

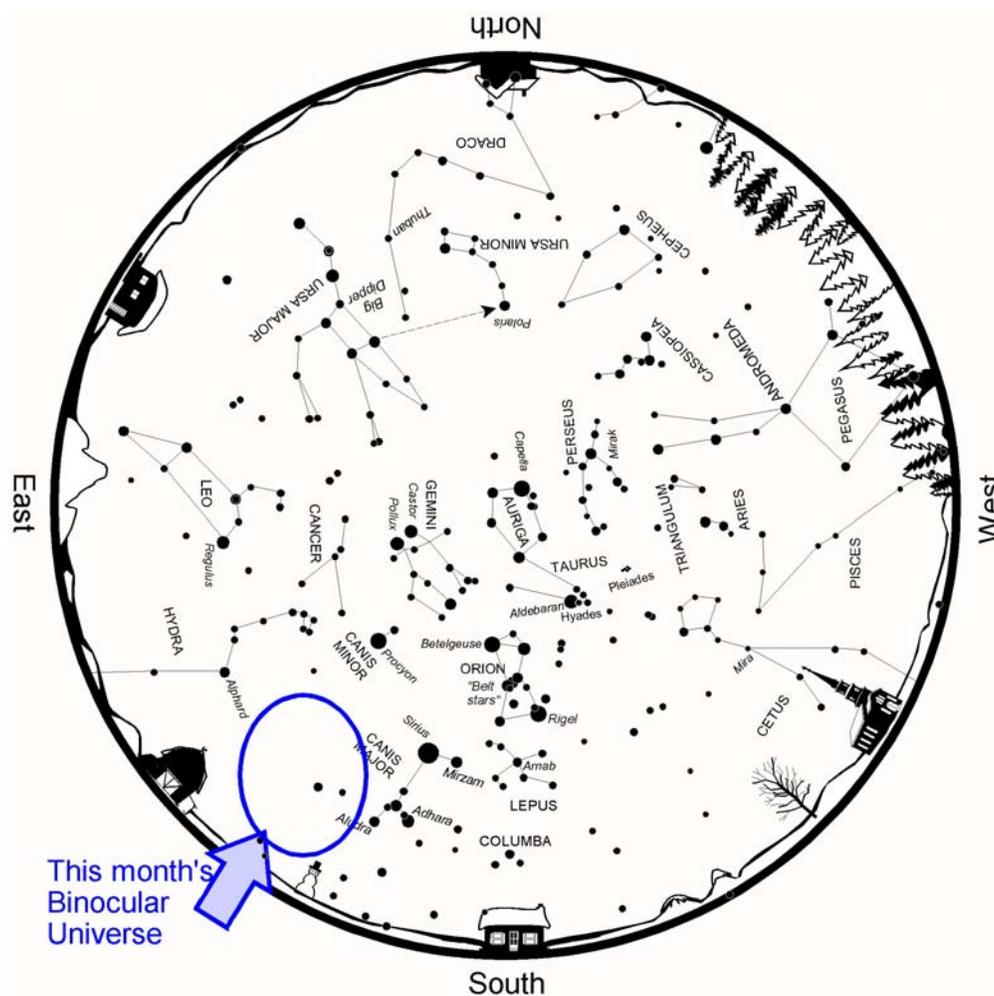
# Binocular Universe: More Poop

February 2014

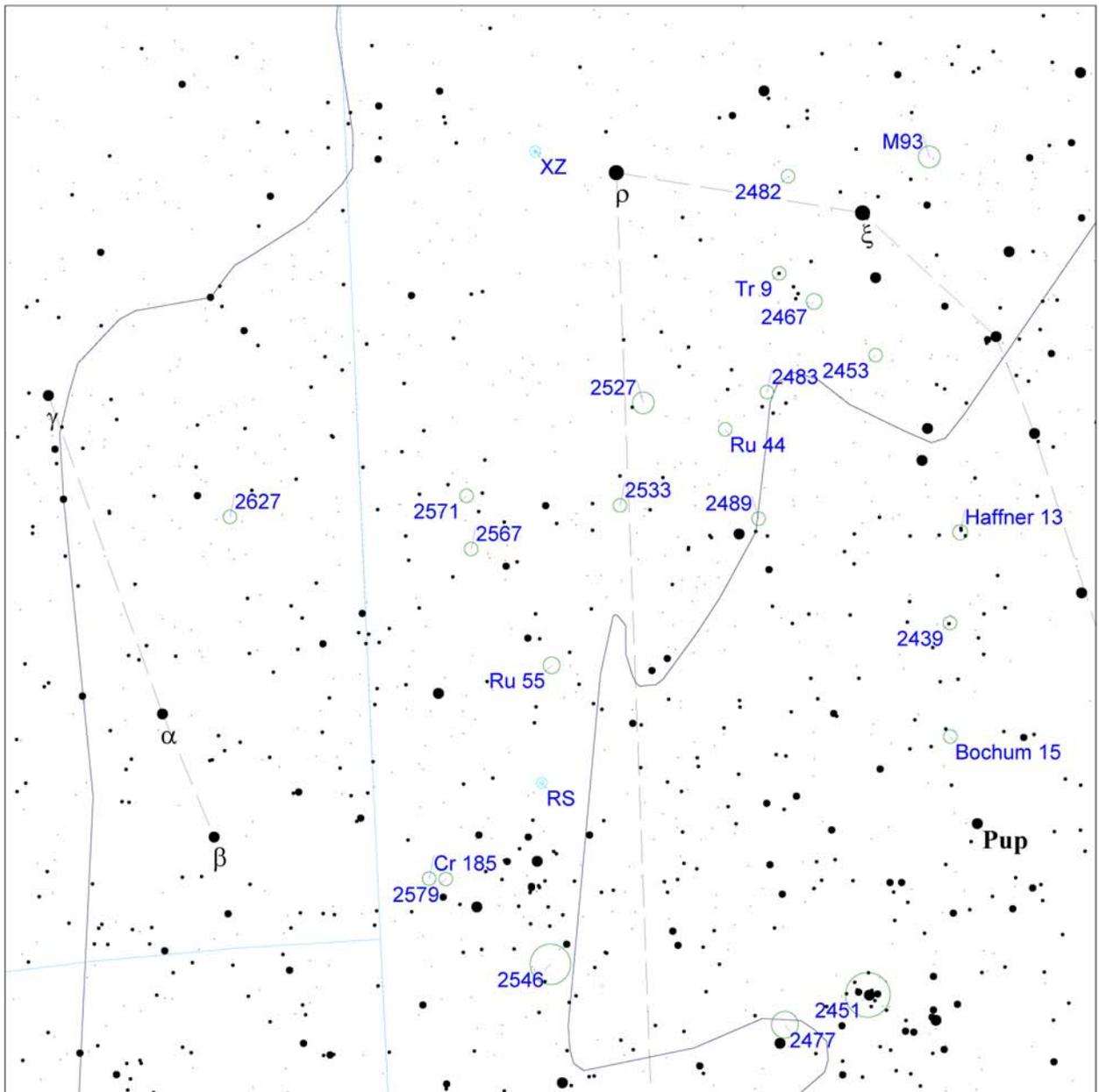
Phil Harrington



February may be the shortest month of the year, but its sky is long on mid-winter binocular treasures. We all know many favorite objects, like the Orion Nebula and the Pleiades. But rather than rehash these, let's break some unfamiliar ground in the southern sky and enjoy some lesser known gems that lie within the faint constellation of Puppis, the Poopdeck of the fabled ship Argo Navis.



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



**Touring the Universe Through Binoculars Atlas**  
**RA: 8h 12m, Dec: -30d 39m, FOV: 17d, Mag: 8.5**

- ≤ 1.2
- 1.2 - 2.4
- 2.4 - 3.6
- 3.6 - 4.9
- 4.9 - 6.1
- 6.1 - 7.3
- > 7.3

- Galaxy
- Open Cluster
- ⊕ Globular Cluster
- Diffuse Nebula
- Planetary Nebula
- Variable Star
- Double Star

- ☿ Mercury
- ♀ Venus
- ♂ Mars
- ♃ Jupiter
- ♄ Saturn
- ♅ Uranus
- ♆ Neptune

- ♇ Pluto
- ☼ Sun
- ☾ Moon
- ♁ Asteroid
- ☄ Comet
- ⊛ Unknown

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

Back in March 2012, [this column](#) surveyed some of what Puppis has to offer, including the striking open clusters M46, M47, and M93. This month, we return to the scene to visit some objects to their east.

