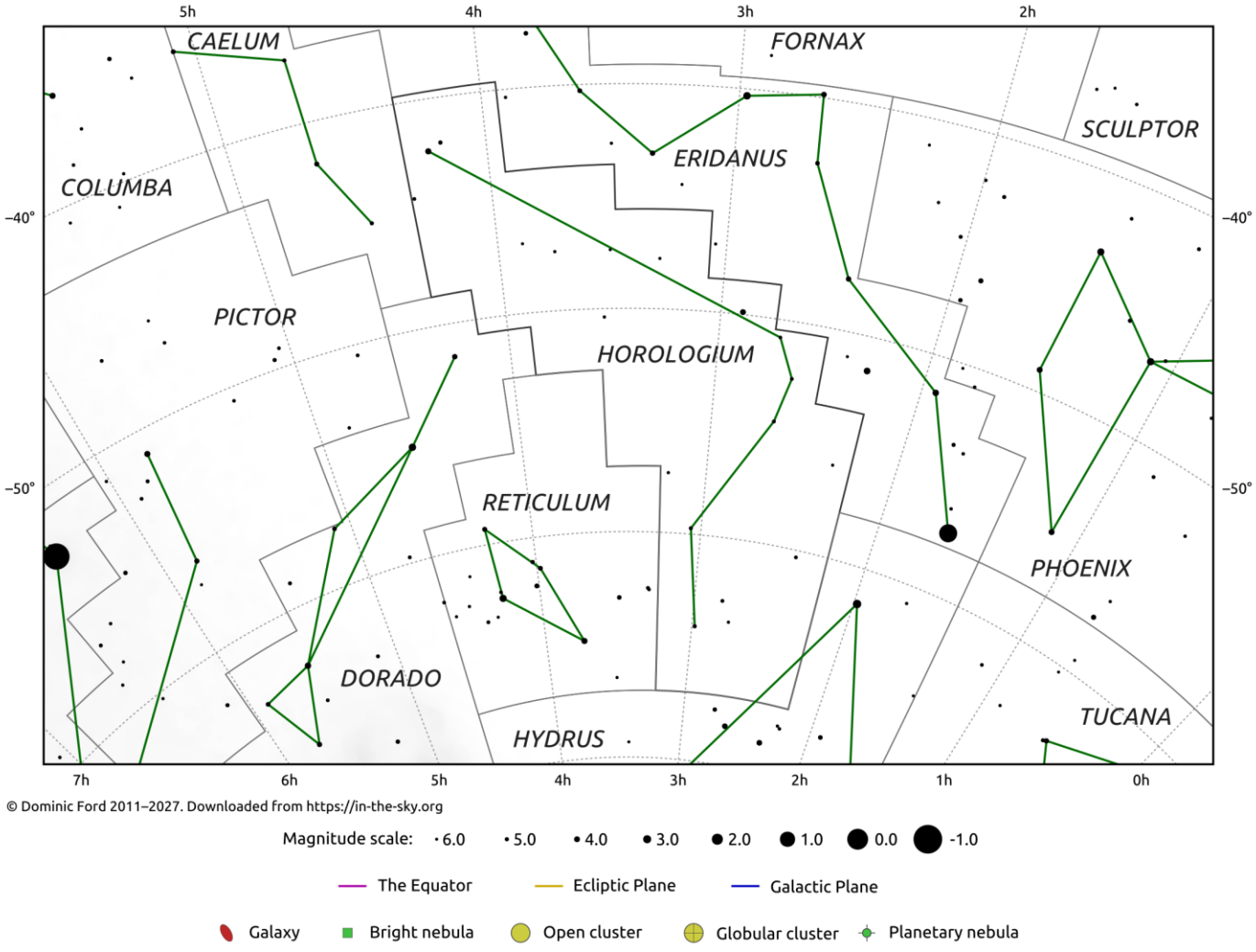
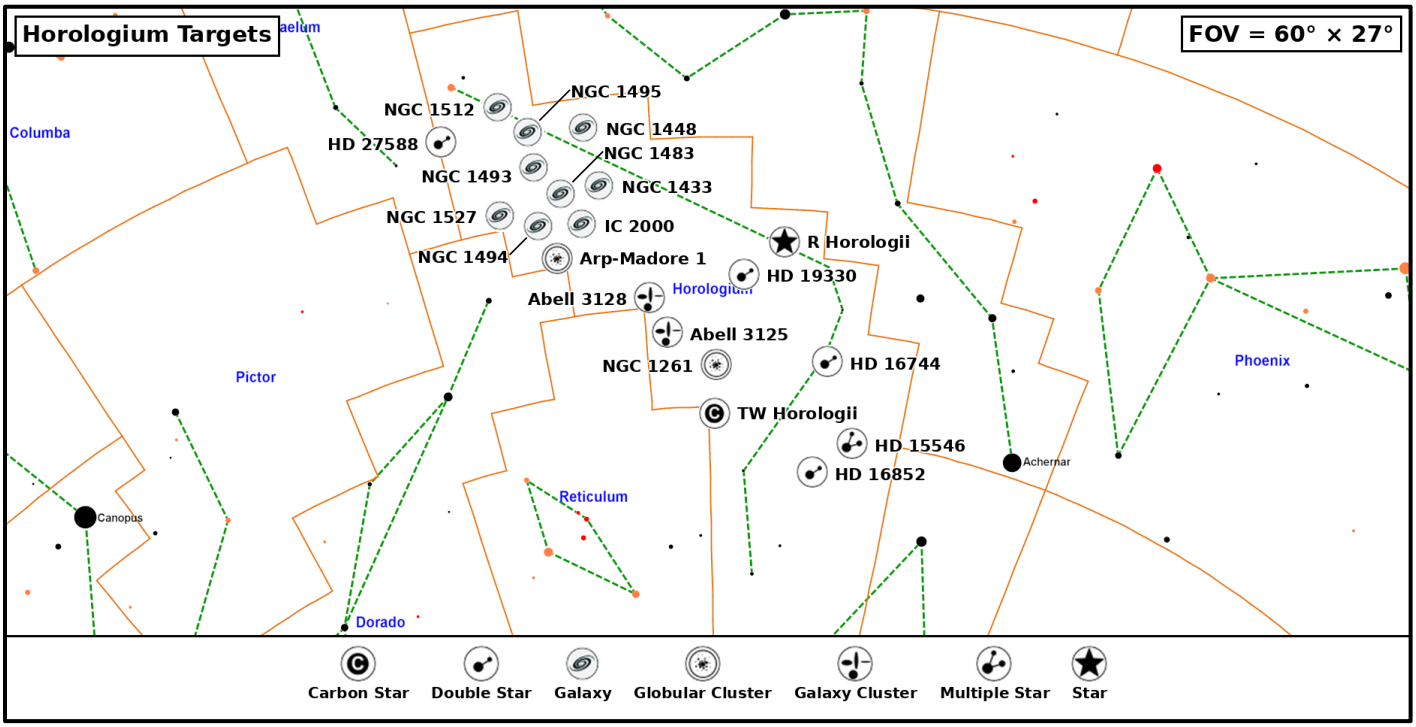
Constellation: Horologium (Hor)

Evening Visibility: **October – December**
Opposition: **November**
Latitude Visibility: **+30° to -90°**
Online Information: | In-The-Sky.org | Constellation-guide.com |

In-The-Sky.org Constellation Map



Constellation Guide



Constellation Targets

HD 15546, HD 16744, HD 16852, R Horologii, HD 19330, NGC 1261, TW Horologii, Arp-Madore 1, Abell 3125, Abell 3128, NGC 1433, NGC 1448, IC 2000, NGC 1483, NGC 1493, NGC 1494, NGC 1495, NGC 1512, NGC 1527, HD 27588

Constellation Object Types Summary

Objects: 20 | Galaxies: 9 | Double/Multiple Stars: 5 | Galaxy Clusters: 2 | Globular Clusters: 2 | Variable Stars: 1 | Carbon Stars: 1

Mythology/Back Story

Horologium is Latin for "the clock." It is one of 14 southern constellations devised by the French astronomer Nicolas-Louis de Lacaille, who introduced it in 1756 as l'Horloge, for the pendulum clock he used to time his observations. Lacaille had spent 1751 and 1752 at the Cape of Good Hope fixing the positions of nearly 10,000 stars, and he filled the gaps between the ancient figures with the instruments of his own age rather than with gods and heroes, so Horologium has no ancient story. He drew the clock complete with a marked dial and a seconds-hand, ambitious for so sparse a patch of sky. Ranking 58th in size, it is faint: its brightest star, Alpha Horologii, an orange giant, shines at magnitude 3.9. It offers the globular cluster NGC 1261, the barred spiral NGC 1512 and the variable R Horologii.

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Constellation Highlights

Horologium lies well away from the Milky Way, so its best sights are galaxies, one bright globular cluster and a pair of striking red variable stars rather than the star clusters and nebulae of the richer southern constellations. Most of the targets below appear on several well-known observing lists.

- **R Horologii** (VS) – A Mira variable whose swing in brightness is among the largest of any star visible to the unaided eye.
- **TW Horologii** (CS, VS) – One of the brightest carbon stars in the sky, orange-red in binoculars.
- **NGC 1448** (G) – A nearly edge-on spiral drawn out into a long, thin spindle.
- **NGC 1527** (G) – A lenticular galaxy showing a bright oval glow, the easiest of the constellation's galaxies to view in a small telescope.
- **NGC 1261** (GC) – Caldwell 87 is the brightest deep-sky object in the constellation, a round halo globular that resolves at its edges.
- **NGC 1433** (G) – The brightest galaxy in Horologium, a barred spiral whose inner ring circles an active nucleus.
- **NGC 1512** (G) – A large barred spiral with a double ring, sharing its field with the interacting dwarf galaxy NGC 1510.

