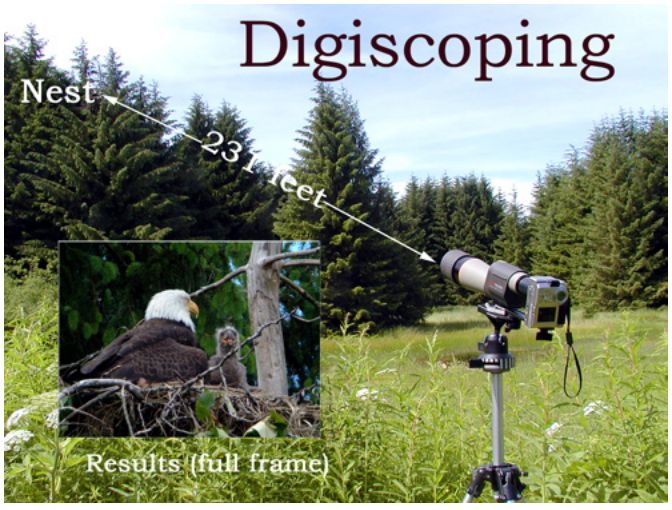
Digiscoping—Getting Close from Far Away

from Photographing Nature in Alaska (2010) by Robert H. Armstrong

Fujifilm FinePix 4700, Kowa scope with 20 power objective, f/2.8 at 1/74 second, ISO equivalent 200, minus 0.9 exposure compensation, from a calculated 231 feet away.

Bald Eagle with young. *This was one of my first experiences with digiscoping. I was quite pleased to be able to photograph the nest full-frame from so far away. I especially liked the scene of the parent taking a snooze with the very alert youngster nearby.*



Digiscoping is taking photos using a small digital camera mounted on a spotting scope. This setup can easily give you a lens equivalent of about 2,300 mm. That's a very high magnification when you consider the biggest telephoto lenses for regular cameras are usually smaller than 1,000 mm and generally around 400 – 600 mm. Also, digiscoping equipment costs much less than high-quality large telephoto lenses and often weighs much less.

Digiscoping allows you to photograph most wildlife from a considerable distance without disturbing them. From 40 feet away you can get close-up photos of songbirds. You can be more than 200 feet away for larger birds such as Great Blue Herons and Bald Eagles. And you can be much farther away for large mammals such as mountain goats and bears.

Some say the quality of photos produced this way are not very good, but I disagree. Many of the photographs used in my *Guide to the Birds of Alaska* and other publications were taken through a spotting scope. I believe you can see very little difference when you compare the digiscoped photos with those taken with high end cameras and lenses.

The biggest selling point for me, however, is that I have been able to take photographs by digiscoping that I would not have been able to take, or that would have been much more difficult to take, using traditional photo equipment. For example, I was able to take full-frame photos of Bald Eagles at their nest from 230 feet away, and I photographed mountain goats full-frame without risking life and limb trying to climb close to them. I especially enjoy the way digiscoping allows me to photograph birds at their nests without disturbing them.

Digiscoping: Photo tips

Choosing a digital camera, tripod, tripod head, spotting scope, and other accessories can be very confusing. There is such a myriad of cameras and accessories to choose from. Many brands will work just fine, while others have considerable limitations for digiscoping. So what is one to do? Well, the Internet is certainly full of helpful and not so helpful hints. I have yet to see a book on digiscoping, but there could be one or two out there. [reword]

I do not know all the advantages and disadvantages of the different camera models and accessories. But I have researched it enough to have a good idea of what works and what doesn't. The best I can do is tell you what has worked for me.

Camera – I now use the Samsung V70 digital camera and have also successfully used the Nikon Coolpix 995 digital camera. (Some people seem to have trouble digiscoping with the newer model 4500. I'm not sure why, but perhaps it is related to having a higher magnification 4x vs. 3x). Using the remote release device sold for the camera is almost a must.

Tripod – I now use mostly the Hakuba HG-6240C carbon tripod because it is light and sturdy and also the legs spread far apart for work near ground level. The type of head seems to be very important when digiscoping. I have tried and not liked any of the pan and tilt or ball heads (even the expensive ARCA Swiss monoball). The best head I have found is the Manfrotto 410 Junior Geared Head with a quick release plate. I use two heads – one on the tripod and one on a Bogen window mount that I always keep in the car. When you're digiscoping, the right type of tripod head is very important. The geared head allows for precise adjustments.

Scope – I use the Kowa Prominar TS-614 spotting scope

with a 20-power wide-angle objective. The Kowa scope is one of the lightest sold (1.7 lbs), which is the main reason I chose it. The cloth cover that you can purchase with the scope helps protect it and is easy to use in the field. I would avoid the variable power objectives and any of the fixed objectives above 20 power. I found even the 25-power objective difficult to use. It had too much magnification.

Attachment – I use the LE – Adapter sold by Lens Plus at www.lensadapter.com

Operation hints – When digiscoping I use the aperture priority mode and the lowest f-stop I can. I use manual focus set at 30 feet and focus with the scope. To obtain a high quality photo the camera must be perfectly still. It's best to be out of the wind and to not touch the camera at the moment of exposure. Remote release or use of the self-timer is very important.

