

Anecdotal Observations On Maui Parrotbill (*Pseudonestor xanthophrys*)

Paul E. Baker and Helen Baker¹

1. Observations of Maui parrotbill juveniles

We studied the foraging behavior of the Maui parrotbill (*Pseudonestor xanthophrys*) between July and December 1993 as part of the Maui Forest Bird Project which began in 1992. Our 50 ha study area between 1,866-2,066 m elevation contained 5-6 pairs of Maui parrotbill, and lay within the Waikamoi preserve (The Nature Conservancy of Hawai'i).

We first observed a Maui parrotbill juvenile in late July. Both adults were regurgitating food to it (normal method of feeding young), while it begged frantically. The family was often seen/heard in the area during July. By September, the juvenile was apparently independent, although it remained in the area where the family had been seen. This bird, a juvenile male, was heard singing on a number of occasions between September and December. A female was briefly seen with him during November.

In October, a juvenile was seen with an adult male to which it begged for food (no female present). The male would fly ahead gleaning and excavating, while the juvenile followed up to 20 m behind giving a plaintive *siyou/chew* call approximately every 3 seconds. The begging and wing fluttering became more intense when the male approached to feed the juvenile. The young bird also attempted to excavate koa (*Acacia koa*) branches while the male was foraging, although the juvenile barely managed to remove some small chips of bark. It was also seen gleaning leaves. The juvenile's plumage was extremely dull gray-green, it was small billed and so may have been a female. No adult female was seen, although a Maui parrotbill was heard calling 100 m away in response to the

vocalizations of the male. A juvenile Maui parrotbill was also heard in this area, and was subsequently seen with an adult male during early December still giving the begging call. Research between 1994-1997 has since revealed a very long dependency period of 3-5 months for Maui parrotbill juveniles (Simon et al 1997).

In late November, during a banding expedition in the Hanawi Natural Area Reserve, a male Maui parrotbill was seen regurgitating to a very recently fledged juvenile. This fledgling had probably been fledged for <1 week, its tail was not fully grown, and it had a very dull gray-green, and loose, fluffy plumage like that of recently fledged Maui 'alauahio juveniles (*Paroreomyza montana newtoni*). It constantly gave the begging call, and wing fluttering, and made no attempt to forage for itself. The next day 2 juveniles were heard begging near this area, about 10 m apart. This, coupled with our sightings of males with single juveniles may mean that when 2 young fledge, the brood is split between the parents. Each parent may then forage with each fledgling independently, perhaps to avoid competition for limited food resources, or as an anti-predator tactic.



There have been very few confirmed sightings of Maui parrotbill pairs with 2 dependent young which makes this sighting of interest (Simon et al. 1997).

2. Aggressive display by 2 male Maui parrotbill.

Two males were seen together in the Waikamoi Preserve in November within 1 m of each other on the same horizontal branch. One male would pursue the other along the branch, then they would turn to face each other, lower their heads to just above branch level, and raise their rumps. One would then chase the other a little, then the same postures would be taken up again. They would also sing alternately while doing this. Eventually, one bird moved approximately 50 m away, and both birds sang alternately again.

3. Opportunistic foraging by Maui 'alauahio in association with Maui parrotbill.

Carothers *et al.* (1983) observed Maui parrotbill foraging with small groups of Maui 'alauahio. We often observed Maui parrotbill and Maui 'alauahio foraging in the same trees and bushes. Sometimes Maui 'alauahio closely followed Maui parrotbill, and foraged opportunistically in the excavations made by the Maui parrotbill. Maui 'alauahio may have learned to glean areas excavated by Maui parrotbill, so they can exploit food items that would normally be inaccessible to them.

4. Maui parrotbill excavation method.

A Maui parrotbill in the Waikamoi Preserve during early December 1993 was observed excavating a koa twig (1 cm diameter). The tip of the hooked upper man

*Drawing of Maui Parrotbill
by Ron Walker*

dible was inserted into, or around the opposite side of the twig to the body of the bird, then the lower mandible was used like a chisel to break away the wood in a forwards-backwards motion, with the upper mandible providing resistance. (Other information on excavation methods and foraging behaviors were given by Mountainspring (1990) and Hopper *et al.* (1993), but this chisel action has never been described before).

Acknowledgments

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Literature cited

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Mountainspring, S. 1987. Ecology, behavior and conservation of the Maui Parrotbill. *Condor* 89: 24-39

Simon, J., P. E. Baker, and H. Baker. 1997. Maui Parrotbill. In *The Birds of North America* (A. Poole, P. Stettenheim, and F. Gill, Eds.). Philadelphia.

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Paradise Pursuits Student Thoughts

by Sylvianne Yee

Many of the inquiries I receive come from people who want to know what students gain from their participation in **Paradise Pursuits**. As much as I try to explain the benefits of the program, the best testimony comes from the students themselves. The following was taken from an article written by Kailua High School team member Catherine Simonovich for her school's PTSA newsletter:

The team worked many long hours to prepare for the competition. We met at recess and lunch. We studied the resource materials on which the questions were based and engaged in mock competitions.

