

M64, The Black Eye Galaxy (Coma Berenices)

Continuing a series of photograph's of the Messier Objects.



By Judy Schmidt from USA - NGC 4826, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=88116433>

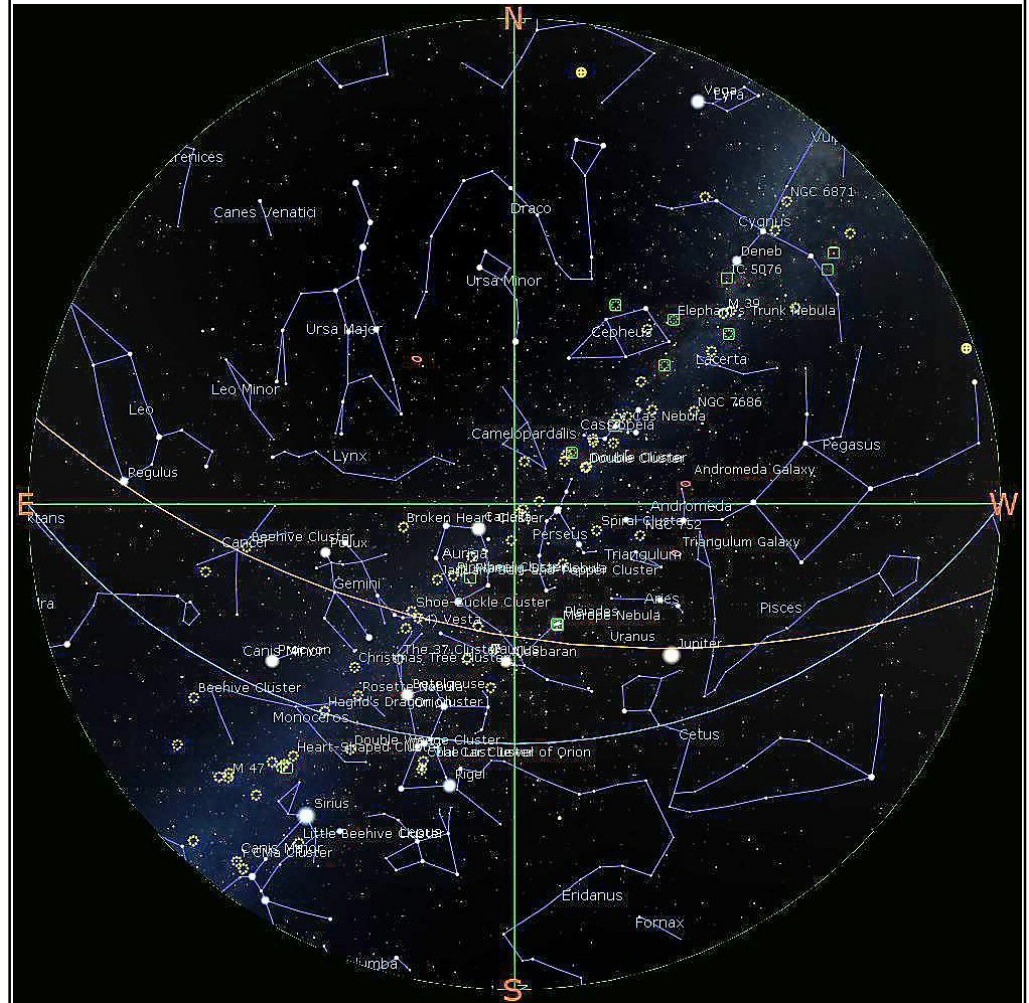
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Rugby & District Astronomical Society

