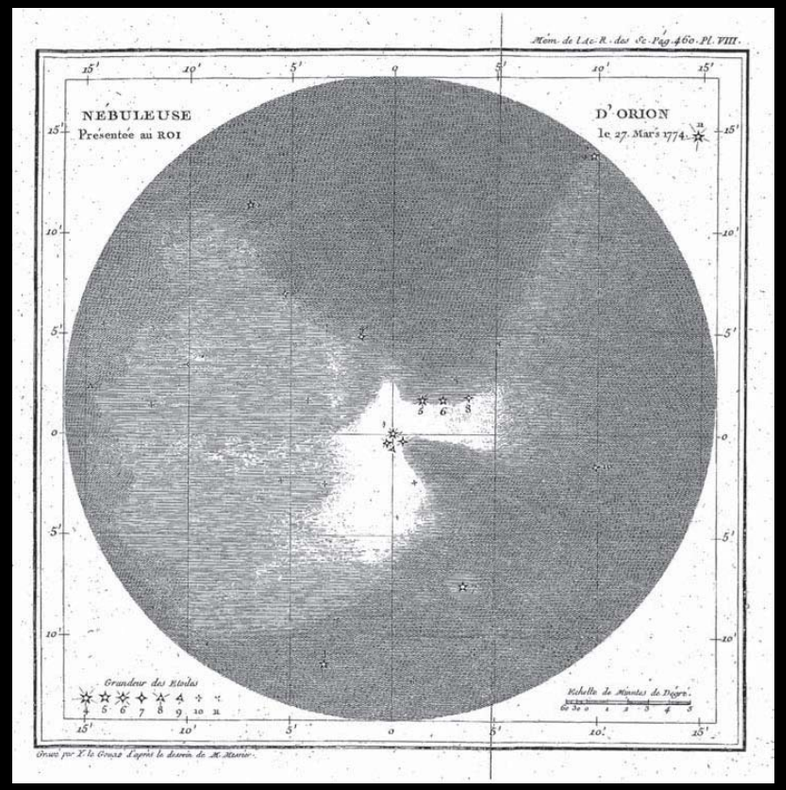
Charles Messier
1730-1817

Used several telescopes
Favorite: 100mm (4”) Refractor



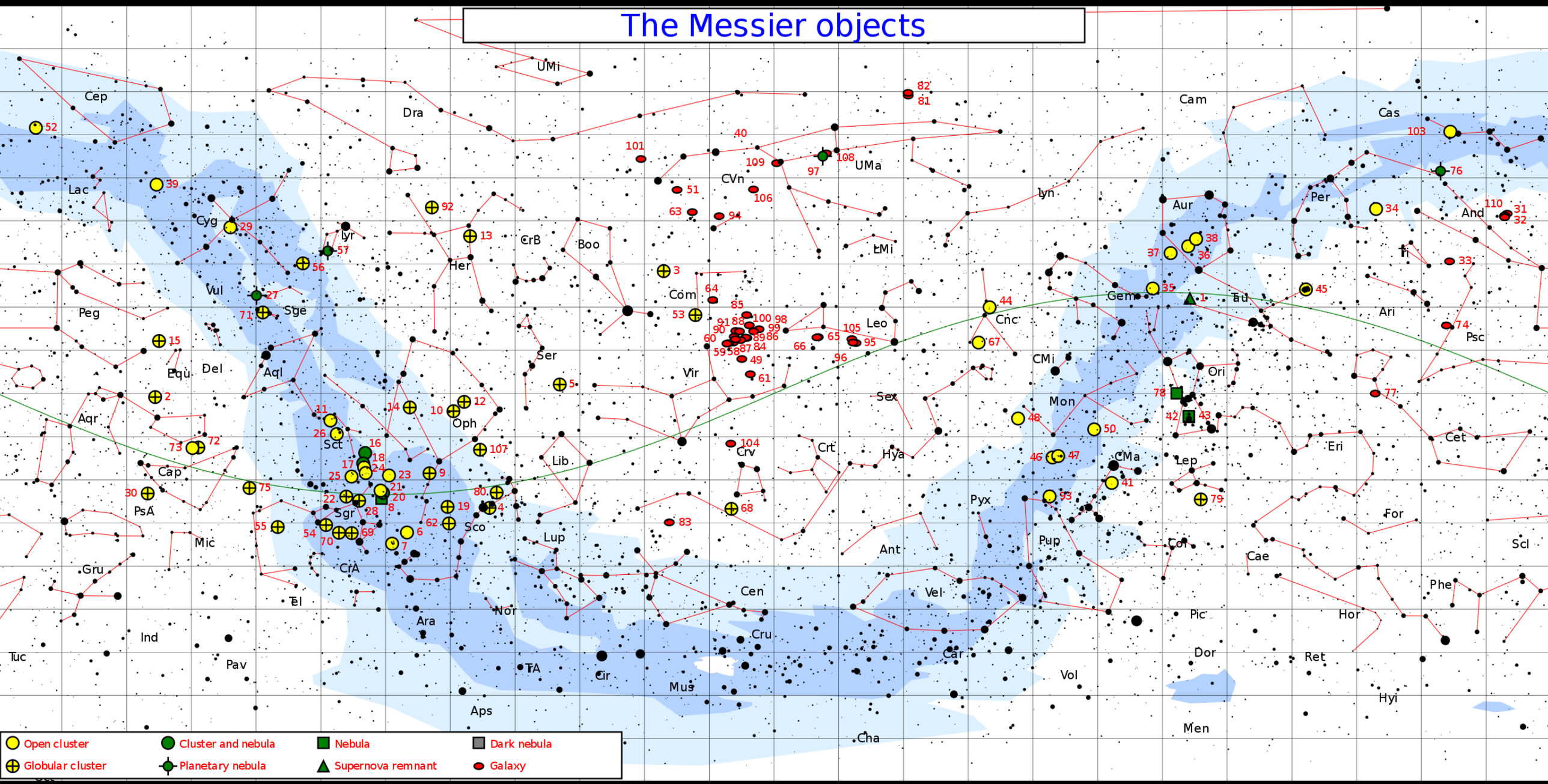
M 42 drawing
(no cameras)

Messier objects are a set of 110 astronomical objects (Galaxies, Nebulae, Open and Globular Star Clusters) catalogued by the French astronomer Charles Messier and Pierre Méchain in (*Catalogue of Nebulae and Star Clusters*).

