

Constellation Guide

Virgo (Vir)

Evening Visibility: **March – May**

Opposition: April

Latitude Visibility: **+80° to -80°**

Online Information: | In-The-Sky.org | Constellation Guide.com |

Constellation Targets

[NGC-5746](#), [IC-972](#), [NGC-4762](#), [M-60](#), [M-59](#), [M-58](#), [M-89](#), [M-90](#), [Siamese Twins](#), [Virgo A](#), [Markarian's Chain](#) [[M-84](#), [M-86](#), [NGC-4438](#), [NGC-4435](#), [NGC-4461](#), [*NGC-4473](#), [*NGC-4477](#), [NGC-4458](#), [NGC-4388](#), [NGC-4216](#), [NGC-4535](#), [NGC-4526](#), [M-49](#), RU Vir, 17 Vir, [M-61](#), [SS Vir](#), [Porrina](#), [Theta Vir](#), [NGC-4697](#), [NGC-4699](#), STAR-21, HD-113801

Mythology/Back Story

The second largest constellation, Virgo is Latin for “virgin”. There are a number of myths associated with this constellation, the more popular ones are related to the Greek goddess of justice, Dike or the Roman goddess of justice Astraea holding the scales of justice (Libra) in one hand. In other myths, Virgo represents the Greek goddess of harvest, Demeter, holding an ear of wheat in one hand and a palm leaf in another.

Virgo Supercluster of Galaxies

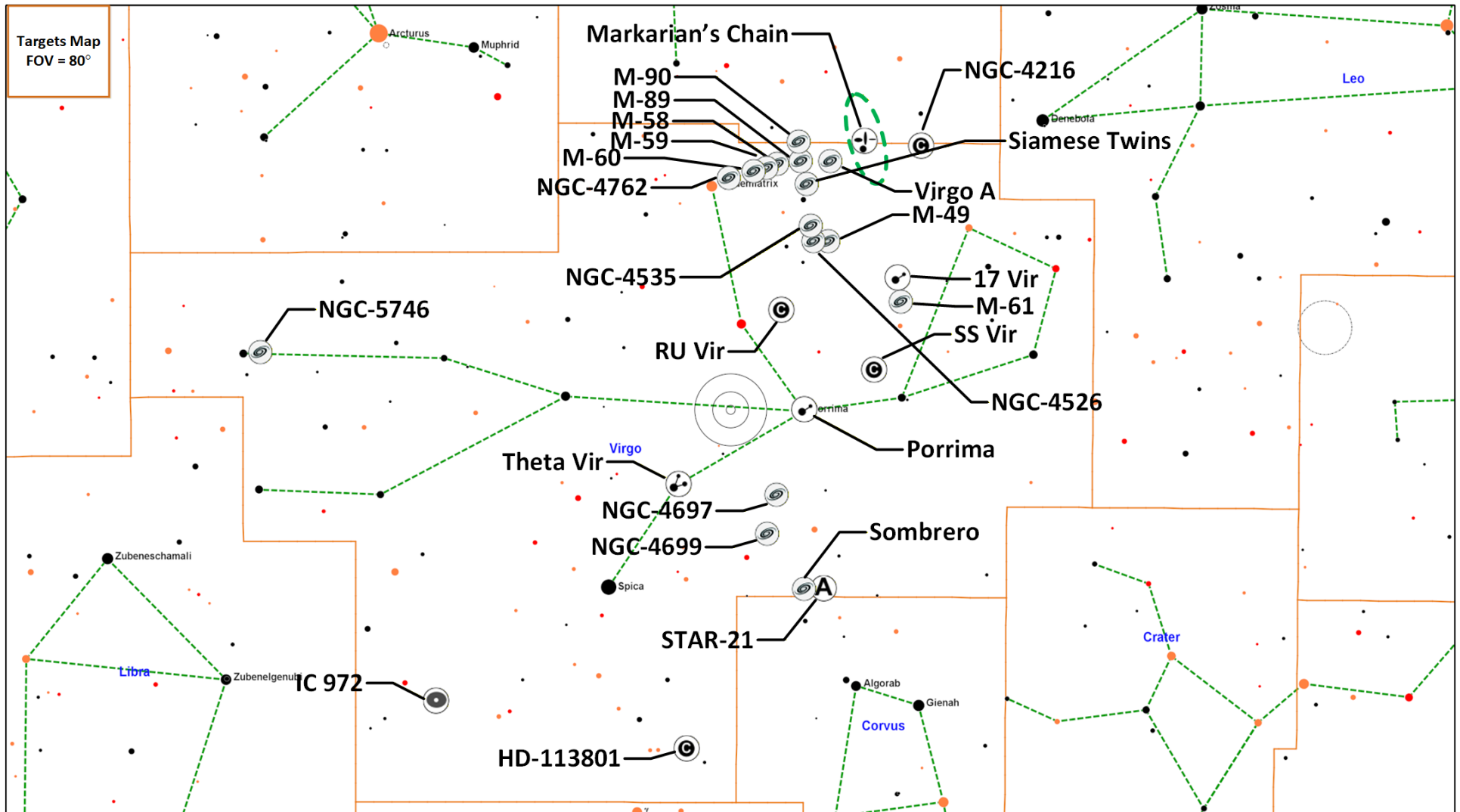
This is a supercluster of galaxies containing the [Virgo Cluster](#) (with approximately 1,300 – 2,000 galaxies) and the [Local Group](#) (containing 134 members including our galaxy, the Milky Way) located on the outer reaches of the Virgo Supercluster. There are at least 100 galaxy groups associated with the [Virgo Supercluster](#). The Virgo Supercluster is just one of 10 million superclusters in the observable universe.

Constellation Highlights

This constellation is jam-packed full of galaxies.

- **Messier 60 (G)** – Galaxy Pair M-60 & NGC-4647.
- **Markarian's Chain (GCI)** – Binocular target area with many galaxies.
- **SS Vir (CS)** – Should be a good red star for viewing.
- **Siamese Twins (G)** – Three galaxies in 30' field of view.
- **17 Virginis (DS)** – Colorful Double star system.
- **Sombrero Galaxy (G)** – Bright and distinct galaxy.
- **Theta Virginis (MS-3)** – On the 120 colorful star list.

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Targets Map
FOV = 80°

Asterism	Carbon Star	Carbon Double	Dark Nebula	Double Star	Galaxy	Galaxy Cluster	Globular Cluster	Multiple Items	Multiple Star	Nebula	Nebula & O Cluster	Open Cluster	Planetary Nebula	Supernova Remnant

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Constellation Objects Summary

Object (Type)	Links	Gear	Aliases	Stats
NGC-5746 (G)	1		UGC 9499, PGC 52665, MCG 0-38-5, CGCG 20-12, Mini Sombrero Galaxy	M=11.0 Size= 7.4'x1' SB=21.8 MC=SBb
IC-972 (PN)			A 37, PK 326+42.1, PN G326.7+42.2	M=13.0 Size=0.7'x0.7' SB=20.9
NGC-4762 (G)	1	T	UGC 8016, PGC 43733, MCG 2-33-33, CGCG 71-65	M=11.1 Size=8.7'x1.7' SB=22.7 MC=SB0
Messier 60 (G)	1	T	NGC-4649, UGC 7898, PGC 42831, MCG 2-33-2, CGCG 71-16, Arp 116, VV 206	M=8.8 Size=7.4'x6.0' SB=21.5 MC=E2
Messier 59 (G)	1	T	NGC-4621, UGC 7858, PGC 42628, CGCG 70-223	M=9.6 Size=5.4'x3.7' SB=21.5 MC=E5
Messier 58 (G)	1	T	NGC 4579, UGC 7796, PGC 42168, CGCG 70-197	M=9.7 Size=5.9'x4.7' SB= MC=SBb
Messier 89 (G)	1	T	NGC 4552, UGC 7760, PGC 41968, CGCG 70-184	M=9.8 Size=5.1'x4.7' SB=21.9 MC=E0
Messier 90 (G)	1	T	NGC 4569, UGC 7786, PGC 42089, CGCG 70-192, Arp 76, Carabin Galaxy	M=9.5 Size=9.5'x4.4' SB=22.2 MC=SBab
Siamese Twins (G)	1	T	VV 219, KPG 347, Butterfly Galaxies, Siamese Twins NGC-4567, UGC 7777, PGC 42064, CGCG 70-189 NGC-4568, UGC 7776, PGC 42069, CGCG 70-188, VV 219	M=10.9 Size=4.6'x2.1' SB= MC=Sbc
Virgo A (G)	1	T	Messier 87, NGC 4486, UGC 7654, PGC 41361, CGCG 70-139, Arp 152, Smoking Gun	M=8.6 Size=7.2'x6.8' SB=21.5 MC=E2/P
Markarian's Chain (GCI)				
Markarian's Chain (GCI)	1	B	M-84 M-86 NGC-4438 NGC-4435 NGC-4461 NGC-4473 NGC-4477 NGC-4458	Galaxies=8+ Mag 8.9 to 12.9 Size 2°x1°
Messier 84 (G)	1	T	NGC-4374, UGC 7494, PGC 40455, MCG 2-32-34, CGCG 70-58, Markarian's Chain	M=9.1 Size=6.5'x5.6' SB=21.6 MC=E1
Messier 86 (G)	1	T	NGC-4406, UGC 7532, PGC 40653, MCG 2-32-46, CGCG 70-72, Markarian's Chain	M=8.9 Size=8.9'x5.8' SB=21.8 MC=E3

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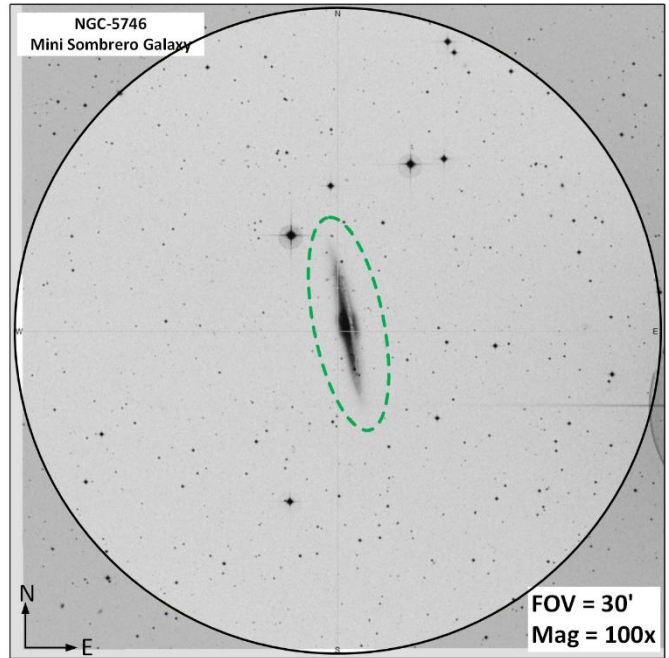
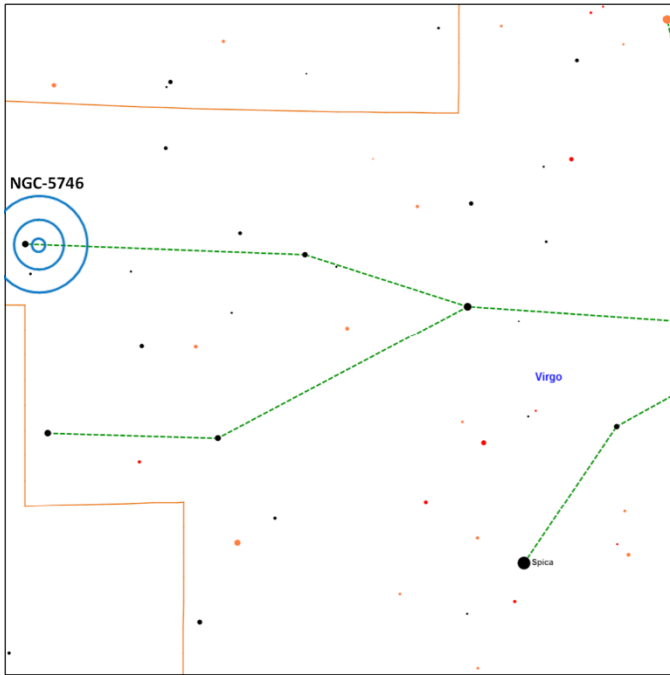
Object (Type)	Links	Gear	Aliases	Stats
NGC-4438 (G)	1	T	UGC 7554, PGC 40914, MCG 2-32-65, CGCG 70-97, Arp 120, VV 188, Eyes Galaxies, Markarian's Chain	M=10.2 Size=8.5'x3.0' SB=22.3 MC=S0-a
NGC-4435 (G)	1	T	UGC 7575, PGC 40898, MCG 2-32-64, CGCG 70-98, Arp 120, VV 188, Eyes Galaxies, Markarian's Chain	M=10.8 Size=3.0'x2.2' SB=21.5 MC=SB0
NGC-4461 (G)	1	T	NGC-4443, PGC 41111, UGC 7613, VCC 1158, Markarian's Chain	M=12.1 Size= 3.5'x1.4' SB=22.5 MC=SB0-a
*NGC-4473 (G)	1	T	UGC 7631, PGC 41228, MCG 2-32-93, CGCG 70-125, VCC 1231, Markarian's Chain	M=11.2 Size=4.5'x2.5' SB=22.8 MC=E5
*NGC-4477 (G)	1	T	UGC 7638, PGC 41260, MCG 2-32-97, CGCG 70-129, Markarian's Chain	M=11.4 Size=3.8'x3.5' SB=22.8 MC=SB0
NGC-4458 (G)	1	T	UGC 7610, PGC 41095, MCG 2-32-82, CGCG 70-114, VCC 1146, Markarian's Chain	M=12.9 Size=1.7'x1.6' SB=22.6 MC=E1
NGC-4388 (G)	1	T	UGC 7520, PGC 40581, MCG 2-32-41, CGCG 70-68, Markarian's Chain	M=11.8 Size=6.2'x1.7' SB=23.0 MC=Sb
NGC-4216 (G)	1	T	UGC 7284, PGC 39246, MCG 2-31-72, CGCG 69-112	M=11.0 Size=8.1'x1.8' SB=22.5 MC=SBb
NGC-4535 (G)	1	T	UGC 7727, PGC 41812, CGCG 42-159, HOLM 420A, The Lost Galaxy	M=10.7 Size=7.1'x5.0' SB=22.5 MC=SBc
NGC-4526 (G)	1	T	NGC-4560, UGC 7718, PGC 41772, CGCG 42-155	M=10.7 Size=7.2'x2.4' SB=22.4 MC=SB0
Messier 49	1	T	NGC-4472, UGC 7629, PGC 41220, MCG 1-32-83, CGCG 42-134, Arp 134	M=8.4 Size=10.2'x8.3' SB=21.8 MC=E2
RU Vir (CS)		T	HIP 62401, RU Virginis, HD 111166, CVS860013	Mag Range= 9.0 to 14.2 Period=433 days BV=+4.5 Spec=C8
17 Vir (DS)	1	B, T	SAO-119360, HIP 60353, HR 4708, HD 107705, STF 1636, ADS 8531, Sky12220084, 17 Virginis J122232.03+051819., NSV5579	AB M=6.5, 9.3 Sep=21.0" PA=338° blue,orange
Messier 61 (G)	1	T	NGC-4303, UGC 7420, PGC 40001, MCG 1-32-22, CGCG 42-45, Swelling Spiral Galaxy	M=9.7 Size=6.5'x5.8' SB=22.3 MC=SBbc
SS Vir (CS)	1	T	HD 108105, HIP 120212, TYC 282-753-1	Mag Range: 6.0 to 6.9 Period=361 days BV=4.2, Spec=Ne
Porrina (DS)	1 , 2	T	SAO-138917, HIP 61941, 29 Vir, HR 4825, HD 110379, STF 1670, ADS 8630, γ Virginis, gam Vir	AB M=3.5, 3.5 Sep=3.6" PA=351° Color=YellowWhite Spec= F0V, F0V

