



## ‘Īlio-holo-i-ka-uaua

Scientific name: *Monachus schauinslandi*  
Common names: ‘Īlio-holo-i-ka-uaua, Hawaiian monk seal

The endangered Hawaiian monk seal or ‘Īlio-holo-i-ka-uaua, is found in Hawai‘i and nowhere else in the world. There are approximately less than 1,500 seals left and the species is considered endangered and is protected by federal laws. The monk seal's natural habitat is in the Northwestern Hawaiian Islands, remote islands and atolls northwest of the island of Kaua‘i.

Monk seals may grow up to 7-8 feet in length and can weigh from 400 to 600 pounds. As seen in the picture, they spend a large part of their time basking in the sun on sandy beaches of the Northwestern Hawaiian Islands.

Members of this species are excellent swimmers that have been known to dive as deep as 1,650 feet, though most dives are much shallower. They can hold their breath for up to 20 minutes. The monk seal diet includes reef fish, octopus, and spiny lobsters. The tiger shark is the seal's main predator. Unlike other seals and sea lions which form large male-led social groups of females and pups called harems, monk seals are solitary seals. In recent years, monk seals have been seen visiting the main islands of Hawai‘i, such as at Ka‘ena Point on O‘ahu, or at the normally crowded Kailua Beach on O‘ahu, a section of which was cordoned off to protect a mother who gave birth to pups.

The Hawaiian name for the monk seal, “‘Īlio-holo-i-ka-uaua” means “dog running in the rough [waves].” There are no known references to the Hawaiian monk seal found in ancient chants and songs, suggesting few monk seals around the main Hawaiian islands and/or that native Hawaiians did not frequent the Northwestern Hawaiian Islands. After the Europeans made contact in Hawai‘i, these seals were quickly decimated by fishermen, sealers, whalers and others who came to exploit the resources of the Northwestern Hawaiian Islands.

Population status: Endangered.  
Threats: Habitat degradation; driftnets; marine debris; sex-ratio imbalance; pollution; fish poisoning; and, sharks.

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## Pūpū-kani-oe

Scientific name: *Achatinella* spp.  
Common names: pūpū-kani-oe, tree snail

The O'ahu pūpū-kani-oe or tree snail is an achatinelline (meaning "little agate shell") which is endemic to O'ahu. Pūpū-kani-oe on other islands belong to the genus *Partulina*. The shells of *Achatinella* are brightly colored and they were once found abundantly throughout the rain forests. The tree snail gives live birth to approximately one young snail per year. It takes several years for the young snail to reach adulthood. This greatly hinders the ability of these species to quickly regenerate their populations. Out of the 41 species in this genus, 22 are believed extinct. The remaining species are extremely endangered. Today they can be found above 1,500 feet in elevation in the Wai'anae and Ko'olau ranges of O'ahu. The snails feed off of a microscopic alga that grows on the bark of trees and leaves. Currently, the *Achatinella* are the only Hawaiian tree snails on the endangered species list. Collection or disturbances of the snails are against the law.

In the 19th century, European naturalists took interest in the snails that resembled jewels in the forest and began collecting them by the thousands. Unfortunately, this over-enthusiastic collecting of snails had a devastating effect on their populations. On top of the collecting, the predatory snail *Euglandina rosea* was introduced to the islands to control the giant African garden snail, but began to prey on the tree snail as well.

Old Hawaiian stories tell of a singing land snail. This had a great influence on the Europeans who went back to tell about the tropical rainforests of Hawai'i with leaves covered with colorful snails that sing. It was later explained that the crickets were the "singers," rather than the snail.

Population status: Highly endangered.  
Threats: *Euglandina rosea*; rats; unlawful collection of snails; degradation of habitat; changing climatic conditions.

