

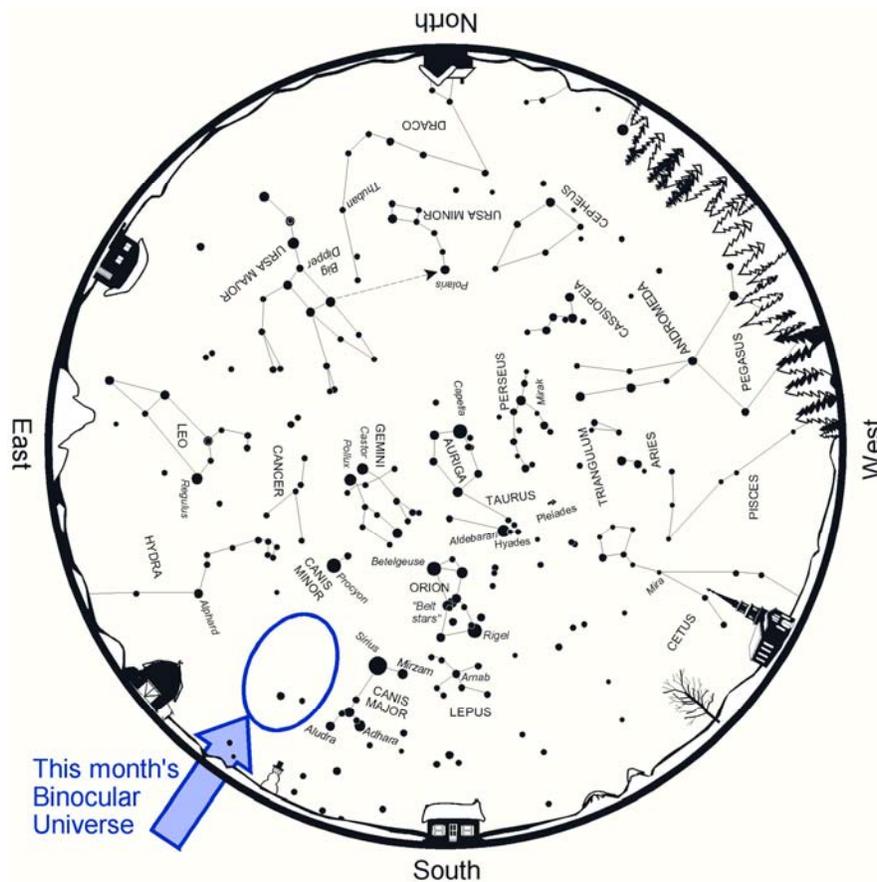
Binocular Universe: Here's the Poop

March 2012

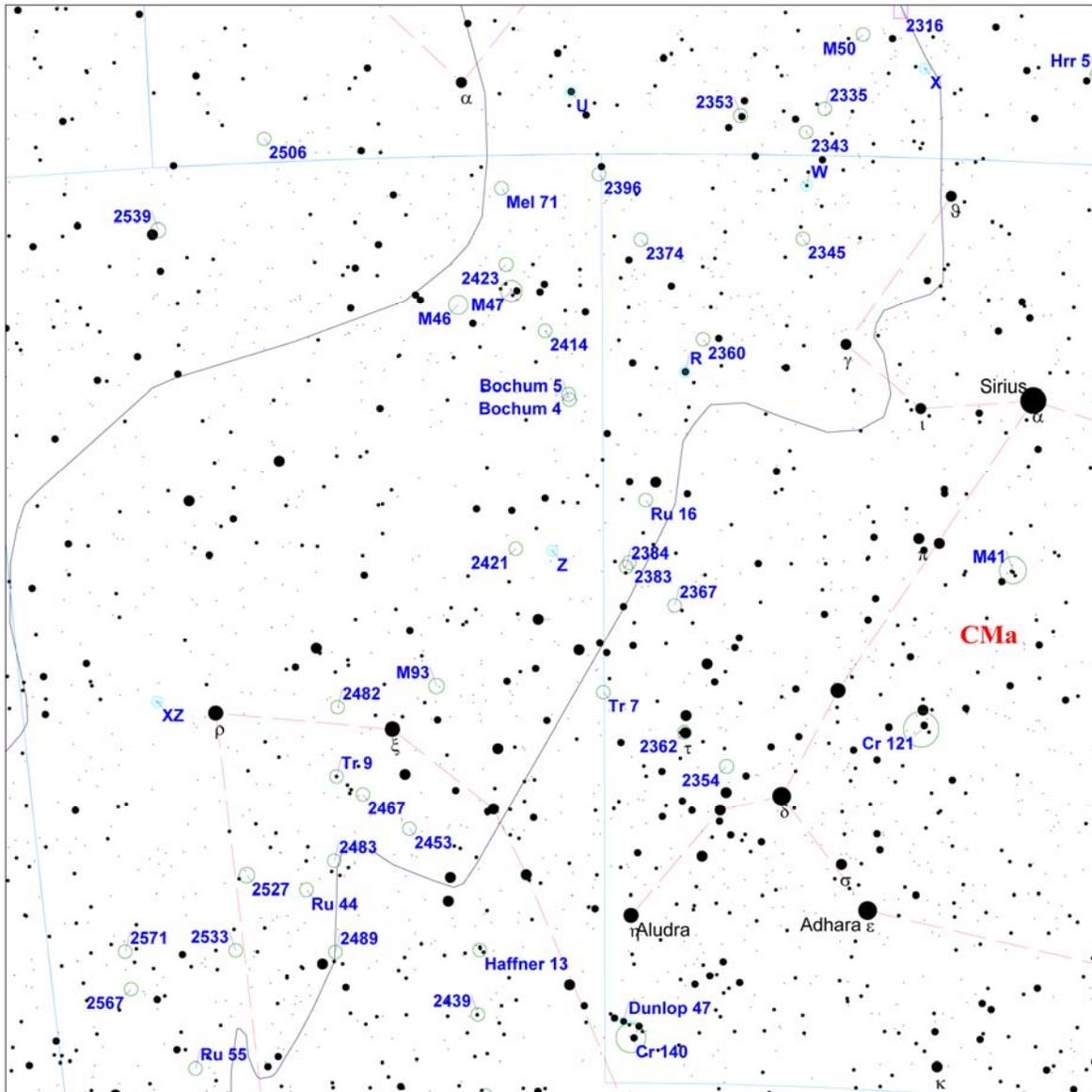
Phil Harrington



If you look at an old star map of the late winter sky created 250 or more years ago, you'll find a huge, unfamiliar constellation dominating the sky to the south and east of Canis Major. That's Argo Navis, a behemoth of a constellation dating from ancient Greece that depicted the mythical voyage of Jason and the Argonauts as they searched for the Golden Fleece. When viewed from Greece, the stars of Argo Navis appeared to skim the southern horizon, as if the ship was "sailing" across the Mediterranean Sea.



Above: Winter star map adapted from the author's book, [Star Watch](#)



Touring the Universe Through Binoculars Atlas
RA: 7h 32m, Dec: -20d 40m, FOV: 24d, 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 | |

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

The catalog of the southern sky, Coelum Australe Stelliferum, by French astronomer Abbé Nicolas-Louis de Lacaille (1713-1762), was the first to dissect Argo Navis into more manageable pieces. The ship itself became Puppis, the Stern (or Poop Deck); Vela, the Sails; Carina, the Keel; and Pyxis, the Ship's Compass. Two creatures were also drawn as belonging to Argo Navis: Columba, the Dove, and Volans, the Flying Fish.

For dwellers of the northern hemisphere, **Puppis** is the most familiar part of Argo Navis. It lies east of Canis Major, in an area notably absent of any bright stars. Although it lacks naked-eye luster, Puppis is rich in deep-sky treasures.

Let's start near its northern border, at a close-set pair of very different looking open clusters. **M47** is one the brightest and most appealing clusters in Puppis. Its 30 stellar members range in brightness from 6th to 12th magnitude, with more than half visible in 10x50 binoculars. All shine with the sparkle of blue-white stellar sapphires against a velvet black background. Surrounding M47 is a grand star-filled field highlighted by the striking orange star KQ Puppis to the cluster's west.

