



Scutum the Protective Shield

by Magda Streicher
magdalena@mweb.co.za

If we take the time to look up at the Milky Way during our southern winter it is such a privilege to be able to revel in the wealth of stellar beauty, and of course our eyes would also be exploring the hub of what forms the centre of our galaxy. Constellations like Sagittarius and Scorpius, which take pride of place, sometimes overwhelm the lesser known constellations suspended at the bright fringes of the Milky Way hub.

One such constellation is Scutum, which can truly boast objects of wonder to please the eye.

In composition, Scutum forms a long triangle stretching from beta and alpha in the north to gamma Scutii in the south. Scutum is the fifth smallest amongst the 88 constellations. Johannes Hevelius (1611-1687) named the constellation Scutum Sobieski, "the Shield", in 1683 to celebrate King John Sobieski of Poland, who successfully defended his country against the Ottoman Empire.

The well-known object IC 4703 or Messier16, better known as the Eagle Nebula, in the constellation Serpens can be seen at a slight angle away at

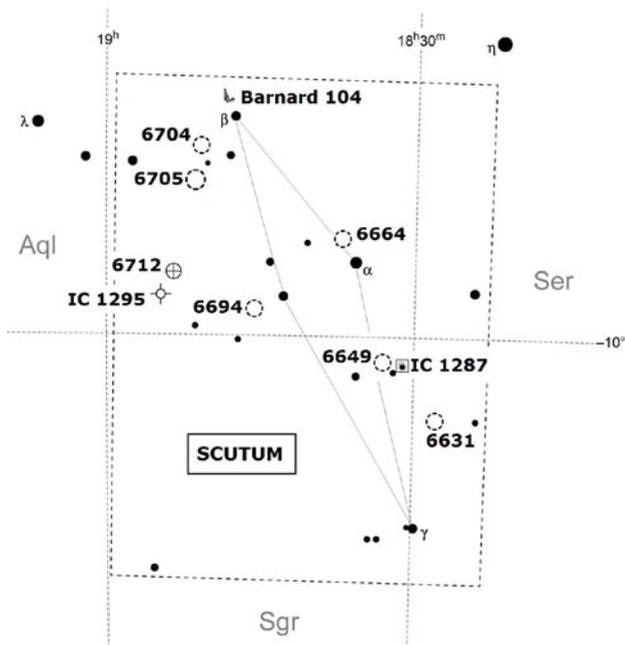


Image source: Stellarium.org

the south-western edge of Scutum. It is a beautiful area to explore through a telescope. The open cluster **NGC 6631** is located about 2.5° north-east of M16 inside the boundaries of Scutum. A loose, stringy V-formation contains around 20 faint stars in a north-west to south-east direction. Not necessarily bright and outstanding, but worth a visit nonetheless to open a path to the splendid objects housed by Scutum. A good number of PK planetary nebulae and smaller open clusters, like Ruprecht 141, 142, 144 & 170, can be found in the surrounding star field. Perek Lubos and Kohoutek Lubos published their catalogue of Galactic Planetary Nebulae which contains 1 036 nebulae in 1967 referred to simply as PK.

Snugly protected by the Scutum shield, and approximately 1.5° north-east of the open cluster NGC 6631, is the diffuse nebula **IC 1287**. An obvious glow enfolds the central double star Struve 2325, which can be seen with ease in ideal dark-sky conditions. The double star has a 5.8 super-white coloured star with a 9.1 magnitude companion with a

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12.3" separation and PA of 257°. Filters will bring out the washed-out, delicate nebulosity that extends slightly hazily towards the north-east from the stars. There is some speculation that it could be the traces of a supernova remnant.

The open cluster **NGC 6649** is situated only 40' further towards the north-east and displays an outstanding bundle of colourful faint stars. The focus of this cluster is the lovely magnitude 9.7 deep red colour star situated on the southern outskirts of the group. The south-eastern side of the cluster contains the bulk of the stars.

Further north the magnitude 3.8 alpha Scutii displays a lovely, rich yellow

colour and is positioned only 35' south of the open cluster **NGC 6664**. The cluster is relatively large and outstanding, although the star field is scattered with faint Milky Way stars that mingle well with this group of more or less a dozen stars. Immediately east of the group scattered faint stars can be seen perhaps slightly more outstanding than the cluster itself.

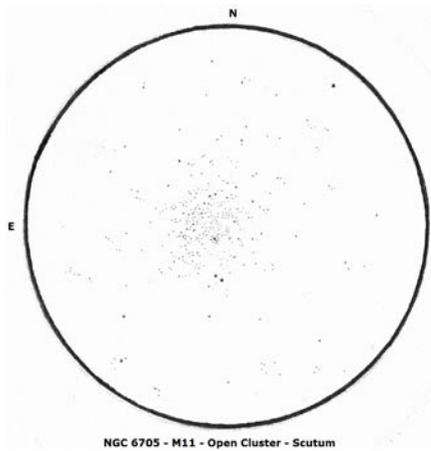
The northern part of the Scutum shield is marked by the magnitude 4.2

buttery yellow beta Scutii. Only a few arc-minutes north of beta Scutii the dark nebula **BARNARD 104** hides between the field stars, seen by many as a hooked V-shape. Shield your eyes from other stray lights in order to glimpse this dark void, and make sure the skies are favourably dark and transparent. Search out this shady hook and please share your thoughts on this dark side with the author.

Scutum houses numerous open clusters but most of them are faint and not easy to spot against the backdrop of the dense Milky Way. **NGC 6704** is situated a degree east of beta Scutii, and comprises mostly magnitude 12+ stars in a very obvious north-south direction. What

makes this cluster special is the prominent dark lane in the eastern part of the group also running from north to south.