For those of us in mid-northern latitudes, the targets this month are going to be a challenge. You'll need a good view to the south-southwest and get outside right as evening twilight ends. But you are viewing from south of about 30 degrees north latitude, these objects should all be fairly easy to identify.

We begin with **NGC 2451**, a striking, but often ignored, open cluster. Thirty or so stars are within range of 50-mm binoculars, with the remainder creating a vague background shimmer. Highlighting the scene is **c Puppis**, the cluster's brightest star. This red beacon stands out well amid a bevy of blue-white stellar jewels. With an apparent diameter of 45 arc-minutes, NGC 2451 is too broad to cram into most telescope fields, but it is wonderful for the wider fields of binoculars.

But hold on there. Is NGC 2451 really an open cluster? That's how it is listed in Dreyer's NGC, which is based on earlier observations by John Herschel. Herschel, in turn, had based his observations on even earlier records by Giovanni Bapista Hodierna. Hodierna is credited with the group's discovery sometime before the 1654 publication of his catalog of deep-sky objects. But more recent studies, beginning in the mid-1980s, now cast doubt on this being an open cluster. A 1994 paper written by German astronomers Siegfried Roser and Ulrich Bastian and published in [Astronomy and Astrophysics](#) provides good evidence that the stars we see in NGC 2451 are not gravitationally bound to one another. So, when we look its way, we are not really seeing a true object at all. Or are we?