One of the benefits that the team members gained besides the generous prizes was knowledge about Hawaii's native flora and fauna and man's interactions with the environment. Since education is crucial in the protection of endangered species, we can use what we learned to teach others about conservation and preserving Hawaii's unique environment.

Another benefit of participating in Paradise Pursuits was learning how to work as a team. The team practiced working together toward a common goal while having fun in a positive atmosphere. We value having had the experience of participating in the intellectual competition. The underclassmen hope to continue this trend next school year.

Thank you, Catherine, for sharing your thoughts with us. With recommendations like these, **Paradise Pursuits** is on its way to another exciting, challenging season!

'ELEPAIO

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MEMORANDUM

TO: All members

FROM: Board of Directors, Hawaii Audubon Society

SUBJECT: Proposed amendments to Constitution and Bylaws for the Hawaii Audubon Society

At its meetings on September 8 and October 13, 1997, your Board of Directors approved amendments to the Society's Constitution and Bylaws (which is one document) as shown in the following paragraphs. Most of the changes are recommended to conform the bylaws to the way the Society currently does business, while a few (such as the addition of the Mission Statement — approved by the Board in March 1997 — to the Constitution) are for the purpose of providing up-to-date structural language. Others are to simplify and reduce costs, such as removing the requirement to provide members twice with a complete text of the bylaw amendments, and to make language gender-neutral.

These amendments will be voted upon during the 1997 election of officers. The text will be provided with the ballot. The Board recommends a "yes" vote on all the proposed amendments. The following material excerpts every paragraph for which an amendment is proposed and shows proposed changes. *Deletions are included in bold brackets []; additions are in italics.*

* * *

CONSTITUTION AND BYLAWS FOR THE HAWAII AUDUBON SOCIETY

{{last amended December 16, 1991}}

CONSTITUTION

ARTICLE II

MISSION STATEMENT

To foster community values that result in protection and restoration of native ecosystems and conservation of natural resources through education and advocacy in Hawaii and the Pacific.

ARTICLE III

PURPOSE

Section 2. The aims of the SOCIETY are: (1) to arouse public appreciation of the beauty and economic value of wildlife and to stimulate action to preserve and protect it; (2) to preserve an adequate breeding stock of all native wildlife for the enjoyment and material benefit of mankind; (3) to preserve environmental conditions of ample food, water and cover on the maintenance of which all wildlife is dependent for survival; (4) to foster public education and research on Hawaii's native wildlife; (5) to fix guardianship responsibilities on Federal, State or competent private agencies for safeguarding all species threatened with extinction; (6) to protect the interests of its members as beneficiaries of Hawaii's [public land trusts] *public trust resources*.

Section 3. {{portion}} Upon the dissolution, or upon the abandonment, the copyrights and other assets of this SOCIETY remaining after payment of, or provision for, all debts and liabilities of this SOCIETY, shall be donated to the [Bernice P.] Bishop Museum or other Hawaiian society, or to the National Audubon Society (hereinafter called NATIONAL SOCIETY) or its successor, or to such corporation or corporations, association or associations, fund or funds, or foundation or foundations having similar objectives and purposes presently set forth in Section 501 (c) (3) of the Internal Revenue Code.

BY-LAWS

ARTICLE I

CONSTRUCTION

[Section 2. The masculine pronoun, as used hereinafter, shall mean the masculine or feminine, wherever applicable.]

ARTICLE II

MEMBERSHIP

Section 2. The [classes] *types* of membership [recognized by] in the SOCIETY are:

a. JOINT MEMBERSHIP, which covers membership in both the NATIONAL and HAWAII AUDUBON SOCIETIES.

Dues for Joint Membership are established by the NATIONAL SOCIETY.

b. LOCAL MEMBERSHIP, which [is an option of] covers membership in the HAWAII AUDUBON SOCIETY only[, available to residents of Hawaii and other Pacific islands served by the US postal zip code system. Persons who were members of the SOCIETY at the time of chapterization with the NATIONAL SOCIETY (February, 1, 1978) may remain as local members regardless of residence].

Classes of dues-paying members are:

[Regular Subscriber Life Junior Complimentary Honorary Life

Junior is a class of membership for persons age 18 or under. Subscriber is a class of membership open to institutions and to any non-resident of Hawaii who wishes to receive the SOCIETY'S monthly journal, 'Elepaio.]

Regular: annual renewal

Junior: for persons age 18 or under

Life: one-time payment with no further dues

Institutional: annual renewal (e.g., libraries)

Complimentary [memberships, complimentary subscriptions,] and Honorary Life memberships are given by the Board of Directors, with no dues payments required. Complimentary[, Life, and Honorary Life memberships are not subject to the residency requirements.] memberships are given for one year and may be renewed by the Board.

All Regular, Junior, [Subscriber] and Institutional [, and Complimentary] memberships [and subscriptions] are for one calendar year, January through December. Dues for local memberships are established by the Board of Directors of the SOCIETY.

Section 3. {{Portion}} [Subscribers] Institutional, Junior [members], and Complimentary members are non-voting.

