

INSECT PHOTOGRAPHY A NEW WAY OF THINKING

Article and Photography by Bob Frank, Field Contributor



Damselfly, by Bob Frank. Panasonic Lumix DMC-FZ30, Raynox DCR-250 close-up lens, focal length 72.1mm, f/11 at 1/200 second, Sunpak 383 Super flash, ISO equivalent 80, monopod.

When we talk about macro photography we normally picture bellows, special macro lenses, specialized lights, extension tubes, etc. I have discovered a new way of thinking. We all love our digital SLRs but maybe there's something better out there when it comes to live small insect macro photography.

Digital photography has opened a whole new avenue to explore in the field of macro photography. Great advancements have been made in small sensor technology in the past

few years. The advantage of the small sensor is that incredible depth of field can be achieved compared to 35mm format. Depth of field is one of the major challenges that macro photographers face shooting in the field. Technology advancements have also been made in the manufacturing of extremely high quality powerful zoom lenses to match the small sensors. A powerful zoom lens combined with a razor-sharp achromatic close-up lens will yield exceptional magnification.

Digital capture by Bob Frank

Until I discovered this method most of my macro work was done with a Nikon digital SLR and a Sigma 105 macro lens. The advantage of this procedure is that it has greater depth of field and far less weight than my Nikon system.

This new technique is capable of the most detailed live small insect photography at any price. If I can't see the detail in the compound eyes of the insect, I will generally discard the image. Since we are using small sensors and small lenses the total price for the complete setup is also relatively small, only about \$650 including camera, lens and lighting system.

EQUIPMENT

The camera I use is a Panasonic Lumix DMC-FZ30. This small sensor-fixed 12x zoom lens camera boasts a 35mm equivalent of a 35-420mm lens and features an 8mp sensor, image stabilization and an external flash shoe. I also use a powerful razor-sharp achromatic close-up lens which is the Raynox DCR-250. This close-up lens has a diopter strength of +8. Attaching this to the 420mm lens of the DMC-FZ30 achieves incredible magnification. Lighting is achieved with an external flash and a bounce card. The flash used is the Sunpak 383 Super. This unit has a rotating head and five output levels. For the bounce reflector I use a piece of white cardboard attached to the head of the flash unit.

CAMERA SETTINGS

Since we have control of lighting using the bounce flash, we have our choice of exposure settings. The camera is set on manual exposure mode and manual focus. For most situations, the smallest aperture, f/11, is used for maximum depth of field. For the shutter speed, I usually set it for 1/200th of a second. This seems to be a good balance in stopping action and allowing some natural light in. The ISO is adjusted to the lowest setting, ISO 80, to achieve maximum detail and the least amount of noise. I know these small sensor cameras have a reputation of digital noise. If you keep the ISO at the lowest setting it can compete with any DSLR in that respect.



Camera setup, by Bob Frank.

