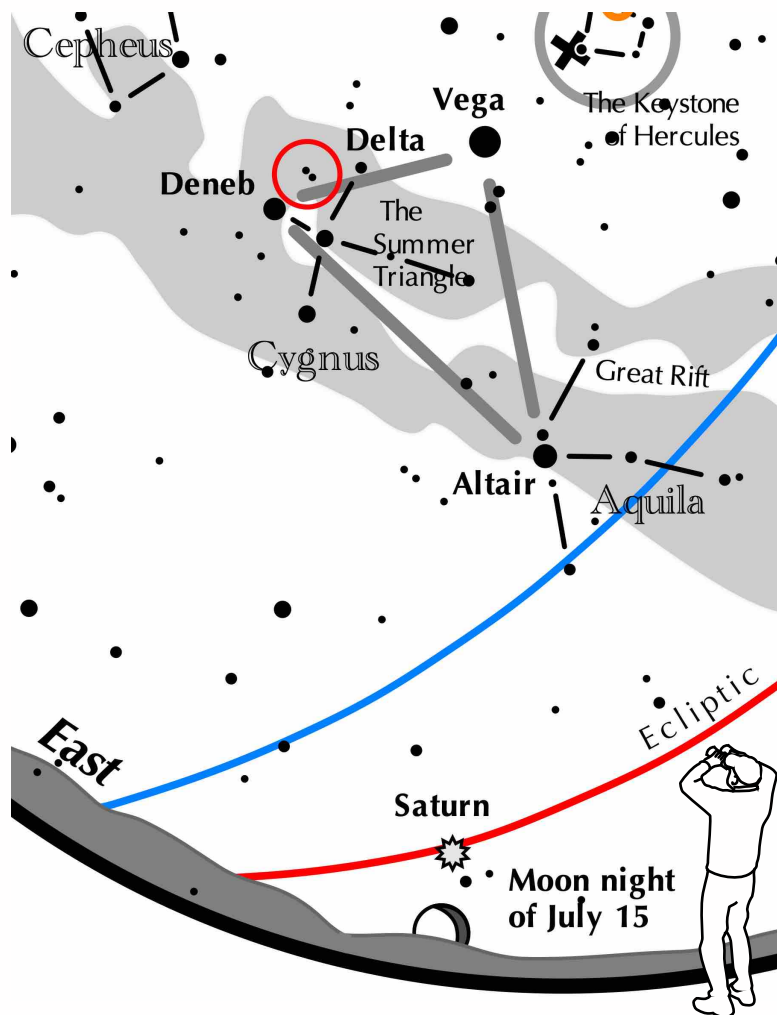


Just in time for July 4th: The Patriotic Star

- Around this time of year, Cygnus rises high in the northeast.
- Draw an imaginary line from Deneb, its brightest star to Delta, the western star on the constellation's cross bar.
- About half way between Deneb and Delta lies an intriguing stellar smear.
- Binoculars reveal two groups of stars.



**This Fourth of July, aim higher than the exploding fireworks to the "Patriotic Star."
Can you see the red, white and blue?**



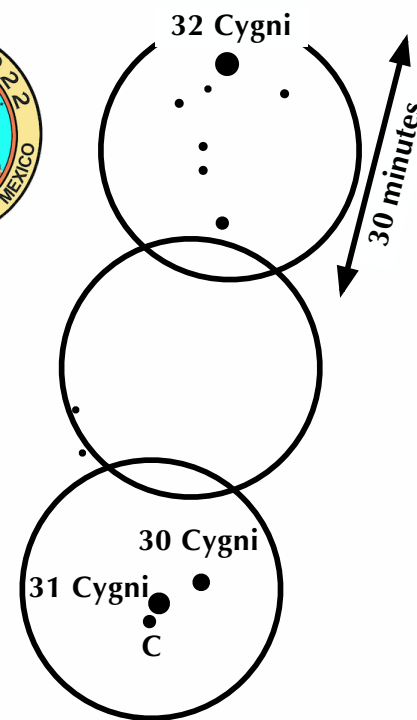
Just in time for Independence Day is the sky's own "Patriotic Star." Actually, it is grouping of three stars, each being the brightest component of its own multiple system.