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## Koholā

Scientific name: *Megaptera novaengliae*  
Common names: koholā, North Pacific humpback whale

The North Pacific humpback whales or koholā make their winter home in the Hawaiian Islands. They migrate approximately 3,000 miles from Alaska, where they feed on krill and small schooling fish and store the food as fat. Upon arriving in Hawai‘i, they rarely feed. Instead, they spend the months from November to May calving and mating. After a gestation period of about 10-12 months, calves are born and they survive on their mother’s fat-rich milk for 6-8 months. Calves grow quickly, often doubling in size during their first year. They eventually grow to be 35 to 48 feet long and weigh up to a ton per foot. The humpback whale’s average lifespan is unknown, but is believed to be 40 - 60 years.

The name humpback whale refers to the high arch of their back shown when diving. Blowing is the whale’s normal breathing pattern of inhaling and exhaling air. Blowing also refers to the cloud of water condensation produced above the animal’s head during the process of exhalation. Breaching (where the whale propels itself out of the water) is a common acrobatic display of the whales. A whale may also be seen slapping the water with its pectoral fins, tail or head. They have rich and complex vocal patterns which allow for “songs” to be heard as communications between each whale. These vocal patterns include the highest and lowest frequencies humans can hear.

The koholā can be seen around all the Hawaiian Island chain, especially Moloka‘i, Maui, Kaho‘olawe, and Lāna‘i where a warm, shallow shelf of water exists. To promote comprehensive management, research, education and long-term monitoring programs for protection of the koholā and its habitat, in 1992, the Congress designated the Hawaiian Islands Humpback Whale National Marine Sanctuary. The Sanctuary works closely with Federal, State and local agencies, in various educational, research activities to protect the humpback whale.

Population status: Endangered.  
Threats: Acoustic disturbances; collisions with ships; entanglement with driftnets; habitat degradation (including pollution); and, illegal whaling.

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## Nēnē

Scientific name: *Nesochen sandwichiensis*  
Common names: nēnē, Hawaiian goose

The nēnē is the state bird of Hawai'i. It is endemic to the islands and has one of the smallest ranges of any goose species. The nēnē was once a lowland bird, but concerns about predation and long-term management now restrict it to the higher elevation grasslands on Maui and the Big Island of Hawai'i; however, it lives in the open lowland country of Kaua'i, mainly because mongoose are absent from Kaua'i. It is a vegetarian and eats both foreign and local plants. It is a medium size goose with a gray-brown body color and attractive black markings around the face and neck. It weighs approximately 4 to 5 pounds.

The nēnē is currently an endangered species due to its great loss of habitat, hunting by humans, and foreign predators. Because nēnē nest on the ground, their eggs and chicks easy prey for predators such as dogs, cats and the introduced mongoose. They are also vulnerable themselves during the molting season, when they are flightless for four to six weeks until new feathers grow in. Efforts have been made to re-establish their numbers by raising them in captivity and releasing them back into the wild. Without these captive-rearing programs, such as that at Pōhakuloa, Hawai'i, the nēnē would now most likely be extinct.

Population status: Endangered.  
Threats: Poaching; and, introduced predators.