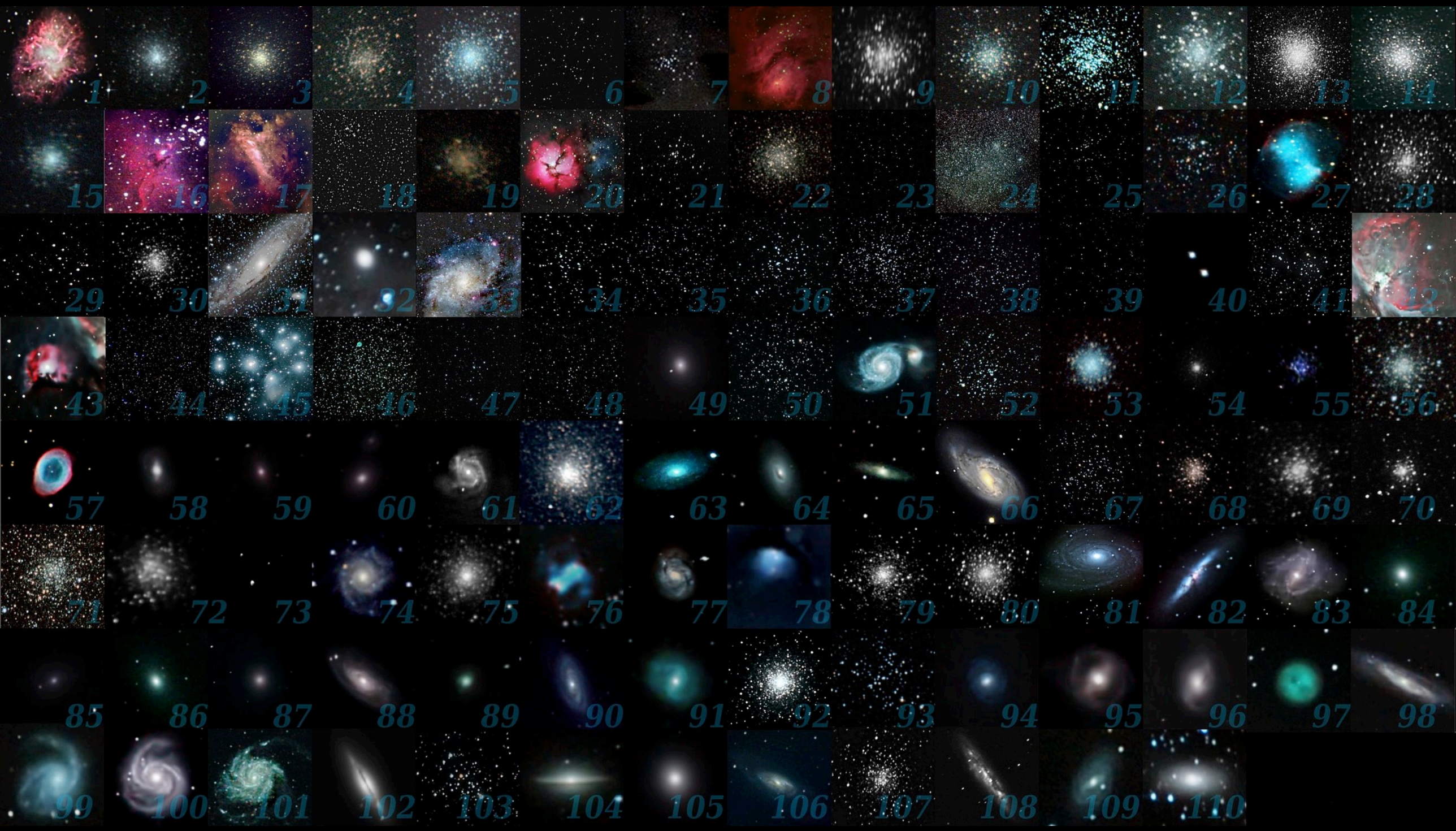
Because Messier was interested only in finding comets, he created a list of those non-comet objects. The Messier catalogue is one of the most famous lists of astronomical objects. many objects on the list are still referenced to only by their Messier numbers.

The catalogue includes most of the astronomical deep sky objects that can be easily observed by amateur astronomers in Earth's **Northern Hemisphere** during the Spring. Not all 36 constellations contain these objects.

The Messier objects

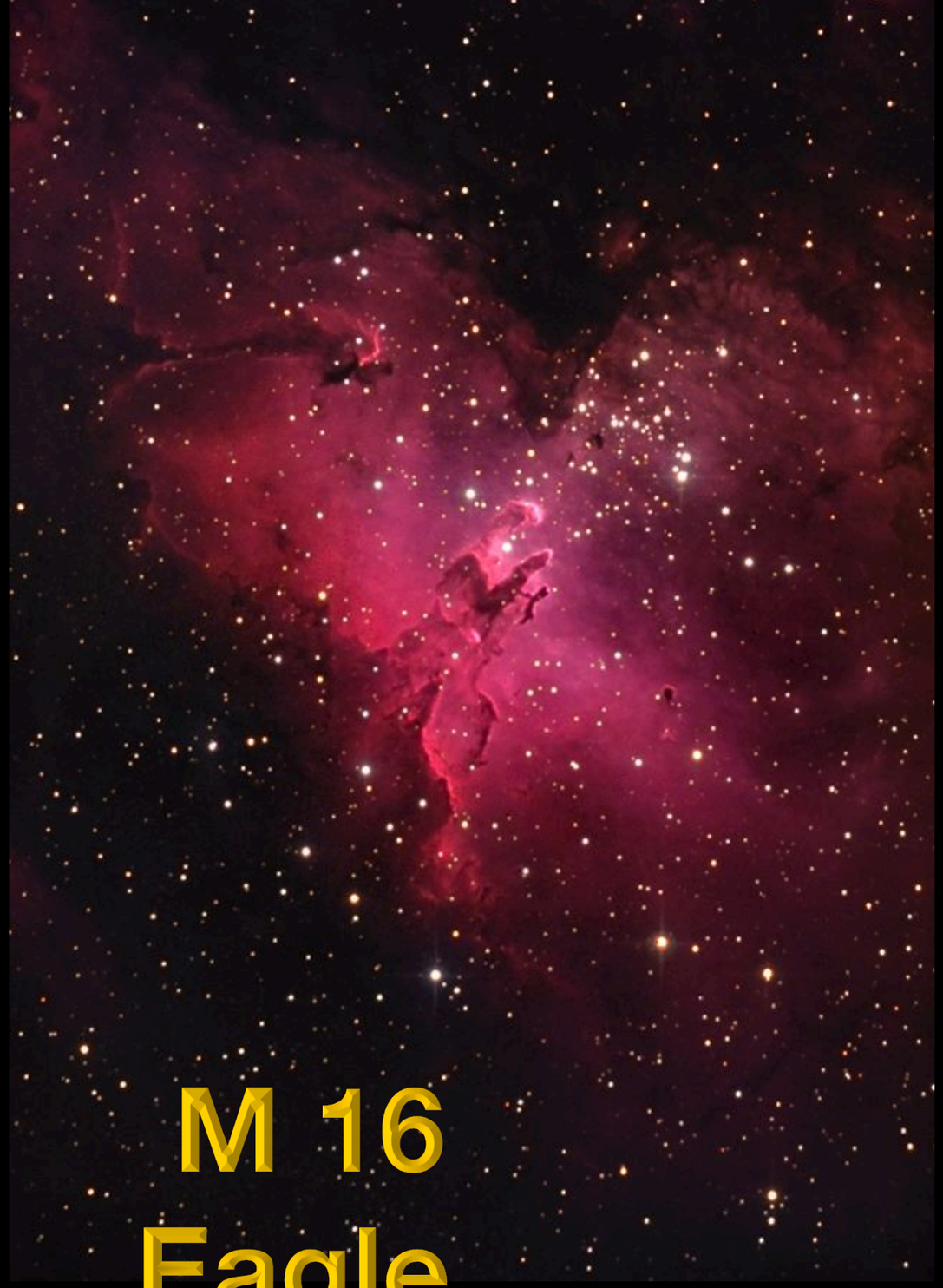


Open cluster
Globular cluster
Cluster and nebula
Planetary nebula
Nebula
Supernova remnant
Dark nebula
Galaxy



