Skyguide

2017 - III

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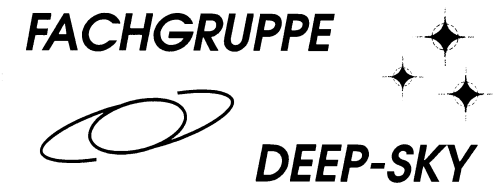

Vereinigung der Sternfreunde e.V.

www.deepsky.vdsastro.de

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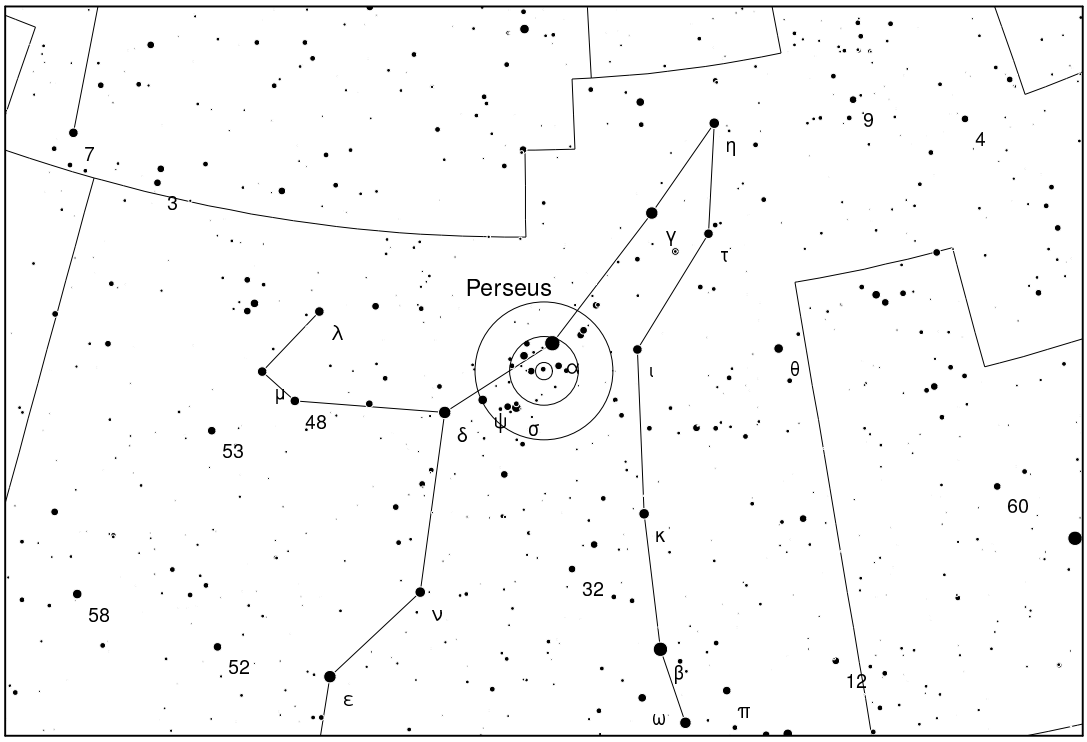
Skyguide - A Short Introduction

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.

Melotte 20 (Collinder 39, alpha Persei Group) OC

Constellation	Per
Coordinates	03h27m00.00s / +49°07'00.00''
Brightness	1.2 mag
Size	185.0×185.0'



Melotte 20 is a moving group, so its members have a similar proper motion. Its age is approximately 50-70 million years. Due to its angular size and brightness the cluster can be easily seen with the naked eye and is therefore well known since antiquity. Nevertheless this cluster was added later in 1915 in a catalogue of open clusters by Philibert Jacques Melotte, a British astronomer. Entries in the well known catalogues like Messier, NGC or IC don't exist. For visual observation you don't need any telescope or binoculars, if the sky is sufficiently dark. In that case the brightest members are visible. Binoculars with low magnification are also a good choice. The members are pretty scattered and arranged in chains of stars. At the southwestern edge is an evident group of 4 stars, whereby Sigma Persei is most evident due to its orange coloring.