Sky Notes

by Chris Longthorn

December 2023, no 168



The night sky at 23:00 U.T.C., December 15th 2023

Sky Events for December 2023

01 17:18 ISS, -3.2, 58°, SSW
04 14:00 Mercury at Greatest Elong: 21.3°E
05 05:49 LAST QUARTER MOON
08 19:00 Observing at Barby
09 16:53 Venus 3.6°N of Moon
09 19:00 Observing at Barby
12 23:32 NEW MOON
14 05:18 Mercury 4.4°N of Moon
14 19:00 Geminid Meteor Shower
14 19:00 Observing at Barby—Geminids
15 19:00 Observing at Barby
16 19:00 Observing at Barby
17 21:58 Saturn 2.5°N of Moon
17 19:30 R&DAS Christmas Meal
19 18:39 FIRST QUARTER MOON
20 17:00 Mercury at Perihelion
21 07:31 ISS, -3.5, 74°, S
22 03:28 Winter Solstice
22 06:42 ISS, -3.4, 64°, SSE
22 14:20 Jupiter 2.6°S of Moon
22 19:00 Mercury at Inferior Conjunction
23 03:00 Ursid Meteor Shower
23 07:30 ISS, -3.7, 81°, S
24 06:41 ISS, -3.7, 79°, S
24 07:37 Pleiades 1.1°N of Moon
25 07:28 ISS, -3.5, 71°, S
26 06:39 ISS, -3.7, 78°, S
27 00:33 FULL MOON
27 07:26 ISS, -3.1, 49°, SSW
28 06:37 ISS, -3.5, 62°, SSW
30 06:35 ISS, -2.9, 40°, SSW

November Image of the Month

Milky Way (inverted)

Taken by Peter Larkin with his Canon 6D DSLR at Kelling Heath star party, Norfolk. Sent in to me on 23rd October.

Details :-

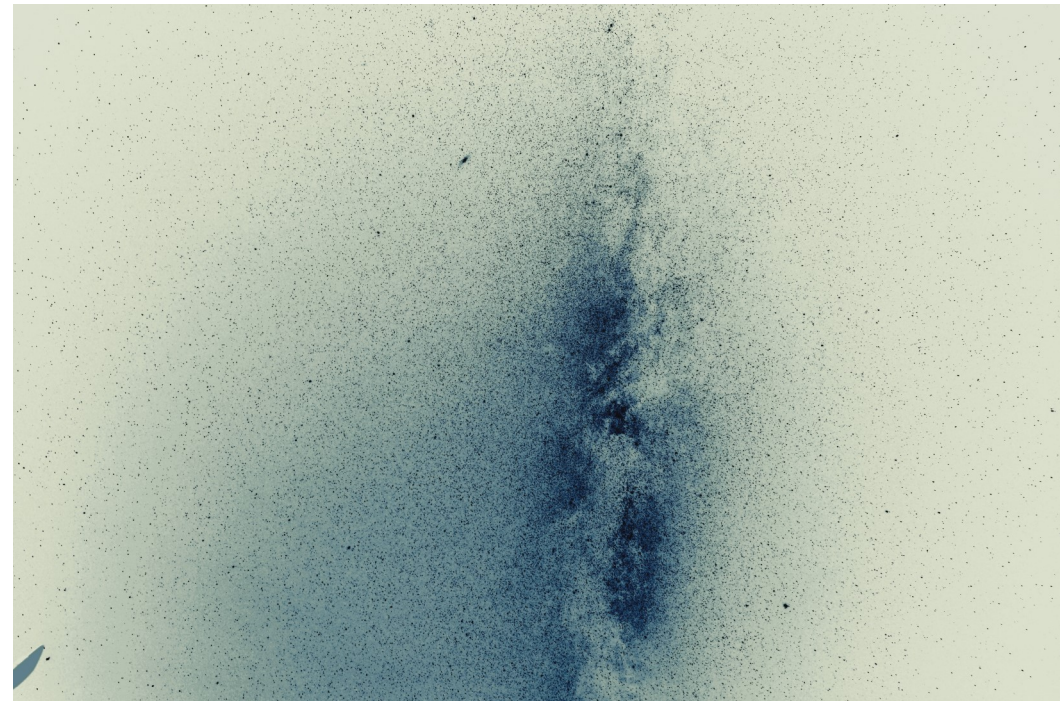
20 x 15 second sub-exposures.

Stacked in Sequator.

Processed in gimp.