Constellation Targets Summary List

Object (Type)	Links	Gear	Aliases	Stats
HD 15546 (MS-3)	1	B, T	SAO-232780; HIP-11469; HJ 3503; WDS 02280-5808; CPD -58 214; DAW 1	**AC** | Mag=8.1 / 9.6 | Sep=17.6" | PA=299° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=F6V | Color=yellow-white | **AB** | Mag=8.0 / 8.5 | Sep=1.2" | PA=208° | mBortle=9 | mApt=130mm | RecMag=200x | Spec=F6V | Color=yellow-white |
HD 16744 (DS)	1	B, T	SAO-232845; HIP-12345; HJ 3520; WDS 02389-5450; CPD -55 445	**AB** | Mag=7.7 / 8.6 | Sep=20.6" | PA=205° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=F0IV/V | Color=yellow-white |
HD 16852 (DS)	1	B, T	SAO-232851; HIP-12401; DUN 7; Δ7; WDS 02397-5934; CPD -60 205	**A,BC** | Mag=7.7 / 7.7 | Sep=36.9" | PA=97° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=G8/K0III | Color=yellow |
R Horologii (VS)	1	T	HIP-13502; HR 868; HD 18242; R Hor; CD-50 860; AAVSO 0250-50	| Magnitude Range= 4.7 to 14.3 | Period=405d | Spec=M5-7e | BV=+1.01 | Color=red |
HD 19330 (DS)	1	B, T	SAO-232983; HIP-14307; DUN 10; Δ10; WDS 03046-5119; CoD -51 704; CPD -51 361	**AB** | Mag=7.6 / 8.5 | Sep=38.4" | PA=70° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=G1V / K1V | Color=yellow-white / orange |
NGC 1261 (GC)	1	T	C87; GCL 5; Levy-290; SG-10	| Mag=8.3 | Size=6.9' | SB=21.1 | mBortle=9 | mApt=50mm | MC=II |
TW Horologii (CS, VS)	1	T	SAO-233037; HIP-14930; HR 977; HD 20234; TW Hor; CPD -57 513	| Magnitude Range= 5.52 to 5.95 | Period=270d | Spec=C7,2(N0) | BV=+2.42 | Color=orange-red |
Arp-Madore 1 (GC)	1	T	AM-1; E 1; ESO 201-10	| Mag=15.8 | Size=0.5' | SB=22.9 |

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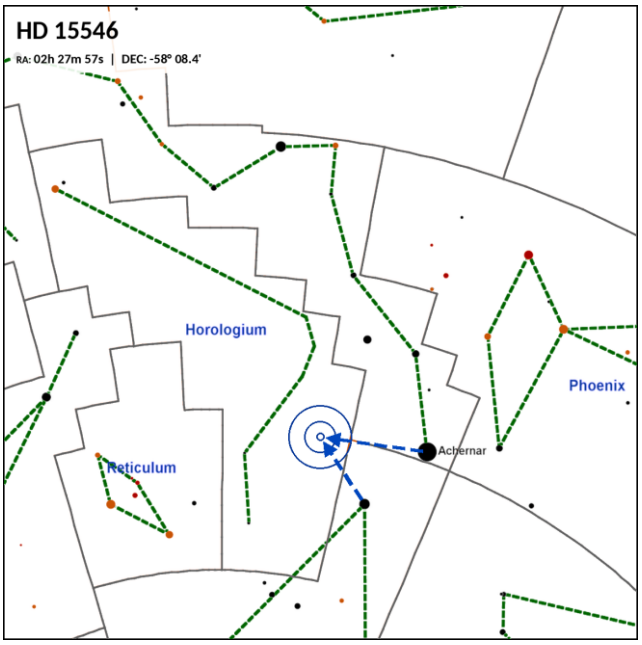
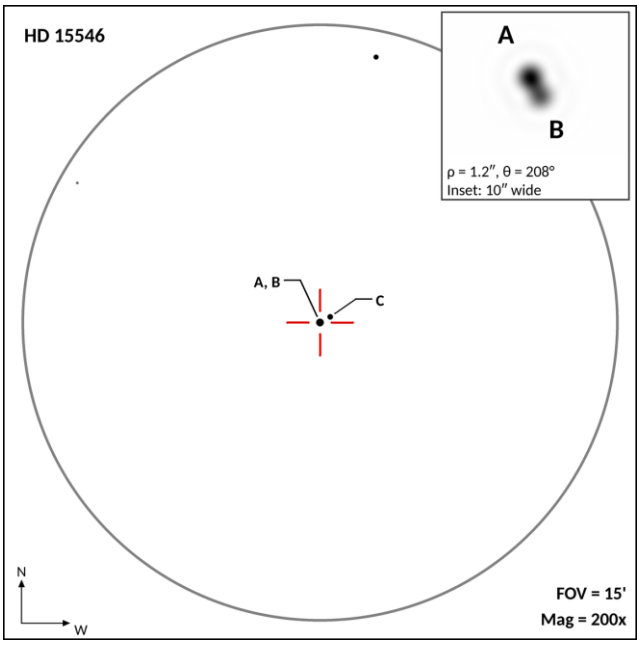
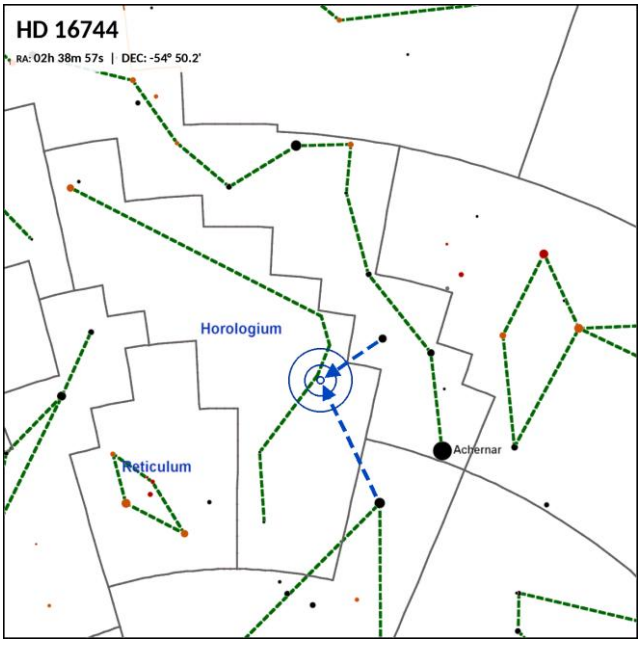
Object (Type)	Links	Gear	Aliases	Stats
Horologium-Reticulum Supercluster				
Abell 3125 (GCl)		T	ACO 3125	| Mag=15.8 | Size=30' |
Abell 3128 (GCl)		T	ACO 3128	| Mag=15.3 | Size=14' |
Horologium Galaxy Complex				
NGC 1433 (G)	1	T	PGC 13586; ESO 249-14; Levy-363; SG-18	| Mag=9.8 | Size=6.8' | SB=22.6 | mBortle=4 | mApt=102mm | MC=(R'1)SB(rs)ab |
NGC 1448 (G)	1	T	NGC-1457; PGC 13727; MCG -7-8-5; ESO 249-16; Levy-368	| Mag=10.7 | Size=7.6'x1.7' | SB=22.1 | mBortle=5 | mApt=102mm | MC=SAcd |
IC 2000 (G)		T	PGC 13912; ESO 201-3	| Mag=11.9 | Size=4.1'x0.8' | SB=21.8 | mBortle=4 | mApt=150mm | MC=SBc |
NGC 1483 (G)	1	T	ESO 201-007; PGC 14022; IRAS 03512-4737	| Mag=12.8 | Size=1.9'x1.5' | SB=22.5 | mApt=350mm | MC=SBbc |
NGC 1493 (G)	1	T	PGC 14163; ESO 249-33; Levy-291	| Mag=11.1 | Size=2.6' | SB=21.8 | mBortle=5 | mApt=102mm | MC=SB(r)cd |
NGC 1494 (G)		T	ESO 201-012; PGC 14169; IRAS 03562-4902	| Mag=12.0 | Size=3.5'x1.9' | SB=22.6 | mApt=250mm | MC=Scd |
NGC 1495 (G)		T	ESO 249-034; MCG -07-09-004; PGC 14190; IRAS 03567-4436	| Mag=12.6 | Size=2.2'x0.5' | SB=21.4 | mBortle=2 | mApt=180mm | MC=Sc |
NGC 1512 (G)	1	T	PGC 14391; MCG -7-9-7; ESO 250-4; Levy-365; SG-19	| Mag=10.3 | Size=8.9'x5.6' | SB=23.2 | mBortle=1 | MC=SB(r)ab |
NGC 1527 (G)	1	T	PGC 14526; ESO 201-20; Levy-364; SG-20	| Mag=10.8 | Size=3.7'x1.4' | SB=21.2 | mBortle=7 | mApt=70mm | MC=SA(r)0^0 |
HD 27588 (DS)	1	B, T	SAO-216749; HIP-20161; HR 1364; HJ 3643; WDS 04193-4416; CD-44 1503; CoD -44 1503; CPD -44 464	**AB** | Mag=5.5 / 8.6 | Sep=70.3" | PA=115° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=K2III | Color=orange |

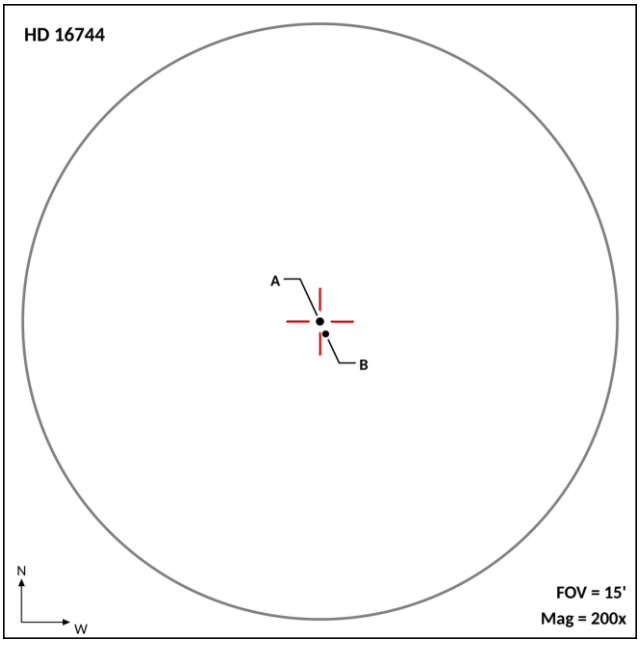
HD 15546 (MS-3 || **AC** | Mag=8.1 / 9.6 | Sep=17.6" | PA=299° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=F6V | Color=yellow-white || **AB** | Mag=8.0 / 8.5 | Sep=1.2" | PA=208° | mBortle=9 | mApt=130mm | RecMag=200x | Spec=F6V | Color=yellow-white |) Located 290 light years away. This wide pair is physical, its components are about 1,600 astronomical units (AU, the Earth-Sun distance) apart, while the close pair has not been determined to be bound. The 1.2 arcsecond inner pair of near-equal stars needs a 5-inch telescope and steady seeing to split.