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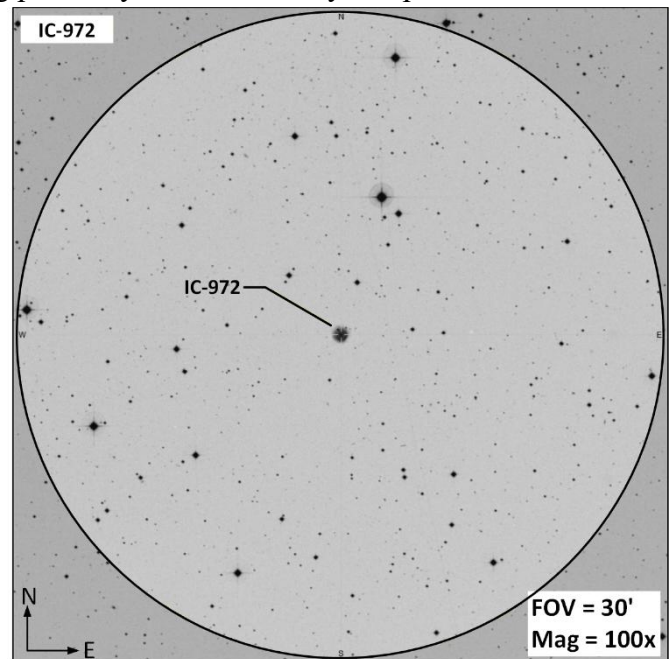
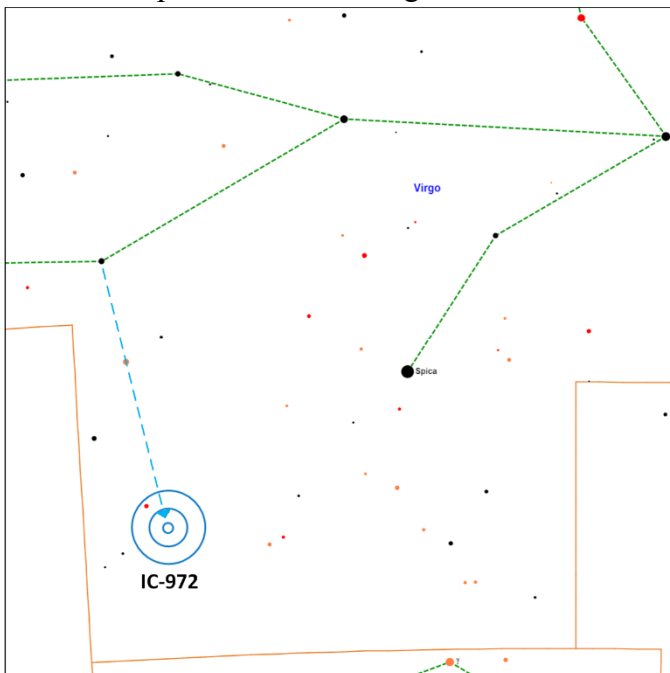
Object (Type)	Links	Gear	Aliases	Stats
Theta Vir (MS-3)	1 , 2		SAO-139189, HIP 64238, 51 Vir, HR 4963, HD 114330, STF 1724, ADS 8801, Theta Virginis, θ Vir	AB M=4.4, 9.4 Sep=7.0" PA=342° Color= white Spec=A0IV AC M=4.4, 10.4 Sep=72" PA=300°
NGC-4697 (G)	1	T	Caldwell 52, C-52, UGCA 300, PGC 43276, MCG -1-33-10	M=11.0 Size=4.4'x2.8' SB=22.4 MC=E6
NGC-4699 (G)	1	T	UGCA 301, PGC 43321, MCG-1-33-13	M=9.6 Size=3.8'x2.6' SB=20.7 MC=SBb
Sombrero Galaxy (G)	1	B, T	Messier 104, NGC-4594, UGCA 293, PGC 42407, MCG-2-32-20	M=8.0 Size=9'x4' SB=20.4 MC=Sa
STAR 21 (AS)		B, T	Jaws, Ty's Oil Can	Stars=12 Size=15' Ref Star= SAO-157411, HIP 61656
HD-113801 (CS)		T	SAO-157721, HIP 63955,	M=8.5 Spec= K0IIICNlab

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NGC-5746 (G | M=11.0 | Size= 7.4'x1' | SB=21.8 | MC=SBb) – The Mini Sombrero Galaxy gets its name due to its similarity to M-104 and is a member of the [NGC 5746](#) Group of galaxies, a sub group of the Virgo Supercluster of galaxies.

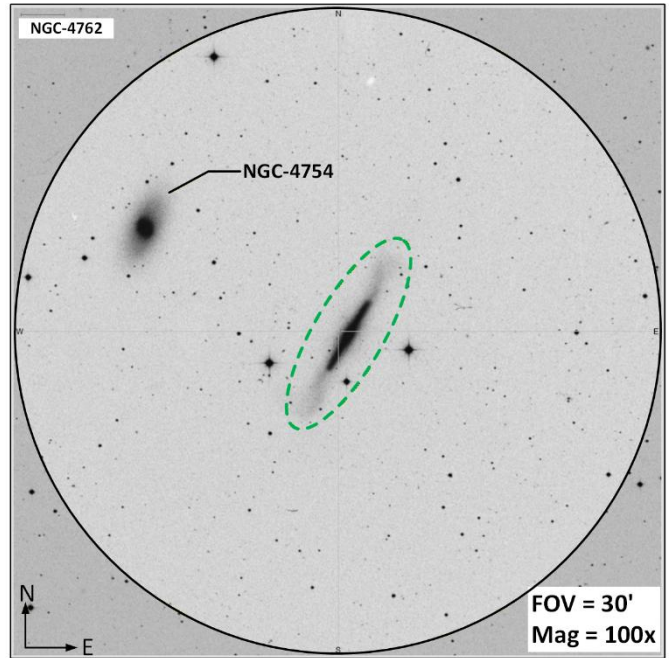
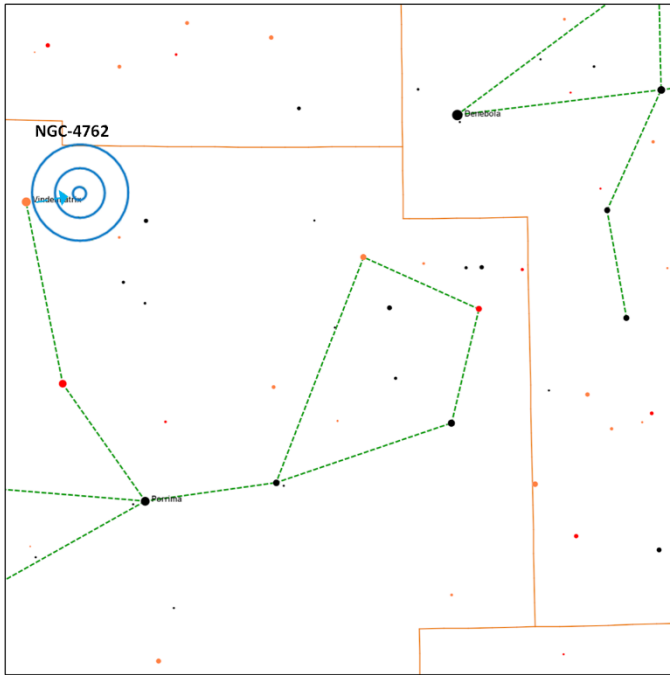


IC-972 (PN | M=13.0 | Size=0.7'x0.7' | SB=20.9) – Should be visible even without a O3 filter in a telescope of 10" or more aperture, but utilizing an O3 filter for viewing planetary nebula is always helpful.

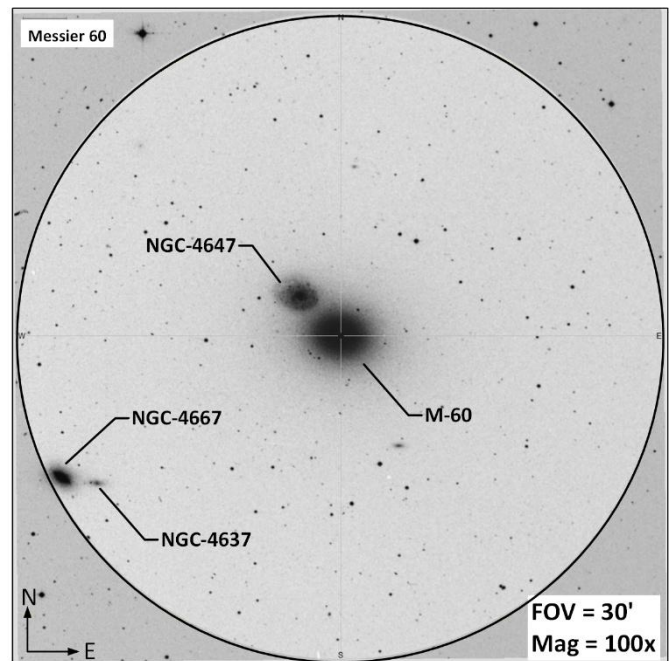
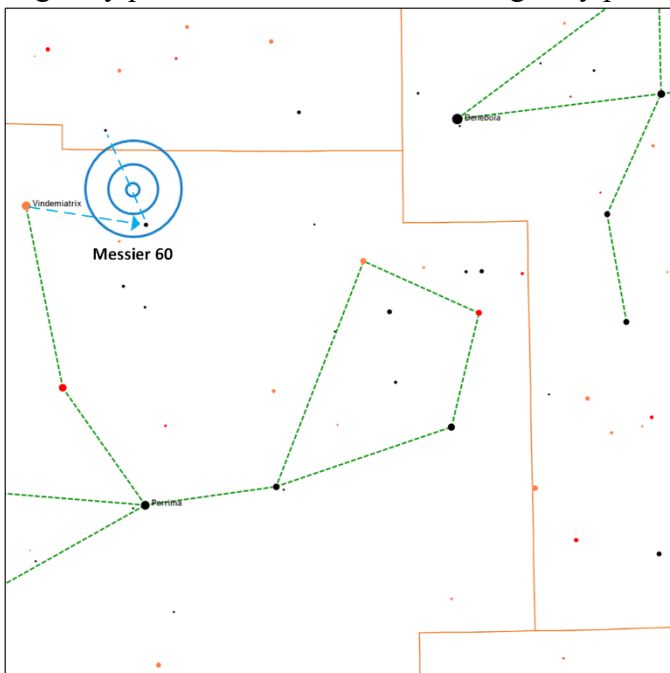


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NGC-4762 (G | M=11.1 | Size=8.7'x1.7' | SB=22.7 | MC=SB0) – An edge-on lenticular galaxy (cross between spiral and elliptical) and located 60 million light years away this galaxy and galaxy NGC-4754 can be seen in the same field of view, however these galaxies are non-interacting.

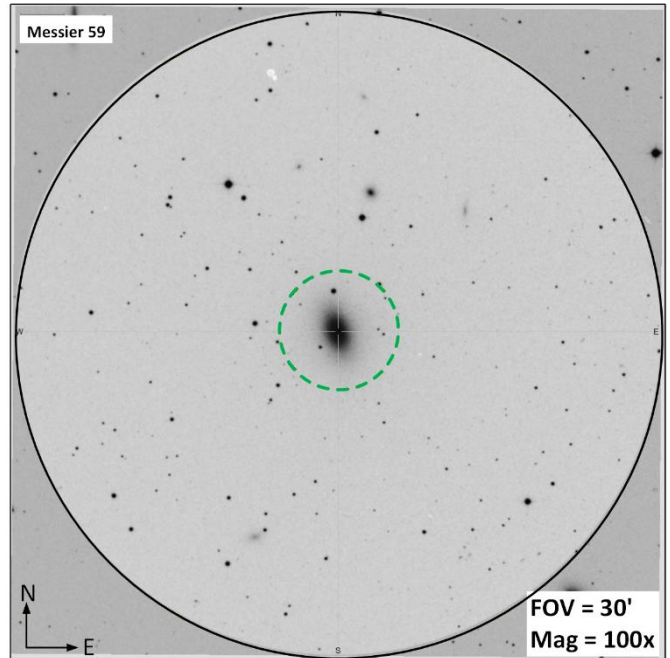
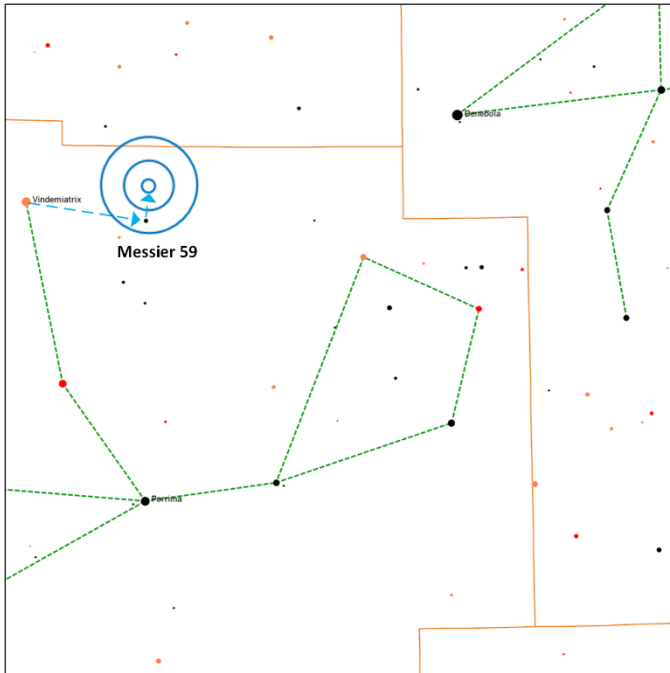


Messier 60 (G | M=8.8 | Size=7.4'x6.0' | SB=21.5 | MC=E2) – M-60 and NGC 4647 can both be viewed in the same 30' field of view, the pair are identified as Arp 116. M-60 is suspected of having one of the most massive black holes ever discovered weighing in at an estimated mass of 4.5 billion solar masses. Just about 15' from this galaxy pair is the fainter and smaller galaxy pair NGC-4667 & NGC-4637.