Digiscoping update - Swarovski scopes have come out with an adapter which should allow you to use almost any prosumer digital camera. It's called the Swarovski DCB-S Non-SLR Digiscoping/

Viewing Flip-Away Bracket. Some general hints: Do not choose a camera that goes beyond 3x. Try to find one that has a remote release either by cable or wireless. A movable LCD screen helps with digiscoping.

Final note - If you are far-sighted you may have trouble focusing the camera. If you are seriously considering getting into digiscoping I suggest you try it first with someone who has a setup before you purchase equipment.

The top photo shows the entire digiscoping set-up. The lower photo shows the camera and attachment device for the spotting scope and the geared head for the tripod.

Digiscoped, Nikon E995, Kowa scope with 20 power objective, f/4.5 at 1/60 second, from about 100 feet away.

Bald Eagle feeding on salmon eggs *and* **Bald Eagle staring into the mouth of a salmon.** *Once I used digiscoping at the Chilkat Bald Eagle Preserve near Haines, Alaska. I felt a little ridiculous standing next to other photographers with their huge telephoto lenses and massive tripods. But while they were concentrating on getting perfect full-eagle photos I was concentrating on just the birds' heads. Focusing on an eagle's head plunging into bright red salmon eggs or looking down into the mouth of a salmon showed me different aspects of eagle behavior that I had not photographed before.*

Digiscoped. Nikon E995, Kowa scope with 20 power objective, f/4 at1/26 second, ISO equivalent 100, minus 1 exposure compensation, from about 200 feet away.

Northern Goshawk female at nest. *Being far from your subject does not guarantee an easy time. Once I was photographing Northern Goshawks at their nest from more than 200 feet away with digiscoping equipment. Suddenly without any warning the female goshawk hit me on the side of my head. As I hurriedly gathered up my equipment to leave, it hit me again on the back of my head. Fortunately, the bird seemed to be striking with closed talons. I later heard that other people had not been so lucky; they'd actually had their scalps opened up by the same bird. Nevertheless, my head hurt for about a week, and I suppose I deserved it.*

Only a small percentage of female goshawks nest so young that they are still in their immature plumage. This made the photo even more special to me.

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/2000 second, ISO equivalent 100, minus 0.5 exposure compensation, from about 200 feet away.

Trumpeter Swans on snow. *I spent several hours photographing these swans from a bridge where they were not disturbed by my presence. On several occasions I would see photographers try to approach the swans along the river, causing the birds to flush. The usefulness of digiscoping was quite evident here.*

Panasonic DMC-FZ30, f/7.1 at 1/1,000 second, ISO equivalent 100, 420mm equivalent, from about 300 feet away.

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/180 second, ISO equivalent 100, minus 0.5 exposure compensation, from about 300 feet away.

Mountain Goat feeding. *These two photos illustrate what the same mountain goat looks like photographed with a 420 mm lens equivalent as compared to digiscoping with a 2,300 mm equivalent. Both photos were taken from the same spot and are presented here without any cropping.*

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/6.7 at 1/90 second ISO equivalent 100, from about 200 feet away.

Great Blue Heron. *I was driving along the road near the Juneau Airport when I spotted this heron resting near Jordan Creek. It made an interesting scene with a shaft of sunlight and a beaver-chewed stump next to it. I drove around the block and parked on the opposite side of the street and took this photo with digiscoping equipment from the car. The heron gave no indication that it was concerned about my presence. Numerous cars were zooming past, and the wind from each one jiggled my car so much that any photos I took when cars were passing came out blurry.*

Digiscoped, Samsung V7, Kowa scope with 20 power objective, f-2.8, shutter speed 1/32 second, from about 40 feet away.

Lincoln's Sparrow on Nootka lupine. *During nesting season, ground nesting sparrows usually perch on top of vegetation to keep an eye on anyone passing nearby. However, if you approach them to get photographs they usually drop out of sight. Digiscoping allowed me to get this photo without causing the bird to flush. To get full-frame images of small birds the size of sparrows with typical telephoto lenses of about 400mm requires you to be about 8 to 10 feet from your subject. This usually brings you too close to these birds and can be disruptive of their normal behavior. Digiscoping allows you to stay much farther away, usually outside their range of normal concern.*

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/6.7 at 1/90 second, ISO equivalent 100, from about 200 feet away.

River otters. *River otters seem to be quite wary of humans. Although I was about 200 feet away, the animals in both these photos still were aware of my presence. The three in the top photo seemed concerned, but the one in the lower photo kept feeding. Digiscoping allowed me to get at least a few portraits of these beautiful animals, and I could even tell what species of fish the otter in the lower photo was eating (starry flounder).*

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/2000 second, ISO equivalent 200, minus 1.5 exposure compensation, from about 200 feet away.

American Dipper with salmon fry. *This dipper was bringing salmon fry and aquatic insects to its young at a nest. Without digiscoping this photo would have been very difficult to take because you could only see the nest from a considerable distance away. I was very pleased to get this photo because recent research suggests that salmon fry are important for the successful raising of dipper chicks.*

Digiscoped, Nikon 995, Kowa scope with 20 power objective, f-3.7, shutter speed 1/22 second, ISO equivalent 100, from about 50 feet away.

