

OBSERVATION LIST

Small Scope NGC/IC Gems

Twenty overlooked but genuinely rewarding NGC and IC objects for 4-6 inch telescopes from northern latitudes. These lesser-known treasures rival the famous Messier objects in visual appeal but rarely appear on beginner lists. The selection spans open clusters, galaxies, and planetary nebulae, covering all four seasons and offering rich variety for observers ready to venture beyond the Messier catalog.

20

Objects

17

Easy

2

Medium

1

Hard

Cas · Per · And · Oph · Cam · Aur · Cyg · Gem · Dra · Peg · Leo · Com

Visibility scored for: **150mm Reflector** · Bortle 4

1 NGC 457

● Open Cluster · Cas

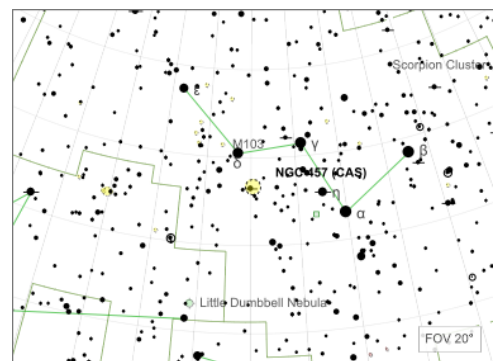
Easy

Position RA 01h 19m 6.0s Dec +58d 19' 60"
Magnitude 6.4 mag
Size 7.8'
Visibility 9.9 / 10

Notes

Two bright stars form the 'eyes' of an owl with wings spread wide. Striking even at low power in a 4-inch scope. The pattern is unmistakable and a crowd-pleaser at star parties.

Observed



2 Double cluster NGC 869

● Open Cluster · Per

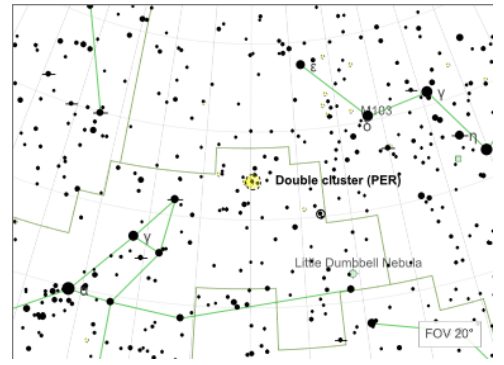
Easy

Position RA 02h 19m 0.0s Dec +57d 08' 60"
Magnitude 4.0 mag
Size 14.4'
Visibility 10.0 / 10

Notes

Half of the magnificent Double Cluster, visible to the naked eye. Best at low power (25-40x) where both clusters fill the field with hundreds of sparkling stars. One of the finest sights in any telescope.

Observed



3 Double cluster NGC 884

● Open Cluster · Per

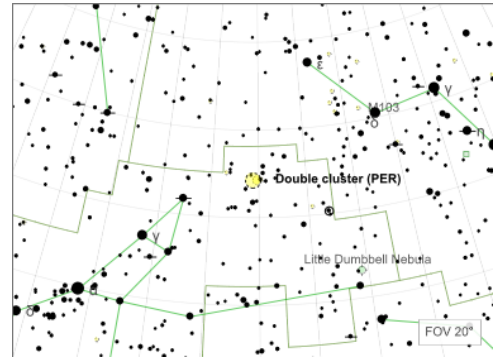
Easy

Position RA 02h 22m 24.0s Dec +57d 07' 0"
Magnitude 4.0 mag
Size 10.5'
Visibility 10.0 / 10

Notes

The slightly younger companion to NGC 869. Contains several orange-red supergiants visible in a 4-inch scope that contrast beautifully against the blue-white cluster members. View both clusters together at lowest magnification.

Observed



4 NGC 752

● Open Cluster · And

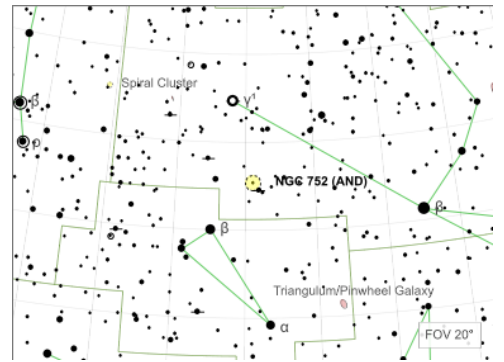
Easy

Position RA 01h 57m 48.0s Dec +37d 40' 60"
Magnitude 5.7 mag
Size 39.0'
Visibility 10.0 / 10

Notes

A large, bright, loose cluster spanning nearly a full degree. Best at low power or in a wide-field eyepiece. The stars are well-resolved in a 4-inch scope, with subtle color differences among the brighter members.