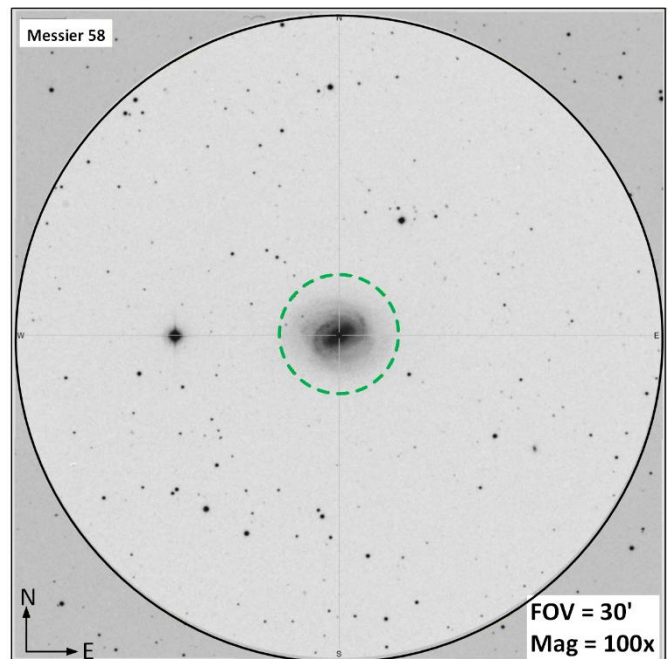
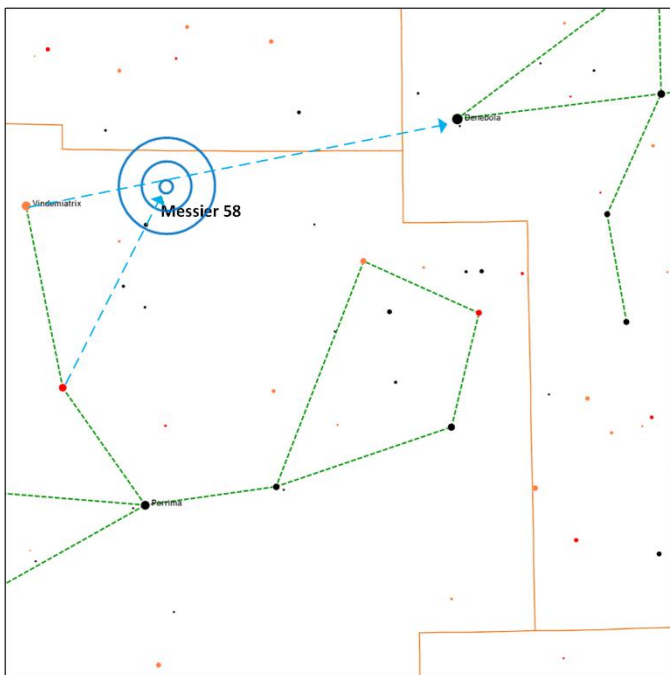


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Messier 59 (G | M=9.6 | Size=5.4'x3.7' | SB=21.5 | MC=E5) – M-59 is located 51 million light years away and contains a supermassive black hole estimated to have a mass of 270 million times that of our sun.

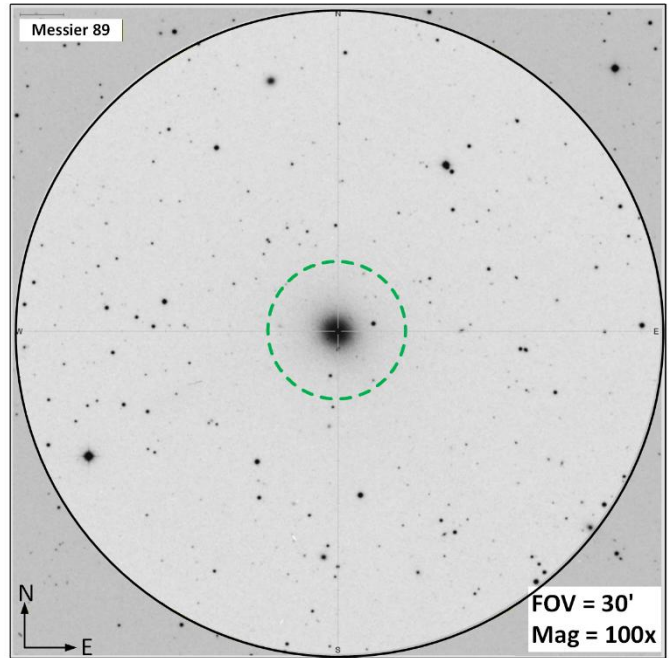
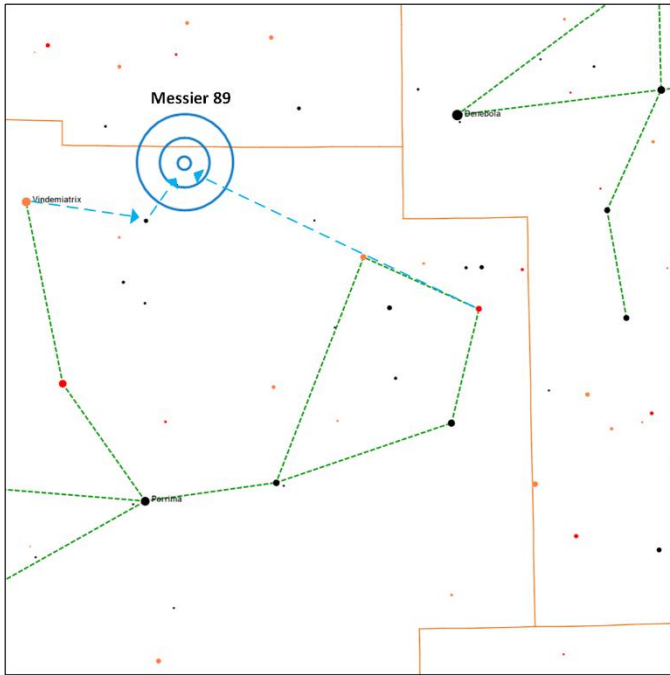


Messier 58 (G | M=9.7 | Size=5.9'x4.7' | SB= | MC=SBb) – Located about 64 million light years away and like many galaxies in the heard of the Virgo Cluster is and [anemic galaxy](#) with low star formation. It is expected that this is caused by interactions with Virgo's [intracluster medium](#), mainly ionized hydrogen and helium.

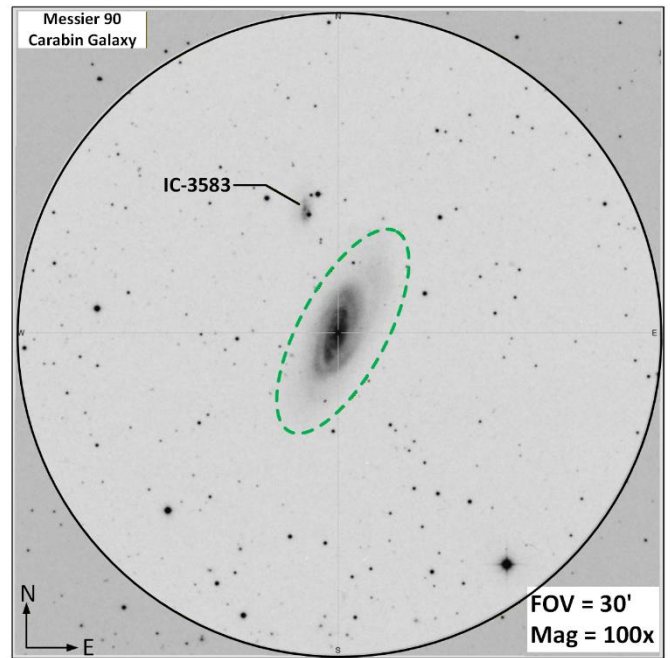
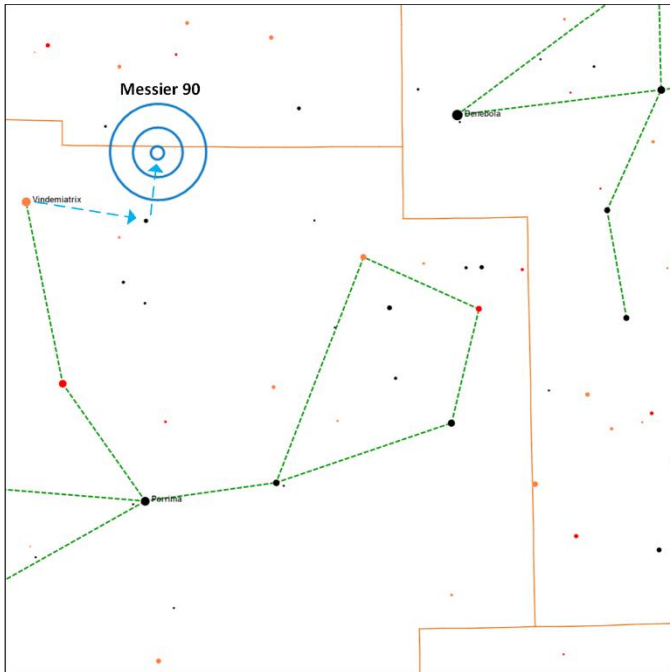


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Messier 89 (G | M=9.8 | Size=5.1'x4.7' | SB=21.9 | MC=E0) – Located 50 million light years away this elliptical galaxy is considered to be nearly perfectly spherical. This galaxy is a member of the Virgo Cluster of galaxies.

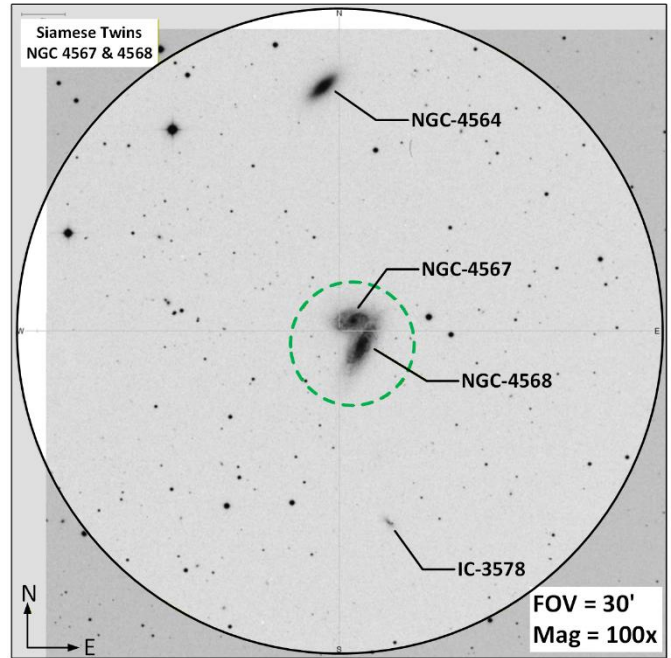
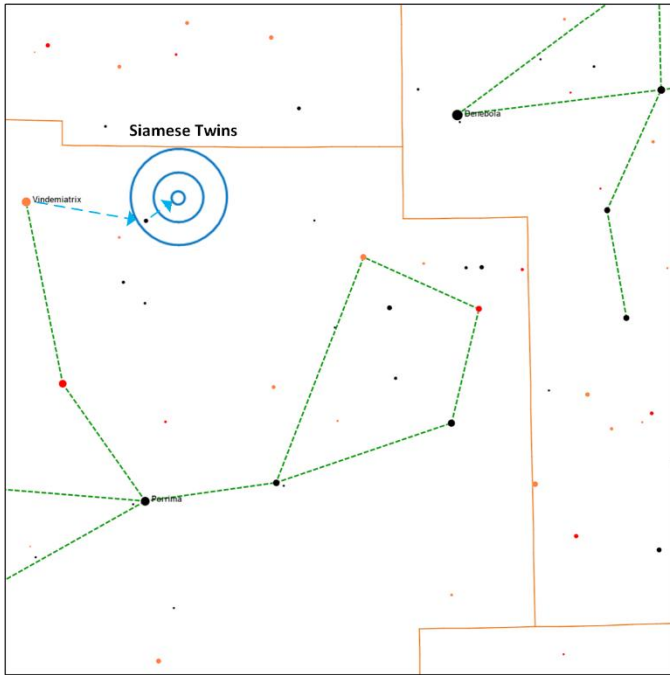


Messier 90 (G | M=9.5 | Size=9.5'x4.4' | SB=22.2 | MC=SBab) – The Carabin Galaxy is member of the Virgo Cluster and is one of the largest and brightest of the spiral galaxies in the group.