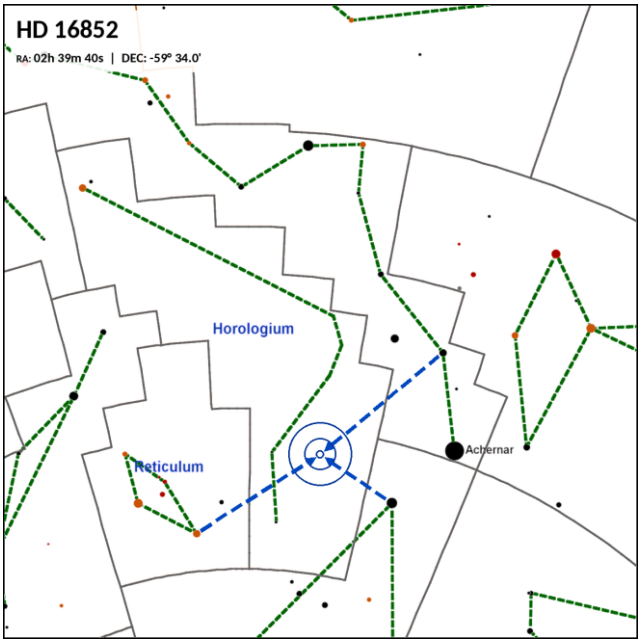


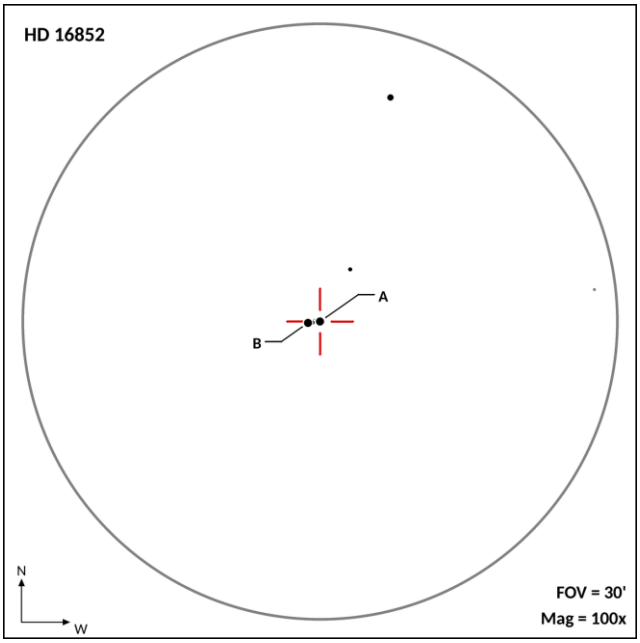
HD 16744 (DS || **AB** | Mag=7.7 / 8.6 | Sep=20.6" | PA=205° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=F0IV/V | Color=yellow-white |) Located 380 light years away. This is a physical pair, the components are separated by roughly 2,400 AU. An easy split in any small telescope.



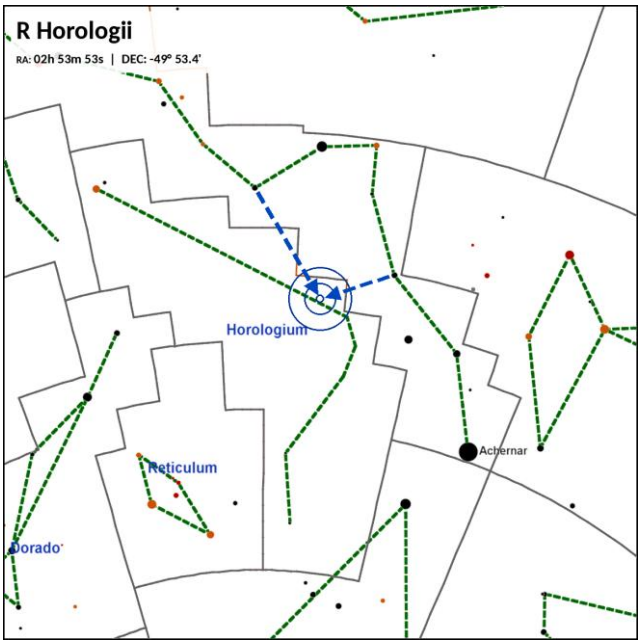


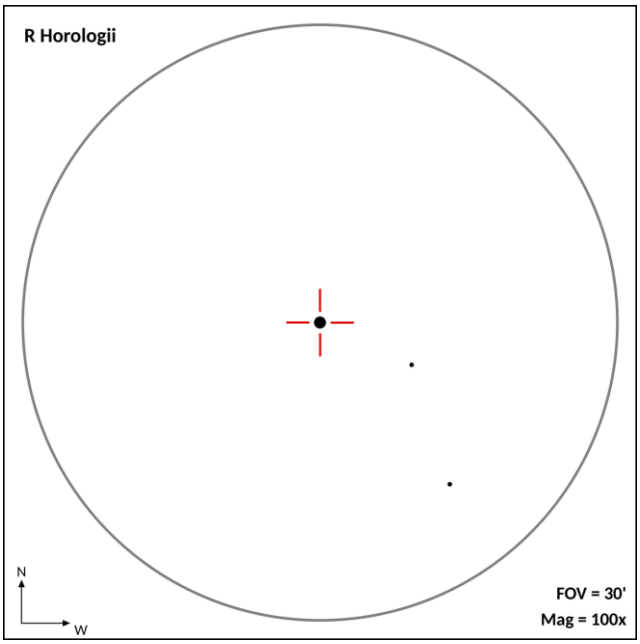
HD 16852 (DS || **A,BC** | Mag=7.7 / 7.7 | Sep=36.9" | PA=97° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=G8/K0III | Color=yellow |) Located 730 light years away. This is a physical pair of near-identical brightness about 8,300 AU apart, discovered by James Dunlop in 1826. The BC component is itself a close pair, too tight to split in any telescope.



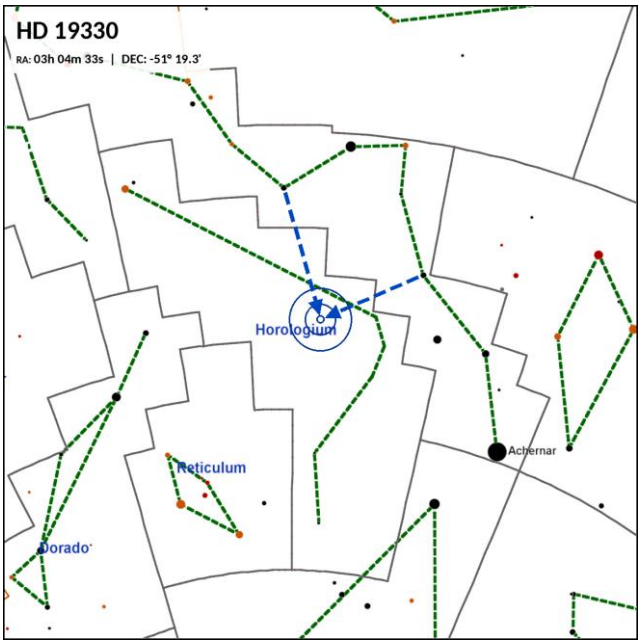


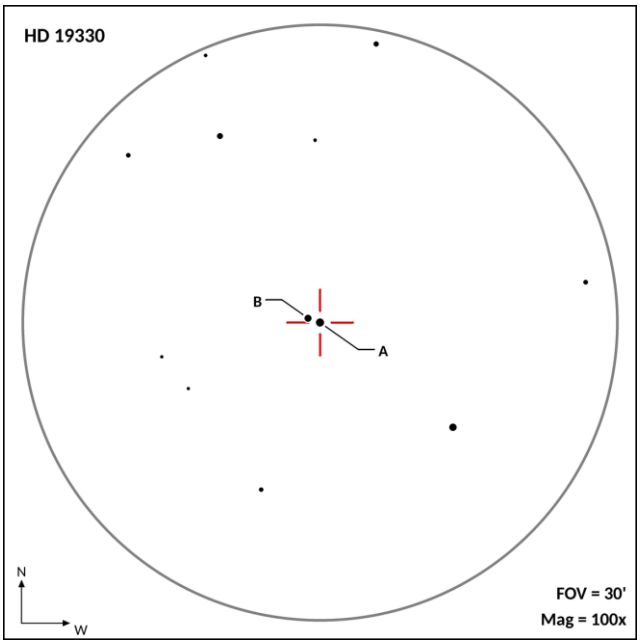
R Horologii (VS || Magnitude Range= 4.7 to 14.3 | Period=405d | Spec=M5-7e | BV=+1.01 | Color=red |) A Mira variable red giant 760 light years away, whose brightness swings through nearly ten magnitudes (about 7,000x), one of the largest ranges of any star visible to the unaided eye; near maximum it is an easy naked-eye object, while at minimum a 10-inch telescope is needed. A slow, thick wind is carrying its outer layers away; what survives will be a white dwarf no bigger than the Earth.



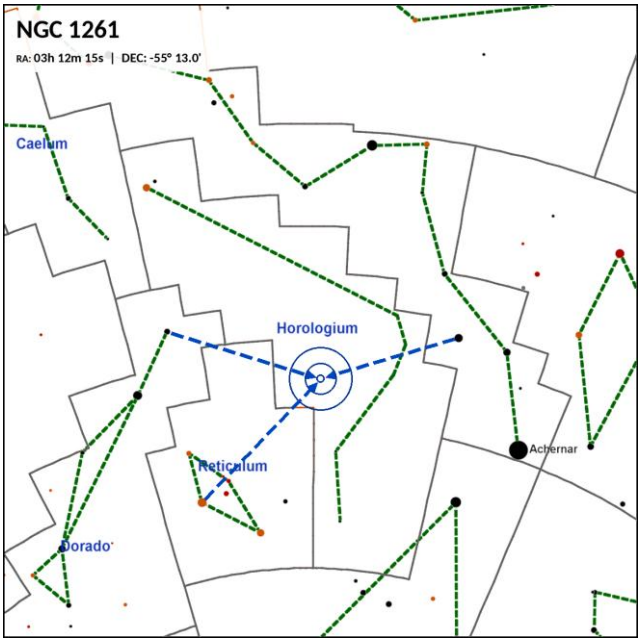


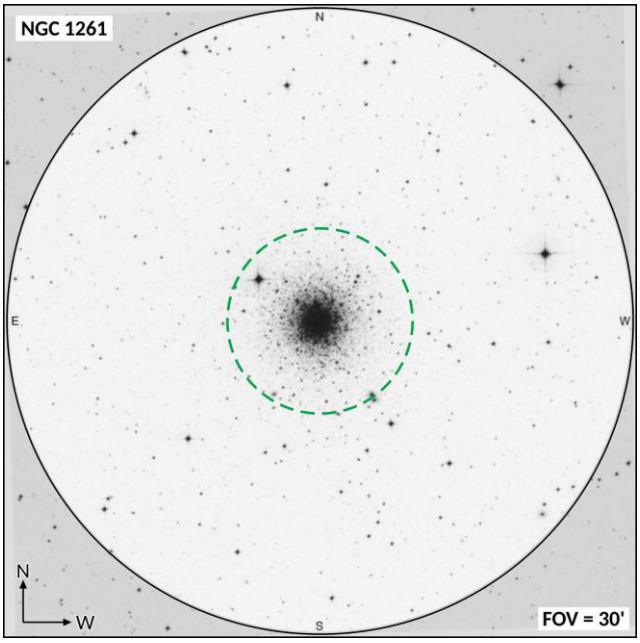
HD 19330 (DS || **AB** | Mag=7.6 / 8.5 | Sep=38.4" | PA=70° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=G1V / K1V | Color=yellow-white / orange |) Located 180 light years away. This is a physical pair, separated by about 2,100 AU, pairing a Sun-like yellow star with an orange dwarf.



