The Insider's Guide to the Galaxy Presents...

Finest Minutes

a guide to completing RASC's Finest NGC Objects Observing List

Part 4 -

January 31st – February 13th, 2023

The following pages include a list of objects discussed on January 31st, 2023. Including finder charts and log pages.

List of Targets Discussed:

Jan 31 – astronomical twilight ends around 7 pm, bright waxing moon, so delay a week

View this one around 7 pm

NGC	Constellation	Magnitude	Type	FNGC	Name
1232	Eri	10	G-Sc	021	Eye of God Galaxy

View the rest around 8pm

NGC	Constellation	Magnitude	Type	FNGC	Name
1535	Eri	9.6	PN	022	Cleopatra's Eye
1514	Tau	10.9	PN	023	Crystal Ball Nebula
1788	Ori	10	RN	025	Cosmic Bat / Foxface Nebula
1977+	Ori	6.3	E/RN	026	Running Man Nebula

FNGC = Finest NGC List Number

Notes:

NGC 1232

(5.5x4.5 arc-minutes)

An underappreciated gem! It was discovered by WH on Oct 20, 1784 (II-258). This face-on spiral galaxy would be visible in large binoculars and in any quality telescope from a dark sky at a location where it's higher in the sky. For Canadians, it culminates below about 25° altitude. It resembles Messier 101. Align your telrad edge or finder FOV with mag 3.7 star T4 Eridani at the lower left. Binoculars can easily show the series of "T" stars. Search at low power and then enjoy details at 65x or higher. Use averted vision and take long looks for clear air moments. Note the bright field star to the east, the galaxy's size and shape, the characteristics of the core and the arms. Larger scopes can seek the tiny companion on the eastern edge. 65 ml-y away.

NGC 1535:

(1 arc-minute)

A bright planetary nebula with greenish-blue-grey disk, brighter interior and central star. It's very similar in form and size to the Parka Nebula NGC 2392. It was discovered by WH on Feb 1, 1785 (IV-26). It is visible in all sizes of telescopes, though it only climbs about one-third of the way up the sky for Canadians. Cleopatra's Eye is located on the line connecting the bright star Arneb (Alpha Lep) to Rana (Delta Eri), or about midway between Sceptrum (I Eri) and Rana. I put the right edge of my telrad rings on mag 2.95 Zaurak and then slewed east by half the telrad diameter (2°). Once in the neighbourhood, you can use an OIII filter to brighten the nebula and darken the stars, then crank up the magnification to 200x or more. Note the shape and the central star,

look for structure, and try different magnifications with and without the filter and averted vision. About 5,200 l-y away.

NGC 1514

(1.7 arc-minutes)

An irregular faint glow around a prominent 9.4 mag central star. It was discovered by WH on Nov 13, 1790 (IV-69). The central star is visible in binoculars, but a 4” or larger telescope (or very dark skies) will be needed to see the nebula. The Crystal Ball is located almost midway from Aldebaran to Mirfak, and on the line between Zeta Turi (lower horn tip) and Atik (Zeta Per). It’s also about three times the span from Omicron Persei to Atik. I put telrad ring edge on the left side of Zeta Per and slewed an extra degree east. Note its relationship to a triangle of 8th magnitude field stars. Use averted vision and/or an OIII filter to brighten the nebula portion. Try different magnifications centred on 100x. Note the shape and any structure, and the field stars. About 2,000 l-y away.

NGC 1788

(2 arc-minutes)

A fairly bright but diffuse reflection nebula (vdB 33) with hot young stars. It was discovered by WH on Feb 1, 1786 (V-32). NGC 1788 is located almost exactly midway between Rigel and Pi6 Orionis, the bottom star of Orion’s shield. Or, put the mag 2.75 star Cursa (Beta Eri) on the bottom edge of your telrad rings edge or finder FOV. It sits 1.75° north of that star, above the pair 68 and 66 Eri. The young stars within and around the nebula can be seen in smaller telescopes, but the full extent of the dark and bright dust regions will benefit from dark skies and larger apertures. Don’t use too much magnification, say 35x or 60x – it’s big! It’s also a great imaging target. Use averted vision because filters don’t help much with reflection nebulae. Look for the shape (fox face or bat?), outlying branches of nebulosity, and the field star arrangement and colours. About 1,600 l-y away. (described in the Jan-Feb 2023 SkyNews Beyond Messier.)