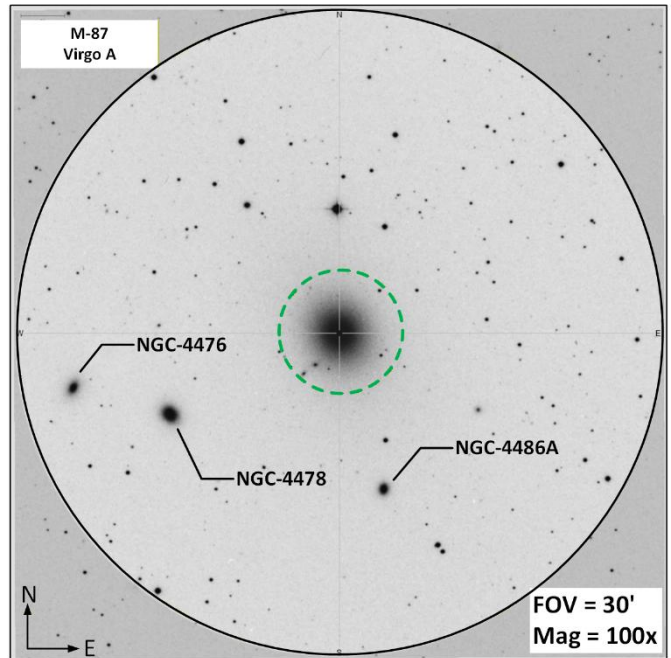
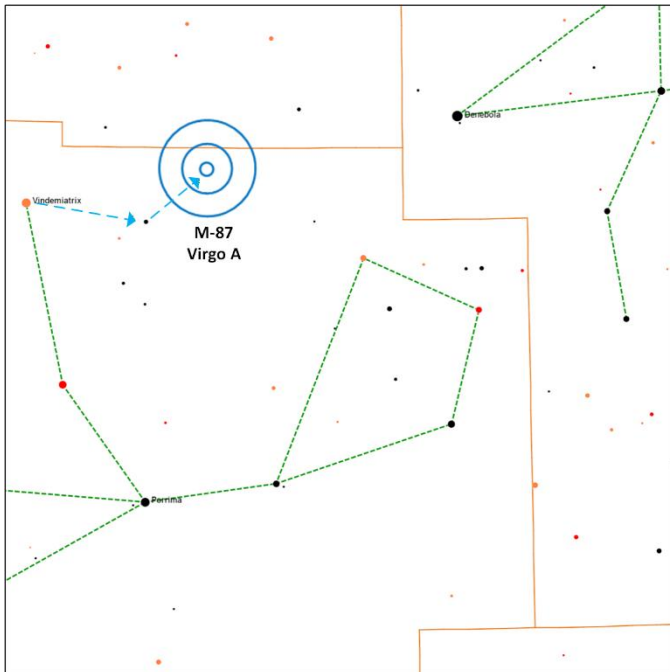


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Siamese Twins (G | M=10.9 | Size=4.6'x2.1' | SB= | MC=Sbc |) – Also known as the Butterfly Galaxies the galaxies NGC-4567 and NGC-4568 are two galaxies in mid-collision. These galaxies are located 60 million light years away

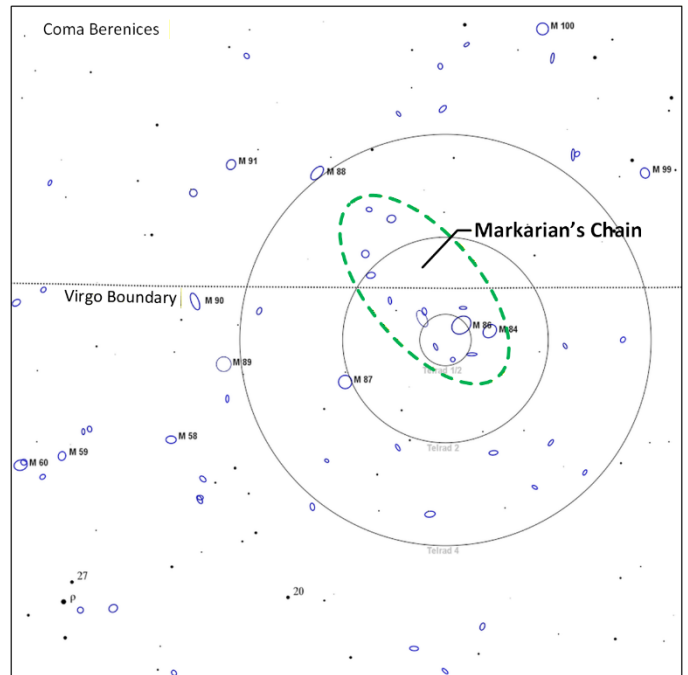
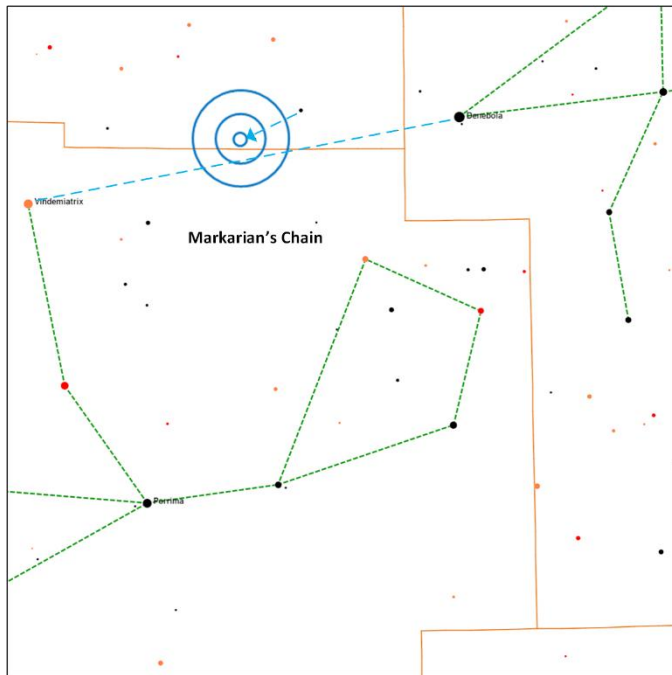


Virgo A (G | M=8.6 | Size=7.2'x6.8' | SB=21.5 | MC=E2/P |) – Messier 87 is a [supergiant elliptical](#) galaxy containing several trillion stars (compared to 100-400 billion in our Milky Way galaxy) and is one of the largest and most massive galaxies in our local group. It is estimated to have about 15,000 globular clusters compared to our galaxy with an estimated globular cluster population of 150 to 200.



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Markarian's Chain (GCl | Galaxies=8+ | Mag 8.9 to 12.9 | Size 2°x1°) – [Markarian's Chain](#) of galaxies is a string of galaxies spanning an area of about 2° x 1° and contains 9 bright galaxies (listed below) and dozens of dimmer galaxies. The chart below is a 15° field of view of Markarian's chain and surrounding area, identifying galaxies of magnitude 14 or less. Two of the listed galaxies in the Markarian's Chain (NGC-4477 & NGC-4458) reside in the Coma Berenices constellation.



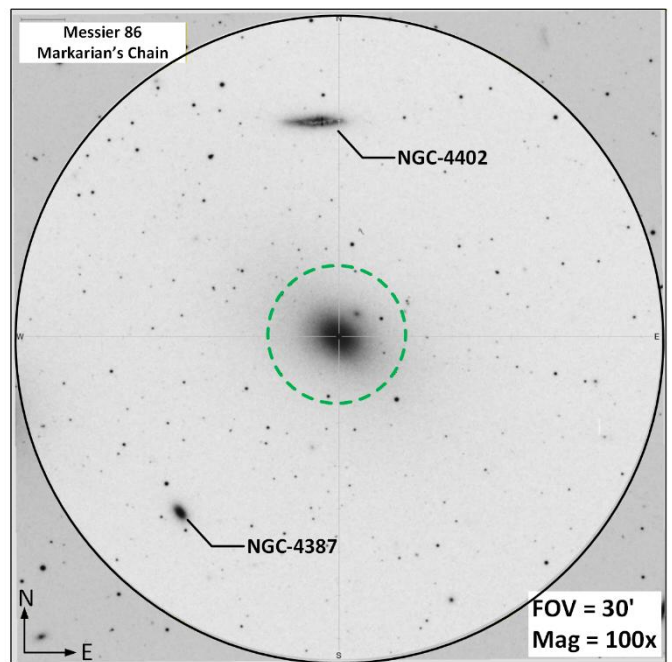
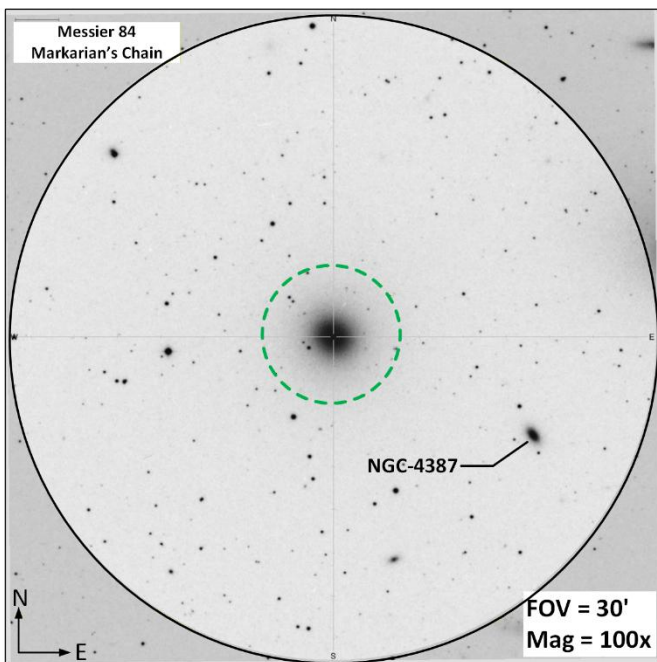
So why so many galaxies in this area of sky? We are looking at a small section of the Virgo Supercluster, one of the largest structures in the universe, a grouping of about 18,000 galaxies that actually covers a lot more of the sky than what is pictured here. This structure mainly spans the constellation Virgo, and Coma Berenices, but there are sub-clusters associated with the Supercluster located in the constellations Sculptor ([Sculptor Group](#)), Ursa Major ([M81 Group](#)), Canes Venatici ([M94 Group](#), [Canes II Group](#)), Hydra & Centaurus ([Centaurus A/M83 Group](#)) and Leo ([M96 Group](#), [Leo II Group](#)). Our galaxy, the Milky Way, is a member of one of the many sub-clusters of the Virgo Supercluster called the [Local Group](#) other major galaxies the Local Group includes the Andromeda and Triangulum galaxies and many smaller galaxies.

Summertime is galaxy time, and the reason why is because we have prime view of the Virgo Supercluster and some of the many inhabitants of the cluster at this time of year.

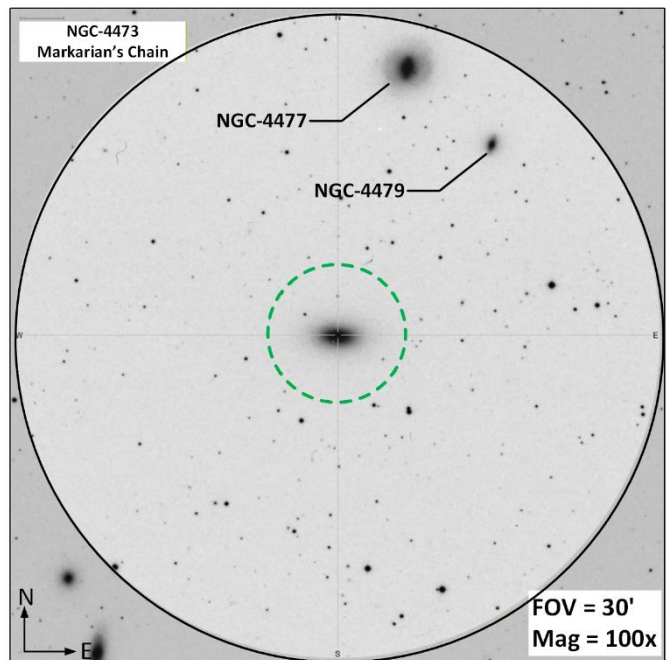
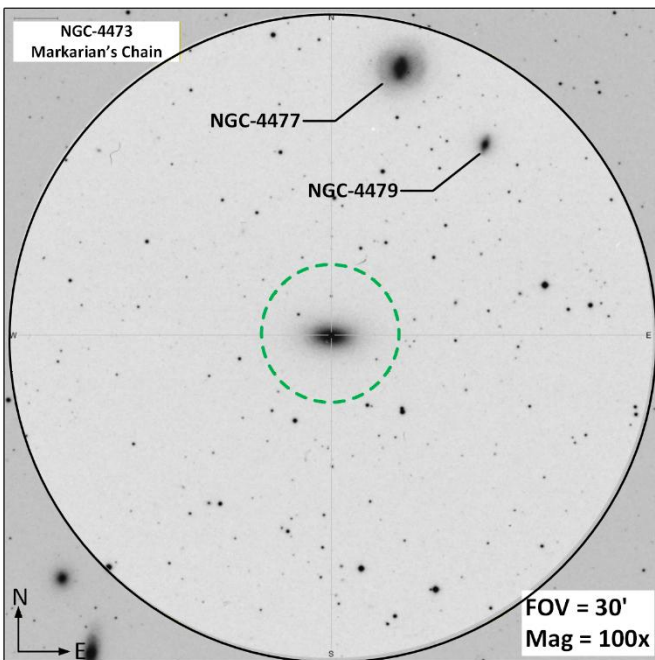
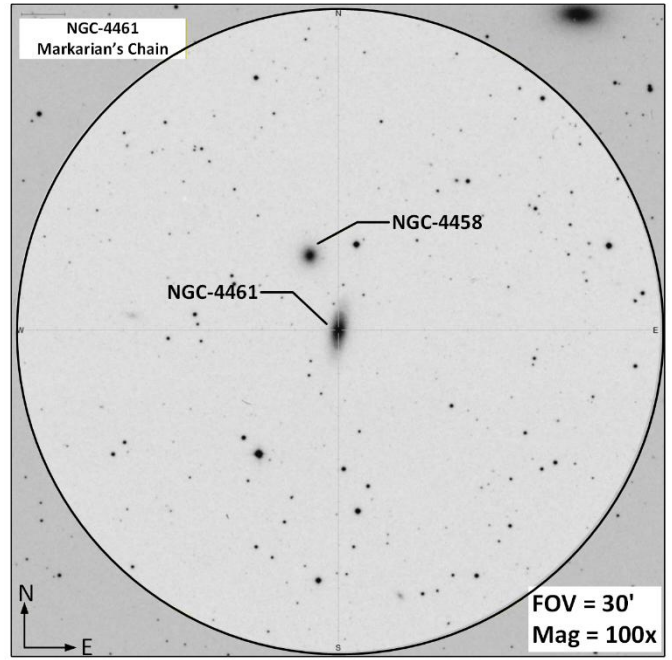
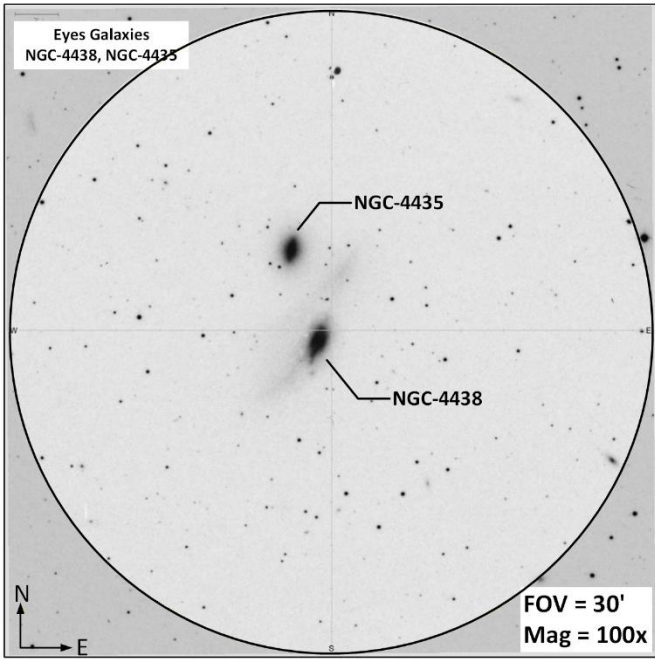
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Markarian's Chain Main Members

