The Useful Triangle

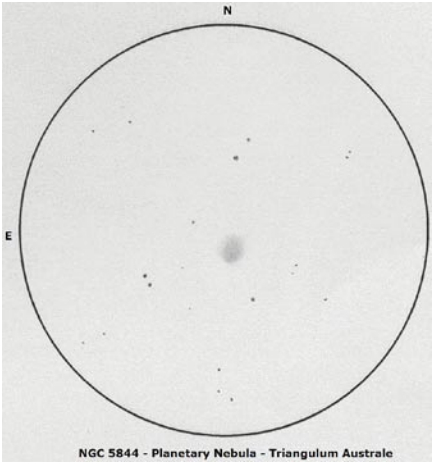
by Magda Streicher
magdalena@mweb.co.za

Image source: Stellarium.org

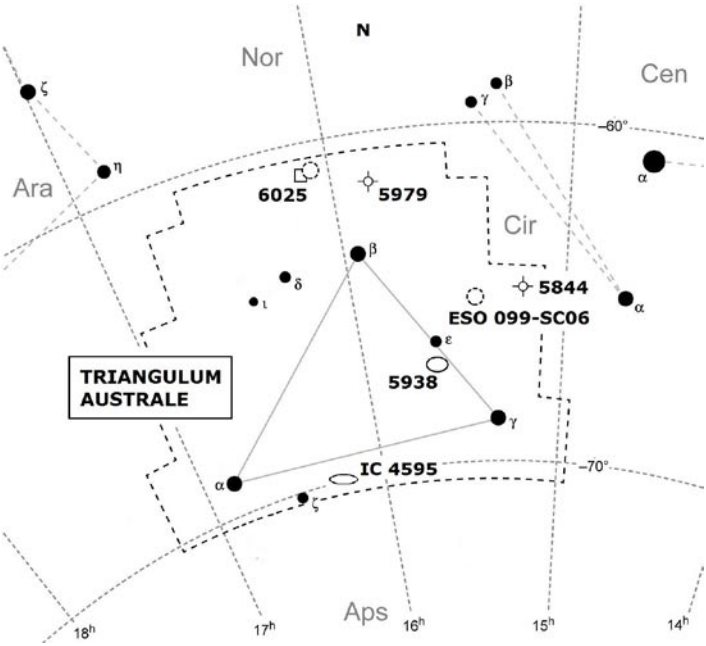
One thing that is as clear as starlight is the fact that many of the stars form triangles in the night sky. Whether the stars are faint or bright, seen with the naked eye, binoculars or through a telescope, the observer will find many triangles. The best-known by far, and pre-eminently the most outstanding, is the Triangulum Australe constellation, which definitely displays the shape most excellently.

Triangulum Australe is situated between Ara, Apus and Centaurus. The three stars alpha, beta and gamma Trianguli Australis are quite outstanding and vary between magnitudes 1.8 and magnitude 2.8. Bayer called these stars The Patriarchs – Abraham, Isaac, and Jacob of old (R. Allen, *Star Names – Their Lore and Meaning*).

In the far western side of the constellation a special planetary nebula can be found. **NGC 5844** is a somewhat strange object which may, perhaps, give the observer the impression of being a double planetary nebula, which it is indeed with PK 317.1-05.7 situated close to the north-western edge (see sketch). The relatively bright object in a north-west to south-east direction with a washed-out northern side, displays something of an hourglass shape. It is by no means even in structure, but contains knotty patches which become more concentrated towards the middle area of the nebula. Towards the north-east is a magnitude 9 star that appears double and lends a special effect to the field of view just 3' away.



NGC 5844 - A strange looking Double Planetary Nebula.

