
Skyguide

2018 - II

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in cooperation with:

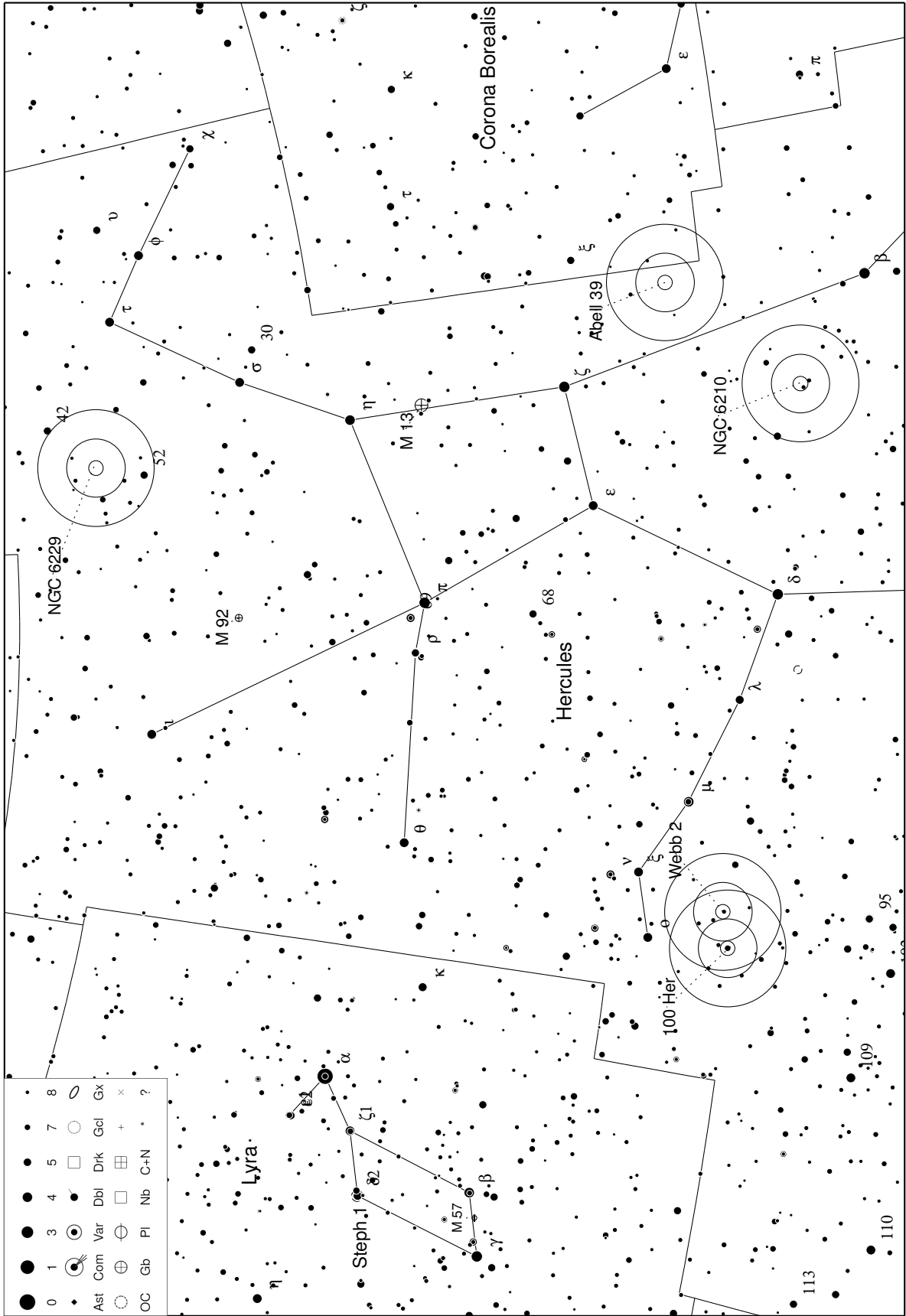
René Merting

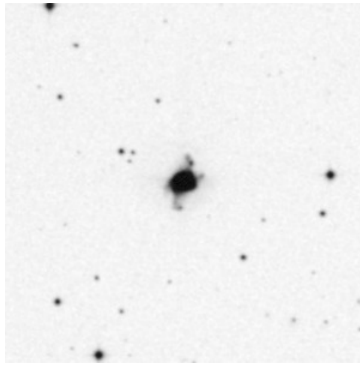
www.freunde-der-nacht.net

Skyguide - A Short Introduction

The Skyguide should mainly give you some suggestions for own observations and will briefly describe 5 objects annually for every season. It contains easy as well as difficult objects, which are sorted by ascending difficulty. How difficult an object is, depends on several factors, especially quality of sky, aperture of the used telescope and the experience of the observer.

