CPSU/UH Avian History Report 1

HISTORY OF ENDEMIC HAWAIIAN BIRDS

INTRODUCTION

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ABSTRACT

The history of endemic Hawaiian birds is developed in three major parts. Narrative accounts of 69 taxa, based on records since 1778, are detailed in Part I. Major ecological factors of population changes, such as depletion of food by foreign organisms, predation, disease, and habitat alteration, are treated in Part II. Chronological, geographical, and ecological elements of avian depopulation are synthesized and offered with conclusions in Part III. The Introduction states the objectives, lists the endemic avifauna, defines the historical scope, and outlines the complete work.
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ENDEMIC HAWAIIAN AVIFAUNA

The term "endemic" is used in this report to include only scientifically described species and subspecies known to have existed exclusively in the Hawaiian Islands during the historic period (since 1778). Such a definition eliminates all migratory and introduced birds and all but two species of sea birds leaving, according to the authorities consulted, the 69 taxa listed in Table 1.

It should be pointed out that the scientific classification and nomenclature of the endemic Hawaiian birds are presently in a state of disarray. The location of many type specimens is obscure (Banko, 1979 ms) and there is no visible recognition, let alone agreement, by various authorities as to who originally described many forms. The last comprehensive listing of original describers seems to be that of Bryan and Greenway (1944). Amadon (1950) provided the most commonly used taxonomic treatment of the Drepanididae. Berger (1972) is the most widely accepted general authority on Hawaiian birds.

In addition to the standard contemporary works, other recent contributions to knowledge were used or consulted. A new genus and species of honeycreeper was recently discovered on Maui (Casey and Jacobi 1974). Taxonomic studies by Greenway (1968), Richards and Bock (1973), Banks and Laybourne (1977), and Raikow (1977) are reminders that the classification and scientific nomenclature of the Drepanididae suggested by Amadon (1950) are not finally settled. I applaud all of these recent advances and agree philosophically with taxonomists in the expansion of generic limits beyond those conceived by Amadon. Additionally, Storrs L. Olson is studying many different kinds of fossil birds recently discovered in Hawai'i, while H. Douglas Pratt is working on systematic relationships of the historic avifauna. Because findings of some authorities do not yet allow final reconciliation, and others have not yet reported results of their work, I choose to follow the classification and scientific nomenclature of the Drepanididae given by Amadon and, with the following exceptions, that of Berger (1972) for the remaining taxa. I agree with Austin (1952) that subspecies of Oceanodroma castro do not merit recognition. For the Hawaiian rails I use Porzana as the generic name determined by Olson (1973) and follow Pratt's (1979) interpretation of rules by the International Commission on Zoological Nomenclature, as emended in 1974, for the following names in the genus Loxops (Drepanididae): L. parvus, L. maculatus maculatus, L. maculatus flammeus, L. maculatus montanus, L. maculatus mana, L. coccineus coccineus, L. coccineus rufus, L. coccineus ochraceus. I also accept the AOU Committee on Classification and Nomenclature (1976) name for Hawaiian Stilt as Himantopus mexicanus knudseni.

The comprehensive list of Hawaiian birds recently compiled by Pyle (1977), and later emended (Anonymous 1977), offers the most generally acceptable single source of common English and Hawaiian names suitable for this report. I prefer to refer
commonly to *Corvus tropicus* as Hawaiian Raven rather than Hawaiian Crow as given by Pyle because of the ancestral relationship to *C. corax* apparent to Mayr and Short (1970). Because of long-standing tradition, I also choose to use the common name Hawaiian Dark-rumped Petrel for *Pterodroma phaeopygia sandwichensis* instead of Hawaiian Petrel chosen by Pyle.

