



'ELEPAIO

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For the Protection of
Hawaii's Native Wildlife

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SQUAWK! The Red-tailed Tropicbird Koa'e 'ula Phaethon rubricauda melanorhynchos

Anyone who has ever dealt with this tropicbird, especially biologists conducting censuses of nesting seabirds on remote atolls, knows the harsh alarm call of the adult and young of this bird when disturbed on a nest site. The call has been likened to the shrill sound of the whistle wielded by boatswain's mates on ships; thus their other name; "bos'n bird" (Bent 1922). Any attempt to dislodge the bird to assess egg laying often results in injury by the large sharp bill. Whether nesting under a naupaka (*Scaevola sericea*) bush on Green Island, Kure Atoll or in a shallow cave on the slopes of Ka'ula island, dealing with them is an adventure. They defend well against rats which may try to invade their nests. And attempts to steal the attractive red tail feathers by pulling them out can be a noisy and dangerous exercise! The ancient Polynesians used the tail feathers for ornamentation in the hair or crosswise through their nostrils, and poachers sought them for the millinery trade (del Hoyo et al, 1992; Harrison, C.S, 1990).

Red-tailed Tropicbirds are interesting in many ways. Although they nest colonially, they are otherwise solitary, especially in the non-breeding season, often found very far from land. They have very short legs and small feet, so can't walk per se. Instead, they push forward with their feet, fall forward on their belly until in the open, then rise using their wings (Schreiber et al, 1993). They dive beneath the surface of the sea for food; air sacs under the skin of their head, throat and neck cushion them when coming to land or diving. This means they are very buoyant when on the surface of the ocean and can rise easily using their wings (del Hoyo, 1992). It is assumed that they roost at night on the ocean surface. This species lacks a conspicuous un-feathered gular pouch on the throat which is used by other members of the order to thermoregulate using an open-mouthed flutter. Rather, both adults and young pant like most other birds (Howell et al, 1962).

They have no bare incubation breast patch; rather, their ventral area is fully feathered. Heat is transferred to the eggs between the feet and breast although the feet do not contribute; they just prevent heat from escaping. After three or four days, the chicks are transferred under one wing for warmth. Females lay a single egg which is splotched with pink, red or brown spots unlike the all-white egg of the others of its order (pelecaniformes). The young are covered with down at hatching; all others of the order are naked at birth. Unlike other tropicbirds, juveniles fledge with a blackish bill which changes to yellow, to orange



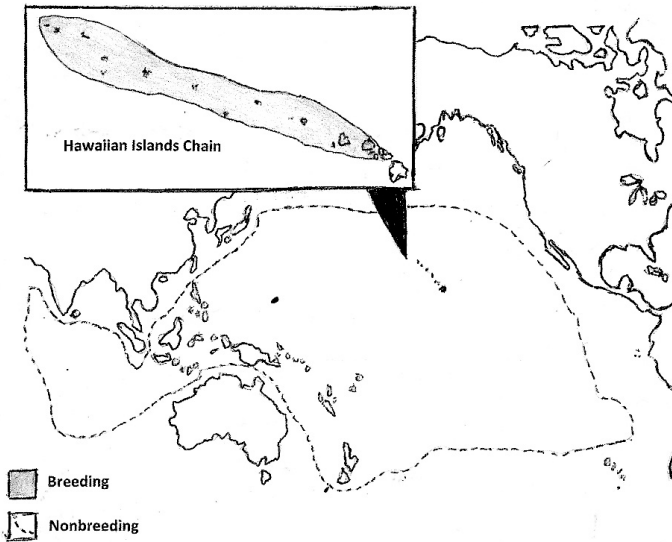
and then red with maturity (Harrison, P., 1983). Adults feed the chicks by putting the food down their open mouths rather than the reverse as in other seabirds (Berger, 1972; Schreiber et al, 1993).

Those who observe this species during the breeding season marvel at their spectacular aerial courtship rituals which display their long red tail feathers (which do not contribute to flight). Groups of 2- 15 adults fly about over the nesting areas switching their long tails and rising up in vertical circular loops, often "sculling" with their wings and flying backwards. Their characteristic squawk is uttered repeatedly during this display. They usually perform this ritual between 9 AM and 3 PM, but more often can be seen doing it around mid-day.