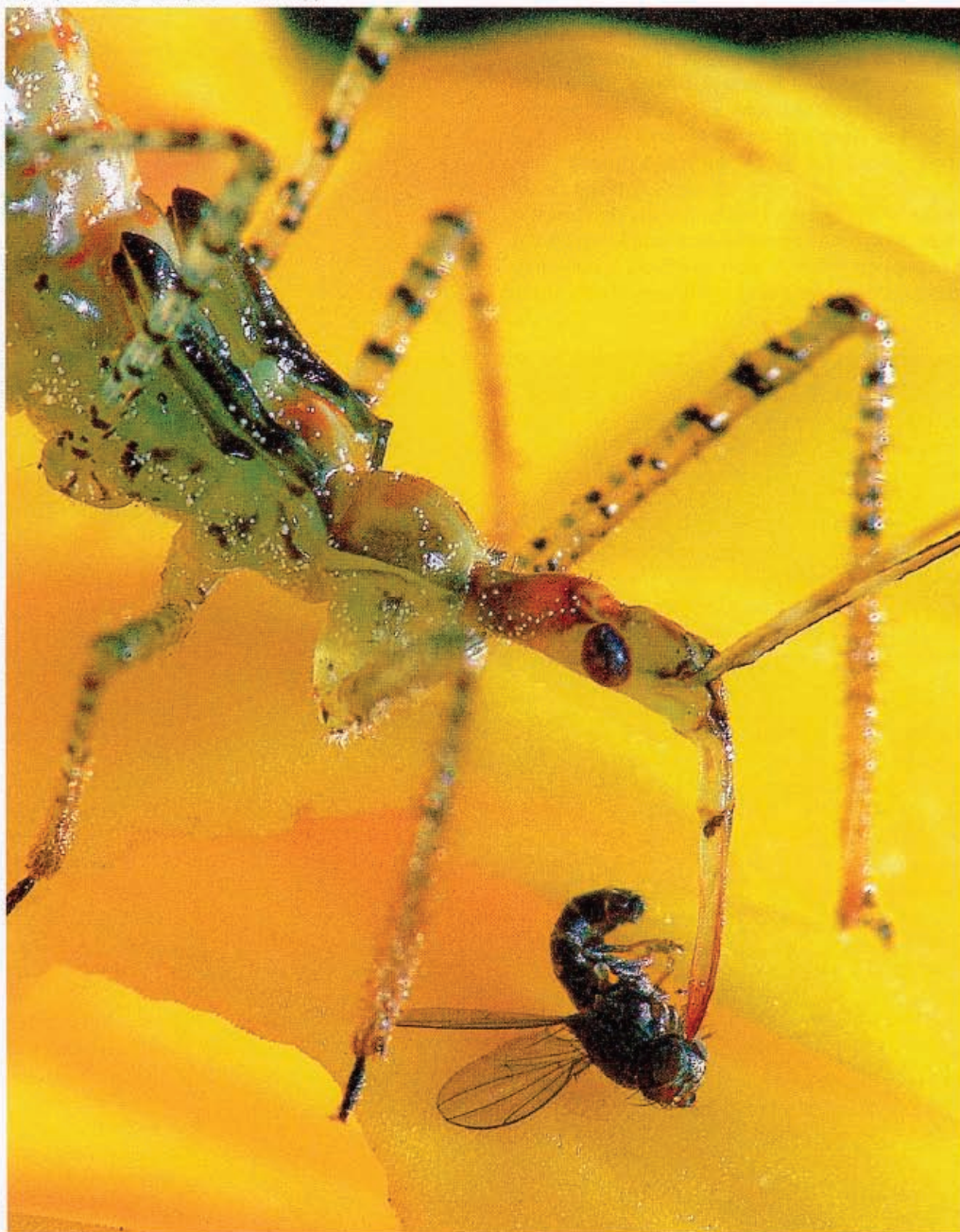
SHOOTING TECHNIQUES

When shooting in the field, I commonly place the camera on a small monopod. My percentage of sharp images is far greater when using one. Since the flash will stop camera movement, the monopod is more of a focusing aid. Tripods are just not practical when shooting small moving insects. Handholding the camera is another option when you can brace yourself properly. This camera

has two ways of focusing, the LCD screen on the back and the electronic viewfinder. For me the LCD screen is difficult to critically focus due to reflections and distractions. I prefer using the electronic viewfinder. Proper focus is critical. I concentrate on getting the eyes in sharp focus. When I have a cooperative subject, I will shoot many exposures constantly changing the focus by moving the camera slightly back and forth on the monopod. I also change angles. Close-up front views can be very dramatic; side views will have better depth of field. I try to position the camera parallel to the insect's body to get the entire length sharp. If possible, try to shoot at the subject's eye level. Lower than eye level can be dramatic also. The magnification level can be changed by the power of the zoom. The DMC-FZ30's 12x zoom lens combined with the Raynox DCR-250 always focuses around four

Bee, by Bob Frank. Panasonic Lumix DMC-FZ30, Raynox DCR-250 close-up lens, focal length 80.3mm, f/11 at 1/250 second, Sunpak 383 Super flash, ISO equivalent 80, monopod.





Insect with catch, by Bob Frank. Panasonic Lumix DMC-FZ30, Raynox DCR-250 close-up lens, focal length 67.4mm, f/11 at 1/200 second, Sunpak 383 Super flash, ISO equivalent 80, monopod.

inches no matter what the zoom level is. This is a great advantage when trying to locate small subjects. You can zoom out to a lower magnification to pinpoint the subject, then zoom in to the required magnification without hardly moving the camera. This is handy when photographing flying insects, zoom out to spot them, zoom in to shoot.

LIGHTING

Since the Sunpak 383 Super flash unit has five output levels, adjust the flash output for proper exposure. Constantly monitor the camera's histogram to insure correct exposure. Since this setup always focuses at about 4-½ inches from subject, there is room to bounce light into the subject. The bounce card is a piece of white cardboard approximately 10 inches long and about 5 inches wide at the top tapering down to 2-½ inches at the bottom. Velcro® or a rubber band can be used to fasten it to the flash head. Commercial bounce reflectors are also available. Attach the bounce card and rotate the flash

head to approximately 75 degrees. The angle of the flash head and the bend in the bounce card may need to be adjusted with each situation. The flash and bounce card combination is capable of creating a very natural looking light source. Watch for distracting backgrounds. If possible position the camera with sky or sunlit foliage behind the subject. This helps with the dreaded black background sometimes seen in macro photography.

The founder of Raynox Yoshida and developer of the DCR-250, Ted Yoshida, saw my work. He stated: "I have not seen such attractive, creative and impressive insect pictures like yours before. I felt very proud of seeing your pictures taken with the lens I was involved in developing."

Since this entire setup weighs less than five pounds and is compact, it will fit in a medium-size hip pack. This is a real advantage when hiking in the field. For more information, please visit my Web site at www.bugmacros.com or E-mail me at bob@baf Frank.com.

NP

Fly's eye, by Bob Frank. Panasonic Lumix DMC-FZ30, Raynox DCR-250 close-up lens, focal length 88.8mm, f/9 at 1/640 second, Sunpak 383 Super flash, ISO equivalent 80, monopod.

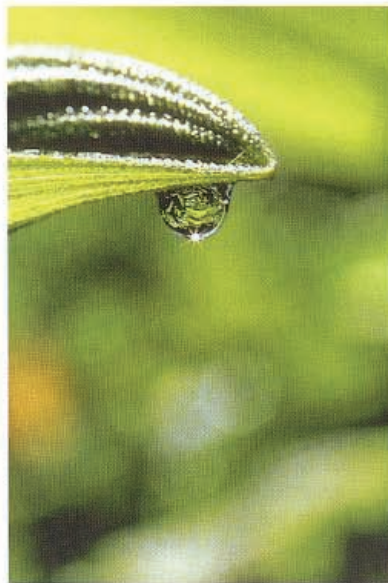


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July 1-4
- Tetons in Summer**
July 7-11
- Colorado Wildflowers**
July 14-18
- Mountain Goats**
July 1-4
- Colorado Wildlife**
August 11-15
- Bears of Alaska**
September 13-19



2007 WORKSHOP TOURS

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