For purposes which will be evident later, it is judged more appropriate to group the 69 exclusively Hawaiian taxa according to their characteristic environment, as shown in Table 1, rather than in the usual phylogenetic order. Only in Report No. 2, Specimens in Museum Collections do I treat species in the customary arrangement.
**TABLE 1. Endemic Hawaiian avifauna grouped according to characteristic environment.**

<table>
<thead>
<tr>
<th>FAMILY AND SCIENTIFIC NAMES</th>
<th>VERNACULAR NAME</th>
<th>HAWAIIAN NAME</th>
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<tbody>
<tr>
<td><strong>A. Sea Birds</strong></td>
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<tr>
<td><strong>PROCELLARIIDAE</strong></td>
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<tr>
<td>SHEARWATERS, PETRELS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Puffinus puffinus</td>
<td>Newell Shearwater</td>
<td>'A'o</td>
</tr>
<tr>
<td>newelli</td>
<td>(a subspecies of</td>
<td></td>
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<tr>
<td></td>
<td>Manx Shearwater)</td>
<td></td>
</tr>
<tr>
<td>2. Pterodroma phaeopygia</td>
<td>Hawaiian</td>
<td>'Ua'u</td>
</tr>
<tr>
<td>sandwichensis</td>
<td>Dark-rumped Petrel</td>
<td></td>
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<tr>
<td>(a subspecies of</td>
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<td></td>
</tr>
<tr>
<td>Dark-rumped Petrel)</td>
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<td><strong>B. Freshwater Birds</strong></td>
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<tr>
<td><strong>ANATIDAE</strong></td>
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<tr>
<td>GEESE, DUCKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Anas wyvilliana</td>
<td>Hawaiian Duck</td>
<td>Koloa</td>
</tr>
<tr>
<td><strong>RALLIDAE</strong></td>
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<tr>
<td>RAILS, GALLINULES, COOTS</td>
<td></td>
<td></td>
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<tr>
<td>2. Gallinula chloropus</td>
<td>Hawaiian Gallinule</td>
<td>'Alae-'ula</td>
</tr>
<tr>
<td>sandvicensis</td>
<td></td>
<td></td>
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<tr>
<td>(a subspecies of</td>
<td></td>
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<tr>
<td>Common Gallinule)</td>
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<tr>
<td>3. Fulica americana alai</td>
<td>Hawaiian Coot</td>
<td>'Alae-ke'oke'o</td>
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<tr>
<td>(a subspecies of</td>
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<td>American Coot)</td>
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<tr>
<td><strong>RECURVIROSTRIDAE</strong></td>
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<tr>
<td>STILTS</td>
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<tr>
<td>1. Himantopus mexicanus</td>
<td>Hawaiian Stilt</td>
<td>Ae'o</td>
</tr>
<tr>
<td>knudseni</td>
<td></td>
<td></td>
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<tr>
<td>(a subspecies of</td>
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<tr>
<td>Black-necked Stilt)</td>
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### TABLE 1 — Continued.

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<tr>
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<tr>
<td>GEESE, DUCKS</td>
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<tr>
<td>1. <em>Branta sandvicensis</em></td>
<td>Hawaiian Goose</td>
<td>Nene</td>
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<tr>
<td>2. <em>Anas laysanensis</em></td>
<td>Laysan Duck</td>
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<tr>
<td>RAILS, GALLINULES, COOTS</td>
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<tr>
<td>3. <em>Porzana palmeri</em></td>
<td>Laysan Rail</td>
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<tr>
<td>4. <em>P. sandwichensis</em></td>
<td>Hawaiian Rail</td>
<td>Moho</td>
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<td><strong>STRIGIDAE</strong></td>
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<tr>
<td>TYPICAL OWLS</td>
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<tr>
<td>5. <em>Asio flammeus sandwichensis</em></td>
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<td>Pueo</td>
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<td>(a subspecies of Short-eared Owl)</td>
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<td><strong>SYLVIIDAE</strong></td>
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<td>OLD WORLD WARBLERS</td>
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<tr>
<td>6. <em>Acrocephalus familiaris</em></td>
<td>Laysan Millerbird</td>
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<tr>
<td><em>familiaris</em></td>
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<tr>
<td>7. <em>A. f. kingi</em></td>
<td>Nihoa Millerbird</td>
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<tr>
<td><strong>DREPANIDIDAE</strong></td>
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<tr>
<td>HAWAIIAN HONEYCREEPERS</td>
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<tr>
<td>8. <em>Psittirostra cantans</em></td>
<td>Laysan Finch</td>
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<tr>
<td><em>cantans</em></td>
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<tr>
<td>9. <em>P. c. ultima</em></td>
<td>Nihoa Finch</td>
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<tr>
<td>10. <em>Himatione sanguinea</em></td>
<td>Laysan Honeycreeper</td>
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<tr>
<td><em>freethii</em></td>
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<tr>
<td>FAMILY AND SCIENTIFIC NAMES</td>
<td>VERNACULAR NAME</td>
<td>HAWAIIAN NAME</td>
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### D. Forest Birds

