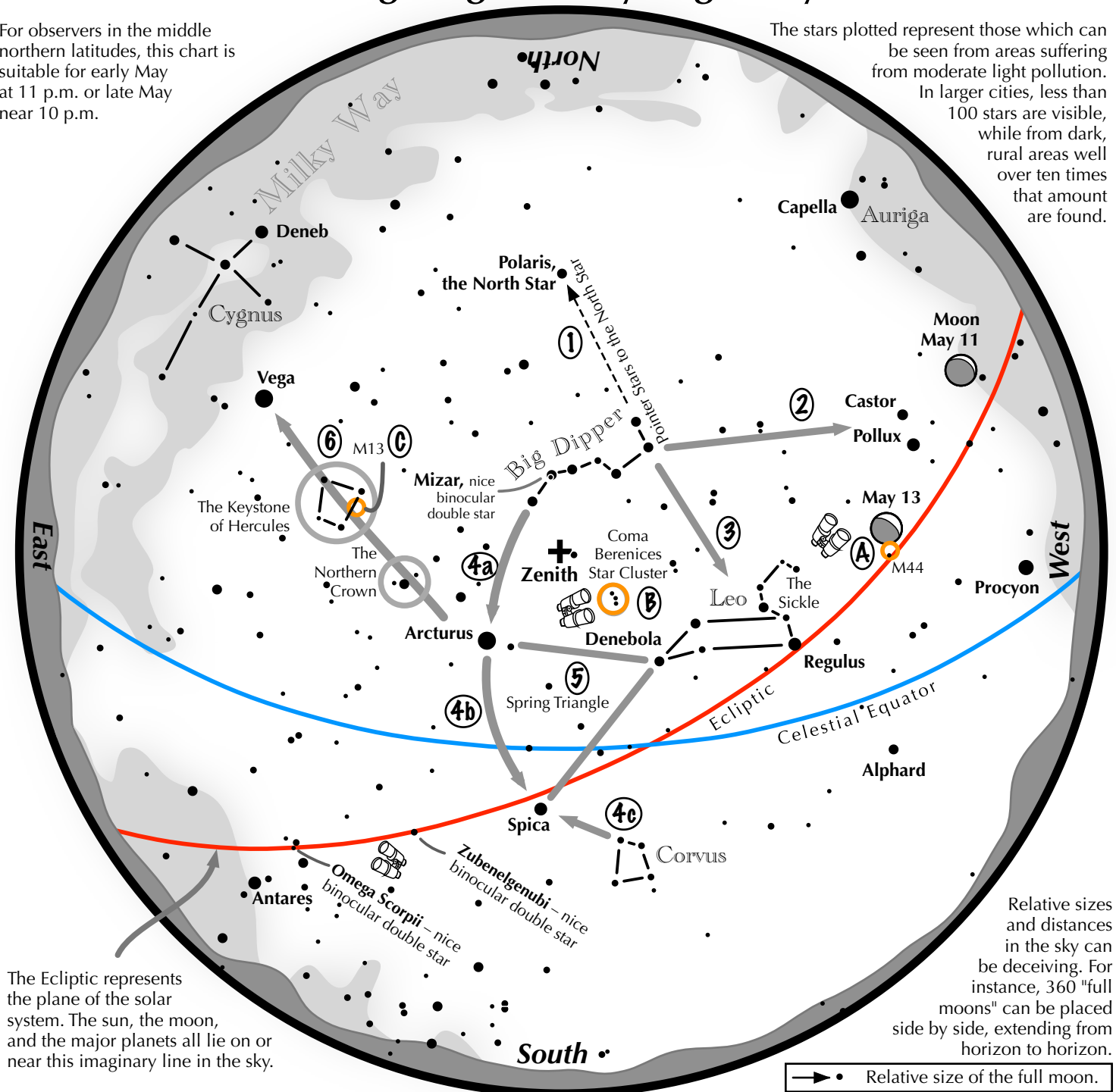


Navigating the May Night Sky

For observers in the middle northern latitudes, this chart is suitable for early May at 11 p.m. or late May 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 May night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line northward from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 3 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 4 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica.
Confirm Spica by noting that two moderately bright stars just to its southwest form a straight line with it.
- 5 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 6 Draw a line from Arcturus to Vega. One-third of the way sits "The Northern Crown." Two-thirds of the way hides the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.