Observed



5 NGC 663

● Open Cluster · Cas

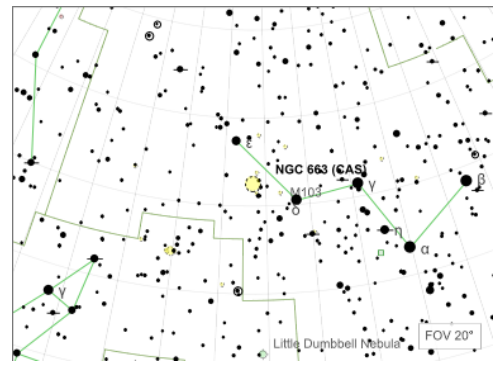
Easy

Position RA 01h 46m 0.0s Dec +61d 15' 0"
Magnitude 7.1 mag
Size 6.0'
Visibility 9.9 / 10

Notes

A rich, compact cluster in the heart of Cassiopeia. At 80-100x in a 4-inch scope, dozens of stars resolve into chains and arcs. Sits in a gorgeous Milky Way field near NGC 654 and NGC 659.

Observed



6 Caroline's Rose NGC 7789

● Open Cluster · Cas

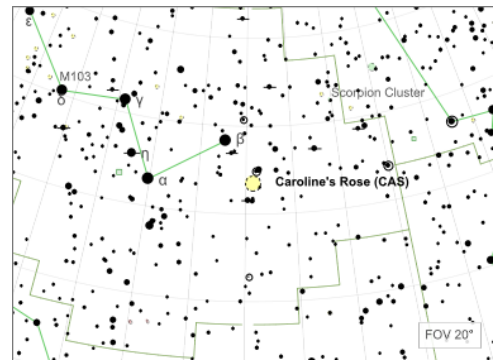
Easy

Position RA 23h 56m 60.0s Dec +56d 43' 60"
Magnitude 6.7 mag
Size 14.4'
Visibility 9.9 / 10

Notes

Caroline Herschel's Rose Cluster -- a dense swarm of faint stars that appears as a shimmering haze at low power. At 100x+ in a 6-inch scope, hundreds of stars emerge in looping chains resembling rose petals.

Observed



7 Kemble's Cascade Cluster NGC 1502

● Open Cluster · Cam

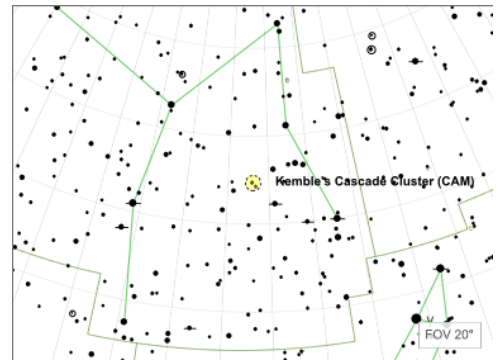
Easy

Position RA 04h 07m 42.0s Dec +62d 19' 60"
Magnitude 5.7 mag
Size 10.2'
Visibility 10.0 / 10

Notes

A compact, bright cluster anchored by a striking double star at its center. Follow Kemble's Cascade, a beautiful chain of stars, to find it. Superb in a 4-inch scope at 50-80x.

Observed



8 NGC 1528

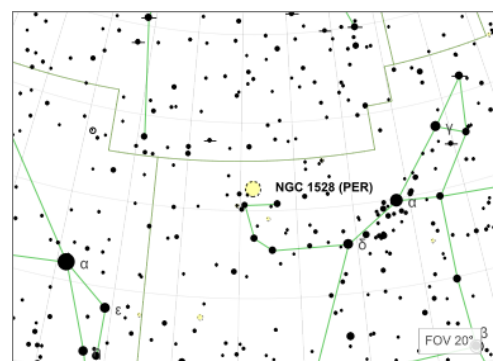
● Open Cluster · Per

Easy

Position RA 04h 15m 24.0s Dec +51d 13' 60"
Magnitude 6.4 mag
Size 9.6'
Visibility 9.9 / 10

Notes

An often-overlooked gem in Perseus. A 4-inch scope at 50x reveals a rich scattering of 40+ stars in a pleasant oval shape. Pairs nicely with nearby NGC 1545 in the same low-power field.