NGC 1977+

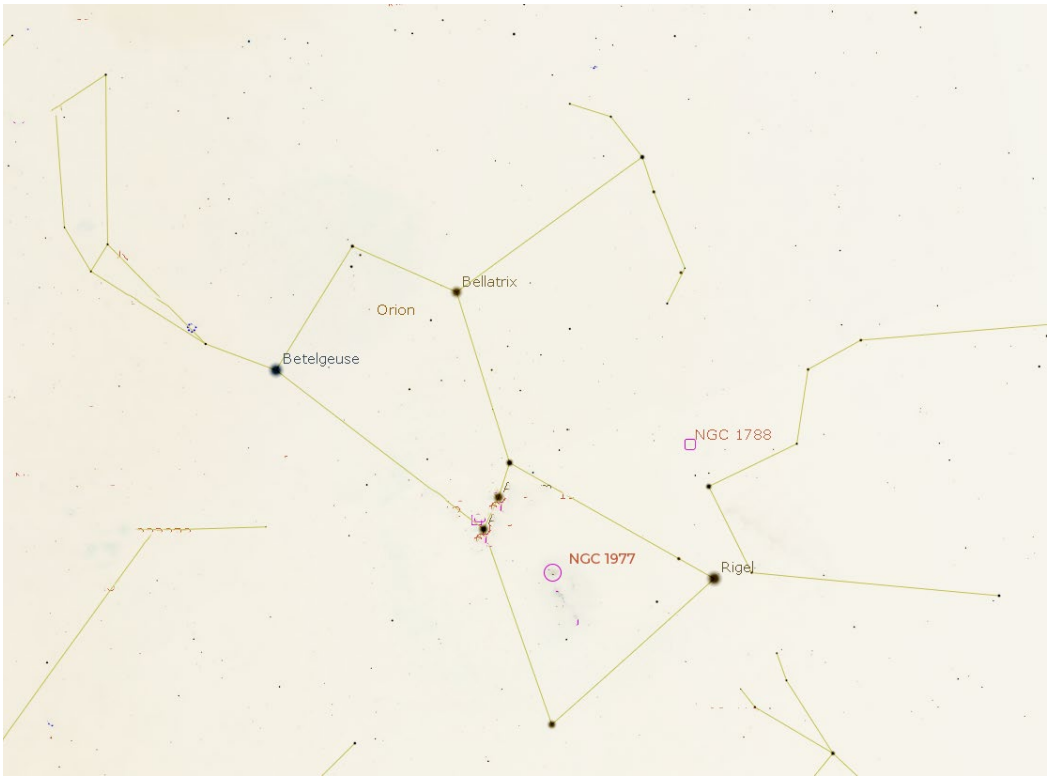
(42x26 arc-minutes)

This combination of emission and reflection nebulosity would have been more popular if not for next-door M42/43! It was discovered by WH on Jan 30, 1786 (V-30). The young stars within it are of naked-eye brightness, making it easy to find in as the second from highest patch of light in Orion’s sword. Binoculars will show hints in a dark sky, but any

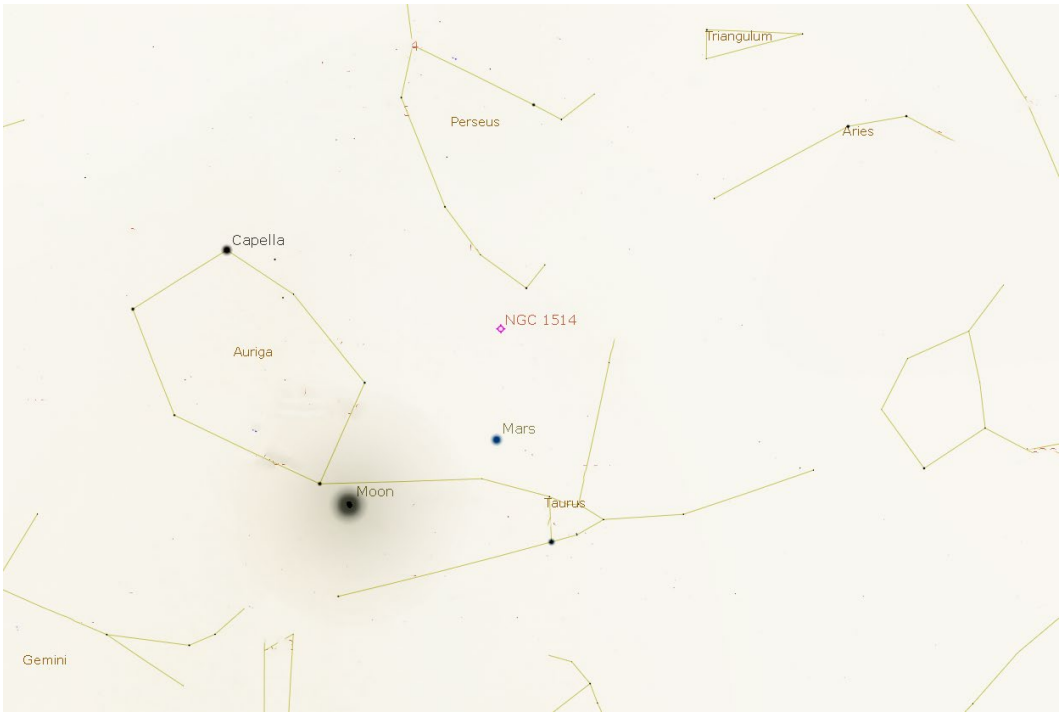
size of telescope will show this bright nebula. Larger apertures will reveal the complex Running Man shape. Additional NGC 1973 and 1975 numbers have been assigned to parts of the complex. OIII or UHC filters will show it better. Don’t over magnify the nebula. Start under 50x, but do zoom in on the stars within. Describe the size, shape, and form of the nebula and the arrangement of the field stars. Look for the Coal Car asterism / open cluster NGC 1981 just to the north. About 1,500 l-y away.

