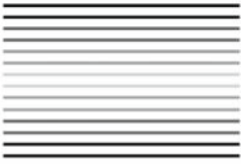
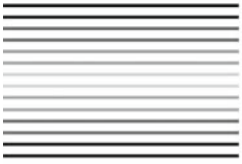


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(Continued after Index)



**The Night Sky
Companion:
A Yearly Guide to
Sky-Watching
2009–2010**

Tammy Plotner

Ken Vogt
Consulting Editor

 Springer

Tammy Plotner
Warren Rupp Observatory
Martel, OH
USA
theastronomer@webtv.net

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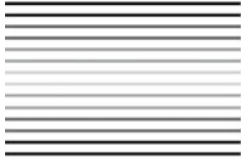


Star-Splitter (credit—Joe Orman).

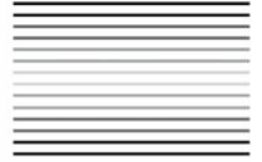
"The best thing that we're put here for's to see;
The strongest thing that's given us to see with's
A telescope"

...

I recollect a night of broken clouds
And underfoot snow melted down to ice,
And melting further in the wind to mud.
Bradford and I had out the telescope.
We spread our two legs as we spread its three,
Pointed our thoughts the way we pointed it,
And standing at our leisure till the day broke,
Said some of the best things we ever said.
That telescope was christened the Star-Splitter
—Robert Frost



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Acknowledgments

“When one has weighed the Sun in balance, and measured the steps of the Moon, and mapped out the seven heavens, there still remains oneself.”

“Who can calculate the orbit of his own soul?”

...

“We are all on our backs in the gutter, only some of us are looking at the stars.”

—Oscar Wilde

Throughout the years, it has been my great pleasure and privilege to know many professional and amateur astronomers. I have been inspired by countless books, magazines, and programs, and have spent years of starry nights at the eyepiece in study. It is a combination of all of these things that makes this book what it is. And makes me who I am.

For all of you out there, I thank you. Your support and kind words have made a dream come true. Now let me thank the people who made it come about.

Ricardo Borba is an amateur astronomer living in Ottawa, Ontario, and a member of the Royal Astronomical Society of Canada. Between observing sessions, he is an application software engineer at Natural Convergence. His photographic skills are becoming highly acclaimed, and his work is featured in various publications. www.borba.com

Alan Chu As a resident of Hong Kong, Alan might joke that the Moon is all he can observe thanks to light pollution, but Alan’s work is no laughing matter. He has produced one of the finest amateur photographic atlases of the Moon available, and it is a great honor to include his fine photography in these pages. www.alanchuhk.com

John Chumack With over 500 of his images published in such notable periodicals as *Science*, *National Geographic*, *Discover*, *Time*, and *Newsweek*, John has taken astrophotography to the realm of an art form. While you will find his work in fine art exhibitions, you will also find John busy as a serious astronomer—contributing to the Minor Planet Center



NGC 1579—(credit—R. Jay GaBany).

and studying lunar transient phenomena. With Chumack Observatories located in both Dayton and Yellow Springs, John is an active member of the Miami Valley Astronomical Society and helps to fund his research through image sales. www.galacticimages.com

R. Jay GaBany Born at the dawn of the Space Age, R. Jay GaBany has come of age during a time when humankind's fascination with the great mysteries beyond our home planet has surged. His interest in astronomy started at an early age, sparked by the *Apollo* moon landing program. While Neil Armstrong and Buzz Aldrin were bouncing around on the lunar surface, Jay was in his backyard observing the Moon through his first small refractor. But it was Carl Sagan's vision that ignited his adult enthusiasm for astronomy when the TV show "Cosmos" debuted, and shortly thereafter, he acquired his first 8" Schmidt-Cassegrain telescope. Today, his images are taken both from his light-polluted backyard using a portable 12" telescope and remotely, using Internet control, with a 20" reflector from a dark location in the south-central mountains of New Mexico. www.cosmotography.com

Wes Higgins Wes' interest in space and astronomy started while watching the first U.S. manned space shot on television. He continued to follow with great interest the NASA space program all the way through the *Apollo* Moon landings. While growing up, he yearned for a telescope, but the thought lay dormant through college, marriage, and the start of his own business. Eleven years ago his dream came true and, as he says, "I am sure that for the rest of my life I will be out observing and imaging every chance I get." <http://higginsandsons.com/astro>

International Occultation Timing Association (IOTA) Many thanks go to the International Occultation Timing Association for their OCCULT Ephemeris 3.6.0 freeware, which provided a look into this year's Solar System events. <http://www.lunar-occultations.com/iota/>

