# Skyguide

## 2020 - II

**created by**:

Robert Zebahl

www.faint-fuzzies.de

**in cooperation with:**

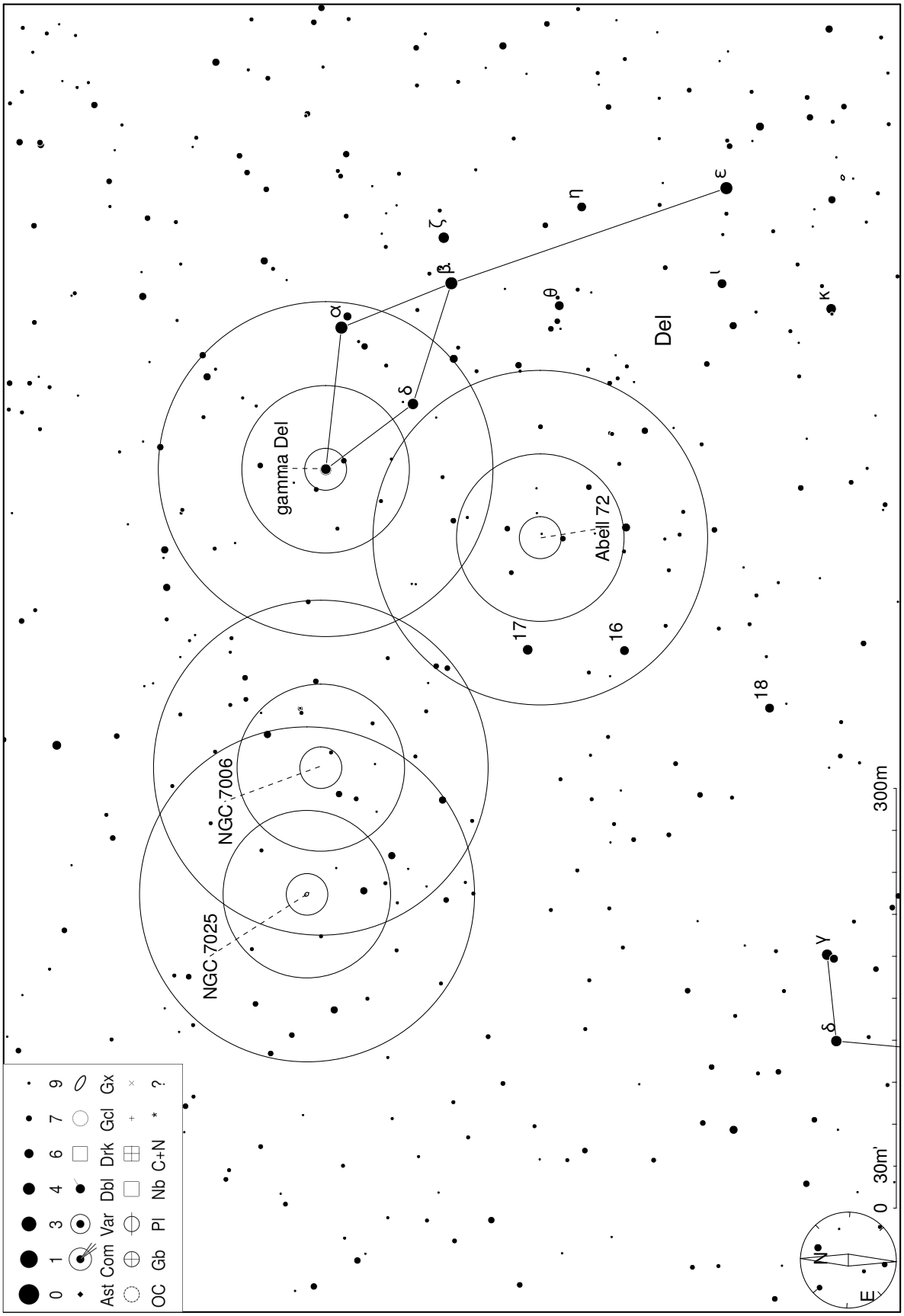
René Merting

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.