Just been messing around with my Milky Way shot. I have inverted the image taken at Kelling Heath star party a couple of weeks ago .You can clearly see the Andromeda Galaxy top left on the image .

Well done Peter, a great way to show something different.



Object of the Month for December—Orion



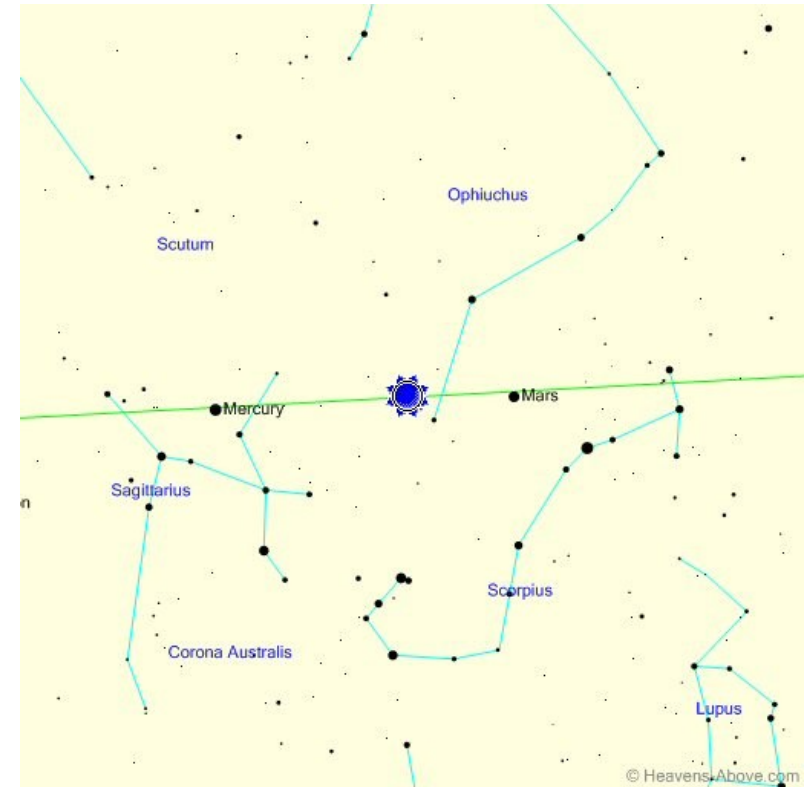
The constellation of Orion is well placed for observation throughout December and January. There are numerous deep sky objects to be seen.

Notably:

- M42, the Orion Nebula (visible in small telescopes)
- M43, the Running Man Nebula (visible in small telescopes)
- B33, The Horsehead Nebula (one for the imagers mainly, very difficult to see visually)
- M78, A reflection nebula (visible in small telescopes)

All of the brighter stars are also wonderful to observe, Betelgeuse, Rigel (which incidentally is a nice double, 9.5 arcsec separation Rigel B is magnitude 6.7), the belt stars and the Trapezium at the core of the Orion nebula. Near Rigel in the neighbouring constellation of Eridanus, you'll find the Witch Head nebula, a reflection nebula illuminated by Rigel itself.

The Sun, mid December



Event	Time	Altitude	Azimuth
Astronomical twilight begins:	06:01	-18.0°	105°
Nautical twilight begins:	06:43	-12.0°	113°
Civil twilight begins:	07:27	-6.0°	121°
Sunrise:	08:09	-0.8°	129°
Maximum altitude:	12:00	14.4°	180°
Sunset:	15:52	-0.8°	231°
Civil twilight ends:	16:33	-6.0°	239°
Nautical twilight ends:	17:17	-12.0°	247°
Astronomical twilight ends:	17:59	-18.0°	255°
Minimum altitude:	23:59	-60.9°	359°

