

GEMINI

GEMINI (GEM)

√	NGC	RASC	SAC	CALD	HER-400	O-HT	O-SD	Season	Con	Type	R.A. H:m.s	DEC °,'	m_v	Size "	Comment
	2371/2	R030			H095/096		D036	W	Gem	PN	07:25.6	29.29	11.3	55	Her(2,316/17) Double Bubble/Peanut PN; Faint double-lobed; filter
	2266				H081 (6,21)			W	Gem	OC	06:43.3	26.58	9.5	5	Small, relatively faint, fan shaped OC, 2° N of Eps Gem.
	2158		S053		H070 (6,17)			W	Gem	OC	06:07.5	24.06	8.6		Near M35, Compact, rich, small (5'), dim
	2420				H101 (6,1)		D037	W	Gem	OC	07:38.4	21.34	8.3	6	Twinkling "Comet" OC, round, very rich (>300*)
	2392	R031	S054	C039	H097 (4,45)			W	Gem	PN	07:29.2	20.55	8.3	13	*Clown Face/Eskimo Nebula. Use high power



N2371-2

N2266

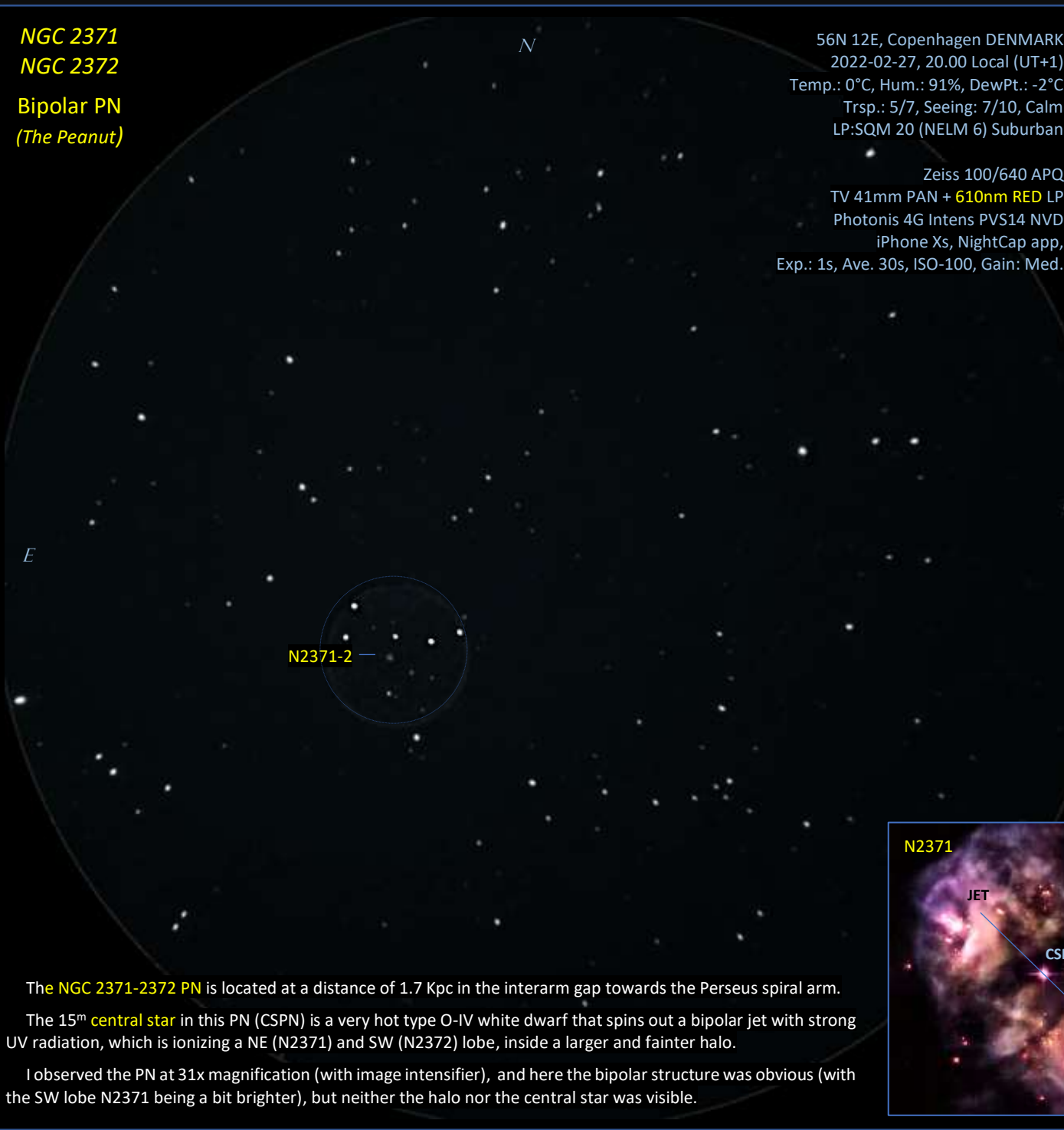
N2158

N2420

N2392

NGC 2371