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## ‘I‘iwi

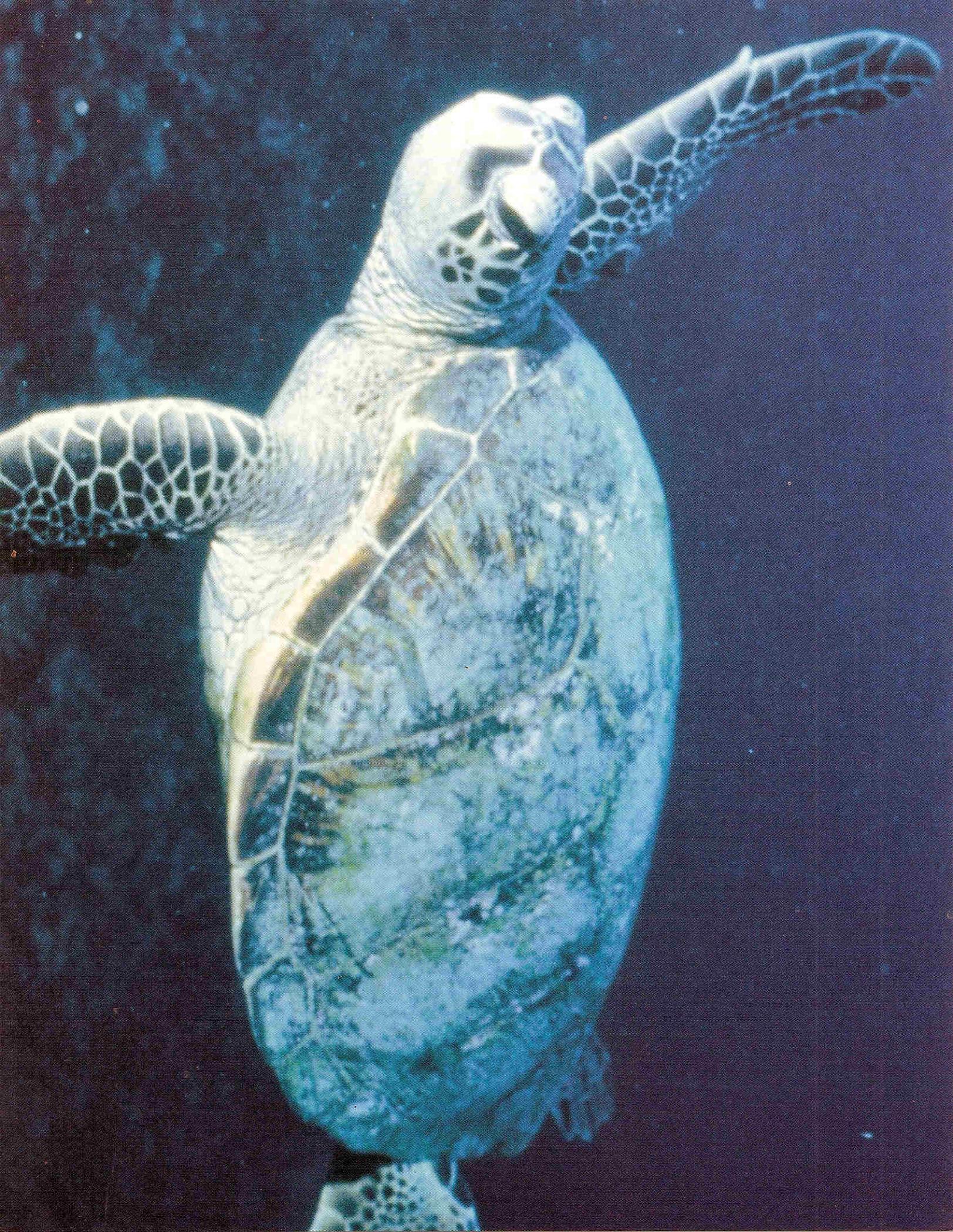
Scientific name: *Vestiaria coccinea*  
Common name: ‘i‘iwi

Endemic to Hawai‘i, the honey-creeper ‘i‘iwi can be found on all the main islands except Ni‘ihau, Lāna‘i and Kaho‘olawe. The ‘i‘iwi is most common in native forest above 2,000 feet in elevation on Kaua‘i, Maui, and Hawai‘i; it is rare on O‘ahu and Moloka‘i. The ‘i‘iwi’s brilliant orange-red plumage is accented by black feathers on the wings and tail. Its long salmon-orange curved bill allows it to grab insects and take nectar from a variety of native trees in Hawai‘i. Its food consists chiefly of the honey nectar from the blossoms of the ‘ōhi‘a (*Metrosideros* spp.), koa (*Acacia koa*), alani (*Melicope* spp.), and native lobelias. It feeds on insects when nectar is scarce, or when feeding its young. The ‘i‘iwi has a unique song that distinguishes it from other birds. It has been described by many as a melodic “creaky” or “rusty” sound. It builds its nest in old ‘ōhi‘a trees. Only the female incubates the eggs.

