

Striking photographs captivate viewers

Using Pantone's Hexachrome printing process, Harvard University Press teams with DS Graphics to print a photographer's book comprising more than 400 stunning nature images.

by Nancy A. Hitchcock

Nature can be exquisite, and exquisite is the nature of a new book on tiny creatures. In *The Smaller Majority*, a book published by Harvard University Press, creatures that often evoke a repelling reaction, such as scorpions, beetles, and cockroaches, actually appear in beautiful clarity, glowing in vivid reds and emerald greens. Photographer and insect biologist Piotr Naskrecki has traveled around the world with his digital camera, capturing such creatures as a striped tree frog peering around a tree in a Costa Rican forest, a light green Malagasy web-footed frog with bulging red eyes in Madagascar, and a rich green katydid blending into a bed of moss in a Costa Rican rainforest. With care and precision,

DS Graphics, a printer in Lowell, Massachusetts, was able to reproduce these curious creatures with rich colors and brilliant clarity, making the 278-page book visually captivating.

Key to reproducing the photographs in crisp detail, depth, and distinctive glowing colors was the all-digital workflow and the use of Pantone's six-color printing process, Hexachrome. "When I opened the photographer's files for the first time, it was mind-blowing," states Tim Jones, designer at Harvard University Press. "The images popped on the screen and [the design team] wanted them to pop in print as well. Hexachrome really achieved that."

A side-by-side comparison

When the team members at Harvard University Press looked at the bright colors of Naskrecki's photographs on-screen, they contemplated how they would print the images. "On-screen I saw beautiful photography with extraordinarily vivid colors," says design and production manager, John Walsh. "I saw a range of colors that I knew we couldn't do justice to in CMYK. At first, I thought we'd have to use CMYK and run it on a six- or seven-color press and use the fifth and sixth colors as colors to bump—PMS colors that would get a greater range, especially in the greens, oranges, and reds. I thought this was going to be a difficult and expensive process."

The Harvard team learned that DS Graphics—a printer operating since 1974—prints in Hexachrome, which

combines specially formulated CMYK inks with orange and green to expand the color gamut. The team provided 11 of Naskrecki's photographs to use in a press test that DS Graphics printed in CMYK and Hexachrome side by side. "When they did that first press test," recalls Walsh, "we made up our minds right on the spot that this was what we had to do. We could see a remarkable difference."

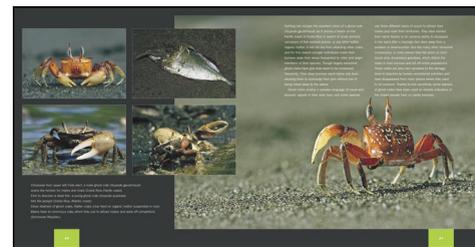
Jones adds, "When we did the press test, the more we looked at the images, it was obvious that there was so much depth in the greens. Because of the nature of these photographs, they call for getting the right color—mostly the greens—and almost every picture has green, but also reds and oranges."

Although the Hexachrome process is more expensive than CMYK, the team members justified the extra cost because they were going to pay more for PMS colors anyway.

Hexachrome enriches the images with depth and details and depicts subtle variations in green, which, for a nature book, is valuable. A deep metallic green beetle shimmers on a light green leaf, a fluorescent green katydid wanders through deep green foliage, and two green weaver ants appear three dimensional, bathed in a soft green light.

The digital workflow

Part of what made the photographs reproduce so well was the all-digital workflow. For his insect macrophotography, Naskrecki uses digital cameras including a Nikon 1DX, a Canon 10D, and his favorite, a Canon 1DS Mark II. Many of the animals he photographs are not only challenging to shoot, but also to find in the first place. "There are a couple



Above: Spreads from "The Smaller Majority," printed in Hexachrome. Left: Harvard's David Foss (left) checks press sheets with author Piotr Naskrecki (center) and Joel White, DS Graphics' VP of Print Operations.



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of spreads on the pygmy chameleons in Madagascar, and just getting to the place where these animals live took me about a week of hiking, canoeing, and hacking through a jungle to a place where very few people have been before,” describes Naskrecki.

DS Graphics received the photographer’s high-res RGB files and sent Harvard the low-res files with which Jones could create the Quark layouts. Joel White, vice president of print operations at DS Graphics, converted the images in Pantone’s HexWare 2.5 to Hexachrome files, and color corrected them in Photoshop.

White and account executive Victor Curran worked closely with the client. White took great care in perfecting the colors. “One of the most dramatic examples is a scorpion photographed under UV light, and there’s a spectrum of color and a degree of detail that’s possible in Hexachrome that isn’t possible in CMYK,” explains White. “We expressed concerns that the green didn’t look real, but the photographer came in here and said, ‘that’s exactly what it looks like.’”

DS Graphics upgraded its Fuji FinalProof system for Hexachrome, but the proofs couldn’t capture the full impact of the printed sheets. “In the proofing process, some of the images that have very smooth gradations of color, especially in the yellow and orange range, showed a lot of banding,” explains Naskrecki. “We tweaked them a lot and we thought that we’d have to live with the banding, but in the actual print, all the banding disappeared and the gradation was fantastic.”

DS Graphics, which caters primarily to New England area companies, including Volkswagen, Nike, Microsoft, and Houghton Mifflin, printed 35,000 books on 100lb. Parilux Silk paper using a Fuji Saber platesetter and a Mitsubishi eight-color press. All the pages were coated with satin varnish inline on the press. The dust jacket was matte film laminated with a spot gloss UV coating.

“I think it’s the most beautiful book Harvard University Press has ever printed,” enthuses Walsh. “It exceeded my expectations. Four of us from this department went on press OKs and it was the easiest press OK I’ve ever been on because the color was so spectacularly good right from the beginning. I have been doing this for years, and this was an eye-opener for me. It was the nature of the printing process that gave the art almost a three dimensionality and a snap right there at the beginning.”

The photographer agrees. “The quality of the printing was fantastic. The colors came out the way I envisioned them, and everybody I show this book to is extremely impressed with the quality. The sharpness and the detail in every single image is a testament to the Hexachrome technology.” Harvard University Press is already looking into producing other scientific books in Hexachrome.

With his collection of images, Naskrecki hopes to educate the general public about the beauty of these small animals and awaken their appreciation for the natural world. With everything from the stimulating photos to the design to the printing, it’s hard not to be intrigued—even for the squeamish.