The Sculptor's feast in art

by Magda Streicher

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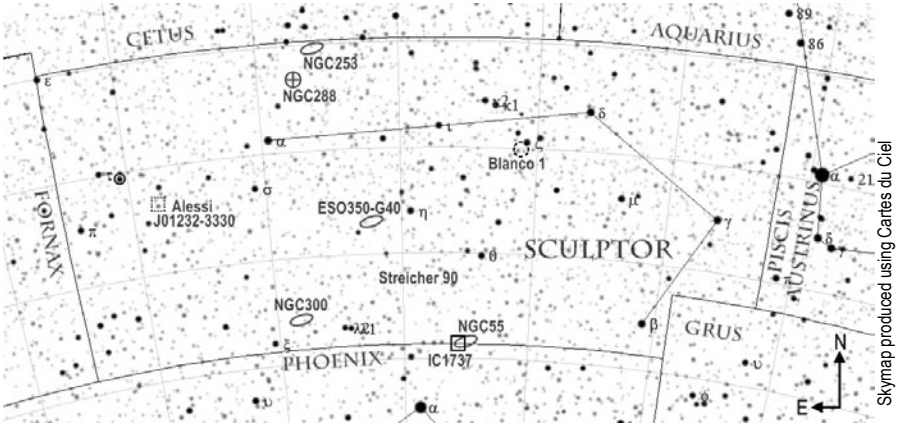
The constellation Sculptor is situated between Cetus to the north and Phoenix to the south. It dates back to 1754 when the astronomer Nicolas Louis de Lacaille named 14 new constellations, the last of the 88 constellations recognized today. Originally called "L'Atelier du Sculpteur" (the sculptor's workshop) in French. However, I like the German version; "Bildhauerwerkstatte", it just says it all.

As is the case with most of the constellations, it is difficult to see a sculptor in this constellation's star pattern. With a bit of imagination it is just about possible to see the bowed head of a sculptor, possibly busy creating a masterpiece. What certainly is true though is that Sculptor, ranking thirty-sixth in size, contains some masterpiece objects. Let us now follow the route of the chisel through the constellation, which appears faint but shows off its objects with pride.

The western part of the constellation is characterised by magnitude 4.4 Gamma (west), magnitude 4.3 Beta (south) and magnitude 4.5 Delta (north), approximately 6 to 7 degrees apart. **Delta Sculptoris** is a double star with a magnitude 4.5 primary and magnitude 11.5 companion. This white pair have a separation of 3.9″ and position angle (PA) 243. There is a third companion of magnitude 9.3, also known as h3216, with a separation of 74.3″ and PA 297, last measured in 1956.

Image source: www.stellarium.org

A mere three degrees SE of Delta Sculptoris is **Blanco 1**, discovered in 1949 by Victor Blanco – a very large, sparse, open cluster centred on magnitude 5 Zeta Sculptoris. This area boasts a wealth of bright stars that can yield excellent observational results with binoculars. Approximately 6° further south-east is the magnitude 4.8 Eta Sculptoris, very conveniently located in the central area of the Sculptor constellation. Open star clusters in the constellation are somewhat scarce, requiring me to fall back on my list of asterisms. **Streicher 90**, a perfect zigzag grouping, can be found about 2° south of Eta Sculptoris. Six faint magnitude 11 stars are evenly spaced in a NW-SE direction in perfect symmetry over almost 12′ – but a few stars to the north spoil this shape to some extent. The far south-eastern, magnitude 10.5 star, GSC 6997 366 in this grouping displays a very red colour.



The Sculptor constellation harbours a huge number of galaxies like the **Cartwheel Ring Galaxy (ESO 350-G40)** with a special appearance and a distance of around 500 000 light years. It is situated 2.5° south-east of Eta Sculptoris. Under the ideal conditions of a dark Bushveld sky, I made a desperate attempt to glimpse this rare object with my 12-inch telescope. The only way out was to sketch the complete star-field. The galaxy could barely be seen with averted vision as a very faint, extremely small out-of-focus point of light. A mere 6′ north is a magnitude 13 double star which most conveniently points the way, making this task slightly easier. Comparison with star-maps afterwards showed that I was dead on target. Just like that perfect image chiselled out by the sculptor, so distinctive is this special object which, as photographs show, forms an open wheel with a bright hub or core, that it truly justifies its name. The galaxy probably came into being as a result of a direct collision with a satellite galaxy, causing the blue ring of infant stars.