Binocular Highlights

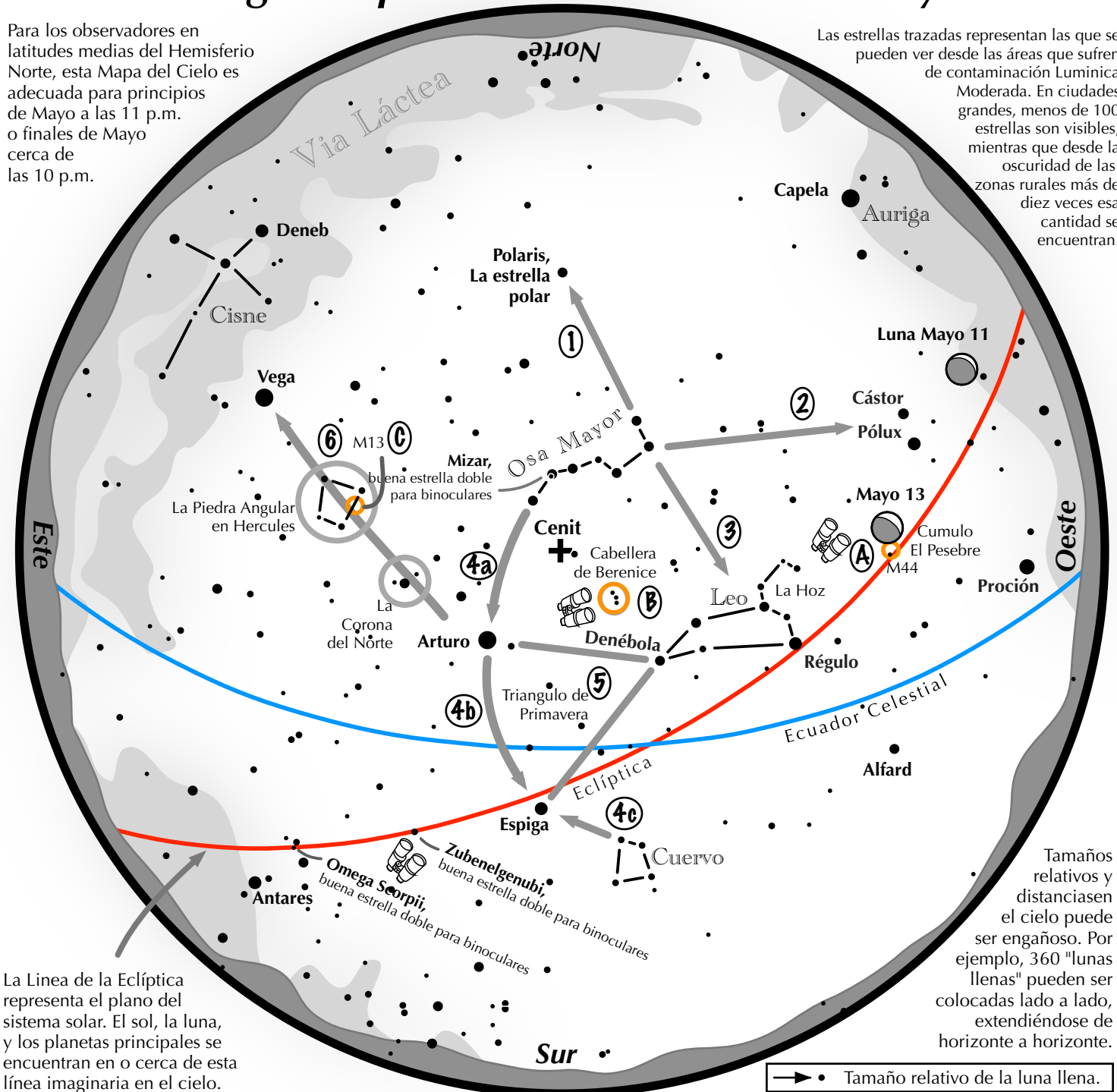
A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **B:** Look near the zenith for the loose star cluster of Coma Berenices. **C:** M13, a round glow from a cluster of over 500,000 stars.



Navegando por el cielo nocturno de Mayo

Para los observadores en latitudes medias del Hemisferio Norte, esta Mapa del Cielo es adecuada para principios de Mayo a las 11 p.m. o finales de Mayo 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 pueden ser engañosos. Por ejemplo, 360 "lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

→ • Tamaño relativo de la luna llena.