The early Hawaiians searched the forests for ‘i‘iwi. A bird-catcher or kāpilimanu would snare the bird plucking its scarlet red feathers. Unlike the mamo (*Drepanis pacifica*) and the ‘ō‘ō (*Moho nobilis*), whose desired feathers were plucked before releasing the bird, ‘i‘iwi and apapane (*Himatione sanguinea*) were usually stripped of feathers, and often eaten by bird-catchers. The bright feathers were used to make decorative capes for the clothing of royalty. ‘I‘iwi feathers were highly prized by ancient feather workers. Their great abundance, however, did not make them as highly regarded as the ‘ō‘ō with its tufts of yellow feathers.

Population status: Stable to declining.  
Threats: Habitat degradation; competition by introduced birds; introduced avian diseases; and, introduced predators (cats, rats, mongoose).

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## Honu

Scientific name: *Chelonia mydas*  
Common names: honu, green sea turtle

The honu or green sea turtle is a very ancient air-breathing reptile found in the warm waters of Hawai'i. With front flippers for pulling water and back flippers acting as rudders for steering, the green sea turtle moves with little resistance through the water. Like other reptiles, the green sea turtle's skin is protected by tough scales and fused bony plates form a protective shell (called the carapace on top, plastron on the bottom). Like other sea turtles, honu cannot retract their heads nor flippers into their shells. Green sea turtles can grow up to 4 feet long and weigh up to 400 lbs. Turtles can easily reach an age of 40 to 50 years. Honu can be seen near the surface of the waters, as well as at depths of 30 to 60 feet. Because they have no gills, they need to return to the surface to breathe. During daylight, individuals may dive to greater depth to avoid the contact from divers.

Once every 2 to 4 years, mature adults migrate to breeding and egg-laying grounds confined to a small nesting area on the French Frigate Shoals in the Northwestern Hawaiian islands. After mating at sea, female green sea turtles crawl ashore at night, dig a hole in the sandy beach, and lay about 100 leathery eggs (each about 2 inches across). Each female may lay up to five clutches of eggs each breeding season. The young turtles hatch as a group and head to the sea. Rarely seen during their first year of life, young turtles are believed to drift with the currents out on the open ocean, feeding on small animals that live close to the surface. When the turtles reach approximately 1.5 to 2 feet in length and about 15 pounds in weight, their diet changes and they move into shallower water where they graze on seaweeds. Adults are primarily vegetarian and feed near coral reefs where plenty of limu (algae) grows. The name, green sea turtle, comes from the color of their body fat. They bask on beaches in the Northwestern Hawaiian islands which may protect them from their main predator, the tiger shark.

Once widespread throughout the Hawaiian islands, less than 1,200 green sea turtles make up the known breeding population. The Hawaiian green sea turtle is unique in that it spends its entire life within the Hawaiian island chain. Although they are not endangered, the green sea turtle is listed as threatened and protected by federal law from being disturbed.

Honu are significant in Hawaiian culture. Turtles are featured in Hawaiian mythology and petroglyphs, and as 'aumakua (personal family gods and guardians). As a source of food for the Hawaiians, the meat was eaten and the shell was often used for tools and ornaments. An ancient dance, the hula honu, imitated the movements of the turtle. A saying, "honu ne'e pū ka 'āina" or "the land moves like a turtle," refers to land passing slowly from owner to heir.

Population status: Threatened  
Threats: Coastal development and habitat destruction; illegal hunting; fibropapilloma; natural predation of young and adults by sharks; illegal trade; and egg poaching.