M46 lies only 1° east of M47. Like M47, M46 was discovered by Charles Messier in February, 1771. M46 is a rich congregation of about 100 stars ranging from magnitude 9 to 13. Smaller binoculars will show only a hazy glow, while giant glasses are capable of achieving partial resolution.

Though invisible in binoculars, a tiny planetary nebula lies on the cluster's northern edge. NGC 2438 glows softly at 11th magnitude and measures 65" of arc across. Once believed to be physically associated, the cluster and nebula have since been shown to be separate entities. M46 is thought to be 5,400 light years away, while NGC 2438 is about 3,000 light years distant.

Next, we have **NGC 2423**, just to the north of M47. Here, my 10x50s resolve a single cluster star against the very dim blur from 40 fainter suns. Overall, NGC 2423 shines at 7th magnitude and extends across 20' of arc. Estimates place it at about 2,500 light years away.

Another binocular cluster lies isolated in the constellations' northeast corner. **NGC 2539** holds about 50 suns, which 50-mm glasses show as an ill-defined blotch of light apparently touching the unrelated 5th-magnitude 19 Puppis. By switching to higher magnification, some of the cluster's true 9th- to 11th-magnitude stars appear throughout the cluster.

Okay, time to drop southward. Scan about a binocular field east of 2nd-magnitude Aludra [Eta (η) Canis Majoris], often portrayed as Canis Major's tail, to find the striking double star **Xi (ξ) Puppis**. Third-magnitude Xi is joined by an orangish, 5th-magnitude companion to create a nice color contrast against a star field strewn with crushed blue-white diamond dust. It turns out, however, that this pairing is strictly an illusion. Xi Puppis lies about 1,350 light years from Earth, while its "companion" is only 300 light years away.



Left: M46 and M47, as sketched through the author's 10x50 binoculars.

North is up.

If you have a sharp eye, you may also notice the dim glow of **M93** looking like a small ball of celestial cotton just northwest of Xi. Discovered by Charles Messier in March 1781, M93 is a dense open cluster of about 80 stars lying about 3,600 light years distant. Although you'll need the aperture and magnifying ability of a telescope to get a good view of the cluster, dark skies and steadily held 50-mm binoculars should show half dozen or so cluster suns mixed throughout a dim glow that, to my eyes, looks triangular. M93 spans some 25 light years edge to edge. Its brightest stars are spectral-type B blue giants estimated to roughly 100 million years old.

Next, from Xi Puppis, head east about 4° to Rho (ρ) Puppis, then another 4° south to **NGC 2527**. Forty suns 9th magnitude and fainter call this open cluster home. Look for a soft glow surrounding eight or nine cluster components, including an 8th-magnitude point lying on the group's eastern edge.

Finally, we have **NGC 2571**, a collection of about two dozen 9th-magnitude suns lying near the eastern edge of Puppis. The combined light of this open cluster's stars equals 7th magnitude, but individual resolution is reserved for 11x and higher instruments. Look for NGC 2571 within a triangle of 7th magnitude stars.

We've only begun to scratch the surface of Puppis in this brief survey. Take a look at all that awaits you in this region, listed in the table below. That should keep you busy for the entire month!