Messier Catalogue

Nebulae



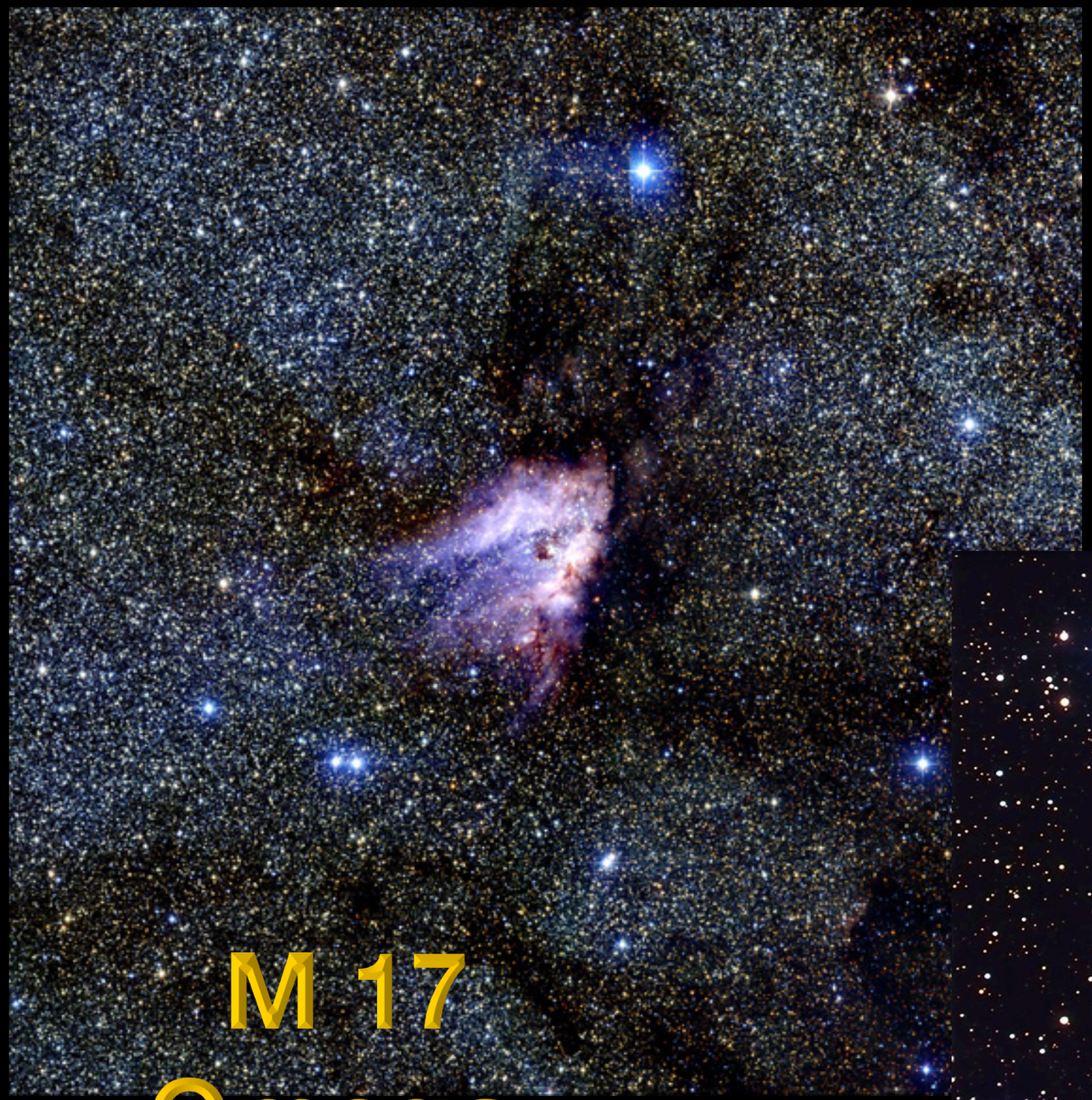
M 16
Eagle
Emission
Nebula

M 16
Pillars of
Creation

M 42
Great Orion Nebula

M 8
Lagoon
Emission
Nebula

M 43
De Mairan
Nebula



M 20
Trifid
Nebula

M 17
Omega
Emission
Nebula

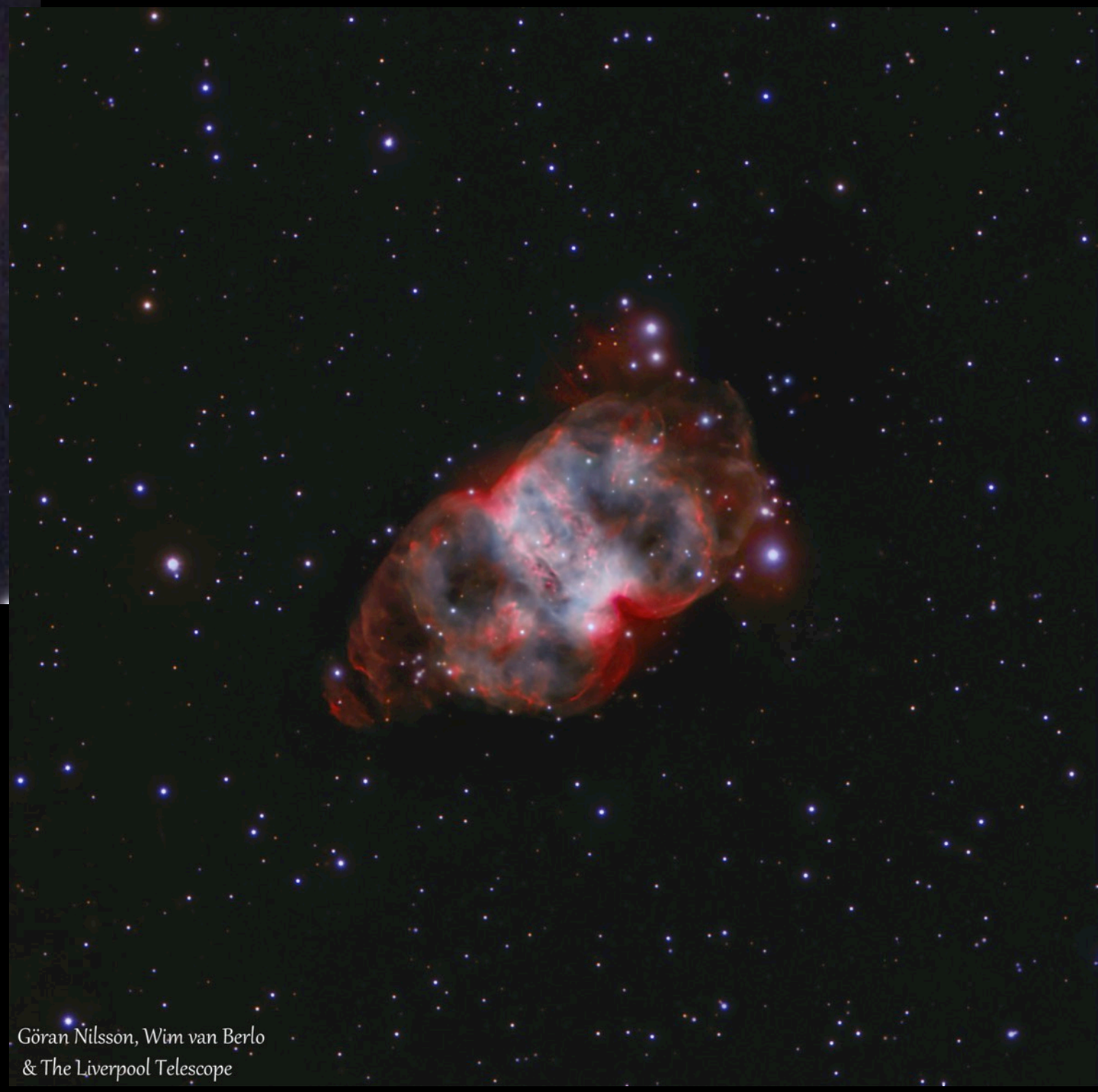
M 78
Reflection Nebula

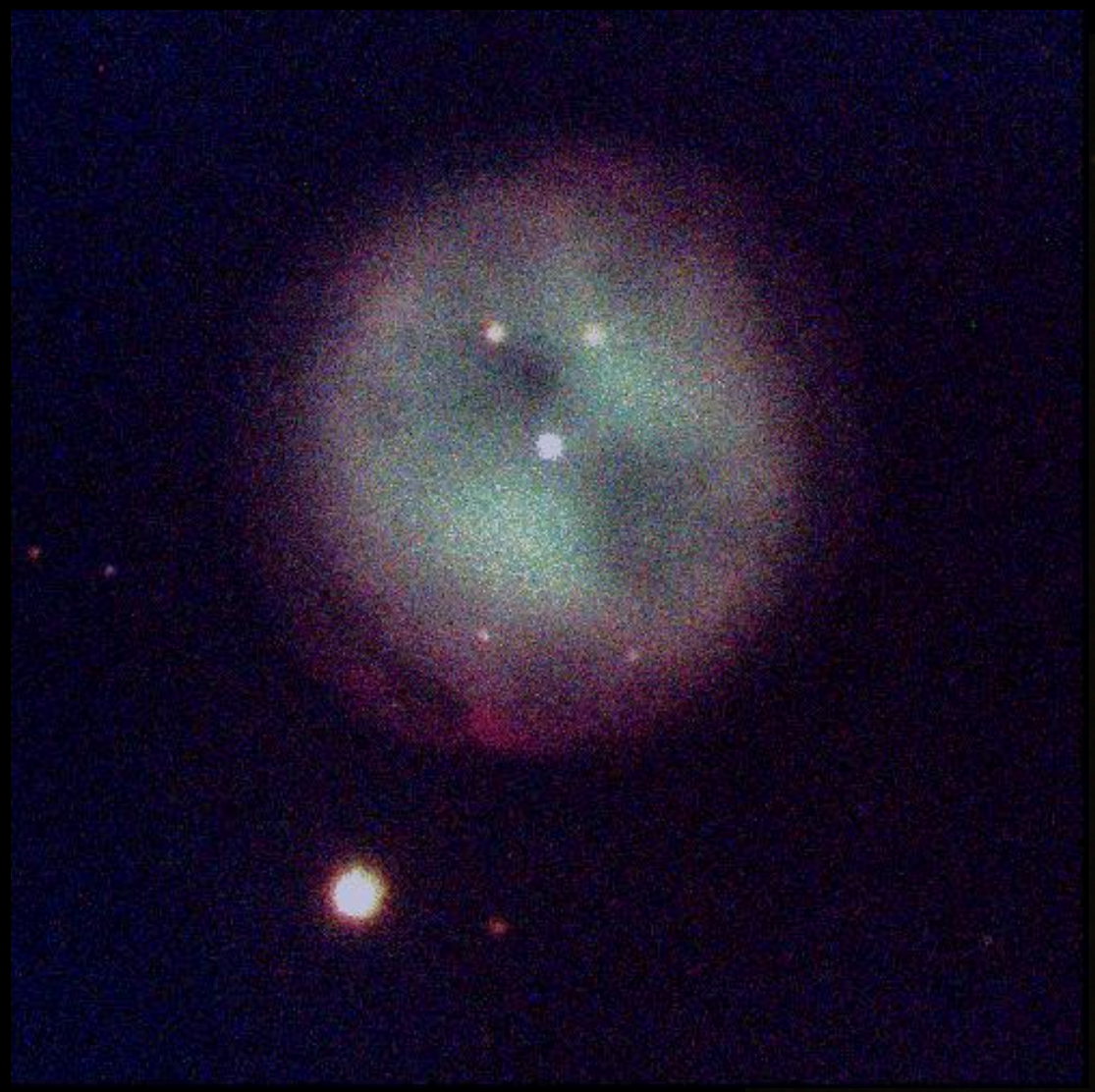
