

ing stars are changing
w of DARK ENERGY p. 44

July 2012

Astronomy

The world's best-selling astronomy magazine

How we could
travel to the
nearest star
(bidding) p. 22

How our wet
system p. 28

What about the
Orion Nebula p. 58

MORE!

How to see
the best
AT summer binocular sights p. 56
How to
collect rocks from space p. 52

A spaceship
like this, capable of
interstellar journeys,
isn't necessarily
science fiction.

www.Astronomy.com

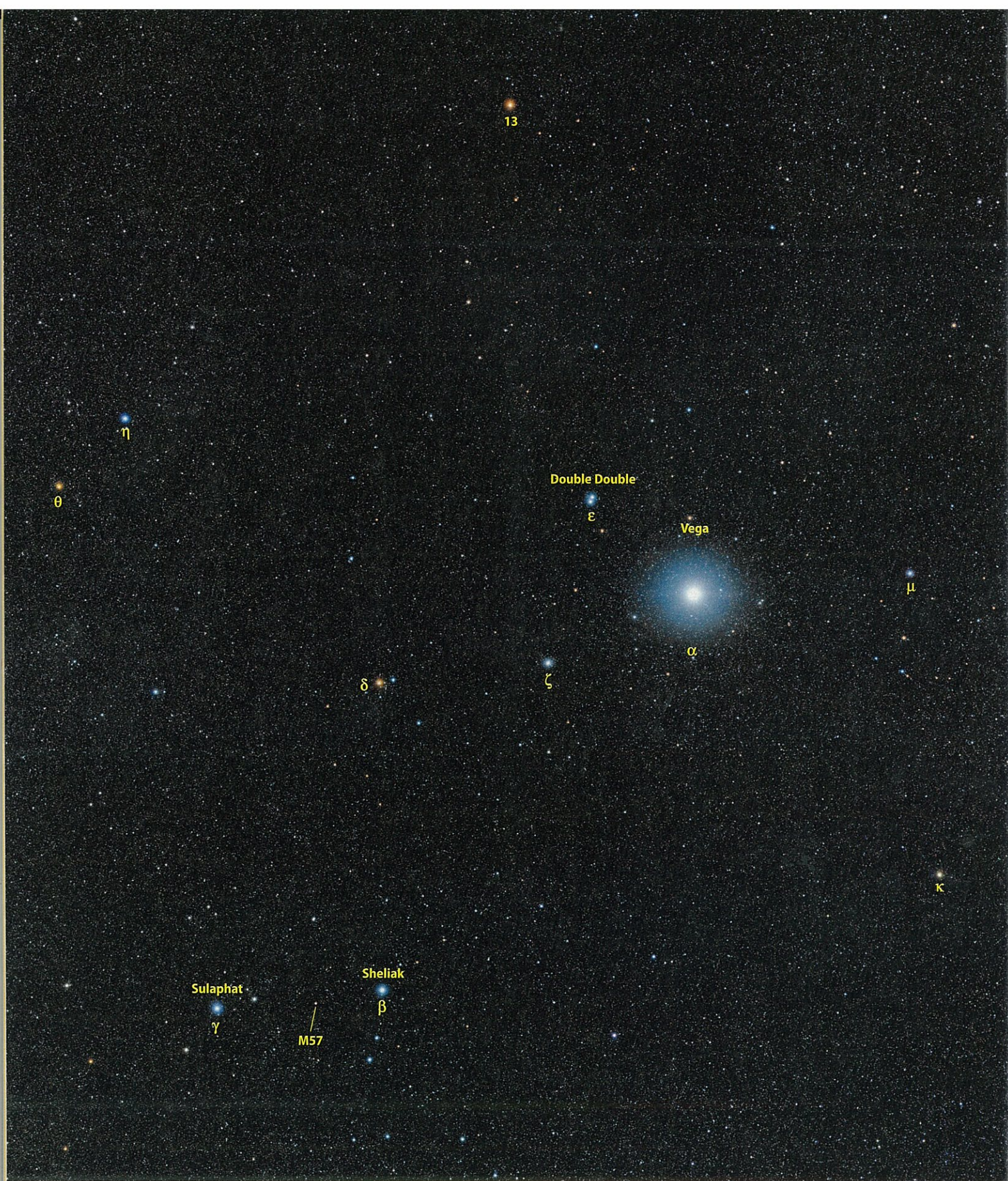
\$5.95



0 72246 46770 1

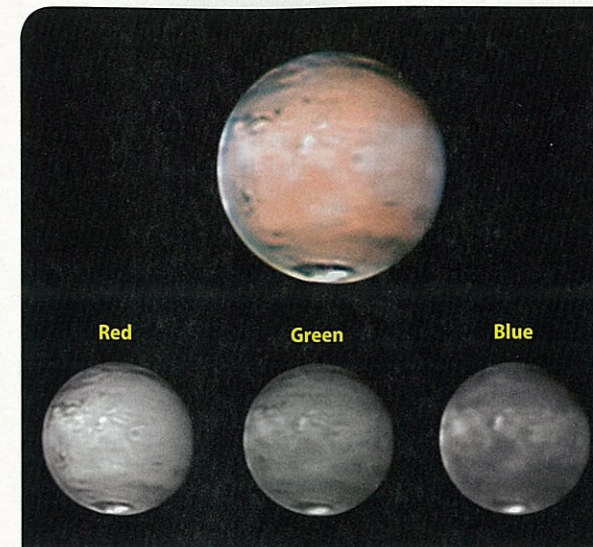
07

Vol. 40 • Issue 7



Lyra the Harp is a famous star pattern in the northern sky. It ranks only 52nd in size but 28th in brightness among the 88 constellations. Its luminary, Vega (Alpha [α] Lyrae), shines at magnitude 0.03. Epsilon (ε) Lyrae, the so-called Double Double, is a pair of binary stars. And M57

(barely visible here) is the famous Ring Nebula. (4-inch Takahashi FSQ-106 refractor, SBIG STL-11000 CCD camera, 12-pane mosaic, with each an LRGB image with exposures of 30, 18, 18, and 18, minutes, respectively)
 • Rogelio Bernal Andreo, Sunnyvale, California



▲ **Mars'** diameter measured 13.2" when this image was shot. The Red Planet shows diffuse bright clouds across the Tharsis and Candor regions. Clouds also flank the volcanoes Ascraeus Mons and Olympus Mons. (14-inch Celestron Schmidt-Cassegrain telescope at f/42, DMK 21AU 618.AS CCD camera, taken March 24, 2012, at 3h29m37s UT, from Coral Gables, Florida)
 • Donald Parker, Coral Gables, Florida



▲ **King Hamlet's Ghost** (NGC 3628) is a magnitude 9.5 edge-on starburst galaxy in Leo. Astronomers think it had an encounter with spiral galaxies M65 and M66 some 800,000 years ago. (12.5-inch RC Optical Systems Ritchey-Chrétien reflector at f/9, SBIG STL-11000 CCD camera, LRGB image with 375 minutes of luminance exposure and 315 minutes total through the color filters)
 • Bob Franke, Chino Valley, Arizona

