

Observing log

Object: NGC 6656

Xrefs: Lac I.12, M 22, h 3753, Ben 114
RA & Dec: 18h 36m 24.21s, -23° 54' 12.2" (Sgr; MSA 1391)
Stats: globular cluster; B=7.16, V=6.17; d = 32'

Location: Kati's Farm (33°50.9' S, 19°57.7' E)

Date: 2014.09.01, ±02:00 SAST

Scope: Brian (6" f/5.9)

Eyepieces:

Antares 2" Erfle 32-mm (28×)

19-mm Panoptic + 2.5× Powermate (118×)

Description:

A beautiful large oval puff of light.

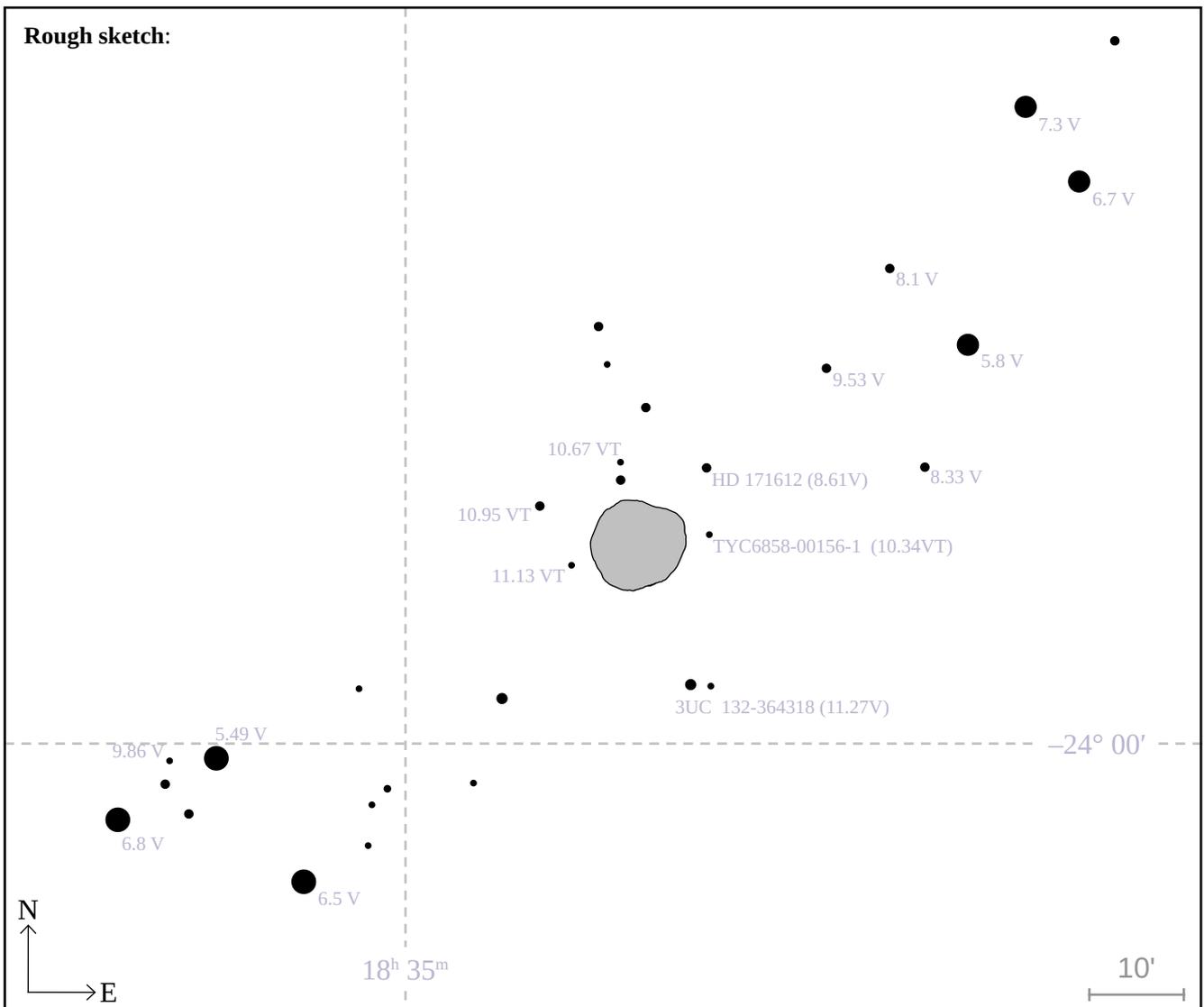
The 32-mm Erfle gives a wide low-power (28×) view which perfectly frames this delightful cluster and the prominent asterisms that flank it (two bright triangles, one to the north-east the other to the south-west). The cluster itself a glorious, large, oval smudge of infinitely small stars. It is only approximately round, being elongated slightly along the northeast-southwest axis.