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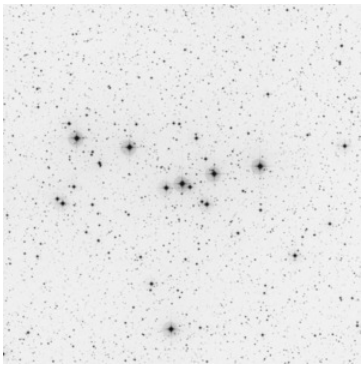
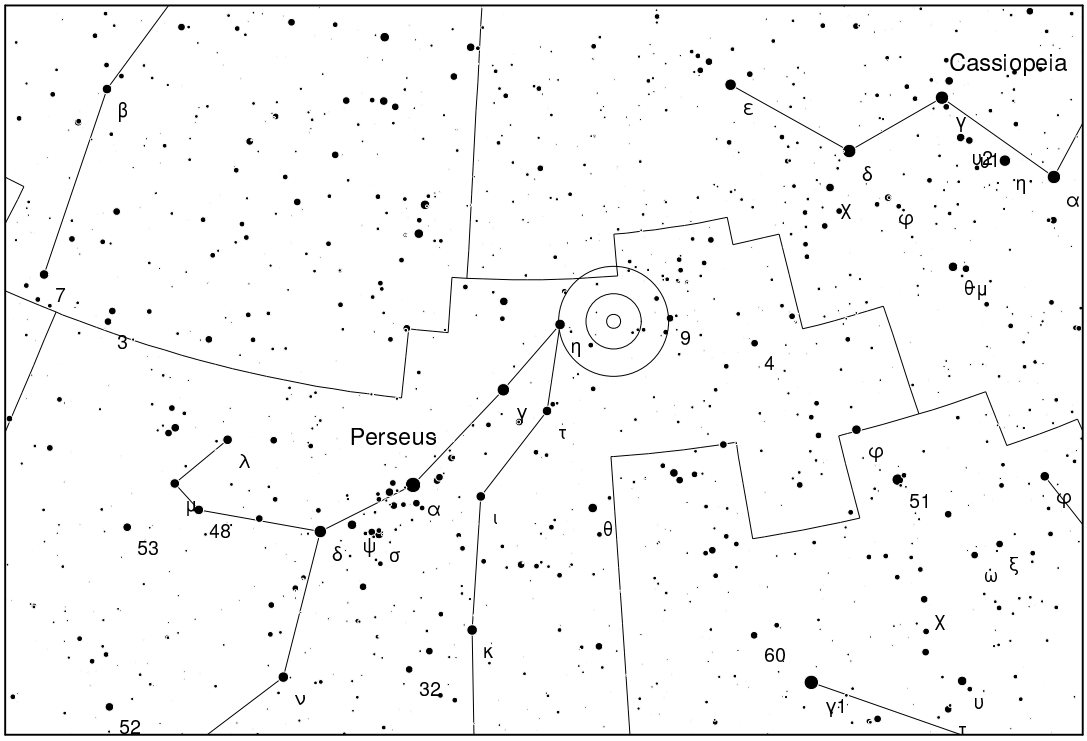
Trumpler 2 (Collinder 29) OC



DSS II (blue) - 25.0×25.0'

Constellation	Per
Coordinates	02h36m53.00s / +55°54'54.00''
Brightness	5.9 mag
Size	20.0×20.0'



Trumpler 2 with about 150 members is a pretty bright cluster. The brightest members are arranged in chain, so the cluster appears more elongated. One of the brighter members is obviously yellowish. Under urban skies (Bortle 7, NELM 4.5 mag) with an aperture of 8 inch and a magnification of 37x about 15 members can be easily seen. Fainter members become visible under darker skies.

