Messier 42 & 43

The Orion Nebula
& De Mairan's Nebula

Messier 42

NGC 1976

Type: Emission Nebula & Cluster

Constellation: Orion

RA: 05h35.4m

Dec: -05º27’

Magnitude: 3.7

Dimensions: 1.5º x 1.0º

Distance: 1,500 light-years

Discovered By: Nicholas Peiresc, 1610

Photo: Hubble Space Telescope

Messier 42

The Orion Nebula is an enormous cloud of fluorescing gas, predominantly hydrogen, but with traces of helium, carbon, nitrogen and oxygen. It is 40 light-years in diameter.

At the core of the nebula is the tight cluster known as the Trapezium, Theta Orionis, which was discovered by Galileo.

One of the great paradoxes of visual astronomy is how Galileo, missed the surrounding nebulosity!

Photo: La Pine Observatory
10 sec live stacking

Messier 43

NGC 1982

Type: Emission Nebula

Constellation: Orion

RA: 05h35.6m

Dec: -05º16’

Magnitude: 6.8

Dimensions: 20’ x 15’

Distance: 1,500 light-years

Discovered By: Jean-Jacques Dortous de Mairan, before 1750

Photo: Hubble Space Telescope

Messier 43

This nebula is actually just another segment of the same enormous molecular cloud as M42! This massive molecular cloud also includes the Horsehead Nebula, Flame Nebula and Barnard's Loop!

The massive blue giant star at its centre, known as Bond's Star, is sculpting the nebula with its intense radiation, particularly in the UV wavelengths.

Photo: Hubble Space Telescope - Infrared Light
Note the many stars normally hidden by dust

Finding Messier 42 & 43 - January Evenings

Located in the ‘Sword’ of Orion, below Orion’s Belt.

What does Messier 42 look like?

Naked Eye:

A fuzzy patch in the middle of a line of several stars forming the ‘Sword’ of Orion.

Binoculars:

Irregular grey glow like a bent box surrounding bright Theta Orionis - The Trapezium.

Small Telescope:

Huygens Region (the bent boxy part) immediately visible glowing bright grey-white, perhaps with a greenish tinge for those with good colour vision. The ‘Cliff’, the bright southeastern edge of Huygens region, stands out. With averted vision, wings can be discerned to the east and west and a dark bay called the Sinus Magnus intrudes from the north towards the Trapezium. Under high magnification, the Trapezium forms a tight cluster of 4 brighter stars with a 2-4 fainter ones.

With practice and dark skies, many faint and subtle details can be detected.

What does Messier 43 look like?

Binoculars:

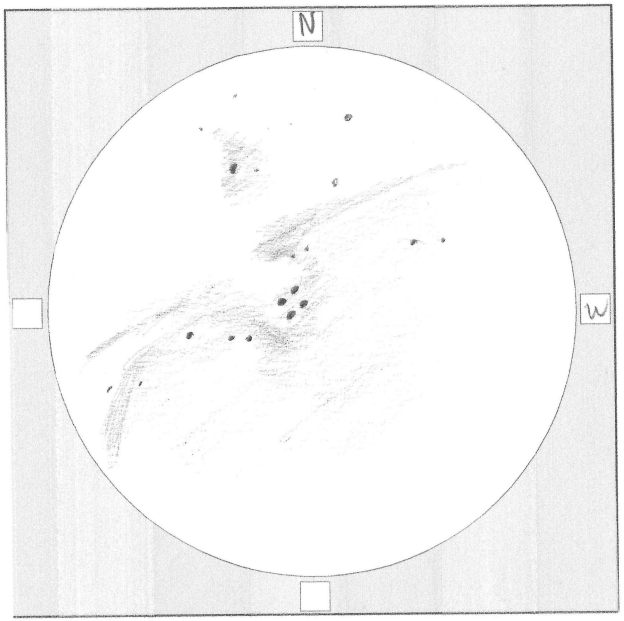
Very faint fuzzy halo surrounding Bond’s star.

Small Telescope:

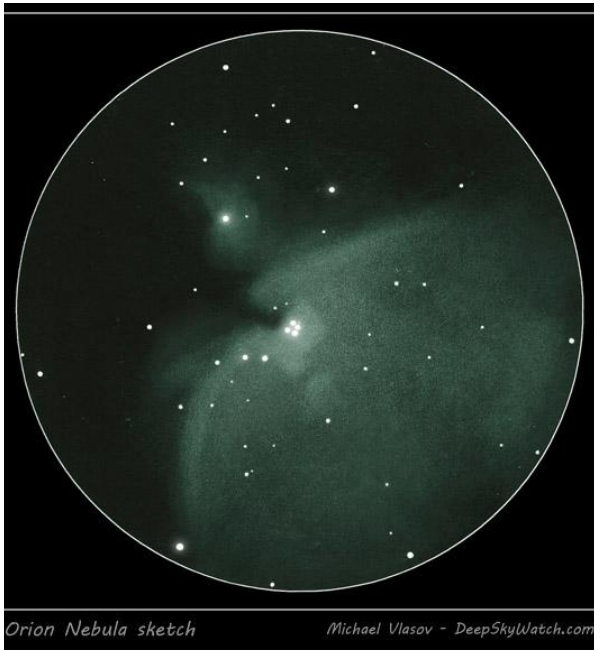
The halo around Bond’s star expands under patient averted vision to take on a bent teardrop or half-yingyang shape. The dark nebulosity impinging on the glow makes the east edge more definite than the west edge. Use higher magnification to tease out textural details and keep you from being distracted by the bolder M42.

Sketches of Messier 42 & 43

Cseh Victor
130mm Newtonian EQ @24x



Michael Wright
114mm Newtonian EQ @32x
October 25, 2014



Michael Vlasov
200mm Dobsonian @36x

References

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