The Red-tailed tropic bird is the rarest of the 3 tropic birds around North America, nesting only in the Hawaiian Islands, Wake Island and Johnston Island. During the non-breeding season, they disperse widely throughout the central and south Pacific (see map), and are occasionally seen off California, Mexico, Japan, New Zealand, Australia and the Philippines.

It has been estimated that there are about 50,000 Red-tailed tropicbirds in Hawaii (Harrison, C.S., 1990). During the 2nd

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World War, Fisher et al (1946) estimated 19,000 birds on the Midway Islands alone. Smith et al (2000) counted 908 adults and 730 nests on the 226 acre Green Island, Kure State Wildlife Sanctuary. The largest breeding colonies in the State are on Midway, Kure, Laysan and Lisianski in the Northwestern Hawaiian Islands. But they may also be observed along the windward coasts of the main islands and the O’ahu offshore islands (Hawaii Audubon Society, 2006). A favorite place to view them on Kauai is at the Kilauea Point National Wildlife Refuge (Pratt, 1993). Off Kaho’olawe, they are best seen around Pu’u Koa’e and Aleale islets (Walker, 1980). Along the pali coast of Lanai is one of the few places where both Red-tailed and White-tailed Tropicbirds can be seen together (Walker et al, 1985).

If you are on O’ahu during the breeding season, drive along the highway between Hanauma Bay and Sandy Beach to see and hear them doing their characteristic mating flight rituals in the air off the cliffs there.

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850 Richards Street, Suite 505

Honolulu, HI 96813

Phone/Fax: (808) 528-1432

E-mail: hiaudsoc@pixi.com Website: www.hawaiiadubon.com

Pacific Fisheries Coalition (PFC) (a project of HAS)

Tel: (808) 262-6859 Website: www.pacfish.org

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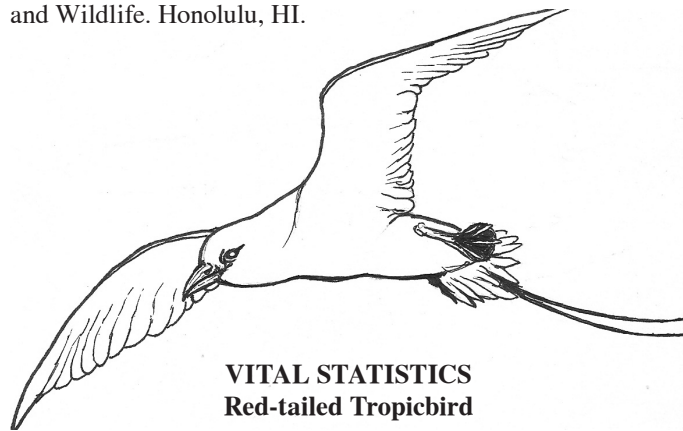
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VITAL STATISTICS Red-tailed Tropicbird

Names: Koa'e Ula (Hawaiian); Rotschwanz-Tropikvogel (German); Phaeton a brins rouges (French); Rabijunco Colirrojo (Spanish). Other common names: Silver Bosunbird; Marlinspike; Longtail; Strawtail.

Historic: Fossils dated 14 million years ago from Miocene period in England.

Classification: Of the Order Pelecaniformes which includes pelicans, cormorants, anhingas, boobies (gannets) and frigatebirds.

Dimensions: Males slightly larger. 36-42 inches including tail. Wingspan, 44 inches. Weight: 1-1/3 to 2-1/2 pounds. Egg: 1-3/4 to 2-12 inches.

Color: Sexes similar. Adult plumage mostly white with silvery sheen, often showing pale pink. Black eye patch. Immatures white with black bars.

Reproduction: Monogamous. Both sexes incubate. Nests a shallow scrape on the ground. One egg, off-white with brown

or purple markings. Incubation, 39-51 days. Hatchlings semi-altricial. Fledge at 12 to 13 weeks.

Seasons: Adults arrive in late February or in March. Eggs laid from April to August. Young in mid-May. Adults and young gone by mid-October.

Food: Twenty-four species of fish (especially flying fish), and two species of squid.

Longevity: 719 birds banded and recaptured were 20 years or older. Oldest recorded was 23 years, 9 months (Howland Island, 1989).

Mortality: Predation by rats, cats and crabs (on very young) and humans. Abandonment by adults. Starvation during ENSO (El Nino Southern Oscillation) events which adversely effect food supply.

