



Heading for the Pole

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Image source: Stellarium

Octans is not exactly a constellation that would attract much attention and in addition, it doesn't really contain any bright stars. But don't underestimate our Polar constellation. It contains at least seven galaxies, about two open star clusters and nearly 32 double stars.

The Octans constellation was apparently named by Lacaille during his visit to the Cape in 1750 for the "Octant, your mother's seventh sister on her father's side," a comedy written in 1730 by John Hadley. The three brightest stars in the constellation form a characteristic triangle with Nu (3.7 magnitude), Beta (4.1 magnitude) and Delta Octantis (4.3 magnitude).

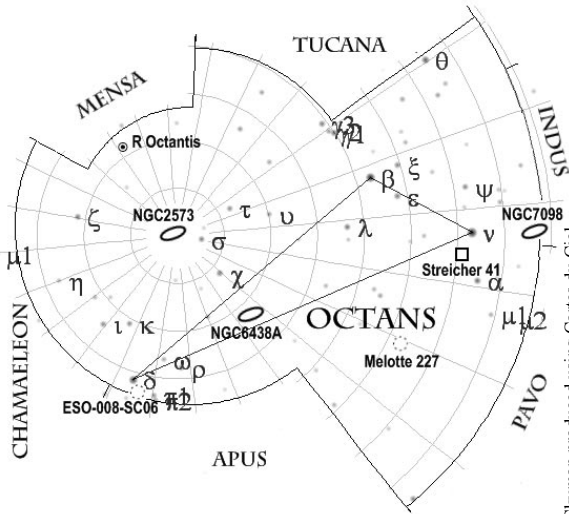
I would venture to suggest that the part of the night sky displaying the "south celestial pole" does leave some of us a tad nostalgic. Sigma Octantis (5.4 magnitude), also called Polaris Australis, came closest to the south celestial pole in 1866 when it was just 43' away, but the pole position is now heading towards Delta Octantis. Because of my imagination and adventurous spirit, often exploring the impossible, I just had to find our proper southern polestar (through the telescope of course). A mere 3/4 degree from Sigma Octantis, this

special point in the night sky can be found, but definitely not without some effort. This unknown, yet well-known, point in the starry sky is only 10' north of the relatively bright 8.7 magnitude HD 98784, which is the middle star of a short star-string. (Because the pole is rotating relatively fast, directions count for early evenings towards the end of year.)

Only 40' NNE of the southern sky-pole, the equally well-known and nearest galaxy, **NGC 2573** Polarisissima Australis, can be found. It is not an easy object. I see this galaxy as a small, slightly oval, E-W puff of light with low surface brightness but brightening slightly towards the centre core. Its western edge seems to be slightly



A picture of NGC 2573 from *Galaxies* by Wolfgang Steinicke and Richard Jakiel, a book featuring some of Magda's contributions. North is at the top and east to the left.



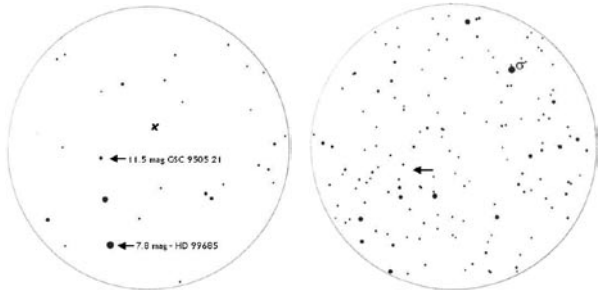
end, the companion galaxy, NGC 6438A. Owing to the presence of the companion I could just about make out that the larger galaxy slowly brightens towards the centre. At both ends of these two nebulae faint pin-point stars can be seen. The 9.8 magnitude yellow GSC 9527 1029 1 forms a triangle towards the SW.

In the western-most parts of Octans, a faint star cluster, **ESO 99-SC06**, can be

more hazy. A string of evenly spaced stars runs almost 8' outwards towards the south in a half moon shape, starting just off the galaxy's eastern edge. Octans also boasts a variable star, **R Octantis** (HD 42556), approximately 4 degrees east of NGC 2573, which varies between 6 and 13 magnitude in only 13 months.

found. This unique cluster consists of ten approximately 12 magnitude stars, situated just 17' from 5.5 magnitude Pi Octantis. The western part of this group seems slightly more dense, with a few members forming a N-S bar. Although faint, it does stand out, but still requires high power to see.

