

## Forest Birds

# Maui Nuku Pu'u

*Hemignathus lucidus affinis*



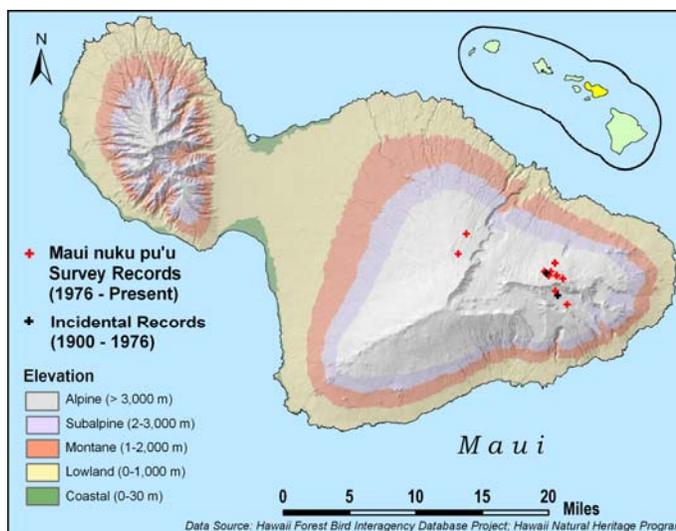
Picture: Rothschild Collection

**SPECIES STATUS:**  
Federally listed as Endangered  
State listed as Endangered  
State recognized as Endemic  
NatureServe Heritage Rank G1 – Critically imperiled  
IUCN Red List Ranking – Critically endangered  
Draft Revised Recovery Plan for Hawaiian  
Forest Birds – USFWS 2003

**SPECIES INFORMATION:** The Maui nuku pu'u is a large, short-tailed Hawaiian honeycreeper (Family: Fringillidae) with a long, thin decurved bill; the lower mandible is half the length of the upper mandible. Nuku pu'u also are known from O'ahu (*H. l. lucidus*) and Kaua'i (*H. l. hanapepe*); the O'ahu subspecies is certainly extinct. Currently, all nuku pu'u are considered one species, however, ongoing research suggests that populations occurring on the three islands are distinct species. Adult males are olive green with a yellow head, throat, and breast and have a small black mask; females are olive green above and variable yellow-gray below. Little is known about the species' life history. Often joins mixed species foraging flocks. Apparently would creep along large 'ohi'a (*Metrosideros polymorpha*) limbs searching epiphytes, moss, bark, and dead wood for arthropod prey; may also have taken nectar. Hammered bark with lower mandible, similar to its congener the 'akiapola'au (*H. munroi*), and used its upper mandible to fish out prey from excavations. No information on the species' breeding, but is likely similar 'akiapola'au.

**DISTRIBUTION:** Poorly known. Probably extinct. Most recent sightings between 1,100 and 2,100 meters (3,600–6,900 feet) elevation in the Kipahulu Valley and the northeastern slope of Haleakalā. Historic range apparently very restricted, although subfossil evidence suggests the species may have occurred in dry forests.

**ABUNDANCE:** Unknown. Probably extinct. Based on a single sighting, the Hawaiian Forest Bird Survey (1980), estimated the population at  $28 \pm 56$  (95% CI) individuals. More recent surveys have failed to detect the Maui nuku pu'u. Historically considered uncommon.



**LOCATION AND CONDITION OF KEY HABITAT:** Maui nuku pu'u occur in mixed 'ōhi'a/koa (*Koa acacia*) forests and mixed shrub montane wet forests between 1,100 and 2,100 meters (3,600–6,900 feet). Historic and fossil evidence indicates that its range was much broader and remnant populations may have been surviving in marginal habitat. Habitat conditions of the species' former range vary. Areas where nuku pu'u were most recently sighted are managed as a Forest Reserve by the State of Hawai'i or by the National Park Service.

**THREATS:** Unknown. However, the Maui nuku pu'u was 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 Maui nuku pu'u populations, the following was likely of particular concern:

- **Disease.** The precipitous decline of all nuku pu'u taxa suggests that disease played an important role in the species' decline.

**CONSERVATION ACTIONS:** If the species persists, it likely benefits from management efforts designed to conserve other endangered forest birds on northeastern Haleakalā. These efforts include the establishment of the 3,000 hectares (7,500 acres) Hanawī Natural Area Reserve in 1986, the formation of the East Maui Watershed Partnership, fencing, ungulate and small mammal control, forest restoration, habitat monitoring and studies of disease and disease vectors. Should this species be rediscovered, the Rare Bird Recovery Protocol contained in the USFWS Draft Recovery Plan for Hawaiian Forest Birds would be implemented, and management in anticipation of that possibility 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 (*Rattus* spp.) and feral cats (*Felis silvestris*) in native forests, determining the ecological requirements of *Culex* mosquitoes at mid- and high-elevation forests, and developing methods to control mosquito populations. Given that this species is likely extinct, there are no research priorities specific to Maui nuku pu'u.

**References:**

- Pratt TK, Fancy SG, Ralph CJ. 2001 'Akiapola'au (*Hemignathus munroi*) and nukupu'u (*Hemignathus lucidus*). In *The Birds of North America*, No. 600 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.
- Scott JM, Mountainspring S, Ramsey FL, Kepler CB. 1986. *Forest bird communities of the Hawaiian islands: their dynamics, ecology and conservation*. Lawrence, (KS): Cooper Ornithological Society.
- U.S. Fish and Wildlife Service. 2003. *Draft revised Recovery plan for Hawaiian forest birds*. Portland, (OR): U.S. Fish and Wildlife Service. 428 pp.