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## Palila

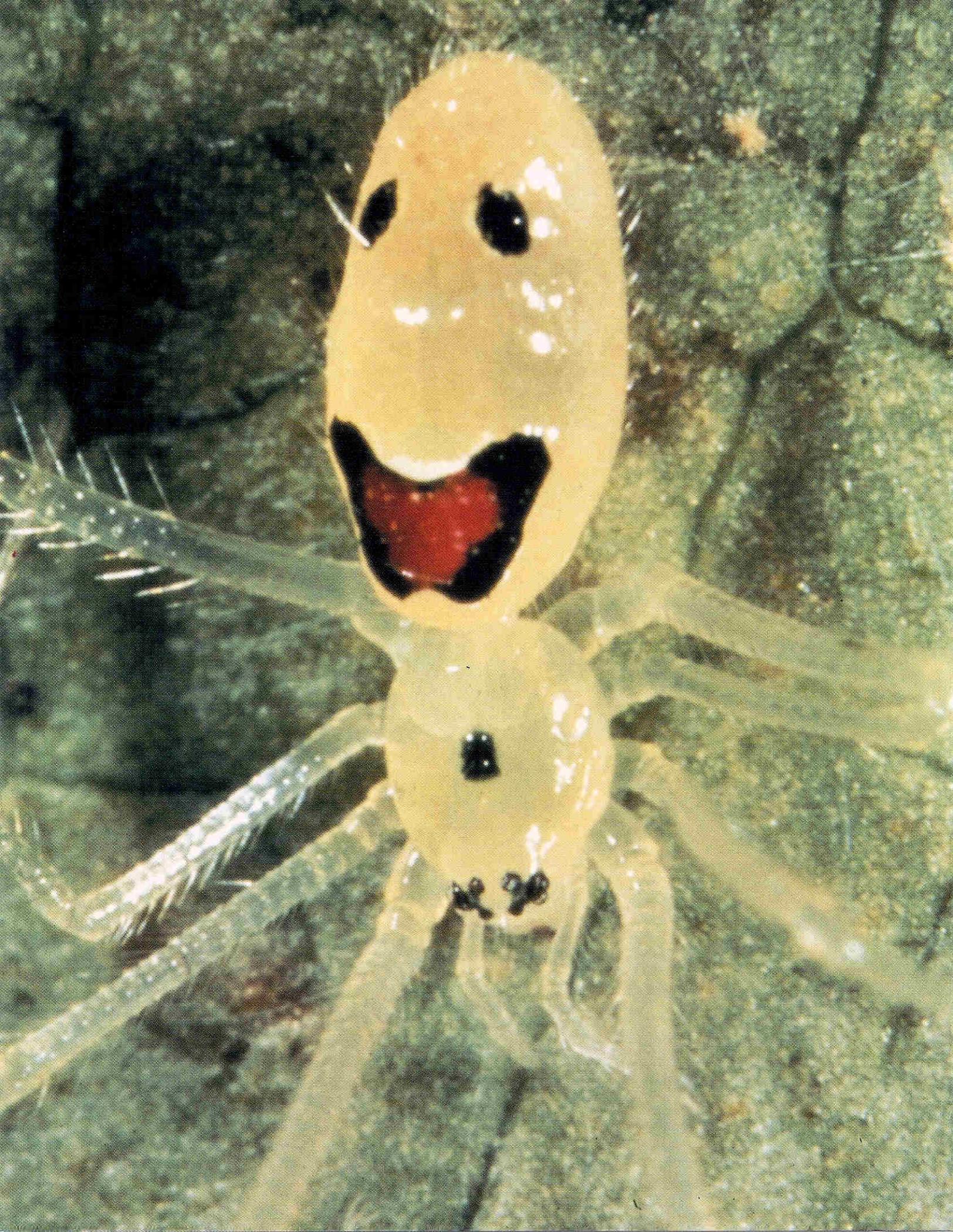
Scientific name: *Psittirostra hilleuī*  
Common name: palila

The beautiful green and yellow-headed palila lives only in the high elevation (6,000 to 9,000 feet) māmane-naio forests on the slopes of Mauna Kea. The bird has a gray back, darker gray wings and tail tinged with yellow, a white belly and a bright yellow head and neck. It has a beautiful melodic and distinct song that resembles the very endangered 'ō'ū (*Psittirostra psittacea*).