One of the most interesting galaxies is found on the border between Sculptor and Phoenix. **NGC 55** is a splendid object with a lot of character. This edge-on galaxy is very elongated in an ENE to WNW direction (at 95x magnification). The core is bright and outstanding but seems off-centre to the west, north-western thicker part of the galaxy. A few faint stars can be seen on the hazy surface. NGC 55 shows some structure two-thirds of the way down the south-eastern part, where the galaxy tapers down and appears slightly broken off, surrounded by nebulosity. This broken part is also host to a small, hazy patch which has been catalogued as **IC 1537** (280x). The galaxy gave me the impression of the space shuttle with a plume of smoke just off its main body. James Dunlop was fortunate enough to

be the discoverer of this galaxy, which he recorded as a beautiful long nebula. I sometimes wonder what ancient secret this exceptional galaxy harbours, almost like a sculptor, slowly and leisurely creating a work of art, forming it into a unique shape with so much character.

Approximately 7° east of NGC 55 is the open spiral galaxy **NGC 300**, also known as the Southern Pinwheel galaxy. This galaxy displays a large, faint, round to slightly oval smudge of light in a northwest-southeast direction, growing very gradually brighter towards its relatively small nucleus. Faint stars can be glimpsed embedded on the surface of the galaxy. Our deep-sky director, Auke Slotegraaf, saw this galaxy as a small cloud in his 11x80 binoculars, where a magnitude 9.5 star immersed on its south-western border. About 2.5° south-west of the galaxy, Lambda [1] and [2] form a lovely pair with a white magnitude 6 primary and a yellow magnitude 5.9 companion star. The faint Sculptor dwarf galaxy, also known as PGC 3589, (the first dwarf to be discovered in our local group of galaxies), is situated around 2° south of magnitude 5.5 Sigma Sculptoris. It was discovered by Harlow Shapley on a photograph taken in 1937 with the 24-inch Bruce Refractor in South Africa. At a distance of 300 000 light-years it is possible to study the proper motion of this system, which is centred at RA: 01h00m09s DEC:-33°42′33″, less than 5° north of NGC 300.

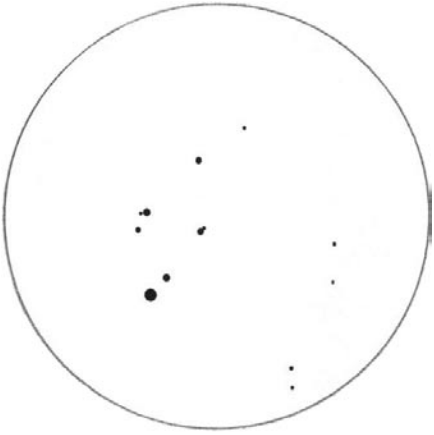
At its highest point in the sky at this time of the year, Caroline Herschel's most famous and blessed southern galaxy can be seen just 25′ from the border with Cetus. Caroline discovered **NGC 253** in

Lucas Ferreira photographed NGC 253 with his 8-inch Sky-Watcher Newtonian and Pentax K110D SLR Camera working at ISO 1600, by stacking forty 30 sec exposures using DeepskyStacker. He writes: "WOW... was my first reaction when I saw this galaxy in my 25mm Plossl Eyepiece! It was huge and bright, it almost stretched right across my eyepiece. I certainly did not expect to see its dust lane, but there it was! It was indescribably delicate in my telescope and reminded me of the great galaxy in Andromeda, just so much better positioned to observe from the southern hemisphere."