That's because Roser and Bastian did uncover some two dozen stars in the surrounding area that have the same proper motion (that is, they are moving through space together). They dubbed these as the Puppis Moving Group, but also emphasized that these do not constitute NGC 2451. The Puppis Moving Group lies some 600 light years from Earth.

They also suspected that several more distant stars in the region form a second open cluster lying some 1,300 light years away. Several sources, both on-line as well as in print, refer to the Puppis Moving Group as NGC 2451A and the second cluster as NGC 2451B. That's not technically accurate, however, since this is not the way they were originally recorded in the New General Catalog. Call it what you will, NGC 2451 is a striking stellar cache through binoculars. Don't let this part of the sky slip away without catching a glimpse!

**NGC 2477** is found about a degree southeast of NGC 2451 and just north of 4th-magnitude b Puppis. While pale in comparison, it is still worth a mention. Through 10x50 binoculars, it appears as a starless smudge of grayish light about the size of the full moon. But increase magnification and aperture to 15x70s and above, and NGC 2477 will begin to reveal the brightest of its 160 stars. None shines brighter than 10th magnitude, and so will require exceptionally clear nights for easy detection. In his book *The Caldwell Objects*, author Stephen O'Meara notes that through his 4-inch refractor many of the stars in NGC 2477 appear to be arranged in several parallel rows that stretch out from a backbone of other stars. He compares the overall appearance to that of "an X-ray of the human torso with a

spine and a rib cage." Can this same effect be seen through 80-mm and larger binoculars? Take a look and let me know.

Continue eastward another 4 degrees for our next port-of-call, **NGC 2546**. This is a loosely gathered grouping of some 40 suns strewn across nearly 3/4 of a degree and ranging in brightness from magnitudes 6 to 11. Through my tripod-mounted 10x50 binoculars, I can see about twenty faint stars framed by an isosceles triangle of three 7th- and 8th-magnitude suns. The cluster's brightest star, a 6.5-magnitude blue-white inferno, lies in the group's southeastern corner.

For this next object, head 8 degrees north-northeast to a pair of challenging open clusters. **NGC 2571** is a collection of about two dozen 9th-magnitude suns. The combined light of this open cluster's stars equals 7th magnitude. The second, **NGC 2567**, is even dimmer and smaller. I've never made a convincing observation of this one through my 10x50s, but have it on my "16x70 To Do List" for this winter.

Let's head back north for **NGC 2539**. Unlike the previous two targets, this open cluster is easy to glimpse through nearly all binoculars. You'll find it 7 degrees due south of the bright open cluster M48, and 8 degrees east-northeast of another beauty, M47. The light of the 50 suns within NGC 2539 combines to magnitude 6.5. My 10x50s show an ill-defined blotch of light apparently touching the unrelated 5th-magnitude 19 Puppis. By upping my game to my 16x70s, I can begin to make out some of the cluster's true stars, which shine between magnitudes 9 and 11. The two brightest cluster stars are a 9.1-magnitude red giant and a 9.6-magnitude orange giant. Even larger binoculars may offer subtle hints of their colors by first slightly defocusing the view.

We've only just scratched the surface of all that Puppis has to offer. Check the list below for even more tempting targets, as well as a renegade from nearby Pyxis. Be sure to post your results in this column's discussion forum.

Object	Con	Type	R.A. (2000)	Dec	Mag	Size/Sep/ Period	Notes
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*
M93	Pup	OC	7 44.6	-23 52	6.2	22'	*TUB page 210* NGC 2447
2451	Pup	OC	7 45.4	-37 58	2.8	45'	*TUB page 210*
2453	Pup	OC	7 47.8	-27 14	8.3	5'	
2477	Pup	OC	7 52.3	-38 33	5.7	27'	*TUB page 210*
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'	
Ru 55	Pup	OC	8 12.3	-32 36	7.8	17'	
2546	Pup	OC	8 12.4	-37 38	6.3	41'	*TUB page 210-211*
RS	Pup	Vr	8 13.1	-34 35	6.5-7.6	41.388 days	Cepheid
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*
2579	Pup	OC	8 21.1	-36 11	7.5	10'	
Cr 185	Pup	OC	8 22.5	-36 10	7.8	9'	
2627	Pyx	OC	8 37.3	-29 57	8.4	11'	

Next month, let's try something a little different, what is for some a seasonal rite of passage. Until then, remember my stargazing mantra: two eyes are better than one.

---



*About the Author:*

*Phil Harrington has written 9 books for amateur astronomers, including his latest, Cosmic Challenge. Be sure to visit his web site at [www.philharrington.net](http://www.philharrington.net) for more information.*

**Phil Harrington's Binocular Universe** is copyright 2014 by Philip S. Harrington. All rights reserved. No reproduction, in whole or in part, beyond single copies for use by an individual, is permitted without written permission of the copyright holder.