ARTICLE IV

BOARD OF DIRECTORS AND OFFICERS

Section 2. The Board shall be comprised of not less than three (3), nor more than fifteen (15) [ten (10)] elected Directors. [and, ex officio with full voting rights, the elected officers of the Society.] Ten Directors shall serve as Directors at Large; five Directors shall serve as Officers. The officers of the SOCIETY shall be a President, a First Vice-President, a Second-Vice President, [a Corresponding Secretary,] a Recording Secretary and a Treasurer, and such other officers as may be determined by the Board of Directors.

Section 3. The Directors shall be elected as provided in ARTICLE VII[, and shall serve an initial one year term if new to the board; thereafter they shall serve for two-year terms, or until their successors are elected. [The two-year terms will take effect with the 1990 election. However, for the 1990 election of Directors only, not more than five (5) will be elected for one year and not more than five (5) will be elected for two years. For the 1990 election of Officers, the President, Second Vice-President, and Recording Secretary will be elected for two years and the First Vice-President, Corresponding Secretary and Treasurer will be elected for one year.] The terms shall be staggered so that to the maximum extent possible, only half of the Directors at Large and half of the Officers shall be elected during the annual election.

Section 4. [After 1990, n] No [one] individual[, with the exception of the Treasurer,] shall serve for more than four (4) consecutive two-year terms as a member of the Board.

Section 5. If by reason of resignation or death, or for any other reason, vacancies exist whereby the Board has not the full complement of fifteen (15) [ten (10)] Directors[or Officers], the Board may proceed to elect a replacement(s) to serve for the remainder of the unexpired term(s), with the exception that if the Presidency becomes vacant, the First Vice-President will assume the office of President. [When for such purpose a Director has been elected for less than a full term, such part term shall be disregarded with respect to his qualifications for re-election for additional consecutive terms, as set forth in Section 4 above.]

Section 9. A majority of the sitting Board shall constitute a quorum at any meeting of the Board.

Section 11. The Officers shall constitute the Executive Committee. The Executive Committee shall oversee the day-to-day administrative and financial affairs of the SOCIETY and shall have the authority to meet and make administrative decisions between board meetings and such other decisions as the Board may authorize. The Executive Committee together with the Executive Director shall prepare the annual budget with the assistance of the Committee Chairs. The Executive Committee, with the approval of a majority of the Board, shall hire an Executive Director and any other employees as the SOCIETY may require. The Executive Committee shall have the authority, with the Board's approval, to negotiate and sign contracts in behalf of the SOCIETY. All contracts must be signed by three Directors, including the President, or in the President's absence, a designated officer.

ARTICLE V

DUTIES OF OFFICERS

Section 1. The President shall direct and administer the affairs of the SOCIETY as its executive head and shall supervise all phases of its activities, subject to instructions by the Board. The President [He] shall also be an ex officio member of all committees. The President [He] shall normally preside at all meetings of members and of the Board.

Section 2. {{portion}} The Vice-Presidents shall assist the President in carrying out the duties of that office [his duties].

Section 3. The Recording Secretary shall keep a record of all proceedings of the SOCIETY and of the Board of Directors[. He] and shall see that notices of all meetings are sent to members.

[Section 4. The Corresponding Secretary shall conduct all the correspondence of the SOCIETY except such correspondence as, by instructions of the Board or at the discretion of the President, shall be conducted by another member of the SOCIETY. He shall preserve all correspondence of the SOCIETY.]

Section [5]4. The Treasurer shall have custody of the SOCIETY'S funds[. He] and shall [conduct] supervise all financial activities of the SOCIETY as may be ordered by the Board. *The Treasurer* [He] shall report to the Board at its regular meetings or as requested. *The Treasurer* [He] shall prepare or arrange to have prepared the required annual IRS Statement for tax exempt organizations, all other required government tax forms, and shall prepare an annual report on the financial condition of the SOCIETY for presentation to the members within five months after the end of the calendar year. The annual report shall be published in the 'Elepaio and a copy shall be forwarded to the NATIONAL SOCIETY. The annual report shall be reviewed by a committee of three members appointed by the President or by a CPA. The report of the committee or CPA shall be presented to the Board.

Section [6]5. All withdrawals from, or checks drawn on, the SOCIETY'S accounts shall be signed by at least two members of the Board of Directors, or one member of the Board of Directors and the Executive Director, having their signatures on file at the appropriate bank. At least three members of the Board, including the President and Treasurer, shall have their signature on file at the bank. [Contracts obligating SOCIETY funds shall be signed by the President (or in his absence the First Vice-President), Treasurer, and at least one other Board member.] *Expenditures of \$250 or more which are not in the currently approved budget shall require approval of a quorum of the Board of Directors.*

Section 6. Any public statement made, written statement prepared, or actions taken in the name of or in behalf of the SOCIETY by any Officer, Director, Committee Chair, or employee shall be consistent with the policies of the SOCIETY as developed by the Board. At least two Officers, including the draftee, must be consulted prior to taking action or a position. All matters involving legal issues must have the approval of the President, or in the President's absence, the First or Second Vice President.

