Binocular Universe: The Table of Scorpius

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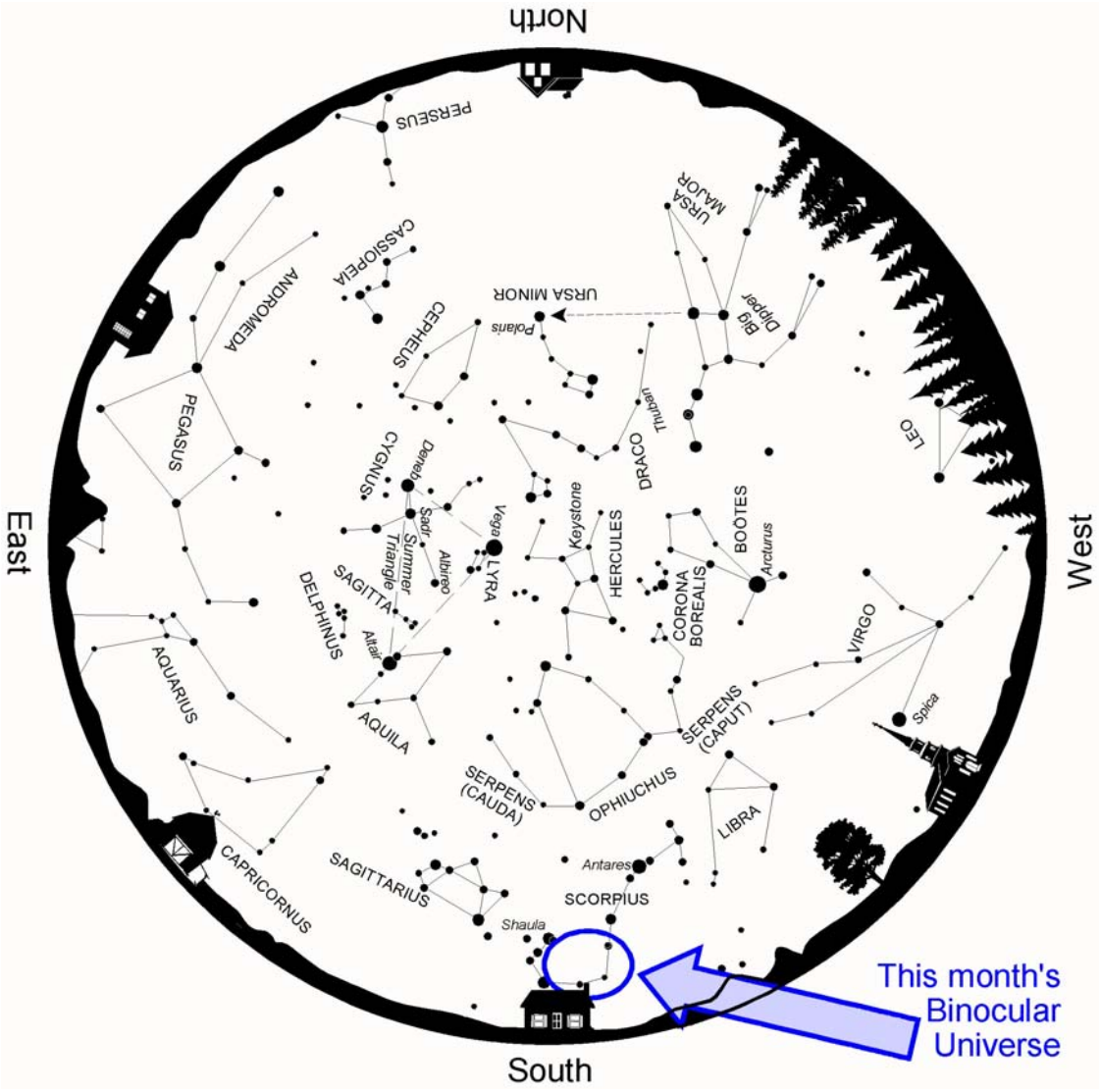
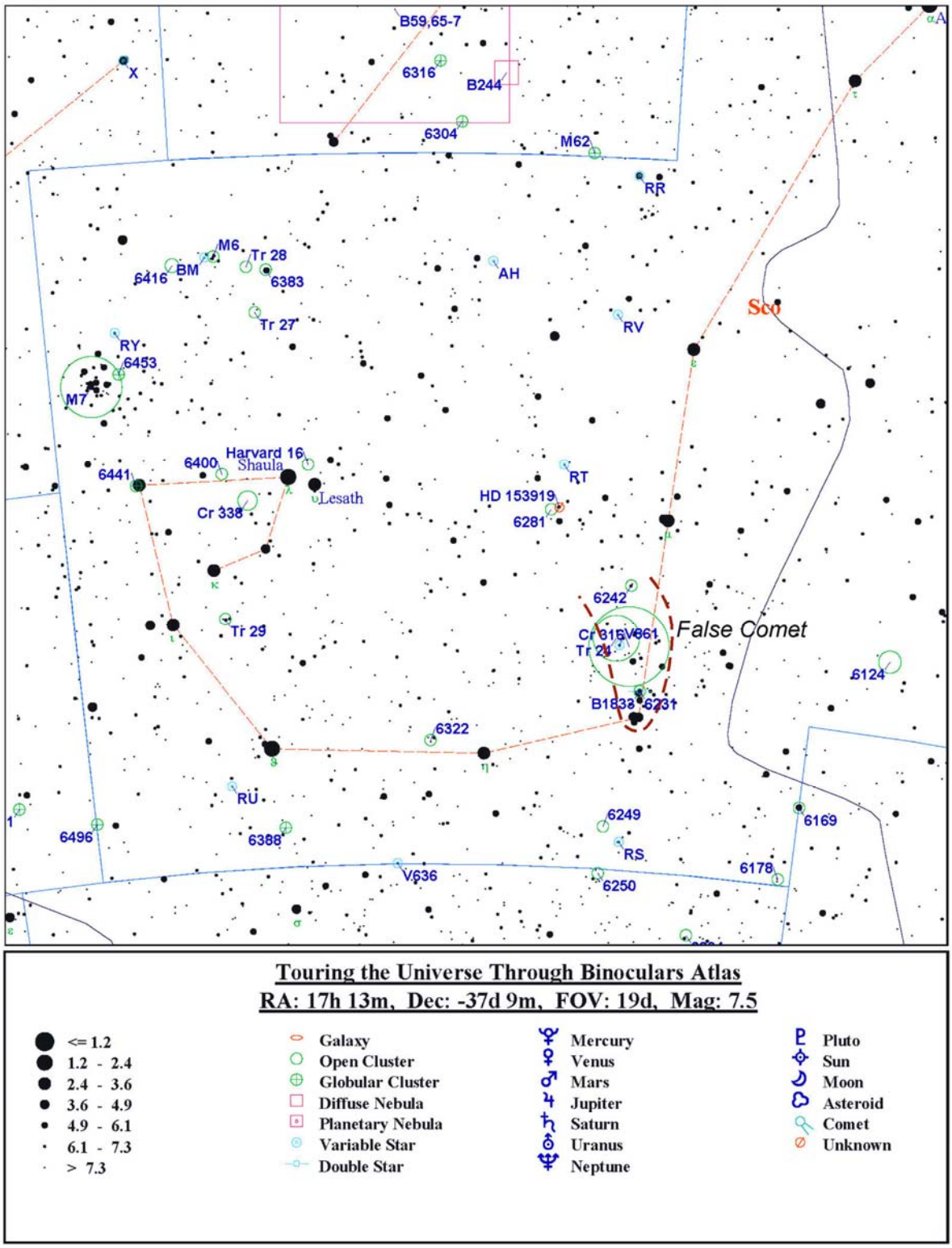
Last July, this column visited M6 and M7, two of the finest open star clusters visible through binoculars in the summer – or for that matter, any – sky. Both lie near the tail of Scorpius, the Scorpion. This year, we return to this celestial arthropod to discover more tantalizing binocular treats.



