

# Get the maximum bang for your binocs-buying buck!

by J.T. Kozak

## The Tests

I've always had mixed feelings about published binocular field tests. On the one hand, I love to read them, if for no other reason than to compare notes with other so-called experts like myself. And, of course, field tests are also a great way to take the pulse of the binocular market. I'm an optics nut anyway, so anything on birding and optics gets my attention.

On the other hand, I'm a science teacher, and well versed on the protocols of the scientific method and scientific research. So I instinctively recoil at binocular field tests that present themselves as scientific or objective. Get real. Any binocular test, short of a professional optical laboratory test, is subjective by nature. Anyone who claims otherwise is being misleading.

This test was certainly subjective. What you see here are opinions--backed up with data--but opinions nonetheless. By our very nature, we tend to give printed numbers a life of their own and forget that each number represents a decision on a field tester's part. So the bottom line here is to regard these data as useful feedback, rather than a lab report. In fact, you should regard all field tests in this light.

## Objective:

The purpose of these tests was to rate 33 binoculars as to their performance for birding. Scoring was kept as simple as possible, and no attempt was made to assign a final "winning" score as a birding glass. Why? Some people choose a glass based primarily on optical performance, others based on handling, and still others based on size or weight or color or brand and on and on and on. This was reflected in our three testers.

Mark Urwiller of Kearney, Nebraska, is a physics teacher and true optics expert who built Seven Hill Observatory in Kearney with his own hands. He is a superb amateur astronomer and birder with a near encyclopedic recall of details. Mark cuts no slack when it comes to optical performance, and has little

patience for faulty designs or equipment. For him, optical quality is always the dominant consideration. To Mark, binoculars are a tool that must meet stringent optical standards. His personal birding glass is a Nikon 10x42 Superior E.

John Murphy of Kearney is also an excellent birder who approaches birding and optics from a holistic, rather than a purely technical point of view. John expects his binoculars to be more than a tool; they must be a friend, and they earn his trust only after hard use. Optical quality is important of course, but feel, handling, and durability are just as important, because he does more birding in a week than many birders do in a season. His personal glass is the Leica 8x42.

I'm a blend of both of these good friends. These days I am probably closer to John in my approach to optics and birding, though I am still very much the optics nut. As for my personal glass, I have always loved the midsize and compact stuff. I carry a Leica 8x32 or a Leica 8x20.

I listed our personal optics to let you know that there was no brand prejudice in this article and to give you an idea of what we expect in binoculars. So if you see a rating of excellent on a given instrument, you know what excellent means to us.

The tests were conducted at Audubon's Rowe Sanctuary in Gibbon, Nebraska, over two warm and sunny summer days. We were surrounded the entire time by nesting American goldfinches, Baltimore and orchard orioles, eastern bluebirds, house wrens, tree swallows, barn swallows, cedar waxwings, song sparrows, field sparrows, red-tailed hawks--well, you get the message. We weren't lonely.

I avoided the 10- and 2-point scales commonly used in binocular tests, and chose to go with a much simpler and more practical 4-point rating scale instead. After all, what is the difference between a 9 and 10, or even worse, a 16 or 17, on a test that is highly subjective anyway? And because many of these models will be chosen by newcomers to both optics and birding, I felt that an easy to understand and practical rating system would be far more informative and realistic.

## **RATINGS**

### **POOR = 1**

Not recommended for birding. Lack of performance will hinder bird identification in the field.

### **FAIR = 2**

Can be used for birding. Enough quality to identify birds under most field conditions, but may be uncomfortable for extended use, or has a feature that is marginal for birding. Most birders will want more performance.

### **GOOD = 3**

Will satisfy all but the most demanding birders. Enough quality for all birding situations, including long hours of use. No noticeable deficiencies. Any of our testers would go birding with such a glass.

### **BEST = 4**

Competes with top level optics for performance. More performance than needed, but will enhance the birding experience. A feature of exceptional quality. A real joy to use.

At the end of the testing, we were stuck between the ratings for a few of the models. We tested again, and if anyone remained undecided after another test, I allowed one, and only one, + to be added to a score to indicate that a tester was conflicted and lost between two ratings. (If a score of 4 was achieved but a tester was in love with a feature, I allowed as many +s to be added as his heart dictated, embarrassing as it might be.)

Each instrument was scored separately for optics, focusing, and handling after the binoculars were adjusted properly for differences in the testers' eyes.

