



***Centaurus, a constellation like no other***

by Magda Streicher

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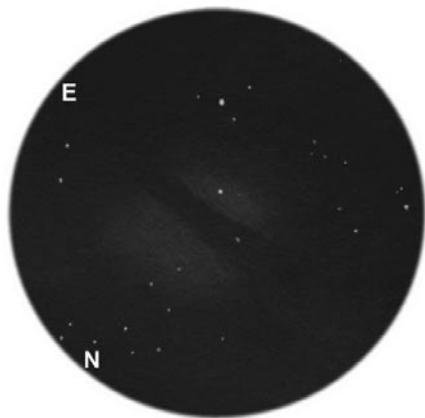
Image source: Stellarium

Over the past few months we tended to dwell more on constellations containing faint objects. Well, this Deep-Sky Delight promises to be a bright-object Delight! The constellations Centaurus and Orion are the only two constellations that boast two 1st magnitude stars.

The Centaurus constellation is, somewhat unjustly, seen as representing the figure of a half-man, half-animal (a Centaur). I've tried in vain to identify a man and an animal in the formation. Study the constellation with an accurate and careful eye and share your thoughts with me! Sagittarius, the original centaur, is known as a violent and untrustworthy creature. Centaurus, the gentle Centaur, is home to one of the most excellent bright objects that a constellation could possibly offer. The figure is approximately 60 degrees across and ranked ninth in terms of size. It is a well ordered constellation, extraordinarily rich in bright stars, and wrapped around the constellation Crux in the east. Join me to reveal some magnificent bright objects like globulars, open clusters, numerous galaxies and many planetaries in the constellation Centaurus.

The northernmost bright star, second magnitude Theta Centauri, also seen as the right shoulder of the animal-man, is a convenient point of departure from which to explore this rich constellation step-by-step. About 4 degrees south of Theta we find the nebula **NGC 5367** which is quite bright, embedded in nebulosity. The reflecting nebula is not quite round, but extends hazily to the NE, with the south-western part slightly larger and boxlike in shape. This nebula was included in the *Catalogue of Bright Nebulosities in Opaque Dust Clouds* by Bernes as No. 147, which appears very bright on the blue photographic plate.

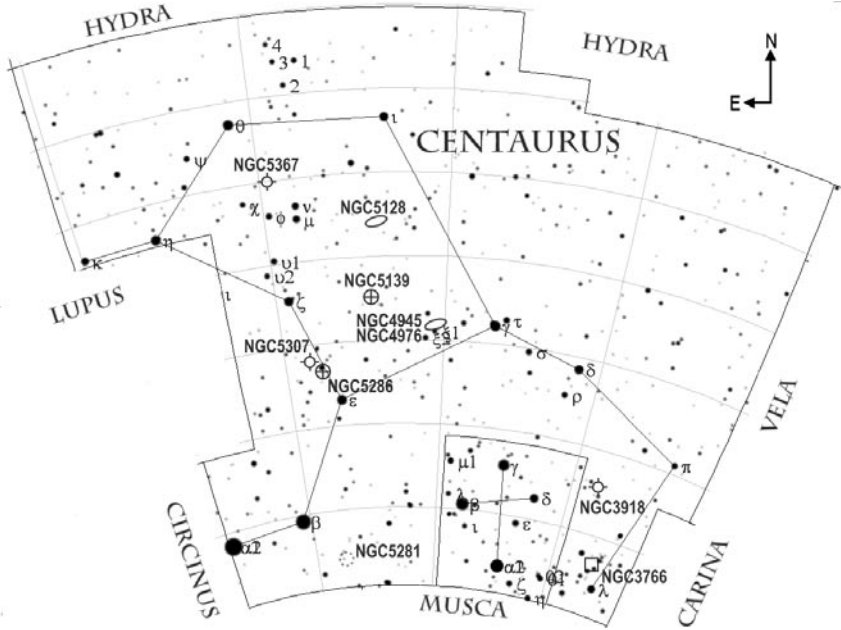
One of the most interesting galaxies in the sky is definitely **NGC 5128**, which (as it appears to me) is situated near the creature's snout. This southern elliptical galaxy, also known as Centaurus A, is an intense radio and x-ray source and only 11 million light years distant. It is an excellent, large, slightly oval galaxy divided into two lobes (north and south)