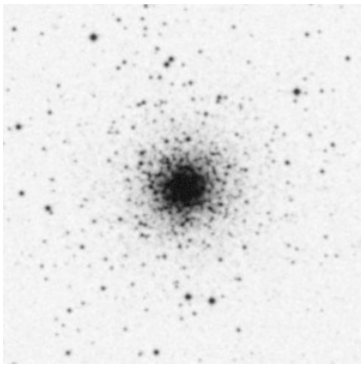

gamma Del
Abell 72
NGC 7006
NGC 7025
Del
α
β
γ
δ
ε
ζ
η
θ
ι
κ
16
17
18
300m
30m'
0
N
E
Ast Com Var Dbl Drk Gcl Gx
0 1 3 4 6 7 9
OC Gb Pl Nb C+N
?

# gamma Del (STF 2727) **

| | |
|---|---|
| **Constellation** | Del |
| **Coordinates** | 20h46m39.50s / +16°07'27.40'' |
| **Brightness** | 4.4 mag / 5.0 mag |
| **Angular Distance** | 8.9'' |
| **Position Angle** | 266° |
| **Year** | 2018 |

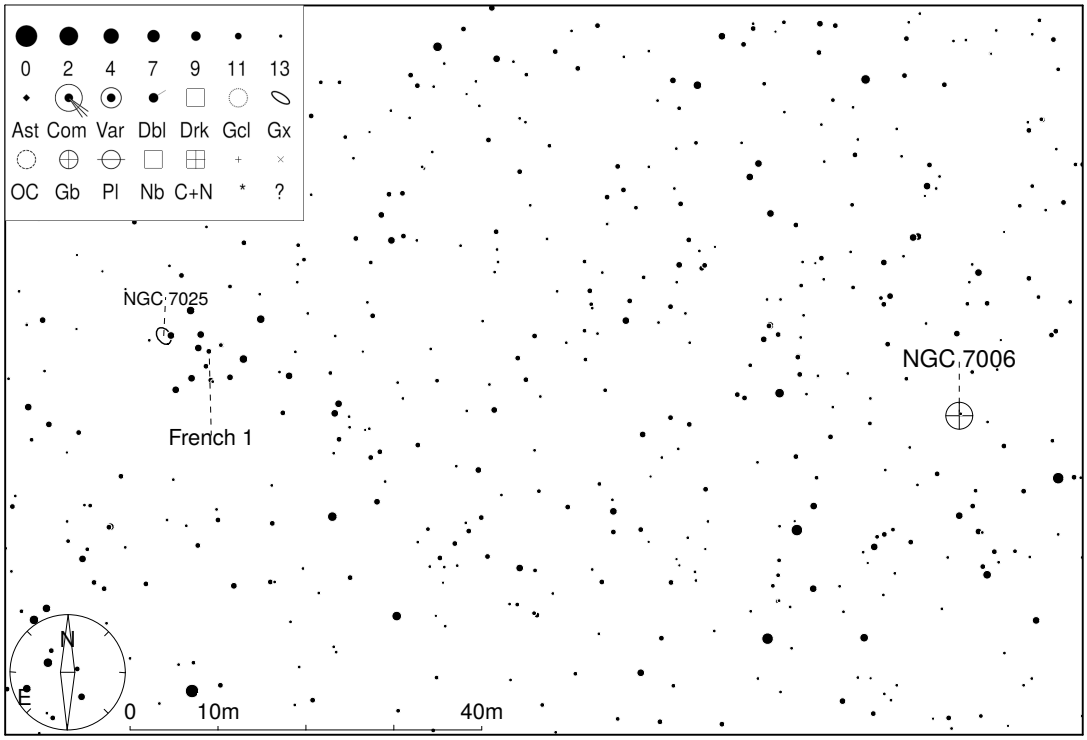
According to various sources, Gamma Delphini is a physical double star at a distance of about 110 light years. The primary component is of spectral type K1IV (orange subgiant), its companion F7V (white-yellow dwarf). This is also visually detectable. Observers often perceive at least the primary star as yellow when the telescope aperture is small. Because of the brightness and the moderate angular distance this double star is an easy target, even under bright skies. A large pair of binoculars should be sufficient for a separation of the components with good vision, whereby a magnification of about 20x is necessary. Nearly 15 arcminutes southwest of gamma Delphinus there is also the double star STF 2725 (AB) with an angular distance of about 6 arcminutes. Thus both double stars can be observed in one field of view. But for this purpose at least a small telescope should be used.

