

Binocular Universe:

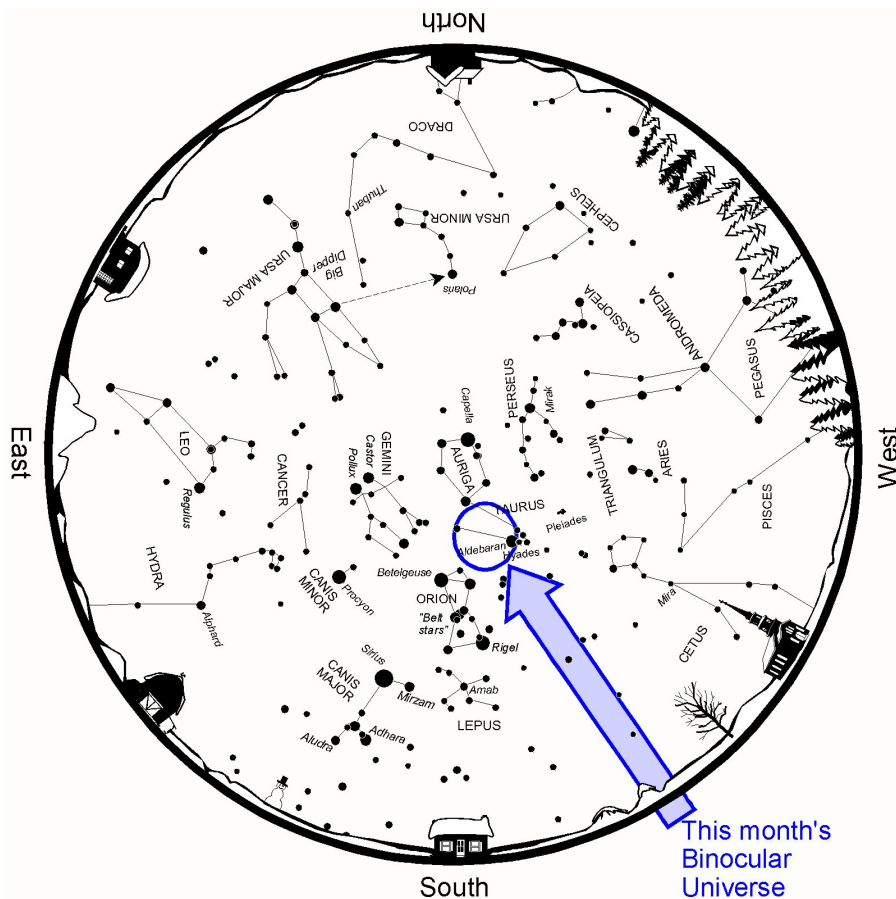
More Bull!

