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Preserving Rare Species

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Species and local populations are being lost around the world at an enormous rate. Some scientists predict that, if present trends continue, one-quarter of all species existing now will be gone by early in the next century. Most of this loss is occurring because of destruction of biologically rich tropical forests, but the temperate zones are losing species too. Since 1492, over 200 species of plants and vertebrates have become extinct in North America. We realize now that every effort must be made to stop the erosion of our priceless biological resources, both at home and abroad.

Why Preserve Rare Species?

There are many reasons, some purely practical, for preventing the extinction of species. They may have important scientific, medical, agricultural or industrial uses, known or as yet unknown. They each play an ecological role, and we do not know what the consequences may be if they are lost: other species dependent on them might be lost as well. Rare species, like all species, are unique genetic combinations, never to be created again. If they are lost, the genetic resources of Earth are diminished. And they are important to us simply as interesting or beautiful living things that share the planet with us. Finally, since many species have become rare because of human actions, we must consider a moral question: Is it just plain wrong to cause the extinction of another form of life?

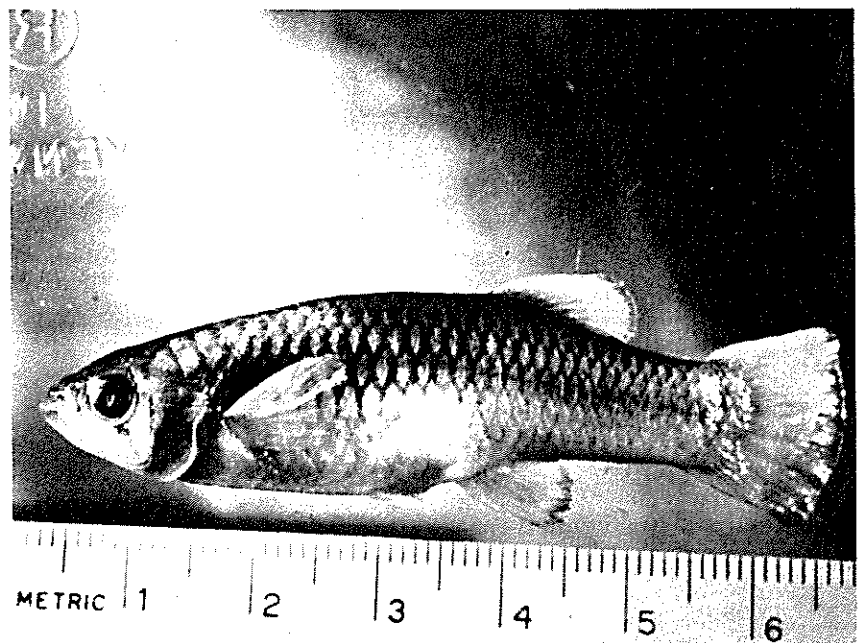
Why Species Become Rare

In order to stop extinctions, it's necessary to know why they occur. First and foremost is the loss of habitat. Rapid development has destroyed or altered many of the natural environments to which individual species are adapted. Overexploitation has taken others. The once abundant passenger pigeon is a famous example. Competition with introduced, nonnative species is another cause. This is particularly serious on oceanic islands like Hawaii, where the native species are vulnerable to aggressive invaders. Pollution and toxic chemicals can have pervasive effects, like the food chain build-up of DDT that decimated bald eagles, peregrines and many other species.

Certain categories of species are inherently likely to become rare if new pressures like habitat loss or killing by humans are brought to bear. These groups include highly specialized species; those with originally small populations, ranges or genetic variability; colonial species which can be wiped out more quickly because they are concentrated; and island species, many of which have evolved no defenses against non-native predators and other introduced factors. Such characteristics must be borne in mind when devising protection for rare species.

How Can We Preserve Rare Species?

Essentially, the preservation strategy is to counteract the fac-



James E. Johnson

The total wild population of the endangered Big Bend gambusia is protected in a single warm-water pond in Big Bend National Park, Texas.

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