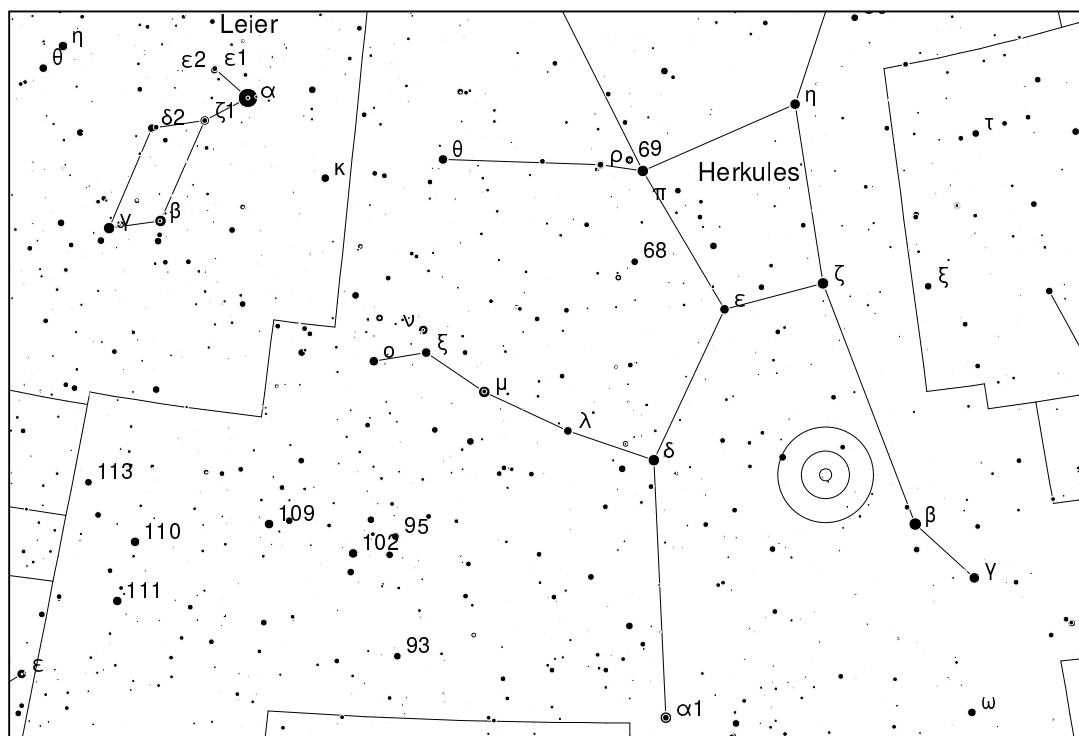
For each object the most important information are given and if applicable a [DSS](#) image (Digitized Sky Survey). In addition you will find a chart, created by the free software [Cartes du Ciel](#) (Skychart), to get an overview of where the object is located. This chart shows stars down to a magnitude of about 8.0 mag. Telrad rings (0.5°, 2°, 4°) on the chart mark the position of the object. But basically I recommend creating your own finder charts. The visual descriptions are mainly based on own observations and only serve as a reference point.