Planetary Nebulae

M 27
Dumbbell
Nebula
Vulpecula

NORILAb: Kitt Peak Observatory

M 76
Little
Dumbbell
Nebula
Perseus

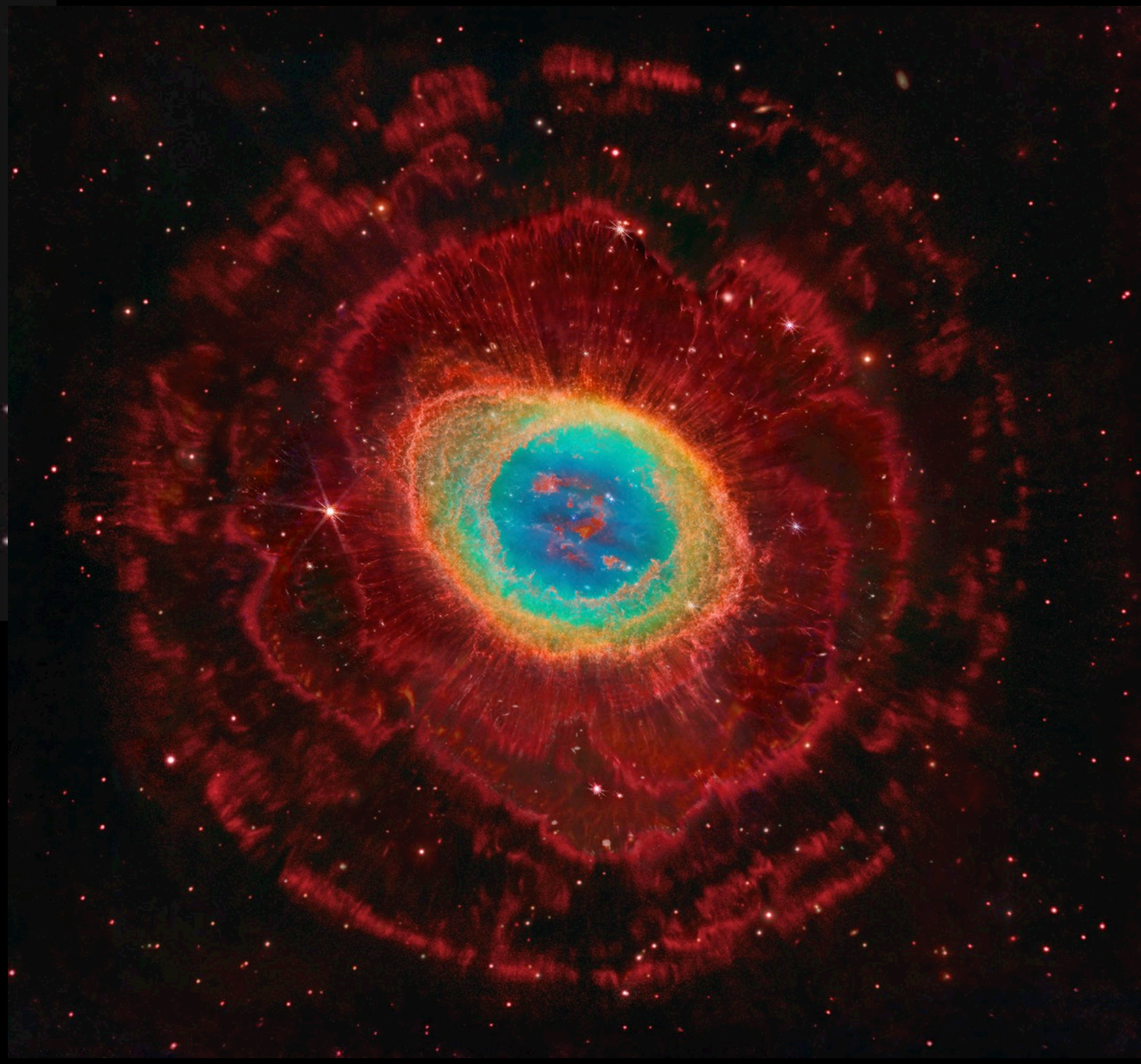




M 97
Owl Nebula
Ursa Major

Adam Block, Composite

M 57
Ring Nebula
Lyra



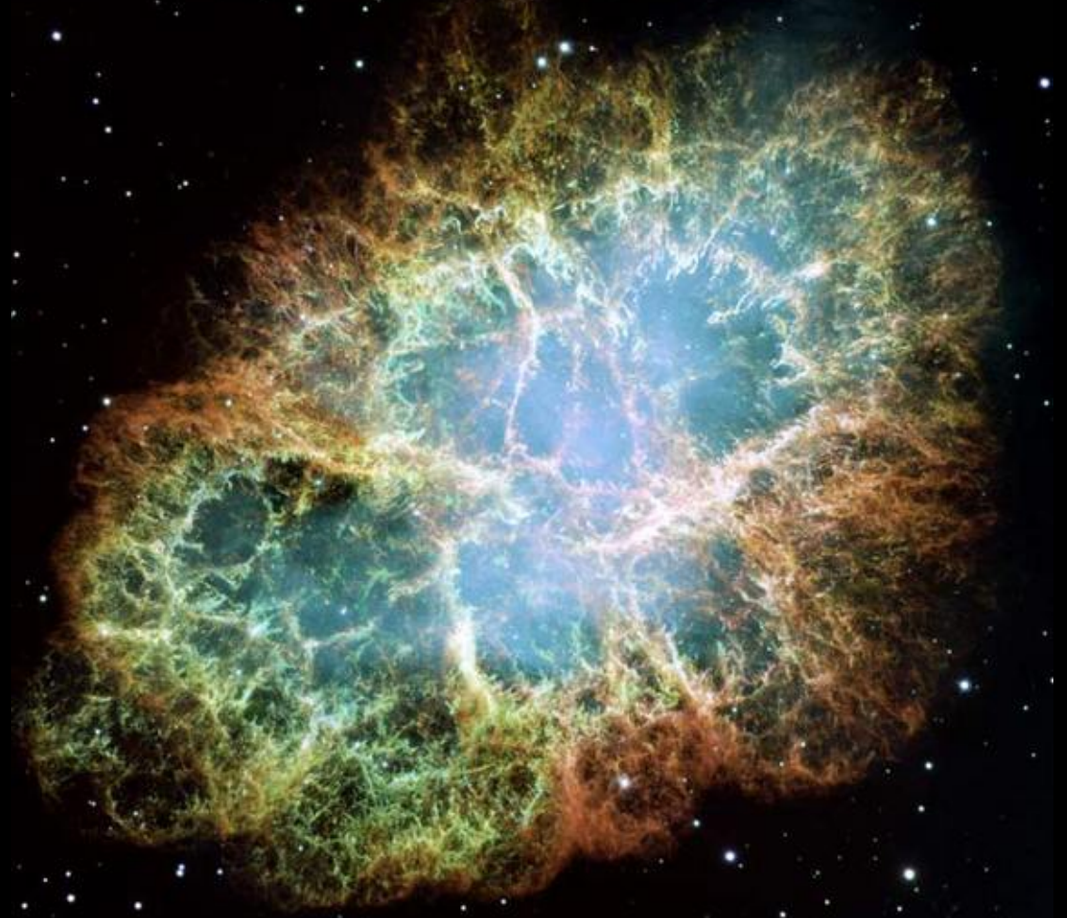
Robert Gendler, Composite

Supernova (SN1 & SN2)

Remnants

(Nebulae)