▼ **The Flaming Star Nebula** (IC 405, right) and IC 410 (lower left) form a pair of remarkable emission nebulae in Auriga the Charioteer. The small nebula to the upper left is IC 417. (3.4-inch Takahashi FSQ-85 apochromatic refractor, SBIG STL-11000 CCD camera, Hα/OIII/SII image with exposures of 440, 240, and 220 minutes, respectively) • Valère Perroud, Savoie, France





◀ **van den Bergh (vdB) 137** (center-left) and vdB 138 (upper right) are reflection nebulae in Cygnus the Swan. They glow blue because dust scatters the blue wavelengths of starlight most. (12-inch Astro Systeme Austria N12 astrograph at f/3.5, SBIG KAI-11000M CCD camera, LRGB image with exposures of 250, 100, 80, and 100 minutes, respectively)
• Thomas V. Davis, Inkom, Idaho

▼ **Emission nebula Sharpless 2-115** in Cygnus the Swan gets its energy from the embedded star cluster Berkeley 90. The small object to the lower left of center is planetary nebula PK 85+4.1. (5.2-inch Takahashi TOA-130 apochromatic refractor at f/6, SBIG STL-11000M CCD camera, H α RGB image with exposures of 350, 60, 60, and 60 minutes, respectively)
• Alistair Symon, Marana, Arizona



Send your images to: Astronomy Reader Gallery, P. O. Box 1612, Waukesha, WI 53187. Please include the date and location of the image and complete photo data: telescope, camera, filters, and exposures. Submit images by email to readergallery@astronomy.com.



Emission nebula Sharpless 2-239 lies in Taurus the Bull. The imager describes this scene as impasto on a celestial scale: "Imagine the brush that could express the diaphanous wisps of dust and the cold opaque heart of this molecular cloud." The red color gives away Sh 2-239. Around

it lies mostly dust and cold gas. (32-inch Schulman Telescope [RC Optical Systems Ritchey-Chrétien reflector], SBIG STX-16803 CCD camera, LRGB image with exposures of 435, 150, 150, and 150 minutes, respectively)
• Adam Block/Mount Lemmon SkyCenter/University of Arizona