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The Fourth Annual Ramsar World Wetlands Day!

Saturday, February 5, 2011 in Kailua
from 9:00 AM to 1:30 PM

World Wetlands Day is traditionally held every February 2 to commemorate the first wetlands convention held in Ramsar, Iran in 1971. This event in Hawai'i recognizes the designation of the Kawainui-Hamakua Marsh Complex as a Ramsar wetland of international importance.

The national theme for the 2011 program is "Forests for Water and Wetlands". As I'm sure you're aware, the health of our wetlands is linked to the health of our forests and watersheds. We invite you and your family to come visit us and other local groups at this event.

This year the event is being held at the Faith Baptist Church next to Ulupo State Park and heiau. We look forward to seeing you in Kailua for World Wetlands Day!

Aloha to Houghton “Buck” Freeman

December 9, 2010

Hawai‘i Audubon Society’s Appreciation of Houghton “Buck” Freeman

Officers, Directors, members and friends of the Hawai‘i Audubon Society join countless friends and neighbors in honoring the life of Buck Freeman. Buck’s generosity, vision, and commitment to community resonates in the tangible experience of grandeur that is the Freeman Seabird Preserve.

I first met Buck and Doreen when they invited the Hawai‘i Audubon Executive Committee to his home to explore the feasibility of HAS assuming ownership of a vacant parcel long known to be a nesting ground for Wedge-tailed Shearwaters (‘Ua‘u kani, *Puffinus pacificus*). At the outset, Buck’s determination to create a lasting island of natural beauty for the benefit of the seabirds and the neighbors was quietly persuasive. Throughout months of careful planning, I came to know a man possessed of a remarkable grasp both of the endurance of natural systems and of their fragility in the face of human influence. Underlying all of this understanding was Buck’s fierce determination to secure a unique remnant of ancient Hawai‘i for the benefit of future generations.

Landscape and habitat restoration at the Freeman Seabird Preserve that began after HAS assumed ownership of the property will shortly resume, now that this year’s fledglings have taken wing. As noted in recent days, survival of these seabirds is precarious, but through Buck’s foresight and incredible generosity, future life cycles will continue. When

breeding pairs of adults return to their Black Point nesting grounds, they will find a habitat that each year becomes a more familiar island of the coastal dry land ecosystem that once was abundant on O‘ahu and now scarcely exists in its original form. Recreating this habitat involves ongoing efforts to remove invasive species, plant native vegetation, and control invasive predators. All of this work is made possible by gifts from the community and members of Hawai‘i Audubon, and past challenge grants from Buck, Doreen, Graeme and Nancy Freeman have been the driving force behind our success.

I knew Buck for only a short time, but we shared more than a dedication to conservation. Both of us spent much of our lives in the mountains of Vermont, and I always delighted in recounting with Buck memories of that different yet comparable splendor of natural magnificence. The twinkle in his eyes every time we swapped stories opened a window into his unfailing enthusiasm for the best of human experience and gave tangible substance to his interpersonal warmth. My personal gratitude to Buck, and that of all of the Hawai‘i Audubon Society, is strong and unending, as is our commitment to bringing his vision of the Freeman Seabird Preserve to a lasting reality.

John T. Harrison III, Ph.D.
President, Hawai‘i Audubon Society

Book Review

The Private Lives of Birds

By Bridget Stutchbury, 2010

Walker and Company, New York. 249 Pages, Hard Bound

The following are published commentaries on the book from various sources:

1. “Stutchbury offers a fine step-up for readers looking to move beyond folksy bird-watching memoirs and into the lives of the birds themselves”- **Colleen Mondor, *Booklist***.

2. “This is an excellent overview of wild bird behavior, social relationships, courtship, and breeding, which are surprisingly structured and complex. Well researched, this is highly recommended for academic and large public libraries, natural history and psychology collections, and readers with more than a superficial attraction to nature”- **Henry T. Armstead, *Library Journal***.

3. “Bridget Stutchbury dodges killer bees, wakes before dawn to follow birds through the forest, and peers through a ‘riparia-scope’ at hundreds of eggs. Don’t miss her stories of personal adventure and her far-reaching scientific synthesis explaining the amazing behaviors of birds and what they mean for the birds’ survival and future.”- **Miyoko Chu, author of *The Bedside Book of Birds***.

