

Pure & Simple

NIGHT SKY WITH THE NAKED EYE: *How to Find Planets, Constellations, Satellites and Other Night Sky Wonders Without a Telescope*

Bob King

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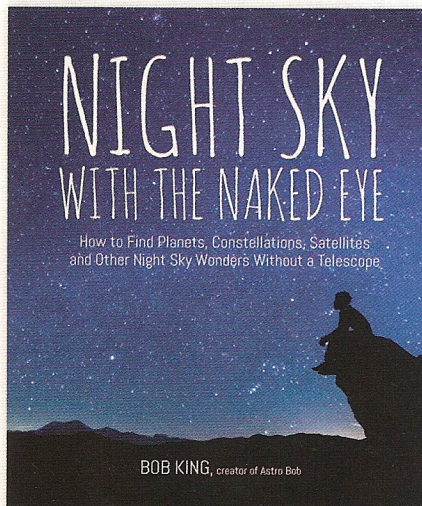
224 pages, ISBN 978-1624143090

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HAVE A NEW STARGAZER in your family? Need some help explaining constellations, asterisms, or meteors to your neighbor? Looking for something new to jumpstart your own engagement with the night sky? Bob King's new book, *Night Sky with the Naked Eye: How to Find Planets, Constellations, Satellites and Other Night Sky Wonders without a Telescope* has you covered. A few (or several!) evenings in the backyard with this book will turn the novice into an expert and the expert into a rejuvenated enthusiast.

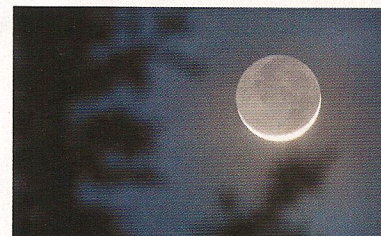
Night Sky with the Naked Eye is a well-conceived, well-written collection of topics and tasks organized around naked-eye observing. Each chapter opens with a list of activities and observing goals related to a particular type of night-sky target, starting with satellites and the International Space Station in Chapter 1 ("Wave 'Hi' to the Astronauts!") and finishing with celestial "oddities" like lunar halos and comet dust in Chapter 10 ("Curiosities of the Night"). Between beginning and end, King helps you prepare for a night out, sharing tips on how to check the weather, find a dark sky, and read a sky chart. You'll learn about the benefits of averted vision, the names of the Moon's most prominent features, and how to make your own comet (not kidding!).

Night Sky with the Naked Eye contains ten chapters, the longest of which ("Meet the Rabbit in the Moon") covers our nearest neighbor as well as the closest star, the Sun. The book is aimed



at beginning skywatchers but offers challenges at every skill level. Some of the activities are easily accomplished (finding the Big Dipper, for example), while others require more effort and expertise (like monitoring the rise and fall of Algol's brightness). King offers some pointers on binocular and telescopic observing for those interested in taking their observations a bit deeper, but equipment is completely optional for this astronomical journey.

The depth (and breadth!) of observing experience and knowledge shown by King is impressive, but even more striking is how accessible he makes the subject for the reader. He sets the tone in the first chapter, where he relates our observing to the astronauts who orbit the Earth in the International Space Station. The book builds on that human connection, providing insights into the history and (sometimes tall) tales we tell each other about the sky. King's prose is friendly and engaging. In fact, *Night Sky with the Naked Eye* often reads like a series of short stories or a novel instead of an observing manual. There's



A crescent moon is one of the most beautiful sights in nature and never fails to get our attention. Sunlight illuminates the bottom of the moon, while light reflected from the Earth—called earthshine—lights the remainder. Photo credit: Bob King

Brew Up Some Earthshine

Earthshine offers us yet another interesting perspective on phases. Did you know that Earth goes through phases, too? When we see a thin crescent, an astronaut standing on the moon sees a nearly full Earth. A half moon here means a half-Earth there. Around the time of full moon, we astronaut see a "new" Earth so close to the sun in the lunar sky that it's invisible in the same way we can't see a new moon. A full Earth reflects a lot of sunlight back at the moon, so earthshine is brightest when the crescent is thinnest. As the moon's phase moves on, the earth's phase moves on, too. The Earth's phase waxes or decreases, from full to half to crescent. With less Earth to reflect sunlight, earthshine grows fainter and fainter. You can follow its progress up to about 4-5 days after new phase. After that, you'll need binoculars or a telescope to see it. My personal earthshine record using a telescope is 10 days.

ACTIVITY: If you spend a few nights tracking the moon's movement, you'll see both its changing phase and increasing distance from the sun, a reflection of the moon's revolution around the Earth. The moon moves eastward from the sun at 12° or a little more than one full per day. As it does, the apparent tilt you see to the changing angles between moon, Earth and sun expose more of its globe to sunlight.

a specificity and order to the activities, but members of my household found working through them more like a scouting adventure than a laborious slate of required tasks.

You'll find that the abundance of illustrative materials — photographs, finder charts, and diagrams, almost all of which King took or created — not only add color and style to the pages, but complement the book's educational purpose. Every caption contains useful information: Those accompanying the finder charts will help you plan your next star hop, and those attached to photos and diagrams will reinforce the concepts outlined in the main body of the chapter.

If you're looking for a friendly introduction to amateur observing, for yourself or your closest friend, consider picking up *Night Sky with the Naked Eye*. You may be surprised how far a single book can take you.

■ Observing Editor **S. N. JOHNSON-ROEHR** sometimes welcomes clouds because she can stay inside and read.