Scorpius,
the Winter Bug

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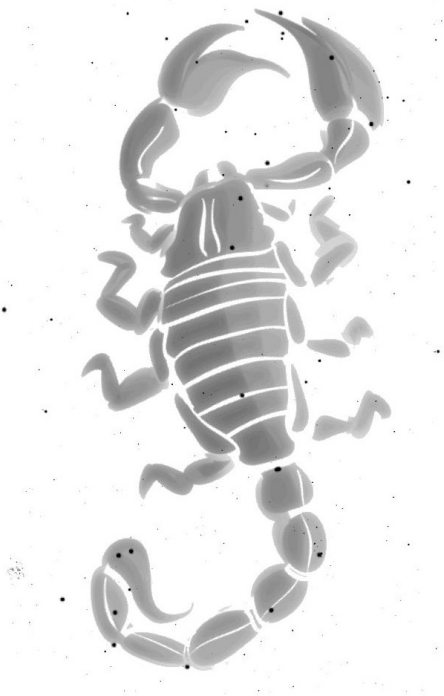


Most of us who are fascinated with the night sky most probably cherish a favourite constellation. It might be a favourite time of the year for observation, a special memory or a constellation with an exceptional form. It can be a bit tricky to connect constellation shapes with their names, but most of us, however, will agree that Scorpius is one of only a handful of constellations that can wear its name with pride and I believe that it might be a favourite of a lot of us.

Antares, the mother red-giant, is the 15th brilliant star in the sky and approximately 320,000,000 km in diameter. Its 5.4 magnitude companion cannot be easily split due to Antares' blinding glow. However it is not impossible. With lots of persistence and courage and the help of a green filter I was able to prove it positively in Position Angle 275°. I must warn you however, it is not easy by a far shot!

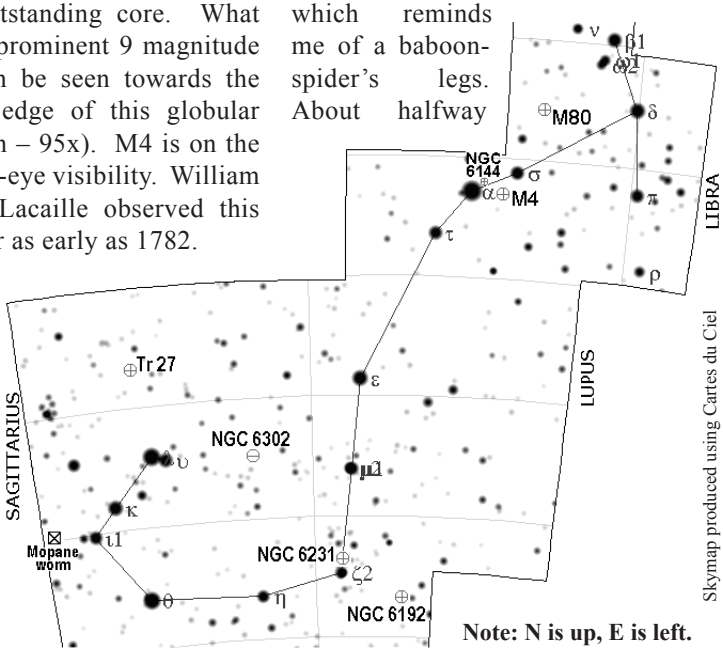
Globular Clusters are always a preference and Scorpius is home to a few noteworthy examples. Nestled against the Scorpion's heart, **NGC 6144** is just 38' NW of Antares, as a faint mistiness in the rich Milky Way. Also known as Bennett 77 it shows up as a small, dense glow with little condensation and no stars visible at first. Observed with care, the hazy edges bath in nebulosity with a few splinter stars on the extreme edges (12-inch – 218x). At even higher power, although with loosing resolution, it becomes mottled. Auke Slotegraaf, ASSA Deepsky Director, noted that it was spotted by Ed Finlay who sees this globular cluster as a quite discernible patch.

NGC 6121 (M4) the jewel globular cluster, nestles snugly in the arms of Scorpius and can be seen only 1.3 degrees west of Antares. These two globular clusters remind me of a living Scorpion, carrying its young on its back. M4 is a showpiece globular cluster of well-resolved bright stars that is scattered towards the edges. Three dimensional, showing off a variety of star-strings that mingle with a slightly gaseous field of view. The straight line of stars is striking in that it cuts across the middle part from NE to SW. A lovely string, together with clumps of faint and coloured stars, swings out on the southern side of the globular, giving it a slightly oblong appearance. It gradually brightens towards an outstanding core. What seems to be a prominent 9 magnitude double-star can be seen towards the south-western edge of this globular cluster (12-inch – 95x). M4 is on the fringe of naked-eye visibility. William Herschel and Lacaille observed this globular cluster as early as 1782.