NGC 2372

Bipolar PN
(The Peanut)



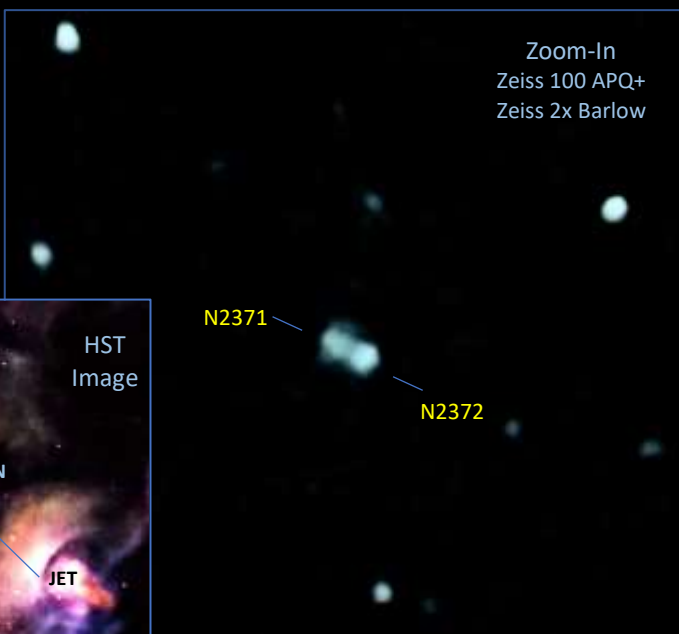
56N 12E, Copenhagen DENMARK
2022-02-27, 20.00 Local (UT+1)
Temp.: 0°C, Hum.: 91%, DewPt.: -2°C
Trsp.: 5/7, Seeing: 7/10, Calm
LP:SQM 20 (NELM 6) Suburban

Zeiss 100/640 APQ
TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD
iPhone Xs, NightCap app,
Exp.: 1s, Ave. 30s, ISO-100, Gain: Med.

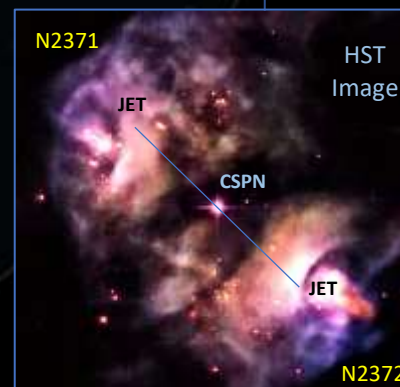
Zeiss 100 APQ+
Zeiss 2x Barlow



Zeiss 100/640 APQ + 2x Barlow
TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD
iPhone Xs, NightCap app,
Exp.: 1s, Ave. 30s, ISO-100,
Gain: Med.



Zoom-In
Zeiss 100 APQ+
Zeiss 2x Barlow



The NGC 2371-2372 PN is located at a distance of 1.7 Kpc in the interarm gap towards the Perseus spiral arm.