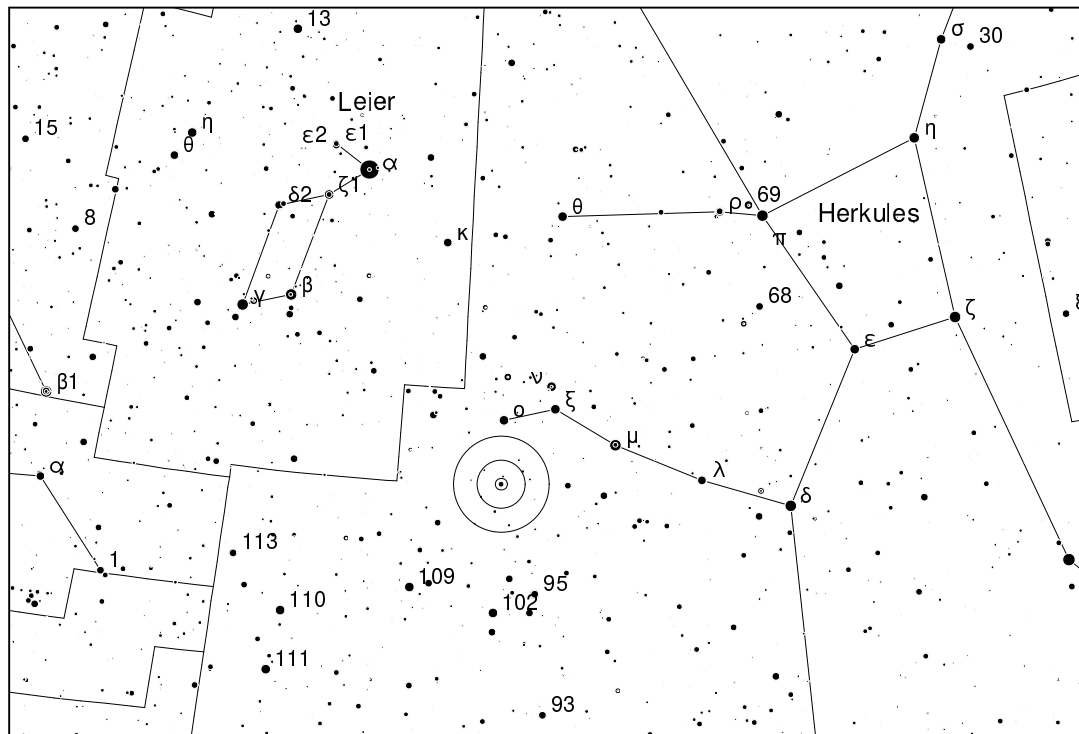
DSS II (red) - 5.0×5.0'

Constellation	Her
Coordinates	16h44m29.49s / +23°47'59.68"
Brightness	9.7 mag
Size	0.5×0.5'

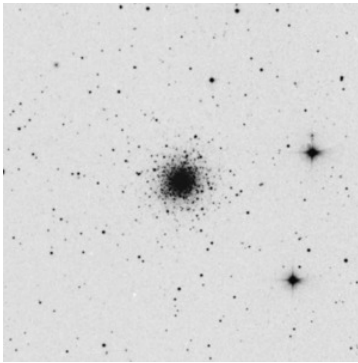


NGC 6210 is a very bright and compact planetary nebula, which is quite young with an age of about 2000 years. The oval shape and complex shell structure can be easily made visible in photographs. In addition, the 12.9 mag bright central star may emanate several jets. This reminds the nebula of a floating turtle, hence the nickname. Due to the very high surface brightness, the nebula can be easily observed even with small binoculars under rural conditions and appears stellar. With an aperture of 8 inch at medium magnification, the nebula becomes increasingly flat, but still very compact. The blue-green colour is also perceptible. However, an aperture of at least 12 inches and high magnification are recommended for viewing inner structures.