Observed

9 NGC 1907

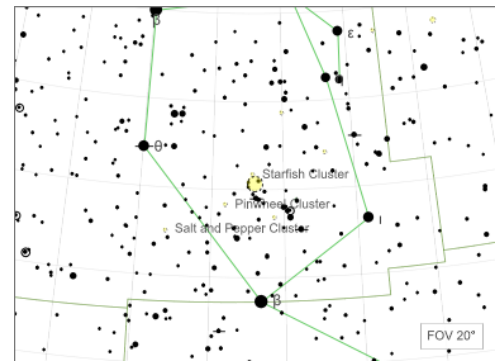
● Open Cluster · Aur

Easy

Position RA 05h 28m 0.0s Dec +35d 19' 0"
Magnitude 8.2 mag
Size 5.4'
Visibility 9.7 / 10

Notes

A tight, concentrated cluster just half a degree south of the bright Messier 38. The contrast between the two is striking -- NGC 1907 is compact and dense while M38 is sprawling. Visible together in a wide-field eyepiece.



Observed

10 Tweedledee Cluster NGC 6633

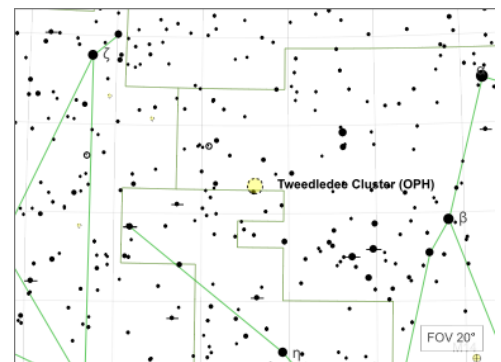
● Open Cluster · Oph

Easy

Position RA 18h 27m 42.0s Dec +6d 34' 0"
Magnitude 4.6 mag
Size 12.0'
Visibility 10.0 / 10

Notes

A large, bright cluster easily visible to the naked eye under dark skies. In a 4-inch scope at 25-40x, about 30 bright stars scatter across nearly a degree. A fine summer cluster often passed over for nearby IC 4665.



Observed

11 IC 4665

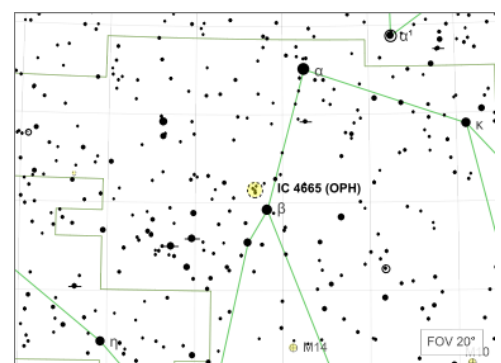
● Open Cluster · Oph

Easy

Position RA 17h 46m 18.0s Dec +5d 43' 0"
Magnitude 4.2 mag
Size 24.6'
Visibility 10.0 / 10

Notes

One of the nearest open clusters to Earth. Very large and sparse -- best in binoculars or a wide-field 4-inch scope at lowest magnification. A scattering of bright stars over 1.5 degrees. Pair with NGC 6633 nearby.



Observed

12 NGC 6819

● Open Cluster · Cyg

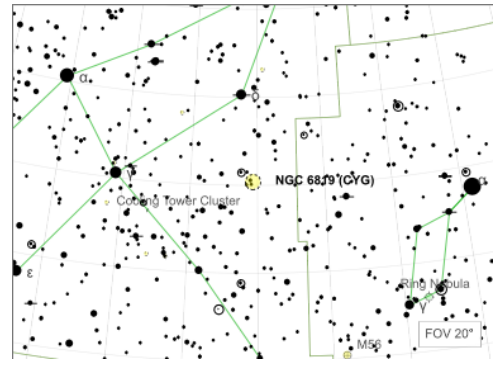
Easy

Position RA 19h 41m 18.0s Dec +40d 10' 60"
Magnitude 7.3 mag
Size 6.9'
Visibility 9.9 / 10

Notes

A dense, rich cluster in the Cygnus Milky Way. At 100x in a 6-inch scope, dozens of faint stars resolve against a background glow of unresolved members. A rewarding challenge that improves with aperture.

