

## Vanishing Species

### Counting our Natural Blessings

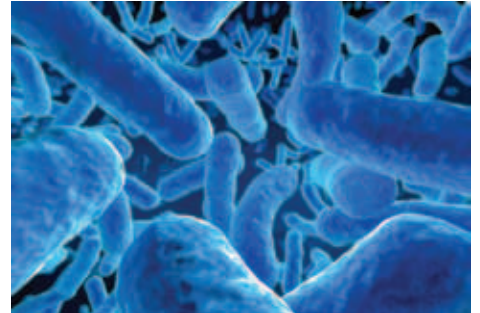
A study by Canada's Dalhousie University postulates that as many as 86 percent of Earth's species are still unknown, and millions of organisms will remain undiscovered as extinctions accelerate worldwide at 10 to 100 times their natural rate.

If, as the study's co-author Boris Worm suggests, our planet is home to 8.7 million species, it means scientists have cataloged fewer than 15 percent of species now alive. Many unknown organisms will wink out of existence before they can even be recorded.

Although the catalog of mammals and birds may be nearly complete, inventories of other classes of life are far behind. Only 7 percent of the predicted number of fungi and fewer than 10 percent of all ocean life forms have been identified.

Categorizing a new organism is more complicated than discovering one. "It's a long process," Worm explains. "Most scientists will describe dozens of species in their lifetime, if they're really lucky. What's been discovered so far are those things that are easy to find, that are conspicuous, that are relatively large. There is an age of discovery ahead of us when we could find out so much more of what lives with us on this planet."

Source: National Geographic



## Big Book

### *Encyclopedia of Life Update*

The second edition of the Smithsonian Institution's free, online collaborative *Encyclopedia of Life* (EOL) is now easier to use. It also has been vastly expanded, offering information on more than one-third of all known species on Earth, including hundreds of thousands of images and videos.

With the updated format, users can easily find species of interest; create personal collections of photos and information; find or upload pictures, videos and sounds; and share comments, questions and expertise with users worldwide that share similar interests.



*EOL.org* seeks to become a microscope in reverse, helping users to discern large-scale patterns. By aggregating for analysis information on Earth's estimated 1.9 million known species, scientists say EOL could, for example, help map vectors of human disease; reveal mysteries behind longevity; suggest substitute plant pollinators for a swelling list of places where honeybees no longer provide the function; and foster strategies to slow the spread of invasive species.

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# Natural Wonders

## Virgin Forests are Irreplaceable

Analysis by an international team of researchers of more than 100 studies comparing wildlife in forests that had been modified with those that had not confirms the crucial role that virgin forests play in conserving the natural world. The researchers conclude in the journal *Nature* that, "When it comes to maintaining tropical biodiversity, there is no substitute for primary forests."



The worldwide meta-study found that most species, notably birds, do much better in virgin tracts than in areas that have been cleared for agriculture, plantations or agro-forestry or selectively logged for certain types of trees. In all but the latter, the overall impact on biodiversity was marked. In all cases, the variety of plants and animals was depleted more severely than the sheer number of organisms present.

Surprisingly, total mammal populations may do better under some kinds of forest modification, although this may be because opportunistic animals such as rats multiply even as the diversity of mammals drops. Birds, insects and plants experience an unequivocal loss.

The study addresses how best to specifically preserve nature across the tropics, where most human population growth and rapid development is occurring. It compares the effects of "land-sharing", where farming and other development enables wildlife to share the same space, and "land-sparing", which provides entitlement areas to wildlife while humans use other segments as intensely as they like.

Source: *BBC News*



## Blogging News

### Teens See More Kindness than Cruelty Online

As American teens navigate the new world of digital citizenship, a new study has found that 69 percent say their peers are mostly being kind to one another on social networking sites. Still, 12 percent say they witness meanness frequently, 29 percent sometimes and 47 percent only once in a while; 15 percent report that they have personally been the targets of mean or cruel behavior online.

The findings are based on focus groups and a national survey of youths ages 12 to 17 and their parents, conducted by the Pew Research Center Internet & American Life Project.

