kauai, the bird is actually a Hawaiian honeycreeper. It doesn't have the showy plumage of other natives, such as the crimson Iiwi, but the Akikiki quickly becomes a favorite of birdwatchers, as it rockets up tree trunks after invertebrates or performs elaborate courtship dances.

Of late, Akikiki sightings have become alarmingly rare. As recently as eight years ago, the Kauai Forest Bird Recovery Project (KFBRP) team would see Akikikis on the famed boardwalk of the Alakai Swamp. A severe decline of 71% in 32 years has eliminated the bird from the swamp's western plateau, with breeding now confined to the eastern plateau, an off-piste hike of more than six kilometers (about 3.5 miles). Latest estimates suggest that there are fewer than 500 individual birds left, confined to an area of 40 square kilometers (about 15 square miles) on the roadless and rugged Alakai. One of the rarest passerines in North America, the species is rated by the International Union for Conservation of Nature as critically endangered.

The Akikiki is one of the most charismatic and interesting species of the islands. Also known as the Kauai Creeper, *Oreomystis bairdi* has a lovely, musky smell that lingers in the nest. Such odors are unusual in a passerine, and although some people have suggested that the scent could attract predators, a short study by KFBRP found no evidence of this. An insectivore, the Akikiki weighs 12–17 grams (about 0.4–0.6 ounces) and is technically described as “small.” Compared to



This digital art depicts both members of a breeding pair of **Akikikis** being studied by researchers with the Kauai Forest Bird Recovery Project. Honolulu-based artist Danya Weber titles this work *'Akikiki nā ipo*, which translates to *Akikiki Sweethearts*. In portrayals such as this one, Weber strives to depict the connections between endangered species and the humans who work to save them. *Mixed media—digital and illustration by © Danya Weber.*



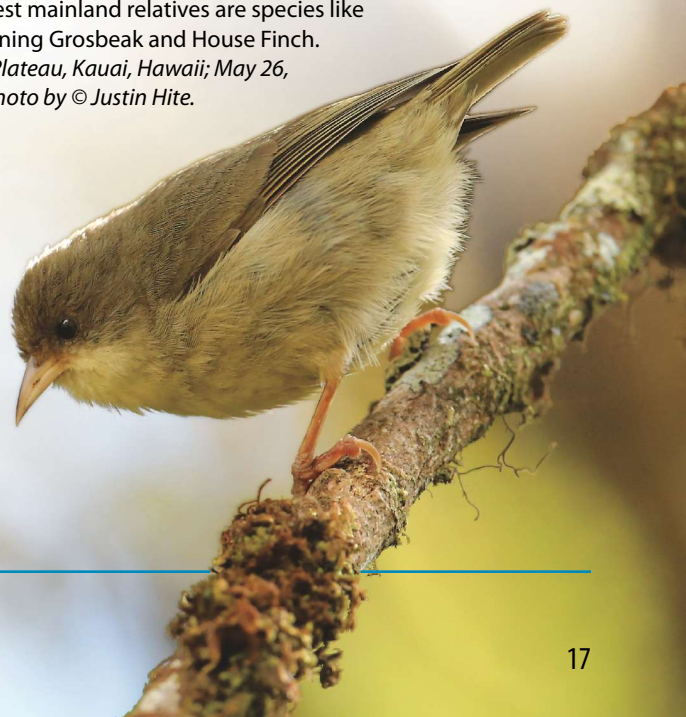
To a mainlander, the **Akikiki** seems to combine the plumage of a bushtit with the structure of a nut-hatch. Look for Akikikis in ohia groves; a good micro-habitat cue is moss-covered branches, as shown in this image. *Alakai Wilderness Preserve, Kauai, Hawaii; February 11, 2008. Photo by © Eric VanderWerf.*

The breeding season kicks off in January, when pairs build cup nests high in the twiggy crowns of ohia trees, typically 10–12 meters (about 33–39 feet) above ground. Two nests have also been found in olapa trees. These are composed of moss, bark, lichen, and plant fibers. Nesting peaks from March to May, although KFBPR researchers sometimes find nestlings right into July.

Pairs work together to build the nest and feed the nestlings, but only females incubate eggs. Males feed females during nest construction, incubation, and brooding. Akikikis lay one or two eggs annually and nest survival is generally high (>70%). Where they fail, it is usually due to rat predation, weather, and abandonment. Pairs will re-nest and double brood; KFBPR staff members have observed up to three attempts per pair, with two succeeding.

