



NOVELTIES

# Warning to Birds: All-Glass Buildings Ahead

By ANNE EISENBERG  
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LIVING the green life can get complicated — even when we're picking out windowpanes.

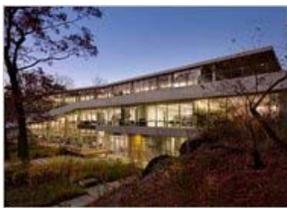
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Arnold Glas

Ornilux glass as approaching birds see it.

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David Sundberg/Esto

The glass is used in the Center for Global Conservation at the Bronx Zoo.

Glass windows let in lots of natural light, of course, thus saving electricity. But birds often don't sense the glass and may fly headlong into it.

To avoid those fatal strikes, the [Wildlife Conservation Society](#) decided to try a new kind of glass intended to be more visible to birds. It is made with a patterned coating that reflects ultraviolet light. Birds can see this pattern, but it is faint or imperceptible to people.

The society installed the protective glass last year in a conference room of its Center for Global Conservation at the Bronx Zoo. "I don't know of any bird strikes in this area of the building," said Sylvia Smith, a senior partner at [FXFowle](#) in Manhattan, the architecture firm that designed the building.

The glass, called [Ornilux](#), is made by [Arnold Glas](#) of Remshalden, Germany. It typically costs at least 50 percent more than regular glass, said Alexander von Mezynski, Arnold's sales director.

But Ms. Smith says the premium is warranted. "Sustainability goes beyond saving energy," she said. "It also means considering how the building affects the environment, including whether it kills birds."

[Roeder Windows and Doors](#) of Ventura, Calif., is distributing Ornilux in the United States until Arnold Glas establishes a presence here.

There are many ways to [warn birds](#) about glass, said Christine Sheppard, manager of the [American Bird Conservancy](#)'s campaign against bird collisions. Among techniques recommended by the conservancy, based in The Plains, Va., is the use of closely spaced opaque decals, or stencils painted with tempera. "But it is much more difficult," Dr. Sheppard said, "if what you want is a transparent piece of glass."

An early version of Ornilux was used in the [Wildlife Conservation Society](#)'s building, Mr. von Mezynski said. A newer version, released abroad in 2008 and now being introduced to the American market, is called Mikado — named for a German pick-up-sticks game, he said. The pattern of lines in the glass resembles scattered sticks during the game.

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Ebrahim Nana, president of [NanaWall Systems](#) in Mill Valley Calif., which sells glass walls, says he knows architects who are interested in using Ornilux for projects like enclosing balconies.

Tests of the first version of Ornilux have been promising, said Martin Wikelski, director of the [Max Planck Institute for Ornithology](#) in Radolfzell, Germany, and chairman of the ornithology department at the University of Konstanz. "The glass was effective in minimizing bird strikes," he said.

In the test, about three-quarters of birds avoided the patterned Ornilux glass. The Mikado is still being tested.

In the first version tested, Dr. Wikelski said, the pattern was sometimes visible to humans, but in the new version it is typically imperceptible. "Only under a few circumstances can you see that it is different than regular glass," he said.

Daniel Klem, Jr., an ornithologist and a biology professor at Muhlenberg College in Allentown, Pa., also plans experiments to test the Mikado glass. Dr. Klem has already tested clear film with UV-absorbing and UV-reflecting patterns that can be used on exteriors of existing windows. The film, made by [Solutia](#), a St. Louis company that produces specialty chemicals and performance materials, has worked well at preventing bird collisions, he said.

THE town of [Markham](#), Ontario, has also worked with a company to develop a film for existing windows. Victoria McGrath, director of the town's sustainability office, said a problem area was a glass entryway, several stories high, in a municipal building.

The installation of an exterior film over the entryway's doors and windows, completed at a cost of about \$30,000, solved the problem, she said. [The Convenience Group](#) in Toronto designed, developed and installed the film, which has a visible pattern of thin bands of different shades of gray that resemble the slots of window blinds.

The use of protective window patterns should be an urgent conservation issue, said Dr. Sheppard of the American Bird Conservancy — especially as glass has gained popularity in green design. Huge numbers of birds are flying into the huge glass walls of office towers during migrations, she said, and just as many may be hitting windows of homes.

"The birds hit the glass and flutter away, and people think they are O.K.," she said, but the weakened birds are likely to soon be eaten by predators. "Even a tiny weakness precipitates death," she said. "Glass kills birds."

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