**ACCIPTRIDAE**

**HAWKS**

1. *Buteo solitarius*  
   Hawaiian Hawk  
   'Io

**CORVIDAE**

**CROWS, RAVENS**

2. *Corvus tropicus*  
   Hawaiian Raven/Crow  
   'Alala

**TURDIDAE**

**THRUSHES**

3. *Phaeornis obscurus myadestina*  
   Kaua'i Thrush  
   Kama'o

4. *P. o. oahuensis*  
   O'ahu Thrush  
   'Amaui

5. *P. o. rutha*  
   Moloka'i Thrush  
   Oloma'o

6. *P. o. lanaiensis*  
   Lana'i Thrush  
   Oloma'o

7. *P. o. obscurus*  
   Hawai'i Thrush  
   'Oma'o

8. *P. palmeri*  
   Small Kaua'i Thrush  
   Puaiiohi

**MUSCICAPIDAE**

**OLD WORLD FLYCATCHERS**

9. *Chasiempis sandwichensis sclateri*  
   Kaua'i 'Elepaio  
   'Elepaio

10. *C. s. qayi*  
    O'ahu 'Elepaio  
    'Elepaio

11. *E. s. sandwichensis*  
    Hawai'i 'Elepaio  
    'Elepaio

**MELIPHAGIDAE**

**HONEYEATERS**

12. *Moho braccatus*  
   Kaua'i 'O'o  
   'O'o'a'a

13. *M. apicalis*  
    O'ahu 'O'o  
    'O'o

14. *M. bishopi*  
    Moloka'i 'O'o  
    'O'o
TABLE 1--Continued.

