

BOREAL BITS

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OUR DELICATE UNIVERSE

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." John Muir, American naturalist

During January we had the opportunity to spend two of Kenora's coldest weeks in Hawaii on the island of Oahu. My interest turned to the flora and fauna and what emerged was a fascinating story of the intentional and accidental destruction of a native ecosystem and its replacement with what can only be termed as a hybrid.

Our planet is a house of dominoes. Everything has an impact on something else, regardless of how benign it may appear, and how innocent its introduction may have been. For example, on March 16, 1890 Eugene Schieffelen was responsible for releasing 60 European starlings in Central Park. His aim was to introduce to New York every bird mentioned in Shakespeare. He succeeded royally and now starlings are one of the most abundant species on the continent. This scenario has been repeated many times with mankind's expansion throughout the planet.

The Hawaiian story began when underwater volcanoes spewed forth lava that eventually arose to break the ocean's surface. After millions of years life gained a precarious hold first in the form of lichens and mosses and later plants whose seeds found their way to the islands in the gut of ocean birds and on the wind and water. But the process was incredibly slow because of the isolation of islands that are 4000

km. (2,500 miles) from any continental land mass. Consequently the flora and fauna that evolved was very unique. It was a true paradise but all that changed when humans arrived.



(Wm Burke)

In 500 A.D the Tahitians reached the islands in their dugout canoes. Other Polynesians joined them, each culture bringing with them livestock and plants for agricultural and medicinal use. Pigs wandered into the forests and began rooting in the soil. Wild chickens began competing with native bird species for food and territory. Land was cleared for cultivation and the new plants, usually genetically tougher than the native Hawaiian plants, were very successful. Humans captured colourful native birds for food and decorative feathers.

Captain Cook introduced the islands to the rest of the world when he stumbled upon the islands in 1778. Again more introduced plants and animals, and to the bane of Hawaiians, diseases. Like many indigenous human populations around the world, Hawaiians were not protected against measles and similar diseases and they died in the thousands.

Great tracts of forest were cleared for cattle grazing and sugar and pineapple plantations. With this loss of habitat, bird populations plummeted.

An interesting sidebar in the ecology of the islands involves sugar cane. The sugarcane fields became a haven for rats that found their way from ships to shore. A

sugar baron saw what mongooses did to rats in India and introduced the predator to the island of Oahu. Unfortunately the rats are nocturnal and the mongooses are diurnal (active during daylight) so the experiment was a dismal failure. Now the island was saddled with rats and mongooses, the latter having a negative impact on the bird population.

Like the story of the starling mentioned above, many island immigrants brought songbirds with them whose songs reminded them of home. Some birds escaped and others were released. Hence during our visit we saw, among other birds, an Australia red crested cardinal (not the northern cardinal), a Japanese white-eyed warbler, and wild chickens from India.

Many of the remaining native bird species are not found in the lowlands of the islands. The reason for this has to do with a whaling ship that landed in the 1820's with water casks containing the larvae of mosquitoes. The mosquitoes found a good home in the fresh water pools but were the vector for avian malaria and other bird diseases. Because mosquitoes generally don't inhabit the cooler, higher elevations, many native bird species are found only in these areas.

Of course Canada continues to have its share of problems caused by exotic species, the most recent being the zebra mussel and the various insects that are destroying our stands of hardwood. But Canada is so large with so many different habitats that it is sometimes difficult to see the whole story. Hawaii, and particularly the island of Oahu, is so small by comparison that it is fairly simple to follow the story of the introduced species and their effect on the environment.

We stayed in a high rise on Waikiki and therefore supported a tourist industry that is responsible for the destruction of much of the wetland habitat. Undoubtedly this has contributed to Hawaii's reputation as the endangered species capital of U.S.A. Now residents of the island are debating legislation that will limit the spread of highways and residential and tourist areas.

Similar heated debates are raging across the planet.