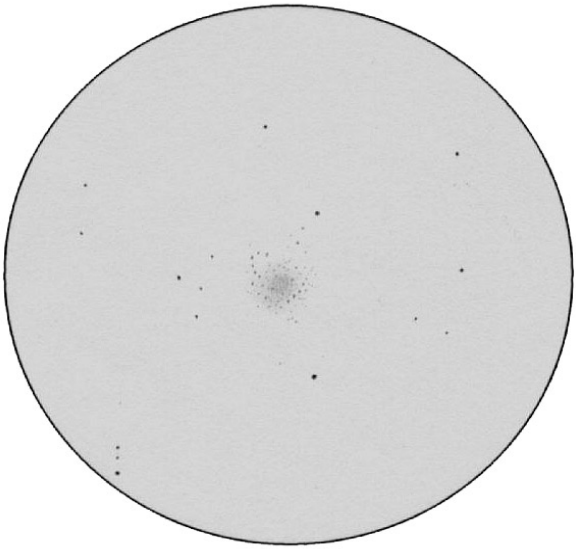
NGC 6093 (M80) is also worth a visit, situated 4.4 degrees NW of Antares. Although it is rare to find galaxies in Scorpius and the Milky Way, IC 4600 and IC 4596 are very faint, sharing the star field just north-west of M80 (12-inch - 218x – 23.1' FOV).

The double star Mu 1 and Mu 2 (mag 3 and 3.5) literally rides the back of Scorpius, who points the way to **NGC 6302** the "bug nebula", situated 4.4 degrees to the east. It may seem that I focus a lot on the veld and its many insects as ways of describing the star shapes, but this nebula carries its nickname with dignity. Elongated in a NW to SE direction, it can easily be mistaken for a galaxy.

The south-western part displays a curly wispy extension to the west, which reminds me of a baboon-spider's legs. About halfway



Note: N is up, E is left.



M80 (NGC 6093) sketched by Magda using a 12-inch telescope at 218x magnification. North is up and west on left.

in the swing extension is a bright knot of nebulosity (12-inch - 290x). The north-eastern extension, although flowing, is fatter in shape and opens slightly at the south-east. When I am busy viewing and absorbing objects like this, alone under the winter starry sky, my imagination sometimes plays tricks with me when I hear cracking noises around me. My consolation comes in the thought that various insects are normally in winter hibernation!

Approximately 4 degrees further west from NGC 6302 is the well-known stinger "Shaula" or Lambda Scorpiae, which in combination with Upsilon, Kappa and Iota, was also known as the Rabbit Tracks to the Navajo people of ancient times.

Open Clusters can exist in all shapes and sizes and a few unique ones share home with Scorpius. Only 33' north of the double star Zeta 1& 2 is the lovely bright cluster **NGC 6231**, displaying scattered faint and bright stars in curls and strings. The cluster is slightly more concentrated on the north-western side and with brighter stars in combination, resembles in a way the Pleiades cluster (12-inch – 95x). The rest of the stars of mixed magnitude, stretch in a very elongated way to the south for more or less 8', ending with the brightest prominent arrowhead star, 6.3 magnitude HD 152235. Seeing that we are into "bug-talk" – the stars in this cluster shape could also resemble a fly or a bee (12-inch – 218x). HD 152233 & 4, seen as a prominent double star of 5.4 and 6.4 magnitude, is quite outstanding in this grouping and literally stares back at you to complete the image of this star insect. In the viewfinder (50mm), Zeta 1 & 2 and a star of 5.8 magnitude about 40' to the south, together with NGC 6231, almost give one the impression of a crocodile figure. Robert Trumpler

who, for many years, concentrated on the study of hundreds of open star clusters narrowly confined to the plane of the Milky Way, referred to this cluster as the "Table of Scorpius".

There is an "Alley Cat" to be seen in the star shape of the open cluster **Trumpler 27** (12-inch – 218x), which is situated 3.5 degrees north-west of Messier 7. I also found an **asterism**, shaped like a "**Mopane Worm**", (typical of the northern Bushveld), just 1.2 degrees east from Iota Scorpiae at RA: 17h57'12" – DEC: -39°53'40". This group displays a dozen 12 magnitude stars, is 10' in diameter and stands out slightly against the star field and its brightest is star 7.6 magnitude HD 163195.

The next and final object is the open star cluster **NGC 6192** situated 3 degrees south-west from NGC 6231. It is a pretty, loose, rich open cluster with a selection of about 60 bright and faint stars in smaller groups and slightly elongated north to south. This is an appealing cluster that displays in a unique way a wealth of detail in its shape (12-inch – 95x). The inner section is rich in stars, with short strings that mingle well with the busy star field. The northern side of the cluster's field of view is rather poor in starlight. To me the stars resemble a tick-like figure or even a small baby scorpion (12-inch –218x). The upright tail projects quite prominently south-east, increasing its overall size to about 10.0'.

Brace yourself against the winter cold and explore the constellation Scorpius (fortunately not a live one) with a multitude of objects and hosting numerous nebulae. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 6093 (M80)	globular cl.	$16^h17.0^m$	-22°59'	7.3	8.9'
NGC 6121 (M4)	globular cl.	16 23.6	-26 32	5.8	26.3'
NGC 6144	globular cl.	16 27.3	-26 02	9.0	9.3'
NGC 6192	open cluster	16 40.3	-43 22	8.5	7'
BGC 6231	open cluster	16 54.0	-41 48	2.6	14'
NGC 6302	planetary neb.	17 13.7	-37 06	9.6	50"
Trumpler 27	open cluster	17 36.2	-33 29	6.7	6'
"Mopane worm"	Asterism	17 57.2	-39 54	9.5	10'