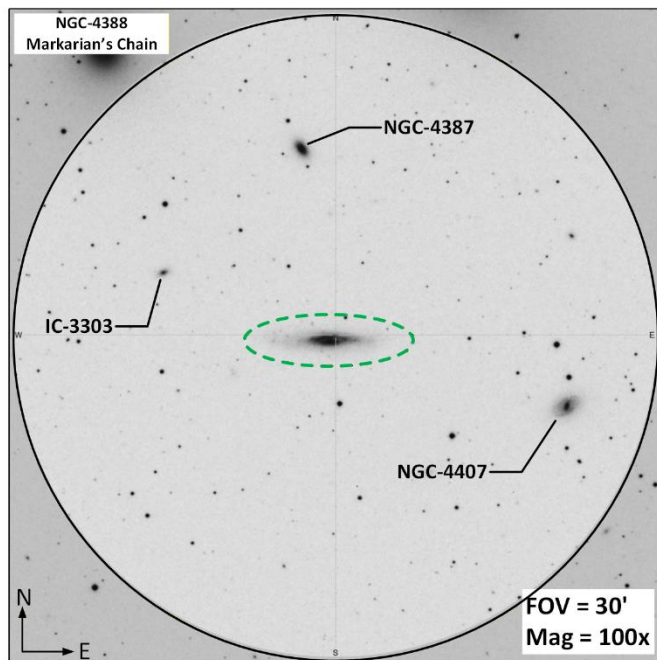
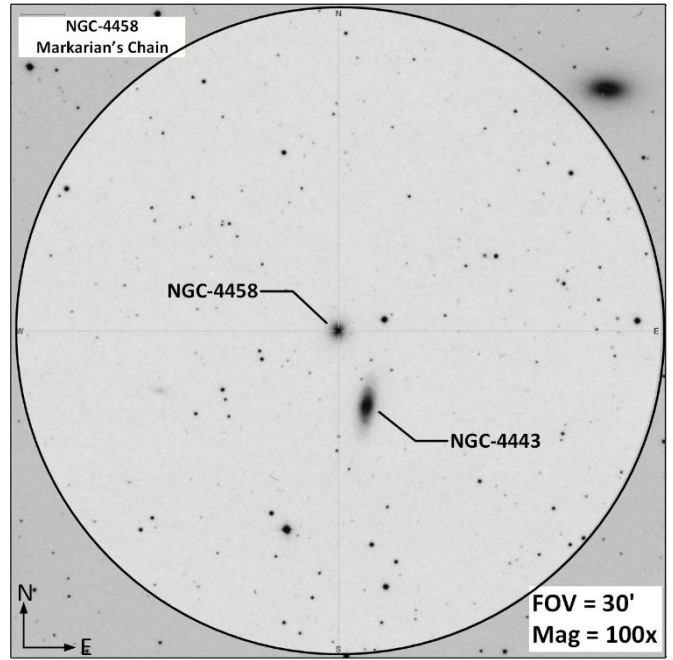
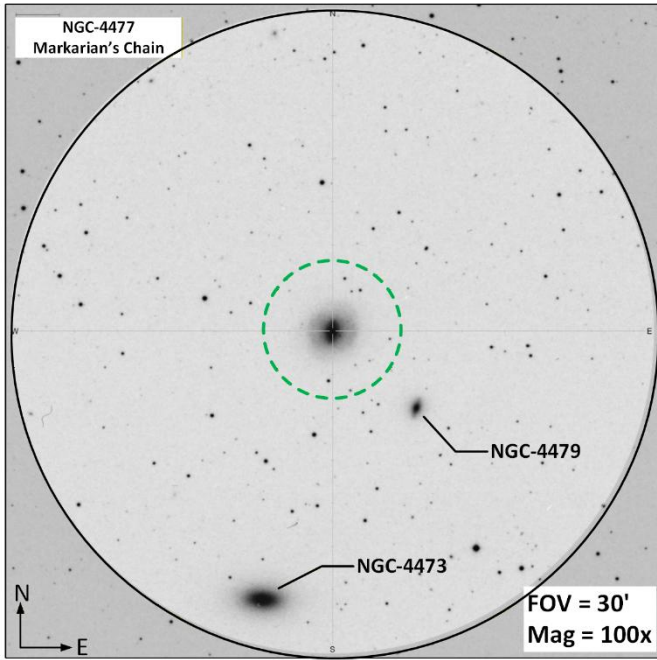
- | Messier 84 | M=9.1 | Size=6.5x5.6' | SB=21.6 | MC=E1 |
- | Messier 86 | M=8.9 | Size=8.9'x5.8' | SB=21.8 | MC=E3 |
- | NGC-4438 | M=10.2 | Size=8.5'x3.0' | SB=22.3 | MC=S0-a |
- | NGC-4435 | M=10.8 | Size=3.0'x2.2' | SB=21.5 | MC=SB0 |
- | NGC-4461 | M=12.1 | Size= 3.5'x1.4' | SB=22.5 | MC=SB0-a |
- | NGC-4473 | M=11.2 | Size=4.5'x2.5' | SB=22.8 | MC=E5 |
- | NGC-4477 | M=11.4 | Size=3.8'x3.5' | SB=22.8 | MC=SB0 |
- | NGC-4458 | M=12.9 | Size=1.7'x1.6' | SB=22.6 | MC=E1 |
- | NGC-4388 | M=11.8 | Size=6.2'x1.7' | SB=23.0 | MC=Sb |



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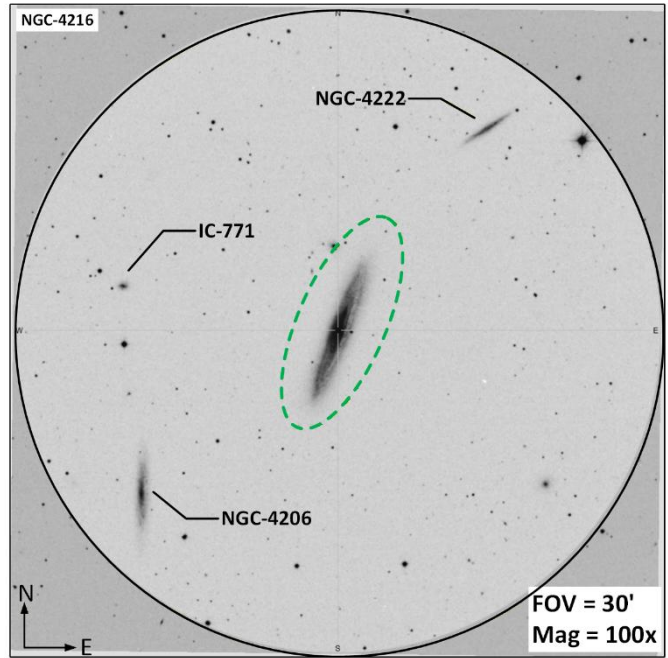
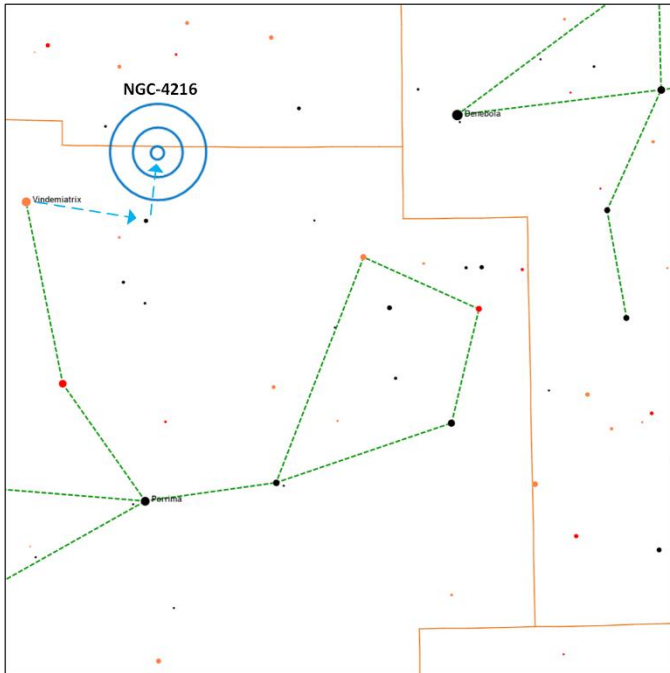


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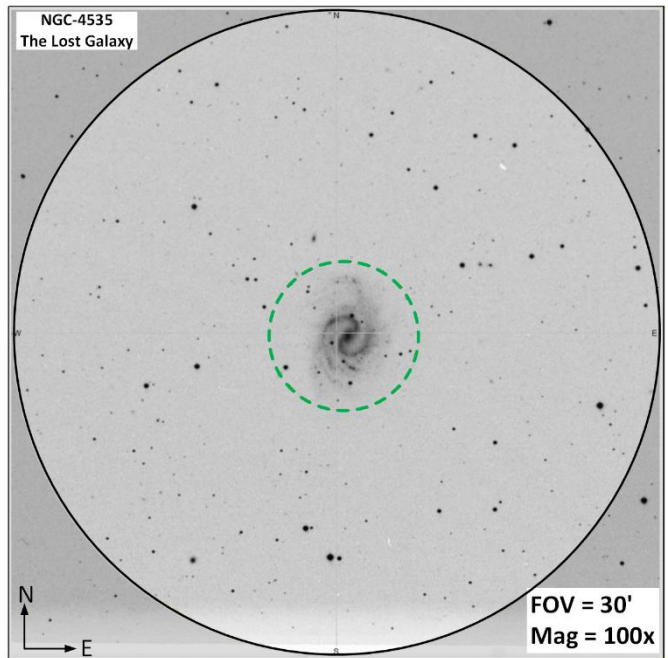
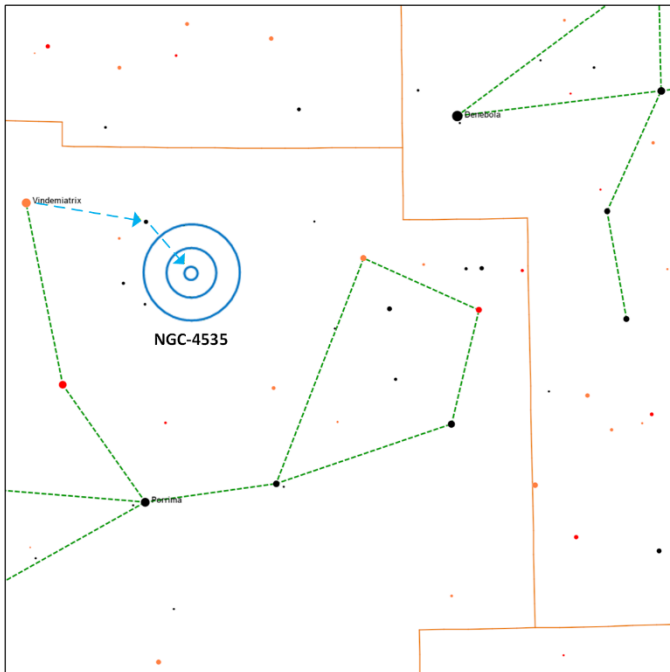


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NGC-4216 (G | M=11.0 | Size=8.1'x1.8' | SB=22.5 | MC=SBb) – One of the largest and brightest spiral galaxies of the Virgo Cluster located near the center of the cluster. This galaxy is rich in globular clusters and is estimated to have about 700 nearly five times more than the Milky Way. Galaxies NGC-4206 and NGC-4222 can be seen in the same field of view.