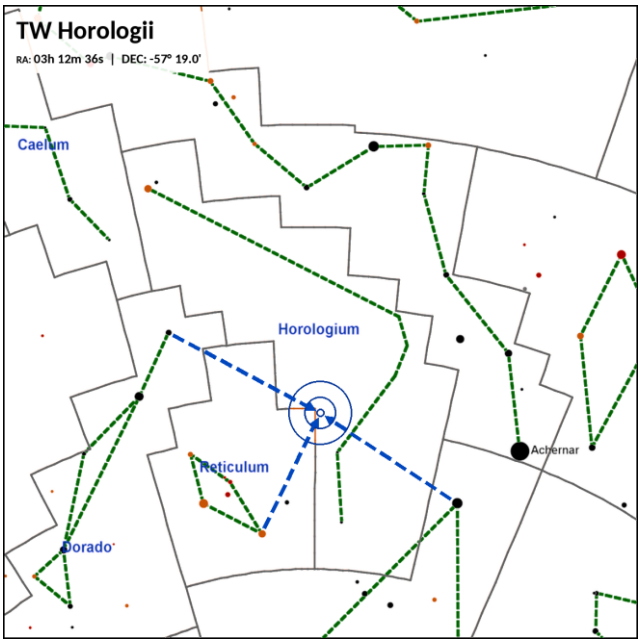


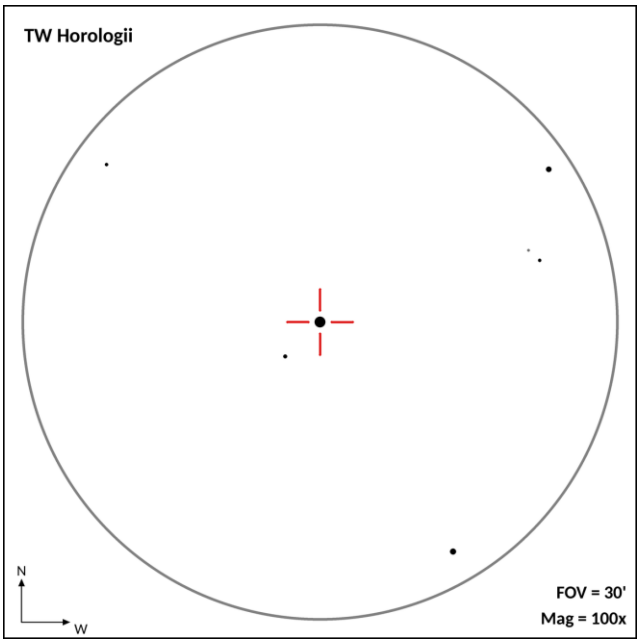
NGC 1261 (GC || Mag=8.3 | Size=6.9' | SB=21.1 | mBortle=9 | mApt=50mm | MC=II |) A globular cluster of the Milky Way's halo 53,000 light years away with an estimated physical diameter of 110 light years, about 10 billion years old and holding a mass some 341,000 times that of our Sun's. Its core shows no sign of collapse, though evidence suggests it rebounded from one within the past two billion years. Twenty-two RR Lyrae variables have been found among its stars. Concentration Class II-Dense central concentration.



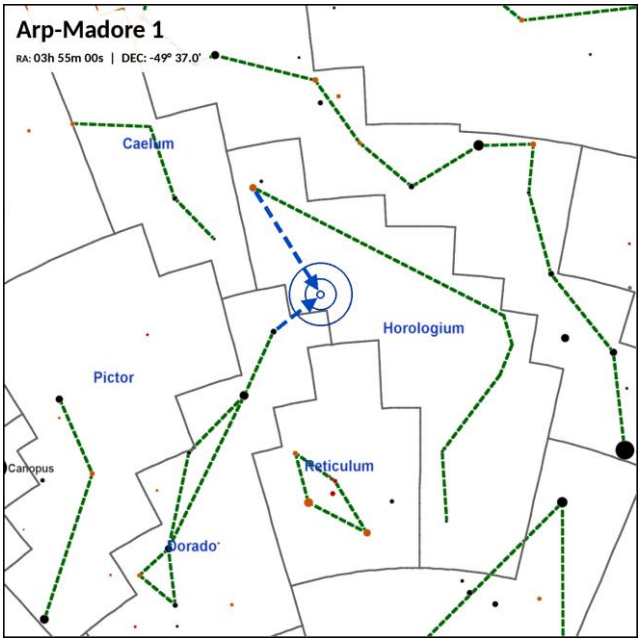


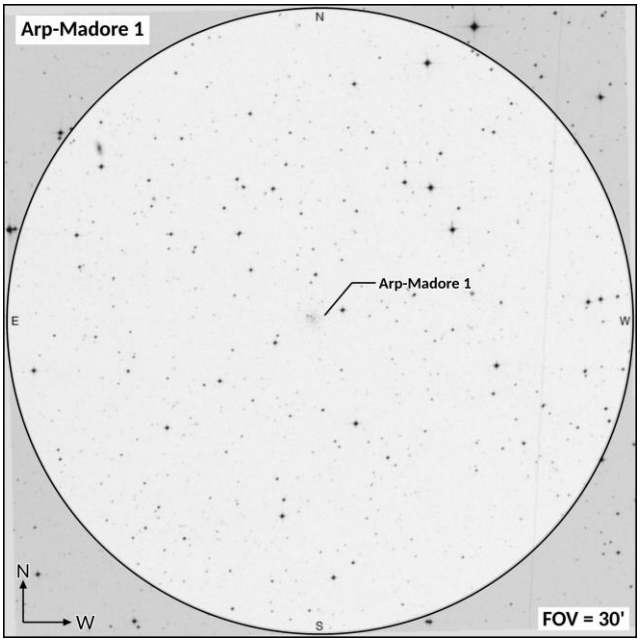
TW Horologii (CS, VS || Magnitude Range= 5.52 to 5.95 | Period=270d | Spec=C7,2(N0) | BV=+2.42 | Color=orange-red |) One of the brightest carbon stars in the sky, a semi-regular variable 1,500 light years away. An aging red giant on the asymptotic giant branch whose atmosphere is rich enough in carbon soot to redden its light markedly. Visible to the naked eye from a dark site, its ruddy color is obvious in binoculars. BV=+2.42 indicating a color of Orange-Red.



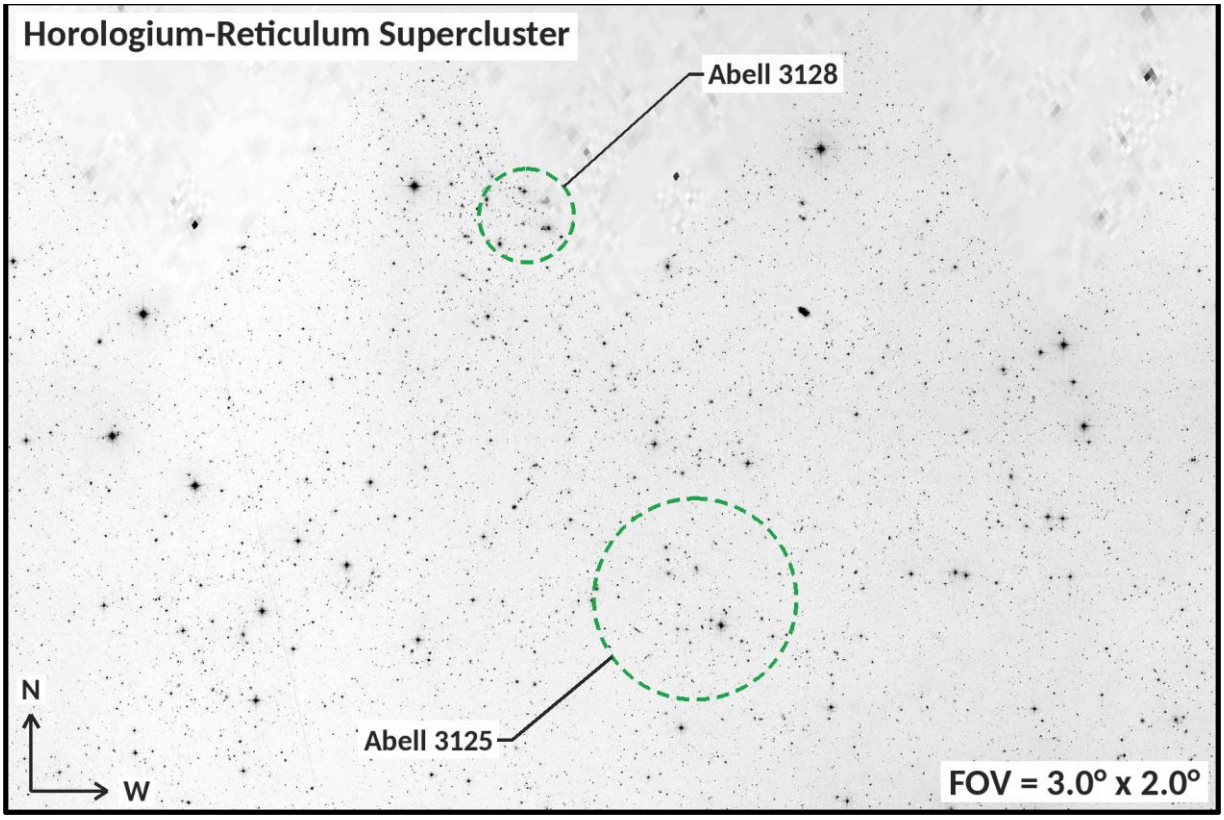


Arp-Madore 1 (GC || Mag=15.8 | Size=0.5' | SB=22.9 |) One of the most distant known globular clusters in the Milky Way's halo, 400,000 light years away with an estimated physical diameter of 58 light years, lying far beyond the Magellanic Clouds; its remoteness makes it a test case for theories of gravity. Too faint for most amateur instruments, it needs a very large telescope for viewing.