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

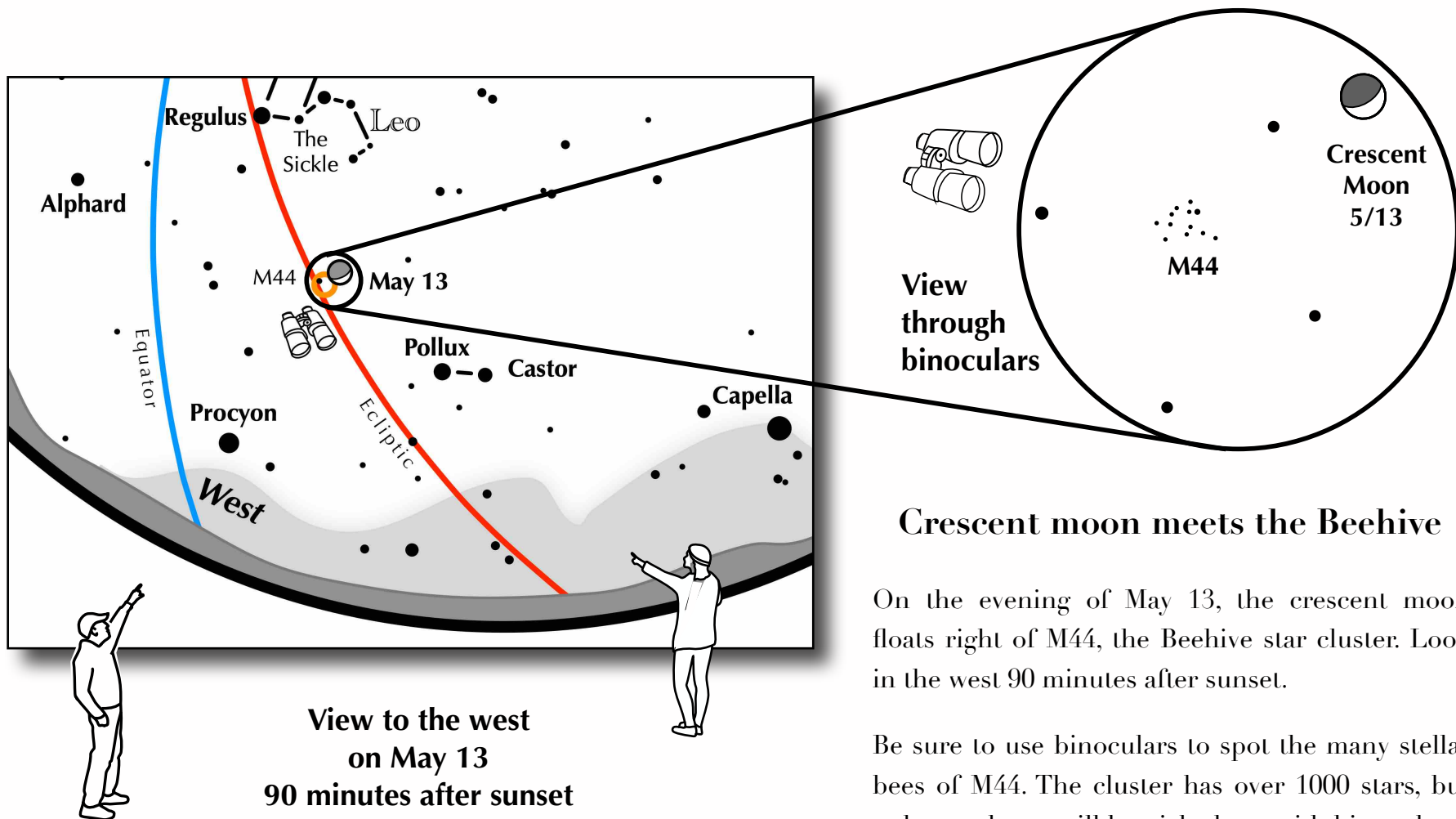
- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 A través de las dos estrellas diagonales de la Osa Mayor, dibuja una línea que apunta a las estrellas gemelas de Cástor y Pólux en Géminis. Directamente debajo del tazón de la Osa Mayor se encuentra Leo con su estrella principal, Régulo.
- 3 Siga el arco del mango del tazón de la Osa Mayor. Primero cruza Arturo, luego continúa hacia Espiga, luego Cuervo.
- 4 Arturo, Espiga y Denébola forman el triángulo de primavera, un gran triángulo equilátero.
- 5 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.
- 6

Puntos destacados con binoculares

A: M44 (Cumulo El Pesebre), un cúmulo de estrellas apenas perceptible a simple vista, se encuentra al sureste de Pólux.
B: Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice. **C:** M13, un brillo redondo de un cumulo de más de 500,000 estrellas.