Observed



13 Eskimo nebula NGC 2392

● Planetary Nebula · Gem

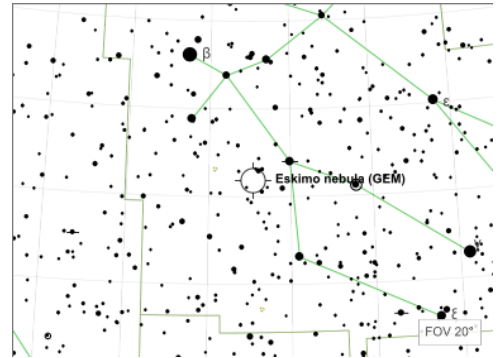
Hard

Position RA 07h 29m 12.0s Dec +20d 55' 0"
Magnitude 10.0 mag
Size 0.9'
Visibility 4.0 / 10

Notes

A bright, high-surface-brightness planetary nebula easily found near Wasat. Even a 4-inch scope shows a small, distinctly non-stellar blue-green disk. At 150x+ in 6 inches, the central star and brighter inner shell become visible.

Observed



14 NGC 6543

● Planetary Nebula · Dra

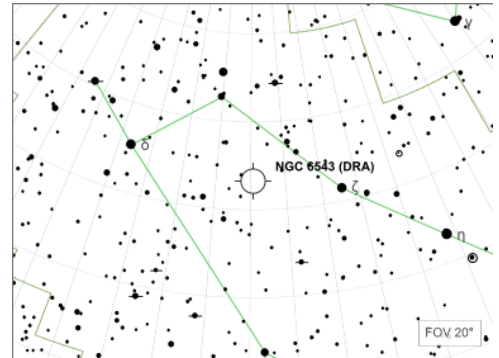
Easy

Position RA 17h 58m 36.0s Dec +66d 37' 60"
Magnitude 9.0 mag
Size 0.9'
Visibility 8.1 / 10

Notes

A brilliant blue-green planetary nebula near the north ecliptic pole. Small but intensely bright, it is unmistakable at 100x+ in a 4-inch scope. An OIII filter enhances contrast. The central star is visible in 6 inches.

Observed



15 Blue Snowball NGC 7662

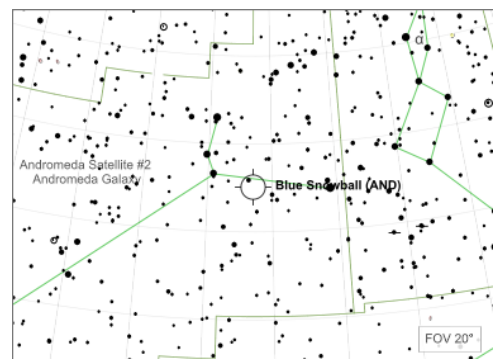
● Planetary Nebula · And

Medium

Position RA 23h 25m 54.0s Dec +42d 32' 60"
Magnitude 9.0 mag
Size 0.3'
Visibility 7.0 / 10

Notes

A vivid blue-green disk, small but unmistakable. At 150x+ in a 4-inch scope, the ring structure begins to show. One of the brightest and most colorful planetary nebulae in the northern sky. An autumn showpiece.



Observed

16 NGC 7331

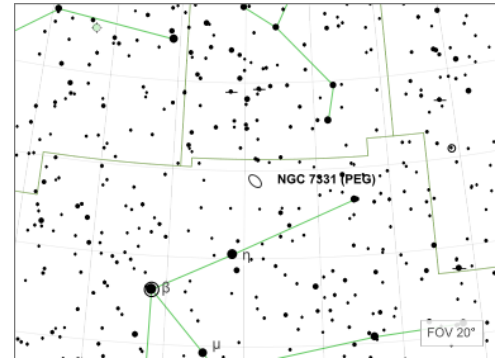
• Galaxy • Peg

Easy

Position RA 22h 37m 6.0s Dec +34d 25' 0"
Magnitude 9.5 mag
Size 9.3' × 3.8'
Distance 38.2 Mly
Visibility 8.8 / 10

Notes

Often called the Milky Way's twin. A tilted spiral galaxy showing an elongated glow with a brighter core in a 4-inch scope. At 100x in 6 inches, the nucleus sharpens and a dust lane may be glimpsed. Stephan's Quintet lies half a degree south.



