



Canis Major *the trusty Dog*

by Magda Streicher

magda@pixie.co.za

When I observe Canis Major in the east close to the new year, I am reminded of the important role that this animal portrayed in this constellation during ancient times. Centuries ago the Egyptians painted this dog-figure on their monuments and temples as a heavenly symbol. Canis Major and I have something in common. The same way the Tropic of Capricorn crosses my earthly home, it also cuts a path through the dog constellation. Canis Major has the greatest number of bright stars, namely 30 brighter than magnitude 5.

The dog-figure is characterised by its bright eye, Sirius, the brightest star in the sky, as it looks up at its master Orion. Sirius shines unparalleled (-1.4 magnitude) with a metal blue/white colour, a mere 8.6 light years away, twice the mass of the Sun and only 250 million years young.

Alvan G Clark discovered Sirius' companion on 31 January 1862 while testing an 18½-inch glass at Cambridgeport. The pup is at a position angle 106.6°, orbiting Sirius at a separation of 7.6" and a period of 51.5 years. I tried to observe Sirius B (a third the mass of Sirius) for many years and would have

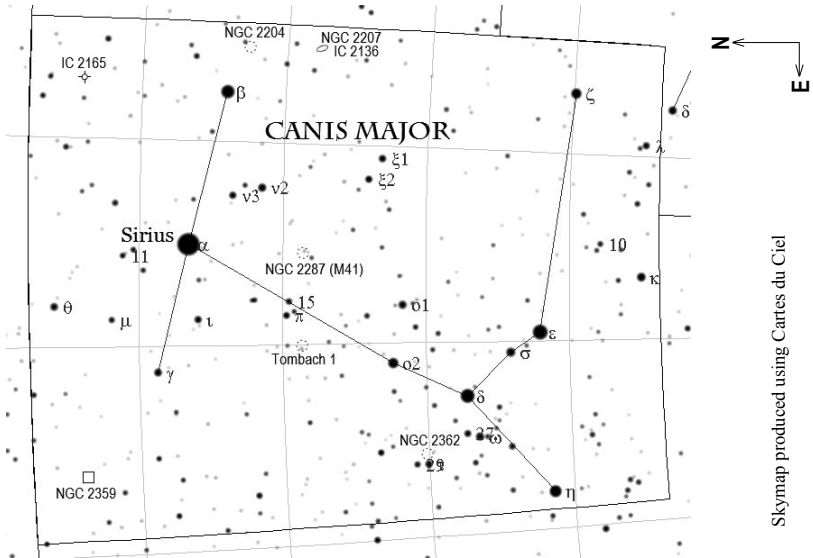


Image source: Stellarium

been satisfied with only a glimpse. The intense concentration, aggravated by the brightness of Sirius, soon causes one's eyes to literally swim in tears but the companion stayed hidden in the glare of Sirius. With good advice from a friend I placed Sirius just outside the field of stars and could finally appreciate the white-dwarf pub. Sirius B (8.5 magnitude) beckoned me from where he nestled hidden between the flashing silver spikes of Sirius (12-inch – 346x). Definitely not an easy observation, in fact, I reckon Sirius B as one of the most challenging objects.

Bright Sirius (The Dog Star), leads the way to the first deepsky object in Canis Major. Approximately 6.8 degrees NW of Sirius is the planetary nebula **IC 2165**. This object is easy and outstanding, seen as a even, bluish disk with an smooth surface brightness (12-inch – 95x). At higher power it looks slightly darker towards the centre with a possible glimpse

canis major the trusty dog



of a faint mag 14.5 centre-star (12-inch – 346x). Using a nebula filter, its high surface brightness reveals its delicate nebulosity with diffuse edges.

NGC 2204 forms a triangle with Sirius and IC 2165, six degrees to the south. This relatively small star-cluster nestles protectively at the right front paw of Canis Major. It is a very elongated N-S grouping flowing down with a mixed magnitude of stars as a very small, roundish knot of faint stars toward the middle area, before splashing down into a larger circular haze of faint stars (16-inch – 127x). The northern edge of the group is marked by brighter stars and an exceptional orange 5.8 magnitude member. Several pairs of stars can be seen in this cluster, spanning almost 12 arc-minutes on the sky.

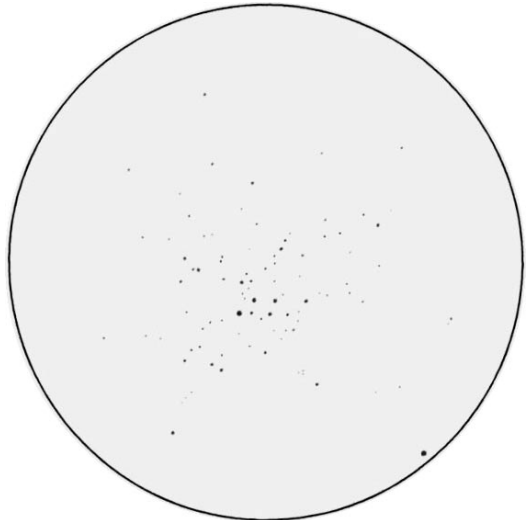
Hubble Space Telescope's brilliant heritage includes the impressive close galaxy-pair **NGC 2207 and IC 2136** (see Sky Guide 2007 cover), approximately three degrees south of NGC 2204. I was pleasantly surprised at the amount of detail visible in this unique object. Even in the heart of Polokwane, this faint, soft, elongated NW-E haze was easily seen. The larger soft smear of light seems to be slightly brighter towards the centre. In darker conditions, NGC 2207 shows much more detail with its relatively bright nucleus and slightly thinner north-western tip where a faint double-star can be seen. IC 2163 is seen as a small faint haze on the eastern tip of NGC 2207, barely touching each other. NGC 2207 and IC 2163 are gravitationally disrupting each other, although they are not colliding.

