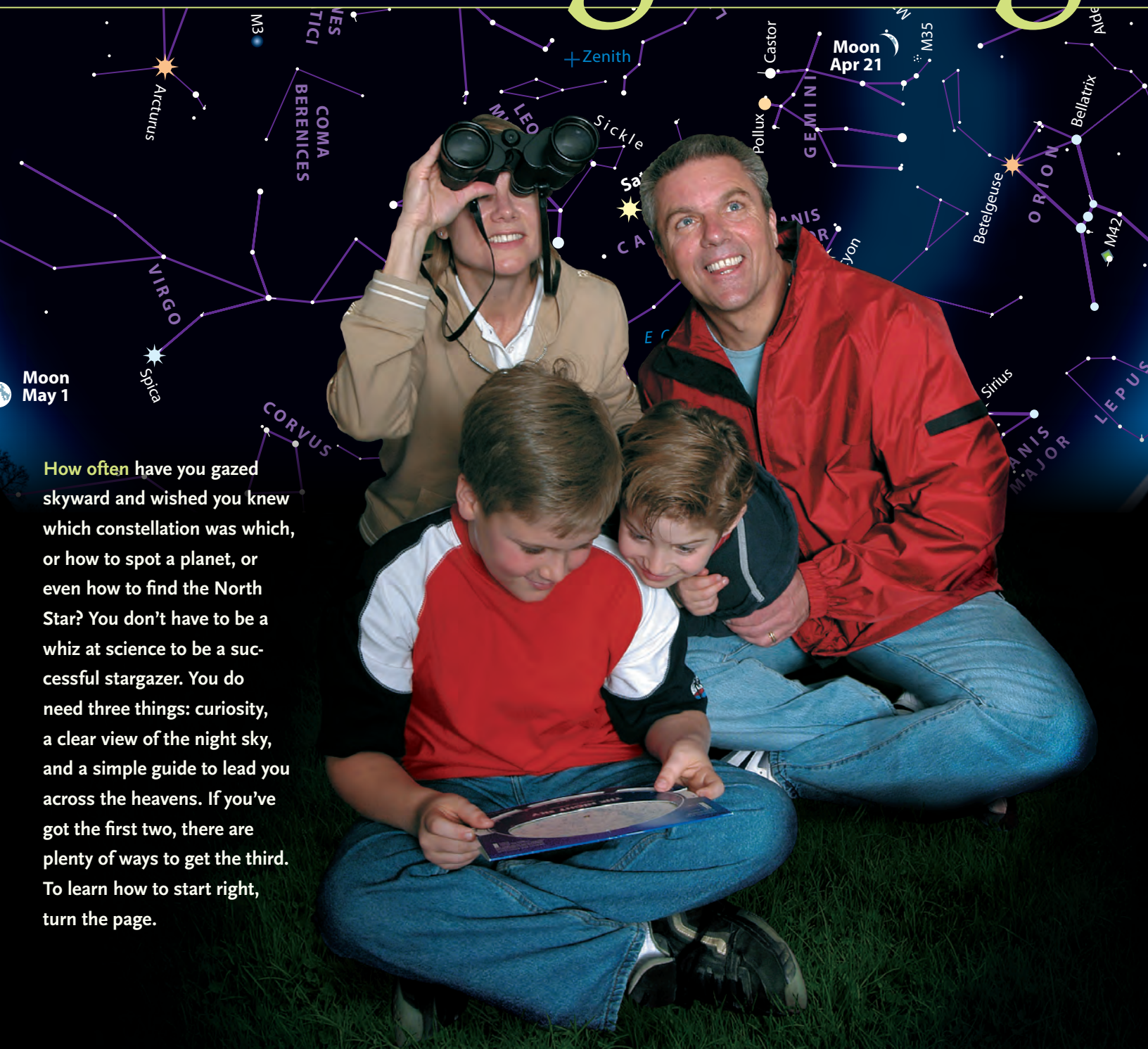


From the Editors of

SKY
& TELESCOPE

Your Guide to Getting
Started in Astronomy and
Exploring the Universe

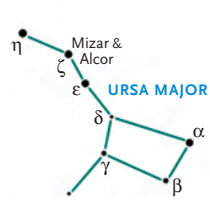
Let's Go Stargazing!



Moon
May 1

Moon
Apr 21

How often have you gazed skyward and wished you knew which constellation was which, or how to spot a planet, or even how to find the North Star? You don't have to be a whiz at science to be a successful stargazer. You do need three things: curiosity, a clear view of the night sky, and a simple guide to lead you across the heavens. If you've got the first two, there are plenty of ways to get the third. To learn how to start right, turn the page.



It takes practice ... but pretty quickly you can trace out star patterns overhead with a good constellation chart in hand.