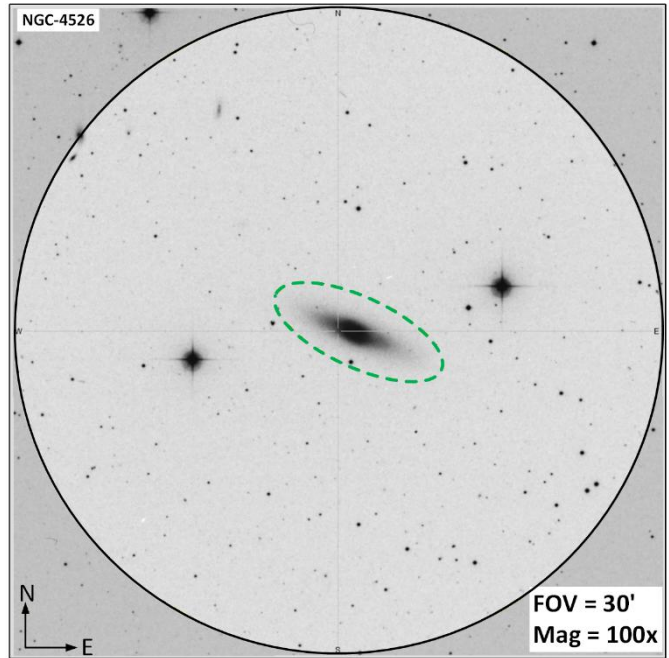
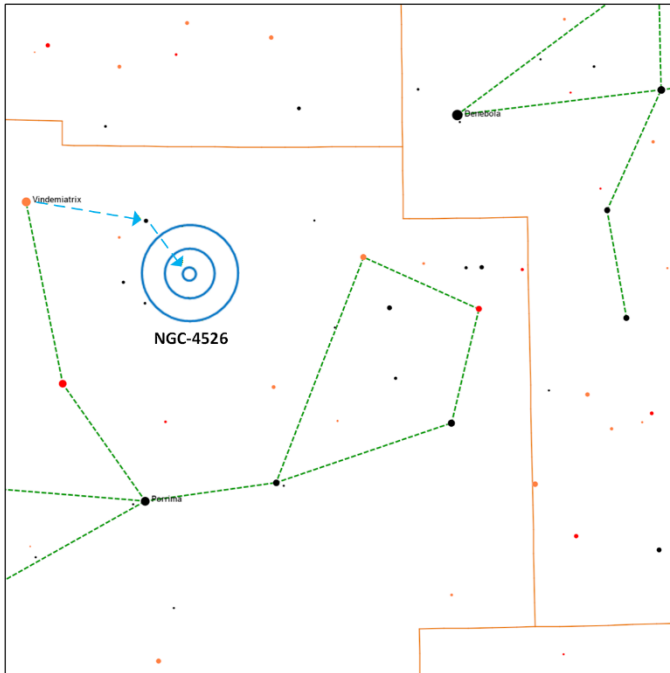


NGC-4535 (G | M=10.7 | Size=7.1'x5.0' | SB=22.5 | MC=SBc) – The Lost Galaxy was given this name due to its low surface brightness. The galaxy NGC-4535A is often associated with this galaxy and listed together as Hom 420, however these galaxies are not physically related but are only optically aligned.

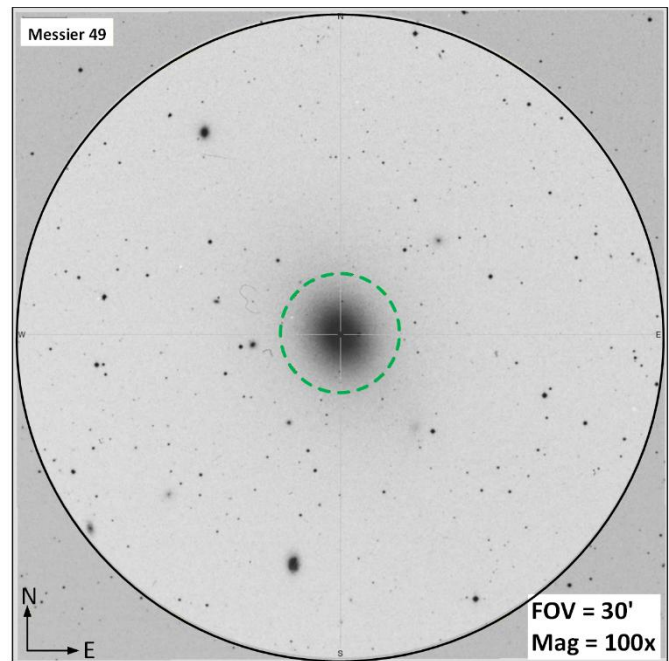
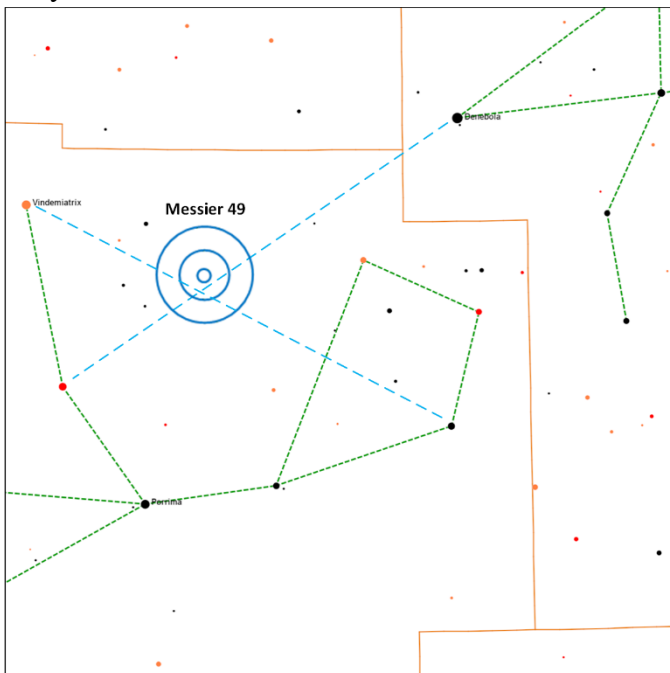


Constellation Guide

NGC-4526 (G | M=10.7 | Size=7.2'x2.4' | SB=22.4 | MC=SB0 |) – AKA NGC-4560 is located about 55 million light years away and is seen nearly edge-on with an estimated diameter of 100,947 light years.

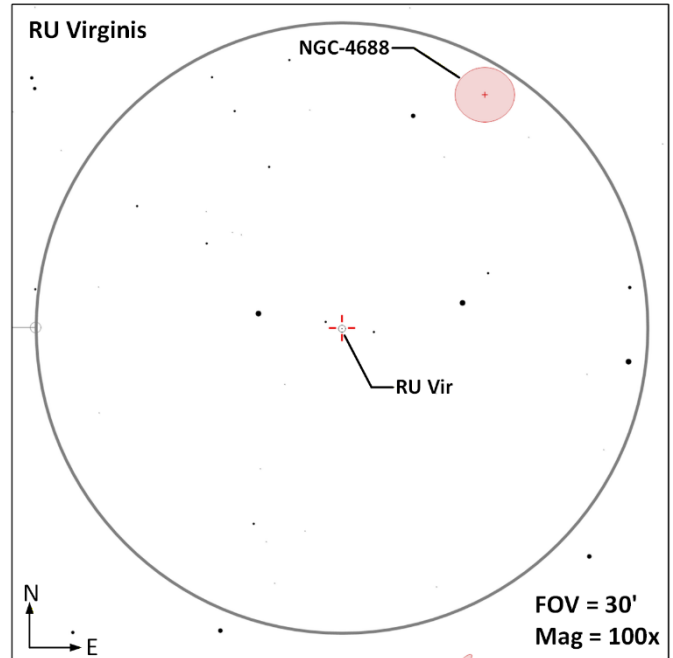
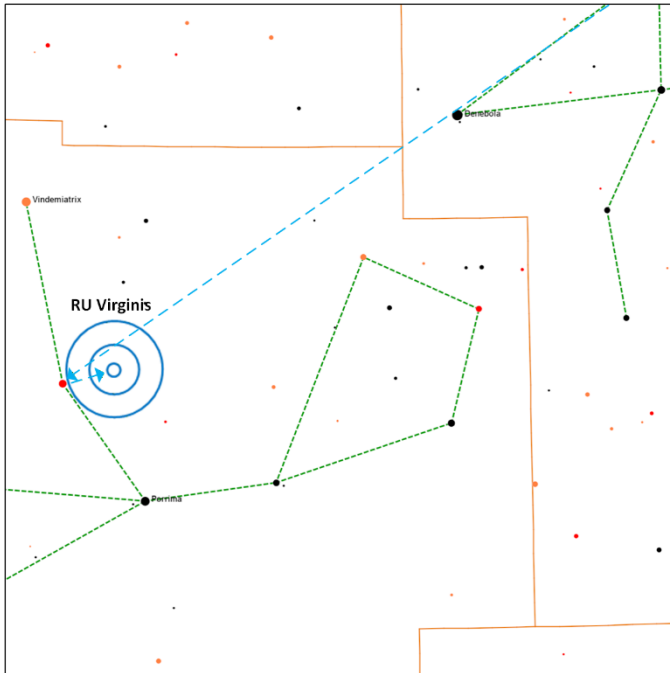


Messier 49 (G | M=8.4 | Size=10.2'x8.3' | SB=21.8 | MC=E2 |) – A giant elliptical galaxy located 56 million light years away and the first member of the Virgo Cluster of galaxies to be identified as such. The galaxy has a prolific number globular clusters, estimated to be about 5,900 compared to the estimated 200 of our Milky Way galaxy.

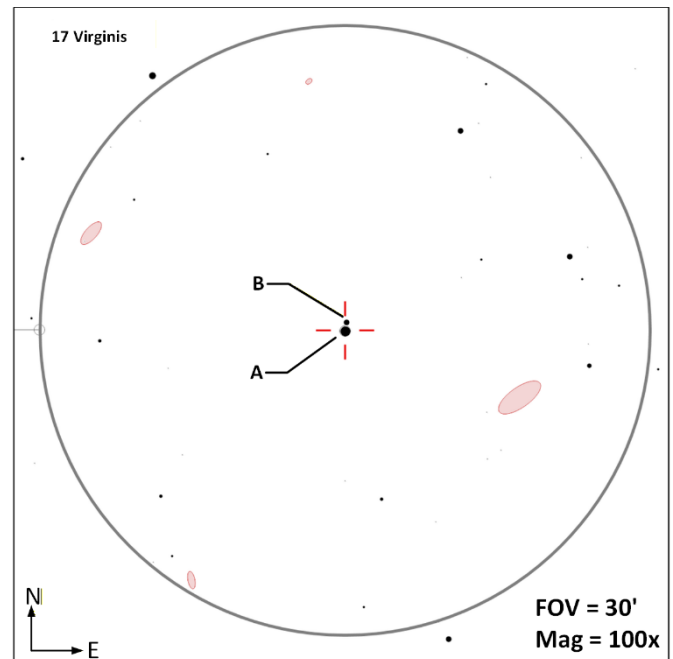
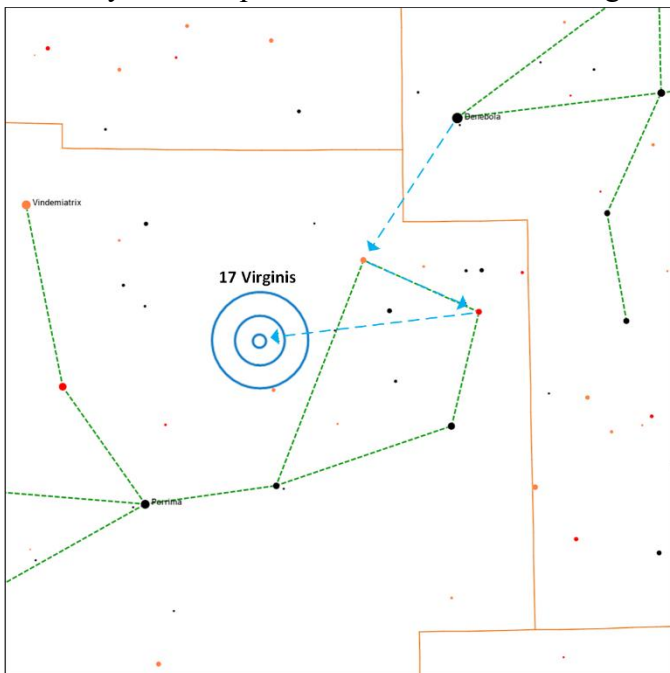


Constellation Guide

RU Vir (CS | Mag Range= 9.0 to 14.2 | Period=433 days | BV=+4.5 | Spec=C8 |) – The magnitude range on this star is quite large, but promises to be a pretty red star if you can locate it. There is no SAO number associated with the star.

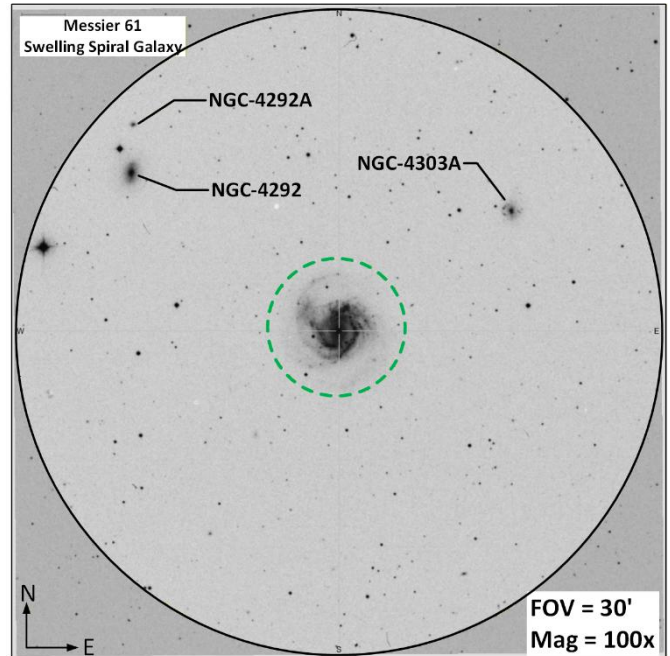
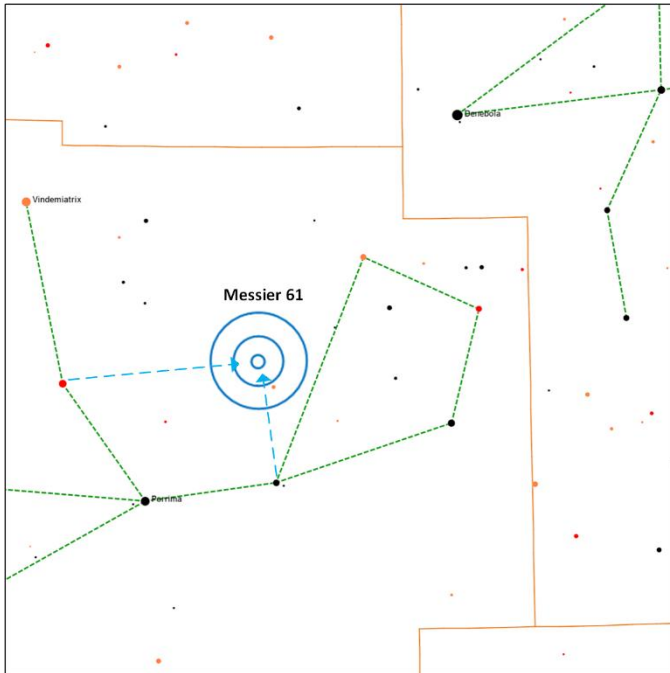


17 Virginis (DS AB | M=6.5, 9.3 | Sep=21.0" | PA=338° | blue, orange |) – This star system is located 98 light years away and is reported to have blue and orange components.