At higher power (19-mm + Barlow, 118×) about two dozen stars sparkle out across the cluster's surface. The edges are ragged with streamers of stars leaking off into space, particularly to the south-west.

By diagram, the cluster is 10' across.

Overall conditions: Poor. Seeing: about 6" (measured by Brett du Preez with Maxim). Transparency: poor (low contrast, dew). Moon: None. Light pollution: slight. Dark adaptation: good.

Rough sketch:



NGC 6656 (Messier 22) – The Arkenstone of Thrain

The brightest part of the Milky Way is the cloud of steam (vapour, to be precise) rising from the spout of the Sagittarius Teapot. The top of the lid of the Teapot is 2.8-mag lambda Sagittari, a cute double star ($V=2.8$ & 9.8, sep $\sim 80''$). Visible in the same binocular field 2.5° north-east lies the magnificent globular cluster NGC 6656.

In my 6-inch f/6 refractor it is plainly visible as a beautiful, large, oval puff of light. It is definitely listed in the OMG catalogue. A wide-field view [2" 32-mm Erfle, 28 \times] shows its characteristic surrounding star field best: the star ball is flanked north-east and south-west by two prominent asterisms, immediately recognizable from binocular observation and securing its identity. A bright, 6th magnitude 90° triangle lies $\frac{1}{2}^\circ$ to the south-west, while $\frac{3}{4}^\circ$ north-east is a 7th magnitude parallelogram.

At this low power, the cluster appears as a glorious, large [10'], oval smudge of infinitely small stars. It is only approximately round, being elongated slightly along the northeast-southwest axis. At higher power [19-mm + Barlow, 118 \times] about two dozen stars [around 11.5-mag.] sparkle out across the cluster's surface. The cluster is (obviously) brighter towards the centre, but there is no sharp nucleus; instead, it is only broadly condensed. The edges are remarkably ragged with streamers of stars leaking off into space, particularly noticeable to the south and west.

One of the earliest telescopic observations was made by La Caille, in the 1750s from Cape Town, who saw it in his tiny half-an-inch telescope as a "small comet nucleus". A few years later Charles Messier logged it as a "round nebula without stars". A few more years later William Herschel turned his substantially larger telescope on it and, despite its altitude at best being around 20° , found "an extensive cluster of stars... condensed in the middle, the diameter is 8', the greatest condensation is about 4'."

Almost a century after La Caille, John Herschel got excellent views of this globular while at the Cape. His 18-inch f/13 telescope showed him "a noble object... very rich, very much compressed and gradually brighter to the middle but not to a nucleus." Herschel's larger aperture allowed him to peer deeper down along the cluster's Hertzsprung-Russell diagram (so to speak), revealing the cluster's brightest giant stars and their characteristic redder colour indices, as well as its less-luminous members. He wrote: "what is very remarkable, the largest of these latter are visibly reddish; one in particular, the largest of all (= 12-11m) S.f. the middle, is decidedly a ruddy star, and so I think are all the other large ones." In a second observation he noted: "consists of stars of two sizes, 11 and 15m, with none intermediate, as if consisted of 2 layers, or one shell over another." About 1.4 arcmin from the centre of the cluster, to the south-east (PA 143°) lies one of the brightest stars within the cluster, TYC6858-02190-1 ($V=10.3$, $V_T=10.6$), which has a colour index of +2.22, consistent with the "decidedly ruddy star" Herschel noted in his first description.