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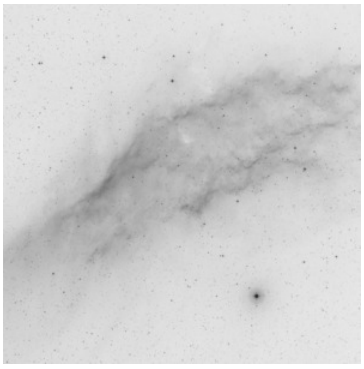
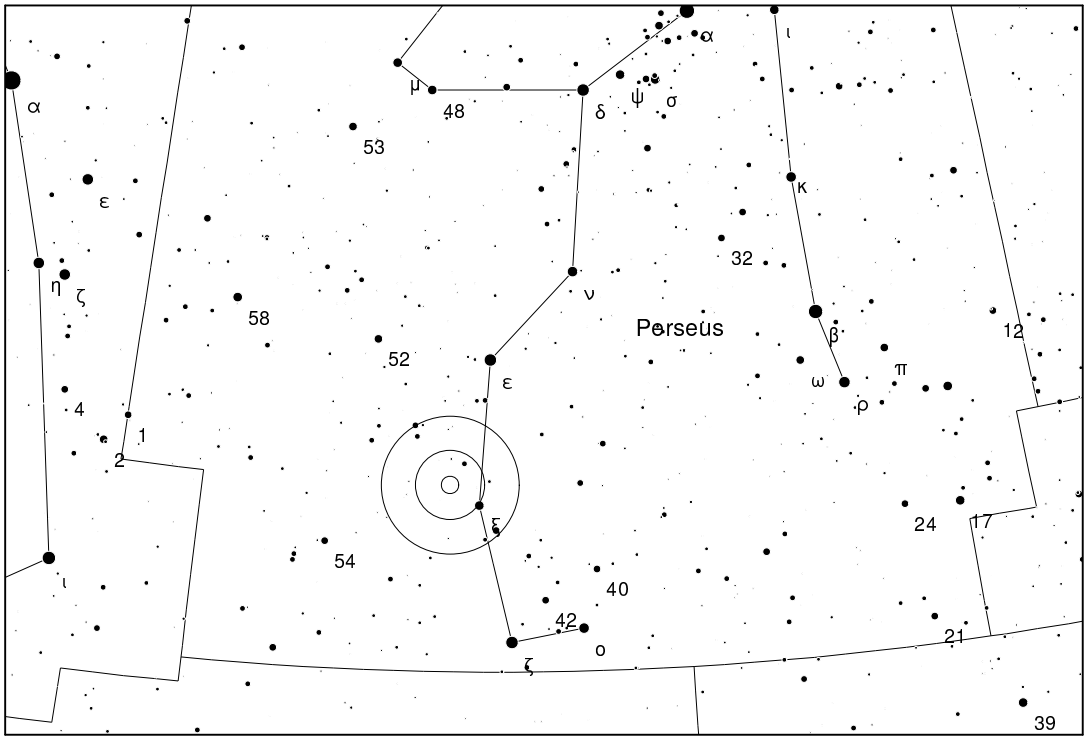
NGC 1499 (California Nebula) BN



DSS II (red) - 120.0×120.0'

Constellation	Per
Coordinates	04h01m00.00s / +36°25'00.00''
Brightness	5.0 mag
Size	160.0×40.0'



One of the nearest HII regions is NGC 1499, which is also named California Nebula due to its shape. It is probably excited by the star Xi Persei to emit light. Despite the overall brightness of 5 mag the nebula isn't an easy target for the naked eye due to its low surface brightness. A very dark place with transparent sky is required. An UHC or HBeta filter can help. Under rural skies the nebula should be visible with an aperture of about 5 inch with HBeta filter. Low magnification is useful to separate the nebula from the surroundings. Under suburban conditions (Bortle 6, NELM 4.8 mag) the nebula can also be successfully observed: With an 5 inch refractor at 18x with HBeta filter the nebula appears as an elongated brightening without any details.