Greg Konkell Greg has many interests, among them astronomy and photography. Having recently made the transition from film to digital cameras, he is enthused about the potential of this new technology and has focused his attention lately on integrating these two interests. The purpose of his web site is twofold: to make a contribution regarding the technical issues surrounding digital astrophotography, and to share some of the best images he has acquired—both astronomical and general photographic. www.nwgis.com/greg

National Aeronautics and Space Administration (NASA) NASA explores. NASA discovers. NASA seeks to understand. But most of all, NASA shares. I would like to thank those good folks for providing all the wonderful resources available to amateur astronomers, and I express my personal thanks for the use of many archival photographs, illustrations, and other materials seen here. www.nasa.gov

Joe Orman As a hiker, biker, climber, caver, rock hound, and ghost-towner, Joe has been exploring and photographing the special places of the Southwest for more than 30 years. His sky shots are truly where photography and astronomy meet—in the middle ground between art and science. His list of credits is amazing, and the name Joe Orman has accompanied photographs in literally dozens of prestigious publications. . . and it is with great pride that his work is included here. <http://joorman.shutterstock.com/Gallery.html>

Palomar Observatory/Caltech I cannot adequately express my gratitude toward Palomar Observatory and Caltech for the use of the POSS II Sky Survey images that you see in many places throughout this book. Although amateur photography has come a long way over the years, no one can surpass this huge database of images. I would also like to thank Linda Buestos for helping me obtain permission to use and present them to you. May their use as illustrations inspire you, as much as their research has inspired me. My many, many thanks. www.astro.caltech.edu/palomar

US Naval Observatory (USNO) Some of the Solar System information found here is credited to the United States Naval Observatory's Multiyear Interactive Computer Almanac (MICA 3.0). Many thanks for their kind permission to use this software for this book. www.usno.navy.mil

Ken Vogt There is no one to whom I owe a deeper debt of gratitude than to my editor, Ken. By conventional standards, he swears his life has not been that successful, but he is more talented than he will admit. Living modestly in southern Indiana, he was able to retire from various menial employments in 1991 at age 45, but he's far from "retired." Since that time, Ken pursued his love of music (playing keyboards) and fascination (and frustration) with computers. Although the bright sky in his hometown has prevented any serious sky-watching, he is a devotee of astronomy.

Ken's help has been critical to the publication of this book. He has graciously spent uncounted hours reading text and offering advice. His encouragement through some rough times has been instrumental in the book's completion, and his support has kept me on track. Mr. Vogt is truly one of the bright stars in my sky.

Roger Warner Roger Warner lives in the UK in a town called Basildon in Essex. His interest in astronomy began 7 years ago, but the last 2 years have been dedicated to learning the art of

imaging. The Moon and planets were his starting point—images taken with a low-cost camera, which he still uses to this day.

The Moon became Roger's main challenge—waiting for moments of good seeing and grabbing those hidden secrets within. He began to get in close to capture those jaw-dropping pictures of the Moon's craters, valleys, and mountains. With the introduction of a modified webcam, he soon moved onto deep sky, learning the process all over again. His greatest wish is that the images he has produced will inspire others "to progress as well in this wonderful hobby." www.lupas.pwp.blueyonder.co.uk/rwnewastro/lunar.htm

My deepest appreciation goes once again to all of these fine folks and astronomers. May we all shine on. . .

—Tammy Plotner



About the Author

An Ohio native, Tammy Plotner has spent many years with various telescopes and binoculars, both learning and teaching about the night sky. She is President of Warren Rupp Observatory, Executive Secretary of the Astronomical League, a founding member of Astronomy for Youth, a presenter and coordinator for the Night Sky Network, and a JPL/NASA Space Place editor and outreach speaker. Tammy is both friend and mentor to many astronomy groups, as well as an author of several popular books and articles, and she is a contributing author for the Astronomical League's *Reflector* magazine as well as a staff writer for *Universe Today*.

Although she loves viewing the distant cosmos with the observatory's 31" telescope, she is equally at home with a small refractor, and every size and type of telescope in-between. She has won numerous observing awards and was the first woman astronomer to achieve Comet Hunter's Gold status. She credits her love of science and the natural world to her parents and family, whose love and support has made her realize that dreams really do come true when you keep on reaching for the stars!

Although she finds writing about herself in the first person rather spooky, you'll find her friendly face at star parties, at every public outreach program, speaking at colleges and libraries, traveling to distant astronomy clubs, and right here in her own backyard doing what she loves best...looking at the stars. <http://theastronomer.tripod.com>