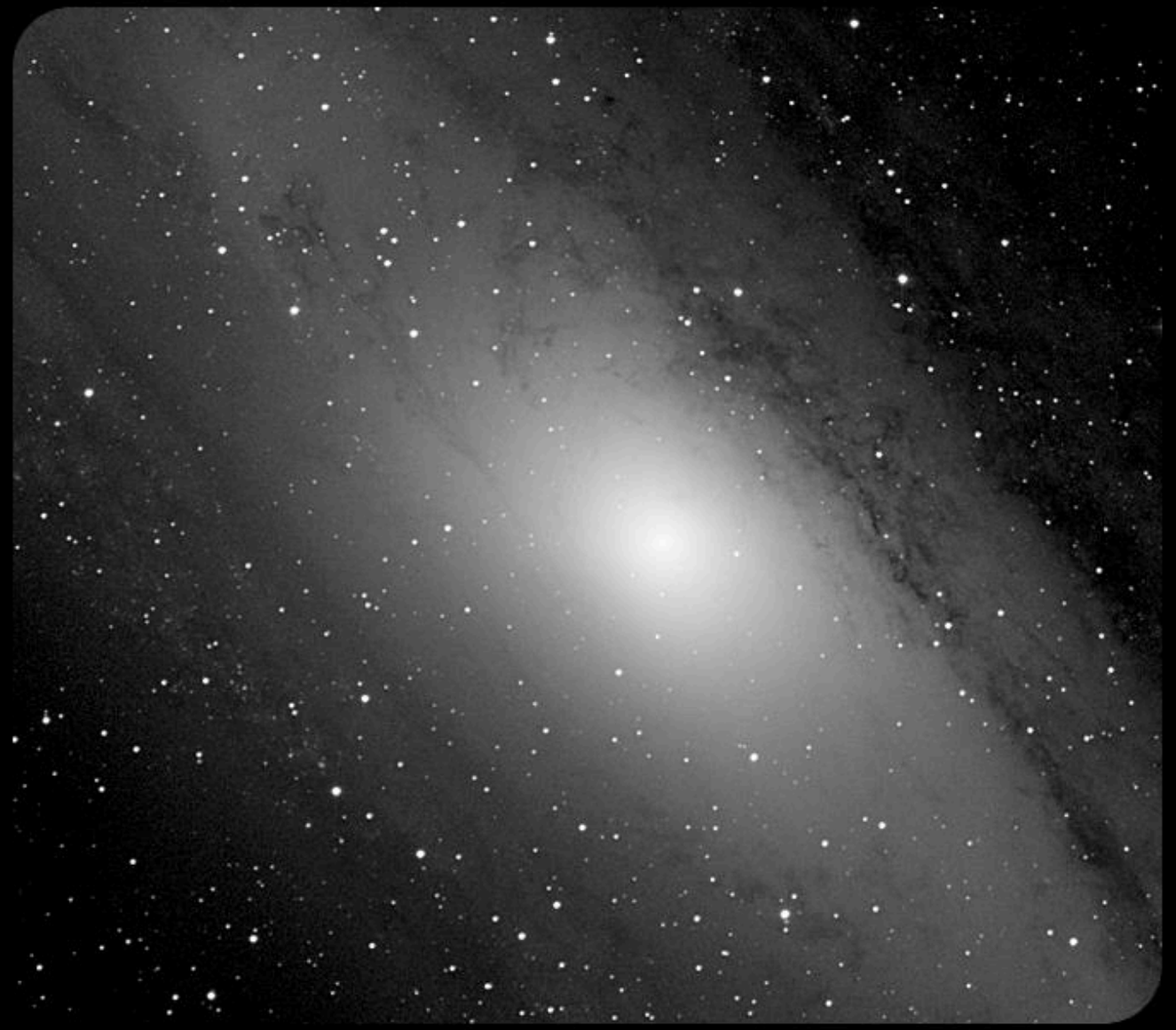
M 1
Crab Nebula



Crab Nebula (M1), Supernova of 1054

Galaxies

M 31
Andromeda
Galaxy



Today

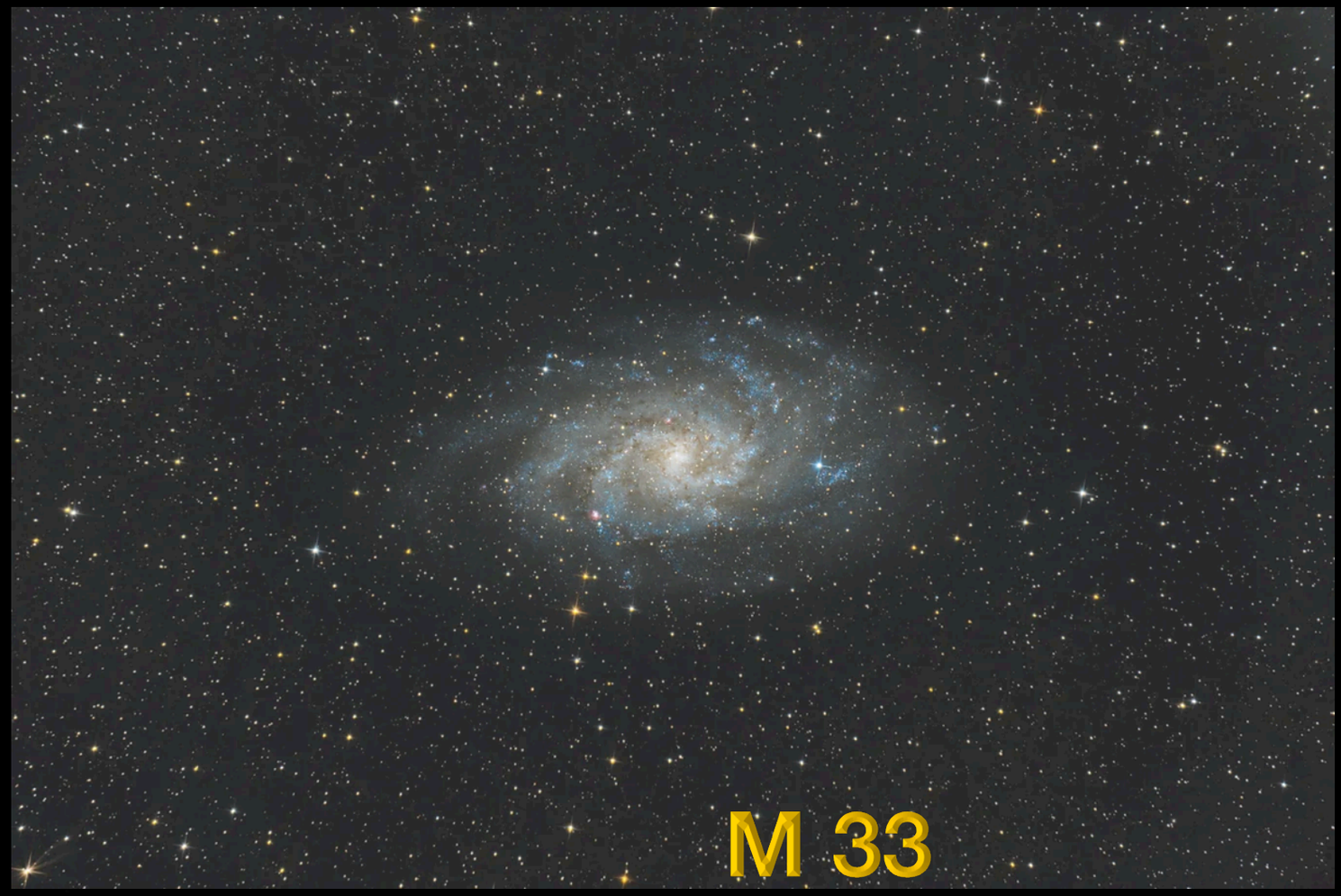
2
Billion
years

Computer Simulation of M31-Milky Way Collision

5.1
Billion
years

7
Billion
years

M 32
Elliptical Galaxy



M 33
Triangulum Spiral Galaxy

M 51
Whirlpool Spiral Galaxy

M 64
Blackeye
Galaxy

M 63
Sunflower
Galaxy

Leo Triplet
M 65, 66
NGC 3628

M74, Spiral Galaxy, Distance 30 million light years

M 74
Phantom
Galaxy

M 83
Southern Pinwheel
Galaxy

M 77