Akira Fujii

A sailor of the seas needs top-notch charts, and so does a sailor of the skies. Fine maps bring the fascination of hunting out faint secrets in hidden sky realms. Many guidebooks describe what's to be hunted and the nature of the objects that you find. Moreover, the skills you'll develop using binoculars to locate these things are exactly the skills you'll need to put a telescope to good use.

Plan indoors. Spread out your charts and guides on a table, find things that ought to be in range of your equipment, and figure out how you'll get there. Plan your expeditions before heading out into the nightly wilderness.

Seek out other amateurs.

There's nothing like sharing an interest. Hundreds of astronomy clubs exist worldwide; see the directory at SkyandTelescope.com/clubs. Call or e-mail a club near you and see what it has to offer. Astronomy clubs range from tiny to huge, from moribund to vitally energetic; you have to check them out for yourself. You may get opportunities to go to star parties, try different people's telescopes, learn what these will and will not do, pick up advice and skills, and make new friends.

When it's time for a telescope, plunge in deep.

Know what matters when you choose. Eventually you'll know you're ready. You'll have spent hours poring over the ads and reviews. You'll know the different kinds of telescopes, what you can expect of them, and what you'll do with the one you pick.



GARY SERONIK

Even in a city, the planets and Moon shine bright.

This is no time to skimp on quality; shun the flimsy, semi-toy “shopping mall scopes” that may have caught your eye. The telescope you want has two essentials. The first is a very solid, steady, smoothly working mount. The second is high-quality, “diffraction-limited” optics.

Naturally you'll also want large aperture (size), but don't lose sight of portability and convenience. Remember, the best-choice telescope for you *is the one you will use the most*.

Some telescopes have computers and motors that can, in theory, point the scope to any celestial object at the push of a few buttons (after you do setup and alignment). But don't expect to depend on this. You still need to know the sky and how to point a telescope yourself.

Lose your ego.

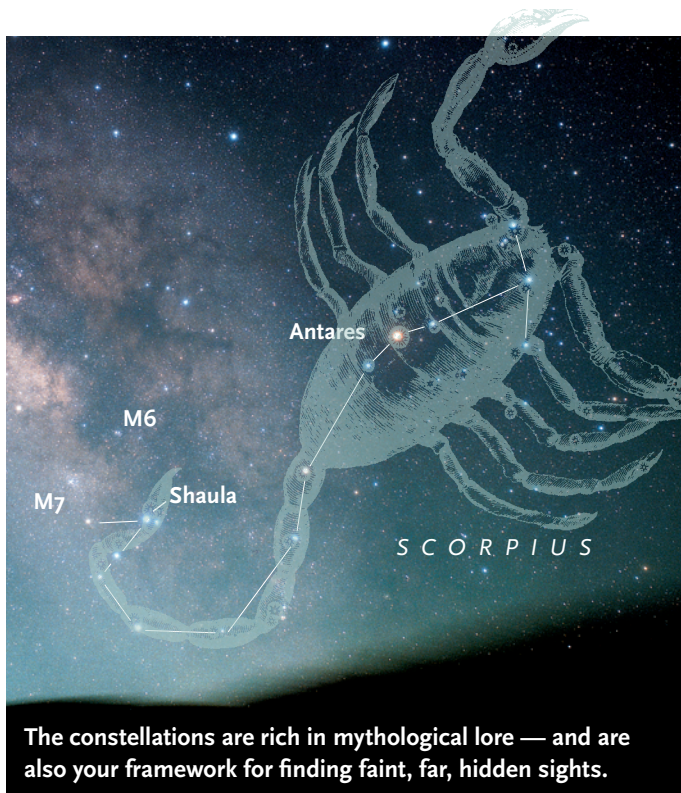
Astronomy teaches patience and humility — and you had better be prepared to learn them.

You'll hunt for some wonder in the depths and miss it, and hunt again, and miss it again. This is normal. There's nothing you can do about the extreme distance and faintness of the objects of your desire, or the clouds that move in, or the special event that you missed because you got all set up one minute late. The universe will not bend to your wishes; you must take it on its own terms.

Most objects within reach of any telescope, no matter what its size, are *barely* within its reach. Accept this. If flashy visuals are what you're after, go watch TV.

Relax and have fun.

Part of losing your ego is not getting upset if things aren't perfect. If you find yourself getting wound up over Pluto's invisibility or the aberrations of your eyepiece, take a deep breath and remember why you're doing this. Amateur astronomy should be calming and fun. Enjoy! It's a big universe out there.



The constellations are rich in mythological lore — and are also your framework for finding faint, far, hidden sights.

AKIRA FUJII

How to
Start Right in

Astronomy



Some folks do it alone, others like their astronomy in groups. Here, amateurs prepare for dark at the annual Stellafane convention.