The 15^m central star in this PN (CSPN) is a very hot type O-IV white dwarf that spins out a bipolar jet with strong UV radiation, which is ionizing a NE (N2371) and SW (N2372) lobe, inside a larger and fainter halo.

I observed the PN at 31x magnification (with image intensifier), and here the bipolar structure was obvious (with the SW lobe N2371 being a bit brighter), but neither the halo nor the central star was visible.

NGC 2266
The Fan OC

N

56N 12E, Copenhagen DENMARK
2022-02-27, 21.00 Local (UT+1)
Temp.: 0°C, Hum.: 91%, DewPt.: -2°C
Trsp.: 5/7, Seeing: 7/10, Calm
LP:SQM 20 (NELM 6) Suburban

Zeiss 100/640 APQ
TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD
iPhone Xs, NightCap app,
Exp.: 1s, Ave. 20s, ISO-64, Gain: Med.

N2266 is a small (5'), rather faint (10^m) open cluster of intermediate age (~639 Myr), located at a distance of 3.4 Kpc in the outer part of our Local Ori-Cyg spiral arm, towards Gemini.

The brightest star in the area is the type-F7 III red giant (HD48175), which, however, is a foreground star.

Three fainter (10-12^m) red giant stars ~11^m are arranged in a row up NE, and in total the CMD for N2266 shows 9 members of the OC on the horizontal branch in the red giant clump.

Around 190 still fainter (<14^m) and mostly unresolved members are seen in a wedge or fan-shape, opening up north.

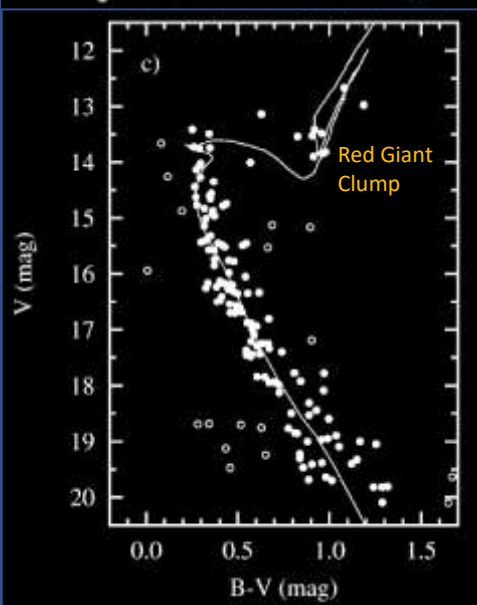


W

Zoom-In
Zeiss 100 APQ+
Zeiss 2x Barlow



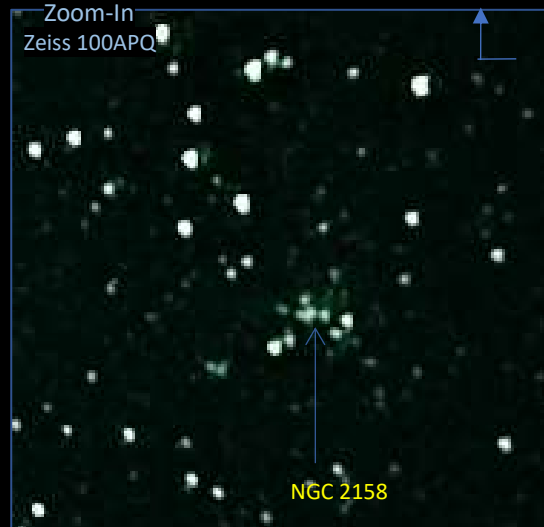
Zeiss 2x Barlow, TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD, iPhone Xs,
NightCap, Exp.: 1s, Ave. 30s, ISO-40, Gain: Med.