Target Finder Charts:

NGC 1977, NGC 1788 Closer View –

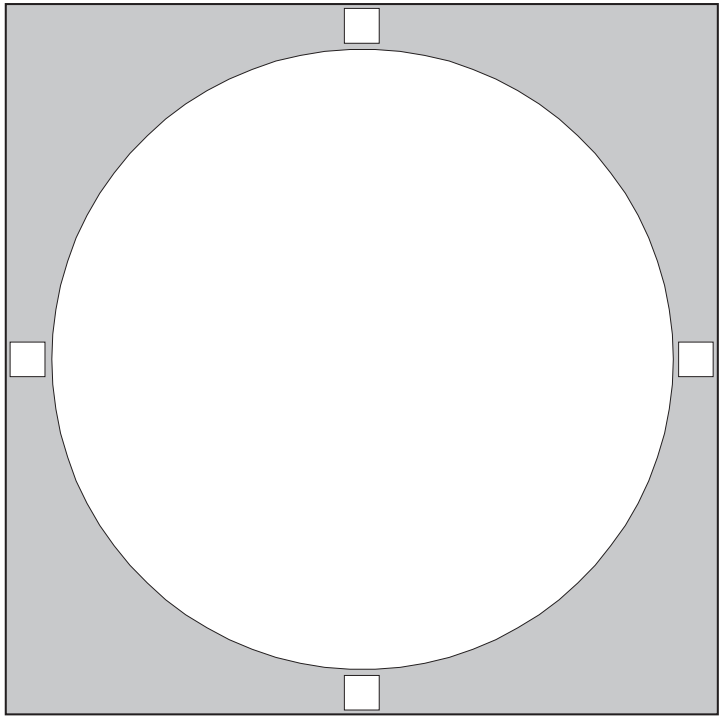


NGC 1514 Closer View –



NGC 1535 & NGC 1232 Closer View –

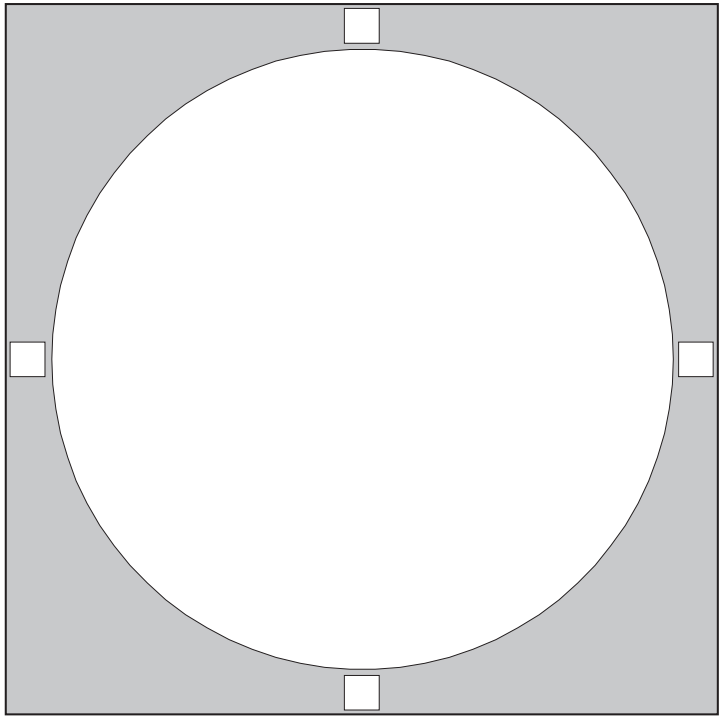
NGC Number		**1232**	
Constellation		**Eridanus**	
Type		**G-SABc**	
Visual Magnitude**		**10.0**	
Size	Distance	**6.8'x5.6'**	**72 million ly**
RA (Epoch 2000.0)		**03:09.8**	
Dec (Epoch 2000.0)		**-20:35**	
UM I	UM II	**311**	**157**
Sky Atlas 2000		**18**	
Season		**Autumn**	
Remarks***		**face-on spiral; look for NGC 1300 nearby**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