The palila nests in māmane trees. It relies heavily on the seed pods of the māmane tree as a food source. It also eats a variety of insects. Caterpillars and other insect larvae are nutritious food for its young. The palila is one of the few surviving native finch-billed honeycreepers on the Hawaiian Islands. To ensure its survival, maintenance of the māmane-naio forest must be continued.

Population status: Endangered.  
Threats: Land degradation by feral animals (goats, sheep, pigs); competition from introduced birds; predation by rats and mongoose; introduced bio-control agents (which have been found to prey on native insects which feed on the pods and seeds which the palila feed their young); and, fire (which could alter the palila's mountain habitat or portions thereof).

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## Happy-faced Spider

Scientific name: *Theridion grallator*  
Common name: happy-faced spider

Hawai'i's endemic happy-faced spider is named for the black and red markings that resemble faces on its yellow abdomen. Each spider has a different face. These "faces" help to hide the spider from being seen by its predators, and also from the prey that they hunt. Females care for their young spiderlings, capturing prey to feed them until they are able to fend for themselves.

The spider can be found living beneath the leaves of plants, such as the native kōpiko 'ula, pu'ahanui and the kāwa'u. It lives primarily in middle elevation wet forests between 2,000 and 4,000 feet in elevation. It uses a web on the underside of a leaf as a "home" for itself and its spiderlings. It feeds on flies and other insects that land on its home leaf.

This spider was only recently described so it has no Hawaiian name. Early collections had specimens in alcohol; colors eventually faded. Its colorful markings became known only after Dr. Steve Montgomery and others began collecting specimens and Mr. William Mull (whose photograph of the spider is seen on this card) began photographing specimens. The nickname "happy-faced spider" is now generally recognized. As scientists learn more about this spider, it has become apparent that the degradation of land and competition with introduced insects has had detrimental effects on the spider's habitat.

Population status: Stable for now.  
Threats: Habitat degradation; and introduced competitors.

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## Humuhumu-nukunuku-ā-pua‘a

Scientific name: *Rhinecanthus rectangulus*  
Common names: humuhumu-nukunuku-ā-pua‘a, reef triggerfish

The humuhumu-nukunuku-ā-pua‘a or reef triggerfish belongs to a group of fish called balistids, which are known for their powerful jaws and sharp cutting teeth. Reef triggerfish are found in Hawai‘i and are distributed throughout the Indo-Pacific region. The reef triggerfish has a distinguishing black stripe marking that runs from the eyes to the back bottom fins. With its angular body, distinctive color pattern, fin arrangement and characteristic dorsal spine make it easy to identify. There is a distinguishing black stripe that runs from the eyes to the back bottom fins. A black triangle is present at the tail, accenting the overall triangular shape of the fish. Humuhumu-nukunuku-ā-pua‘a can grow up to about 10 inches in length. The reef triggerfish shares its long Hawaiian name with its less common relative, the lagoon triggerfish (*Rhinecanthus aculeatus*).

Reef triggerfish are generally found in shallow outer reef areas where they swim close to the bottom to feed on algae and reef invertebrates (small crustaceans, worms, brittlestars, sea urchins and snails). Reef triggerfish are highly maneuverable as it swims in a unique way using waving motions of its broadened dorsal and anal fins.

When threatened, a reef triggerfish dives into a hole or crevice and wedges itself into the hole or crevice by erecting the large dorsal spine on its head. The spine is locked into place by a second smaller spine behind it. Another spine on the belly also extends to help wedge the fish securely in its shelter. They also use this wedging behavior at night, when they rest within the reef in a preferred shelter hole that they may use over and over.