4. “A treasure-trove of insights into the lives of birds and the glorious evolutionary energy that powers their displays and courtship- and their not infrequent infidelities.” **Graeme Gibson, author of the *Bedside Book of Birds***.

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5. "Be warned: reading THE PRIVATE LIVES OF BIRDS is likely to make you chuck in your present job to become a bird biologist. Who would have known that our beloved wild birds would turn out to be liars, cheats, and bullies? In elegant and lucid prose, Stutchbury explains why birds act the way they do"- **Glen Chilton, author of *The Curse of the Labrador Duck*.**

6. "With her trademark clarity and humor, Bridget Stutchbury- 'bird detective' extraordinaire- reveals avian lives of uncommon drama, rife with adultery, divorce, sibling rivalry, lying, social climbing and life-or-death marathons- a peek into a world at

once familiar and wonderfully different from our own."- **Scott Weidensaul, author of *Of a Feather: A brief History of American Birding*.**

7. "It's not easy to produce a specialized book that is simultaneously erudite and engrossing, but Stutchbury pulls it off for the most part Stutchbury's book is packed with information, both salacious and sage." **Quill & Squire (starred review) (review of Canadian edition, *The Bird Detective*).**

Contributed by Ron Walker

???'s About Birds

Adapted From: 1001 Questions Answered About Birds. A.D. and H.G. Cruickshank. 1958. Dover Publications. New York.

What is a bird?

A bird is any backboned animal that grows feathers. It is an animal which has evolved for flight due to:

1. A rapid metabolism which permits quick consumption and use of food.
2. A well developed musculature which permits sustained movement.
3. A streamlined form which reduces air resistance.
4. A light but strong skeletal system which includes hollow bones.
5. A system of air sacs, connected to the lungs, which may extend into hollow bones aiding in high energy respiration and lightness.

Membership in Hawaii Audubon Society 2011

Regular Member:	\$ 25.00	Foreign Membership (Airmail)
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Two Hawaiian Damselfly Species Now Listed As Endangered

Two species of rare Hawaiian damselflies were designated as endangered species today by the U.S. Fish and Wildlife Service. The final rule published in today's *Federal Register* adds the flying earwig Hawaiian damselfly and the Pacific Hawaiian damselfly, found only in Hawai'i, to the federal list of threatened and endangered species.

Damselflies and dragonflies are known collectively as *pinao* by native Hawaiians. Damselflies have slender bodies and hold their wings parallel to the body while at rest, while dragonflies are stout-bodied and hold their wings perpendicular to each side of their body.

"These are the first damselfly species in the nation to receive federal protection," said Loyal Mehrhoff, field supervisor of the Fish and Wildlife Service's Pacific Islands Fish and Wildlife Office. "Insects, as well as all native plants and animals, play a vital role in the health of our environment. Recognizing the importance these colorful insects play in the natural balance of Hawai'i's stream and water systems will hopefully encourage improved protection and management of these fragile aquatic ecosystems that will benefit both damselflies and humans."

On July 8, 2009, the Service published a proposed rule to list these two species of Hawaiian damselflies as endangered. Two public comment periods, totaling 90 days, allowed the public and other interested parties the opportunity to submit data and comments.

During the comment period, the Service received a total of 5 written comments and no requests for public hearings. Three comments were received from State of Hawai'i agencies and two were from the same nongovernmental organization. Three comments supported the listing of the two Hawaiian damselflies, two comments neither supported nor opposed the listings, and one of these comments provided additional information on both damselfly species.

The flying earwig Hawaiian damselfly has been a candidate for protection under the Endangered Species Act since 1996, and the Pacific Hawaiian damselfly has been a candidate since 1994. Federal listing of these two species will automatically invoke State listing under Hawai'i's endangered species law. Lands that support these two damselfly species are owned by various private parties, the State of Hawai'i and the Federal government.

The flying earwig Hawaiian damselfly is a comparatively large and elongated species. The males are blue and black in color and exhibit distinctive, greatly enlarged, pincer-like appendages that are used to clasp the female during mating. Females are predominantly brownish in color. The adults measure from 1.8 to 1.9 inches in length and have a wingspan of 1.9 to 2.1 inches. The wings of both sexes are clear except for the tips, which are narrowly darkened along the front margins.