S&T: DENNIS DICICCO

Did you know you can see a galaxy 2½ million light-years away with just your eyes? The moons of Jupiter with binoculars? Countless wonders await you overhead any clear night.

But how, exactly, do you start? Too many newcomers to astronomy get stuck in dead ends and quit in frustration.

A while ago, the *Sky & Telescope* editors got together to brainstorm what advice would help beginners most. Pooling more than 100 years of collective experience answering the phones and mail, we came up with the following pointers to help newcomers past the pitfalls and toward success.

Learn the sky with the naked eye.

Astronomy is an outdoor nature hobby. Go out into the night and learn the starry names and patterns overhead. Use the big, monthly evening-sky charts in *Sky & Telescope*, the hobby's essential magazine. Or download our free Getting Started in Astronomy flyer (which only has bimonthly maps), from SkyandTelescope.com/gettingstarted. If you live in a densely populated, light-polluted area, there's still more to see up there than you might imagine.

Even if you go no further, being able to look up and say, "There's Polaris" or "That's Saturn" will provide pleasure, and perhaps a sense of place in the cosmos, for life.

Ransack your public library.

Astronomy is a learning hobby. Its joys come from intellectual discovery and knowledge of the cryptic night sky. But you have to make these discoveries, and gain this knowledge, yourself.

The public library is the beginner's most important astronomical tool. Comb the astronomy shelf for books about the basic knowledge you need to know, and for guidebooks to what you can see out there in the wide universe. And check the magazine racks for *Sky & Telescope*.

Of course the Web is a tremendous resource. But the Web is a hodgepodge. There's lots of excellent stuff, but what you need right now is a coherent, well-organized *framework* into which to *put* the knowledge that you will pick up as you go along. In other words, you need books. Go to the library.

Thinking telescope? Start with binoculars.

Binoculars make a fine "first telescope" — for several reasons. They show you a wide field of view, making it easy to find your way around — whereas a higher-power telescope magnifies only a tiny, hard-to-locate bit of sky. Binoculars show a view that's right-side up and in front of you, making it easy to see where you're pointing. Binoculars are also relatively cheap, widely available, and easy to carry and store.

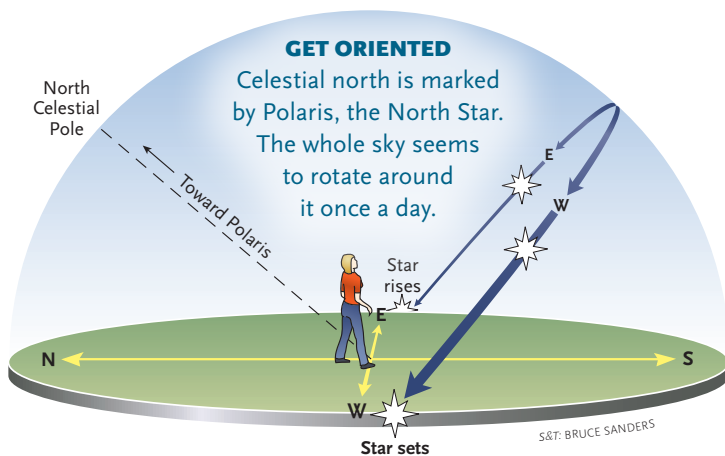
And their performance is surprisingly respectable. Ordinary 7- to 10-power binoculars improve on the naked-eye view about as much as a good amateur telescope improves on the binoculars — for much less than half the price.

For astronomy, the larger the binoculars' front lenses are the better. High optical quality is also important, more so than for daytime use. Modern image-stabilized binoculars are a tremendous boon for astronomy. But *any* binoculars that are already knocking around the back of your closet are enough to launch an amateur-astronomy career.