# NGC 7006 (H 1.52) GC



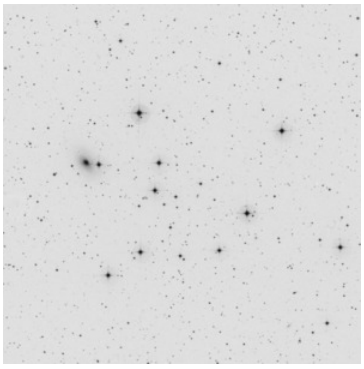
DSS II (blue) - 5.0×5.0'

| | |
|---|---|
| **Constellation** | Del |
| **Coordinates** | 21h01m29.46s / +16°11'16.49'' |
| **Brightness** | 10.6 mag |
| **Size** | 2.8×2.8' |



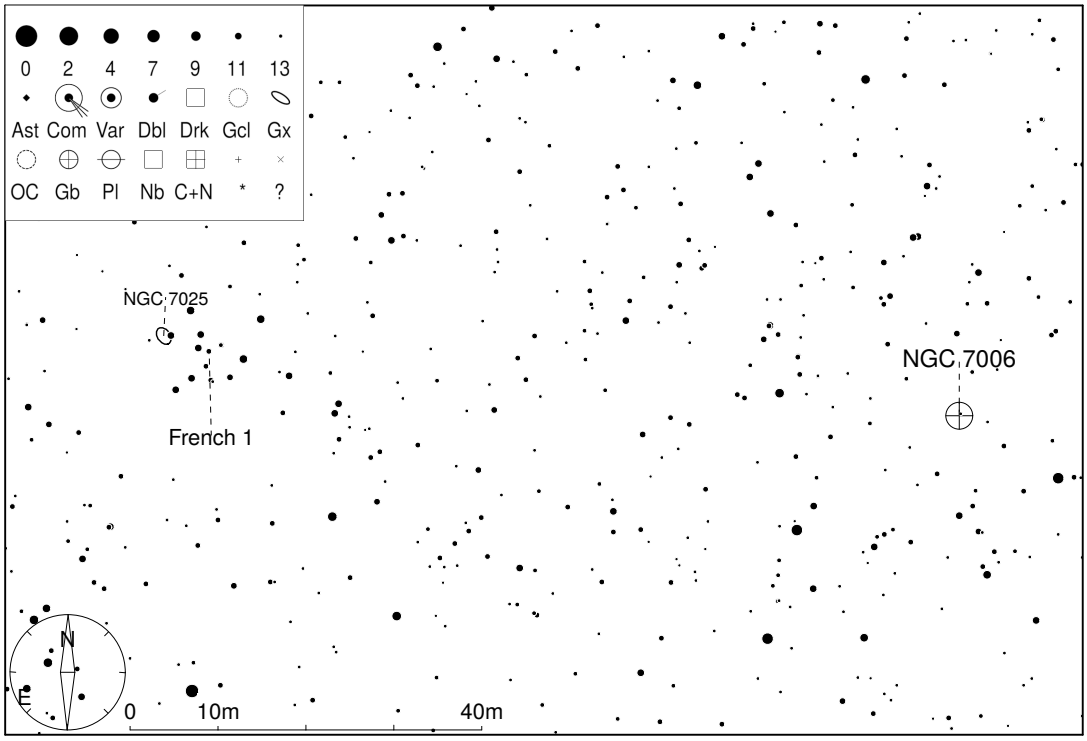

The constellation Delphinus is one of the 20 smallest of the 88 constellations with an area of almost 190 square degrees, but contains two globular clusters: NGC 6934 (8.9 mag) as well as NGC 7006, which has the lower overall brightness, but its surface brightness is much higher due to the smaller angular size. However, a search map is recommended, especially in urban locations. Telescopes from about 4 inch aperture should show the star cluster at least as a compact nebula. At which telescope aperture are the first individual stars visible?

