



News Release



Pacific Islands External Affairs Office

300 Ala Moana Blvd., Room 5-311 Box 50187, Honolulu, HI 96850
Phone: 808 792-9530 Fax: 808 792-9583

For Release: April 16, 2008
Contact: Ken Foote, 808 792 9535 or 282 9442
Deborah Ward, 808 587-0320 or 587-0407

PIEA-08-14
RO-08-025

Amazing Images Shed Light on Rare Hawaiian Shrimp

Amidst the water-filled cracks, crevices, and lava tubes of coastal Hawai'i exists a subterranean world few have ever seen. In these underground brackish and saline waters known as anchialine pools translucent greens, yellows, and reds sparkle like precious gems in a treasure chest. Scientists from Hawai'i's Department of Land and Natural Resources (DLNR) have captured images of these rare biological gems known as anchialine pool shrimp.

"These images are some of the first of their kind for Hawaiian anchialine pool shrimp and open a window into the life history and behavior of the species. The more we learn about anchialine pool ecosystems, the better we can manage and preserve them for future generations," said Mike Yamamoto, aquatic biologist with the DLNR Division of Aquatic Resources. "These images also allow us to document all the precious elements unique to our Hawaiian Islands so that we may better appreciate the natural wonders of our home."

Six species of anchialine pool shrimp were photographed. The species include *Callaismata pholidota*, *Antecaridina lauensis*, *Metabetaeus lohena*, *Procaris hawaiana*, *Palaemonella burnsi*, and *Halocaridina rubra*. *Halocaridina rubra*, known in Hawaiian as 'ōpae 'ula, is the only one of the six species that has a common name.

"Three of the six species of anchialine pool shrimp are candidates for listing as endangered or threatened under the Endangered Species Act. These include *Metabetaeus lohena*, *Procaris hawaiana*, and *Palaemonella burnsi*," said Lorena Wada, candidate conservation coordinator for the Fish and Wildlife Service in the Pacific Islands. "The Service is part of a cooperative effort to conserve and monitor anchialine pool shrimp and their habitats throughout the state."

Most anchialine pool shrimp inhabit an extensive network of water-filled cracks and crevices that lead to and from the actual pool. This factor has precluded researchers from obtaining more accurate population size estimates during surveys. In most cases, scientists note the presence or absence of a species in the habitat surveyed. Loss of shrimp species from suitable habitat is the best method, to date, to measure a species' decline since population sizes are not easily determined.

The three major threats to anchialine pool shrimp are habitat destruction and degradation; nonnative invasive species; and over collection for the aquarium trade.

"If you care about Hawai'i's natural treasures we recommend that people leave the animals and their habitats alone," said Matt Ramsey, DLNR resource ranger. "For those who do

visit an anchialine pool, please observe only and do not touch. Do not introduce any trash, or native or nonnative aquatic animals or plants into these pools. If you buy ‘ōpae ‘ula, please make sure that the vendor has the proper permits to sell the animals.”

Anchialine pools are common worldwide, especially along neo-tropical coastlines where the geology and aquifer system are relatively young, and there is not much soil development. Such conditions occur notably where the bedrock is limestone or recently formed volcanic lava. Water levels in anchialine pools often fluctuate with tidal changes due to the coastal location and the connection with the ocean. Currently the state of Hawai‘i has more than 650 anchialine pools, approximately 90 percent of which occur on the island of Hawai‘i; however, very few of these pools are occupied by shrimp.

To view the fact sheet visit the Pacific Islands Fish and Wildlife Service’s website at <http://www.fws.gov/pacificislands/anchialinefactsheet041608.pdf>.

The Department of Land and Natural Resources is responsible to manage, administer, and exercise control over public lands, the water resources, ocean waters, navigable streams, coastal areas (excluding commercial harbor areas), and minerals as may be authorized by law. The department is responsible to manage and administer the state parks, historical sites, forests, forest reserves, aquatic life, aquatic life sanctuaries, public fishing areas, boating, ocean recreation, coastal programs, wildlife, wildlife sanctuaries, game management areas, public hunting areas, natural area reserves, and other functions assigned by law.

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: Print quality images are available by calling Ken Foote at 808 792 9535.