1783 while searching for comets. Only a truly dedicated observer would search the dregs of the atmosphere so near to the horizon as NGC 253 would have appeared from her home in England. NGC 253 is situated only 50′ from the Cetus border and around 4.5° NNW of the magnitude 4.3 sparkling blue/white Alpha Sculptoris. NGC 253 is a showpiece galaxy, very bright and almost edge-on in a southwest-northeast direction, with a slightly brighter oval nucleus. The surface displays a complex structure of uneven, clumpy gas clouds, dark dust lanes and knots with a handful of stars embedded within (218x). Around the outer edge the galaxy seems flimsy and woolly and I could almost see it hanging three-dimensionally in a truly dark night sky. Slotegraaf observed the "Silver Coin" with 11x80 binoculars, which showed an unevenly bright ray of light wedged between stars. This almost edge-on spiral galaxy is one of the nearest galaxies beyond our local neighbourhood. Deep-sky objects like these might well have transported Michelangelo and Da Vinci to another level in their art, if they had had the privilege of living in the modern era. Just a thought – don't you think we are blessed? Make it a real and deliberate challenge and a guaranteed sweet reward awaits you.

Globular clusters are very popular among observers. **NGC 288** is no exception, situated only 1.7° south-east, neighbouring NGC 253. It displays a soft, busy glow with faint resolved stars, although it could also have the appearance of a dense, very distant faint open cluster. With higher power it appears as a bright ball of glittering lights, splashing out in a haze. The uneven core is not very dense, but it stands out fairly well. Brighter stars dot the outer edge of this globular, which shows off beautifully against the background star-field. This globular is around 30 000 light-years away and looks like a distant comet in small telescopes. Sculptor's claim to fame is that the southern galactic pole is less than one degree southwest of this lovely globular.

Close to the eastern edge of the Sculptor constellation and 5 degrees west of the Fornax constellation, the amateur Bruno **Alessi** came across a lovely closed **arrowhead star grouping**,



The Alessi J01232-3330 "Arrowhead" asterism sketched using my 12-inch Schmidt-Cassegrain telescope. North is up and east to the left.

consisting of eight stars (see sketch). The grouping displays all its stars in a slightly yellowish colour. The brightest star is the magnitude 6.7 HD 8474, which is situated towards the south in the grouping.

Sculptor is home to exceptional objects and presents a final surprise with the very special magnitude 6.8 scarlet carbon **Mira star** that can be seen approximately 1.2 degree north-east of the Alessi/J01232-3330 grouping. With a variable period of 207 days, ranging between magnitude 9 and 12.8, it is one of the most brilliant red stars in the night sky.

The idea is to linger unhurriedly, just like a skilled sculptor among the wonderful objects of this constellation, because it is just like the sculptor. The time taken over the observation that makes all the difference. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
Delta[1&2&3] Scl	Triple Star	$23^h48.9$	-29º08′	4.5, 11.5	Sep.4′-74″
Blanco 1	Open Cluster	00 04.3	-29 56	4.5	70.0′
NGC 55/IC 1537	Gal/Neb	00 14.9	-39 11	8.1	30.0′x6.3′
Streicher 90	Asterism	00 27.5	-35 17	11	20′
ESO350-G40	Galaxy	00 37.7	-33 43	~12	1.5′x1.2′
NGC 253	Galaxy	00 47.6	-25 17	7.6	30.0′x6.9′
NGC 288	Glob Cluster	00 52.8	-26 35	8.1	13.8′
NGC 300	Galaxy	00 54.9	-37 41	8.1	20.0′x13.0′
Alessi J01232-3330	Asterism	01 23.2	-33 30	6.7	8′
R Scl	Variable Star	01 27.0	-32 33	9.1to12.8	370 days

Greek Alphabet

Α	α	alpha	Ν	ν	nu
Β	β	beta	Ξ	ξ	xi
Γ	γ	gamma	Ο	ο	omicron
Δ	δ	delta	Π	π	pi
Ε	ε	epsilon	Ρ	ρ	rho
Ζ	ζ	zeta	Σ	σ	rho
Η	η	eta	Τ	τ	tau
Θ	θ	theta	Υ	υ	upsilon
Ι	ι	iota	Φ	φ	phi
Κ	κ	kappa	Χ	χ	chi
Λ	λ	lambda	Ψ	ψ	psi
Μ	μ	mu	Ω	ω	omega