Digiscoped, Nikon E995, Kowa scope with 20 power objective, f/4.5 at 1/60 second, from about 50 feet away.

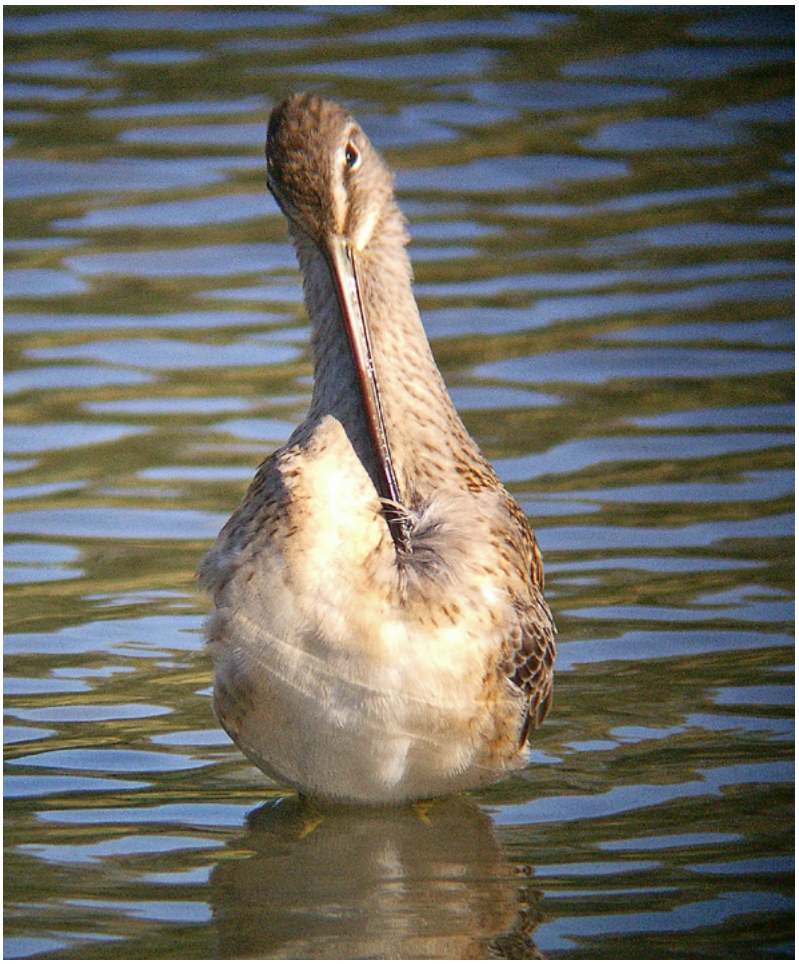
Belted Kingfisher female with salmon young. *Before bringing fish to their young these kingfishers would perch on a log near the nest. By sitting in the tall grass and using digiscoping equipment I was shielded enough and far enough away that the birds pretty much ignored me. The perching log, however, was embedded into the stream bottom, and the current caused it to bounce up and down. That made it difficult to get a clear image at the low shutter speed required for the low-light conditions.*

Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9, at 1/250 second, ISO equivalent 100, minus 0.5 exposure compensation, from about 100 feet away.

Common Merganser with young. *When I saw this merganser family resting on a rock, I approached slowly, just until the mother indicated she was aware of my presence. After I stood still for a few minutes, she fell asleep and I was able to take several photos, then leave without disturbing them. That's always a good feeling.*

Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/250 second, ISO equivalent 100, minus 0.5 exposure compensation, from about 60 feet away.

Semipalmated Plover on nest. *When I inadvertently stumbled onto this plover's nest, the bird immediately went into the typical "broken-wing" act. I backed away from the nest and the bird returned fairly quickly, but without digiscoping or remote triggering devices I probably would not have been able to get this photo.*



Dowitcher preening. *I really enjoy watching and photographing shorebirds from a distance. When they're preening and bathing they can get into some almost humorous positions, especially the long-billed ones.*

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/2000 second, ISO equivalent 200, minus 1.5 exposure compensation, from about 40 feet away.

Greater Yellowlegs bathing. *Here's another shorebird that got wrapped up into an almost comical position. This one had just finished bathing and rubbed its head on its wing before flying off.*

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/4.9 at 1/2000 second, ISO equivalent 200, minus 1.5 exposure compensation, from 40 feet away.

Digiscoped. Samsung Digimax V70/a7, Kowa scope with 20 power objective, f/6.7 at 1/90 second, ISO equivalent 100, from about 25 feet away.

Dragonfly larva on pond lily. *Digiscoping can also be used to photograph insects and flowers that are too difficult to get close to. For example, when dragonfly larvae are just emerging to change into adults, any disturbance will usually cause them to retreat back into the water. Digiscoping allowed me to take this photo full frame without disturbing the insect. Since the larva also was in the middle of a pond, I would have had to go swimming to get close enough with conventional photo gear.*