



Defenders of Wildlife

The Endangered Species Act

Plants and Animals, New Discoveries for Healthy Living

“From the most narrow point of view, it is in the best interests of mankind to minimize the losses of genetic variations. The reason is simple: they are potential resources. They are the keys to puzzles which we cannot solve, and may provide answers to questions which we have not yet learned to ask.

Who knows, or can say, what potential cures for cancer or other scourges, present or future, may lie locked up in the structure of plants which may yet be undiscovered, much less analyzed? More to the point, who is prepared to risk [losing] those potential cures by eliminating those plants for all time? Sheer self-interest impels us to be cautious.”

House Report No. 93-412, 93rd Congress, 1st Session, July 27, 1973

With these words, a visionary and forward-thinking Congress recognized that the natural world provides many substances that hold promise for the treatment of numerous diseases and medical conditions. Today, 56 percent of the 25 top-selling prescription drugs contain natural compounds found in the wild. Substances derived from endangered plants and animals have already yielded drugs that fight cancer, heart disease, AIDS and numerous other diseases.

The Endangered Species Act has played a vital role in the protection of several species we know to have properties that have helped scientists find cures or treatments for human disease.

Crocodile. Just recently, scientists began collecting blood from crocodiles in the hope of developing a powerful antibiotic for humans. Tests showed that the reptile's immune system kills the virus that causes HIV/AIDS. Studies also show that the reptile's blood contains proteins that kill bacteria resistant to penicillin. The United States was the world's largest market for crocodile skins before the Endangered Species Act was adopted. In 1977 the American crocodile, together with the saltwater crocodile, were listed throughout their respective ranges. Today crocodiles are helping scientists find possible cures for devastating diseases that could not have been predicted at the time these animals were listed.

Desert Pupfish. The endangered desert pupfish is native to the Southwest and Mexico and found only in isolated

hot springs. Its ability to survive in very hot water with a high salt concentration has drawn the interest of researchers in hopes of developing treatments for human kidney disease. Though seemingly useless, this extremely rare cave dwelling fish could one day help millions of Americans lead better lives thanks to the Endangered Species Act.

Black Bear. During their annual five-month hibernation period, black bears lose no bone mass even though they take in no vitamins or minerals. This may provide clues to the prevention of osteoporosis. The black bear is listed as threatened in parts of the United States.

Houston Toad. The speckled Houston toad, found only in southeast Texas, was

eradicated from the Houston area due to rapid urbanization. Today, it is endangered throughout its remaining habitat. The chemicals the toad secretes through its skin for protection from predators are used as medicines to treat heart and nervous disorders in humans. In addition, these chemicals have powerful pain-relief properties, greater even than morphine.

During the Endangered Species Act's 30-year history, many once threatened and endangered species, including those listed above, have bounced back from the brink of extinction. But medicinal benefits from the natural world do not stop there. Other species around the world, though not listed as endangered or threatened under the Act, have provided far-reaching benefits to human health and must be protected as well.

Pacific Yew Tree. The pacific yew, found in the northwest United States, produces a toxin that was found to have anti-tumor properties. This breakthrough led to the development of Taxol, a natural cancer-treatment drug that prevents out-of-control cell production in cancerous tumors. Taxol has touched the lives of millions of people suffering from ovarian, breast, lung and other types of cancer.

Madagascar Periwinkle Flower.

The Madagascar periwinkle flower is native to the large island off the southeast coast of Africa that shares its name, though it is also cultivated in the United States. It produces two important substances that are used to treat Hodgkin's disease as well as childhood leukemia, which accounts for about 25 percent of all childhood cancers and affects about 2,200 American children each year.

Mamala Tree. The mamala tree is native to the island of Samoa. Historically, native Samoans used extracts of the tree as a treatment for hepatitis. More recently, scientists have discovered that the bark and stemwood of the tree produce Prostratin, a promising anti-AIDS and cancer drug. Because of this potential, demand for the tree is high. However, only a limited

number of trees exist on this small island in the South Pacific.

Purple Foxglove Flower. The purple foxglove flower is native to southern Europe and Asia. It was used for medicinal purposes as early as the 13th century and is the primary source of Digitalis, which was developed for patients with severe heart failure and heart disease. Approximately 3 million Americans use Digitalis every year.

Gila Monster. The Gila monster, which lives in the southwestern United States, has recently proved to be a promising source for a new treatment for diabetes, which affects an estimated 18.2 million Americans. The saliva of this slow-moving reptile contains a compound that triggers the release of insulin. Sold as Byetta, the compound prompts the release of insulin only when blood sugar levels are too high, as opposed to other medications that can cause the release of insulin when blood sugar levels are regular or low. Byetta also provides diabetics with longer-lasting control of their blood sugar than other medications.

Horseshoe Crab. Horseshoe crab blood contains unique anti-clotting properties that allow for many uses. A derivative of horseshoe crab blood

helps doctors test many intravenous drugs and medical implants with less fear of dangerous blood clots. It is also used in the detection of diseases like spinal meningitis and has ecological uses such as helping to detect the presence of unhealthy toxins in our waterways.

New discoveries are being made every day that illustrate the ways plants and wildlife play a role in the every day lives of people around the world. By keeping the Endangered Species Act strong, we are protecting plants and animals that can provide cures to crippling or deadly diseases and help people lead fuller, healthier lives.



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