Cetus A*

M 81
Bode’s Galaxy

M 82
Cigar Galaxy

Virgo Cluster of Galaxies
The Local Group

Core of the Virgo Cluster

M 87, 86, 84
Virgo A*
Virgo B

M 91

M 90

M 85

M 89

M 100

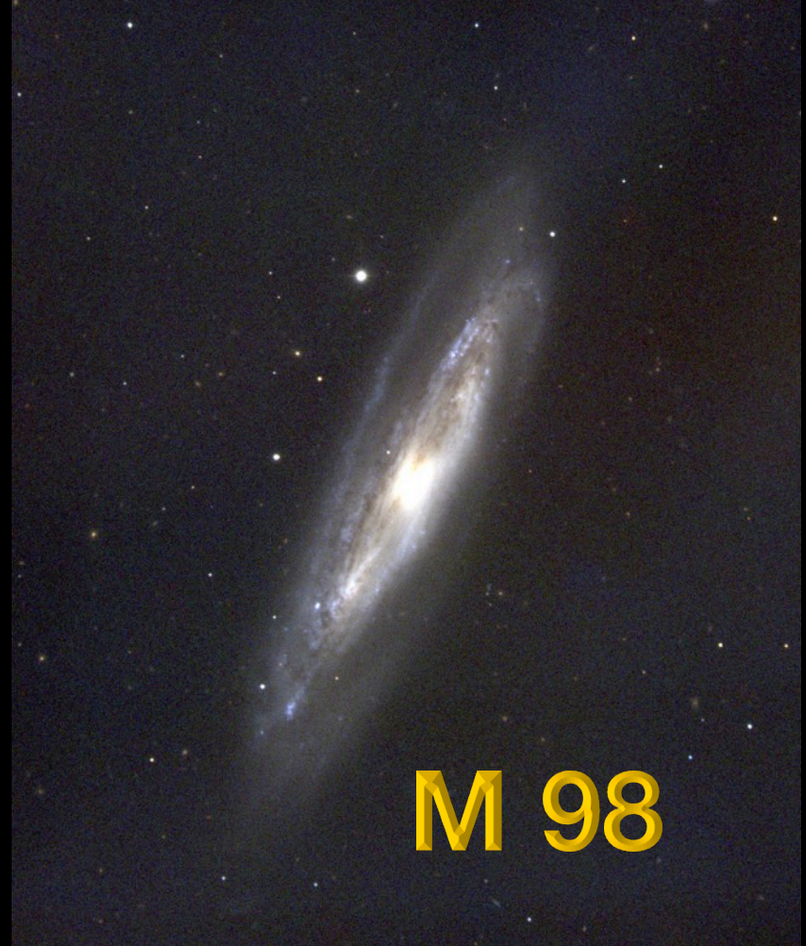
M 88

M 94
Cat's Eye

M 99
Coma
Pinwheel

M 95

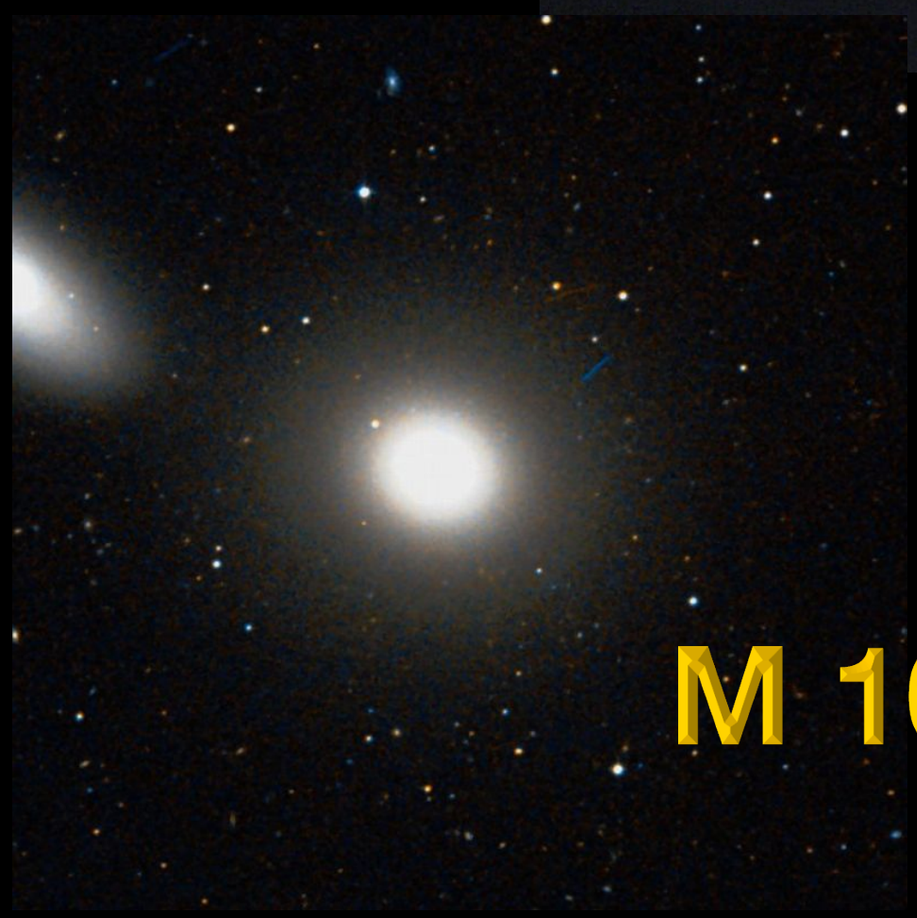
M 96



M 98

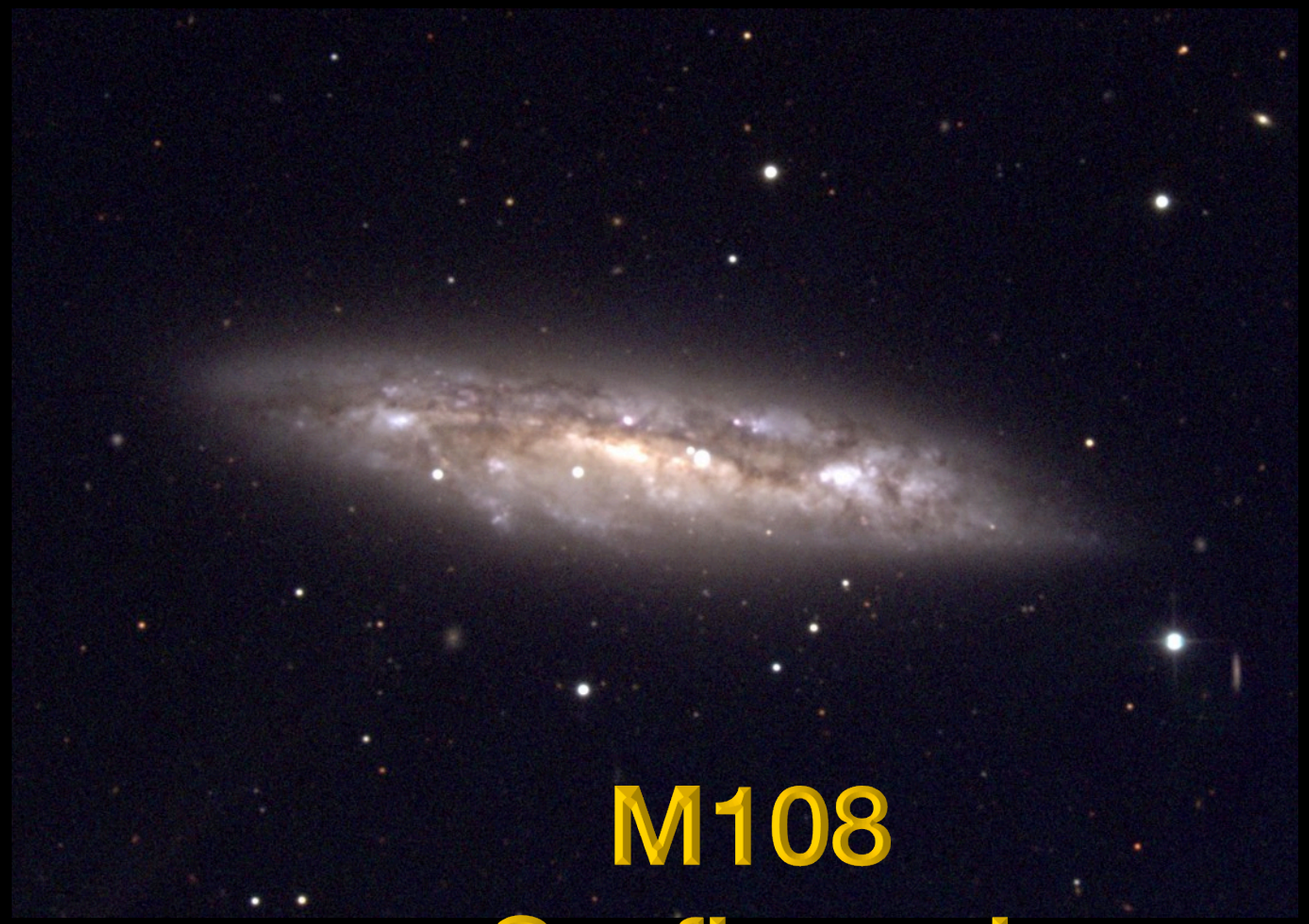
M 101
Pinwheel

M 102
Spindle



M 105

M110
Edward
Young
Star



M104
Sombrero

Globular Star Clusters

M2, 3, 4

M5, 9, 10

M12, 13, 14
M15, 19, 22

M28, 30, 53

M54, 55, 56

M62, 68, 69