Around the polar area several galaxies can be seen. I was surprised by the brilliance of **NGC 6438** and **NGC 6438A**, situated 4.8 degrees west of Polaris Australis. The soft oval of the two merging galaxies is quite obvious, seen in an E-W direction at 95x. Higher power reveals an extension like a wisp attached to the main galaxy's southern



(left) A 22 arcminute field, centred on the south celestial pole (indicated by a cross), as seen through my 16-inch at 184 power. (right) A wider view (2 degree field of view) of the south pole area showing Sigma Octantis in relation to the pole (arrowed).



For this picture, Steve Potter (SAAO) placed SALT's alignment tower at the South Celestial Pole. The image is a composite of numerous 40-second exposures which, after a few hours, show up as circular star-trails due to the Earth's rotation.

My sentiments go back to the old seafarers who, in ideal conditions, actually saw Octans's brighter stars revolving around the pole, assured of the fact that they were sailing southwards. The northern-most heel point, completing the constellation's triangle, is the double star **Nu Octantis** which is fairly bright and easily visible, even with low magnification. The double star consists of two yellow 8.5 and 8.8 mag stars, with a convenient 17.3" separation in. Alfa Octantis can be seen 2 degrees NW, which, at a 5.2-magnitude, is fainter than the double star Nu Octantis. A little further NW are **Mu 1 and 2**, two beautiful, easily visible butter-yellow stars, underlined by a string of faint stars in an E-W direction. The northern part of

Octans houses the galaxy **NGC 7098**, approximately 4 degrees NE of the double star Mu Octantis. This soft round glow in a NNE-SSW direction, with an outstanding bright star-like nucleus and a soft halo around it, was relatively easy seen. A string of four 11 magnitude stars cups this galaxy towards the NE.

The open star cluster **Melotte 227** is situated about 4.8 degrees W of Nu Octantis and its main focus is a scattered group of about 20 stars of various magnitudes in an elongated N-S direction, roughly 40' in size. This grouping contains four bright stars and a big handful of faint stars showing a relatively close position angle in formation. Towards the west of

deepsky delights

this group is a long outstanding string, containing around five well-spaced stars, from the brightest northern 7.2 magnitude HD 189487 to the faintest star at the southern end, about 20' in size. This string could be part of the group, seeing that the cluster is listed as 70' in size. In line with this, heading just 50' SW of Nu Octantis, you will find another of my so-called asterisms, **Streicher 41**. It is really great to have one from Octans in our heritage constellation. This star grouping in a way reminds me of a radio telescope and has been dedicated to one of my many astronomy friends Derck Smits, who is quite well known around radio dishes like this. Four 9.5 magni-

tude semi-circles of stars form the dish of the radio telescope, which appears to be pointing to the NW, with two more stars firmly on the ground towards the SE (127x). Have a look for yourself – it is quite striking.

If the thought ever occurred to you to look up the spot we call the southern celestial pole, this is probably the time to do so. Perhaps it's just the thought that counts when one looks at the few faints stars around this strategic point.

It is the end of year again and with that my best wishes. May the year we will call 2008 be a wonderful starry one. ☆

| Object | Type | RA (J2000.0) | Dec | Mag | Size |
|---------------|--------------|-----------------------------------|---------|-----------|-------------|
| South Pole | SCP | 00 ^h 00.0 ^m | -90°00' | | |
| NGC 2573 | Galaxy | 01 42.0 | -89 20 | 13.0 | 2.0' x 0.7' |
| R Octantis | Variable | 05 40.0 | -85 55 | 6 - 13 | |
| ESO 008-SC 06 | Open Cluster | 14 55.2 | -83 25 | ? | 10' |
| NGC 6438 A | Galaxies | 18 22.3 | -85 24 | 12.4 | 1.7' x 1.4' |
| Melotte 227 | Open Cluster | 20 15.3 | -79 17 | 5.3 | 70' |
| Mu 2 | Double Star | 20 41.7 | -75 21 | 7.1 & 7.6 | Sep. 17.4" |
| Streicher 41 | Asterism | 21 26.9 | -77 53 | 8 | 26' |
| NGC 7098 | Galaxy | 21 44.3 | -75 07 | 11.4 | 4.0' x 2.3' |

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