



Mathematical Applications for Teaching Biology

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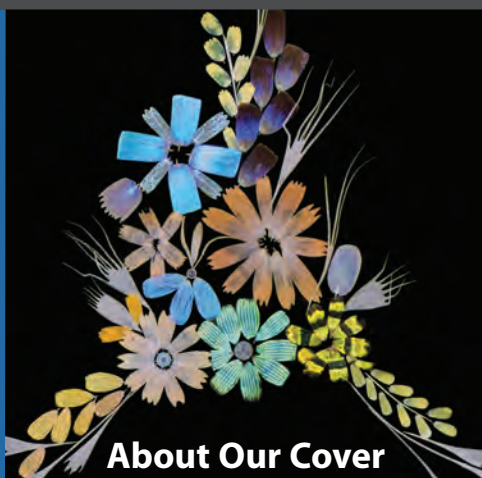
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About Our Cover

Butterflies are creatures of alluring beauty. No other insect is collected, photographed, or studied more than the butterfly. They even can be used, as this example shows, decoratively. Anyone who has handled a butterfly quickly learns that the colors and patterns can be easily wiped from the insect’s wings. If we microscopically examine the powdery residue left on our fingers, we see that it is composed of tiny scales. It was by using such microscopic cells, taken from various species of butterflies, that Kraus D. Kemp created the pictured floral bouquet. A butterfly’s wing colors can be either an inherent property of the material deposited in the scales, such as a pigment, or created by the diffraction of light. Colors created by diffraction are called “structural” or “iridescent.” This image was contributed by Frank Reiser at Nassau Community College on Long Island, NY, and was awarded an honorable mention in the 2012 *ABT* Cover Image Contest. For a discussion of how this image was produced, see this month’s Guest Editorial.