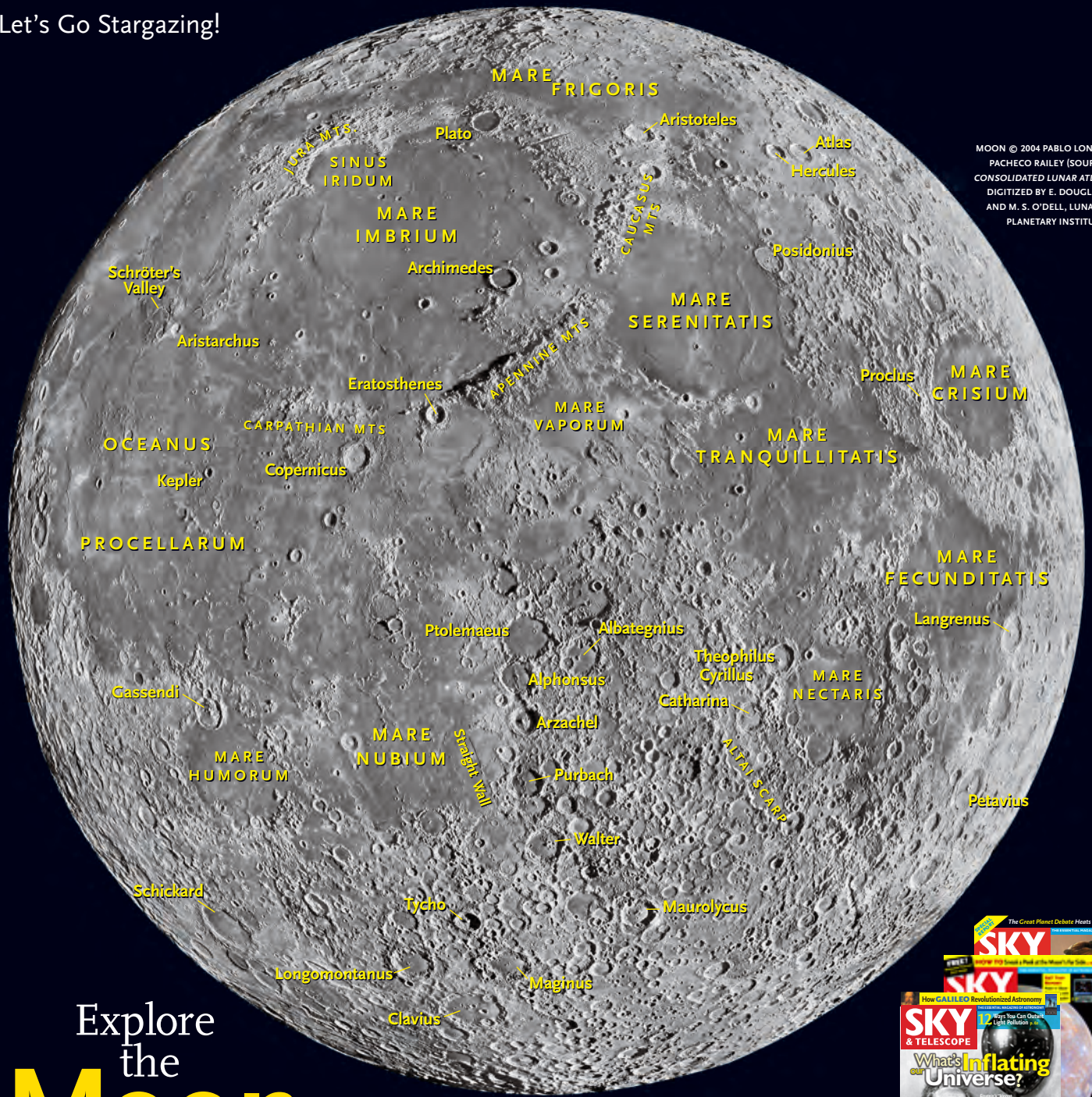
Dive into maps and guidebooks.

Invest in paper. Because once you have the binoculars, what will you do with them? You can have fun examining the Moon and sweeping the Milky Way, but that will wear thin pretty fast. If, however, you've obtained detailed maps and guidebooks, binoculars can keep you happily busy for years.

Granted, they'll only show planets as dots. But they'll reveal dozens of star clusters, galaxies, and dim, ghostly nebulae. They'll show the cratered landscapes of the Moon, the ever-changing positions of Jupiter's four big moons, and the crescent phases of Venus. You can split scores of double stars and follow the fadings and brightenings of many types of variable stars. *If you know what to look for!*



■ Let's Go Stargazing!



MOON © 2004 PABLO LONNIE
PACHECO RILEY (SOURCE:
CONSOLIDATED LUNAR ATLAS,
DIGITIZED BY E. DOUGLASS
AND M. S. O'DELL, LUNAR &
PLANETARY INSTITUTE)

Explore the Moon

The most rewarding celestial object for a small telescope, by far, is the Moon. Even a very small scope will reveal its bleak, blasted landscape of mountain ranges, plains, hills, valleys, and craters. Even binoculars can show many features, and there are enough interesting sites on the Moon to keep a telescopic explorer busy forever.

Whenever the Moon isn't full, it's divided by the *terminator*, the line separating lunar day and night. That's where detail shows best. When the Moon is a crescent in the evening, you'll see the parts near the right edge of this map. At first-quarter phase you'll see the entire right half, and so on as the terminator moves day by day.



■ Let's Go Online!

Has this orientation whetted your appetite to get going? Visit SkyandTelescope.com/LetsGo to begin your astronomy journey with projects for the whole family.

Find the constellations. See why the Moon has phases. Follow our calendar of daily sky events. Learn about binoculars. Get tips on choosing a telescope. Read a hand-holding guide to using a map at your telescope, and what maps to get. Shoot constellations with your little point-and-shoot. Learn about real deep-sky photography. Welcome in, and click away.



Keep up with astro research news at SkyandTelescope.com/news.