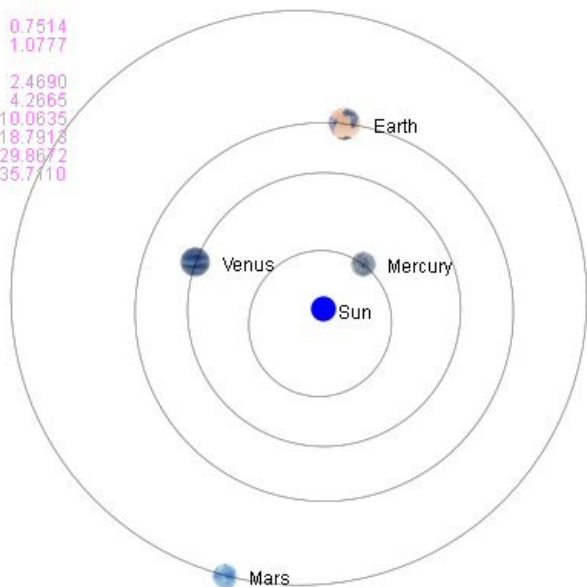
All data courtesy of Heavens-Above (www.heavens-above.com)

The Planets, mid December

Inner Solar System

2023-12-15 (UTC)

	Sun	Earth
Mercury	0.3146	0.7514
Venus	0.7190	1.0777
Earth	0.9843	
Mars	1.5014	2.4690
Jupiter	4.9819	4.2665
Saturn	9.7424	10.0635
Uranus	19.6160	18.7913
Neptune	29.9042	29.8672
Pluto	34.9120	35.7110



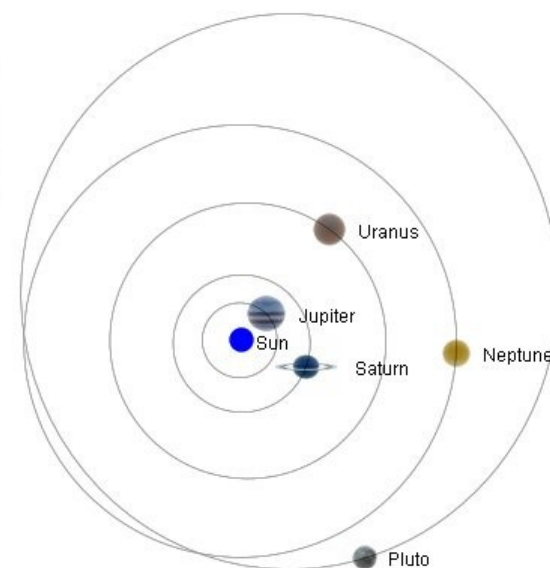
23h00m

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Outer Solar System

23h00m



	Mercury	Venus	Mars	Jupiter	Saturn	Uranus	Neptune
Right ascension	18h 32m 42.3s	14h 44m 42.6s	16h 55m 29.4s	2h 15m 4.7s	22h 17m 4.2s	3h 8m 29.7s	23h 42m 5.0s
Declination	-23° 15' 12"	-13° 34' 15"	-23° 0' 11"	12° 12' 20"	-12° 26' 1"	17° 17' 59"	-3° 17' 49"
Range (AU)	0.751	1.078	2.469	4.267	10.063	18.791	29.867
Elongation from Sun	14.1°	40.5°	8.2°	132.3°	68.3°	146.1°	91.2°
Brightness	1.2	-4	1.4	-2.6	0.9	5.6	7.9
Equatorial Diameter	8.95"	15.48"	3.79"	46.21"	16.51"	3.75"	2.29"
Constellation	Sagittarius	Libra	Ophiuchus	Aries	Aquarius	Aries	Pisces
Meridian transit	13:03:00	09:12:00	11:23:00	20:43:00	16:46:00	21:36:00	18:11:00
Rises	09:20:00	04:23:00	07:37:00	13:39:00	11:53:00	14:02:00	12:29:00
Sets	16:46:00	14:00:00	15:10:00	03:51:00	21:39:00	05:15:00	23:53:00
Altitude	-52.9°	-45.7°	-60.3°	41.3°	-12.1°	51.3°	7.9°
Azimuth	310.1°	39.0°	349.2°	227.2°	265.3°	213.1°	254.1°