## **RATING CATEGORIES**

### **1. Optics:**

#### **Resolution center, resolution edge**

Testing was done on each instrument for resolution on a standard resolution chart at a distance of 20 yards, both in the center third of the field and the edge third of the field. Resolution by definition is the ability to separate closely spaced objects. It does not necessarily mean the sharpest glass, because a high-resolution lens is more likely to reveal irregularities in an object's outline.

#### **Image quality**

Each instrument was tested for brilliance of colors, contrast under dark forest conditions, and overall brightness.

## **Comfort**

The amount of eye strain and fatigue was also evaluated. This represents how well aligned the optics are, and is a general indication of the testers' ability to use the glass for extended periods.

## **2. Focusing Effort**

Instruments that could be focused effortlessly with one finger received the highest scores, whereas instruments that required the use of two or more fingers received the lowest scores.

## **Smoothness**

Each instrument was tested for lack of changes in focusing effort throughout the entire focusing range of the instrument. Binoculars that focused smoothly throughout the entire focusing range received the highest scores; binoculars that had roughness or noticeable changes in effort required received the lowest scores.

## **Response**

Binoculars that came to focus instantly and precisely received the highest scores. Instruments that left you guessing as to when you were in focus received the lowest scores.

## **3. Handling**

### **Balance in the hand**

Did the instrument seem balanced in the hand or was it heavy on one end or the other?

### **Steadiness**

Did the binoculars' shape, texture, and contours make for steady viewing on a test object, or was the overall design difficult to grasp and hold?

### **Ease of use**

Did the location of the focusing knob, diopter adjustments, lens caps (if attached), and eyecups allow for quick use in the field or did any of these features seem to be an obstacle to getting a bird quickly into focus?

### **General Comments:**

I am pleased to report that all instruments tested, even those less than \$100, can be used for birding, and that many could give our personal binoculars a good run for the money on some features. This is a remarkable achievement by both manufacturers and dealers to recognize the needs of the birding community and allow everyone, regardless of their financial status, to enjoy birding.

## **REVIEWS**

Nearly all of these binoculars will do an excellent job of revealing detail on distant birds. Keep in mind that price is usually a good indicator of durability, longevity, and overall quality. Though the budget binoculars (less than \$100) all scored well, it would be unfair to expect them to take rough use or last as long as the more expensive instruments.

A number of binoculars were just plain hard to put down once we had them in hand for testing. These were the binoculars that we would be tempted to buy if we were shopping in the less than \$500 category. We included these in our Favorites list.

Several other models had far more quality than one would expect for the price. We included these in our Best Buy list. As mentioned, the prices listed are ballpark figures and should be used for comparison only. The street price varies and is almost always less than the manufacturer's suggested retail price (MSRP).

## **Individual Reviews**

### **Alpen**

Model: 8x42

MSRP: \$400

Rating: 3.2

Model: 10x42

MSRP: \$400

Rating: 3.3

**Comments:** Alpen is a relatively new company and not as well known in the birding community as some older names, but based on the excellent binoculars they sent for testing, this should change. Everything a birder could ask

for at this price range is here. The 8x42 was definitely one of those hard to put down models and easily made our Favorites list for its beautiful design and user-friendly feel.

### **Audubon**

Model: Audubon 8x40

MSRP: \$70

Rating: 3.2

Model: Audubon Intrepid 8x40 WP

MSRP: \$149

Rating: 2.8

**Comments:** Audubon is to be commended for bringing these quite usable budget binoculars to the birding community. If nothing else, these instruments demonstrate that quality optical performance can be obtained with a Porro prism for a good price. Are they as durable or pleasing to use as the more expensive stuff? Certainly not. As is typical for Porro prisms in this price range, there were some inconsistencies in the focusing. One of our testers noticed that they focused with less effort in one direction than the other, and a check of the specifications sheet will show that they don't focus as closely as the more expensive models. Still, if you know anyone who is sitting at home and not birding until they can afford a usable binocular, get them out in the field with one of these.

### **Brunton**

Model: 8x32

MSRP: \$424

Rating: 3.3

Model: 7x42

MSRP: \$444

Rating: 2.5

**Comments:** Our testers did not care for the non-removable flip-open eyepiece covers, or the interactive case designed to be used in the field, because this much protection is overkill for birding and just too much to mess with in the field. Still, if you really need the protection, they are good features, and make a reasonable tradeoff for lack of handling quality. The 8x32 without the case was everything you could ask for in a birding glass, and at a reasonable price. It performed well in every category and is recommended as an all-around glass. The heavier 7x42 was a bit bulky and did not win any friends with its clumsy diopter adjustment, though once set, it wouldn't be much of a factor.