January 2012

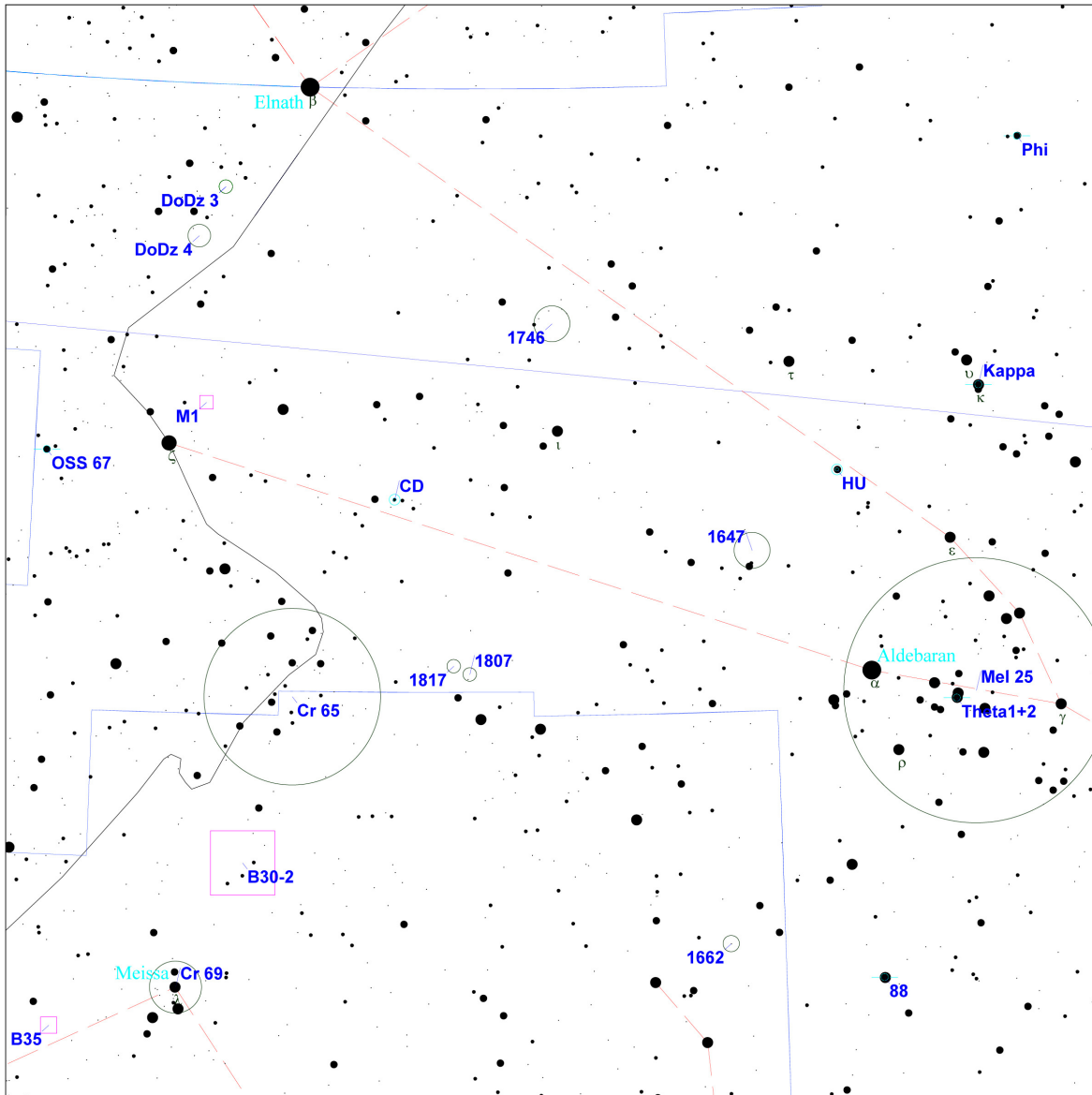
Phil Harrington



Quick, name a star cluster in the constellation Taurus the Bull. You probably said "the Pleiades," right? Okay, name another open cluster in Taurus. "The Hyades," you say? Good! The V-shaped face of Taurus is an open star cluster, save for Aldebaran, which only happens to lie along the same line of sight.



Above: Winter star map from [Star Watch](#) by Phil Harrington.



Touring the Universe Through Binoculars Atlas

RA: 5h 3m, Dec: 19d 6m, FOV: 21d, Mag: 7.5

- | | | | |
|-------------|--------------------|---------------|------------|
| ● ≤ 1.2 | ○ Galaxy | ♿ Mercury | ♇ Pluto |
| ● 1.2 - 2.4 | ○ Open Cluster | ♃ Venus | ☼ Sun |
| ● 2.4 - 3.6 | ⊕ Globular Cluster | ♂ Mars | ☾ Moon |
| ● 3.6 - 4.9 | □ Diffuse Nebula | ♃ ♃ ♃ Jupiter | ♁ Asteroid |
| ● 4.9 - 6.1 | ◻ Planetary Nebula | ♄ ♄ ♄ Saturn | ☄ Comet |
| ● 6.1 - 7.3 | ⊙ Variable Star | ♅ ♅ ♅ Uranus | ♁ Unknown |
| ● > 7.3 | ⊕ Double Star | ♆ ♆ ♆ Neptune | |

Finder chart for this month's Binocular Universe from TUBA,
www.philharrington.net/tuba.htm

How about another? "There are other star clusters in Taurus?" There sure are. In fact, in this e-column last January, I briefly mentioned four more. Let's return to them this month to take a closer look.

First up is **NGC 1647**, about a third of the way from the Hyades to the tips of Taurus' horns. Although Charles Messier missed it when he was surveying the region, NGC 1647 can be seen through 50-mm binoculars. Begin at Aldebaran and then extend the legs of the Hyades' "V" about half a binocular field (3°) to the northeast. Keep an eye out for two close-set pair of orangish stars. SAO 94112 shines at 6th magnitude, while 8th-magnitude SAO 94110, is just to its southeast. Both lie on the southern edge of NGC 1647.

Through my 10x50s, NGC 1647 resolves into half a dozen or so dim points of light enmeshed in a faint mist. Those are the brightest of more than 200 stars that call NGC 1647 home. Overall, the cluster impresses most as either triangular or diamond-shaped, with its three brightest stars spanning the figure's width.



Left: NGC 1647, as portrayed through the author's 10x50 binoculars.

North is up.

Move another third of the way farther from Aldebaran toward the star Elnath at the tip of the Bull's northern horn, and you'll bump into **NGC 1746**. NGC 1746 is more obvious than NGC 1647 in my opinion, even though it lacks a misty glow. Instead, most binoculars will show a dozen or more stars shining between magnitudes 5 and 9. Five along the southern edge of the cluster are especially obvious, as they lie in a distorted W pattern reminiscent of Cassiopeia.

If you check NGC 1746's position on most detailed star atlases, you'll find that two other clusters, NGC 1750 and NGC 1758, lie almost directly on top of it. Although there is still some disagreement, many experts, including Dr. Harold Corwin of the [NGC/IC Project](#), believe that NGC 1746 and NGC 1750 may be one and the same. If so, then the two separate catalog entries are just a bookkeeping error. NGC 1758 is a smaller, separate cluster that is only visible through telescopes; and even then, it's difficult to distinguish from the surroundings.