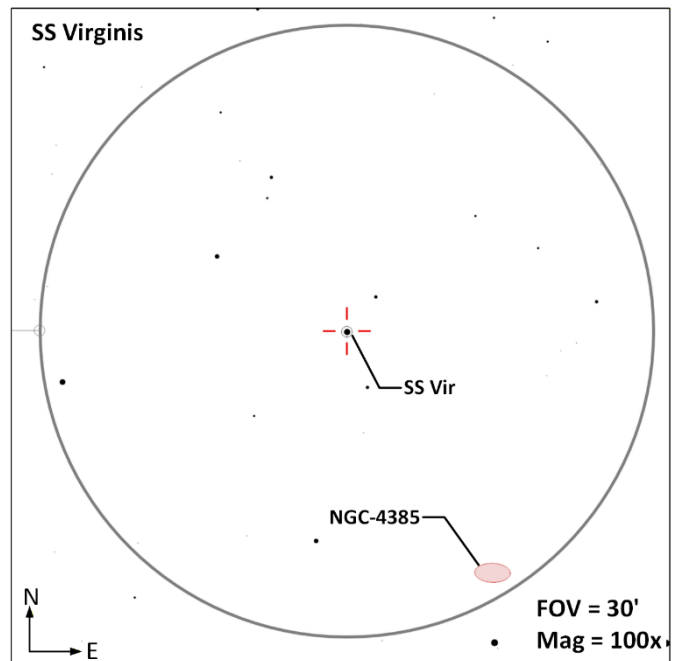
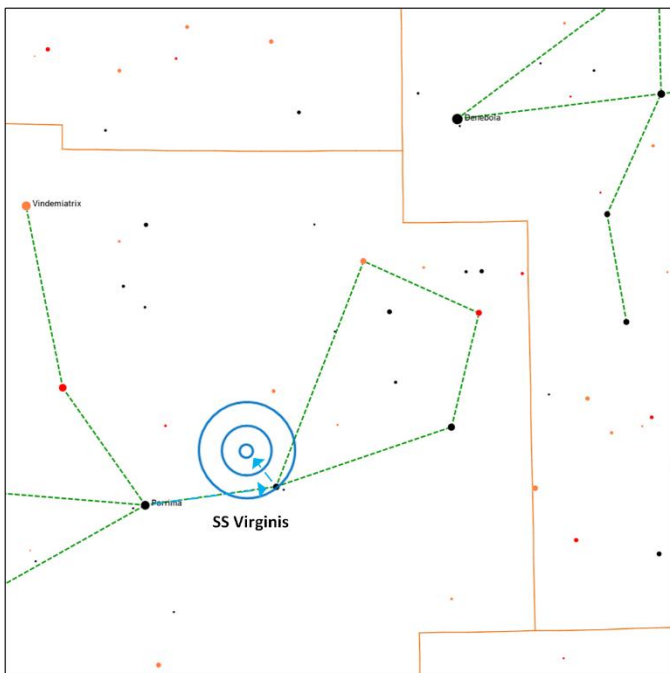


Constellation Guide

M-61 (G | M=9.7 | Size=6.5'x5.8' | SB=22.3 | MC=SBbc |) – The Swelling Spiral Galaxy is located 54 million light years away and is the dominant member of the M61 Group of galaxies; One of the many sub-groups of the Virgo Super cluster. M-61 is also one of the largest galaxies in the Virgo Supercluster.

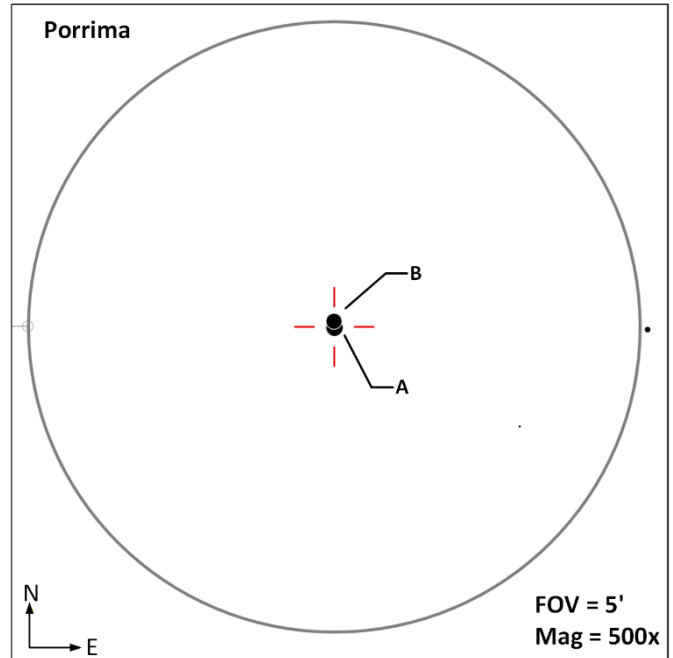
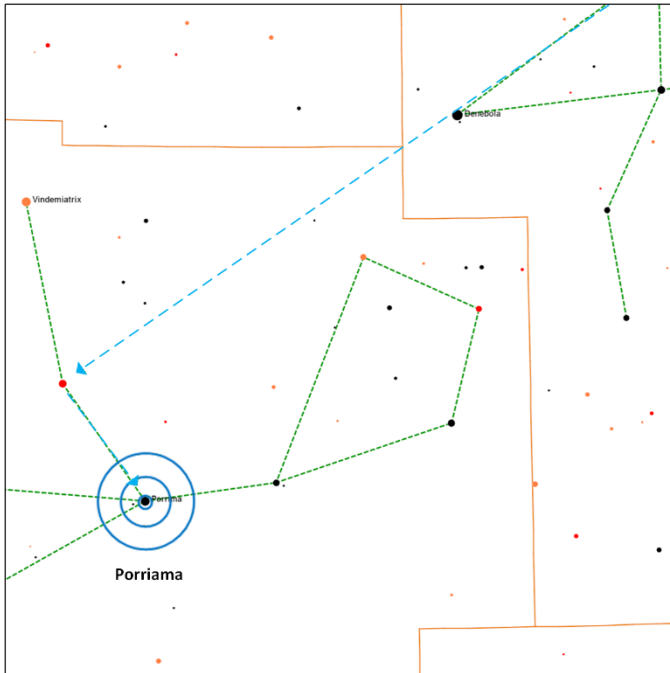


SS Vir (CS | Mag Range: 6.0 to 6.9 | Period=361 days | BV=4.2, Spec=Ne |) – This star is listed in a number of carbon stars list, and with a BV value of +4.2 should appear quite red when observed. There doesn't seem to be an SAO number associated with this star.

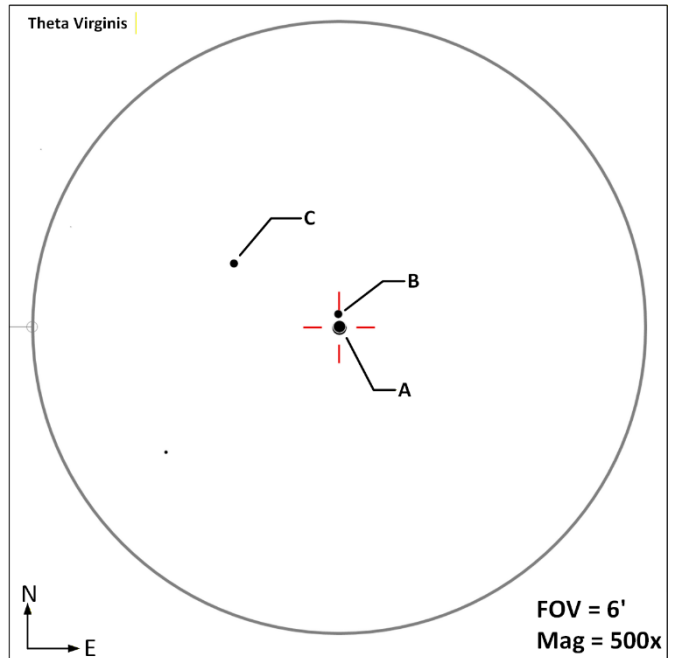
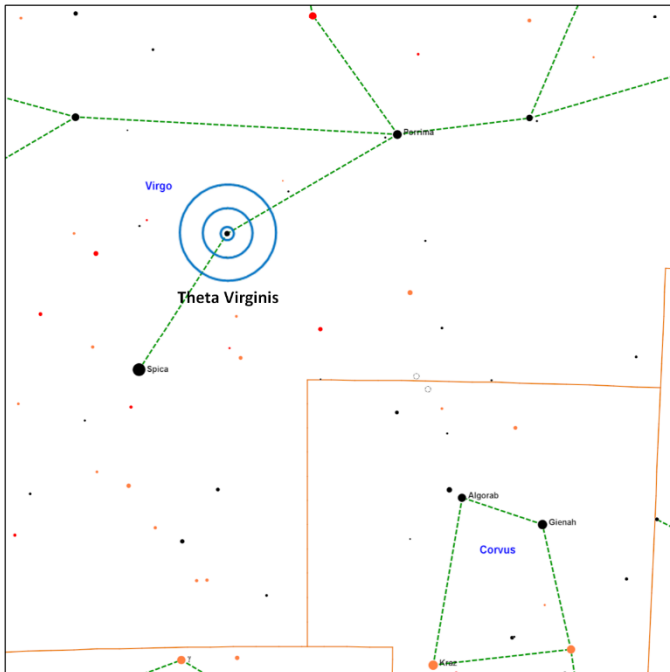


Constellation Guide

Porrima (DS AB | M=3.5, 3.5 | Sep=3.6" | PA=351° | Color=yellow, white | Spec= F0V, F0V |) – Located 38 light years away, this pair of identical brightness and color stars complete an orbit around each other every 171 years.

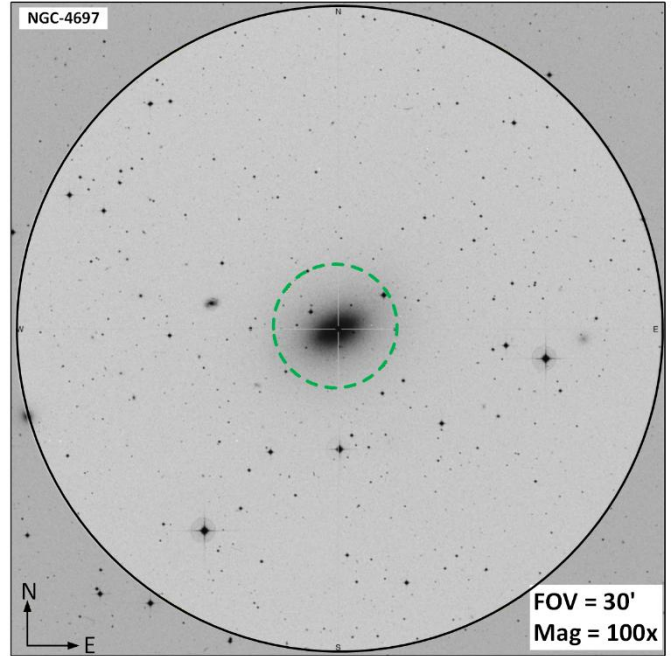
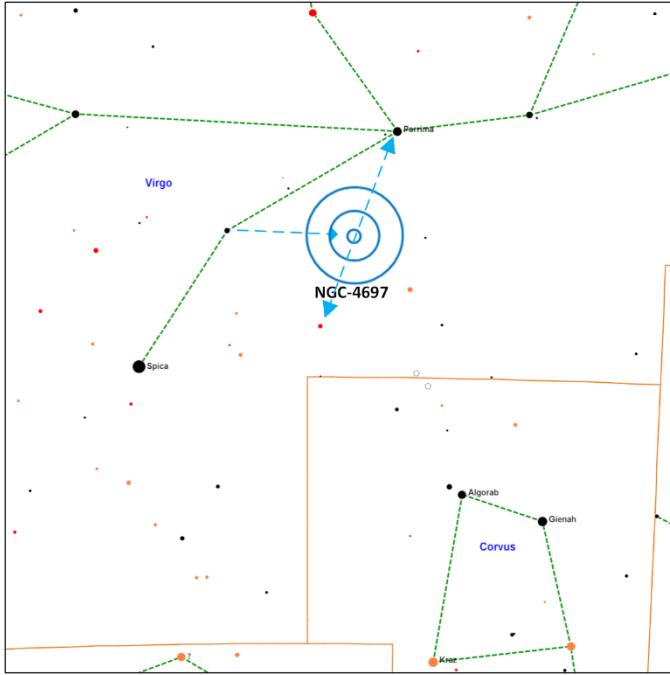


Theta Virginis (MS-3 AB | M=4.4, 9.4 | Sep=7.0" | PA=342° | Color= white | Spec=A0IV || AC | M=4.4, 10.4 | Sep=72" | PA=300° |) – The physical association of these stars is uncertain. The system is estimated to be 316 ly from earth. This system appears in the 120 colorful double stars list.