In the early evening on May 13, try this challenge:



Even though they lie near each other in binoculars, they are nowhere near each other in three-dimensional space. M44 is 150 million times farther than the moon!

It has taken the light from M44's stars over 600 years to reach your eyes!



Binoculars and Double Stars

A rewarding and challenging activity

<https://www.astroleague.org/binocular-double-star-observing-program/>



Effective Binocular Observing ...

- Binoculars must be precisely focused.
- Binoculars must be held steady. Mounted on a tripod is best.
- Adequate dark adaption is needed. Wait at least 15 minutes in the dark before meaningful observing begins. 30 minutes is better.
- Glare from a bright primary interferes with spotting a dim secondary. The greater the magnitude difference, the greater the difficulty splitting them.
- Steady atmospheric seeing is desired.
- Best observed when the double star has an altitude higher than 30°.

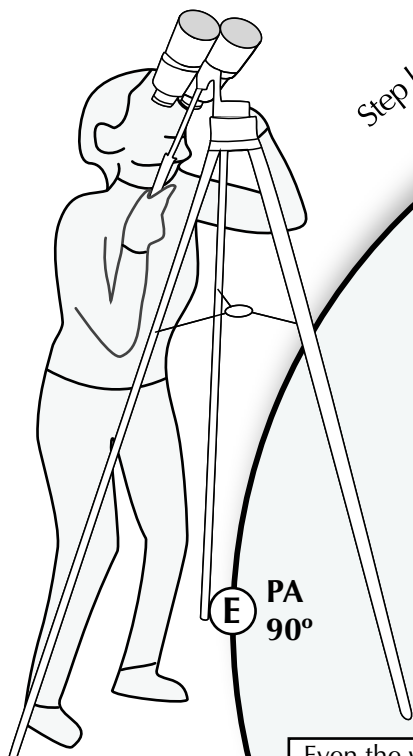
In Your Observing Notes:

- ☆☆ Brightnesses of the components.
- ☆☆ Separation of the components.
- ☆☆ Position Angle (PA).
- ☆☆ Colors of the components.
- ☆☆ Neighboring stars in the field?
- ☆☆ Seeing conditions.
- ☆☆ Atmospheric transparency.
- ☆☆ Altitude.

Rule of Thumb ...

Minimum true separation with 10 x 50 binoculars:

- 24 arc seconds for two stars of 4th magnitude. This equals 4 minutes apparent separation.
- For comparison, the full moon has a true diameter of 1800 arc seconds (=30 minutes).
- **True separation** is the angular space between stars as it appears to the unaided eye. **Apparent separation** is how it appears in binoculars.



Step back 1.5 m (4.75 ft) from this 150 mm (6 inch) printed field, and the 6° field will match 6° in the sky.

6° true angular field – typical for binoculars

Stellar Magnitude

- 2 ●
- 3 ●
- 4 ●
- 5 ●
- 6 ●
- 7 ●
- 8 ●

Example Doubles

- Alpha Capricorni
381", PA: 290°
- Delta Cephei
41", PA: 191°
- Σ1474 Hydrae
66", PA: 27°
- 56 Andromedae
203", PA: 298°
- Nu Draconis
61", 311°
- Alpha Ursae Majoris
385", 206°



Relative diameter of the full moon.