ARTICLE VI

AREA REPRESENTATIVES

Section 1. The President, with approval of the Board, may appoint official representatives of the SOCIETY for the islands of Hawaii, Kauai, Maui, Molokai, or Lanai, or for other areas of the Pacific region, or elsewhere as determined by the Board. *With the exception of the island of Hawaii, [N] no more than one representative shall be appointed for each area. The island of Hawaii may be represented by two persons, one from the Kona side of the island and one from the Hilo side of the island.* A representative must be a member of the SOCIETY and must reside in the area [he] represent[s]ed. Area Representatives serve for terms of one calendar year, or portions thereof, unless they resign earlier or their appointments are terminated by the Board.

ARTICLE VII

NOMINATION AND ELECTION OF OFFICERS AND DIRECTORS

Section 1. {{portion}} To be nominated, a person must be a member of the SOCIETY or have an application for membership pending, and must have given [his/her] written consent.

Section 2. The Nominating committee shall nominate candidates for Officers and Directors to succeed those whose terms expire at the next annual meeting. The Committee's report shall be published in an issue of the 'Elepaio distributed to members not later than [75] 60 days prior to the annual meeting, and shall be presented to the membership at a regular meeting of members not later than [two (2) months] 45 days prior to the annual meeting.

Section 3. The Board of Directors shall appoint an Elections Committee prior to November of each year. The Elections Committee shall have ballots prepared and distributed, receive written nominations and ballots, and tally votes.

Section [3]4. Members of the SOCIETY may nominate additional candidates for Officers and Directors. Such nominations shall be submitted in writing, accompanied by the written consent of the nominee, to the Elections Committee on or before November 10.

Section [4]5. A ballot containing the Nominating Committee's slate and any additional nominations made in accordance with Section 3 of this Article, shall be prepared by the Elections committee and [distributed] mailed to all members eligible to vote no later than 15 days prior to the annual meeting. Voting shall be by secret ballot returned by mail or in person to the Elections Committee prior to the start of the annual meeting.

Section [5]6. Ballots will be counted before or during the annual meeting by the Elections Committee. The Elections committee shall present its report before the conclusion of the annual meeting.

Section [6]7. A plurality of the ballots cast and counted shall constitute election.

ARTICLE VIII

STANDING AND OTHER COMMITTEES

Section 1. The Standing Committees shall include the Conservation Committee, the Education Committee, the 'Elepaio Committee, the Field Activities Committee, the Membership Committee, the Program Committee, and the Scholarships and Grants Committee.

Section [1]2. The President, with the approval of the Board of Directors, shall appoint the Editor (s) of the 'Elepaio and the Chair[men] *persons* of Standing Committees who, in turn, may select their own committee members with recommendations and suggestions from the Board. With the exception of the Nominating and Elections Committees, committee membership is open to any member of the SOCIETY desiring to be on the committee. Editors of the 'Elepaio and Committee Chair[men] *persons* shall serve for one (1) year, or until their successors are appointed. All Committee Chairmen and Editors must be members of the SOCIETY.

Section [2]3. The President, with the approval of the Board of Directors, may appoint Special or Task Force Committees whose terms of office will be determined by the length of the assignment to be done.

Section [3]4. Committee Chair[men] *persons*, or their representatives, are to make reports at Board meetings.

[Section 4. The President, with approval of the Board of Directors, shall appoint an Elections Committee not later than 75 days prior to the annual meeting. The Elections Committee shall prepare and distribute ballots, receive ballots and written nominations, and tally votes.]

Section 5. The *charges* to Standing Committees [may be] *are* as follows[and may include such other committees as may be constituted by the Board of Directors to carry out the functions of the SOCIETY]:

CONSERVATION COMMITTEE

The Conservation Committee shall keep informed on local, state and national governmental policies and actions affecting the natural environment and conservation of Hawaii's native wildlife. It shall draft and recommend the SOCIETY'S conservation policy to the Board. It shall carry out the conservation policy as approved by the Board and endeavor to coordinate the actions of the SOCIETY with the policies of the NATIONAL SOCIETY insofar as conservation measures and policies of national scope are concerned. It shall keep the NATIONAL SOCIETY informed of such actions. The Conservation Committee shall be represented at all Board meetings by the Chair[man] *person* or, in [his] *the Chairperson's* absence, by another committee member.

'ELEPAIO COMMITTEE

The 'Elepaio shall function as the SOCIETY'S scientific journal, newsletter, and conservation, education and publicity organ. Scientific articles shall be subject to peer review. The 'Elepaio Committee shall include the managing editor[(s)] and the scientific editor [of the 'Elepaio] as [Chair(s)] Co-Chairperson (s), and shall publish the 'Elepaio at least six (6) times a year for the members of the SOCIETY. The 'Elepaio Committee shall be represented at all Board meetings by [the] a Co-Chairperson[(s)], or i[n his (their)]f absen[ce]t, by another committee member.