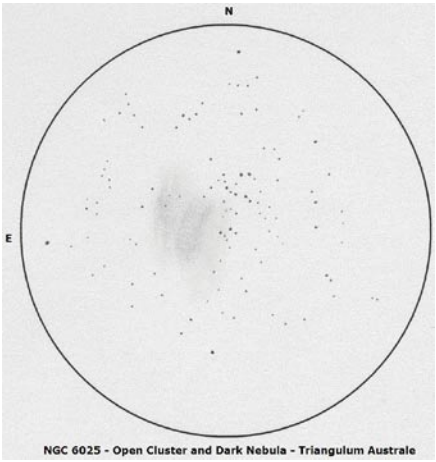


NGC 5979 Appears as a blue spot with a stellar core. Image: Dale Liebenberg.

About 2° east a listed ESO cluster takes its place. **ESO 099-SC06** displays a tight group of about eight stars that vary from magnitude 9 to magnitude 12 in brightness in a north-south direction. The brightest member in this tight grouping is the slightly yellow magnitude 9.9 (GSC 9030 2526),

which can be seen in the northern part of the cluster. However, brighter stars towards the east appear to increase the size of this grouping. The group could actually pass as an asterism.

The planetary nebula **NGC 5979** is situated 2.3° north of the lovely yellow Beta Trianguli Australis and is visible only as a dense, fuzzy soft blue dot with a stellar core (see picture). Higher magnification, however, displays a very hazy, woolly edge. A few faint stars string away from the planetary nebula in a south-eastern direction. Adding an ultra-high-contrast and oxygen filters helps define this round object in more detail against the busy star field.



NGC 6025 a stringy open cluster with a dark nebula as escort.

The famous open cluster **NGC 6025**, because of its position close to The Great Attractor, is a typical stringy grouping. The northern part of the cluster is slightly busier; with stars that displays a sort of S-shape in a north to south direction (see sketch). The cluster contains around 20 stars, with the outstanding magnitude 7 Mq Trianguli Australis, a blue-white star, at the southern tip. Careful observation brings to the fore a piece of dark nebulosity intervening among the eastern members of the cluster.

The yellow star delta Trianguli Australis is situated 2.2° east of the northern corner star beta Trianguli Australis, which is also a double star, with a magnitude 11.9 companion. The pair has a separation of 30" in a position angle (PA) of 120°.

Another double star is iota Trianguli Australis with a magnitude of 5.3, situated just 1.4° further east. The star, which shines a beautiful dark yellow, has a plain white magnitude 10.3 companion. The separation is 19.6" in a position angle (PA) of 16.

In line with the triangular shape of the constellation between the stars beta and gamma Trianguli Australis the faint galaxy **NGC 5938** takes its place in the busy star field. This object is barely seen, and then as a roundish glow with a relatively outstanding nucleus. Faint stars are more evident towards the south-eastern field of view.

Another galaxy, **IC 4595**, is situated just 40' west of the lovely deep-yellow zeta

Trianguli Australis, which shines with a magnitude of 4.8. The galaxy is very faint, and averted vision provides the best tool to discover its hidden qualities. Situated almost on the southern border with Apus, the galaxy displays a faint sliver of a light ray in a north-east to south-west direction. With care a few faint stars can be spotted on its surface, with one prominent on the north-eastern tip.

The good old triangular shape is easy to remember, and easy to describe as part of an observation with stars that splashed out in their thousands. Regard the triangle in a brand-new way from now on, and take special note of the constellation Triangulum Australe which shows off this well-known geometric shape in a very special way. ☆

Object	Type	RA (J2000.0)	Dec	Mag.	Size
NGC 5844	Planetary Neb	15^h10^m6	-64°40′	11.5	73″
ESO 099-SC06	Open Cluster	15 29 8	-64 52	7.9	8′
NGC 5938	Galaxy	15 36 4	-66 52	11.8	2.8′x2.5′
NGC 5979	Planetary Neb	15 47 7	-61 13	12	10″
NGC 6025	Open Cluster	16 03 3	-60 25	5	14′
IC 4595	Galaxy	16 20 7	-70 09	12.7	2.7′x0.5′