



***Circinus
a Handy Tool***

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While at the Cape of Good Hope in 1752, the astronomer Abbe Nicolas Louis de Lacaille (1713–1762) created a constellation among the stars which he named after the Geometer’s Drawing Compass – a tool which, in his mind, was very new, handy and essential for building ships that sail the seas to discover new horizons and eventually new land.

Some of us, if we think back a few decades, will recall being introduced to such an instrument, used to inscribe circles or arcs. Standard in the school stationery tin were triangles, a protractor and that wobbly compass that tended



My grandfather’s old fashioned drawing compass, dating back to 1954.

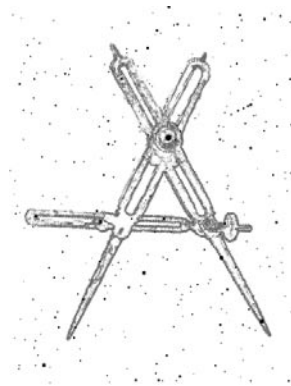


Image source: Starry Night Pro

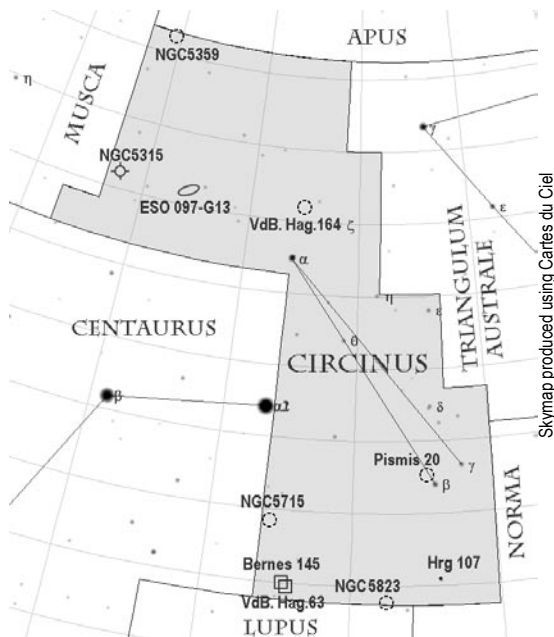
to draw ellipses rather than circles in our inexperienced hands. A protractor measures angles and as such is also used in the design and draughting industries. Then, one day, the guys with the thick lenses invented a special instrument which replaced the protractor on the drawing board and which was, in reality, just a combination of the contents of the stationery tin. Then, a ruler that could rotate through any number of degrees became the next ally to the drawing board. Today measurements are done on the computer and the protractor and the school stationery tin are barely given a thought, having receded into the dim and distant past.

The starry Drawing Compass is one of the night sky’s smallest constellations, with only the constellations Crux, Equuleus and Sagitta covering a smaller area. The constellation is around 93 square degrees, squeezed in between Musca and Centaurus to the west, Lupus to the north, Apus on its southern side and Triangulum Australe and Norma to the

circinus, a handy tool

east. The shape of the Circinus constellation resembles a long, acute-angled triangle with Alpha Circini pointing SW. Beta and Gamma Circini completes the shape of the image, approximately 7 degrees NW.

Right on the north-western boundary, the open star cluster **NGC 5823** is literally bisected by the constellations Circinus and Lupus. NGC 5823 is a really patchy cluster with between 40 and 50 stars fitting one another at random, almost like a jigsaw puzzle. The inner area reminds me of a rose with stardust circling out in curls and twists. The southern section of the cluster is well rounded off with a semicircle of brighter stars, fainter stars flowing up to the north where it stretches out with a short star string pointing NW. The western part of the cluster seems slightly busier in terms of starlight. For some of my friends the arrangement of stars in this cluster creates the impression of an exploding firecracker. The double star **Hrg 107**, named after its discoverer L Hargrave, is situated one and a half degrees south-east of NGC 5832. This double star contains a grey/yellow 8.5-magnitude coloured primary and a 9.1-magnitude companion shining in pure yellow. The two points of starlight, which are very close together, resemble two eyes looking back at you.



Skymap produced using Cartes du Ciel

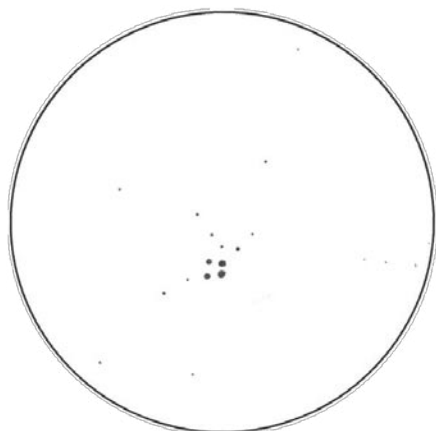
NGC 5715 (see picture) is another border hugging open cluster, situated only 20' east of Centaurus in the north-western part of Circinus. The cluster consists of around a dozen stars, noticeably fainter than the surrounding star field. Stars appear in two semicircular parts, one in a south-westerly direction and the other in the northern part. The cluster reminds of the symbol “@” so familiar to email. Most stars appear to display the same magnitude, with the middle part slightly more concentrated. Brighter stars are notched into the northern and southern sides of the grouping. Dave Gordon, an astronomy friend, sees the shape of this grouping as a finely woven spider web with encircling strings of stars. The



Lucas Ferreira photographed NGC 5715 in his 8-inch and Pentax K110D SLR camera by stacking 12x30sec exposures using DeepSkyStacker yielding an effective 6 minute exposure. He commented: “Even though this object is dim (mag. 9.8) and very small (7’), people with an large enough aperture telescope will be treated to a beautiful open cluster. The formation of the stars in the cluster made me think of an umbrella”

beauty of open clusters lies in the many impressions and ways of describing the different sizes of these star groups.