Separation distance

- 600" = 10'
- 300" = 5'
- 120" = 2'
- 60" = 1'
- 40" = 0.67'

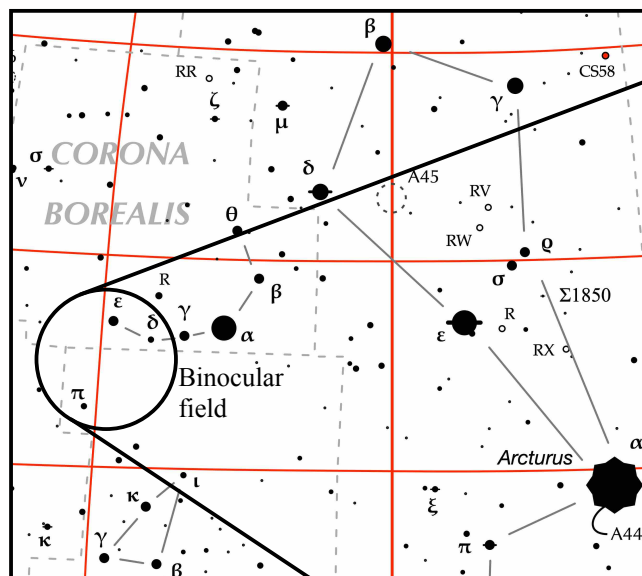
Even the wider doubles appear close to each other. Two stars that have a tight separation, or a large magnitude difference, or a combination of the two are much more difficult to split, sometimes frustratingly so, but an enjoyable challenge nonetheless.



T Coronae Borealis

A nova waiting to happen – soon!

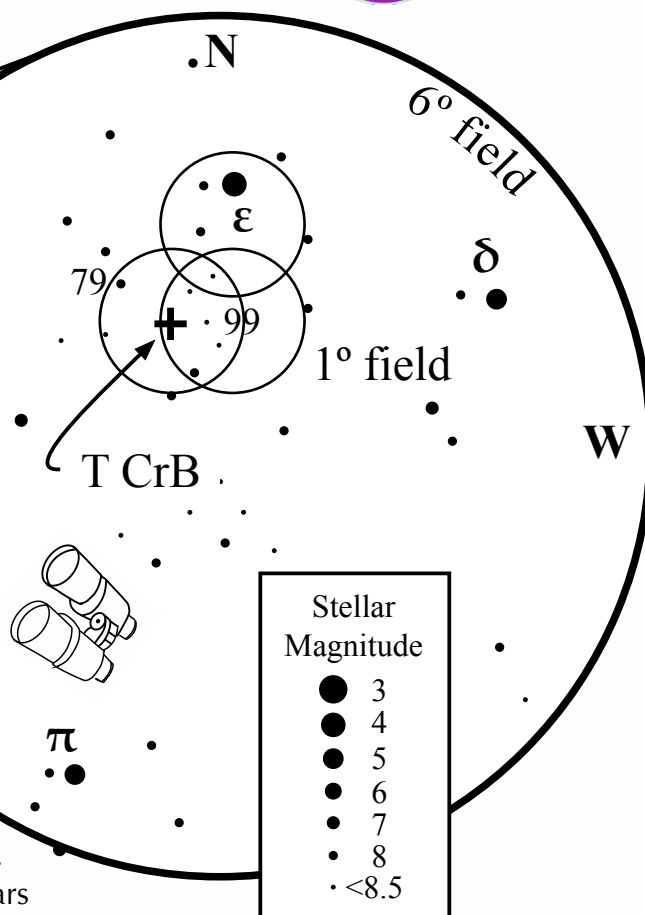
also known as HIP 78322 and the "Blaze Star"



How to find T Coronae Borealis

- Locate bright Arcturus and the kite shaped constellation Boötes.
- Corona Borealis lies directly east of Boötes.
- Trace the semi-circle of the stars of the crown.
- Epsilon and Delta are fourth magnitude stars shining east of Alpha (Gemma), the brightest member of the crown.
- Place Epsilon in the northern half of the binocular (or finder) field. Fifth magnitude Pi Serpentis lies near the bottom of the field.
- T Coronae Borealis is about 1/4 the distance between Epsilon and Pi.
- Move two low power eyepiece fields south of Epsilon.
- Then move 1/2 low power eyepiece field east.
- This is the vicinity of 10th magnitude T CBr.

- The star normally is magnitude 10.3.
- Ten years before its outburst, it rises to magnitude 9.8. It did this 10 years ago.
- It then dims to about magnitude 12 one year before outburst. It did this in April 2023.



Between now and September, T CrB is predicted to nova, quickly reaching 2nd magnitude and rivaling the brightness of Alpha CrB (Gemma).

- Its brightness rise will take one day or less.
- It will likely remain near maximum brightness (2nd mag.) for only a few days.