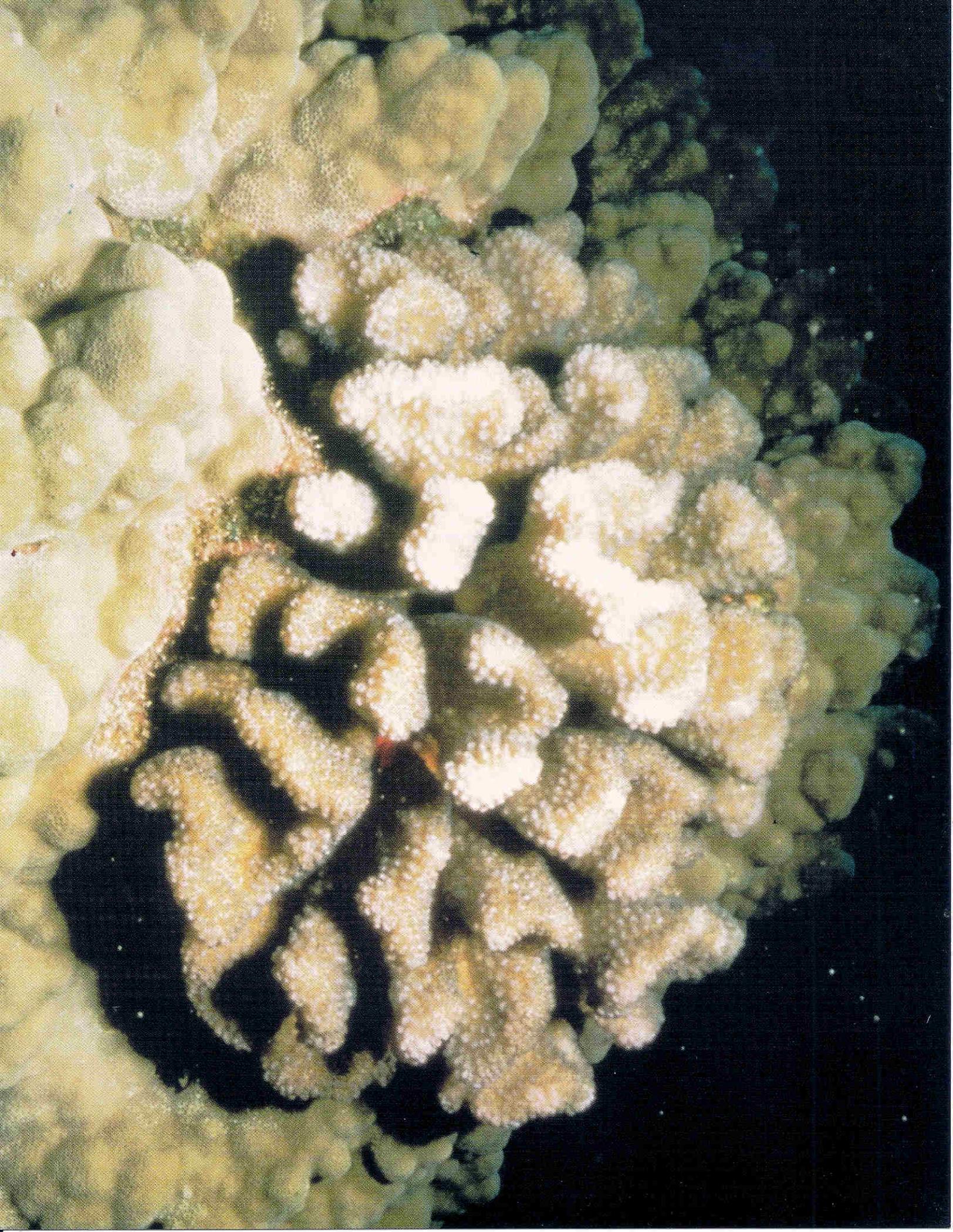
The name “humuhumu” is the first part of the Hawaiian word used for all triggerfishes and may mean “to fit pieces together.” This could refer to the way some species' color patterns resemble blocks of colors. The second part of the reef triggerfish's name is “nukunuku-ā-pua‘a” and means “snout like a pig.” To the early Hawaiians, the behaviors of rooting through sand or rocks for food and making grunting noises when handled represented piglike habits. Both species of humuhumu-nukunuku-ā-pua‘a are culturally significant in that they were used as substitutes for pigs in some religious ceremonies.

