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Cover: Every eye—even one with 20/20 vision—has some imperfections that limit what it can see. Now, researchers have found a way to compensate for those flaws using technology originally developed for military surveillance and astronomy. In the process, they've succeeded not only in improving vision, but also in capturing the clearest pictures ever of the eye's retina.



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Letters

Isolating species

I have a problem with the phrase "interbreeding of closely related species" in "Bright fish + dim light = diversity lost" (SN: 9/20/97, p. 182). When I was in school, the word "species" referred to a population of animals physically capable of mating to produce fertile offspring. Ergo, if they're interbreeding, they can't be separate species.

Charles Masi
Bullhead City, Ariz.

Biologists have debated what a species is ever since Darwin's time. Most would probably add to the schoolhouse rule the notion of "reproductive isolation." That is, a collective of sexually reproducing organisms generally recognized to be a species is somehow isolated from mating with other collectives, even if they are "physically capable." They may be isolated by a mountain range, for example, or by different behaviors or preferred habitats

that prevent them from interacting. The key is that they are isolated under natural, undisturbed conditions. In the case of the cichlids, the closely related fish are isolated into breeding collectives by their different colors and feeding habits. The cloudiness of the water breaks down that isolation. For more about species, see Edward O. Wilson's The Diversity of Life (Norton, 1992, p. 38). —C. Mlot

Unhealthy trade-off?

Steven Shapiro predicts that cigarette makers may one day add to their product compounds that inhibit elastin-destroying enzymes ("Mice smoke out key emphysema enzyme," SN: 9/27/97, p. 199). Because these

enzymes may also attract macrophages to lung tissue, where they remove tar, inhibiting the macrophages should increase exposure to carcinogens.

Therefore, protecting against emphysema could increase cancer risk.

Tim Ziesmer
Bodega, Calif.

Cockroach competition

I was wondering—just how *do* our cockroachian cousins display dominance ("Cockroach scent as status symbol," SN: 9/13/97, p. 170)? I tried to picture some kind of ritualized arm-wrestling competition, but that image turned into chaos and a migraine in no time....

Greg Stewart
Los Angeles, Calif.

Nothing as courtly as arm wrestling. Dominant males bite, kick, and chase after their subordinates, which crouch and run away, says Allen J. Moore of the University of Kentucky in Lexington. "Truly easy to tell." —C. Mlot

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