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<tr>
<th>FAMILY AND SCIENTIFIC NAMES</th>
<th>VERNACULAR NAME</th>
<th>HAWAIIAN NAME</th>
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<td>HONEYEATERS (con't.)</td>
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<tr>
<td>15. <em>Moho nobilis</em></td>
<td>Hawai'i 'O'o</td>
<td>'O'O</td>
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<tr>
<td>16. <em>Chaetoptila anqustipluma</em></td>
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<td>DREPANIDIDAE</td>
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<tr>
<td>HAWAIIAN HONEYCREEPERS</td>
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<td>PSITTIROSTRINAE (subfamily)</td>
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<tr>
<td>GREEN AND YELLOW</td>
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<tr>
<td>HONEYCREEPERS</td>
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<tr>
<td>17. <em>Loxops virens steineaeri</em></td>
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<td>18. <em>L. v. chloris</em></td>
<td>O'ahu 'Amakihi</td>
<td>'Amakihi</td>
</tr>
<tr>
<td>19. <em>L. v. wilsoni</em></td>
<td>Maui 'Amakihi</td>
<td>'Amakihi</td>
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<tr>
<td>20. <em>L. v. virens</em></td>
<td>Hawai'i 'Amakihi</td>
<td>'Amakihi</td>
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<tr>
<td>21. <em>L. parvus</em></td>
<td>'Anianiua (Lesser 'Amakihi)</td>
<td>'Anianiua</td>
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<td>22. <em>L. saqittirostris</em></td>
<td>Greater 'Amakihi</td>
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<tr>
<td>23. <em>L. maculata bairdi</em></td>
<td>Kaua'i Creeper</td>
<td>'Akikiki</td>
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<tr>
<td>24. <em>L. maculatus maculatus</em></td>
<td>O'ahu Creeper</td>
<td>'Alauwahio</td>
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<tr>
<td>25. <em>L. maculatus flammeus</em></td>
<td>Moloka'i Creeper</td>
<td>Kakawahi</td>
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<tr>
<td>26. <em>L. maculatus montanus</em></td>
<td>Lana'i Creeper</td>
<td>'Alauwahio</td>
</tr>
<tr>
<td>27. <em>L. maculata newtoni</em></td>
<td>Maui Creeper</td>
<td>'Alauwahio</td>
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<td>28. <em>L. maculatus mana</em></td>
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<td>29. <em>L. coccinea caeruleirostris</em></td>
<td>Kaua'i 'Akea</td>
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<td>30. <em>L. coccineus rufus</em></td>
<td>O'ahu 'Akea</td>
<td>'Akepeu'ie</td>
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<td>31. <em>L. coccineus ochraceus</em></td>
<td>Maui 'Akea</td>
<td>'Akepeu'ie</td>
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<td>FAMILY AND SCIENTIFIC NAMES</td>
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<td><strong>GREEN AND YELLOW HONEYCREEPERS (cont.)</strong></td>
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<td><strong>32. Loxops coccineus</strong></td>
<td>Hawai'i 'Akepa</td>
<td>'Akakane</td>
</tr>
<tr>
<td><strong>33. Melamprosops phaeosoma</strong></td>
<td>Po'oouli</td>
<td>*Po'oouli</td>
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<tr>
<td><strong>34. Hemignathus procerus</strong></td>
<td>Kaua'i 'Akialoa</td>
<td>'Akialoa</td>
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<td><strong>35. H. obscurus ellisianus</strong></td>
<td>O'ahu 'Akialoa</td>
<td>'Akialoa</td>
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<td><strong>36. H. Q. lanaiensis</strong></td>
<td>Lana'i 'Akialoa</td>
<td>'Akialoa</td>
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<td><strong>37. H. Q. obscurus</strong></td>
<td>Hawai'i 'Akialoa</td>
<td>'Akialoa</td>
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<td><strong>38. H. lucidus hanapepe</strong></td>
<td>Kaua'i Nuku-pu'u</td>
<td>Nuku-pu'u</td>
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<td><strong>39. H. J. lucidus</strong></td>
<td>O'ahu Nuku-pu'u</td>
<td>Nuku-pu'u</td>
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<td><strong>40. H. J. affinis</strong></td>
<td>Maui Nuku-pu'u</td>
<td>Nuku-pu'u</td>
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<tr>
<td><strong>41. H. wilsoni</strong></td>
<td>'Akiapola'au</td>
<td>'Akiapola'au</td>
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<tr>
<td><strong>42. Pseudonestor xanthophyrys</strong></td>
<td>Maui Parrotbill</td>
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<tr>
<td><strong>43. Psittirostra psittacea</strong></td>
<td>'O'u</td>
<td>'O'u</td>
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<tr>
<td><strong>44. P. bailleui</strong></td>
<td>Palila</td>
<td>Palila</td>
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<tr>
<td><strong>45. P. palmer-i</strong></td>
<td>Greater Koa Finch</td>
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<td><strong>46. P. flaviceps</strong></td>
<td>Lesser Koa Finch</td>
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<td><strong>47. P. kona</strong></td>
<td>Grosbeak Finch</td>
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<td><strong>DREPANIDINAE (subfamily)</strong></td>
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<tr>
<td><strong>RED AND BLACK HONEYCREEPERS</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>48. Himatome sanguinea</strong></td>
<td>'Apapane</td>
<td>'Apapane</td>
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</table>

"Original Hawaiian name, if there was one, is unknown."
TABLE 1--Continued.