Above: Summer star map from Star Watch by Phil Harrington



Above: Finder chart for this month's Binocular Universe.
Chart adapted from Touring the Universe through Binoculars Atlas (TUBA),
www.philharrington.net/tuba.htm

You may have heard the phrase the "**Table of Scorpius**." The "Table" covers the area circled on the all-sky map above, although you shouldn't expect to see a piece of furniture among the stars. This "Table" most likely refers to a place. The term was coined by John Herschel during his trip to South Africa in the 1830s. In his book 1001 Celestial Wonders to See Before You Die, author Michael Bakich suggests that this is "a reference to Table Mountain, which he could see every night as he gazed at the stars from his observatory."

During this same time, Herschel also christened a naked-eye asterism within the Table as the "**False Comet**."[1] While the area may give the impression of a comet, the term may again refer to a geographical location. Turning again to Bakich's book, he suggests "Although I haven't confirmed it by reading Herschel's words yet, I'm certain he named his 'comet' after False Bay, the place where his ship first touched land in South Africa."

Several binocular targets combine to create Herschel's False Comet. **Zeta Scorpii**, where the Scorpion's body hooks eastward, marks the comet's "coma." Zeta is a striking double star through binoculars. The brightest of the pair, often abbreviated Zeta-2, displays an obvious orange tint, while fainter Zeta-1 is blue-white. In reality, however, they are not related to each other. Zeta-2 lies 200 light years away, while Zeta-1 is an impressive 6,000 light years from us. A third, unrelated star (6th-magnitude SAO 227392) just to the south creates a nice equilateral triangle with the Zetas.

Zeta-1 is the brightest member of a collection of young, hot suns called the **Scorpius OB1 Association**, or in shorthand, Sco OB1. When we gaze their way, we are looking toward the Milky Way's next inward spiral arm, called the *Sagittarius Arm*.

The tail of Herschel's False Comet is made up of several close-set open clusters. Look half a degree north of Zeta and you'll spot **NGC 6231** at the core of Sco OB1. This small, but bright target was discovered by the Italian astronomer Giovanni Batista Hodierna (1597–1660), who included it on his list of 40 nebulous objects published in 1654. Some 120 searingly hot blue-white stars are crammed inside this tight cluster. They look relatively faint through binoculars because we are seeing them from across such a vast gulf. But if we could somehow magically reduce that distance to the same distance as the Pleiades cluster (380 light years), the brightest stars in NGC 6231 would outshine Sirius in our sky.

Moving another degree to the north, we come to the little-known cluster **Collinder 316**. Its stars are loosely gathered across 2 degrees – that's four Full Moons stacked end to end. No wonder so few telescopic observing guides mention it. We binocularists, on the other hand, can enjoy some three dozen of its stars ranging in brightness from 6th to 9th magnitudes.

You may notice that the eastern edge of Cr 316 contains a few more stars than the western. Those form a more concentrated sub-cluster of stars cataloged separately as **Trumpler 24** (also identified as **Harvard 12** in some references). Trumpler 24 is characterized by an arc of three 6th-magnitude stars extending north/south.

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[1] There is some disagreement in the literature as to the origin of the "False Comet" asterism. Some sources cite a much more recent origin, in the 1980s.

Above: A sketch the "False Comet" by the author through his 10x50 binoculars. North is up.

The tail end of the tail is marked by the compact open cluster **NGC 6242**. NGC 6242 lies between Collinder 316 and Mu Scorpii. Binoculars resolve a lone 6th-magnitude sun attended by four or five 9th-magnitude points of light and the subtle glow of fainter, invisible cluster members. In all, approximately 45 stars down to 11th magnitude belong to NGC 6242.

I could go on, but space is running short. Before closing for the month, however, here are some additional suggestions for readers who want to continue exploring this rich region of the summer sky.