NGC 2158 OC

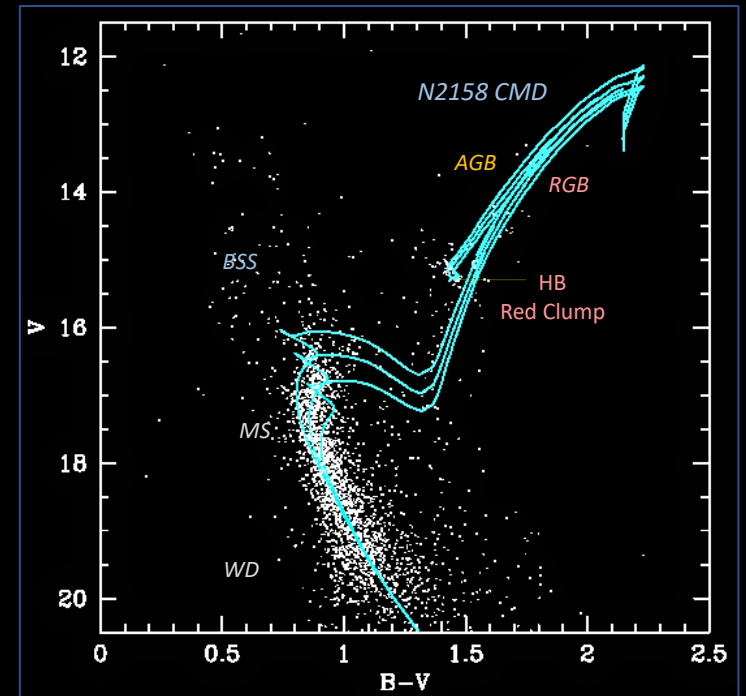
N2158 can be said to be one of the "usual suspects" in Gemini for visual observation as for **astro-photography**, where it is often framed as a "companion" cluster to the M35 OC; - M35, however, is a much, much younger (175 Myr) and closer (1.2 Kpc) open cluster in our own Local spiral arm!



N2158 is an ~2Gyr old OC located far, far away at a distance of 4.7 Kpc between the Perseus and the Outer spiral arm toward the anti-center direction of the Milky Way.

The cluster is rich (800+ members) and the CMD is well populated with evolved stars on the RGB, HB (red clump) and AGB, as well as many blue straggler stars (BSS) and white dwarf cinders (WD).

The cluster also has several **Delta Scuti** pulsating variable type A-F stars currently moving across the instability strip from the MS to the RGB.



56N 12E, Copenhagen DENMARK
2022-02-27, 20.45 Local (UT+1)
Temp.: 0°C, Hum.: 91%, DewPt.: -2°C
Trsp.: 5/7, Seeing: 7/10, Calm
LP:SQM 20 (NELM 6) Suburban

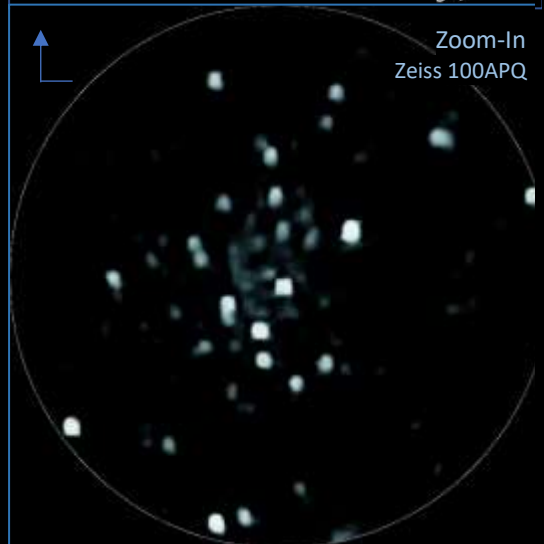
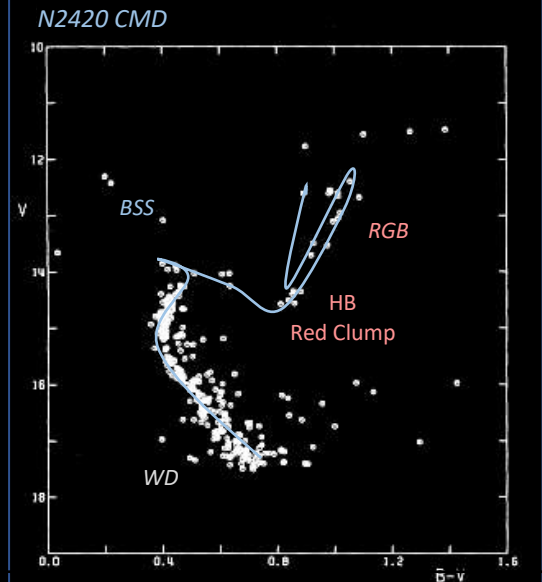
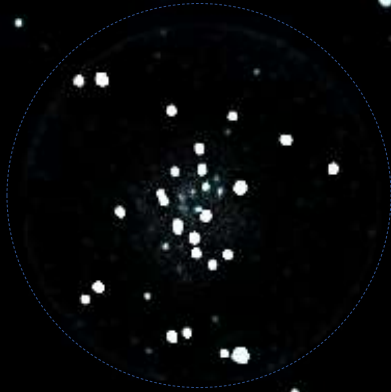
N

