



A Dolphin in Durban

by Magda Streicher

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Image source: Stellarium

The constellation Delphinus is but a tiny little fellow just east of the constellation Sagitta, south of the constellation Vulpecula and squashed between the constellations Pegasus, Equuleus and Aquila. A long time ago it was also called Job's Coffin, after the four "head" stars in this constellation: the 3.7 magnitude Alpha on the NW point, the 3.6 magnitude Beta on the SW point, the 4.4 magnitude Delta on the SE point, and the 4.2 magnitude Gamma Delphini on the NE corner.

Nonetheless, the constellation lives up to its marine-related name by its strong resemblance to a dolphin. The double star Gamma Delphini is easily imaginable as its snout, while its tail is a graceful arc consisting of Beta, then 5.3 magnitude Eta, and finally the 4.0 magnitude Epsilon Delphini at the southern tip.

My decision to use the Delphinus constellation for this edition of Deepsky Delights has been entirely motivated by the wonderful Symposium held in Durban on 7 to 9 August 2008. Quite aptly and without any reservation, I dedicate this article to all the people who contributed to making the 2008 ASSA Symposium such an enormous success.

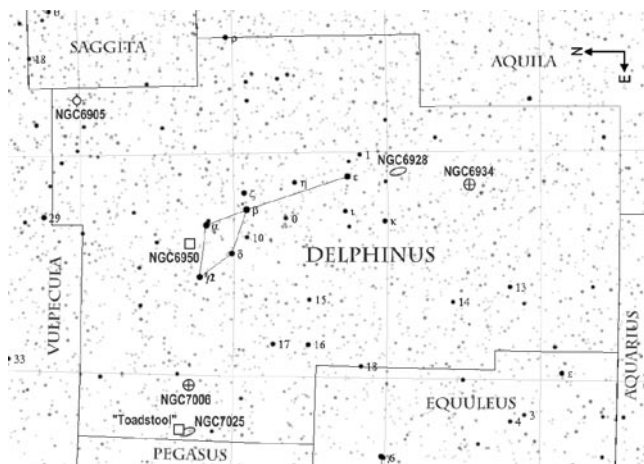
The front verandah of the Durban Country Club is the blue, blue ocean, and for us "plattelanders" who are accustomed only to concrete and bushveld, it was a wonderful opportunity to enjoy a beautiful view of the sea. The amount of work involved in organising the symposium must have been immense. The preparations, transport, meals and all the other aspects of a congress of this nature were immaculately executed. The men and women at the helm can only be thanked yet again for the outstanding way in which they got it all together.

The constellation Delphinus inevitably turns one's mind to the thousands of species that inhabit the ocean. Can one possibly begin to appreciate how massive the sea really is and what vast array of life-forms are found in its depths? Comparing it to the night sky with its millions and millions of stars may just help us imagine it. The visit to Durban's Marine World on the last day of the symposium brought home the feeling of the huge abundance of life in the mighty ocean.

My first object in the starry Delphinus is the planetary nebula **NGC 6905** (see image

by Lucas Ferreira). It is also known as the “Blue Flash Nebula” – appropriately for our aquatic theme – and is situated in the furthest NW part of Delphinus. This well-known jewel is a rather oval-shaped out-of-focus puff, slightly elongated north to south, just west of a triangle of 11 magnitude stars. It displays a frosted blue/green colour with a thin envelope on its outer edge, closely hugged and surrounded by faint pin-point stars (346x). The nebula seems slightly brighter towards the centre, but with no visible central star seen through my telescope. The unseen estimated 14 magnitude central star has an extremely high surface temperature of about 100 000 Kelvin.

About 50' NE of 3.7 magnitude Alpha Delphini is the open star cluster **NGC 6950**. At first glance it appears to be a very busy star-field comprising numerous 12 magnitude stars (76x). Closer investigation and higher power reveal approximately 30 stars in a very loose, spacious grouping, standing out slightly from the field stars. A noticeable V-formation of stars opens out towards the NW, connecting some of the fainter members, which spread out to the southern and eastern sides of the cluster. A short string of three very close stars make a middle bar in an E-W direction.



Skymap produced using Cartes du Ciel

Some of the most interesting objects can be found in the constellation’s eastern-most part. About 1.8 degrees west from the Pegasus border, the globular cluster **NGC 7006** can be found. This globular is about 150 000 light years away from us, drifting independently, a remote object that is about 180 000 light years from the galactic centre of the Milky Way. The cluster was first picked up in 1784 by William Herschel which saw it as small, faint, and difficult to see. To me this globular cluster displays a small washed out, hazy light, gradually getting brighter to a, not so bright, core. In a way it looks like a planetary nebulae and not a globular. The only stars resolved a pair of 14 magnitude stars on the south periphery of the globular, with a field of view filled with pin-point stars. Auke Slotegraaf describes it as a round ball of fuzz, difficult to see but with averted vision it can be seen to become brighter to the centre. Larger telescopes and higher power may show a clumpy



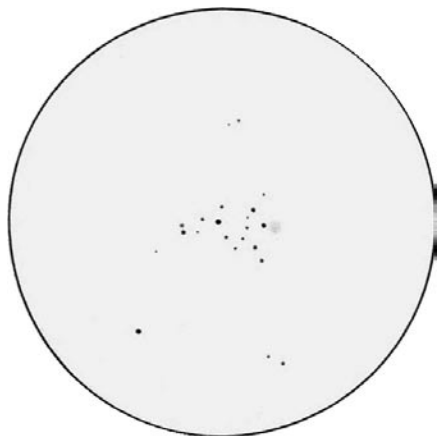
Lucas Ferreira photographed these two demanding deep-sky objects using a Pentax K110D SLR camera working at ISO 1600, mounted on his Sky-Watcher 200mm Newtonian Reflector, requiring 50 and 60 second exposures for NGC 6934 (left) en NGC 6905 (right) respectively. North is up and E to the left. He writes: “To date, these have been the most difficult objects to photograph! They are small and dim objects. NGC 6934 is the brighter and larger of the two prominent globular clusters in Delphinus. Like most of this tiny constellation, what struck me was that it lays in a rich star-field when I observed it thru my telescope. High magnification is however needed to resolve the cluster, as it is very small. The Blue Flash nebula, NGC 6905, is a wonderful find; a tiny blue gem amongst a field of scattered diamonds. I was surprised to find such a beautiful object in a constellation so small. A great planetary nebula to observe in a decent aperture telescope that is capable of high magnification. Highly recommended!”

appearance and mottling, but I doubt that it can be resolved in any amateur instrument.

