SINCE RECEIPT OF THIS ARTICLE NEW INFORMATION HAS COME TO LIGHT. THE DEFENSE DEPARTMENT OF GREAT BRITAIN BECAUSE OF ECONOMIC PROBLEMS HAS DROPPED ITS PLAN TO TURN ALDABRA ATOLL INTO AN AIR FIELD.

The Proposed Rape of Aldabra

By DONALD J. ZINN

Dept. of Zoology, University of Rhode Island, Kingston

At the present time one of the last outposts of many rare species of fauna and flora, the Island of Aldabra, almost 230 miles directly north of Madagascar and 400 miles from the Coast of East Africa, is in danger of being lost in the name of "progress" to the march of civilization. Aldabra is one of the four islands that make up a new colony of what is known as the British Indian Ocean Territories. Apparently the British and the American governments are planning to build an airbase and erect a large broadcasting transmitter. While a few objections have been raised by several individuals and organizations, a great deal more needs to be done to make both governments aware of what a foolish and wasteful extravagance this is.

Aldabra is virtually a natural botanical and zoological garden, but one that is different from all others because of the unique combination of plants and animals that live in it. From the few accounts at hand, the island is quite difficult to walk over because it is made up nearly entirely of honeycomb coral and centrally covered with a nearly impenetrable scrub. This accounts in part for the fact that it has never been inhabited for any length of time by man. The only people on the island are something like 40 or 50 fishermen in the pay of the island lessee. He has paid the Seychelles Government for the right to fish for turtles and the fish of the waters. This, the biggest atoll in the world, is 80 miles in circumference.

It is a coral ring, 21 miles long and 69 square miles in area. There are four islands around a central lagoon that reaches a depth of about 70 feet. The lagoon has several very small islands bordering its shores. Damming the lagoon to build a harbor would adversely affect the lagoon as a very rich environment, in turn causing catastrophic effects on the marine flora and fauna inhabiting it.

It is reported that wherever one travels on the island he sees birds and Giant Tortoises (**Testudo gigantea**) in immense quantities. One traveler indicated that he had seen as many as 100 Giant Tortoises sheltering under a tree in a day. Because of the scarcity of large trees it is not surprising that every tree shades a goodly number of these animals.

The erection of a transmitter and an airfield would wreck the atoll physiographically and destroy the present status of the island as a sanctuary. It is difficult to see how aircraft could use this island because of the thousands of huge black Frigate Birds that wheel, soar and glide in the air up to about 5,000 feet at all times of the year.

Frigate Birds have a wing span of seven feet. They are long lived birds and their young are known from tagging experiments on related species to wander far and wide at sea during their several years of adolescence. Their breeding age is not yet known. In any case, if an airfield is built on Aldabra, it is practically certain that the authorities

would have to destroy these Frigate Birds in much the same way that we in the United States had to deal with the Albatrosses on Midway Island. However, Frigate Birds present a more complicated problem than Albatrosses. Since Frigate Birds fly very high and get their food at sea they would be very hard to kill; and in addition, every year from 6 to 10 years, a new group of birds would come in from the sea to nest—thus increasing the length of time before flying from the island could be accomplished in relative safety.

Aldabra has been saved from the inroads of civilization by the almost total lack of agriculturally dependable soil, drinkable fresh water, and guano, the three basic attractants of man to other large islands in the Indian Ocean. It may be this native impoverishment of natural resources that has secured Aldabra thus far from the disasters man has inflicted on these other islands: the destruction of forests, and the extinction of animals and birds including the famous dodos of the Mascarenes, the sea cows and crocodiles of the Seychelles, the flamingos of Mauritis, and the giant tortoises—now surviving only on Aldabra.

In addition to the estimated 40,000 tortoises, Aldabra supports many other unique animals and plants, many of which immigrated from Madagascar and the Comoro islands. More importantly, in addition to truly native animals there are many species of both flora and fauna on Aldabra found nowhere else on earth. These forms have been able to persist because the atoll is one of the very few islands remaining in the world where there has been no interference by the heavy hand of man, his domestic animals, his pests and his weeds. At present, Aldabra has no introduced animals.

The only other land animals in addition to the Giant Tortoises are bats, including an endemic Fruit Bat, **Pteropus aldabranus,** that flies by day and looks like a crow; lizards, of which the Green Diurnal Gecko, **Phelsuma abbotti,** is of special interest because of its habit of associating with the tortoises and feeding on the flies settling on their shells, and then skittering underneath the animal when alarmed; and a host of invertebrates of which a satisfactory survey and inventory has not yet been made.

There are 15 species of land birds on Aldabra, including the Red-footed Booby, and of these only two are not at least subspecies confined to Aldabra. The Aldabra population of a relatively rare flightless rail, **Dryolimas cuvieri abbotti,** numbers a few hundred and is confined to the sandy beaches and the tremendous marine bird colonies of one of the smaller islands of the atoll. As Gaymer points out, "it is so tame and inquisitive that it will run to investigate any strange noise and can easily be caught in the hand." This is the only surviving species of flightless bird remaining in an area that supported the amazing but now extinct Dodo.

Although Flamingos have been reported from Aldabra by travelers repeatedly, the one verifiable collection of these birds that has been made has not been properly identified. Apparently they belong to a new subspecies of the so-called Greater Flamingo, **Phoenicopterus ruber.** The remaining flock is small, and live as a breeding colony of about 50 birds at the southeastern end of the atoll.