Notes

PN: Planetary Nebula	RN: (diffuse) Reflection Nebula	Seeing: 1 = Best 5 = Poor	* = Number of stars in cluster
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

NGC Number		**1535**	
Constellation		**Eridanus**	
Type		**PN**	
Visual Magnitude**		**9.6p**	
Size	Distance	**>18"**	**5,000 ly**
RA (Epoch 2000.0)		**04:14.2**	
Dec (Epoch 2000.0)		**-12:44**	
UM I	UM II	**268**	**137, 138**
Sky Atlas 2000		**11**	
Season		**Autumn**	
Remarks***		**bright planetary with blue-grey disk**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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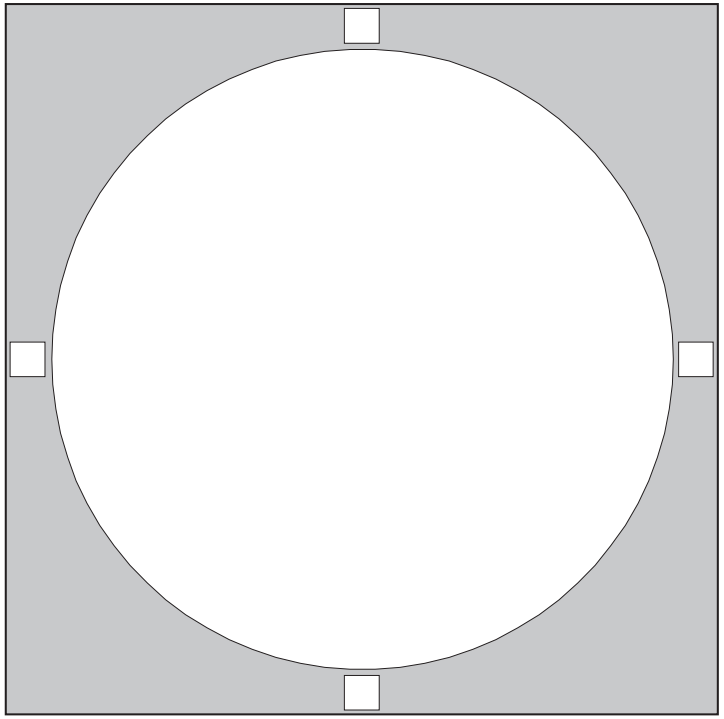
NGC Number		**1514**	
Constellation		**Taurus**	
Type		**PN**	
Visual Magnitude**		**10.9**	
Size	Distance	**>1' 54"**	**2,000 ly**
RA (Epoch 2000.0)		**04:09.2**	
Dec (Epoch 2000.0)		**+30:47**	
UM I	UM II	**95**	**60**
Sky Atlas 2000		**4, 5**	
Season		**Winter**	
Remarks***		**faint glow around 9.4 mag central star**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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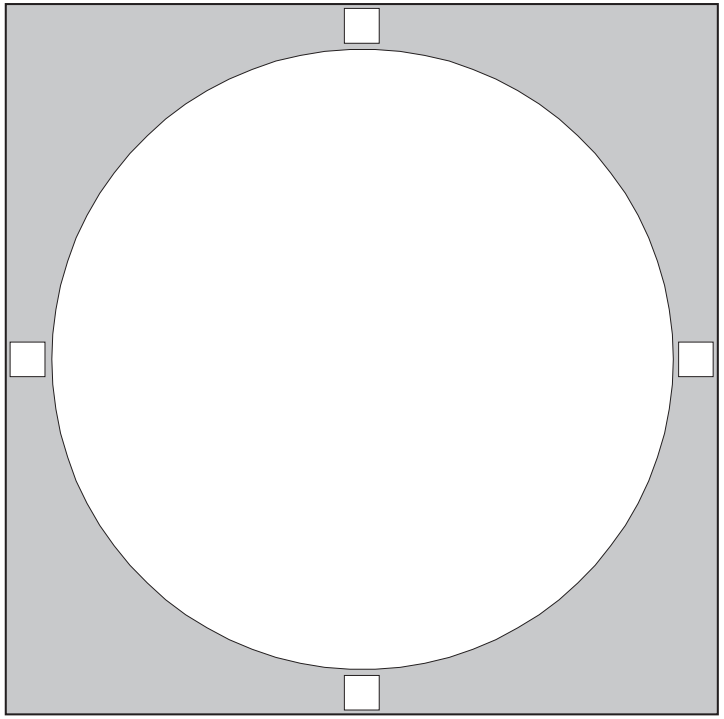
NGC Number		**1788**	
Constellation		**Orion**	
Type		**RN**	
Visual Magnitude**		**~9.0**	