M70, 71, 72

M79, 80

M92, 107

Open Star Clusters

M6, 7, 11

M18, 21, 23

M25, 26, 29

M34, 35, 36

M41, 38, 39

M37, 44, 103

M46, 47, 48

M50, 52, 67

M93

M45 Pleiades

Mistakes

M 24
Sagittarius
Star Cloud

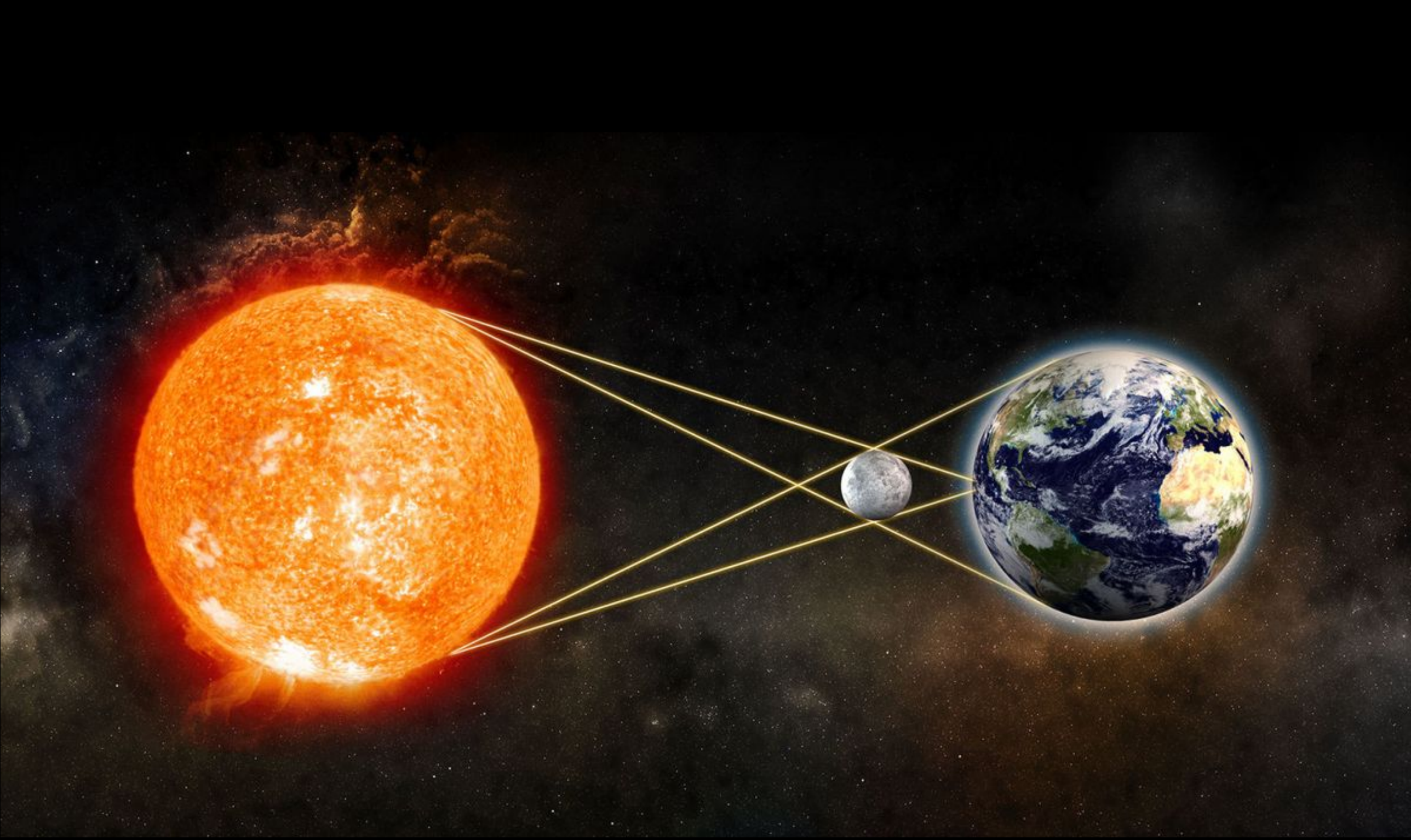
M 24
Winnecke 4
Double Star

M 73
Asterism

Eclipse Mon

8 APRIL

1:59 EDT – 4:45



Eclipse Sun-Moon-Earth alignment

Apr 8, 2024 at 3:23 pm

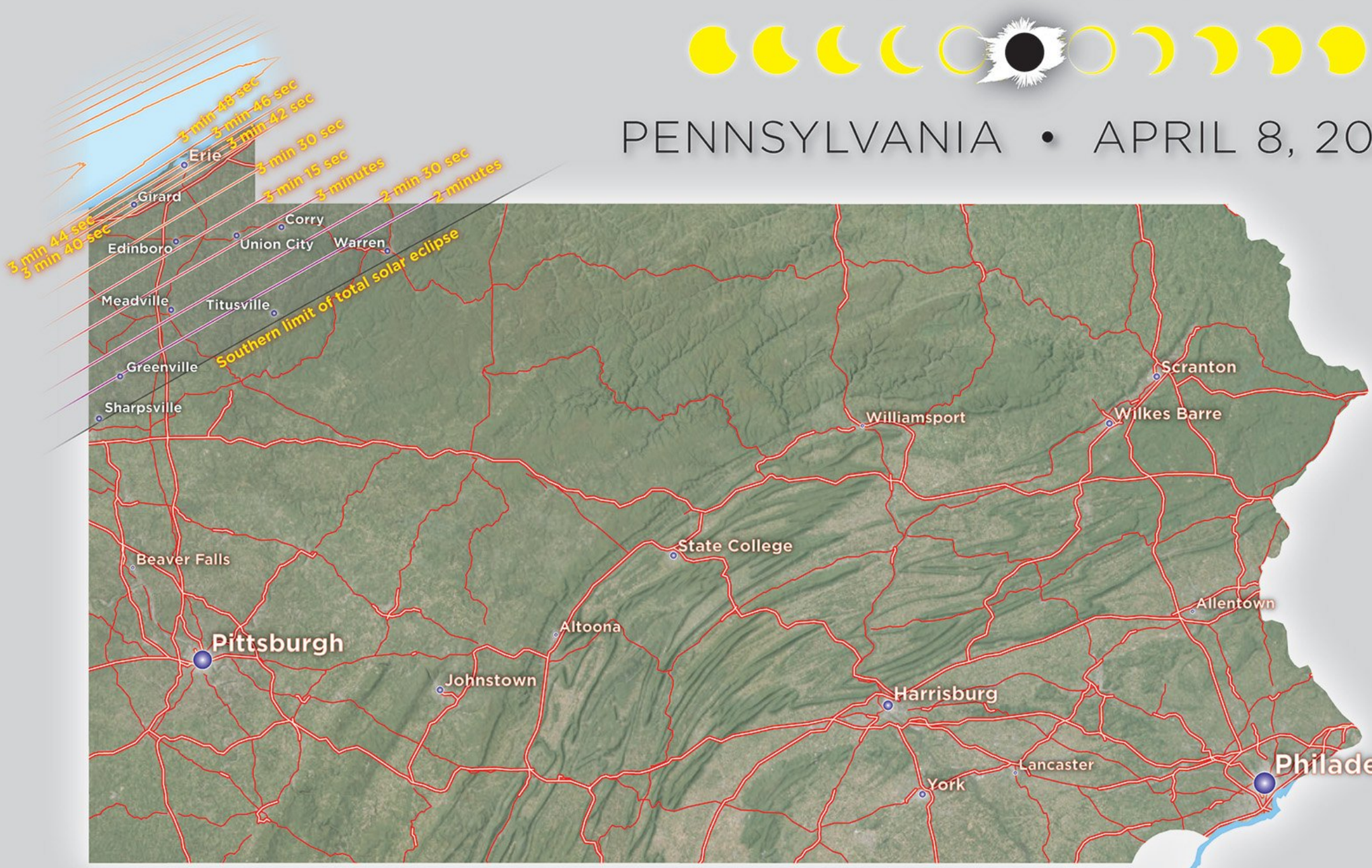
Max View in Philadelphia, Pennsylvania

Global Event:	Total Solar Eclipse
Local Type:	Partial Solar Eclipse in Philadelphia, Pennsylvania