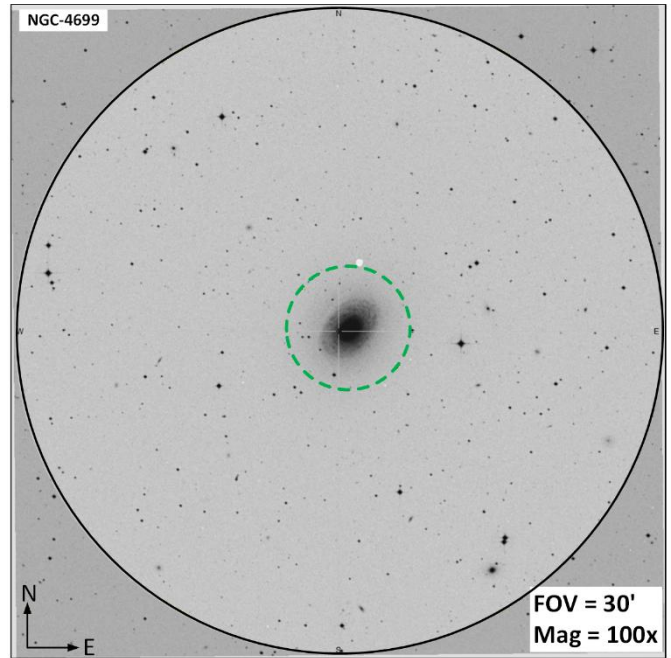
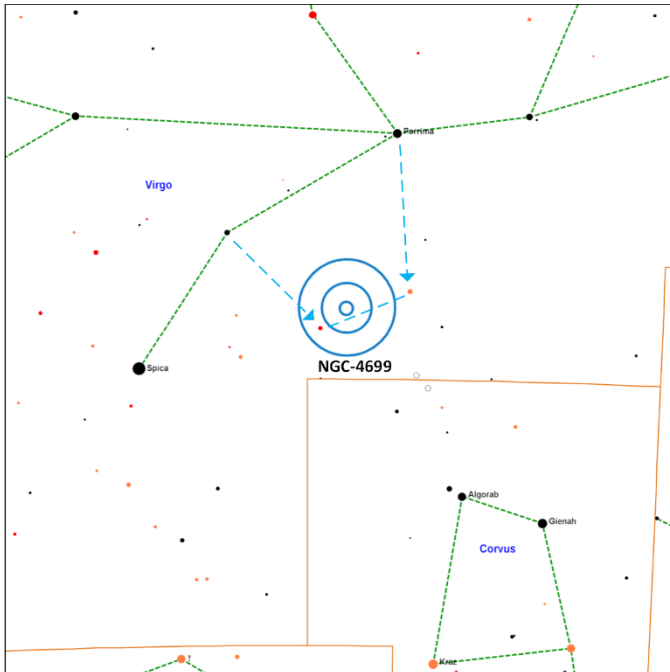


Constellation Guide

NGC-4697 (G | M=11.0 | Size=4.4'x2.8' | SB=22.4 | MC=E6 |) – Caldwell 52 is located about 45 million light years away and is the dominant member of the [NGC4697 Group](#) of galaxies, a sub-group of the Virgo Supercluster of galaxies.

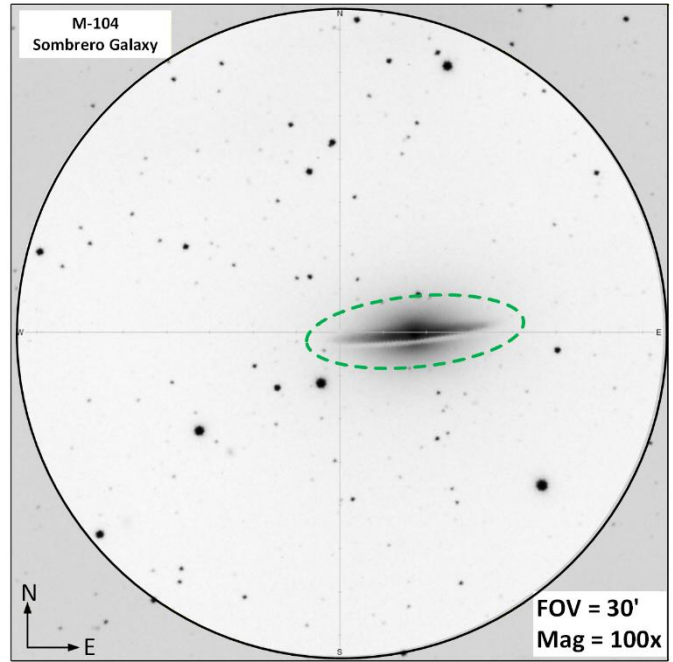
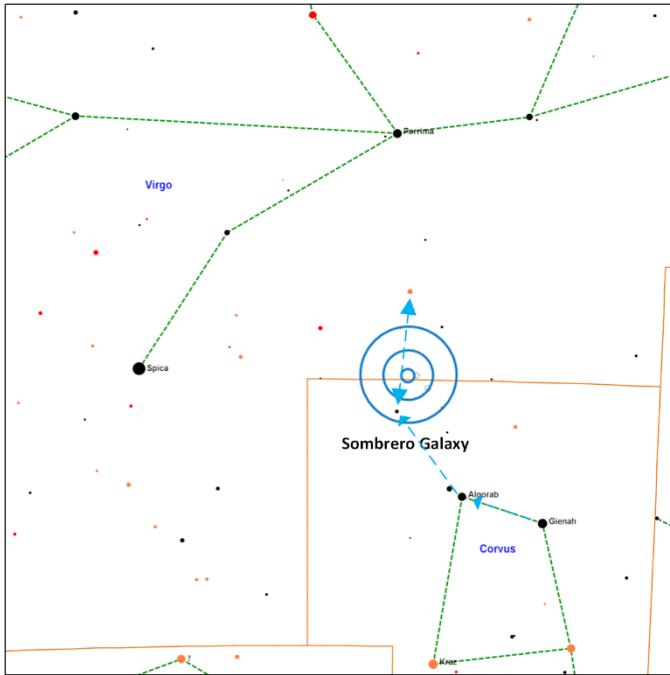


NGC-4699 (CS | M=9.6 | Size=3.8'x2.6' | SB=20.7 | MC=SBb |) – Located about 65 million light years away, this galaxy is about 85,000 light years in diameter and a member of the [Virgo II Group](#) of galaxies.

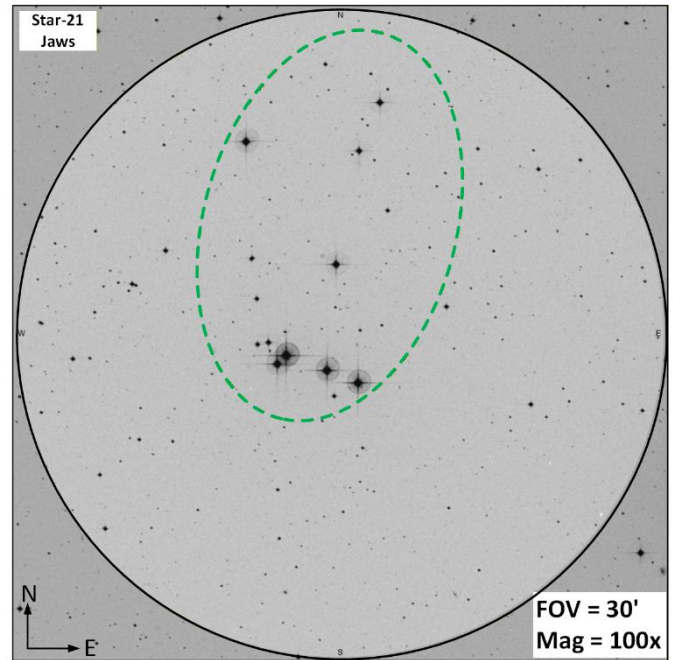
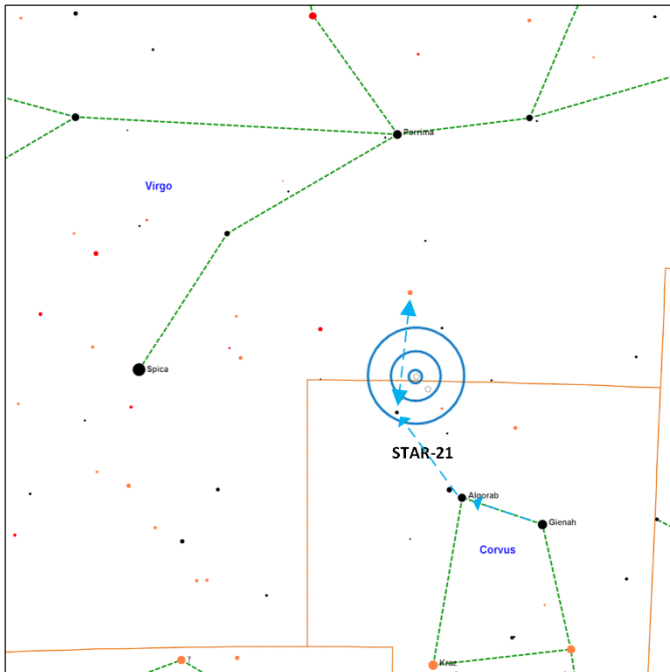


Constellation Guide

Sombrero Galaxy (G | M=8.0 | Size=9'x4' | SB=20.4 | MC=Sa |) – Messier 104 is considered a bright easy target, and is a great target for smaller telescopes, it is also located within 30' of STAR-21 so both targets should be checked out.

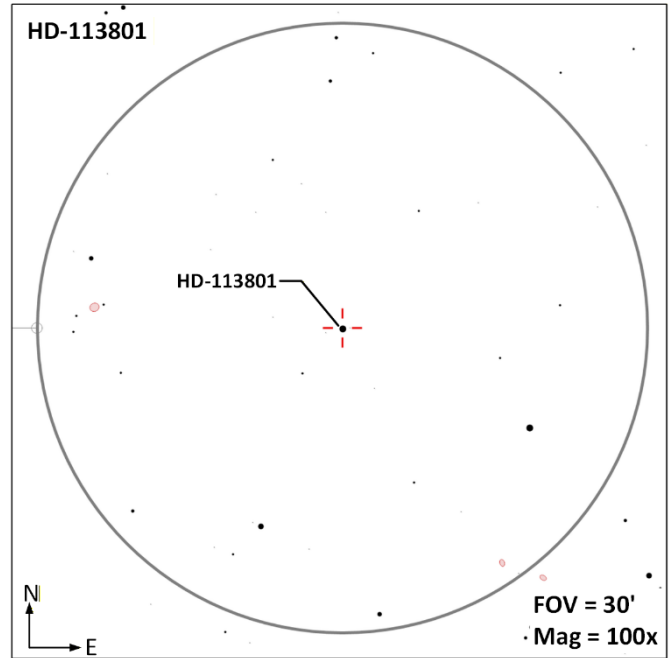
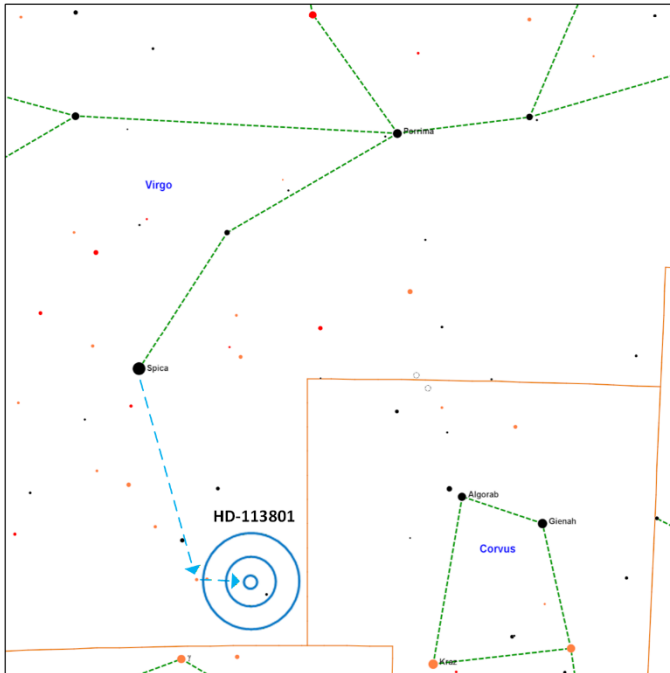


STAR-21 (AS | Stars=12 | Size=15' | Ref Star= SAO-157411, HIP 61656 |) – This asterism represents a shark. The reference star provided is one of the bright stars in the head of the shark. This asterism is within 30' of Messier 104, the Sombrero Galaxy. Binoculars should be great for viewing both objects.



Constellation Guide

HD-113801 (CS |M=8.5 | Spec= K0IIICNlab |) – Not much information is provided about this star except it is an orange giant located 2,118 ly from earth and appears on the astronomical league carbon stars list.



Constellation Guide
Observation Log: Virgo (Vir)

Equipment Config A: _____ **Config B:** _____

Notes: _____

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide
Observation Log: Virgo (Vir)

Equipment Config A: _____ **Config B:** _____

Notes: _____

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Constellation Guide

References, Resources and Tools used to create this document

The resources listed below were utilized to generate this document.

References

- Books
 - [Objects in the Heavens](#): Peter Birren
 - [Touring the Universe through Binoculars](#): Philip Harrington
 - [The Deep Sky](#): Philip Harrington
 - [Double and Multiple Stars and How to Observe Them](#): James Mullaney
 - Celestial Portraits: [Tom Polakis](#)
 - [Sky Spot](#) Books
 - Bright Telescopic Objects: Brent Watson
 - Select Double Stars: Brent Watson
 - Overlooked Objects: Bret Watson
- Asterisms
 - Astronomical League: [Asterisms observing program](#) List
 - Asterisms: Demeiza Ramakers
 - [Pattern Asterisms](#): John Chiravalle
 - Milwaukee Astronomical Society: [Binocular Asterisms](#)
 - Deep-Sky.co.uk: [Observing Asterisms](#) (David Ratlege)
- [Saguaro Astronomy Club](#)
 - Asterisms List
 - [110 Best of the NGC](#)
 - Red Stars List
- Online
 - [Wikipedia](#)
 - The Garden Astronomer: [Double, Multiple, and Special Star Observations List](#)
 - Sky & Telescope: [Colored Double Stars, Real and Imagined](#)
 - [In-The-Sky.org](#)
 - [Constellation-guide.com](#)

Applications

- [SkyTools](#) 4.1 Visual Professional
- [AstroPlanner](#) Version 2.4
- [Cartes du Ciel](#) Version 4.3
- [Sky Safari](#) Pro 7
- Microsoft Office Home and business 2021 - Word
- Microsoft Visio Professional 2021
- [IrfanView](#) Version 4.72