Although the reef triggerfish is not considered a food fish today, the early Hawaiians considered the fish edible. Cooked pumpkins or sweet potatoes were used to lure the fish into baskets lowered into the water. Reef triggerfish were also dried and used a cooking fuel by early Hawaiians.

The humuhumu-nukunuku-ā-pua‘a was selected as the official State Fish of Hawai‘i after a popular vote and approval of the State Legislature for a five year period. There was no official re-election campaign and the reef triggerfish remains the “unofficial” State Fish.

Population status: Stable.  
Threats: Water pollution; and, reef destruction.

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## Ko'a

Scientific name: *Pocillopora meandrina*  
Common names: ko'a, cauliflower coral

There are many species of coral in Hawai'i. Belonging to a group of invertebrate animals called cnidarians, corals are related to sea anemones and sea jellies. The characteristic structure of cnidarians is a cavity which functions for both digestion and circulation and has a single opening.

A common variety of coral seen where the waves initially hit our reefs is the cauliflower coral, *Pocillopora meandrina*. Its coral head is actually a calcium carbonate structure that represents the skeleton of a colony of many individual coral polyps, each being 1 mm in size. These polyps can result from asexual or sexual reproduction. In asexual reproduction, polyps result from budding, where one polyp divides into two identical polyps or where a new mouth with tentacles can form in the space between two adjacent polyps. In sexual reproduction an egg is fertilized by a sperm cell and the resulting embryo develops into a free-floating microscopic larva called a planula. The planula later settles on a hard surface, becoming a polyp which begins secreting its calcium carbonate skeleton. Each polyp, shaped like a sea anemone sits in a protective cup called a corallite in the hard coral skeleton, interconnected to other polyps in the colony by their outer skin-like layer and sac-like gut cavities. Through the process of budding, the cauliflower coral colony grows to a maximum size of 12-15 inches.

Cauliflower coral planulae and polyps contain special dinoflagellate algae (plants) known as zooxanthellae which have the ability to take sunlight and convert it into oxygen and nutrients the coral polyp needs. In turn the coral polyp feeds on plankton, and provides shelter and nutrients to the zooxanthellae. Working with its zooxanthellae, the polyp has the unique ability to fix dissolved carbon dioxide with calcium in sea water to produce the colony's protective calcium carbonate skeleton. The reef, consisting primarily of the colony's calcium carbonate skeleton, surrounds each island and provides a habitat for many plants and animals.

Having a golden-brown, pink or cream color due to its zooxanthellae, cauliflower coral has heavy branches that form a relatively dome-like top. The shape of the coral provides the greatest surface area for: exposure to light needed by the zooxanthellae; and exposure to plankton-bearing currents needed by each polyp.

The Hawaiians had many poetic allusions to coral in their songs and chants; coral is prominently featured in the Hawaiian creation chant, the Kumulipo. The coral beds at He'eia in the Ko'olaupoko district of O'ahu are often poetically described as "ke ko'a mokumoku a 'o He'eia" or, the broken coral beds of He'eia. Dead coral skeletons were also one of the materials used to construct fishing shrines also known as ko'a, where ceremonies were held to ensure an abundance of fish. These coral skeletons were also used as offerings on these shrines.

Population status: Stable.  
Threats: Siltation from deforestation, agriculture, vessel traffic and coastal runoff; nutrient enrichment from sewage and agriculture; overfishing; and human population growth.

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