The Sacred Ibis, **Threskiornis aethiopica abbotti,** a bird whose fearless and incurable inquisitive young had the curious habit of poking into the shoes of visitors, live in breeding colonies near water. There are presumably about a thousand of these birds on the atoll at present. Apparently they are not as friendly as they once were, indiscriminate shooting of the roosting birds having made them shy.

Further from the shore is the beautiful and cautions Midnight Blue and Pale Gray Pigeon, **Alectroenas sganzini Minor.** This exotic bird never is found on the ground but lives on whatever fruit there is to be found in the low woods. A corresponding seed eating ground bird of the sparse Aldabra woodland is the Turtle Dove, **Streptopelia picturata aldabrana.** This bird commonly lives in small flocks. Other relatively common land birds are a White-eye, a Bulbul, a Sunbird, and the Drongo, **Dicrurus aldabranus**—all of which as their names indicate, are endemic as subspecies on Aldabra, their closest relations living on the Comoros Islands and on Madagascar. Mention must also be made of the Aldabra Fody or Weaver, **Foudia adalbrana,** the brilliant male with its bright scarlet head and breast corresponding with equally bright yellow rump and thighs, the female dingy in comparison giving an overall dim yellowish appearance. A kestral, **Falco newtoni aldabranus**, that lives mostly on the small green endemic lizards, is one of the less common birds of the atoll. Apparently there is a small breeding colony of the kestrals in the coconut palms along the west coast of the atoll.

The birds of Aldabra, as has been indicated above, are in many cases members of large series of related forms living on other islands--including Madagascar—in the western Indian Ocean. This makes them unusually important to evolutionists, ecologists and zoogeographists because of the unusual opportunity presently available in the undisturbed environments of Aldabra to study the adaptive significances of these differences. Opportunities such as this to study evolutionary changes in a large natural, unaltered, isolated habitat becomes increasingly rare as the world becomes older and the population of man increases virtually unabated. Oceanic Islands lend themselves particularly well for the study of evolution, especially as provider of a haven for species which for one ecological reason or another has declined on the mainland or other islands.

Not as much is known about the sea birds of the Atoll. The frigate birds, already mentioned, occupy the most important breeding colony of the island. As the name indicates, the Greater Frigate bird, **Fregata minor aldabrensis,** is an endemic Aldabra subspecies. The Grey and the Little Green Herons also nest on the island and also are endemic subspecies.

Aldabra first became well know for its tortoises, and when at the end of the last century the Mauritius government planned to put settlements on the island, Charles Darwin was one of many well known scientists who protested vehemently. When Aldabra became part of the British Colony of the Seychelles the tortoises were given protection which apparently has worked more because of good luck than by enforcement. Now it seems that Great Britain and the United States are threatening both the tortoises and the future of Aldabra as a unique environment.

Not only will the delicate balance of the ecology of the island be upset but this contemplated incursion will be an immediate danger to the survival of many plants and animals. For example the clearing of land for runways, and the cutting of the sparse woodland for fuel and building materials would mean a loss of the relatively few larger trees on which much of the wildlife depends for shelter, food and breeding sites.

Nearby Assumption Island is a good example of what happens when man takes over an unspoiled environment. This island was fairly recently exploited for its phosphate rock and guano deposit. This human enterprise reduced the island to a barren desert, and in the process exterminated all the resident seabirds (including several rare forms now extinct because of this treatment) and destroyed all species of the land birds except two.

It is felt that the worst threat to Aldabra is the destruction of its unique environment and the desecration of all facets of the island ecology by introduced plants and animals, brought in accidentally or as pets in ships and planes, and by pesticides and herbicides. Thus many species which could never normally have reached Aldabra would eventually destroy and then replace endemic forms turning the island into a collection of mixed assemblage of species characteristic of inhabited islands in that part of the world. The uniqueness and scientific value of Aldabra would quietly and quickly forever fade. The finishing touches would be provided by rubbish dumps, food stores, sewage disposal, and cultivated gardens—hosts to man's retinue of civilization camp followers: the rats, mice, insect pests—which together with feral dogs, cats, birds, sheep and goats would finish off the pitiful remnant of what was once a proud and flourishing ecological paradise.

As John Walsh so well states it, "the Aldabra issue has aroused scientists in Britain more than any recent attempt to preserve an ecosystem. The conservationists now are trying not only to save Aldabra, as the Galapages were spared, but to drive home the point that there is no established mechanism by which the scientific community is consulted when such government decisions affecting science are made. So, as important as an Aldabra preserved is to Science, even more is at stake than whether the atoll in the 1970's is to be the home of the Flightless Rail or the F-111.

If you wish to protest the proposed rape of Aldabra it would be best to communicate your feeling in the matter with one or more of the following: Mr. Thomas L. Kimball, National Wildlife Federation, 1412-16th St., N.W., Washington, D.C.; Dr. Dael Wolfle, Editor **Science,** 1515 Mass. Ave., N.W., Washington, D.C.; Secretary, Smithsonian Institution, Washington, D.C.; Senators Fred R. Harris, Abraham Ribicoff, John L. McClellan, and Edmund S. Muskie, Senate Office Bldg., Washington 25, D.C.