Object	Con	Type	R.A. (2000)	Dec	Mag	Size/Sep/ Period	Notes
M41	CMa	OC	6 46	-20 44	4.6	38'	*TUB page 105* NGC 2287
Cr 121	CMa	OC	6 54.2	-24 38	2.6	50'	*TUB page 105-106* Omicron CMa Cluster
W	CMa	Vr	7 8.1	-11 55	6.4-7.9		Irregular
2345	CMa	OC	7 8.3	-13 10	7.7	12'	
2354	CMa	OC	7 14.3	-25 44	6.5	20'	
2360	CMa	OC	7 17.8	-15 37	7.2	13'	
2362	CMa	OC	7 18.8	-24 57	4.1	8'	*TUB page 106* Tau CMa cluster
R	CMa	Vr	7 19.5	-16 24	5.7-6.3	1.136 days	Eclipsing Binary
2367	CMa	OC	7 20.1	-21 56	7.9	3.5'	
Ru 16	CMa	OC	7 23.2	-19 27		11'	
Cr 140	CMa	OC	7 23.9	-32 12	3.5	42'	*TUB page 106*
2374	CMa	OC	7 24	-13 16	8.0	19'	
Dunlop 47	CMa	**	7 24.7	-31 49	5.5,7.6	99"	342°(1922)
2383	CMa	OC	7 24.8	-20 56	8.4	6'	
2384	CMa	OC	7 25.1	-21 2	7.4	2.5'	
Hrr 5	Mon	OC	6 41	-9 0		15'	*TUB page 180* Asterism
X	Mon	Vr	6 57.2	-9 4	6.9-10.0	155.70 days	Semi-Regular
2316	Mon	DN	6 59.7	-7 46		4'x3'	
M50	Mon	OC	7 3.2	-8 20	5.9	16'	*TUB page 181* NGC 2323
2335	Mon	OC	7 6.6	-10 5	7.2	12'	
2343	Mon	OC	7 8.3	-10 39	6.7	7'	
2353	Mon	OC	7 14.6	-10 18	7.1	20'	
U	Mon	Vr	7 30.8	-9 47	6.1-8.1p	92.26 days	RV Tauri type
2506	Mon	OC	8 0.2	-10 47	7.6	7'	
Tr 7	Pup	OC	7 27.3	-24 2	7.9	5'	
2396	Pup	OC	7 28.1	-11 44	7.4p	10'	
Bochum 5	Pup	OC	7 30.9	-17 4	7.0		
Bochum 4	Pup	OC	7 31	-16 57	7.3		
Z	Pup	Vr	7 32.6	-20 40	7.2-14.6	499.67 days	Long Period Variable
2414	Pup	OC	7 33.3	-15 27	7.9	4'	
2421	Pup	OC	7 36.3	-20 37	8.3	10'	
M47	Pup	OC	7 36.6	-14 30	4.5	30'	*TUB page 209* NGC 2422
2423	Pup	OC	7 37.1	-13 52	6.9	20'	*TUB page 209*
Mel 71	Pup	OC	7 37.5	-12 4	7.1	9'	
Bochum 15	Pup	OC	7 40.1	-33 33	6.3		
Haffner 13	Pup	OC	7 40.5	-30 7		15'	*TUB page 209*
2439	Pup	OC	7 40.8	-31 39	6.9	10'	*TUB page 209*
M46	Pup	OC	7 41.8	-14 49	6.1	27'	*TUB page 209* NGC 2437
M93	Pup	OC	7 44.6	-23 52	6.2	22'	*TUB page 210* NGC 2447
2453	Pup	OC	7 47.8	-27 14	8.3	5'	
2467	Pup	OC	7 52.6	-26 23	7.1p	16'	
2482	Pup	OC	7 54.9	-24 18	7.3	12'	
Tr 9	Pup	OC	7 55.3	-25 56	8.7	6'	
2483	Pup	OC	7 55.9	-27 56	7.6	10'	
2489	Pup	OC	7 56.2	-30 4	7.9	8'	
Ru 44	Pup	OC	7 59	-28 35	7.2	5'	
2527	Pup	OC	8 5.3	-28 10	6.5	22'	*TUB page 210*
2533	Pup	OC	8 7	-29 54	7.6	4'	
2539	Pup	OC	8 10.7	-12 50	6.5	21'	*TUB page 210*
Ru 55	Pup	OC	8 12.3	-32 36	7.8	17'	
XZ	Pup	Vr	8 13.5	-23 57	8.0-10.9p	2.192 days	Eclipsing Binary
2567	Pup	OC	8 18.6	-30 38	7.4	10'	
2571	Pup	OC	8 18.9	-29 44	7.0	13'	*TUB page 211*

Have a question, a comment, or a suggestion for future columns? I'd love to hear it. Drop me a line at phil@philharrington.net .

Enjoy exploring the southern sky on these March evenings. And until next month, remember that two eyes are better than one.



About the Author:

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

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