Size	Distance	**5.0' x 3.0'**	**n/a**
RA (Epoch 2000.0)		**05:06.9**	
Dec (Epoch 2000.0)		**-03:21**	
UM I	UM II	**224, 225**	**117**
Sky Atlas 2000		**11**	
Season		**Winter**	
Remarks***		**fairly bright but diffuse reflection nebula**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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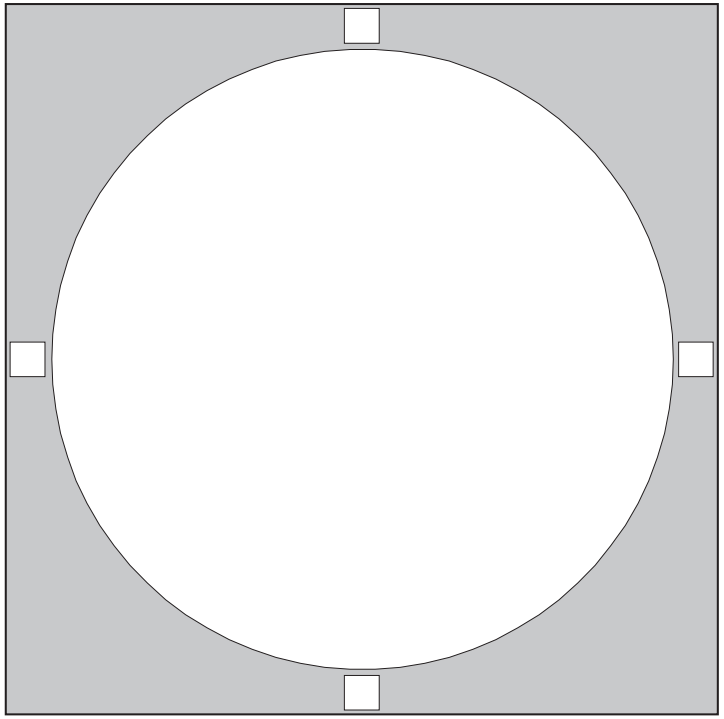
SNR: Supernova Remnant	EN: (diffuse) Emission Nebula	Transparency: 1 = Best 5 = Poor	** p = Photographic Magnitude
GC: Globular Cluster	G-: Galaxy, with Hubble type given	Time: DD:MM:YYYY	*** !! = Showpiece Object
OC: Open Cluster	E/RN: Diffuse emission and reflection Nebula	Date: Specify Time Zone or UT	http://www.rasc.ca

NGC Number		**1973+**	
Constellation		**Orion**	
Type		**E/RN**	
Visual Magnitude**		**na**	
Size	Distance	**~20.0' x ~10.0'**	**1,500 ly**
RA (Epoch 2000.0)		**05:35.1**	
Dec (Epoch 2000.0)		**-04:44**	
UM I	UM II	**225, 226**	**116**
Sky Atlas 2000		**11**	
Season		**Winter**	
Remarks***		**NGC1973-5-7 Just north of M42 and M43**	
Date	Time		
Seeing		1 2 3 4 5	
Transparency		1 2 3 4 5	
Telescope			
Eyepiece	Magnification		
Observing Location			



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