NGC 2207 is the brightest of this galaxy-cluster consisting of NGC 2217, NGC 2223, NGC 2280 and NGC 2139. Sir John Herschel discovered NGC 2207 on 24 January 1835. He recorded it as pretty bright, pretty large, much elongated, suddenly brightening a little towards the middle. He failed to identify IC 2139 which was discovered later by Seur Bigourdan in France.

Like a bunch of flees, **NGC 2287 (M41)** hide away under the belly of the dog, about four degrees south of Sirius. This beautiful cluster which can be seen with the naked-eye and partly resolved in binoculars, is moving away from us at about 34 km per second. It is thought to be about 24 light years across and 2 300 light years away. This is one of the few deep-sky objects that has been recorded by the ancients – mentioned by Aristotle around 325 BCE. In this sky delight, I see a stunning, large, outstanding group, with the brighter members resembling a rose or beautiful flower, opening its petals in clear curls and curved lines (12-inch – 95x). Two rusty stars (6.8 and 7.3 magnitude) remind me of pollen threads flowing out of a central crown, consisting of a semi circle of a few bright members. A notable extension of a few mixed magnitude stars running out in a NW direction. A swarm of faint stars covers the cluster like powder dust, spray-

ing its particles into the field of view. A few stars playing the double and triple act around dark patches between chains of faint stars. The cluster contains approximately 100 stars. Sixth magnitude 12-Canis Majoris shares the field of view on the south-east edge of M41.

Clyde Tombaugh's Pluto-dog may have bitten the dust, but not many people are aware of the fact that he discovered two clusters in the constellation Canis Major. **Tombaugh 1** displays a roundish to square-looking grouping, containing mixed bright and faint stars in a 5' area, slightly elongated in a E-W direction. A string of faint stars swings out to the east of the more compact centre grouping



The Open Cluster NGC 2287 (M41) sketched by Magda using her 12-inch telescope at 95 power. The object is 38 arcminutes in size. North is up and west to the left.

canis major the trusty dog

which in itself appears stringy. Tombaugh 2 is situated around 40' to the S-E as a much smaller hazy patch with only a few stars resolved.

Follow the dog's back for nearly six degrees S-E to discover **NGC 2362**, sharing its house with the sparkling blue-white 4th magnitude Tau Canis Majoris. I could not find a globular cluster in Canis Major; however, low power reveals NGC 2362 as a roundish haze, giving such an impression. NGC 2362 is a beautiful irregular triangle-shaped cluster, with a sparkling mass of mainly blue-white stars centred around Tau Canis Major. The cluster seems hazy, indicative of nebulosity. Tau Canis Majoris has two companions to the east with one of these slightly yellow in colour (12-inch – 218x). A few members are grouped towards the western side of the cluster with a more outstanding 7th magnitude star on the eastern periphery. The age of NGC 2362 is estimated at a mere

one million years – one of the youngest clusters known, with Tau Canis Majoris possibly a true member.

The last object in this dog constellation is a bright nebula called the “Duck Nebula”, also known as the Gum 4 Nebula. It resembles the head and bill of a duck looking sideways. **NGC 2359** is situated in the north-eastern corner of the constellation Canis Major. It is a dim complex of filamentary nebulosity surrounding a Wolf-Rayet star. The nebulosity consists of two parts in a N-S direction (12-inch – 218x). The larger northern part is hazy and flimsy in contrast with the southern, more defined part. With imagination, a 9th magnitude star on the south-eastern edge can be seen as the duck's eye.

It is said that dog is man's best friend. Make the heavenly dog your friend with its numerous joys that he unconditionally gives to us to enjoy. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 2204	Cluster	06 ^h 15.7 ^m	-18°39'	8.6	12'
NGC 2207	Galaxy	06 16.4	-21 22	10.8	4.8' x 2.3'
IC 2136	Galaxy	06 16.5	-21 22	12.4	3' x 1.2'
IC 2165	P/Nebula	06 21.7	-12 59	10.6	4"
NGC 2287 (M 41)	Cluster	06 47.0	-20 44	4.5	38'
Tombaugh 1	Cluster	07 00.4	-20 28	9.3	5'
NGC 2359	Dif/Nebula	07 18.6	-13 12	10	9.0'x6.0'
NGC 2362	Cluster/Neb	07 18.8	-24 57	4.1	8'