



## *Tiny bat vs mighty Eagle*

by Magda Streicher

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Image source: Stellarium

In the wee hours before sunrise the Bushveld is a lot more intense, and so palpably different – I’m somehow reminded of Simon & Garfunkel’s “Hello darkness my old friend ...” from their melodious ‘Sounds of Silence’.

I’ve seldom seen the Milky Way quite the way it was one April night while researching this article. Exceptionally bright and stretching all the way from the southern to the northern horizon where the Cygnus constellation hangs on its wings. I try to fathom its absolutely silky-soft beauty as it spans the entire night sky with its multiple fascinating facets. With a slightly tilted appearance, as if just beyond our line of vision, the Milky Way shows off its soft, downy blanket in a way that defies human comprehension and description. The eastern part of the Milky Way unfolds the dark night, contrasting with the western Milky Way Hub, but with a temporary difference now: planet Jupiter suspended like a cherry from the Hub cake and lending a completely new dimension.

The beautiful 1<sup>st</sup> magnitude star Altair, 17 light years away, which plays the

starring role in the Aquila constellation, compels me to take notice and lures me into giving this northern constellation, hanging in the membranes of the Milky Way, a chance. Characteristically, the two allies flanking Altair are the 3.7 Beta Aquila (Alshain) SE and the 2.6 magnitude Gamma Aquila (Tarazet) NNW.

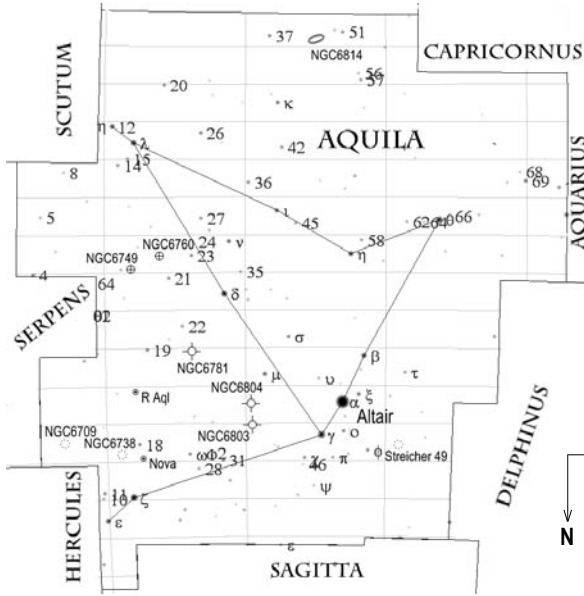
Approximately 3.6 degrees to the west, forming an imaginary triangle between Alfa Aquilae (Altair), and Gamma Aquilae, are two planetary nebulae situated only one degree apart. The most northerly, **NGC 6803**, is a relatively small glow at 11<sup>th</sup> magnitude. It appears starlike at low magnifications and is not at all easy to see. With higher power (218x) it becomes a round glow around a bright core. Also rather faint, but easier to see, is **NGC 6804**, just 30” in diameter and 50’ to the south. It is slightly hazy, round to oval in shape, and well edged. The western side looks brighter, with a southern edge that fades away slightly. A faint 12.5 magnitude star can be seen in the NW edge of the planetary 218x. Averted vision and an O-III filter would improve the view of this object to

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a beautiful soft glow. The English astronomer Edward Pigott discovered the fluctuating light of the yellow Eta Aquilae in September 1784.

Asterisms are unique and can take on various forms but do not, in most cases, share a proper motion through space. Some 3.6 degrees NE of the star Altair lies a lovely grouping of around 10 stars, **Streicher**

**49**. The point of action is the 6.9 magnitude star (HD 190070) situated at the southwestern end of this elongated group. From this star – the brightest in the group – fainter stars fan out towards the northeast in layers to complete what looks like a water sprinkler in action (see Guide 8 simulation below).



Skymap produced using Cartes du Ciel

The Aquila constellation is supposed to be represented by a bird known on the Euphratean stones (ca 1200 BC) as Eagle the Living Eye. According to legend Hercules shot an arrow (Sagitta) at the Eagle (Aquila), sent out by Zeus to attack Prometheus for stealing fire from the gods.

Bats regularly fly furiously around me at night to purify the air of those tiny noise-mongers, namely mosquitoes. But don't believe the old wives' tale that they will get entangled in your hair. I've come to regard



**This simulation, done with Guide 8, resembles the view of the 'Streicher 49' star-string through her 12" telescope at 218 power with east to the left and north to the top. The field is about 24 arcminutes and stars down to mag 16 are shown. The lengths and directions of the lines represent the amounts and directions of proper motion respectively.**

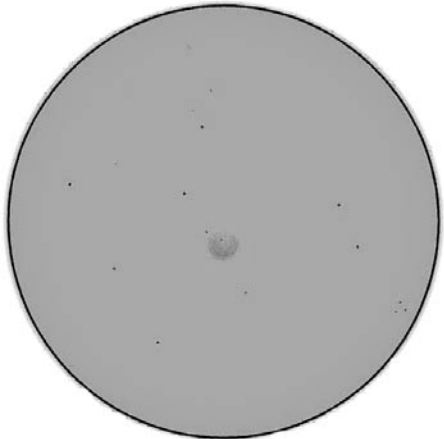
them as my friends and to accept them when freely flying around me. Aquila looks a lot more like a bat to me (my imagination once again!) if I look globally at the V-shaped constellation with the two outstretched wings, spreading out from Delta Aquila to the northwest and southeast.