### **Canon**

Model: IS 8x25

MSRP: \$430

Rating: 3.0

**Comments:** This instrument incorporates Canon's image-stabilization technology. Although the features and performance do not qualify it as the best choice for all-around birding binoculars, the image stabilization makes it a wonderful option for those whose age or physical limitations make it difficult to hold binoculars steady. And for anyone, the image stabilization is just plain fun to use.

## **Celestron**

Model: Noble 8x32

MSRP: \$430

Rating: 3.7

Model: 8x42

MSRP: \$445

Rating: 3.8

**Comments:** Celestron is a name synonymous with amateur astronomy and has long been a major force in that market. Based on the performance of the Noble we received for testing, they are serious about the birding market. Both models were an absolute joy to pick up and use--I had to fight with my testers to return them. Each model easily made our Favorites list and Best Buy list.

## **Eagle Optics**

Model: Ranger Platinum 8x42

MSRP: \$379

Rating: 3.8

Model: Triumph 8x42

MSRP: \$89

Rating: 3.2

**Comments:** These are excellent instruments sold by one of the top birding optics dealers in the country. The Ranger Platinum made both our Favorites list and our Best Buy list. It is really a wonderful glass to use in the field, and backed with an excellent warranty from Eagle Optics.

## **Kowa**

Model: Lavender 8x25

MSRP: \$270

Rating: 3.3

Model: Silver Grey 10x25

MSRP: \$310

Rating: 3.2

**Comments:** If you are considering a compact for your birding, these are an excellent choice, especially if you wear glasses. Most compacts suffer from mediocre eye relief, but not these. Add in waterproof, twist-up eyecups and beautiful handling and you have a winner. (I loved the lavender color of the 8x25.)

### **Leupold/Wind River**

Model: Pinnacles 8x42

MSRP: \$489.99

Rating: 4.0

Model: Olympic 8x42

MSRP: \$384.99

Rating: 3.7

Model: Olympic 10x50

MSRP: \$449.99

Rating: 3.5

**Comments:** The Leupold name goes on products assembled here in the United States, whereas the Wind River name is used for products Leupold imports. If you are not familiar with the Leupold name, it has long been a leader in the rifle scope market, and has established a reputation there for durability and exemplary customer service. You are as safe buying products from these people as anyone in the world.

All three of these binos scored superbly. The Pinnacles and Olympic both made our Favorites list and Best Buy list. The Pinnacles uses silver-coated roof prisms, whereas the Olympic uses the slightly less light-efficient metallic-coated roof prisms. Both are exceptionally easy to hold and operate. The only concern I had at all was with the eyecup arrangement on the Pinnacles. There was simply no way to adjust the eyecups in the down position to prevent my glasses from touching metal.

### **Meade**

Model: Montana 10x42

MSRP: \$445

Rating: 4.0

**Comments:** Meade, like Celestron, is a major force in the amateur astronomy market, and as the scores indicate, is now also marketing an excellent glass in the Montana. It is loaded with features, the most notable perhaps being the diopter adjustment near the focusing knob. This was probably the easiest diopter adjustment I have ever used. Meade also markets an 8x42 version, which I personally would prefer for birding. The only negative for this fine glass is its somewhat large size and its weight.

### **Nikon**

Model: 8x30 EII

MSRP: \$460.95

Rating: 4.0

**Comments:** Anyone who seriously believes that a roof prism is inherently better than a good Porro has not looked through this glass. Even my one tester who does not like Porros had to score this one highly in all categories. To say it made our Favorites list and Best Buy list is an understatement. I consider this glass to be one of the best buys on the binocular market today. I fully intend to buy one myself.

No, it is not waterproof, but like its more expensive cousin the Superior E, the body is magnesium and superbly constructed.

## Opticron

Model: Country Gentleman 8x42

MSRP: \$300

Rating: 3.2

Model:Imagic 8x42

MSRP: \$485

Rating: 4.0

**Comments:** Opticron is much better known in Europe, but deserves serious consideration by birders here in the United States. The Imagic, in particular, was an impressive glass. It has every feature a good birding roof prism can have; it easily made our Favorites list.

## Orion

Model: Savannah 8x42

MSRP: \$299

Rating: 3.3

Model:Vista 8x42

MSRP: \$189

Rating: 3.0

**Comments:** Orion is another long-time presence in the amateur astronomy market, and specializes in good optics at reasonable prices. These two selections certainly qualify. The Savannah is a well-designed roof prism that is a delight to handle, though I was puzzled by the two-year warranty. The Vista is a Porro prism with a better warranty and is fully qualified to be used for birding.