The accompanying photo by Dale Liebenberg beautiful shows the colours of the brighter stars. Chris Vermeulen (6-inch Dobsonian; 2006) noted: "...in the outer edge it seemed there were a number of yellow-orange coloured stars as well as white to white-blue coloured stars", while I noted, many years ago using a 15.5-inch f/9 Newtonian, "an unresolved central triangular nucleus containing some red stars".

The cluster's star chains are another remarkable feature. E J Hartung (*Astronomical Objects for Southern Telescopes*, 1968) noted "stars forming streaked patterns" while Stewart Moore (Webb Society, 1992) recorded "the appearance of having three faint fingers of stars protruding from the western edge" [12-inch f/5]. Steve Coe noted "many streamers and coils of stars which make their way outward through the cluster" [13-inch f/5.6 Dobsonian] and, not to be outdone, Carol Botha saw "strings of bright stars seemingly shooting from the core in all directions like a fireworks display" [12-inch f/5 Dobsonian; 2010]. Where there are star chains, the observer will most probably also see starless regions. Richard Ford found "plenty of empty starless patches on the outskirts of this cluster" [12-inch Dobsonian; 2010], while Magda Streicher noted "darker lines visible in the outer northern fringe" [12-inch f/10 SCT].

With a 15.5-inch f/9 Newtonian I noted a dark starless lane, starting at the north-eastern edge of the nucleus cutting across the northern quarter of the nucleus, giving the central region a triangular shape.

Inevitably, such a 'noble object' will draw comparisons to other famous globular clusters, such as omega Centauri. Solon Bailey (1908) was one of the first to do so, based on his early photographic recce into the southern skies. John C. Duncan (1920) published the first detailed photograph of the cluster, taken with the 60-inch reflector atop Mount Wilson, and wrote: "Although one of the most magnificent clusters available to northern observers, appearing larger and brighter than even the great cluster in Hercules, it seems to have attracted comparatively little attention and no large-scale photographs have been published until now." And then there is Steve Coe's judgement to consider: "It is second only to Omega Centauri and 47 Tucana when it comes to globulars."

Finally, an irresistible quote from Robert Burnham's *Celestial Handbook*:

"It has always seemed to the author of this book that J.R.R. Tolkien, in his delightful fantasy *The Hobbit*, unwittingly created an exquisite description of M22 when he spoke of the fabulous jewel called the 'Arkenstone of Thrain': 'It was as if a globe had been filled with moonlight and hung before them in a net woven of the glint of frosty stars...'"

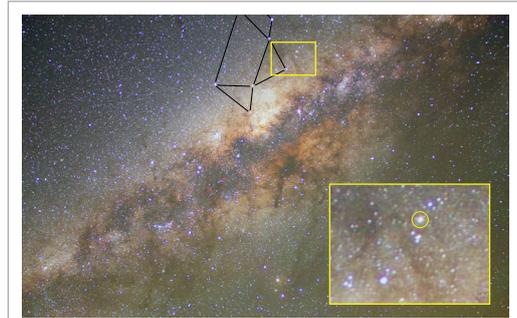


Photo by me (18-mm f/3.5 ISO 2500 6-min)

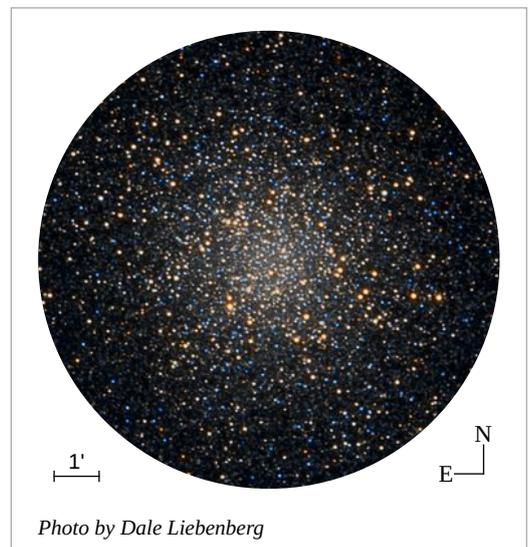


Photo by Dale Liebenberg