**NGC 5128 (Centaurus A) sketched using my 16-inch telescope working at 290 power.**

separated by an uneven dark band (16-inch, 127x). In the southern segment a magnitude 9 star can be seen with another magnitude 10 star embedded in the visible band on the western side. With higher power this part of the dark band appears looped with a kink, whereas the eastern part of the band is fainter and fades out more broadly. Uneven knotted areas become evident with averted vision and the soft lobes grow in size with a pair of 11-magnitude stars on the face of the northern nebula. Deep pictures taken of this galaxy show ripples, which means that it has swallowed numerous small galaxies. James Dunlop discovered this interesting and very peculiar object from Parramatta, New South Wales in 1827. It is dubbed the “hamburger nebulae”. The astronomer Edmond Halley was the first to document its non-stellar nature.

A mere 4.5 degrees south we find one of the greatest jewels of the southern sky, none other than the globular cluster Omega Centauri, or **NGC 5139**. Omega Centauri was plotted in the *Almagest* of Ptolemy over 1 800 years ago and catalogued as a magnitude 4 star in the early 17th century by Bayer. It has approximately one million members and is 17 000 light years distant. The first telescopic observer identifying it as a cluster was Halley who observed it from St Helena in 1677. I can only *try* to describe this wonderful object ... Does something like “very impressive, extremely large and overwhelming rich mass of stars” (12-inch, 95x) begin to do justice to it? To describe it further, Omega Centauri consists of a mixed-magnitude diamond dust of stars exploded randomly almost three-dimensionally from a dense bright core. The inner compact area also displays an outer oval section, spraying faint stars in chains and lanes far more than the field of vision allows. In the northwestern part of the globular, around two-thirds of the way from the core, a dark lane appears to cut off a section. Mary Fitzgerald, a dear friend, says it resembles a pot filled with white sugar! With the 16-inch at 290x two dark oval patches can be seen embedded in the busy core, probably a less-dense area of stars. The northern part of Omega Centauri seems more densely compiled. Faint stars appear crowded together in tight little knots toward the southern part of the cluster.



Skymap produced using Cartes du Ciel

Centaurus is home to the beautiful spiral edge-on galaxy **NGC 4945** which is situated 4 degrees SW and 4 degrees E of Omega Centauri. In terms of shape, this galaxy may reflect our own Milky Way. Only a pair of binoculars and an ideal dark night-sky are necessary to observe this galaxy with ease. It too was discovered by James Dunlop from Parramatta, New South Wales. My humble observation reveals a pencil-like galaxy elongated in a NE-SW direction and gradually getting brighter towards the nucleus, with a few foreground stars embedded. The southern part of this object is not as bright as the more outstanding northern part (16-inch, 290x). It looks mottled in parts when using higher power. In a fine star-field towards the west runs a chain

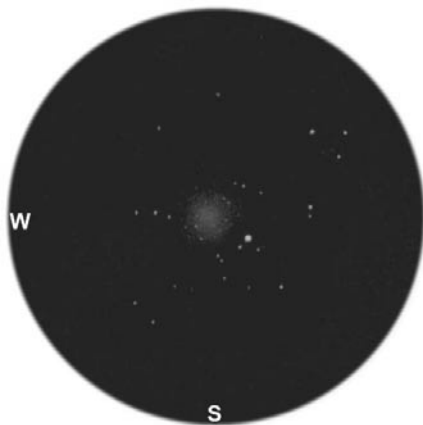
of 12-magnitude stars that appear to skip away from the galaxy. **NGC 4976**, a small bright galaxy, can be seen just 30' to the east, forming a triangle with NGC 5945 and NGC 4945A.

Centaurus, the animal-human constellation boasts some beautiful objects. The globular cluster **NGC 5286** is an exceptional object in its own right, situated only 2.3 degrees NE of Epsilon Centauri, slightly off to the east in the central part of the centaur figure. NGC 5286 is bright and large with attractive, faint pinpoint stars randomly visible like glittering dust. Displaying a broad concentration towards the core, with a slightly hazier outer envelope (12-inch, 95x), it creates an elongated impression

