

Southern Pleiades

Open cluster in Carina

What is it? A very young open cluster of bright blue-white stars.

Designation: IC 2602

Other names: theta Carinae Cluster, Lacaille II.9, Caldwell 102

Location: Carina (10^h 43.2^m, -64° 24.0')

Angular size: 1.5°

Size: 14 light years diameter

Distance: 525 light years

Age: 40 million years

Luminosity: 4 500 Suns

Highlights:

- One of the nearest star clusters to us.
 - Lies in the Orion (or Local) Arm of the Galaxy (in which the Sun also lies).
 - The first Western astronomer to document it was Lacaille during his stay in Cape Town (1751). His comment, "like the Pleiades", is the origin of its popular name, the "Southern Pleiades".
 - Not recorded by Sir John Herschel!
 - Brightest object in the IC catalogue.
 - In a one-degree field of view there are about 60 stars brighter than 11th magnitude.
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eta Carinae Nebula

Bright nebula in Carina

What is it? A region of recent star formation as well as imminent stellar destruction and death.

Designation: NGC 3372

Other names: Lacaille III.5&6, Dunlop 309, Gum 33, RCW 53, Caldwell 92

Location: Carina (10^h 44.3^m, -59° 53.3')

Angular size: 2°

Size: 300 light years across

Distance: 7 500 light years

Age: ~ 3 million years

Mass: 250 solar masses

Luminosity: 1 million Suns

Highlights:

- The brightest patch along the southern Milky Way.
 - Large, young and very energetic star forming region (has 70 O-type stars; Orion Nebula only has 10).
 - 5th magnitude orange-coloured star eta Carinae: a massive and unstable stellar system poised on the brink of death: next supernova in the Galaxy!
 - Tiny "Homunculus" nebula surrounds the star eta Carinae; formed in 1843 after a massive stellar eruption.
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Coal Sack

Dark nebula in Crux

What is it? A huge pocket of very cold, dense gas and dust containing enough matter to make 3 500 Suns.

Other names: Magellan's Spot, Black Magellanic Cloud, Old Bag of the Night, Black Dove, Caldwell 99

Location: Crux (12^h 31.3^m, -63° 44.6')

Angular size: 7° x 5°

Size: 50 light years diameter

Distance: 500 light years

Mass: 3 500 Suns

Highlights:

- It is a dormant stellar nursery, with no stars inside, in the early phases of development into a star-forming region.
 - Lies in the Orion (or Local) Arm of the Galaxy (in which the Sun also lies).
 - It is the most prominent, isolated dark cloud in the southern Milky Way.
 - The Coal Sack is best seen on a dark Moonless night when it appears sharply silhouetted against the background Milky Way. Binoculars show tendrils of dark lanes leading southward.
 - Forms the head and beak of the Aboriginal "Dark Emu" figure.
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omega Centauri

Globular cluster in Centaurus

What is it? A massive, dense cluster of stars that are the remains of a dwarf galaxy cannibalized by our Milky Way.

Designation: NGC 5139

Other names: Lacaille I.5, Dunlop 440, Bennett 61, Caldwell 80

Location: Centaurus (13^h 26.8^m, -47° 28.7')

Angular size: 0.9°

Size: 300 light years

Distance: 16 000 light years

Age: 12 thousand million years

Luminosity: 800 000 Suns

Highlights:

- Contains 10 million stars.
- Is the largest, most luminous and most massive globular cluster in our Galaxy.
- One of the few globular clusters visible to the naked eye, appearing about as large as the Full Moon.
- In the core the stars are only one-tenth of a light year apart.
- First observed through a telescope in 1677 by Edmond Halley (of comet fame) while visiting the island of St. Helena as a young man.

The Milky Way

Barred spiral galaxy

What is it? A barred spiral galaxy (SBc) that is our home in the cosmos.

Size: 110 000 light years across

Age: At least 13.6 thousand million years.

Number of stars: 300 thousand million

Arms: Four main spiral arms.

Nucleus: Contains a 2 million solar mass black hole in the centre (Sgr A*).

Sun's position: Located within the disk, 40 light years above the plane, 27 000 light years from the centre, within the Orion Arm (a.k.a. Local Arm).

Our orbit: The Sun and our solar system take 240 million years to make one orbit around the centre of the Milky Way, at a speed of 250 km/s (900 000 km/h).

Highlights:

- Member of the Local Group (along with 48 other galaxies) which in turn is part of the Virgo Supercluster, which is part of the Laniakea Supercluster.
- Our Milky Way is one of 200 thousand million galaxies in the Universe.
- We see the centre of our Galaxy in the direction of Sagittarius as a bright patch known as the Great Sagittarius Star Cloud.

Other nearby gems