EDUCATION COMMITTEE

The Education Committee [shall maintain close contact with the Educational Services Division of the NATIONAL SOCIETY. It]shall encourage schools and colleges within the SOCIETY'S territory to conduct courses in, or otherwise stress, natural history, ecology and conservation. It shall, through other means, inform and educate the public about the natural environment, and Hawaii's native wildlife.

FIELD ACTIVITIES COMMITTEE

The Field Activities Committee shall schedule regular field trips as a means of exposing members and the general public to, and educating them about, Hawaii's native flora, fauna, and ecosystems, and to provide outdoor recreation and access to otherwise inaccessible areas, and opportunities to meet with conservation experts. The Committee shall also schedule regular service trips to foster an ethic of stewardship for Hawaii's natural resources.

PUBLICATIONS COMMITTEE

The Publications Committee shall oversee the development, production, revision, printing, and distribution of the SOCIETY'S educational publications. The committee chairperson shall act as liaison between the committee and the Board of Directors in matters concerning the publications, especially content and budget. The chairperson shall be responsible for making recommendations to the Board of Directors and Executive Committee regarding publishers, printers, distributors and such others as the need arises. The Executive Director shall be responsible for tracking sales and recommending reprinting schedules.

SCHOLARSHIPS AND GRANTS COMMITTEE

The Chairperson of the Scholarships and Grants Committee shall coordinate and oversee the granting of research grants and scholarships. The Committee shall be responsible for soliciting and reviewing applications, interviewing recipients, making recommendations to the Board, notifying recipients, and checking to make sure the terms of the award were satisfied. The recipients shall be required to account for expenditures and submit a written report of the results of their research for publication in the 'Elepaio.

ARTICLE XI

AMENDMENTS

The Constitution and By-Laws may be amended by a majority vote of members voting, as follows:

a. Notice of the proposed amendment(s)[, together with the wording thereof,] shall be published in an issue of the 'Elepaio distributed to members not less than 30 days before the last day set for voting on said amendment(s). The notice shall give the reasons for submitting the amendment(s) and the position of the Board of Directors with respect to them , *shall announce that the complete wording will be sent with the ballot, and shall state that a complete copy will be available in the Society's office as of the publication date of that 'Elepaio.*

Book Review

by Wendy Johnson

All Stings Considered: First Aid and Medical Treatment of Hawaii's Marine Injuries.

by Craig Thomas, M.D., and Susan Scott.

Published by University of Hawai'i Press, 1997, \$29.95.

Every reader will learn something of personal relevance from this book because virtually all of Hawaii's residents, and plenty of visitors, have experienced a bite, scratch, sting, rash, or infection while interacting with the marine environment. Even the most weathered of ocean enthusiasts will admit that in many of these cases there is an element of mystery about exactly what caused the injury or illness and how best to treat it. *All Stings Considered* answers with clarity, and in a distinctly readable style, a great many of the questions every ocean swimmer, boater, tidepooler, diver, and fisherman has asked about marine health hazards. This new book also fills an important niche as a medical reference manual, including precise and current information on advanced medical treatment for each of the fifty-one entries.

All Stings Considered begins with a short list of general marine safety recommendations and a two-page table summarizing twenty-three of the most common marine injuries and appropriate first aid for each. The main text consists of three sections covering bites, cuts and stings; infections and poisonings; and sports injuries. Here the book quickly becomes much more than a first aid manual or medical reference book. From stinging limu to turtle poisoning, and from shark bite to decompression illness, every topic is introduced with illuminating information presented in a style similar to that of the second author's "Oceanwatch" column. The text is significantly enhanced by the high quality color photos found on almost every page. The photos, many of which were taken by the authors, range from scenic and wildlife shots, to gory emergency room images relevant to medical diagnosis and treatment. Descriptions of the (sometimes complex) mechanism of injury, incidence of injury, prevention, signs and symptoms, first aid, and advanced medical treatment are included for each marine health hazard. In many of the entries, fascinating anecdotal information is supplied, covering unique case-studies and supporting data from other parts of the Pacific and around the world. The text ends with a section of subject-related footnotes and references, followed by an extensive scientific bibliography indicative of the exhaustive research that went into the creation of this book.

The authors' preface to *All Stings Considered* includes a pledge to edit and update the text regularly in response to new information and scientific advances. Even without this promise, the authors' sincere dedication to their work is evident throughout this volume and helps to account for both its richness and its usefulness.

Christmas Bird Count Opportunities on Every Island

by Arlene Buchholz, Organizer, Honolulu Count

Join our Christmas Bird Counts during the official count period, December 19, 1997 - January 4, 1998. If you want to do something good for birds and meet other "bird people", call one of the coordinators to sign up. There is a \$5.00/person charge to support compiling and publication of the nationwide results. NOTE: Special information is needed by the coordinator of the popular "Kulani Prison" count, so call the Big Island Volcano coordinator by the end of November to ensure your spot.