Two exceptional open clusters hang off the southern point of the NW wing star, Deneb el Okab. **NGC 6738**, the more easterly cluster, displays a long string of faint stars in a lopsided V shape. At 95x my exceptionally fruitful imagination tells me it looks like a skier skiing on a string of faint stars. Not very crowded, but very distinctive, if not unique. Just 2.5 degrees further west, **NGC 6709** can be seen. It's around 4 000 light years distant and again exhibits a lovely stringy cluster in a roundish sort of shape. Faint stars tear along like falling raindrops running in a NW-SE direction. A notable pair of 9<sup>th</sup> magnitude stars can be seen in the middle of the eastern string. A few years ago I learned about **Aquila Nova V1548**, situated east of these clusters. This very special object is quite different from the field-stars with an out-of-focus-star feel to it.

Take a long 4 degree triangle SE from the cluster NGC 6709 and search out the lovely periodic variable star **R Aquilae**. This class M Star varies between 5.5 and 12.0 in about 284 days and is 170 light years distant. Astronomers designate the first variable star discovered in a constellation with the letter R. When I observed this star in April it was bathed in a soft orange to red colour and I es-

timated its brightness around magnitude 11.

Aquila hosts a graveyard of planetary nebulae, to use the words of David Eicher, editor of *Astronomy* magazine. An outstanding planetary nebula is **NGC 6781**, which is historically quite interesting. It is situated 3.5 degrees SE from R Aquila and 4 degrees NNW of Delta Aquilae. I see it as a relatively bright semi-oval grey glow against the background star-field. This nebula displays a much brighter southern edge with a notably fading northern part. A faint off-centre 14 magnitude star can be seen north of centre, but is probably not what sets the nebula alight. Auke Slotegraaf has indicated to me that the central star and real culprit is around magnitude 16. It was noted by W Herschel in 1788 who said it was a dim planetary for a 4-inch but easy to see through an 8-inch telescope.



**Planetary nebula NGC 6781 sketched by Magda using her 12-inch telescope working at 218 power, yielding a field of 24 arcminutes. North is up an east to the left.**

Robert Burnham Jr noted a faint star situated north of the centre. EJ Hartung notes that it is very bright over the whole surface but, strangely, he makes no mention of any star on its surface. We would love to hear whether you can make the cut between the two central stars.

We now return to **Delta**, the wishbone star in the eagle's chest, to discover two globular clusters about 4.5 degrees to the west. **NGC 6749** is not very bright and is only just visible as a very soft, hazy glow, slightly brighter towards the centre. The faint stars of the cluster Berkely 42 can be seen towards the southwestern edge of the globular cluster that swings out into the field of view.

**NGC 6760** settles around 2.7 degrees further to the southeast, appearing as a quite granular globular cluster hanging like a bright, frosted ball in the fringes of the Milky Way. Higher power (218x) brings out a more elongated S-N shape with faint stars dotted on its dusty surface. The north-

ern part of the cluster appears more dense, with faint stars that merge well into the starry field of vision.

The only object up for discussion in the southeastern part of Aquila is the galaxy **NGC 6814**, 1.4 degrees from the Sagittarius border. This galaxy displays itself as a soft, glowing oval fleck in the Milky Way. Higher power (218x) brings out a slightly brighter centre part with a soft envelope just visible around it. This lovely field displays a few bright stars taking a firm stand around this galaxy.

In the Bushveld, towards the end of the summer, it is anything but quiet now. The impala perform their mating dances right through the night, to the annoyance of the rhinos grazing off to one side, close to the dam. The Bushveld is so much a part of my life and together we form a tight unit beneath the wonderful dark night sky. Venture outside in the deep of the night and don't let the bats keep you from exploring the beauty of the universe! ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 6709	Open Cluster	18 <sup>h</sup> 51.5 <sup>m</sup>	+10°21'	6.7	13'
NGC 6738	Open Cluster	19 01.4	+11 36	8.3	15'
NGC 6749	Globular	19 05.3	+01 54	12.4	6.3'
R Aquilae	Variable	19 06.4	+08 14	5 to 12	
Aquila Nova	Nova	19 07.5	+11 45		
NGC 6760	Globular	19 11.2	+01 02	9.1	6.6'
NGC 6781	P/Nebula	19 18.4	+06 33	11.8	109"
NGC 6803	P/Nebula	19 31.3	+10 03	11.3	6"
NGC 6804	P/Nebula	19 31.6	+09 13	12.2	31"
NGC 6814	Galaxy	19 42.7	-10 19	11.2	3.0' x 3.0'
Streicher 49	Asterism	20 02.9	+10 56	10.0	6'