Horologium-Reticulum Supercluster



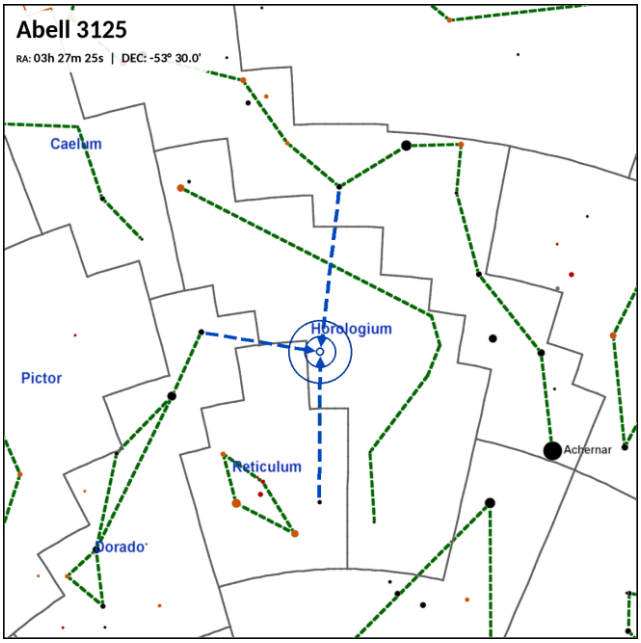
The Horologium-Reticulum Supercluster region contains Abell 3125 and Abell 3128.

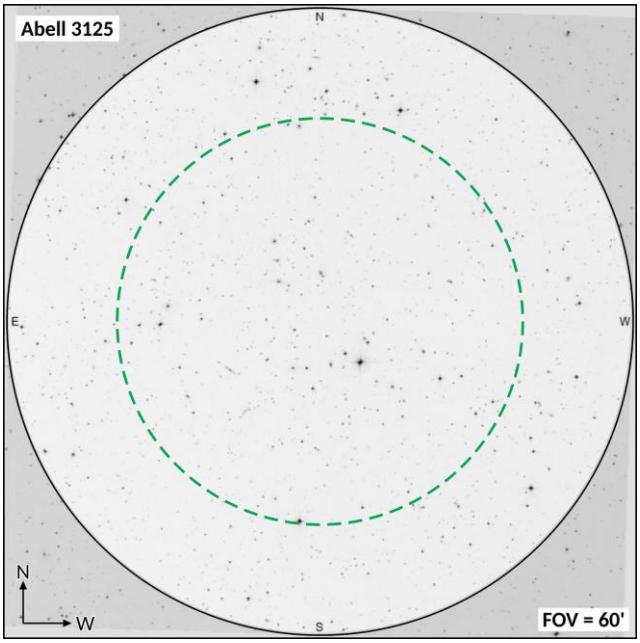
Harlow Shapley noticed the galaxies here crowding together in 1935, and the clustering had been remarked on as early as 1899. It is now considered one of the two greatest concentrations of matter in the nearby universe, rivaled only by the supercluster that carries his name: some 35 clusters of galaxies are bound into it across more than a hundred square degrees of sky, holding a mass on the order of a hundred million billion times that of our Sun's, comparable to the Laniakea Supercluster that contains our own galaxy.

The center of the supercluster lies about three degrees north-northwest of this field. Published figures for its extent vary from about 350 to 550 million light years, and its near side lies some 700 million light years away while the far side reaches past a billion. Abell 3125 and Abell 3128 sit roughly one degree apart at the core and form its densest knot, close enough that their outer regions may already be running into one another; the velocities measured across the region suggest the whole structure is still drawing material inward rather than settling.

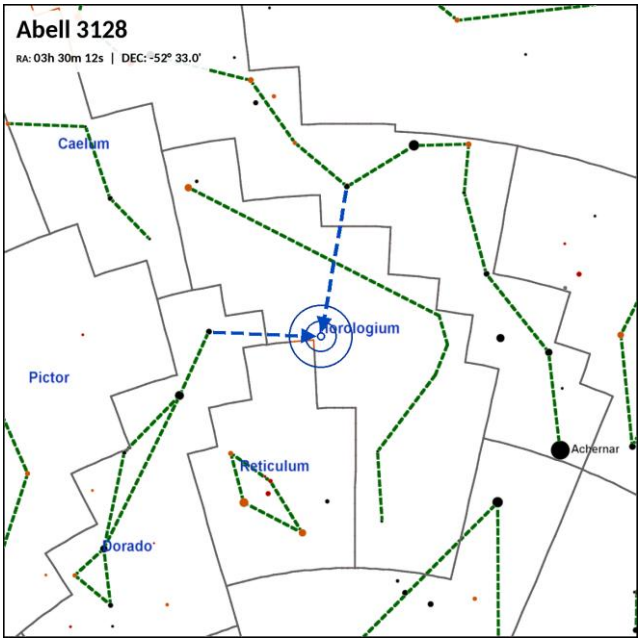
Both clusters are targets in this guide. Their brightest galaxies lie near 15th magnitude, so each shows as a scattering of faint smudges rather than anything concentrated, and at nearly 53 degrees south they stand low in the sky from all but far southern latitudes.

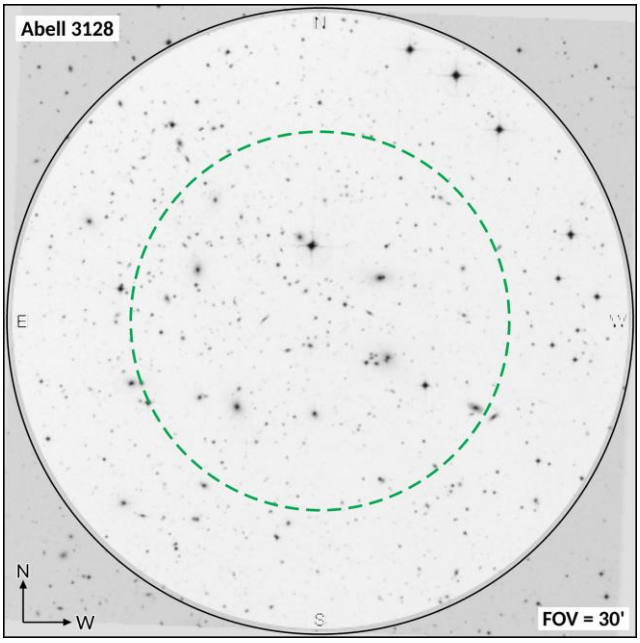
Abell 3125 (GCl || Mag=15.8 | Size=30' |) Located 830 million light years away. A cluster of some forty galaxies forming, with Abell 3128 a degree to the northeast, the double cluster at the heart of the Horologium-Reticulum Supercluster. Its brightest members are around 15th magnitude, putting the cluster beyond reach of all but the largest amateur telescopes.





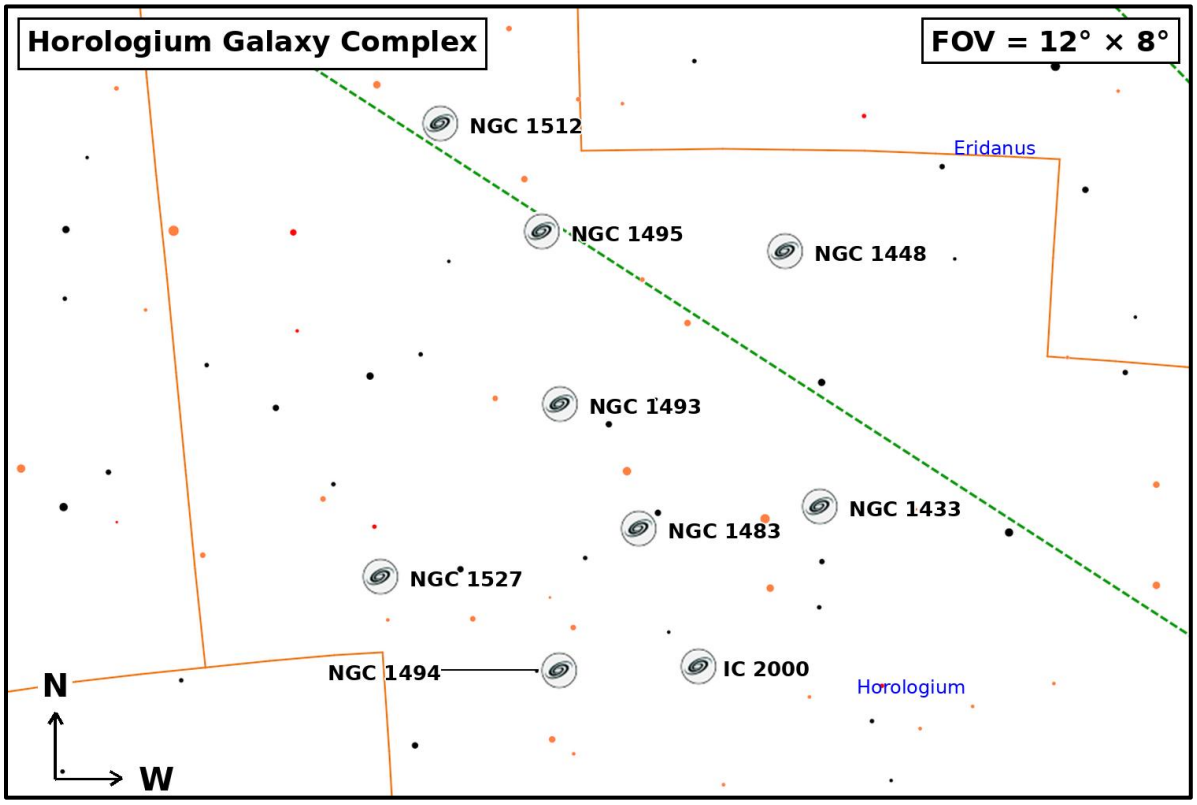
Abell 3128 (GCl || Mag=15.3 | Size=14' |) Located 830 million light years away. The richer half of the double cluster at the core of the Horologium-Reticulum Supercluster, holding between 130 and 200 galaxies. A second, more distant cluster lies directly behind it, and its central galaxy bends the light of something further still into a gravitational arc. Only the largest amateur telescopes under far southern skies will show its brightest members.





Constellation Guide

Horologium Galaxy Complex



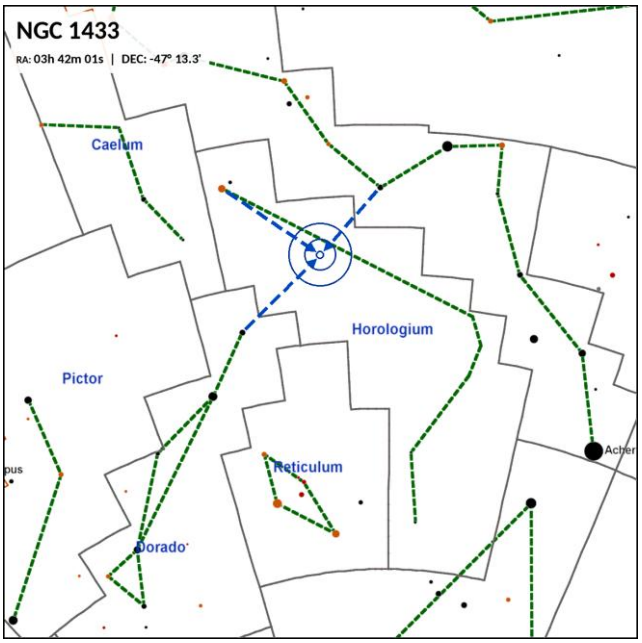
The Horologium Galaxy Complex contains NGC 1433, NGC 1448, IC 2000, NGC 1483, NGC 1493, NGC 1494, NGC 1495, NGC 1512 and NGC 1527.