Kaua'i

Waimea	Saturday, 1/3/98	Koke'e Museum (Thorn Clark)	1-808-335-9975
Kapa'a	Date TBA	Barbara Stuart	1-808-826-9233(h) (after Nov. 30th)

O'ahu

Honolulu	Saturday, 12/20/97	David Smith, compiler Arlene Buchholz, organizer	HAS 1-808-528-1432, box 4, or 1-808-988-9806(h)
Waipio	Saturday, 12/27/97	David Bremer	1-808-623-7613(h)

Maui

Pu'u O Kaka'e	Sunday, 12/28/97	Renate Gassmann-Duvall or Fern Duvall	1-808-572-1584(h)
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Moloka'i

Kualapu'u	Date TBA	The Nature Conservancy (Joan Yoshika)	1-808-553-5236
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Hawai'i Island

North Kona	Saturday, 1/3/98	Reginald David	1-808-329-9141(w)
Volcano	Saturday, 12/27/97	Larry Katahira or Tanya Rubenstein	1-808-985-6088(w) 1-808-967-7396 x 233 (w)

Composition Of Kākāwahie *Paroreomyza* *flammea* Nests

Paul E. Baker and Helen Baker

The Kākāwahie, or Moloka'i 'Alauahio (*Paroreomyza flammea*) was a Hawaiian honeycreeper (Fringillidae: Drepanidinae) that was widespread on eastern Moloka'i in the 1890s (Rothschild 1893-1900, Perkins 1903, Banko 1984), but declined very rapidly, and was last seen in 1963 (Pekelo 1963). It is now considered extinct (Pratt et al. 1987, Ellis et al. 1992). Seven nests were located and collected in 1907 by Bryan, and he described some constituents in three of these (Bryan 1908). We conducted a detailed examination and description of the materials used to make the nests as part of research into the species for the definitive life-history account for the Birds of North America.

Historical records show that the birds lived in 'ōhi'a-dominated montane wet forest and mixed bog (1000 m elevation)(e.g. Pēpē'ōpae bog) (Wagner et al. 1990). Typical community composition was a canopy of 'ōhi'a (>60% cover), 'ōlapa (*Cheirodendron trigynum*), kāwa'u (*Ilex anomala*), and mehame (*Antidesma platyphyllum*), and a diverse subcanopy, shrub and ground layer which included kanawao (*Broussaisia arguta*), kōlea (*Myrsine lessertiana*), kōpiko (*Psychotria* spp.), kāmakahala (*Labordia hedyosmifolia*), pilo (*Coprosma ochracea*), *Clermontia* spp., häpu'u (*Cibotium* spp.), 'ōhelo kau lä'au (*Vaccinium calycinum*), manono (*Hedyotis terminalis*), 'ala'ala wai nui (*Peperomia macraeana*), pa'iniu (*Astelia menziesiana*), and ferns and epiphytes.

Kākāwahie may also have lived in 'ōhi'a/uluhe lowland wet forest (750 - 1000 m) which had a similar composition to montane wet forest, but had an additional canopy species 'ōhi'a hä (*Syzygium sandwicensis*), and understory components uluhe (*Dicranopteris linearis*, *Sticherus owhyensis*), uluhe lau nui (*Diplopterygium pinnatum*) and na'ena'e (*Dubautia plantaginea*) (W. Evanson pers. comm.).
Nests, museum number, completion status, date of collection, location and addi-

tional site characteristics (elevations not known):

Nest 1 (#4691) complete, 27 May 1907, Hälawa (middle of Hälawa forest, taken from an horizontal fork at 15' in an 'ōhi'a).

Nest 2 (#4694) complete, 9 Jun 1907, Mapulehu (taken from an upright crotch in an 'ōhi'a).

Nest 3 (#4692) unfinished (adult was observed building), 30 Apr 1907, Kilohana (taken from an upright fork at 8' in a kāwa'u).

Nest 4 (#4690) complete, 4 Jun 1907, Moanui ('ōhi'a).

Nest 5 (#4693) complete, 10 Jun 1907, Wailau ('ōhi'a).

Nest 6 (#4695) complete, 2 Jun 1907, Moanui/Waianui (fork at 15' in 'ōhi'a).

Nest 7 (#4693)* almost complete, 1 May 1907, Punalua/Punalu (=Puuali'i?) ('ōhi'a).

*this nest is labeled as #4693 but this is an erroneous labeling. The nest collected at Wailau on 10 June 1907 is correctly labeled as #4693. All nests are lodged in the Bernice Pauahi Bishop Museum, Honolulu, HI.

All nests were examined to determine the number of species of plants used. A sample of each bryophyte species was then identified by William J. Hoe. Other species and percentage composition (by external inspection) were determined by the authors.

Structure and composition

Nests were open, oval-cup shaped, and were not woven around supporting branches or twigs. Most nests were similar in construction, with tightly woven mosses forming the outer shell of the nest. One nest was composed mainly of lichens, predominantly *Cladonia scabriuscula* (C. Smith pers. comm.). In total, seven species of moss were used in nest construction, with a maximum of five species in nest 1, and a single species in nest 3.