Continue along a line 1.5 degrees further east from NGC 7006 to find the galaxy **NGC 7025**, which is situated on the Delphinus/Pegasus border. This galaxy resembles a faint smear of oval light in a SW-NE direction. A few years ago the American amateur Sue French noted an asterism which flanked the western side of the galaxy – about a dozen 10 magnitude stars in a triangular shape which is quite prominent against the starry field. The wide section of this asterism is found towards the south, with the galaxy NGC 7025 at the

asterism’s NE base. This asterism is now known as the **Toadstool** or **Missing Mushroom** (see sketch).

Let us now explore a nice group of four galaxies (NGC 6927&A, 6928 and 6930), situated 1.4 degrees south of epsilon Delphini. The brightest NE member, **NGC 6928**, appears as a lovely elongated E-W cigar-shaped disc. Mottled areas can be detected on its surface with a glimpse of brightness towards the centre. NGC 6930, situated 3' south from NGC 6928, is also an elongated galaxy in a N-S direction, with very low surface brightness. NGC 6927 and NGC 6927A, the western pair of the group, appear very faint, barely visible (346x).



My sketch of the “Toadstool” asterism (NGC 7025) and galaxy using my 12-inch at 218 power. North is up and E to the right.

The last object to be discussed is another globular cluster **NGC 6934** (see image by Lucas Ferreira), which is situated 2.5 degrees further south from the above-mentioned group of galaxies. This globular is relatively bright and is situated towards the western end of an arrow-shaped asterism. It appears as a mass of star points embedded in a soft, unresolved, distinct core (218x). Faint stars flare out towards the SE in a cup-shape, whereas, towards the western end, the stars seem to break down slightly. One’s attention is also drawn by a 9 magnitude orange star situated on the western edge of the globular cluster .

The riches of the stars in Delphinus match the richness of the fare at the Durban symposium. The fruitful interaction and association between amateur and professional astronomers was once again in evidence. The speakers explained their fields of study

with such care that clear comprehension was possible. The keynote speaker, Professor George Ellis, is a world-renowned figure and to share a cup of tea with him was a real treat. Okkie de Jager encouraged amateurs to contribute reports on their observations, which may well offer a new direction for amateurs with telescopes. The ever cool and calm Mike Reid handled everything so well, with the charming Logan Govener at his side. Hilton Radcliff has become a dear astronomy friend to me in the past year. Ian Glass and his lovely wife, who stayed at the same guesthouse as the one I was at, shared many stories at the breakfast table. Ian, who knows the history of Galileo so well, was responsible for a good dollop of nostalgia!

Cosmology may sound very complex, but for Pietermaritzburg amateur Frikkie de Bruin it is a passion that astounds me more and more every day. Derck Smits, one of my first astronomy friends, spares no effort to make a most welcome contribution to South African astronomy. On the last day the ever willing Peter Cramb took some time out to take Chris de Coning (who does wonderful work as ASSA’s Historical Section director) and me to visit the site of the old Natal Observatory in Currie Road on Durban’s Berea. On arrival we found the main gates locked with apparently nobody in attendance. After some searching we found an open gate which led into the car park. This site offers a great view over the city. One can only imagine how glorious the starry skies must have looked so many years ago. We were appalled at what we found. With difficulty we scrambled

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through the undergrowth and rubbish to the house which had been built for Natal's only astronomer, Edmund Nevell (who published under the surname Neison) at the time of the Transit of Venus in 1882 when the Natal Observatory was founded. The building is now in an advanced state of decay.

Naturally, just "chilling" and socialising (like a pod of delphini) was the order of the day as all of us who are so passionate about the night skies mingled at the symposium from breakfast until late at night. And of

course the deep-sky addicts among us in the form of Auke and me tried to harvest every speaker's knowledge in the finest detail. The opportunity to make new friends and to be able to attend the symposium was a wonderful privilege indeed. A gift of a crystal containing a dolphin was presented to me – a treasure that will always remind me of the symposium and of Kwa-Zulu-Natal's friendly people. ☆



(Above) The badly neglected site of the former Natal Observatory in Currie Rd, Durban is heartbreaking. Picture by Peter Cramb.



(Right) This special crystal containing a dolphin was a gift, presented to me at the Durban Symposium, which inspired me to dedicate this article to Delphinus, thence to the friendly people at the two KZN Centres.

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 6905	Planetary neb	20 ^h 22.4 ^m	+20°07'	11.9	0.4"
NGC 6928	Galaxy	20 32.8	+09 56	12.2	2.0'x0.6'
NGC 6934	Glob Cluster	20 34.2	+07 24	8.7	5.9'
NGC 6950	Open Cluster	20 41.4	+16 37	10.0	12.0'
NGC 7006	Glob Cluster	21 01.5	+16 11	10.5	2.8'
"Toadstool"	Asterism	21 07.4	+16 18	9-12	13.0'
NGC 7025	Galaxy	21 07.9	+16 20	12.8	2.1'x1.4'