

Just what the doctor didn't order

If the densely populated city of Nagpur, India, accurately reflects the misuse of antibiotics in developing countries, the global village may have real problems stocking its medicine cabinet with drugs that work. In a study in *SOCIAL SCIENCE AND MEDICINE* (vol. 38, no. 5), Calvin M. Kunin, professor of internal medicine at Ohio State University College of Medicine in Columbus, and his colleagues found that antibiotics in Nagpur are poorly prescribed and administered.

Many of the drugs were dispensed without a prescription (an illegal practice in India), Kunin discovered, and patients failed to complete the minimum 5-day dosage that most antibiotics require for efficacy, thus causing more harm than good. "Inappropriate antibiotic use not only prevents the cure of infectious disease, but promotes the emergence of drug-resistant bacteria strains," Kunin says.

Abetted by poor sanitation and overcrowding, resistant strains spread quickly. Among those at risk are international travelers. "People who travel to developing countries are at great risk of acquiring resistant bacteria," Kunin says. "These bugs know no national boundaries."

Some dogs are not a child's best friend

Lassie, long hair still wet from a heroic plunge into the lake, has earned an undisputed place in cultural myth. But according to a new study, Timmy should beware. Though not the worst offenders, collies made the list of biting dogs.

Each year, an estimated 585,000 people suffer dog bites, resulting in about 20 deaths, report Kenneth A. Gershman, now at the Colorado Department of Health in Denver, and his colleagues in the June *PEDIATRICS*. Canine assaults account for 0.5 to 1 percent of all visits to emergency rooms. "Dog bites are an underrecognized public health problem," the authors say.

The study of 178 dogs that had bitten someone and 178 dogs that hadn't stresses the importance of prevention and education. "Thirty-seven percent of American households include dogs . . . and yet how many people know the best way to approach a dog is with a closed fist?" asks coauthor Jeffrey J. Sacks of the Centers for Disease Control and Prevention in Atlanta. "These injuries are not accidental. Parents should never leave young children alone with large dogs."

Children under the age of 12 are bitten most frequently — usually in the facial area — probably because of their size and vulnerability. "Dogs attack each other around the head. And the alpha [dominant] dog is always the largest. Young children are usually smaller than large dogs. . . . Also, most children don't have the smarts to recognize dangerous behavior in dogs," Sacks says.

Even so, the risk of bites can be significantly decreased if dog owners make a few simple choices about breed, gender, neutering, and training. The most frequent biters, the study found, were unneutered, male German shepherds and chow chows. These dogs weighed more than 50 pounds, were more than 5 years old, lived in homes with children under the age of 10, spent their days chained in the yard, and had previously snapped at visitors. The study didn't include pit bull terriers: Ownership of this breed has been prohibited in Denver County since 1989. Sacks recommends that animals kept in homes with children not be trained as attack animals.

Breeds less likely to be violent include Chihuahua, golden retriever, Labrador retriever, poodle, Scottish terrier, and Shetland sheepdog, the study shows. Sacks doesn't recommend that parents rush to the pet store to replace their dogs with goldfish or bunnies, but he says they do need to increase their awareness of the risks. "Dogs are a noble species, but we need to recognize they are, after all, carnivores."

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Global warming has plants on the move

In response to Earth's warming temperatures, plants in the Alps are seeking higher ground, according to a study comparing today's flora to vegetation earlier in the century.

"Our data indicate that even small differences of temperature . . . can induce [plant] migration up a mountain," Austrian researcher Georg Grabherr and his colleagues at the University of Vienna write in a letter in the June 9 *NATURE*.

In 1992, the researchers counted the number of species and estimated the abundance of primarily flowering plants above 3,000 meters on 26 mountains in western Austria and eastern Switzerland. They compared their data to the same figures from the early and middle 1900s.

Species richness on these mountains has increased during the past few decades, thanks in part to the steady upward climb of vegetation, Grabherr says. Not only do former residents of the nival zone, the area above about 2,000 meters, move up, but former alpine plants ascend to the nival region.

"We were very surprised by that," he says. Historical documents showed no alpine plants above the nival zone.

Nine common species have ascended the mountains at the rate of 1 to 4 meters per decade — somewhat slower than the investigators had expected. The mean annual temperature has increased 0.7°C since the early 1900s; because mountain air cools about 0.5°C every 100 m, the vegetation should have moved 8 to 10 m per decade. Why it didn't is unclear.

If global temperatures continue to increase, some mountain plants may have nowhere to go, the researchers point out. Global warming "may cause disastrous extinctions in these environments," Grabherr and his colleagues warn.

Birds sing praises of old-growth trees

Many bird species are quite attached to their old-growth forest neighborhoods, say researchers who examined bird communities in the Great Smoky Mountains National Park's mature stands and its second-growth forests.

The mature forests house birds with a wider variety of habitat preferences. Also, species are more evenly divided throughout the old stands, says Ted Simons of North Carolina State University in Raleigh, who headed the study.

The researchers counted nine fewer bird species in the old-growth areas than in forests that had gone a round with loggers in the last 50 to 100 years. But in some cases, a species had only one representative in the younger forests. Also, the edges of new stands are more apt to have visitors, such as crows, from nearby "disturbed areas" (human neighborhoods).

Some of the birds that stick to old-growth forests include black-throated blue warblers, Blackburnian warblers, and the solitary vireo. Hooded warblers, oven birds, and red-eyed vireos, among others, prefer the open spaces of logged forests.

The researchers also discovered that the huge snowstorm in March 1993 reduced the numbers of a few second-growth species. Simons and his colleagues presented their data to the National Park Service in January.

New plan could trigger renewed logging

Some birds would squawk if they got wind of Seattle Judge William Dwyer's decision last week.

Dwyer has allowed the government to resume making new timber sales from the Northwest's northern spotted owl country, a 24-million-acre parcel that includes old-growth forests. Three years ago, he stopped such sales until the government developed a management plan and environmental impact statement for the area, which it did in April. The new plan allows annual sales of 1 billion board feet of timber.

Eight separate lawsuits are challenging the plan, the U.S. Forest Service says.

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