Object	Con	Type	R.A. (2000)	Dec	Mag	Size/Sep/ Period	Notes
6204	Ara	OC	16 46.5	-47 1	8.2	5'	
6250	Ara	OC	16 58	-45 48	5.9	8'	*TUB page 93*
6541	CrA	GC	18 8	-43 42	6.6	13'	*TUB page 130*
6169	Nor	OC	16 34.1	-44 3	6.6p	?'	Mu Normae cluster
M62	Oph	GC	17 1.2	-30 7	6.6	14'	*TUB page 187* NGC 6266
B244	Oph	Dk	17 10.1	-28 24		30'x20'	
6304	Oph	GC	17 14.5	-29 28	8.4	6'	
6316	Oph	GC	17 16.6	-28 8	9.0	5'	
B59,65-7	Oph	Dk	17 21	-27 0		300'x160'	*TUB page 188* Stem of Pipe Neb
X	Sgr	Vr	17 47.6	-27 50	4.2-4.8	7.012 days	Cepheid
6124	Sco	OC	16 25.6	-40 40	5.8	29'	*TUB page 225*
6178	Sco	OC	16 35.7	-45 38	7.2	4'	
6231	Sco	OC	16 54	-41 48	2.6	15'	*TUB page 225*
B1833	Sco	**	16 54	-41 48	5.6,7.3	57"	*TUB page 225* 21°(1847);in NGC 6231
Cr 316	Sco	OC	16 55.5	-40 50	3.4p	105'	*TUB page 225*
6242	Sco	OC	16 55.6	-39 30	6.4	9'	*TUB page 226*
RS	Sco	Vr	16 55.6	-45 6	6.2-13.0	320.06 days	Long Period Variable
RR	Sco	Vr	16 56.6	-30 35	5.0-12.4	279.42 days	Long Period Variable
V861	Sco	Vr	16 56.6	-40 49	6.1-6.7	7.848 days	*TUB page 226* Eclipsing Binary (in Tr 24)
Tr 24	Sco	OC	16 57	-40 40	8.6p	60'	*TUB page 225-226* (Harvard 12)
6249	Sco	OC	16 57.6	-44 47	8.2	6'	
RV	Sco	Vr	16 58.3	-33 37	6.6-7.5	6.061 days	Cepheid
RT	Sco	Vr	17 3.5	-36 55	7.0-16.0	449.04 days	Long Period Variable
HD 153919	Sco	*	17 3.9	-37 51	6.6		X-Ray Source
6281	Sco	OC	17 4.8	-37 54	5.4	8'	*TUB page 226*
AH	Sco	Vr	17 11.3	-32 30	8.1-12.0p	713.6 days	Semi-Regular
6322	Sco	OC	17 18.5	-42 57	6.0	10'	
V636	Sco	Vr	17 22.8	-45 37	6.0-6.9	6.797 days	Cepheid
Harvard 16	Sco	OC	17 31.4	-36 51		15'	
6383	Sco	OC	17 34.8	-32 34	5.5	5'	
Tr 27	Sco	OC	17 36.2	-33 29	6.7	7'	
6388	Sco	GC	17 36.3	-44 44	6.9	9'	
Tr 28	Sco	OC	17 36.8	-32 29	7.7	8'	
Cr 338	Sco	OC	17 38.2	-37 34	8.0p	25'	
M6	Sco	OC	17 40.1	-32 13	4.2	15'	*TUB page 226* NGC 6405, Butterfly Cluster
6400	Sco	OC	17 40.8	-36 57	8.8p	8'	
BM	Sco	Vr	17 41	-32 13	6.8-8.7p	850 days	*TUB page 226* Semi-Regular (in M6)
Tr 29	Sco	OC	17 41.6	-40 6	7.5p	9'	
RU	Sco	Vr	17 42.4	-43 45	7.8-13.7	369.20 days	Long Period Variable
6416	Sco	OC	17 44.4	-32 21	5.7	18'	
6441	Sco	GC	17 50.2	-37 3	7.4	8'	
RY	Sco	Vr	17 50.9	-33 42	7.5-8.4	20.316 days	Cepheid
6453	Sco	GC	17 50.9	-34 36	9.9	4'	
M7	Sco	OC	17 53.9	-34 49	3.3	80'	*TUB page 226-228* NGC 6475
6496	Sco	GC	17 59	-44 16	9.2	7'	

We'll continue exploring the Milky Way next month, so if you have some favorite objects in and around Sagittarius, drop me a line and tell me about them. Meanwhile, until then, remember that, for summer stargazing, two eyes are better than one!

About the Author:

Phil Harrington is the author of Touring the Universe through Binoculars. Be sure to visit his web site at www.philharrington.net.