Constellation	Her
Coordinates	18h07m49.56s / +26°06'04.40"
Brightness	5.81 mag / 5.84 mag
Angular Distance	14.4"
Position Angle	183°
Year	2016

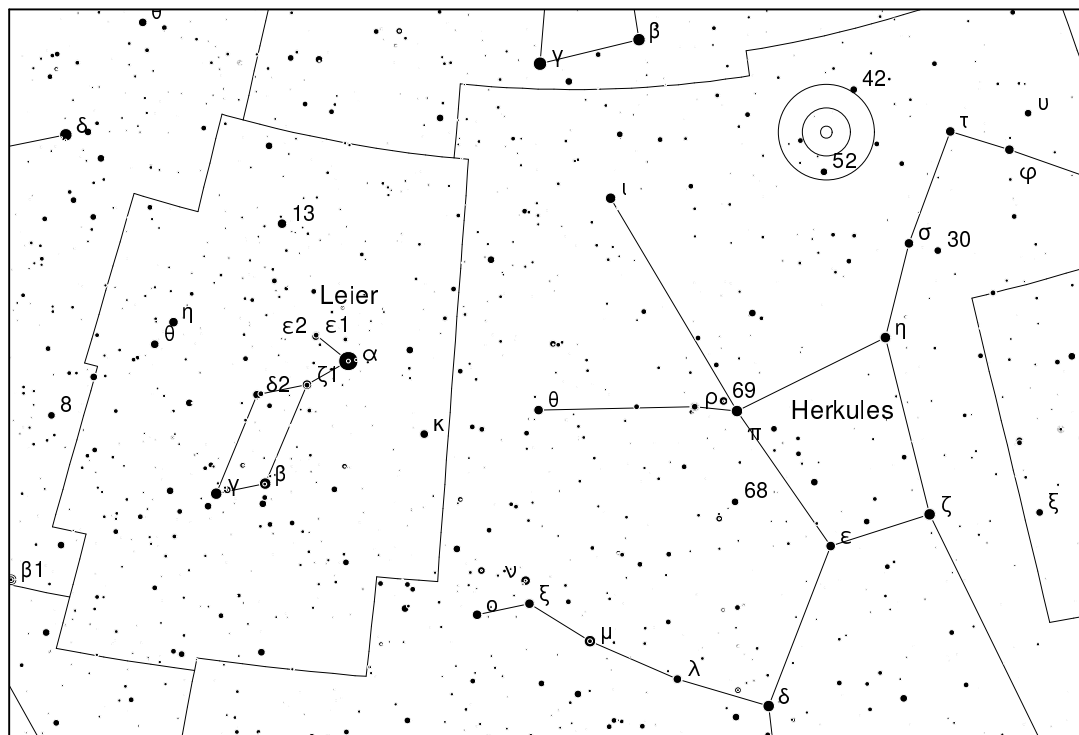


Double stars are not always the first choice for deep sky observation. However, these can be particularly challenging, especially with very small angular distances or large differences in component brightness. Visually attractive and usually striking are double stars with larger angular distance and equally bright components. Thus, 100 Her can be easily separated even in small telescopes at low magnification. The components are bright enough to be able to observe this double star from within the city. Not far from 100 Her is the star pattern Webb 2.

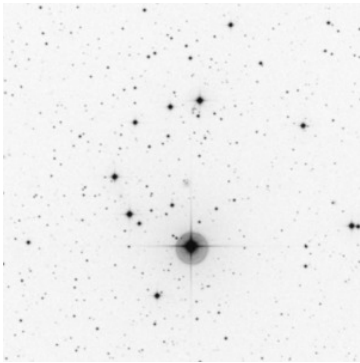


DSS I - 16.0×16.0'

Constellation	Her
Coordinates	16h46m58.64s / +47°31'36.38''
Brightness	9.4 mag
Size	3.8×3.8'