- The brightest partner, twinkling at mag. 3.8, is 31 Cygni (aka Omicron 1 Cygni).
- Six minutes to its northwest glows the 4.9 mag. 30 Cygni, while the dimmest member, "C," has a magnitude of 7.0.

Aim your scope at these three stars to make your own color estimation. You may agree with some observers that their advertised red, white, and blue colors may be a bit of a stretch. Slightly de-focus the trio to give small, round blurs instead of crisp points. Now can you distinguish color differences among these three very different stars?

Orangish-red 31 Cygni is classified as a super giant with a surface temperature of approximately 4000°F, about 2000°F cooler than our own sun. Incredibly, if placed within our own solar system, its radius bloats the star's surface beyond Mars! 30 Cygni is hotter at 8700°F, giving it a white appearance. Finally, "C" fires the hottest, possessing a temperature over 11000°F. If you look closely, it appears bluish.

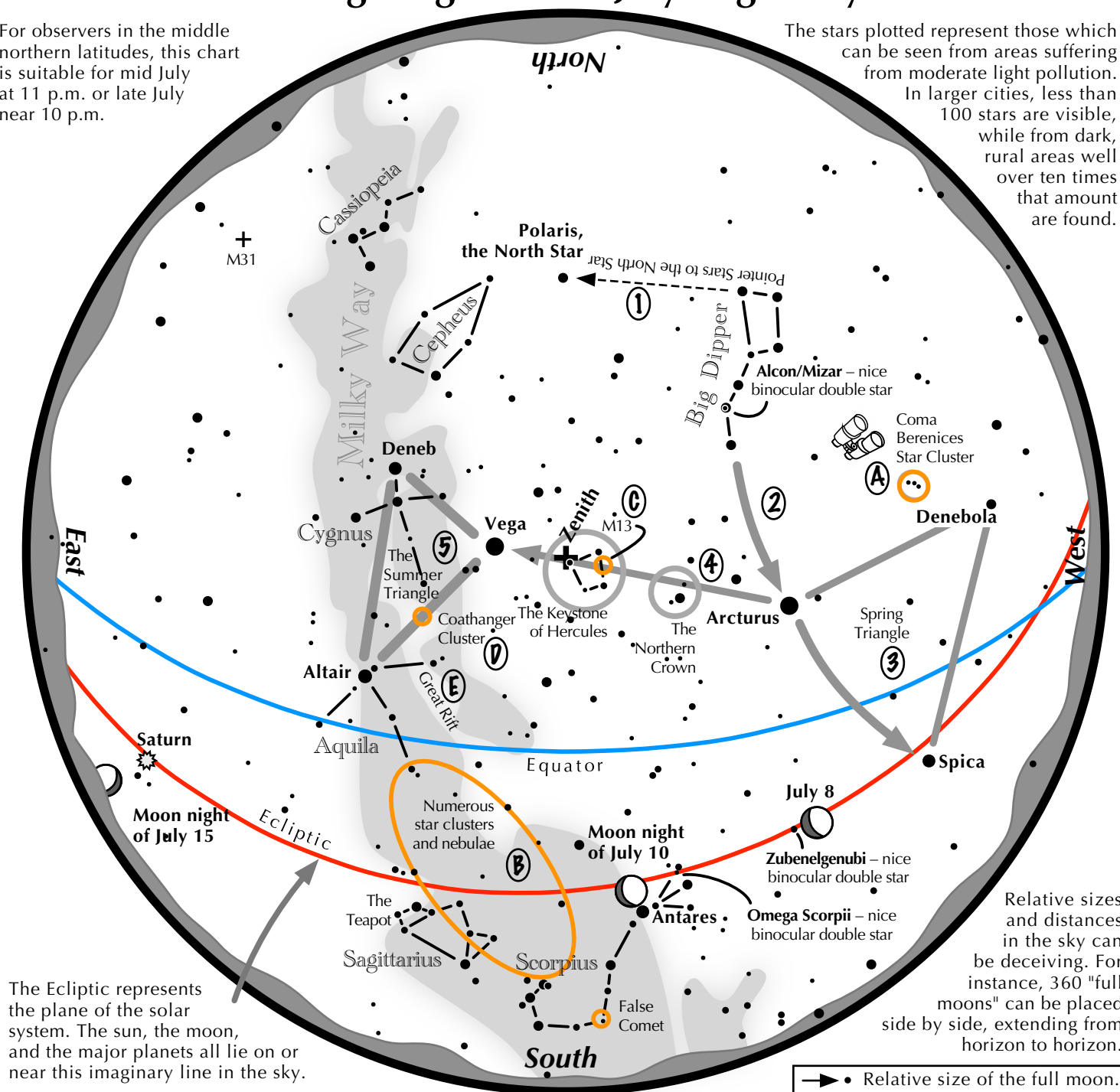
The northern portion consists of 3.9 magnitude 32 Cygni, also called Omicron-2, set against five 7th and 8th magnitude field stars. Altogether they form a "micro-cygnus." The pretty flock of Cygnets points one degree south to the stellar family headed by the Patriotic Star, 31 Cygni.