The lovely super-white star Beta Circini indicates the north-westerly point of the pair of compasses. Adjoining Beta Circini, 23’ to the SW, is the cluster **Pismis 20**. Surely one of the quietest little three-point groupings I have ever observed. The grouping consists of twelve stars between 8 and 11 magnitude, with a closely packed square of stars towards the middle area, one particularly yellow in



Pismis 20 sketched with my 12-inch S/C Telescope at 218x, with north at the top and west on the left.

colour. Members flank out on either side from the focal point, with the longest ray pointing in a NW direction (see sketch). Paris Maria Pismis (1911-1999) was an Astronomer of Armenian descent and the first woman to graduate from the scientific faculty of the Istanbul University.

Alfa Circini proudly occupies the place of honour at the apex of the old-fashioned compass constellation. This brilliant white magnitude 3.2 star has a mag 8.6 yellow/gold-coloured companion, with a separation of 15.7” at position angle 232° (see picture). This pair is in my opinion one of the most beautiful contrasting double stars in the southern starry skies. It was discovered in 1823 by James Dunlop as a double star while he was observing at Paramatta Observatory in New South Wales.



Lucas Ferreira imaged Alpha Circini in a 10sec exposure at 400 ISO.

Only 3 degrees west of Alfa Circini we find arguably one of the most interesting objects in the starry skies. The galaxy known as the **Circinus Galaxy** was discovered as recently as 1977 when astronomers noticed this large spiral galaxy on red-light photographic plates taken with the Uppsala Schimdt telescope at Mount Stromlo in Australia. It had remained hidden for so long because it is partly obscured by the galactic plane which lies just four degrees from it as seen from our line of sight. Formally the galaxy is now listed as ESO 097-G13 and PGC 50779. The distance from us is approximately 20 million light years, about the same as the Centaurus galaxy group, although it is not a member of that group.

Circinus also offers a dark and reflection nebulae in its circle of elusive objects.

Bernes 145 is located only 42' ESE from Alpha Circini and appears as a fairly black oval patch, slightly elongated in an ESE-NWN direction. The Catalogue of Bright Nebulosity's of Opaque Dust Clouds by C. Bernes, the Sweden Astronomer, was consulted in 1971 to determine physical associations between bright and dark nebulae (Sky Catalogue 2000.0).

To accompany this dark nebula to the NE is **vdBH 63**, also indicated as GN 14.45.2, which is only a faint wisp of light seen with averted vision, reflected by the light of the magnitude 10.4 star HD 130079. Sydney van den Bergh, an astronomer in the Netherlands, and William Herbst from the University of Toronto, in 1975 compiled a catalogue of Southern Stars embedded in Nebulosity (Sky Catalogue 2000.0).

The southern hemisphere, and in particular the Circinus constellation, possesses a cascade with the eye-catching asterism/cluster **VdB-Ha 164**. In 1968 Sydney van den Berg and Johann Georg Hagen (an Austrian astronomer) compiled a list of open clusters in the southern Milky Way (Sky Catalogue 2000.0). This object however in itself is debatable and slightly miss-plotted east of the indicated position. However, the cascade is a beautiful string of eight magnitude 7 blue/white stars running in a N-S direction for almost 30 arcminutes, with a yellow star at the northern end and the brightest magnitude 6.2

star marking the end of the string at the southern end. A sensational group of stars and clearly outstanding against the background star-field.

Nearly jumping the fence again is the planetary nebula **NGC 3515**, situated just 26' east of the constellation Musca. It is an extremely small planetary nebula, hardly visible. Careful observation reveals the planetary as a frosted point of light in a soft, misty, blue to grey wrapping, alternating between direct and averted vision, producing a blinking on-then-off effect, which eventually enabled me to spot this faint speck of light. There are several other planetary nebulae that have the right magnitude central star to the nebula's overall brightness to show off this effect. The most famous one is the "blinking planetary nebulae" NGC 6826 in the constellation Cygnus.

Running in circles around the heavenly Drawing Compass we find the open

cluster **NGC 5359**, which keeps up the trend being situated 15' north and dangerously close to the Apus constellation border. It is a lovely grouping with stars in a roundabout snake formation. However, the grouping appears to me rather like a little seahorse in shape, displaying a curly tail on the western side, which really does justice to this name. It could also be seen as a scorpion shape for the same reason. It contains around 22 stars varying between magnitude 10 and 11. Back in 1835 John Herschel described this cluster as a coarsely scattered cluster of class V¹¹. Herschel used a system for fainter stars which is not the same as the one we use, and his 11th magnitude is probably nearer to our 10th magnitude or maybe slightly brighter.

Take a wide, dancing sweep through the constellation Circinus to the beat of the compass point and enjoy the joy of observing. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 5315	Planetary Neb.	13 ^h 53 ^m 9	-66°31'	9.8	14"
NGC 5359	Open Cluster	13 59.8	-70 24	10	8'
ESO 097-G13	Galaxy	14 13.2	-65 20	10.6	6.9'x3.0'
Alpha Circini	Double star	14 42.5	-64 59	3.2&8.6	Sep. 15.7"
NGC 5715	Open Cluster	14 43.7	-57 34	9.8	7'
VdBerg Hagen 164	Asterism	14 44.1	-66 24	7	29'
Bernes 145	Dark Nebula	14 48.6	-65 15	-	12'x5'
VdBerg Hagen 63	Reflection Neb.	14 49.4	-56 14	10.4	1.5'x1.5'
NGC 5823	Open Cluster	15 05.4	-55 37	7.9	12'
Pismis 20	Open Cluster	15 15.4	-59 04	7.8	4.5'
Hrg 107	Double star	15 15.9	-56 17	8.5&9.1	Sep. 5.4"