



Photo: Jim Denny

Forest Birds

'Anianiau or Lesser 'Amakihi

Hemignathus parvus

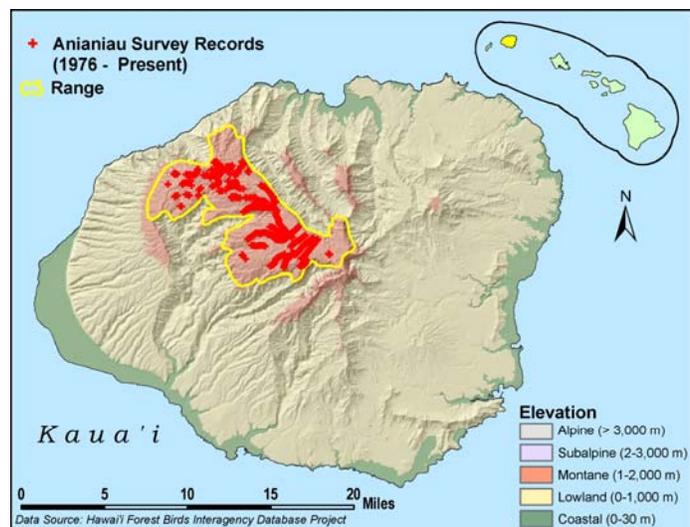
SPECIES STATUS:

State recognized as Endemic
NatureServe Heritage Rank G3 – Vulnerable
IUCN Red List Ranking – Vulnerable

SPECIES INFORMATION: The 'anianaui is the smallest Hawaiian honeycreeper (Family: Fringillidae). Endemic to Kaua'i, the 'anianaui also is one of the most common native birds of the island's high elevation forests. Adult males are brilliant yellow; females also are yellow, but duller. Constantly on the move, 'anianaui feed on nectar from 'ōhi'a (*Metrosideros polymorpha*), 'ōhelo (*Vaccinium* spp.), 'alani (*Pelea* spp.), and other native and introduced plants. They also glean arthropods from the outer canopy and smaller twigs and branches of 'ōhi'a and koa (*Acacia koa*) trees as well as from the foliage of shrubs, vines, and the fronds of tree ferns (*Cibotium* spp.). Nectar, spiders, and Lepidoptera larva comprise the bulk of the species' diet. 'Anianaui are occasionally seen in small flocks, especially at favored nectar sources. Males sing a sweet, high-pitched trill, and predominantly defend breeding territories that may be as small as nine meters (29.3 feet) in diameter. Both sexes build the open-cup nest, females incubate eggs and brood young, and males provision females, generally away from the nest. No information on post-fledgling behavior or dependency.

DISTRIBUTION: 'Anianaui occur above 600 meters (2,000 feet) elevation in native forests of the Kōke'e, Alaka'i, and Waimea regions. They may occur as low as 100 meters (330 feet) elevation on the island's northwestern coast. Original range likely included all forested regions of Kaua'i. Currently they occupy an estimated 15 percent of their former range.

ABUNDANCE: In the early 1970s the island-wide 'anianaui population was estimated at 24,000 ± 3000 (SE) individuals. The Kaua'i Forest Bird Survey (2000) estimated the population within the Alaka'i and Kōke'e region at close to 35,000 individuals, and reported a significant population increase between 1981 and 2000. The population appears stable in its current range.



LOCATION AND CONDITION OF KEY HABITAT: 'Anianiau occupy mesic and wet forests above 600 meters (2,000 feet) in elevation, although populations reach their highest densities above 1,100 meters (3,600 feet). These forests are dominated by 'ōhi'a, koa, 'ōlapa (*Cheirodendron trigynum*), and lapa'ula (*C. platyphyllum*). At lower elevations, where the species historically occurred, native habitats are severely degraded. Although public hunting reduces the number of feral ungulates in the most accessible parts of the species' range, hunting is not an effective method to prevent habitat degradation across its entire range. Occupied habitats above Waimea Canyon, in and west of the Alaka'i swamp are managed by the State of Hawai'i.

THREATS: Although 'anianaui populations appear stable they are likely susceptible to the same factors that threaten other native Hawaiian forest birds, including: loss and degradation of habitat, predation by introduced mammals, and disease. For 'anianaui populations, the following are of particular concern:

- **Disease.** Only one of 94 'anianaui tested positive for malarial parasites (*Plasmodium relictum*) in areas where parasites were common in other species. This either indicates low transmission rates, possible resistance, or very high mortality for this species.
- **Habitat degradation.** The species is tolerant to habitat alteration, but it is most common in undisturbed native forest. Introduction of non-native plants is the most important threat as 'anianaui density is negatively related to the presence of non-native shrubs.
- **Competition.** Competition with introduced Japanese white-eyes (*Zosterops japonicus*) may negatively affect 'anianaui. Non-native insects, especially yellow-jackets (*Vespula pensylvanica*) and ants (*Linepithema humile*), may compete with or prey on the native arthropods on which 'anianaui feed. The role of non-native insects in native forest ecosystems is unclear.
- **Mammalian predators.** Although predation on adult 'anianaui or their nests has not been documented, rats (*Rattus* spp.) and cats (*Felis silvestris*) occur in the Alaka'i Wilderness Preserve.

CONSERVATION ACTIONS: 'Anianaui likely have benefited from management activities designed to conserve other endangered forest birds including the establishment of the Alaka'i Wilderness Preserve, regular surveys of forest bird populations, monitoring of habitat conditions, studies of disease and disease vectors, control of feral ungulates through public hunting, and public education efforts featuring Kauai's endangered forest birds. Since the 'anianaui population appears stable, no future management specific to the species is anticipated. However, conservation efforts to maintain the stability of the species should include:

- Continue protection and management of wildlife sanctuaries and refuges.

MONITORING: Continue forest bird surveys and habitat monitoring. This information is needed to assess the efficacy of habitat management efforts.

RESEARCH PRIORITIES: Research priorities for most Hawaiian forest birds include developing improved methods for controlling rats and feral cats in native forests, determining the ecological requirements of *Culex* mosquitoes at mid- and high-elevation forests, and developing methods to control mosquito populations. Research priorities specific to the 'anianaui include the following:

- Conduct life history studies to quantify the population structure, dispersal patterns, survivorship, nesting phenology and success of this poorly known species.

- Determine if diseased individuals exist, and if so, determine if resistance is passed to offspring. Disease-resistant individuals could be used as founders for new populations.
- Determine if competition with Japanese white-eyes occurs, and if so, determine its affect on 'anianiau populations.
- Determine the effects of recently established non-native insects on native arthropods, especially on those arthropods that are part of the species' diet.
- Determine the status of populations outside of the greater Alaka'i swamp region.

References:

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