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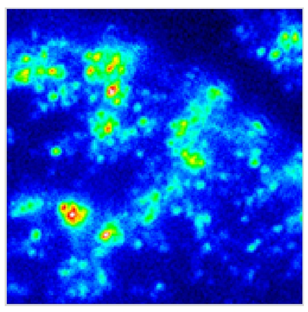
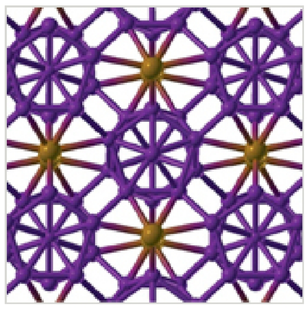


Most illuminating. Electronic circuits are approaching their theoretical speed limit, so researchers are betting optics will power the next generation of computers. But the devices need special crystals to reroute light beams at blinding speed, and so far, no one has designed them successfully. The answer might lie in a humble insect called a photonic beetle, whose scales scatter light extremely efficiently. To study them in enough detail, researchers built a microscope mirror lined with silver nanoparticles. Under an infrared laser the nanoparticles focus light so tightly that it penetrates the beetle's complex scales and reveals hidden details (yellow and green areas). In the 5 February issue of *Nano Letters*, the team says the technology could help unravel the structure of bones and tumor cells, and even identify defects in aircraft components. *(Image: John Lupton/University of Utah)*

Megapython. Forget the rabbits; hide the cattle! Scientists have found fossil evidence of what may have been the largest snake that ever lived. The monster, named Titanoboa and native to South America around 60 million years ago, weighed more than 1100 kilograms and stretched more than 13 meters—twice the size of a modern-day Anaconda. The size limits of cold-blooded creatures like snakes are determined by ground warmth. So, in order to grow to its stupendous length, Titanoboa would have needed an average annual temperature of at least 32°C, or 5 degrees higher than current levels, researchers report in the 5 February issue of *Nature*. Back then, it seems, global warming was a healthy thing. *(Image: Jason Bourque/University of Florida)*



Opposites attract. That's why elements such as sodium and chlorine combine to form crystals of table salt. Now researchers report that "identicals" can also attract, at least in the case of boron. The trick, scientists report in the 29 January issue of *Nature*, is subjecting the element to high pressure, which causes boron to segregate into two separate clusters with different electronic properties. The first, made with 12 boron atoms, winds up negatively charged. The second, made from just a pair, is positively charged, and the two clusters pack together to form salt-like crystals. No word yet how they taste on fries. *(Photo: Organov et al., Nature)*

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