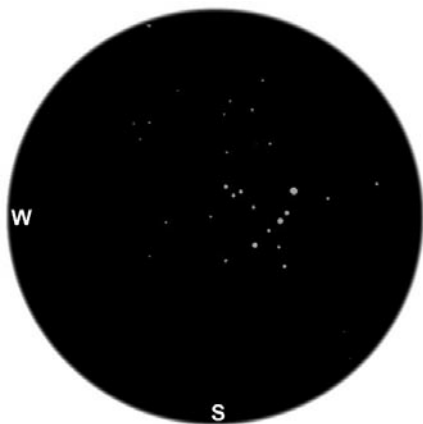
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in a NE-SW direction and is situated just 5' north of the orange 4.5 M Centaurae, a spectroscopic binary with a period of 437 days. About 44' to the NE of NGC 5286 the small, round planetary nebula **NGC 5307** exhibits a soft glow with diffuse edges and no apparent central star.

In Greek mythology a centaur is a crea-



Sketches of NGC 5286 (above) and NGC 5281 (below).



ture that is part horse, part human. Greek mythology isn't always comprehensible, but William Morris describes the centaur as "a mighty grey horse trotting down the glade, over whose back the long grey locks were laid, for to the waist was man, but all below a mighty horse."

Up against the centaur's slender hind leg and close to the northern part of the constellation Crux, can be found one of the most remarkable planetary nebulae in the southern skies. **NGC 3918** displays a round, bright and easy glow, well defined against the background star-field. Also known as the Blue Planetary, it displays a lovely pale blue frosted color (12-inch, 218x). John Herschel discovered this remarkable object in 1834.

Still in the rear area of the human-animal the open cluster **NGC 3766** can be picked up, situated approximately 1.5 degrees north of Lambda Centauri. The star cluster is beautifully bright and can be easily seen with lower magnifications. It is a fine scattering of various colourful 9 to 12<sup>th</sup> magnitude stars forming attractive strings and loops and a very dense centre (12-inch, 95x). About 250 stars have made this cluster their home.

Hop over Crux to the front hoof of the centaur, just 3.3 degree SW from Beta Centauri, also known as Hadar, to the open cluster **NGC 5281**. NGC 5281 is very special to me because I have a great fondness for strange, small, open clusters. The brighter stars display an

unusual cross shape. Five bright stars, along with another seven fainter ones, form two gently curved lines, making the shape of a cross (12-inch, 218x). Only one star is a little askew from the otherwise almost perfect cross. This cluster contains about forty stars of magnitude 6.6 or brighter, as well as many fainter ones.

**Alpha Centauri, or Rigel Kentauris** of the Arab astronomers, meaning “the foot of the centaur”, consists of three members, the nearest stars to our solar system. The stars  $\alpha_1$  and  $\alpha_2$  revolve around a common centre of mass with a period of 79.90 years. Their separation ranged between 1.7" and 22" in 1955 and 1995 respectively. The nearest star and possible third member of the system, the magnitude 11 Proxima Centauri, situ-

ated 2 degree SW of the pair, was discovered in 1915 by R.T.A. Innes. The first parallax observations of Alpha were made by Thomas Henderson in 1832-3 from the Royal Observatory, Cape of Good Hope. Its parallax is now considered to be 0".742, giving a distance of about 4.396 light years. John Herschel called it “beyond any comparison, the finest double star in the sky” and I cannot agree more.

I am privileged to be able to share these observations with you on a bi-monthly basis. Since I am Afrikaans speaking I am pleased to have translator and copy-editor Nicky Grieshaber, as well as Ian Glass and Willie Koorts as my allies. Without their assistance this would be a lot more difficult. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 3766	Open Cluster	11 <sup>h</sup> 36.1 <sup>m</sup>	-61°37'	5.3	12'
NGC 3918	Planetary N	11 50.3	-57 11	8.4	12"
NGC 5307	Planetary N	13 51.1	-51 12	12.1	13"
NGC 4945	Galaxy	13 05.4	-49 28	8.8	23'x5.9'
NGC 4976	Galaxy	13 08.6	-49 30	10.1	5.4'x3.3'
NGC 5128 Cen A	Galaxy	13 25.5	-43 01	6.7	31'x23'
NGC 5139	Globular Cl	13 26.8	-47 29	3.5	36.3'
NGC 5286	Globular Cl	13 46.4	-51 22	7.2	9.1'
NGC 5281	Open Cluster	13 46.6	-62 54	5.9	5'
NGC 5367	Bright N	13 57.7	-39 59		2.5'