Nest 1 (#4691): 45% *Homaliodendron flabellatum* (Sm.) Fleisch., 40% *Rhizogonium pungens* (Sull.), 5% *Aerobryopsis wallichii* (Brid.) Fleisch. (=longissima (Dozy and Molk.) Fleisch.), little *Leucobryum gracile* Sull., little *Thuidium plicatum*?. Spider webbing and cocoons scattered over the outside of the nest. Lined with grasses and bark.

Nest 2 (#4694): 90% *Aerobryopsis wallichii*, 5% twigs, skeletal remains of *Dryopteris* fronds, little *Macromitrium*

microstomum (Hook. and Grev.)

Schwaegr. (=owahiense c. Muell.), little *Thuidium plicatum* Mitt. Lined with strips of cambium/grasses and fine twigs.

Nest 3 (#4692): 100% *Aerobryopsis wallichii* (blackened, suggesting a wetter collection location than other nests with this species (W. Hoe pers. comm.).

Nest 4 (#4690): 95% *Aerobryopsis wallichii* interwoven with twigs, 2 pieces of lichen (unknown). Lined with strips of cambium, and skeletal remains of 'ie'ie (*Freyinetia arborea*) leaves (4%).

Nest 5 (#4693): 70% *Aerobryopsis wallichii*, 30% mixture of fine twigs of pākiaue (*Styphelia tameameae*), and skeletal remains of 'ie'ie leaves round the rim. Lined with strips of cambium/grasses and bark.

Nest 6 (#4695): 70% mixture of mainly skeletal remains of 'ie'ie leaves, including exposed ribs round rim of nest, and fine twigs of pākiaue, 30% *Aerobryopsis wallichii*, 1 piece *Baldwinella kealeensis* (Reichardt) Bartr. Lined with strips of cambium, strips of 'ie'ie rib, and some grass.

Nest 7 (#4693): 70% lichens (mainly *Cladonia scabriuscula*), 30% liverwort (*Bazzania* sp.).

Exact collection locations of the nests are not known, but from the site names given by Bryan (1908) it appears that the seven nests came from a wide range of climatic and possibly habitat types. Kākāwahie were common in the upper regions of Moloka'i at 500 m and above (Rothschild 1893-1900) when Bryan worked there, so it is reasonable to assume that nests were collected from montane forests. While a single species of moss, *Aerobryopsis wallichii*, is a common feature in 6 of 7 nests it dominates in just four. Such variation in constituents may reflect differences in availability of materials, which may have been influenced by climate as well as habitat type. *Aerobryopsis wallichii* is a very common, characteristic species of wet forest, forming thick epiphytic mats (Bartram 1933, and see appendix), and was probably the most readily available construction material in some of the forests where Bryan collected. The nest from Kilohana may have been collected from the wettest site as it consists entirely of blackened *Aerobryopsis wallichii*. The most unusual nests in the sample are 1(#4691) and 7(#4693), the former consisting largely of mosses of the two species

Rhizogonium pungens and *Homaliodendron flabellatum*, and the latter almost entirely of lichens. Nest 1(#4691) originated from the "middle of Hälawa forest" (Bryan 1908) possibly at moderate elevation compared with all other collection sites. At such a site *Aerobryopsis wallichii* may give way to species characteristic of mesic forest, including *Rhizogonium pungens* (Bartram 1933). The presence of spider webbing woven into this nest was unique within the sample, but Maui 'alauahio (*Paroreomyza montana*) occurring in mesic forests nearly always include this component (pers. obs.). Nest 7(#4693) originated from Puuali'i (Banko 1984), possibly the highest elevation collection location of all the nests, where the montane wet shrubland habitat type (Wagner et al. 1990) may have provided greater opportunity for collection of lichens. In general, despite the diversity of the moss communities in wet forest it appears that *P. flammea* may have been selective in choice of nest material, but while being selective may have often chosen the most abundant epiphytic material available.

The only evidence that the seven nests collected by Bryan were those of the Käkawahie was of one bird seen building nest 3(#4692) and a family group seen by nest 1(#4691) (Bryan 1908). Other than this there is nothing except labels on the specimens to confirm his identification of the nests. We believe that they are indeed those of Käkawahie, because the seven nests are more similar in size, shape, and construction to those of Maui alauahio (especially their compact nature), than to nests of any other honeycreeper (pers. obs.).

The identification of bryophytes from bird nests in Hawai'i has been lacking and the subsequent correlation of use with abundance of the bryophytes within the habitat never quantified. Two po'ouli (*Melamprosops phaeosoma*) nests from east Maui were constructed from a mix of twigs and mosses, with five species identified and common within the habitat around the nests: *Homaliodendron flabellatum*, *Thuidium plicatum*, *Trachypodopsis auriculata* (Mitt.) Fleisch., *Aerobryopsis wallichii* and *Floribundaria floribundus* (Dozy & Molk.) Fleisch. (Engilis et al. 1996). One of these nests was mainly *Aerobryopsis wallichii* with a significant amount of *Thuidium plicatum*, and the other was almost entirely *Thuidium plicatum* (pers. obs.). Maui parrotbill (*Pseudonestor xanthophrys*)