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<thead>
<tr>
<th>FAMILY AND SCIENTIFIC NAMES</th>
<th>VERNACULAR NAME</th>
<th>HAWAIIAN NAME</th>
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<tbody>
<tr>
<td>RED AND BLACK HONEYCREEPERS (con't.)</td>
<td></td>
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<tr>
<td>49. Palmeria dolei</td>
<td>Crested Honeycreeper</td>
<td>'Akohekohe</td>
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<tr>
<td>50. Ciridops anna</td>
<td>'Ula-'ai-hawane</td>
<td>'Ula-'ai'hawane</td>
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<tr>
<td>51. Vestiaria coccinea</td>
<td>'I'iwi</td>
<td>'I'iwi</td>
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<tr>
<td>52. Drepanis funera</td>
<td>Black Mamo</td>
<td>'O'o-nuku-umu, noa</td>
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<tr>
<td>53. D. pacifica</td>
<td>Mamo</td>
<td>Mamo</td>
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</tbody>
</table>
Historical Scope

First contact of Hawaiian birds with Western civilization began in 1778 with the observations and collection of specimens by naturalists who accompanied the third and last voyage of Captain James Cook. The history of the Hawaiian avifauna is divided into the following five periods, each typified by characteristic activities which are documented later.

1778–1841: Era of Discovery and Exploration (64 years): Collection and scientific description of 15 forms, 11 during Captain Cook's voyage; observational records few and brief; Hawaiian bird-catchers still active.

1842–1886: First Period of Complacency (45 years): Few specimens collected, only 14 new forms described; first check-lists appeared; almost no observational records; catching of Hawaiian birds for feathers declined.

1887–1904: Era of Scientific Collection and Description (17 years): Vigorous field and museum work by experienced scientists, naturalists, and collectors (S. B. Wilson, R. C. L. Perkins, L. W. Rothschild, G. C. Munro, H. C. Palmer, H. W. Henshaw); 36 new forms collected or described; three monographic works produced; feather hunting by Hawaiians ceased; the "golden age" of Hawaiian ornithology.

1905–1936: Second Period of Complacency (32 years): Few specimens collected; four new forms described; observational notes sparse (most produced by W. A. Bryan and G. C. Munro); first wildlife refuge established (Hawaiian Islands Bird Reservation, now Hawaiian Islands National Wildlife Refuge).

1937–1978: Era of Census and Research (41 years): Citizen birdwatchers organize and publish thousands of observational notes; six university theses on Hawaiian birds and one taxonomic monograph appear; 30 taxa officially recognized as being in danger of extinction by state and federal governments; conservation and research programs initiated; one new form described.

Outline of Complete Work

Documentation, correlation, and synthesis of information detailing changes in bird populations and environments in Hawai'i over the past 200 years necessarily complicates any comprehensive account. The subject is addressed holistically in three parts. Major topics and order of treatment are detailed in the following outline.
HISTORY OF
ENDEMIC HAWAIIAN BIRDS

1. Introduction (to overall work)
2. Specimens In Museum Collections (69 taxa)
3. History of Forest Bird Populations in Hawaii Volcanoes National Park and Vicinity.

Part I: Population Histories--Species Accounts

4. Introduction to Part I
5. Sea Birds (2 taxa): PROCELLARIIDAE
6. Forest Birds (8 taxa): ACCIPITRIDAE through TURDIDAE (8)
7. Forest Birds (8 taxa): MUSCICAPIDAE (3), MELIPHAGIDAE (5)
10. Forest Birds (6 taxa): DRE PANIDIDAE: Pseudonestor - Psittirostra (6)
11. Forest Birds (6 taxa): DRE PANIDIDAE: Drepanidae (6)
12. Freshwater Birds (4 taxa): ANATIDAE (1), RALLIDAE (2), RECURI ROSTIRLDAE (1)
13. Scrub-Grassland Birds (10 taxa): ANATIDAE (2), RALLIDAE (2), STRIGIDAE (1), SYLVIIDAE (2), DRE PANIDIDAE (3)

Part II. Ecological Factors of Bird 'Depopulation

14. Introduction to Part II
15. Role of Food Depletion by Foreign Organisms
16. Role of Predation and Disease
17. Role of Habitat Alteration
Part III.  History, Ecology, and Conclusions

18. Introduction to Part III

19. Chronology and Geography of Depopulation (with range maps)

20. Evaluation of Ecological Factors (with range maps)

21. Synthesis and Final Conclusions

The National Park Service plans to distribute this and subsequent reports from their CPSU/UH project primarily for review and administrative purposes. Sections will be submitted for scientific publication later.
LITERATURE CITED