Navigating the mid July Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid July at 11 p.m. or late July near 10 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the mid July night sky: Simply start with what you know or with what you can easily find.

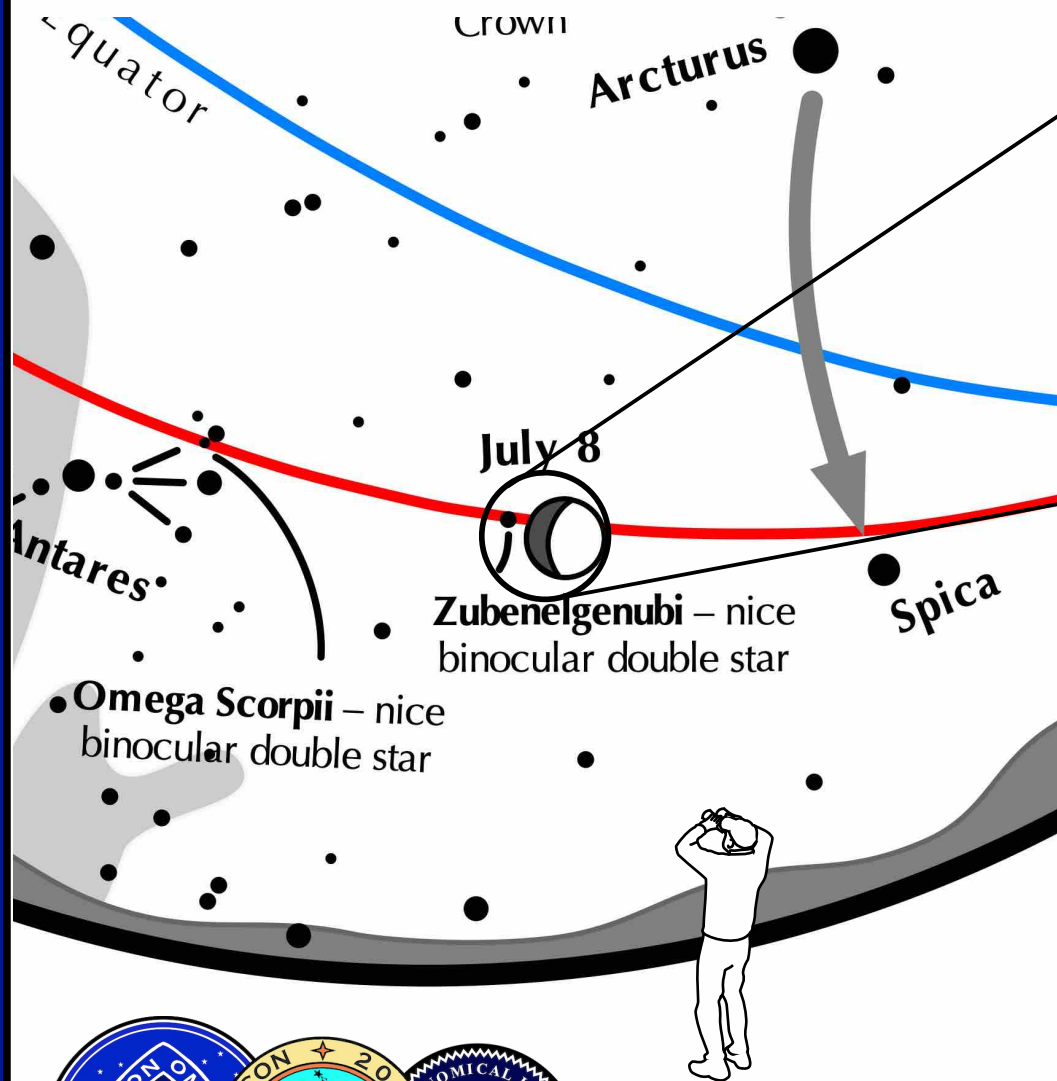
- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the July evening sky, then continues to Spica.
- 3 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 4 To the northeast of Arcturus shines another star of similar brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 5 High in the East lies the Summer Triangle stars of Vega, Altair, and Deneb.

Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars Antares and Altair, hides an area containing many star clusters and nebulae.
- C: On the western side of the Keystone glows the Great Hercules Cluster, containing nearly 1 million stars.
- D: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- E: Sweep along the Milky Way for an astounding number of faint glows and dark bays, including the Great Rift.



If you can observe only one celestial event
this month, consider this one:



July 8

Zubenelgenubi – nice
binocular double star

Spica

View
through
10x50 binoculars

Moon
10:30 pm EDT

Ecliptic

Zubenelgenubi

The Scene:

Waxing gibbous Moon
approaches a wide double star

Look to the south-southwest 75-90 minutes after
sunset on July 8.

- The Moon will be found hanging in the darkening twilight.
- People with good eyesight should be able to spot Alpha Librae Zubenelgenubi to the Moon's immediate left. Or the bright moonlight might totally obscure the star.
- Aim binoculars at the Moon. Zuben will be seen as being a double star with its dimmer component immediately to the upper right of the brighter star.

Zubenelgenubi? Practice saying it:
Zube - en - el - gen - ubi

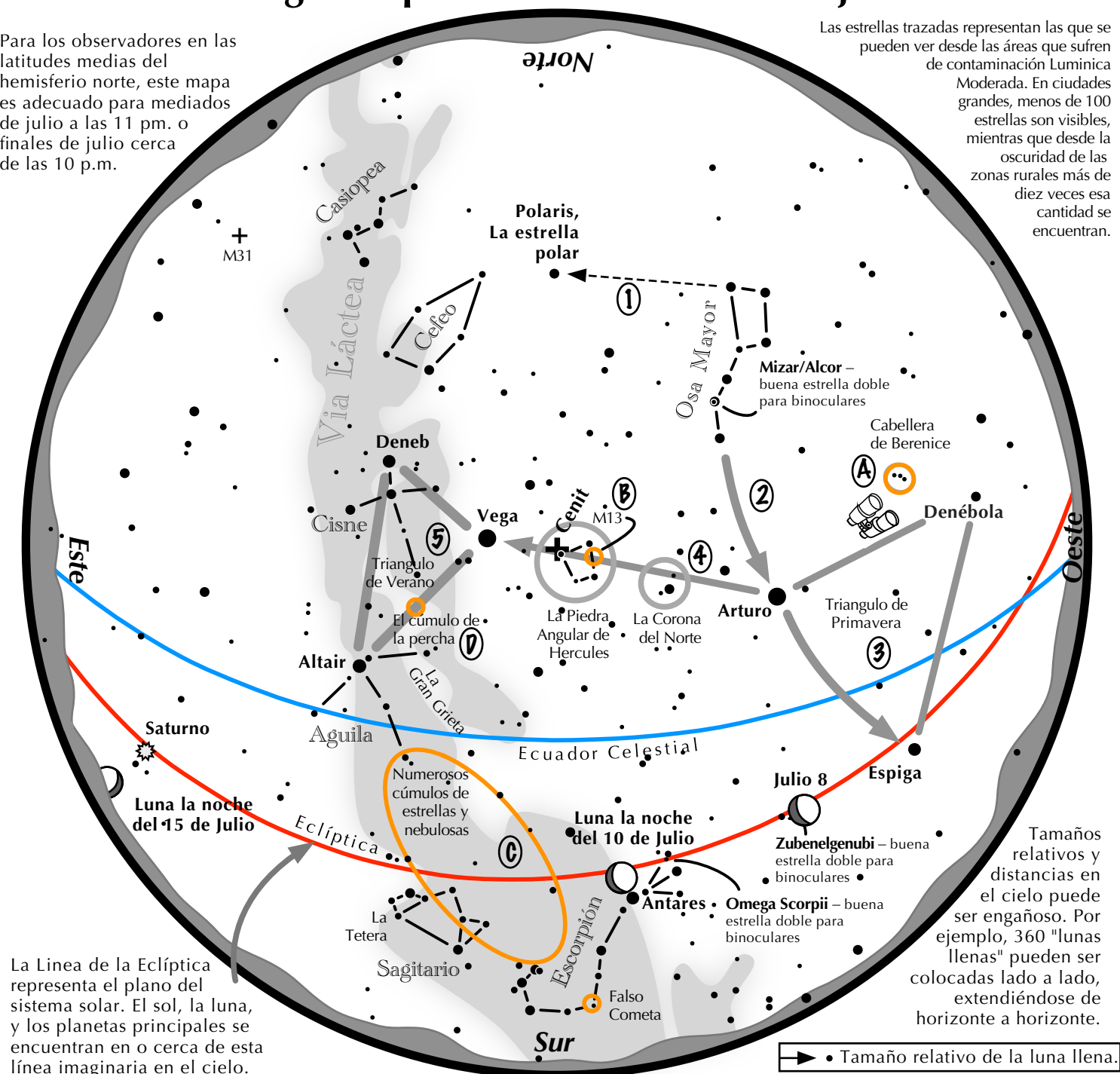
South-southwest
75-90 minutes after sunset
on July 8