Favored territories for Akikikis center on large ohia trees. That preference may be contributing to their decline, as two major hurricanes (Iwa in 1982 and Iniki in 1992) demolished many larger tree specimens in Kauai. The forest is still in a “hurricane hangover,” with large gaps visible.

The Akikiki is a finch in the subfamily Carduelinae. Its closest mainland relatives are species like the Evening Grosbeak and House Finch. *Alakai Plateau, Kauai, Hawaii; May 26, 2017. Photo by © Justin Hite.*



an American Robin, it is small; but in Kauai’s diminutive avifauna, it ranks as “medium.”

Akikikis are instantly recognizable. Both sexes have a dark gray head, back, and flanks, contrasting with an off-white throat and belly. The tail is notably stubby. The short, slightly decurved pink beak adds a hint of color. In their first year, Akikikis are “spectacled,” with white feathers around their eyes and an otherwise dark face. At around one year of age, when they undergo their second annual molt, they transition to a white eyebrow. KFBPR is using this coloring to investigate life history. Already two color-banded birds have lived to be over six years old.

In the dense rainforest of Kauai, it would be handy to be able to locate and identify rare forest birds by sound. The Akikiki makes this virtually impossible. The species’ song, a short, descending trill, is rarely heard, with KFBPR researchers describing the bird as “functionally songless.” Family groups often communicate with soft *whit* contact calls, but, again, researchers find themselves thwarted, as this contact call strongly resembles that of three other endemic honeycreepers on Kauai: the Akekee, Kauai Amakihi, and Anianiau.

Note the plastic color bands on this **Akikiki's** legs. Researchers with the Kauai Forest Bird Recovery Project are engaged in intensive study of the Akikiki, hoping to devise management strategies for reversing recent population declines. The species currently numbers fewer than 500 individuals. *Alakai Plateau, Kauai, Hawaii; May 26, 2017. Photo by © Justin Hite.*

Invasive plants have been creeping into those spaces. Pigs also cause serious damage to Akikiki habitat, tracking non-native species into the forest, and creating pig wallows which facilitate the spread of another serious threat: mosquitos. Mosquitos carry avian malaria, often a death sentence for native forest birds. Kauai is a relatively low island (the maximum elevation is 1,570 meters, about 5,150 feet), and climate change means that there is no disease-free refuge for Akikiki. Introduced rats pose an additional threat, preying on eggs, nestlings, and possibly adults.

KFBRP is working hard to respond to these issues, and has partnered with San Diego Zoo Global and the U.S. Fish and Wildlife Service to initiate a conservation breeding flock. That effort has required some surprising innovations. After finding and monitoring nests (no small task in itself), the team needed to collect eggs from them. Unfortunately, the outer branches of ohia trees are too spindly to support the weight of an intrepid egg collector. The team came up with an ingenious system, involving a 45-kilogram, 12-meter (100-pound, 40-foot) ladder, which has to be helicoptered into a drop zone and then laboriously carried through the forest. It is raised and suspended using a four-roped pulley system, then scaled by a researcher. After they delicately remove the tiny, 1.2-gram (about 0.04-ounce) eggs, researchers place them in a thermos to be flown to a captive breeding center. The zoo then hatches the eggs and raises the chicks. To date, there are 41 founder members in this insurance population flock. Work continues in 2018.

To complement this effort, weed and rodent control have begun, and ungulate exclusion fences erected, in the core of the Akikiki's range. In the longer term, mosquito removal will be key to the survival of this species. Pilot local-scale



mosquito control studies are under way on the plateau, and landscape-scale techniques are being developed at the University of Hawaii.

The Akikiki plays a special and charming ecological role, and, as the only remaining member of its genus, it is a unique species in an evolutionary sense. Despite funding challenges and logistical issues, KFBRP and partners are pulling out all the stops to ensure that birdwatchers today and tomorrow can admire its capers, deep in the forests of Kauai.

—by Lisa Crampton and Helen Raine

If you would like to help this conservation effort, please visit the KFBRP website (kauaiforestbirds.org/donate) and make a contribution to the current campaign. And be sure to say that you heard about this effort via the ABA!