In addition to NGC 1647 and NGC 1746 (and the Hyades and Pleiades, of course), try your luck spotting two small open star clusters located within the confines of Taurus the Bull. **NGC 1807** and **NGC 1817** lie near the Orion border, about 8° east of Aldebaran. Both clusters are only separated by about a Moon's diameter in our sky, prompting Stéphane Meloche of Coaticook, Quebec, to call them Taurus' Double Cluster. Jonathan Casselman of Deer Park, WA, writes that, together, the two clusters remind him of a bowtie.

NGC 1807 is made up of about 20 stars and has an apparent diameter of 17'. Giant binoculars may just be able to discern the brighter cluster stars set in a cruciform. NGC 1817 is less distinct, even though it has about three times as many stars. The brightest stars found within only reach 10th magnitude and are typically lost in a faint glow when viewed through binoculars.

As long as we're so close to Orion, let's jump the border to pay a call on open cluster **NGC 1662**. Listed on the Astronomical League's Deep-Sky Binocular Club target list, NGC 1662 impresses me through 10x50 binoculars as a small knot of faint stars embedded in a dim, nebulous patch. In her new book [Deep-Sky Wonders](#), Sue French notes that California amateur Russell Sipe imagines the cluster stars as forming the profile of a Klingon battle cruiser from the [Star Trek](#) television and movies series. I can't say that I see the allusion through my 15x70 binoculars, but my 25x100 giants begin to decloak the interstellar interloper.

Finally, we can't come so close to **M1**, the Crab Nebula, and not give it a go. My first binocular observation of the Crab dates back to a cold January night in the early 1970s through my original 7x35 binoculars. I was out in my suburban Connecticut backyard, lying in a snow bank and scanning back and forth through the winter stars. Before this, I had considered M1 to be a reasonably easy catch using my 8-inch reflector, but impossible through binoculars, especially a pair that small. But sure enough, there it was! It was far from bright, mind you, but I could definitely make out a tiny smudge right where I knew the Crab lurked. You can too, but wait for an exceptionally clear sky.

Here are the statistics for these and other targets in this month's Binocular Universe.

| Object | Con | Type | R. A. | Dec | Mag | Size/Sep/ Period | Notes |
|----------|-----|------|--------|--------|---------|---------------------|--|
| | | | (2000) | | | | |
| 1662 | Ori | OC | 4 48.5 | +10 56 | 6.4 | 20' | |
| Cr 65 | Ori | OC | 5 26 | +16 0 | 3.0p | 220' | *TUB page 191* |
| B30-2 | Ori | Dk | 5 29.8 | +12 32 | | 80'x55' | 3° NW of Lambda |
| Cr 69 | Ori | OC | 5 35.1 | +9 56 | 2.8p | 65' | *TUB page 192* Lambda Ori |
| B35 | Ori | Dk | 5 45.5 | +9 3 | | 20'x10' | |
| Phi | Tau | ** | 4 20.4 | +27 21 | 5.0,8.4 | 52" | 250°(1925);3137 |
| Kappa | Tau | ** | 4 25.4 | +22 18 | 4.4,5.4 | 340" | 173°(1923) |
| Mel 25 | Tau | OC | 4 27 | +16 0 | 0.5 | 330' | *TUB page 238* Hyades |
| Theta1+2 | Tau | ** | 4 28.7 | +15 52 | 3.8,3.4 | 337" | *TUB page 238* 346°(1921) |
| 88 | Tau | ** | 4 35.7 | +10 10 | 4.3,8.4 | 70" | 299°(1920);3317 |
| HU | Tau | Vr | 4 38.3 | +20 41 | 5.9-6.7 | 2.056 days | Eclipsing Binary |
| 1647 | Tau | OC | 4 46 | +19 4 | 6.3 | 45' | *TUB page 238* |
| 1746 | Tau | OC | 5 3.6 | +23 49 | 6.0 | 45' | *TUB page 238* |
| 1807 | Tau | OC | 5 10.7 | +16 32 | 7.0 | 17' | *TUB page 238* |
| 1817 | Tau | OC | 5 12.1 | +16 42 | 7.7 | 15' | *TUB page 238* |
| CD | Tau | Vr | 5 17.5 | +20 8 | 7.3-7.9 | 3.435 days | Eclipsing Binary |
| DoDz 3 | Tau | OC | 5 33.7 | +26 29 | | 15' | |
| M1 | Tau | DN | 5 34.5 | +22 1 | 8.2 | 6'x4' | *TUB page 238-239* NGC 1952; Crab nebula |
| DoDz 4 | Tau | OC | 5 35.9 | +25 27 | | 28' | *TUB page 239* |
| OSS 67 | Tau | ** | 5 48.4 | +20 52 | 6.1,8.6 | 76" | 161°(1933);4392 |

Next month, let's pay a call on Auriga and some of its treasures. Meanwhile, be sure to post your observations and sketches in this article's discussion thread or drop me a line at phil@philharrington.net. Till then, remember our creed: Two eyes are better than one!



About the Author:

Phil Harrington is the author of 9 books on astronomy, including [Touring the Universe through Binoculars](#). Visit his web site at www.philharrington.net.

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