A BINOCULAR PRIMER FOR BIRDERS

by Leif J. Robinson

Planning to buy a new pair of binoculars? When you go to a store or look at catalogs, the options may seem overwhelming. So here is a short checklist to keep you on track.

Assessing Your Needs. There are scores of binocular models on the market today. They range from large to small, heavy to light, costly to inexpensive. Which one is best for you? Your choice will depend on many factors, and some of those may seem contradictory. For example, is it possible to get a sharp image over a wide field of view in a durable, inexpensive binocular? I have not yet seen that model. But if you are willing to settle for a *fairly sharp image* or a *smaller field of view* or, to *pay a bit more*, the answer will be yes.

Before choosing a binocular, first ask yourself, "How am I going to use it?" May's weekend birder at Mount Auburn Cemetery can put up with a second-rate binocular, but someone who goes afield at every possible opportunity cannot. In other words, just how much frustration and discomfort are you willing to put up with and how often? And then there is the problem of matching your binoculars to your body. Keep in mind that an instrument easily handled by a college fullback may be much too heavy for his gymnast girlfriend.

What type to buy. There are two principal kinds of binocular designs: porro-prism and roof-prism. The first, up to a decade or so ago, was by far the most popular. In recent years, the roof-prism models have become the rage. In general and dollar for dollar, porro-prism binoculars are bulkier but give sharper images. Roof-prism models, however, are more convenient to hold and have greater structural integrity.

Magnification. Except for special circumstances, I recommend that birdwatchers buy 8- to 10-power binoculars. To use less magnification is to view an unnecessarily small image; to use more is to run the risk of image jiggle due to tremors from your body.

Diameter of objective. For a general-purpose binocular, the front or objective lens should not be smaller than 35 millimeters nor larger than 40. Instruments in this range will give you a bright image under typical lighting conditions but will not make you carry around unnecessary bulk.

Now let's combine magnification and objective size expressed together as common binocular buzz words. For example, you will find models characterized as "7 x 35" and "10 x 40." What do these numbers mean? The first tells the magnification (here, 7 or 10 power) and the second the diameter of the front lens (35 and 40 millimeters).

Field of view. A binocular's field of view is nothing more than the width of the scene it shows. In general, the bigger this number the better. Most binoculars indicate the field of view as so many feet seen at 1000 yards; others give it in angular measure (degrees). I recommend a field of at least 7 degrees, which is equivalent to 370 feet at 1000 yards.

But if you wear eyeglasses, don't take what is written on the binocular as gospel (about the field of view). A binocular that is touted as "wide field" or "wide angle" (they mean the same thing) may give eyeglass wearers tunnel vision. There are quantitative ways to measure the effective field of view with and without eyeglasses, but you may not have the time or inclination to pursue them. An alternative solution is simply to compare the field seen with your glasses on and off: with the right optics for you, there shouldn't be much difference. Remember, when performing this comparison, to compress the eyepiece caps when your glasses are on and to extend them when they are off. If there are no adjustable cups, the glasses are not suitable for eyeglass wearers.

Coatings. Here's a nice can of worms. A coating on an optical surface reduces light scattering and gives a brighter image. Naturally, some types of coatings are better (and more expensive) than others. But there is also a more important question: how many of the optical surfaces are coated? A typical binocular has about a dozen surfaces, and a coating on all or most will vastly improve the performance. Your safest bet is to buy from a well-known manufacturer who advertises "fully coated" optics.

Weight. Among the best binoculars I've used, weights range from 20 to 40 ounces. That difference may not seem like much, but try carrying around the latter all day! All other factors being equal, go light!

Manufacturers and guarantees. My advice is to buy from a familiar brand-name company; if something goes wrong, you'll get good service, and guarantees from all these firms are virtually identical. Bausch and Lomb/Bushnell, Leitz, Swift, and Zeiss are among the best.

Price. Expect to pay a good deal for good optics; list prices between $250 and $800 are perfectly reasonable. But you need never pay list price; virtually all binoculars and spotting scopes can be purchased at discounts of 40 percent or more.

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