Begins:	Mon, Apr 8, 2024 at **1:59 EDT**
Maximum:	Mon, Apr 8, 2024 at 3:23 pm 0.900 Magnitude
Ends:	Mon, Apr 8, 2024 at 4:35 pm
Duration:	2 hours, 27 minutes

April eclipse from Philadelphia area

TOTAL SOLAR ECLIPSE

PENNSYLVANIA • APRIL 8, 2024



Great American Eclipse

GREAT AMERICAN ECLIPSE.COM

Total
Eclipse

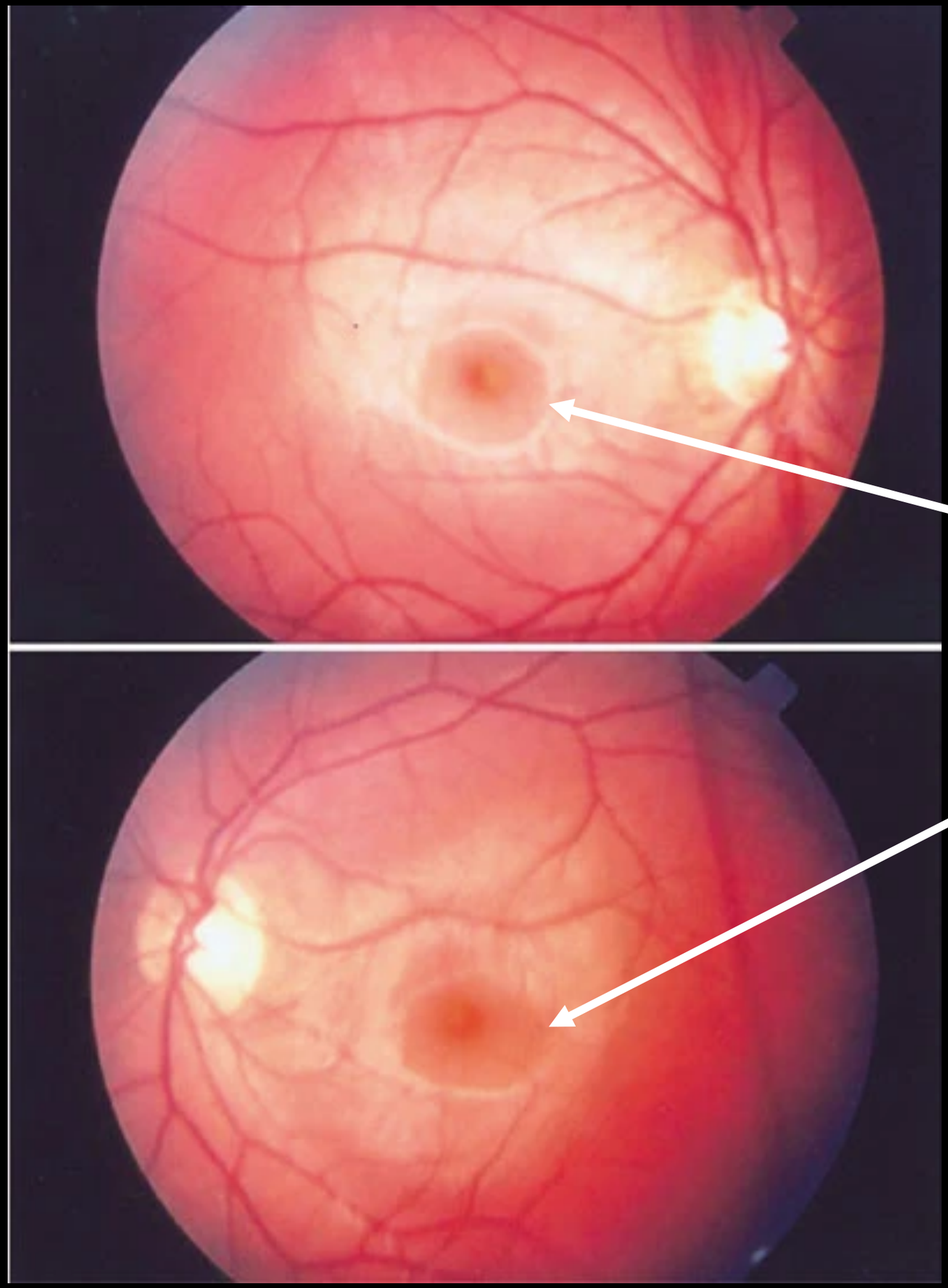
Moon is closer to Earth

Mon Apr 8

SAFELY VIEWING THE ECLIPSES

SPECIAL SOLAR GLASSES

Filtered telescopes ONLY !!!!



Solar (Photic) Retinopathy

Permanent Eye Damage (Blindness)