Little is known about the biology of the flying earwig Hawaiian damselfly, but it is believed that the species has semi-terrestrial or terrestrial naiads (immature larval stages). Adults are often associated with thick mats of uluhe ferns on moist banks. Historically found on the islands of Hawai'i and Maui, the flying earwig Hawaiian damselfly has not been seen on the

island of Hawai'i for over 80 years. Currently, the species is known only from one location on Maui.

The primary threats to the flying earwig Hawaiian damselfly are habitat loss and degradation due to agriculture and urban development, stream alterations and dewatering, feral pigs and nonnative plants, and natural catastrophes such as hurricanes and landslides; predation by nonnative species such as ants and bullfrogs; overcollection; and the small number of individuals.

The Pacific Hawaiian damselfly is a relatively small, darkly-colored species, with adults measuring from 1.3 to 1.4 inches in length and having a wingspan of 1.3 to 1.6 inches. Both sexes are largely black in color. Males exhibit brick red striping and patterns while females exhibit light green striping and patterns. This species is most easily distinguished from other Hawaiian damselflies by the extremely long lower abdominal appendage of the male, which greatly exceed the length of the upper appendage. Females lay eggs in submerged aquatic vegetation or in mats of moss or algae on submerged rocks, and hatching occurs in about ten days.

The Pacific Hawaiian damselfly was historically found on all of the main Hawaiian Islands except Kaho'olawe and Ni'ihau. Historically found at lower elevations below 2,000 feet, the species breeds predominantly in standing water such as marshes, ponds and pools along stream channels. The species has disappeared from at least 18 known localities throughout the islands and is completely gone from the islands of Kaua'i, O'ahu and Lana'i. Currently, the Pacific Hawaiian damselfly is found only on the islands of Moloka'i and Maui, and from a single population on the island of Hawai'i.

The primary threats to the Pacific Hawaiian damselfly are habitat loss and modification by agriculture and urban development; stream alterations and dewatering; nonnative plants; natural catastrophes such as hurricanes, drought and landslides; and predation by nonnative species such as fish, backswimmers, and bullfrogs.

The Service has determined that the designation of critical habitat is prudent for both damselfly species; however, the agency is unable to identify the physical and biological features essential to the conservation of these species and is therefore unable to determine areas that contain these features at this time. As a result, the Service is not designating critical habitat for these species in this final rule, but will do so when that information is available.

Copies of the final rule may be downloaded from the Service's website at <http://www.fws.gov/pacificislands/>.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.

Note to Editors: Images are available by calling Ken Foote at 808 792-9535 - FWS -

Hawai‘i Audubon Society

Freeman Seabird Preserve Restoration Fund Drive

Your Tax-Deductible Contribution Will Help Finish the Restoration!

Last year, the Hawai‘i Audubon Society, HAS, undertook Phase I, removing invasive plants, installing irrigation, and restoring native habitat on the front third of the upper lot. Now, it’s time to finish the job! Native plantings and natural rock outcrops and borders will completely fill the remainder of the upper portion of the parcel. Clean fill and rock will provide a foundation for cleaning up the slope break, and sand pathways will offer attractive breaks between landscape features.

Please consider the HAS Freeman Seabird Preserve in your year-end financial giving plans, and we welcome partners willing to leverage our fundraising through matching donation gifts. Checks may be made out to Hawai‘i Audubon Society, with the annotation “FSP” on the check. For further information, contact the HAS Office by phone (808) 528-1432 or by email (hiaudsoc@pixi.com).

FSP Service Work Parties

Volunteer opportunities for landscape restoration work at Hawaii Audubon Society’s Freeman Seabird Preserve will be scheduled for Saturday mornings between 9am and 12 pm between now and mid-March (depending on when the birds come back). Interested volunteers should contact Wendy Johnson at johnsonw002@hawaii.rr.com for more information.





HAWAII AUDUBON SOCIETY
850 RICHARDS STREET, SUITE 505
HONOLULU, HAWAII 96813-4709

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Calendar of Events

World Wetland Day

Saturday Feb 5th
9am to 1:30 pm
Kailua Faith Baptist Church

Freeman Seabird Preserve

Work Parties to help restore the Wedgies nesting grounds.
Happening every weekend from now until they return.
Please contact the office if you or your group would like to help! hiaudsoc@pixi.com or 808 528-1432

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