nests, from a similar location to the po'ouli nests on east Maui, were constructed mainly of lichens, with some twigs and mosses present. The mosses used included mainly *Thuidium plicatum*, *Floribundaria floribundus* and *Macromitrium microstomum* (Simon, Baker and Baker 1997). One nest of 'anianiau (*Hemignathus parvus*) from Koke'e, Kaua'i, contained seven species of moss of which five were in common with *P. flammea* (Berger 1981). 'I'iwi (*Vestiaria coccinea*) from the same location on Kaua'i built nests mainly with twigs and lichens, although some mosses were included, notably *Barbella trichophora* and *Aerobryopsis wallichii* (Berger 1981). Generally, several mosses appear to be used in nest construction by a wide range of honeycreepers and all are common components of mesic to wet montane forests. While many of the commoner components are those species that grow epiphytically, their use is not exclusive.

Acknowledgments

A big Mahalo to Bill Hoe for his time identifying the mosses for us and his patience while we learned. Thanks also to Carla Kishinami and Robert Pyle of the Vertebrate Zoology Department of the Bernice Pauahi Bishop Museum, Honolulu, HI for their unending patience, assistance, and for access to the collection.

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Legislative Representative Needed

by Dan Sailer

For the fifth consecutive year, the Society is seeking a part-time legislative analyst to advocate the Society's positions on bills affecting native wildlife and habitat. With issues of agroforestry, endangered species, and land use planning again at hand, the position provides a much needed voice for conservation interests. The position runs roughly concurrent with the legislative session, December 1997, through May 1998.

Duties include:

- * extracting matters of concern to the Society from the 3,000+ bills, resolutions, and departmental funding requests;
- * consulting with appropriate Society officers and communicating with other environmental organizations to develop and present testimony at hearings;
- * following the bills and resolutions through the process, lobbying legislators and governmental resource personnel as needed;
- * submitting verbal and written reports at monthly Society Board meetings; and
- * preparing a written summary of activity within two week's of session's end.

The contractual position is compensated at \$4,000 for the period. Past experience with Hawaii's legislative process is a plus.

To apply, please send a letter of interest, resume, and short writing sample to: President, Hawaii Audubon Society for receipt by November 21, 1997.

Calendar of Events

Monday, November 3

Regular first Monday of the month meeting of the **Conservation Committee**, 6 p.m., at the U.H. Environmental Center (Crawford Hall, Room 317, 2550 Campus Road). All are welcome. (No meeting in December) For more information call chairperson Dan Sailer, 455-2311.

Thursday, November 6 and December 4

Monthly meeting of the **Education Committee**, 7 p.m. at BaLe Sandwich Shop in Manoa Marketplace (near Safeway). All are welcome. For more information, call chairperson Wendy Johnson, 261-5957.

Monday, November 10 and December 1

HAS Board meeting. (always open to all members) 6:30 p.m. at the HAS office.

Saturday, November 15

Second Annual **Birding for Beginners Workshop**: leave message for Lynnea Overholt at HAS (528-1432) to sign up; see page 127 of last 'Elepaio for more information.

Saturday, November 22

"Kahuku and Beyond" is our November destination with Phil Bruner as our leader. Starting from the beach near the Kahuku Superette at about 9 a.m., we will walk along the shoreline up to the Turtle Bay Resort. We may see albatross and bristly-thighed curlews as well as other local and migratory shorebirds. Bring field glasses, sunscreen, plenty of drinking water, lunch or a snack, and *tabi* if you plan to walk into the water along the shore. Hat or visor and sun glasses, will protect you from the sand and ocean glare. Light weight or layered clothing is a good idea.

In addition to your copy of *Hawaii's Birds* or other field guide, a copy of *Hawaiian Coastal Plants* by Mark Merlin will be useful.

This **field trip** is limited to twenty people. For information about meeting times and places, and to make your reservation, please call Mary Gaber at 247-0104. Suggested donation: \$2.00. Also, please bring \$1.00 or your bus pass along since we will take the bus back to Kahuku from the Turtle Bay Hilton Hotel at the end of the walk.

Saturdays & Sundays, November 15-16 & 22-23

Mailing parties (10 a.m. - 3 p.m. at the office) to get the annual election and appeal envelopes stuffed and out the door! Still having withdrawal symptoms with no election mailings to do? Call Susan at 528-1432 and sign up now! (Also a chance to do holiday shopping — see below.)

Saturdays & Sundays, November 15-16 and 22-23, December 6-7 and 13-14

Welcome to our annual **open houses** for holiday shopping, from 10 a.m. - 3 p.m. each day! Parking (metered) at mauka-diamondhead corner of Richards and Merchant Streets, just kitty-corner from 850 Richards. *Hawaii's Birds*, *Voices of Hawaii's Birds*, HAS, kolea, and Cooper T-shirts, the 1997 *Checklist of Birds of Hawaii*, and those great stocking-stuffers: field cards, "sun catchers," and stickers — all available.

December 19, 1997 - January 4, 1998

The annual **Christmas Bird Count** will be happening on all islands! See page 141 of last 'Elepaio for general information and see page 149 of this issue for updated calendar and contact information.

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