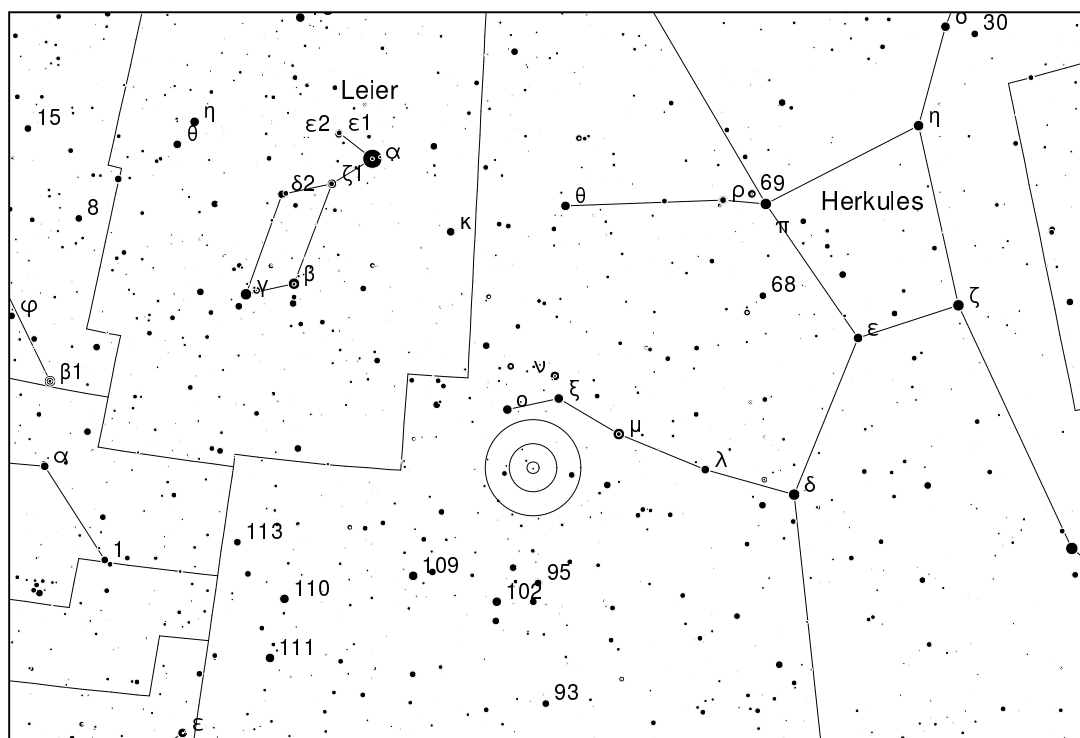


The constellation Hercules is especially known for its two bright globular clusters Messier 13 and Messier 92. The distance of NGC 6229 is approximately 4 times greater than Messier 13 and Messier 92. The cluster was discovered in 1787 by Friedrich William Herschel, who allegedly classified it as a planetary nebula, although he was able to resolve the peripheral areas. The cluster forms a triangle together with two nearby stars. Under a rural sky (Bortle 4-5) the cluster can already be seen with 8x40 binoculars, but requires patience and experience. With an aperture of 4 inch it can be seen easily and directly under a rural sky, but the cluster can also be easily observed from the city. Individual stars in the peripheral areas become visible from approx. 12 inch aperture and high magnification.

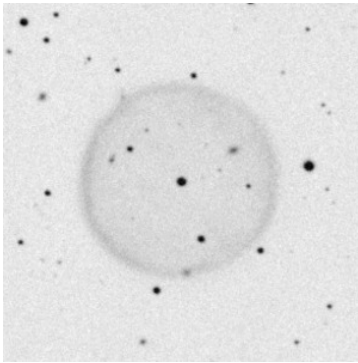


Constellation Her
Coordinates 18h02m32.00s / +26°21'00.00"
Size 5.0×5.0'

DSS II (blue) - 12.0×12.0'