Navegando por el cielo nocturno de julio

Para los observadores en las latitudes medias del hemisferio norte, este mapa es adecuado para mediados de julio a las 11 pm. o finales de julio cerca de las 10 p.m.

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



La Línea de la Eclíptica representa el plano del sistema solar. El sol, la luna, y los planetas principales se encuentran en o cerca de esta línea imaginaria en el cielo.

Tamaños relativos y distancias en el cielo puede ser engañoso. Por ejemplo, 360 "lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

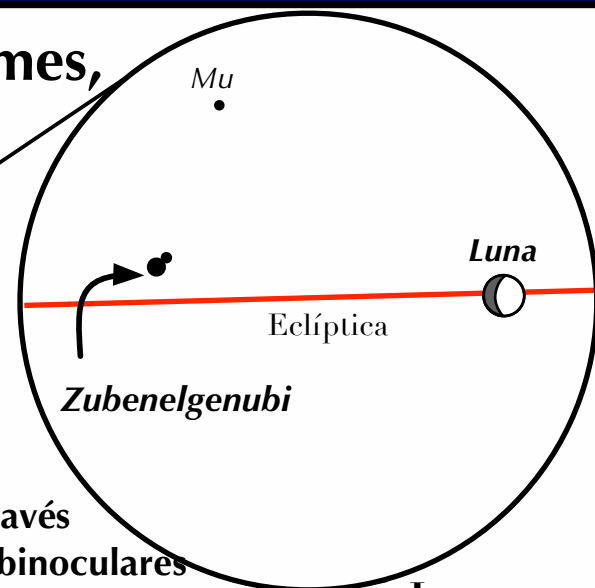
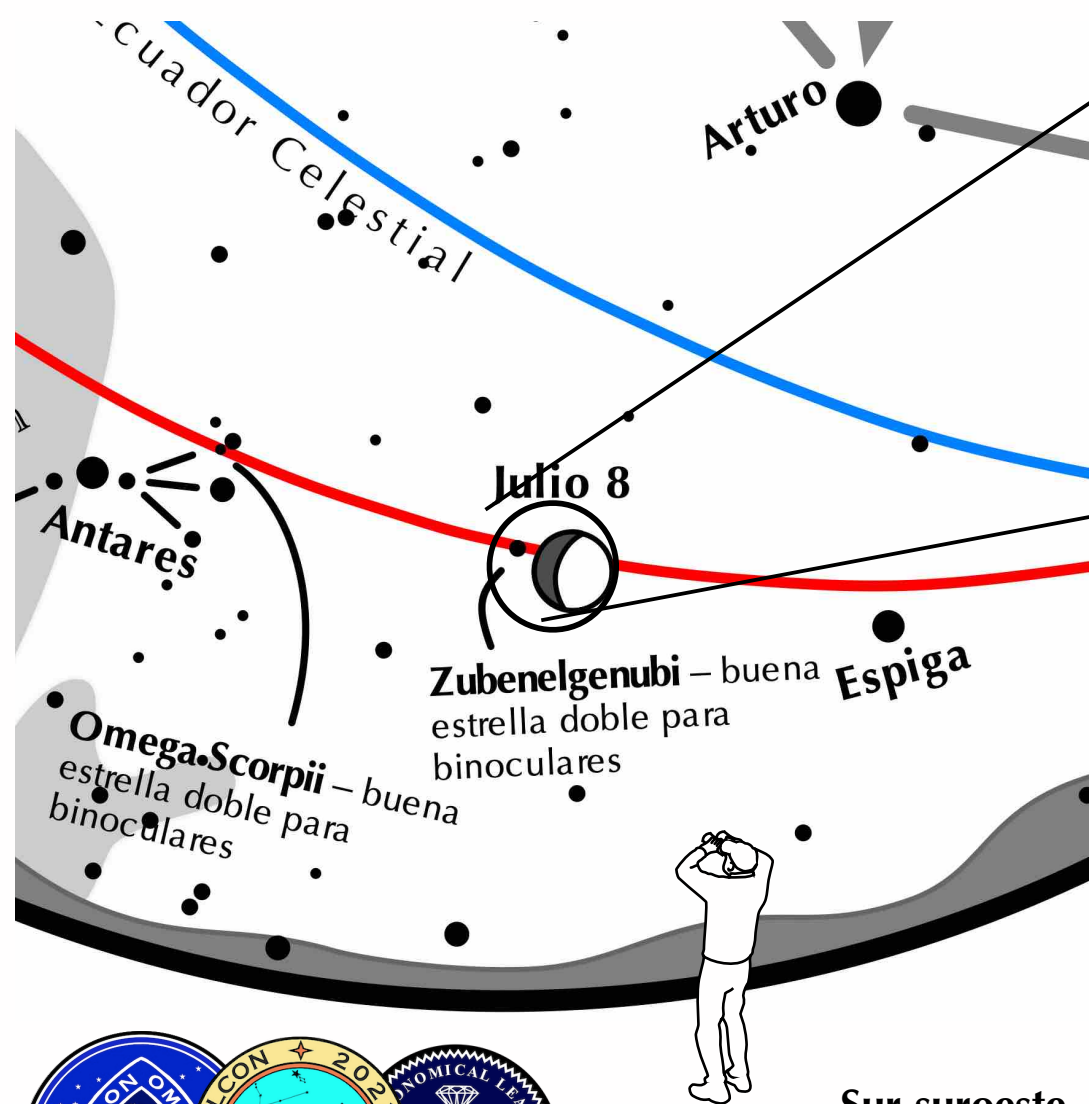
- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 Siga el arco del mango del tazón de la Osa Mayor. Primero cruza Arturo, luego continúa hacia Espiga.
- 3 Arturo, Espiga y Denébola forman el triángulo de primavera, un gran triángulo equilátero.
- 4 Dibuja una línea desde Arturo a Vega. Un tercio del camino se encuentra "La Corona del Norte". Dos tercios de esa distancia llevan a la "piedra angular de Hércules." Se necesita un cielo oscuro para ver estas dos configuraciones estelares tenues.
- 5 En lo alto del este se encuentran las tres estrellas brillantes del Triángulo de verano: Vega, Altair y Deneb.

Puntos destacados con binoculares

A: Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice. B: M13, un brillo redondo de un cúmulo de más de 500,000 estrellas. C: Entre las brillantes estrellas de Antares y Altair, se esconde un área que contiene muchos cúmulos de estrellas y nebulosas. D: Casi a la mitad de la distancia entre Altair y Vega, Brilla la "Percha," un grupo de estrellas que describe un perchero.



Si puedes observar un solo evento celestial este mes,
considere este:



La escena:

**Luna gibosa creciente se acerca a
una amplia estrella doble**

Mire hacia el sur-suroeste entre 75 y 90 minutos
después de la puesta del sol el 8 de julio.

- La Luna se encontrará suspendida en el oscurecer del crepúsculo.
- Las personas con buena vista deberían poder detectar Alpha Librae, Zubenelgenubi, inmediatamente a la izquierda de la Luna. O la brillante luz de la luna podría oscurecer totalmente la estrella.
- Apunte los binoculares a la Luna. Zuben se verá como una estrella doble con su componente más tenue inmediatamente en la parte superior derecha de la estrella mas brillante.

**Sur-suroeste
75-90 minutos después del
atardecer el 8 de julio.**