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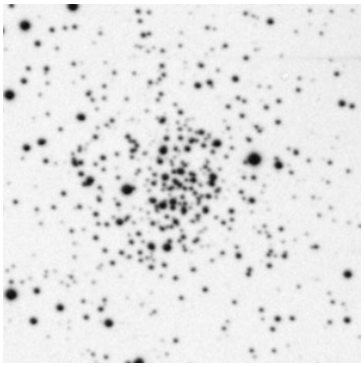
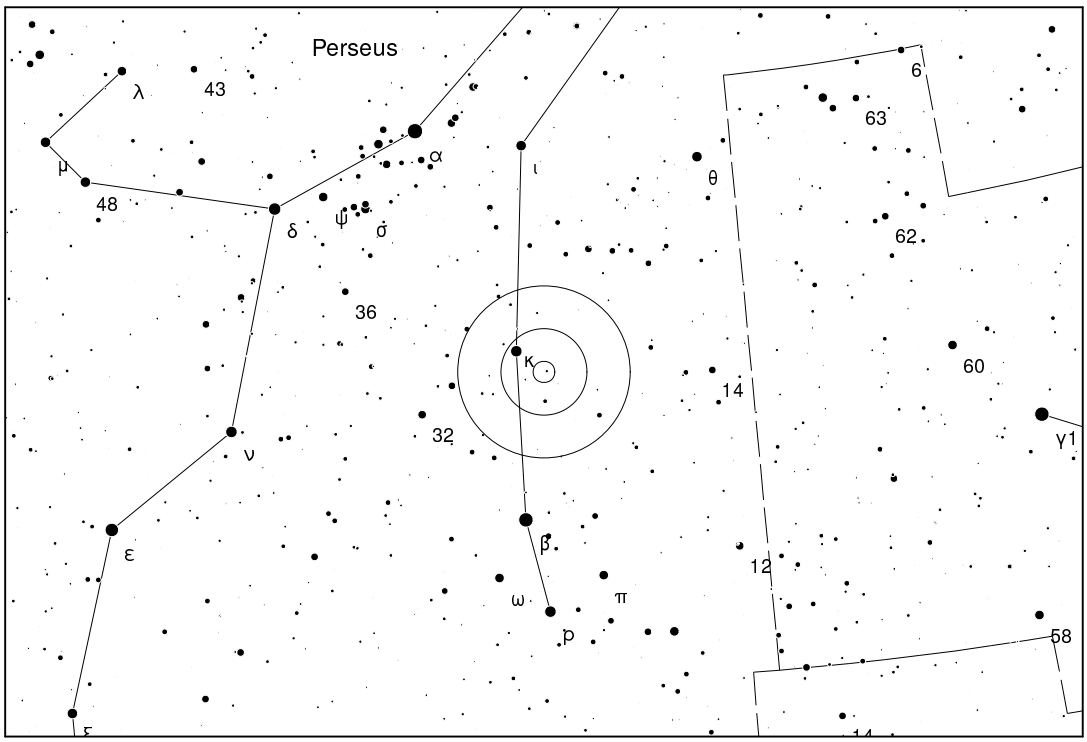
NGC 1193 (H 2.608) OC



DSS II (blue) - 5.0×5.0'

Constellation	Per
Coordinates	03h05m56.00s / +44°23'00.00''
Brightness	12.6 mag
Size	1.5×1.5'



NGC 1193 has a considerable age of 5 billions years, which isn't reached by many clusters. Most of the clusters have dispersed after several hundreds of million years, so that these clusters are not appearing as clusters anymore. In this case it seems to be the mass of the cluster, that gravitationally keepss the members together. Also the proper motion is unusual. The cluster is moving with a high velocity towards the center of our galaxy. It is located in a distance of about 14700 light years in the Perseus Arm. To observe this very old cluster a dark place and a medium sized telescope is recommended. But also under suburban conditions (Bortle 6, NELM 4.8 mag) and an aperture of 5 inch the cluster is visible as a small, rather faint brightening, which appears partly granulous with averted vision. With an aperture of 12 inch the cluster should be resolvable at high magnification.