NGC 2420 OC

NGC2420 is a very old (~2 Gyr) open cluster, and like other OCs of this high age, it was probably formed in the Milky Way disk, and was since gravitationally perturbed to its current location about 3 Kpc from our solar system in the inner Perseus spiral arm, but also ~1 Kpc above the galactic disk.

The CMD is typical for an old cluster, including a well populated red giant branch (RGB), a horizontal branch with a "red clump" of post RGB stars, plus at least 8 white dwarf star cinders (WD).

E



Zeiss 100/640 APQ + Zeiss 2x Barlow
TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD
iPhone Xs, NightCap app,
Exp.: 1s, Ave. 30s, ISO-64, Gain: Med.

NGC 2392
Eskimo PN

56N 12E, Copenhagen DENMARK
2022-02-27, 21.15 Local (UT+1)
Temp.: 0°C, Hum.: 91%, DewPt.: -2°C
Trsp.: 5/7, Seeing: 7/10, Calm
LP:SQM 20 (NELM 6) Suburban

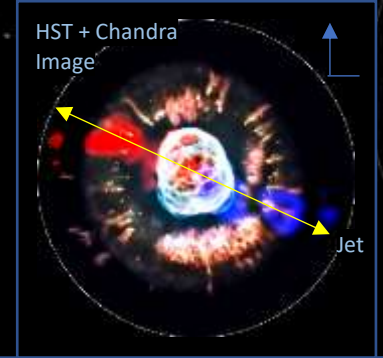
Zeiss 100/640 APQ
TV 41mm PAN + 610nm RED LP
Photonis 4G Intens PVS14 NVD
iPhone Xs, NightCap app,
Exp.: 1s, Ave. 30s, ISO-26, Gain: Med.