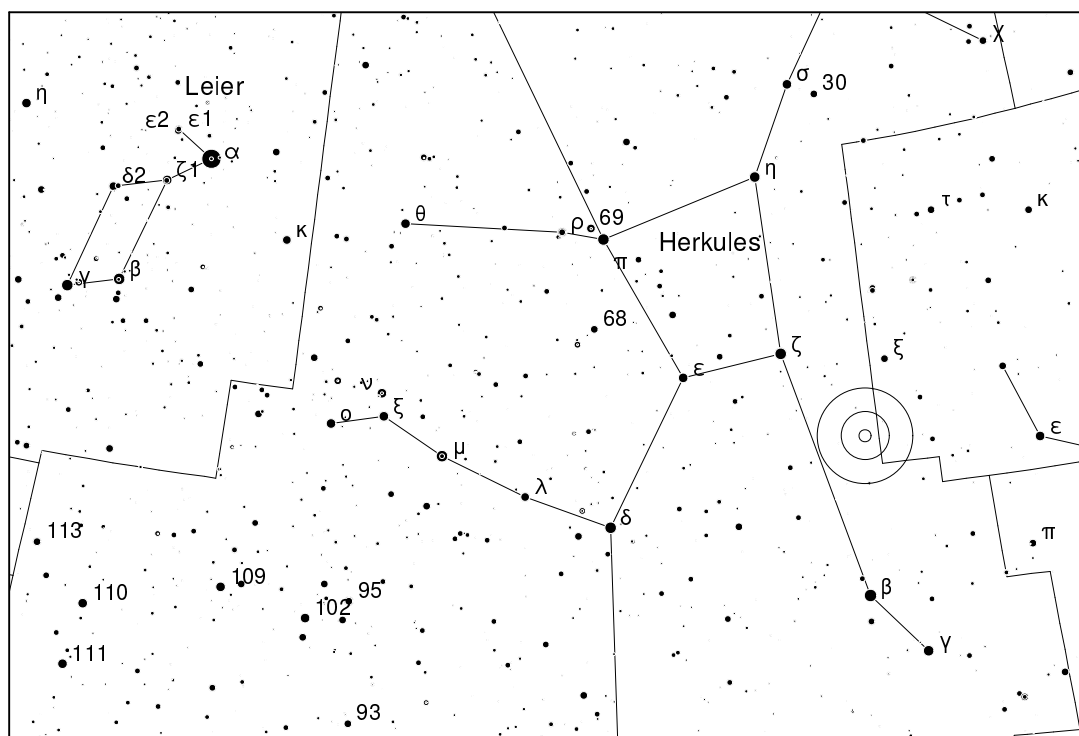


Webb 2 is a quite striking star pattern and was first described by British amateur astronomer Thomas William Webb in 1881. The 7 mag bright star at the southern end of the wreath was rather in the middle of the wreath at that time due to the quite high proper motion. The stars of the wreath have brightnesses in the range of approx. 10.7 to 12.0 mag. In a 5-inch refractor at 40x magnification, the star pattern is clearly visible and conspicuous under rural conditions. When observing under a less good sky, a higher magnification or larger aperture should be used to see these stars well.



DSS II (blue) - 5.0×5.0'

Constellation	Her
Coordinates	16h27m33.71s / +27°54'33.50''
Brightness	15.6 mag
Size	2.9×2.9'



A relatively large planetary nebula from the Abell catalogue is Abell 39, which however has a rather low surface brightness. The approx. 15.5 mag bright central star is only accessible through larger telescopes. The planetary nebula itself has already been spotted as an extremely faint nebula with a 4 inch telescope using an [OIII] filter. A nebula filter is also obligatory for medium telescopes. Under a good rural sky (Bortle 4) with 8 inch aperture and 80x magnification with UHC filter the nebula could be seen with averted vision as a rather large, but faint, structureless brightening. An [OIII] filter is recommended for lower magnification and thus a larger exit pupil.