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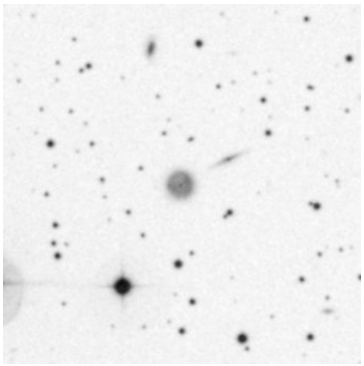
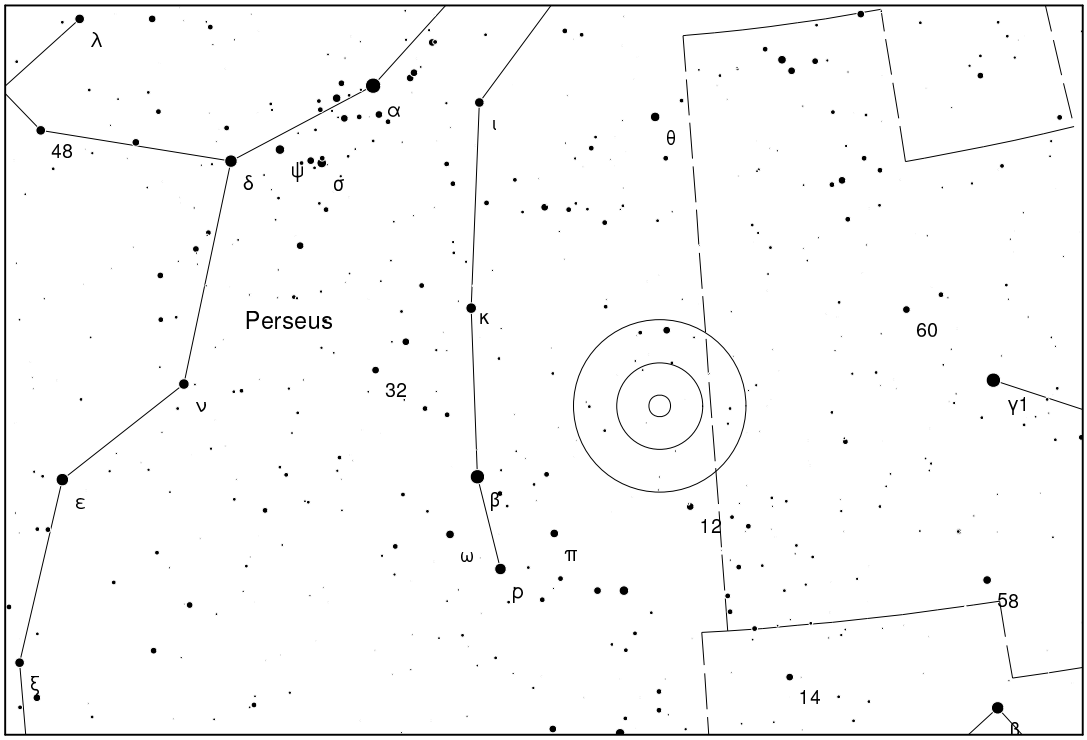
Abell 4 (PK 144-15.1) PN



DSS II (blue) - 5.0×5.0'

Constellation	Per
Coordinates	02h45m23.67s / +42°33'04.90''
Brightness	b15.6 mag
Size	0.4×0.4'



Abell 4 is very easy to find, because it is located just 40 arcminutes away from the open cluster Messier 34. However a detailled finder chart is recommended due to its small size, especially compared to other planetary nebulas of the Abell catalogue. But its size results in a relatively high surface brightness. Don't be deterred by the given magnitude of 15.6 mag (blue passband). With some experience the nebula is quite easy to observe with an aperture of 8 inch under rural skies (Bortle 3-4), moderate magnification and [OIII] filter. It appears with averted vision as a small, round, evenly bright disc.

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