## Pentax

Model: DCF MP 8x28

MSRP: \$307

Rating: 3.8

**Comments:** I fell in love with this 8x28 MP. It is an absolutely marvelous little glass that is bigger than a compact but smaller than an 8x32, and it combines the best features of both. This glass would be a wonderful companion for any birder. It easily makes our Favorites list and Best Buy list.

## Simmons

Model: Aetec 8x40

MSRP: \$110

Rating: 3.5

Model: Aetec 10x50

MSRP: \$120

Rating: 3.5

**Comments:** The Aetec models from Simmons incorporate aspheric lens designs and are an example of what can be achieved at a remarkably low price. They scored well in every category, but the close focus of the 10x I tested (23 feet) would disqualify it as an all-around birding glass. The 8x, however, is on our Best Buy list.

## Steiner

Model: Merlin 10x42

MSRP: \$499

Rating: 2.8

**Comments:** Steiner is a German company that has established itself as the foremost manufacturer of military optics. The Merlin certainly reflects this heritage. It is a heavily armored, hand-filling glass that certainly gives the impression of rugged durability.

## Swift

Model: Audubon 8.5x44

MSRP: \$500

Rating: 3.3

Model: Warbler 8x42

MSRP: \$490

Rating: 3.0

**Comments:** Swift is an old and venerated name in the birding world. Both of these products are excellent choices for birding. The Warbler is a handy little roof prism that was a joy to handle. The Audubon 8.5x44 has a reputation for quality and optics that is well deserved. The only thing I would caution buyers about is the published eye relief of 17mm. The eyepieces are recessed down in the eyepiece housings to make the actual eye relief a bit less. At my ideal eye relief of 14 mm, I was unable to see the entire field, although the binocular was still quite usable as is. At this price it is definitely on our Best Buy List.

## Thralow

Model: Zhumell 8x42

MSRP: \$229

Rating: 2.5

**Comments:** The Zhumell is imported by Thralow in Duluth, Minnesota, one of my favorite places. The Zhumell was an interesting glass. Optically it was competitive with nearly everything in this price range, but it had a few quirks. The weight at a published 42 ounces means you probably won't carry this around your neck for long periods. The focusing was excruciatingly slow, and incapable of focusing closer than 17 feet on the instrument I tested. This disqualifies it as an all-around birding glass, but it would still have a place for medium- and long-range viewing where a rugged, durable, and waterproof glass is needed.

## Vortex

Model: Vortex Typhoon 8x26

MSRP: \$90

Rating: 2.8

**Comments:** This compact's best feature is its waterproofing. It is designed to be used as a take-along glass on boating outings or anywhere around water. It is not as good a choice for all-around birding as Eagle Optics' inexpensive Porro prisms above, but if you need a compact, waterproof glass at a bargain price, this is a good choice.

## Weaver

Model: Weaver Grand Slam 10.5x45

MSRP: \$499

Rating: 3.3

**Comments:** This is another established name in the rifle-scope market that has also carried a line of reasonably priced binoculars for years. The Weaver Grand Slam is a phase-corrected glass with all the features you need for birding, though some will wish for an 8x instead of the unusual 10.5x.

## Zeiss

Model: Victory 10x25 BT

MSRP: \$449.99

Rating: 3.5

Model: Diafun 10x30 BMC

MSRP: \$399.99

Rating: 2.7

**Comments:** Zeiss is a name that needs no introduction in the birding and binocular world--it is a guarantee of excellent optical performance.

The Victory is an interesting design for a compact. Instead of the usual double hinge system found on many compacts, it features an offset single hinge that folds nicely and allows you to bring the binoculars into action more quickly than double-hinged compacts. It is also a more durable system. Its optics and handling make it a good choice for an all-around birding binocular, if not for the close focus of 18 feet. Still, the quality tempts.

The Diafun 8x30 BMC is a remarkably priced glass considering the Zeiss label it carries. It is manufactured in Hungary, and as expected is optically quite good. However, it scored rather low on focusing for lack of smoothness and inconsistencies in the effort required, and the polymer body did not feel as comfortable in the hand as other models. But that same polymer construction makes it an exceptionally light glass for a 10x30 at 16 ounces. If weight is a factor for you, this is a worthwhile tradeoff. Personally, I rate this an excellent value, considering the label. It's just too hard to pass up a genuine Zeiss at this price.

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