The showpiece object of the constellation, outshining the rest by a long way, is **NGC 6705**, better known as Messier 11, which is situated about 2° south-east of alpha Scutii. It is without doubt one of the most outstanding examples of an open cluster, with a lot of character, hanging on the Scutum Star Cloud. German astronomer Gottfried Kirsh (1639-1710) discovered this beautiful object in 1681. The cluster was first resolved in a myriad of stars during the middle of the 17th century, after which Charles Messier, the comet hunter, added it to his catalogue as the 11th entry on 30 May 1764. It is believed that the English observer William Henry Smyth (1788-1865) gave this object its now popular common name, the Wild Duck Cluster. It could well be that the name was inspired by the familiar flocks of ducks found in the south of England. The grouping appears as a splendid object through binoculars and can even be observed as a naked-eye fuzzy spot in truly dark skies. The cluster displays a swarm of bright pinpoint stars, well resolved, running in extended trails with dark spots among them with a more outstanding and larger dark patch west of centre. Careful observation brings



NGC 6705 or M11 is an outstanding example of an Open Cluster.

to the fore a narrow, dark lane running through this V-shaped "flocks" of stars. A bright magnitude 8 star, probably not a true member, is embedded in the south-eastern part, with a pair of yellow-coloured magnitude 9 stars on the south-eastern rim. The Wild Duck Cluster beautifully reflects its name, with the flock of members following the



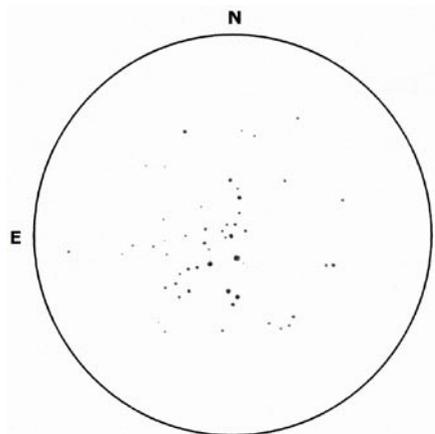
NGC 6712 or Bennett 117 is a Globular Cluster.

bright leaders in flight. This amazing cluster is believed to be about 500 million years old, with approximately 1 000 stars in its midst.

Against the Milky Way shield the eastern area of the constellation holds the globular cluster **NGC 6712**, also known as Bennett 117. This lovely, round, cotton-ball-looking cluster is outstanding, shining quite prominently against the star field. It displays a slightly brighter centre with faintly resolved stars on its surface giving it a frost-coated impression. A more prominent dainty string is obvious towards the southern edge, together with a few curly shorter strings on the edge. John Herschel recorded it as a “fine object, the stars very close and numerous”.

Further towards the east is the planetary nebula **IC 1295**, also known as Van den Berg 124, which displays a ghostly small glow with a very low surface brightness. It seems to be slightly elongated in a north-east to south-west direction with a magnitude 11 star on its western edge. It is advisable to use a planetary filter to be able to glimpse this glow. The object is one of a hundred deep-sky object discovered in the 1860s by Truman Henry Safford at Dearborn Observatory in Chicago. Heber Curtis of Lick observatory first recognised it as a planetary nebula in 1919.

Two and a half degrees further south another well-known cluster, **NGC 6694**, has its home against the dense backdrop of the Milky Way. This elongated north-



NGC 6694 - M26 - Open Cluster - Scutum

NGC 6694 Open Cluster in Scutum displaying a rich field of coloured stars.

south cluster, better known as Messier 26, is impressive and outstanding, sharing the field with numerous faint stars. What impresses me most about this group is the S-shaped string starting towards the middle with a block of stars and then curving out towards the north. The north-eastern part of the cluster is much busier with star light and mingles well with field stars. The super-white magnitude 9.2 star draws the attention towards the south-western edge of the group. The cluster was first discovered by Le Gentil in France sometime before 1764 and is credited to him.

As people we are continually trying to shield ourselves against heart sore and danger, but a delight awaits those who care to search out the wonders against the backdrop of the Scutum shield.

deep-sky delights

Object	Type	RA (J2000.0) Dec		Mag.	Size
NGC 6631	Open Cluster	18 ^h 27 ^m 2	-12°02'	11.7	5
IC 1287	Diffuse Nebula	18 31 6	-10 47	8.5	20'x10'
NGC 6649	Open Cluster	18 33 5	-10 24	8.9	6'
NGC 6664	Open Cluster	18 36 6	-07 49	7.8	16'
NGC 6694	Open Cluster	18 45 2	-09 24	8	15'
BARNARD 104	Dark Nebula	18 47 3	-04 34	-	-
NGC 6704	Open Cluster	18 50 9	-05 12	9.2	6'
NGC 6705	Open Cluster	18 51 1	-06 16	5.8	14'
NGC 6712	Globular Cluster	18 53 4	-08 42	8.1	4.3'
IC 1295	Open Cluster	18 54 6	-08 50	14.5	86''

A	α	alpha	N	ν	nu
B	β	beta	Ξ	ξ	xi
Γ	γ	gamma	Ο	ο	omicron
Δ	δ	delta	Π	π	pi
E	ε	epsilon	P	ρ	rho
Z	ζ	zeta	Σ	σ	rho
H	η	eta	T	τ	tau
Θ	θ	theta	Υ	υ	upsilon
I	ι	iota	Φ	φ	phi
K	κ	kappa	X	χ	chi
Λ	λ	lambda	Ψ	ψ	psi
M	μ	mu	Ω	ω	omega