Observed

17 NGC 891

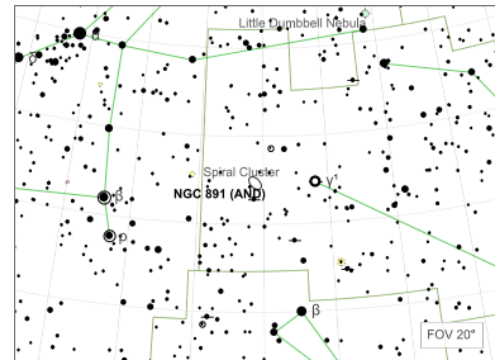
• Galaxy • And

Medium

Position RA 02h 22m 36.0s Dec +42d 21' 0"
Magnitude 10.0 mag
Size 13.0' × 3.0'
Distance 24.6 Mly
Visibility 5.5 / 10

Notes

A stunning edge-on spiral galaxy. In a 6-inch scope, it appears as a thin needle of light with a subtle central bulge. The famous dark dust lane that bisects the disk is a challenging but achievable target in good seeing at 150x+.



Observed

18 NGC 2903

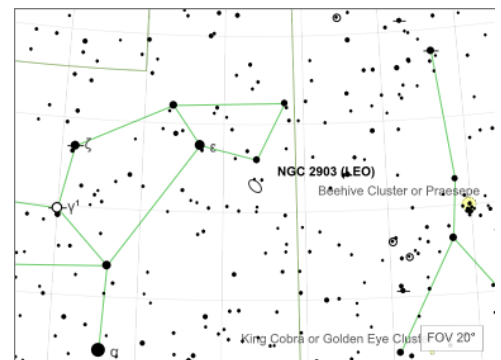
• Galaxy • Leo

Easy

Position RA 09h 32m 12.0s Dec +21d 30' 0"
Magnitude 8.9 mag
Size 11.9' × 5.3'
Distance 25.9 Mly
Visibility 9.0 / 10

Notes

Arguably the finest NGC galaxy for small scopes -- Messier missed this one. A 4-inch scope at 80x shows a bright, elongated glow with a concentrated core. In 6 inches, mottling from spiral arms becomes apparent.



Observed

19 NGC 4565

Easy

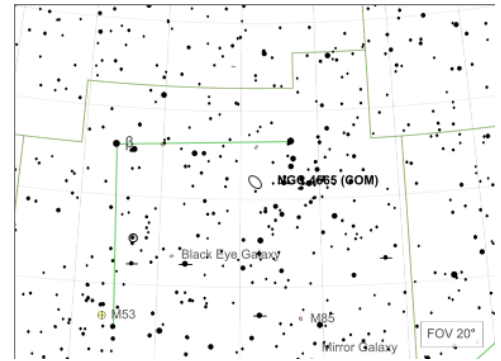
● Galaxy · Com

Position RA 12h 36m 18.0s Dec +25d 58' 60"
Magnitude 9.6 mag
Size 16.8' × 2.9'
Distance 58.8 Mly
Visibility 9.0 / 10

Notes

The quintessential edge-on galaxy -- a thin sliver of light with a prominent central bulge. Visible as a ghostly streak in a 4-inch scope. A 6-inch at 100x+ reveals impressive length and the hint of a bisecting dust lane.

Observed



20 NGC 4631

● Galaxy · CVn

Easy

Position RA 12h 42m 6.0s Dec +32d 31' 60"
Magnitude 9.3 mag
Size 14.4' × 2.2'
Distance 28.2 Mly
Visibility 8.6 / 10

Notes

A large, elongated edge-on galaxy with an asymmetric profile resembling a whale. Visible in a 4-inch scope as a diffuse streak. In 6 inches at 80-100x, look for the companion galaxy NGC 4627 perched just above it like a calf with its mother.

Observed