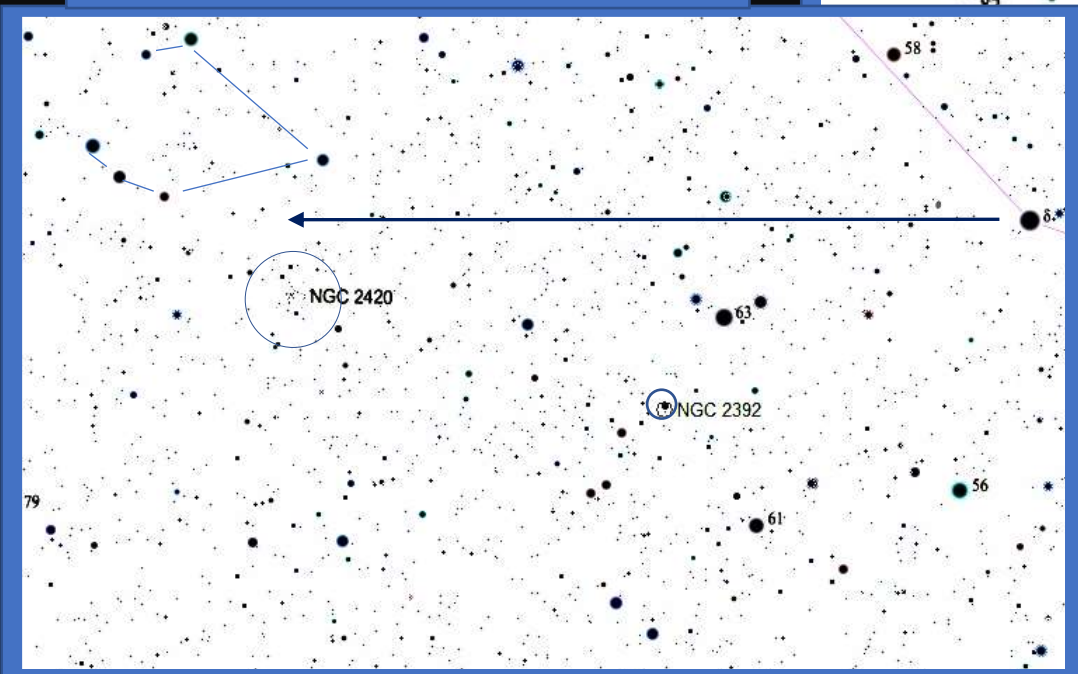
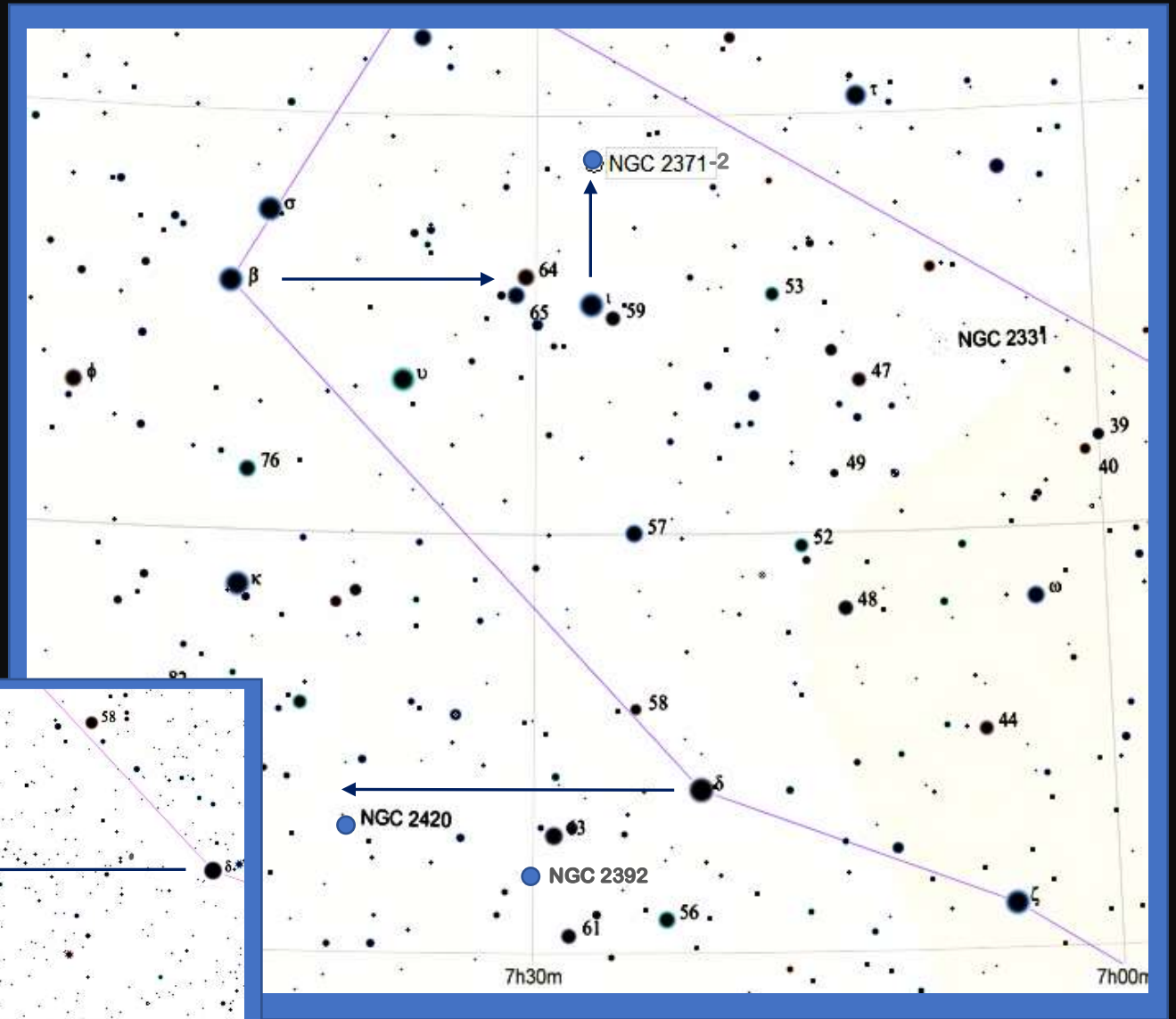
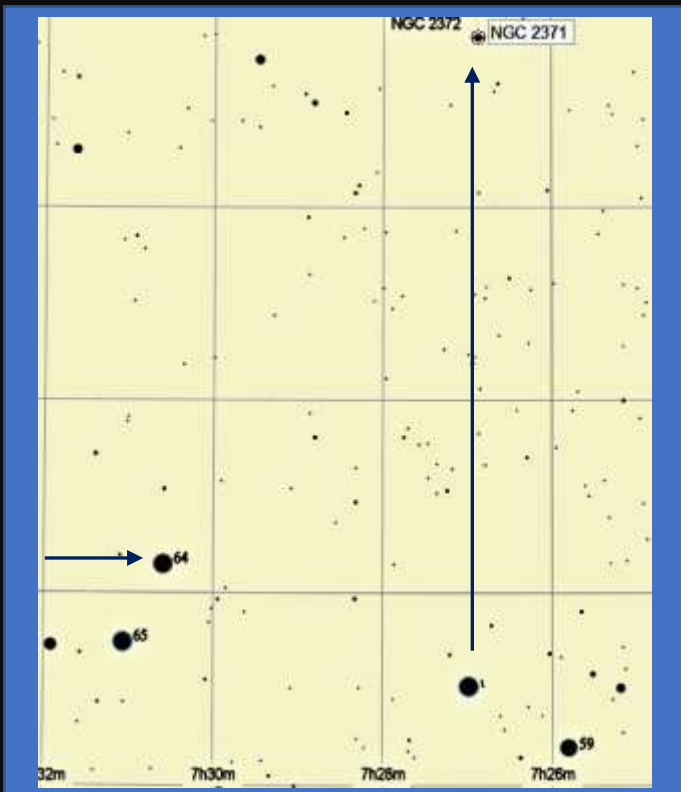


N2392 is a bipolar double-shell planetary nebula, blown up about 10,000 years ago at a distance of 1.5 Kpc in the outer part of our Local spiral arm, towards Gemini.

In my low-res snapshots, the PN has a definitely "soft" starry look, which at "zoom-in" reveals a bright central core region inside a fainter bloated halo. High-res images show a collimated NE-SW outflow (jet), probably from the accretion disc of a binary white dwarf companion to the type-F main central star.

Stellar winds from the central double have blown out and ionized bubbles of gas in a barrel-shape forming the bright core; Fast moving stellar winds have sculpted denser regions of the outer halo into radial comet-shaped filaments, aka FLIERS (Fast, Low Ionization Emission Regions").





Some Star Hops