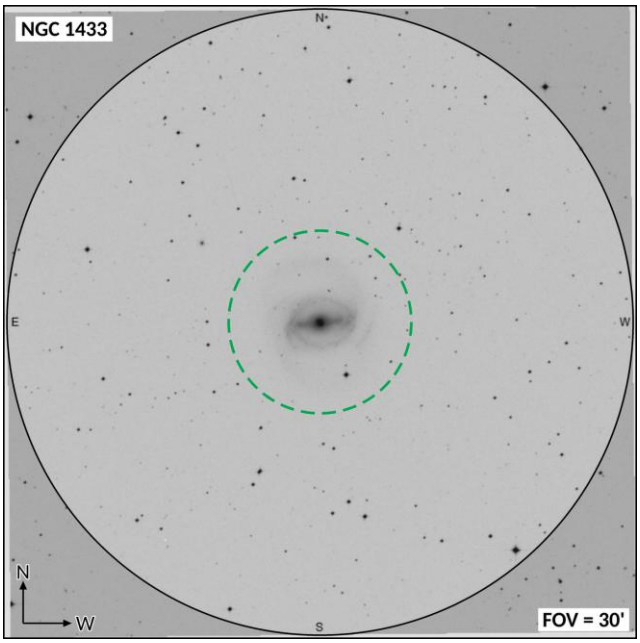
These nine galaxies lie between about 38 and 60 million light years away, in the northern reaches of the Dorado Group, a loose cloud of at least 46 galaxies some 62 million light years away. The cloud is richer than our own Local Group and is dominated by spiral galaxies. Its galaxies are still falling together rather than circling a settled center, which is part of why so many of them have kept their hydrogen. The portion inside Horologium has no name of its own and is grouped here as the Horologium Galaxy Complex.

Within the cloud the galaxies gather into smaller groups bound by their own gravity. NGC 1433 and NGC 1448 belong to the NGC 1433 group, cataloged as LGG 102, one of the cloud's three dominant subgroups. NGC 1512 heads a further subgroup, LGG 108, together with the interacting dwarf at its side. Another is the NGC 1493 group, LGG 106, which holds six galaxies, four of them targets in this guide: NGC 1493 itself, IC 2000, NGC 1483 and NGC 1494. NGC 1527 belongs to the galaxy group HDC 257. NGC 1495 is not assigned to any of these subgroups.

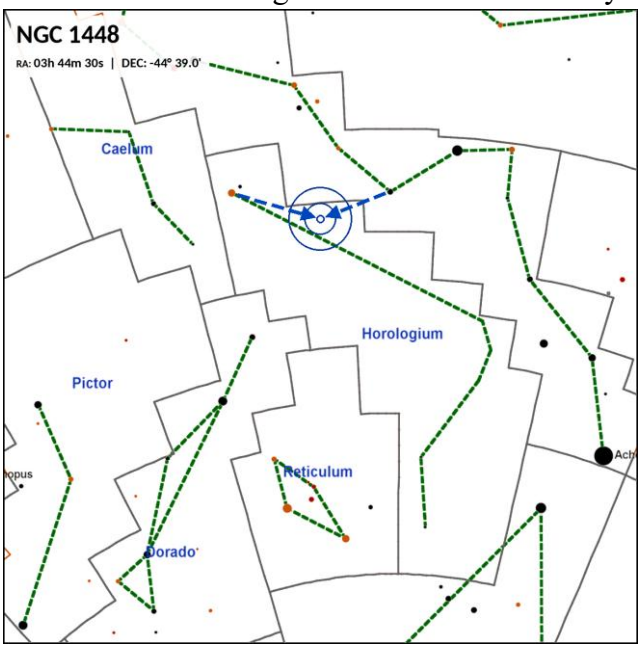
These nine galaxies are spread over roughly six degrees of sky and, apart from NGC 1527, are faint, low surface brightness objects. A dark, transparent sky for viewing them is critical.

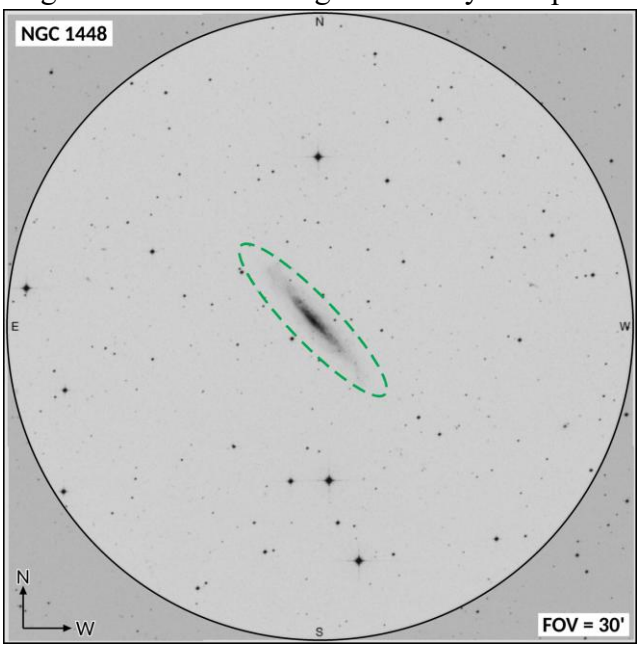
NGC 1433 (G || Mag=9.8 | Size=6.8' | SB=22.6 | mBortle=4 | mApt=102mm | MC=(R'1)SB(rs)ab |) A barred spiral galaxy 46 million light years away with an estimated physical diameter of 91,000 light years, showing a Seyfert nucleus (an active, quasar-like core). Its central region forms stars intensely in a small ring, and a jet of material flowing from the central black hole, only 150 light years long, is the smallest molecular outflow ever seen beyond our own galaxy. A dark sky is needed to show the bar. Member of Horologium Galaxy Complex.



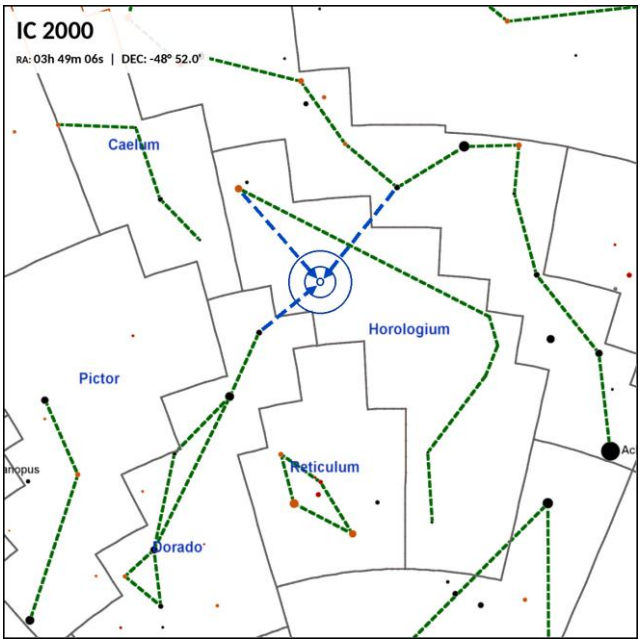


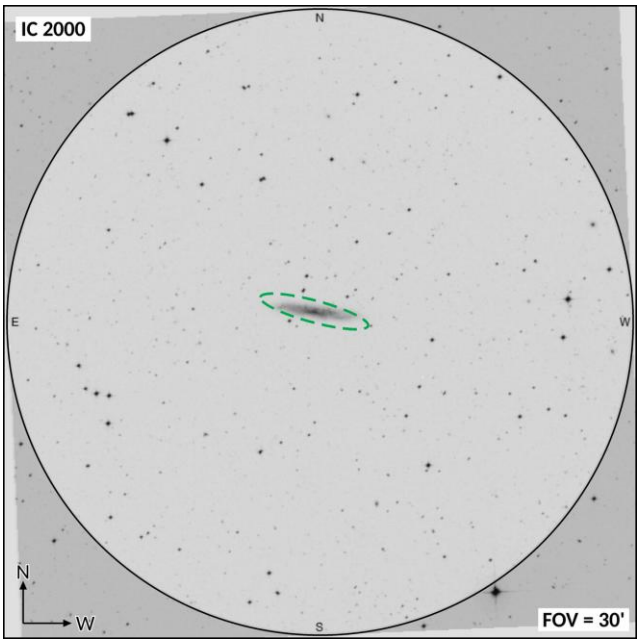
NGC 1448 (G || Mag=10.7 | Size=7.6'x1.7' | SB=22.1 | mBortle=5 | mApt=102mm | MC=SAcd |) An unbarred spiral galaxy 55 million light years away with an estimated physical diameter of 120,000 light years, seen nearly edge-on, presenting a thin spindle of light. Herschel observed it twice and it was cataloged twice as a result, also appearing as NGC 1457. Evidence for a supermassive black hole at its center was announced in 2017. Its low surface brightness calls for a dark sky for viewing. Member of Horologium Galaxy Complex.



