

Data of the sky region at the time of the observation.....SQM-L 21.5 IR -30° Temperature 5°
Data of the nightSun alt: -67.4° Moon alt: -70,5°
Data of the objectAlt: 58.3° Az: 111,3°
TelescopeStargate 18"



I start by describing the star field of the nebula which is quite rich in stars with some of them reaching the very edge of the object, Mr extends in a beautiful starry field.

The size of the nebula is very small at these magnifications, occupying no more than a tenth of the eyepiece field.

Its shape is striking, as it looks like a rhomboid or a parallelogram, that is, it is clearly inclined towards one end but with a more or less square shape.

From its brightness, I distinguish the central area as slightly brighter than the rest but without much more detail.

At these magnifications no particular detail stands out.

Nagler 31mm (70x - 1° 10' - 6.6mm)

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The jump to 22mm did not allow me to get much more detail.

The nebula has increased in size to occupy one-sixth of the eyepiece.

The shape remains the same.

It is in its brightness where I find more differences. The central part of the nebula is certainly brighter than the surrounding halo, and this halo seems ghostly because of the lack of brightness. That is, two levels of brightness are easily seen in the nebula, one brighter in its interior and the other fainter in its exterior. I would also say that the fainter outer region of the nebula is wider in the region between 1 and 2 o'clock in the nebula than in its opposite region between 7 and 8 o'clock. That is, using the averted vision and taking the inner bright part of the nebula as a reference, the faint zone does not surround it

equally all around its periphery, but *narrows* in the 1-2 part, and *widens* in its 7-8 part.

Finally, as a detail of special attention I seem to see with difficulty and with averted vision, that the outermost part of the nebula has a filamentary shape. That is, the inner part is quite uniform, while the outer part is NOT, it seems as if it had some areas a little brighter than others, but it is difficult to appreciate and describe because they are very thin. I manage to observe them a little better by playing with the lateral vision. Using this visual tool, it is verified that these external parts emerge with clarity, then I center the view on the nebula making these parts begin to disappear leaving only, for a fraction of a second, the brightest parts. It is then when I have that sensation of having a kind of '*little hairs*' surrounding the brightest part. This fact is also more accentuated in a zone of the 7-8 than in the 1-2.

Nagler 22mm (98x - 50' - 4.7mm)

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Whew, how I love the jump to this eyepiece. I always get the same thing on many objects. One thing I appreciate is that I see a multitude of stars surrounding the nebula. In particular there is a triangle of them that serves me very well to delimit its size at 6 o'clock, but there are also many more, a little fainter, surrounding the nebula as at 12 o'clock. That detail gives even more beauty to the object, as it frames it in point stars.

On the other hand, the object has increased a lot in size and also the field around it has been significantly reduced, so the feeling of enlargement is even greater and it is appreciated. I would say that it occupies a quarter of the eyepiece.

Again it is the detail in the grays of the nebula that attracts me, and thanks to the increased magnification, the bright area inside the nebula no longer looks uniform. There is clearly a brighter area than the rest of the core, this even brighter section is 'arc' shaped. So I reapply the

process of observing with averted and direct vision to detect which parts dim or disappear earlier so that I can give it some shape. Thanks to this exercise, the image of the bright central part changes again. You can still see that arc shape that I mentioned before but something else is detected, from this arc, or rather semicircle, protrudes backwards a kind of pinnacle that reminds me of the famous marine stripes, with that curved body in front but then behind it has that long tail. I insist, clearly there is a kind of filament that from the bright zone advances towards the dim zone. It also reminds me of the symbol of the resistance of Star-wars (I can't resist not to put it), but turned ninety degrees.



Delos 14mm (154x - 28' - 3mm)

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This new eyepiece helps me to confirm some aspects already described and to add new details.

Several stars surround the nebula at 12 and 6 o'clock delimiting it. At 6 o'clock there is a small group of three stars forming a triangle as well as a row of stars at 12 o'clock, these two formations are the ones that frame the nebula.

I can say that the nebula is shaped like a parallelogram or rectangle lying on one side (with the longest axis in the direction 7-8 / 1-2).

In general, two regions are clearly seen, one more internal, bright and that is practically 80% of the nebula and another more external, surrounding it, less bright, with a kind of hairs coming out from the brighter to the less bright. The faint zone is larger in region 1-2 than in

region 7-8. In addition, the brighter inner zone has an arc shape with a pinnacle receding from the back of it. And here is where the new detail appears, as I move to this new eyepiece I discover a dark bay that clearly delimits one of the two areas of the *back part* (at 3 o'clock) of this pinnacle and helps to more clearly delimit one of the two sections of that arc. Unfortunately with these magnifications I am losing the fainter area.

It is a joy to see so much detail because, honestly, I think it is the first time in my life that I see something like this in M1. Before the 18" for me it was a bland and rather nondescript object. However now I am discovering a richness to it that I am liking. I continue with the magnifications.



Ethos 10mm (216x - 27' - 2.1mm)

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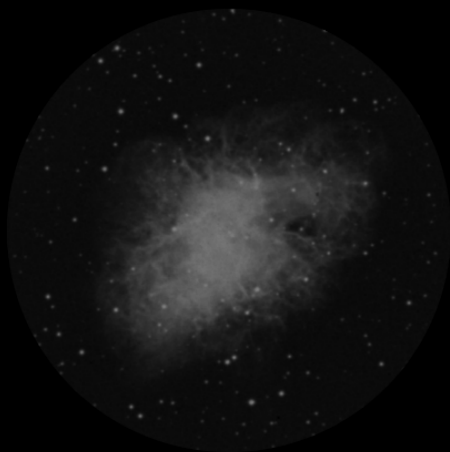
The next magnification jump does not contribute much more unfortunately. I only confirm what has been observed before, especially that arc shape, that pinnacle

and that bay as 3 distinctive regions that are more difficult to observe in the nebula.



Ethos 8mm (270x - 22' - 1.7mm)

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Delos 4.5mm (480x - 9' - 1mm)

WOOOOOOOW. I don't know what happens to me with these magnifications and with this eyepiece, but it has surprised me more than once. Now the nebula occupies practically the whole field of the eyepiece, and since I don't need to move it, I can observe it quite calmly. The faintest parts of the nebula have dimmed a lot with this magnification, but the bay looks much better. But there is more, I discover, inside the bright 'arc', that it is actually divided in two. There is a kind of river that divides this arc in half. I needed a lot of magnification to see it, but it is definitely there. In addition, there seem to be more filaments inside the bright part of the arc, although I can't see them clearly. To see this black 'river' we have to start from the brighter pinnacle that I indicated above, just above the famous 'bay'. The view will show us that, just at the end of this pinnacle, there is an area less bright than the rest and, if we

follow it with the side view, we can see how this 'river' separates the bright nebula into two parts. It has surprised me a lot. I am going to try to put some B/W photograph and to draw in it the parts that I commented to facilitate its observation.

There are plenty of images on the internet, but most of them show a billion more details than what I saw, so I always like to look for some low resolution ones. This one I think is pretty close to what I saw.

