

New species of bird, first in a decade

Since Western people first came into contact with the fragile Hawaiian ecology, 25 varieties of native birds have become extinct, while others, including the graceful, iridescent Honeycreeper family, have dwindled in number and been driven from their original habitats (SN: 8/25/73, p. 109). Now, some students from the University of Hawaii have reaffirmed just how little is known about that ecology by discovering an entirely new kind of Honeycreeper—the first new bird found in Hawaii since 1923 and perhaps the first new species of bird announced anywhere in a decade.

The brown and beige, sparrow-sized bird—still unnamed—is distinguished from other members of the Honeycreeper (*Drepanididae*) family by a black mask that extends from the forehead to below the bill and back in a wedge behind the eyes. It feeds on insects and inhabits the upper reaches of the Hana Rain Forest, high on the slopes of Maui's Haleakala Volcano—one of the wettest regions in the world with an annual rainfall of more than 400 inches. There are probably only about 150 of the birds which cover a range of 10 to 12 square miles between 6,000 to 7,500 feet elevation. On nearly every occasion in which the new species has been seen, it has been in close association with the Maui creeper, amakihi, and/or parrotbill, all related members of the Honeycreeper family.

The eight students were collecting ecological information on the unexplored and virtually inaccessible rain forest, under a grant from the Student Originated Studies Program of the National Science Foundation, when they discovered the new Honeycreeper. They reported their work—including the discovery of several other new species of plants and insects—at an NSF sponsored conference in Washington, D.C., last month, with further details to be published shortly in various scientific journals.

Dean Amadon, the Lamont curator of birds at the American Museum of Natural History and the leading authority on the taxonomy of Hawaiian Honeycreepers, is helping two members of the project, Tonnie Casey and James Jacobi, prepare a technical description of the new bird. Amadon calls the discovery "an extremely rare event."

"The discovery is quite startling from two points of view," Amadon told SCIENCE NEWS. "First, the fact that this could be an undiscovered species of bird seems incredible at this late date, particularly since so many earlier ones became extinct in Hawaii for vari-

*A bird debut.
A new feathery
friend, and
member of the
Hawaiian Honey-
creeper family,
has just made
itself known to
ornithologists. It
represents the
first new genus
and species of
bird discovered
in 10 years.*



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ous reasons. And, secondly, biologically it is a new genus. The so-called Honeycreeper family is an extreme example of adaptive radiation [physiological change from evolution] on an island—comparable with the famous Darwin finches in the Galapagos."

The fast fade of the comet Kohoutek

The fast fade of the comet Kohoutek is a puzzle to astronomers.

Scientifically, the comet is producing abundant new data. But to the general public, who expected a spectacular sight in the skies, it has been disappointing. Astronomers watching through telescopes found the comet to be bright immediately after its closest approach to the sun on Dec. 28, but it rapidly began dwindling.

"We're completely unable to understand how it could have been so bright at perihelion and then have faded so fast," Stephen P. Maran, director of NASA's Operation Kohoutek, told SCIENCE NEWS this week. "To have faded out that fast is incredible."

Maran and a group of scientists viewed the comet from a NASA research plane the evening of Jan. 4. "I had a good view and enjoyed it. But I've seen at least three comets that were brighter than that at the time I have seen them."

So far there have been few reports of members of the general public seeing the comet with the unaided eye. Some people are upset.

"It just shows that comets are unpredictable," says Maran. He believes the rapid fade-out of Kohoutek may itself prove to be of scientific interest.

Cool water on the 'hot spot' theory

A pet hypothesis of many geologists is the "hot spot" theory, which holds that many volcanic island chains such as the Hawaiians were formed by the earth's crustal plates sliding across a fixed source of volcanic heat in the mantle below. Molten lava forced upward through the plates leaves a trail, which hardens into a chain of islands.

Now the drilling ship Glomar Challenger, star of the globe-spanning Deep Sea Drilling Project, has raised new questions with the discovery that, for at least one major chain, the theory apparently doesn't hold up.

The target, part of the Project's Leg 33 from Hawaii to Tahiti, was the Line Islands, chosen because holes drilled near the atolls there could show the history of the accumulated coral reefs as well as of the volcanic deposits underneath. A previous leg of the project had already sampled the northern end of the chain, so the new holes were drilled near Fanning Island, in the center, and Christmas Island at the southern tip. If the hot spot theory, supported by previous evidence (SN: 11/24/73, p. 331), were to hold up for the Line Islands, the upthrust material at the southern site would be the youngest, while the other sites, formed earlier on the northwest-moving plate, would be successively older.

Instead, Leg 33 co-chief scientists Seymour O. Schlanger of the University of California at Riverside and Everett D. Jackson of the U.S. Geological Survey at Menlo Park found that the geological history of the three sites is almost identical. Volcanic activity at all three ended between 80 and 85 million years ago, in the Cretaceous period, and all three are capped with coral reefs that began about that time.