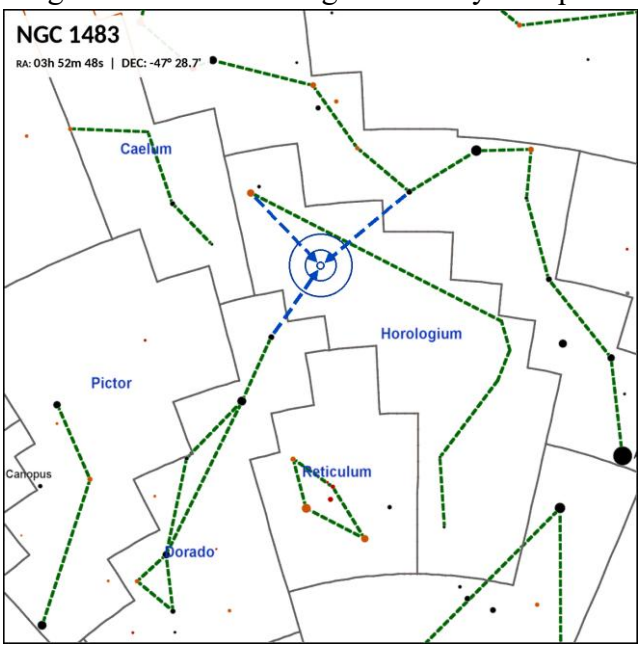


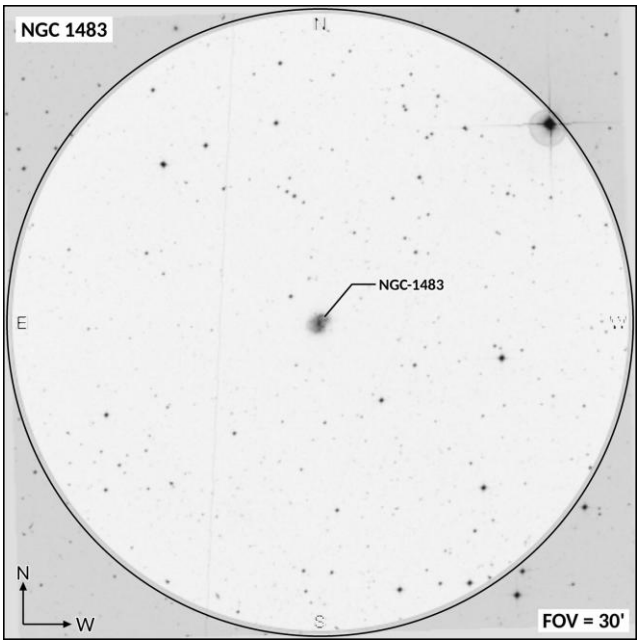
IC 2000 (G || Mag=11.9 | Size=4.1'x0.8' | SB=21.8 | mBortle=4 | mApt=150mm | MC=SBc |) Located 46 million light years away with an estimated physical diameter of 55,000 light years. A barred spiral galaxy seen nearly edge-on. Faint and thin, it is a challenging object that needs at least a 6-inch telescope under dark skies. Member of Horologium Galaxy Complex.



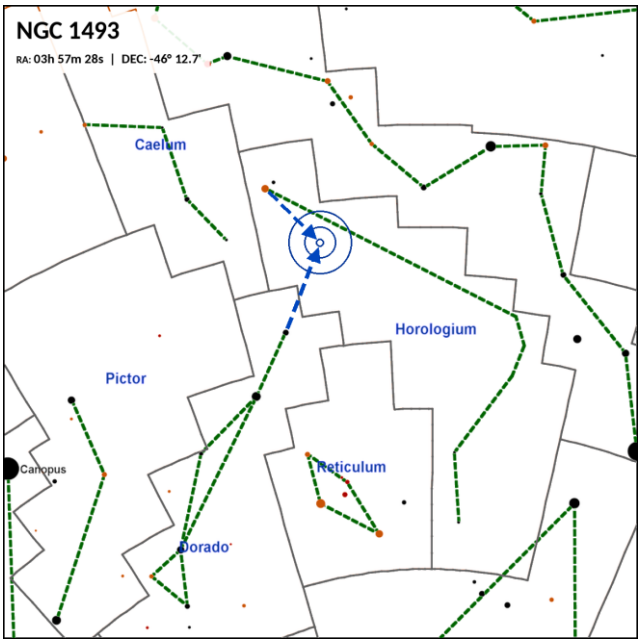


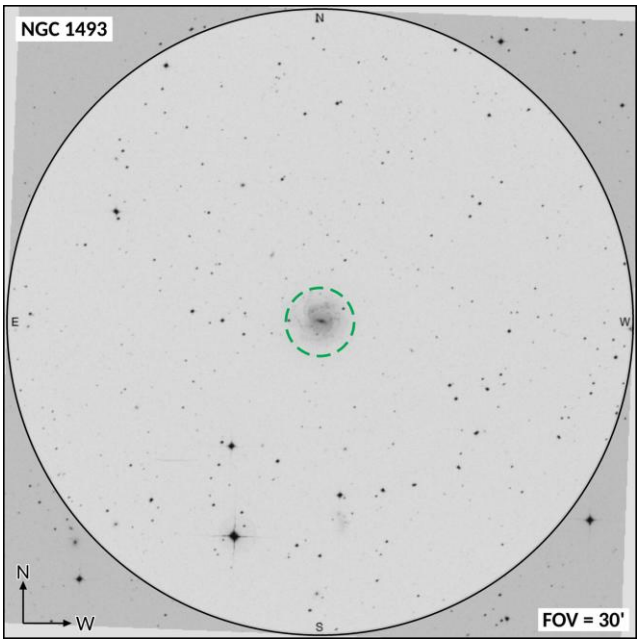
NGC 1483 (G || Mag=12.8 | Size=1.9'x1.5' | SB=22.5 | mApt=350mm | MC=SBbc |) A barred spiral galaxy 54 million light years away with an estimated physical diameter of 30,000 light years, showing a bright central bulge and diffuse arms marked by distinct star-forming regions. Distance estimates vary widely, from 40 to 54 million light years. This is a faint, small object. An aperture of 14 inches or greater is recommended for viewing. Member of Horologium Galaxy Complex.



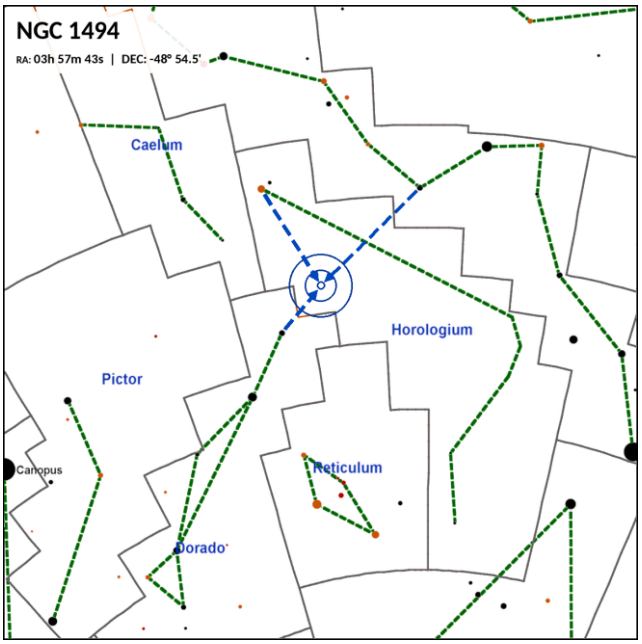


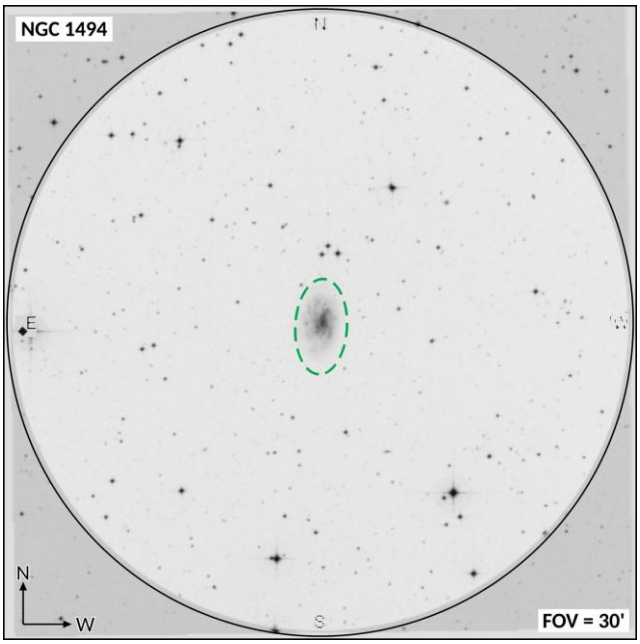
NGC 1493 (G || Mag=11.1 | Size=2.6' | SB=21.8 | mBortle=5 | mApt=102mm | MC=SB(r)cd |) A barred spiral galaxy 48 million light years away with an estimated physical diameter of 36,000 light years, showing a Seyfert nucleus seen nearly face-on. Distance estimates vary widely, from 35 to 48 million light years. Its light is spread thinly across the disk, and the core shows long before the bar does. Member of Horologium Galaxy Complex.



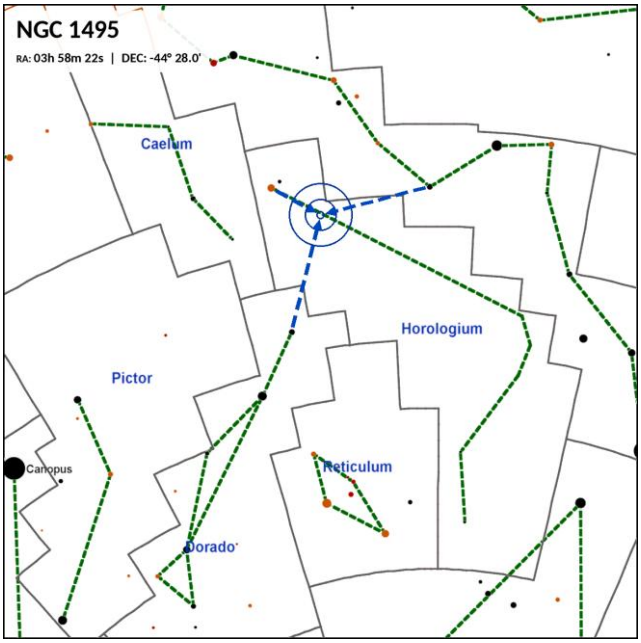


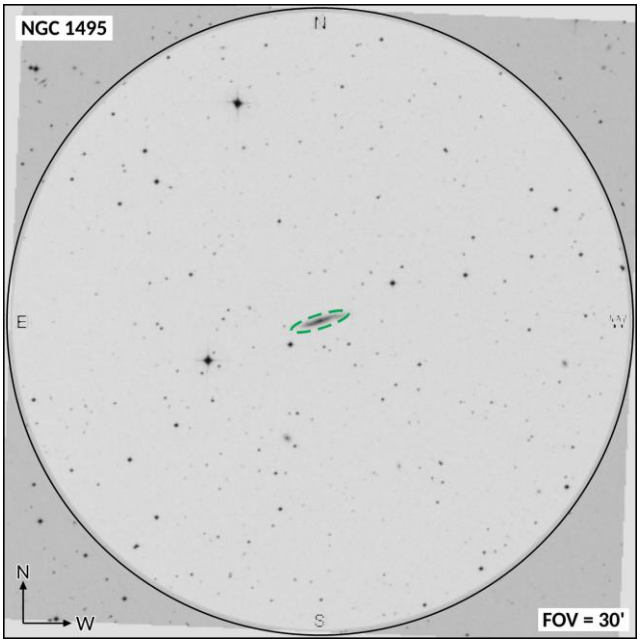
NGC 1494 (G || Mag=12.0 | Size=3.5'x1.9' | SB=22.6 | mApt=250mm | MC=Scd |) Located 53 million light years away with an estimated physical diameter of 54,000 light years. A loosely wound spiral of low surface brightness. Challenging to see; wide-field telescopes are best suited to observing it. Member of Horologium Galaxy Complex.