Find the full report at [Tinyurl.com/7kl3cu](http://Tinyurl.com/7kl3cu).

## Low Tech

### Silicon Valley School Eschews Computers

The Waldorf School of the Peninsula, in Los Altos, California, is one of 160 Waldorf schools in the country that subscribe to a teaching philosophy focused on physical activity and learning through creative, hands-on tasks. *The New York Times* reports that the chief technology officer of eBay sends his children to this nine-classroom institution, as do employees of Silicon Valley giants like Google, Apple, Yahoo and Hewlett-Packard.



Yet, the school's main teaching tools are anything but high-tech, comprising pen and paper, knitting needles and occasionally, mud. No computers or screens of any kind are allowed in the classroom, and the school frowns on their use at home.

Educators that endorse this approach say computers inhibit creative thinking, movement, human interaction and attention spans. Alan Eagle, a communications executive at Google, whose daughter attends the school, says, "The idea that an app on an iPad can better teach my kids to read or do arithmetic, that's ridiculous."

Source: The New York Times

## Crucial Shareware

### Open Hardware Addresses Environmental Problems

The concept of open hardware, like open software, aims to freely share all the necessary knowledge for building usable electronic devices, and participants range from innovative students to the European Organization for Nuclear Research (CERN).

Protei, a worldwide collective of technology students, has designed an autonomous, mini-sailboat drone to ply the ocean and mop up oil spills, gather information on marine life in crisis, and clean up floating plastic trash. The Protei boats were originally designed to respond to the BP 2010 Gulf oil spill crisis. Trailing oil-absorbing booms, the drones can sail even in a storm to help with cleanup, unlike conventional ships concerned with crew safety.

Similarly, collaborating volunteers in Japan responded to the Fukushima Daiichi nuclear power plant 2011 meltdown by building stationary and mobile radiation monitors.

Source: Scientific American



## Green Laundry List

### Use Cold Water and Eco-Wise Detergents

Mom may have said that hot water washes best, but don't give cold-water detergents the cold shoulder—today's new products deliver clean laundry that's easy on the pocketbook and the planet.

According to the U.S. Environmental Protection Agency, an average American family annually washes nearly 400 loads of laundry. Because heating the water accounts for 90 percent of the energy used by a washing machine, using only hot or warm water in a top-loading electric washer annually produces an average 2,407 pounds of CO<sub>2</sub> pollution—equivalent to two cross-country flights.

Many conventional cold-water detergents still contain toxic chemicals that when drained, end up in waterways, creating a host of environmental woes and exposing wildlife to endocrine disruptors. For both clean and green clothes, buy biodegradable laundry detergents made with plant oils and other natural ingredients that are free of phosphates, bleach and surfactants such as petroleum-based nonylphenol ethoxylates, or NPE. Kinder to the planet, greener choices are also gentler on the skin.

Consumers concerned about killing bacteria, dust mites and other allergens may be tempted to turn on the hot water tap for sheets, linens and underwear, but Philip Tierno, Jr., Ph.D., a professor of microbiology and pathology at the New York University School of Medicine, says that most of the hot water people use is not hot enough anyway. "You need water that's between 140 and 150 degrees to kill germs," he advises. Tierno, author of *The Secret Life of Germs*, notes that the sun is one of nature's most efficient germ killers, so letting clothes dry outdoors is a good eco-option. "The ultraviolet radiation kills germs," he advises, "and it's just as effective as bleach."

Natural disinfectants that can be added during rinsing include white vinegar (one-half cup per load); grapefruit seed extract (one teaspoon); tea tree oil (two teaspoons); and lavender or peppermint essential oil (a few drops), which also imparts a fresh fragrance.

*Find more tips on the Sierra Club's website at [Tinyurl.com/3kh2dpf](http://Tinyurl.com/3kh2dpf), plus eco-wise products including pre-wash treatments, non-chlorine bleach and laundry liquids at Natural Awakenings' online store, [NAWebstore.com](http://NAWebstore.com).*