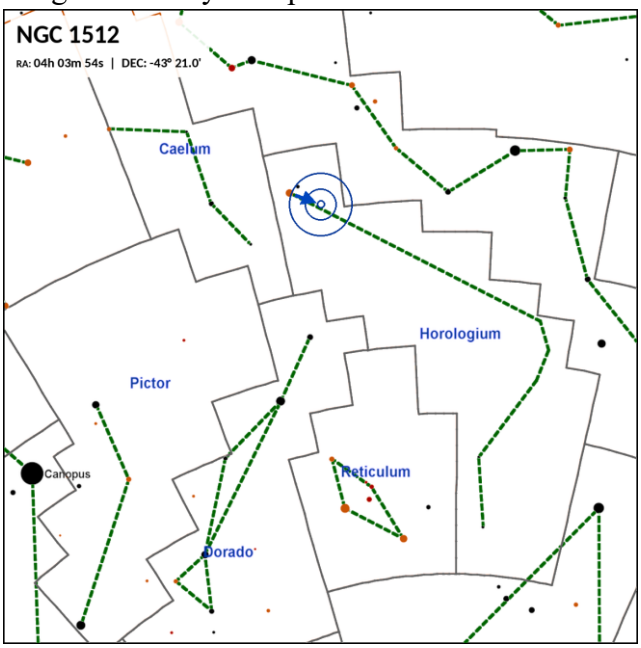


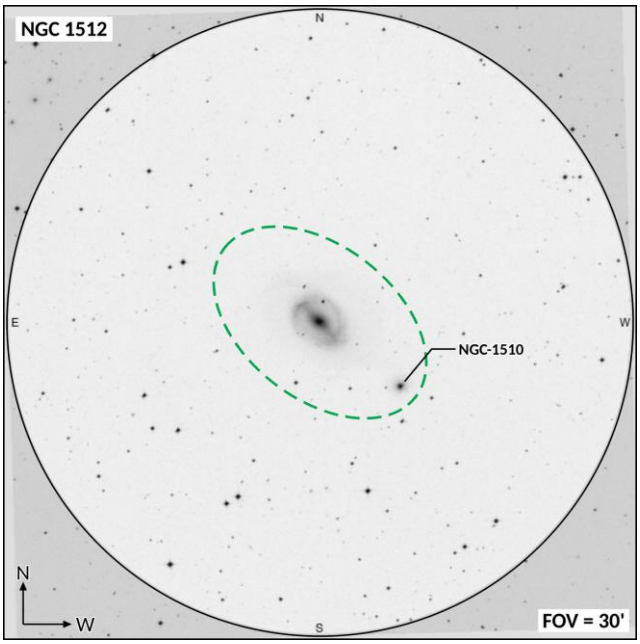
NGC 1495 (G || Mag=12.6 | Size=2.2'x0.5' | SB=21.4 | mBortle=2 | mApt=180mm | MC=Sc |) Located 60 million light years away with an estimated physical diameter of 38,000 light years. An edge-on spiral presenting a thin streak of light barely a half arcminute wide. A dark sky and a large telescope are needed to observe this object. Possible member of Horologium Galaxy Complex.



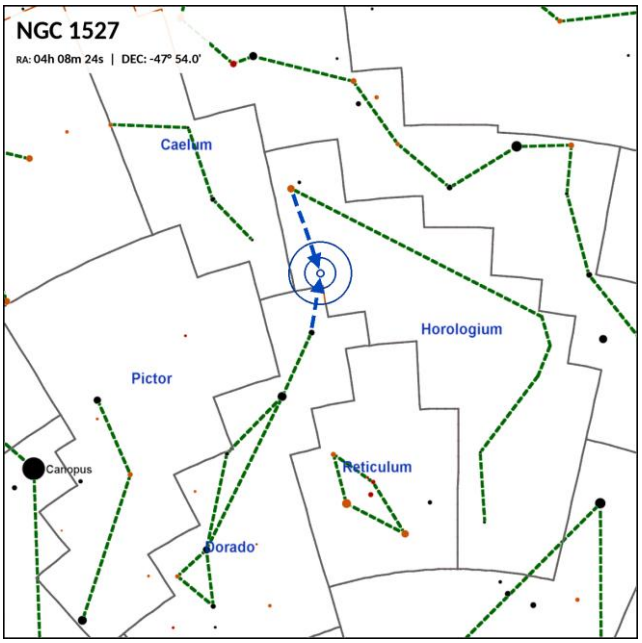


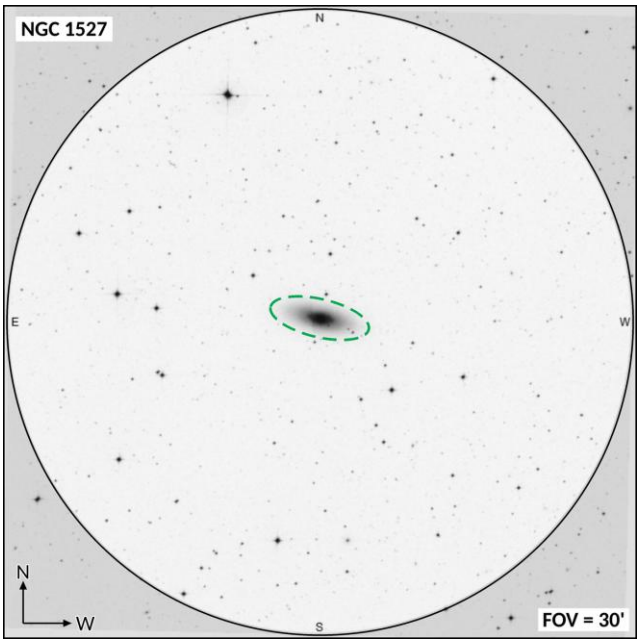
NGC 1512 (G || Mag=10.3 | Size=8.9'x5.6' | SB=23.2 | mBortle=1 | MC=SB(r)ab |) A barred spiral galaxy 38 million light years away with an estimated physical diameter of 98,000 light years, showing a double ring structure, one ring circling the nucleus and a second further out in the disk. An extended ultraviolet disk holds at least 200 young star clusters. The dwarf galaxy NGC 1510 lies 5 arcminutes to the southwest and is an interacting companion triggering a starburst. A very dark sky is needed to trace its outer ring. Member of Horologium Galaxy Complex.



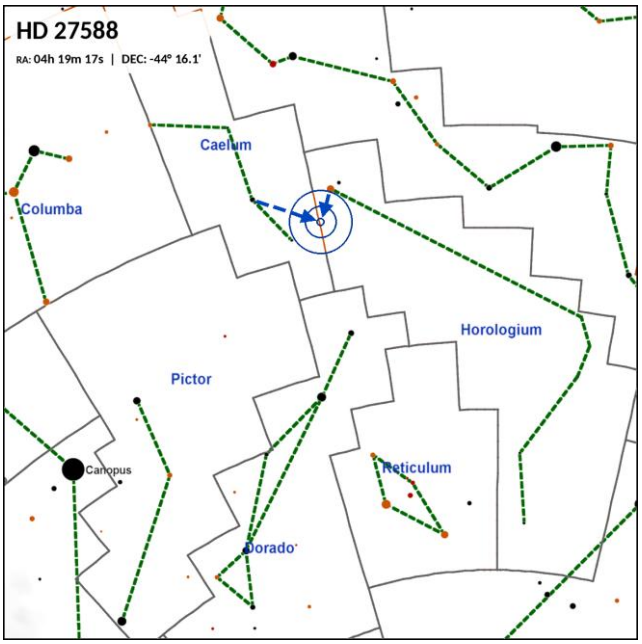


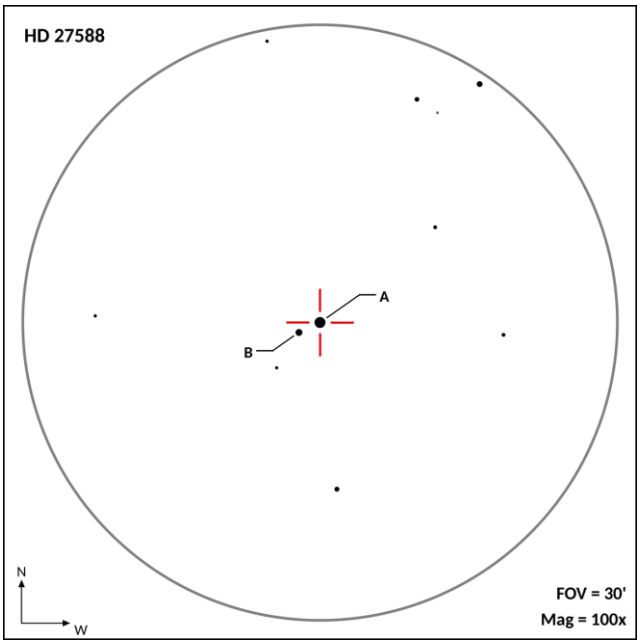
NGC 1527 (G || Mag=10.8 | Size=3.7'x1.4' | SB=21.2 | mBortle=7 | mApt=70mm | MC=SA(r)0^0 |) A lenticular galaxy, a disk system with no spiral arms left, 56 million light years away with an estimated physical diameter of 60,000 light years, showing a bright elongated core. It may harbor an active galactic nucleus. Easily viewed in small telescopes as an oval glow. Member of Horologium Galaxy Complex.





HD 27588 (DS || **AB** | Mag=5.5 / 8.6 | Sep=70.3" | PA=115° | mBortle=9 | mApt=50mm | RecMag=10x | Spec=K2III | Color=orange |) Located 250 light years away. This is a physical pair with a striking color contrast whose orange giant primary and faint companion lie roughly 5,400 AU apart. The wide separation makes it an easy target for the smallest telescopes.





Observation Log: Horologium (Hor)

Equipment Config A: _____ Config B: _____

Notes: _____

Date	Time	Config	Target	Notes

Date	Time	Config	Target	Notes

Observation Log: Horologium (Hor)

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

- 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
  - Star Clusters: Brent Archinal, Steve Hynes
  - Double Stars for Small Telescopes: Sissy Haas
  - Sky Spot Books
    - Bright Telescopic Objects: Brent Watson
    - Select Double Stars: Brent Watson
    - Overlooked Objects: Brent Watson
- Asterisms
  - Astronomical League: Asterisms Observing Program list
  - Asterisms: Demelza Ramakers
  - Pattern Asterisms: John Chiravalle
  - Milwaukee Astronomical Society: Binocular Asterisms
  - Deep-Sky.co.uk: Observing Asterisms (David Ratledge)
- 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
  - Claude AI – Some Stats for targets
  - Aladin Lite – Source for a number of deep-sky images

Applications

- SkyTools 4.1 Visual Professional
- AstroPlanner Version 2.4
- Cartes du Ciel Version 4.3
- SkySafari Pro 7
- Microsoft Office Home and Business 2021 - Word
- Microsoft Visio Professional 2021
- IrfanView Version 4.72