# French 1 (The Toadstool) AST



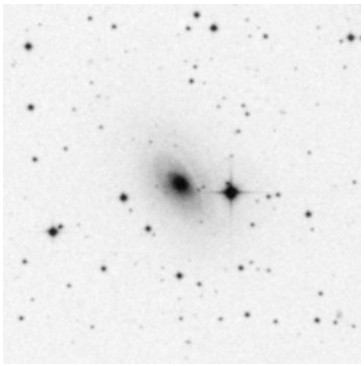
DSS II (blue) - 20.0×20.0'

**Constellation** Del
**Coordinates** 21h07m25.00s / +16°19'00.00''
**Size** 12.0×12.0'



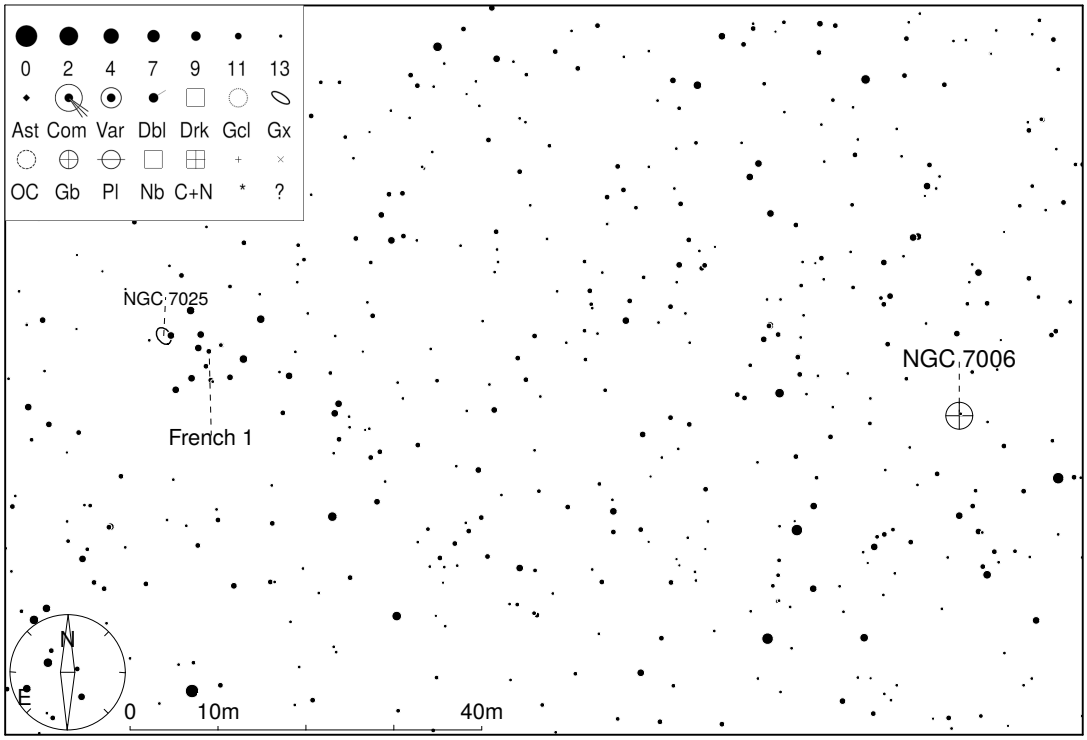

This star pattern is a clear recommendation. It is relatively easy to find, striking and also well suited for smaller telescopes. The brightness of the stars is between 9m2 and 10m7. The name 'Toadstool' (mushroom) comes from the appearance of this asterism: The mushroom is tilted to the southwest on the DSS image, the trunk points to the northeast. The mushroom presents itself with a nicely curved hat and a broader trunk. To the right at the bottom of the mushroom there is also the galaxy NGC 7025.

# NGC 7025 (UGC 11681) GLX



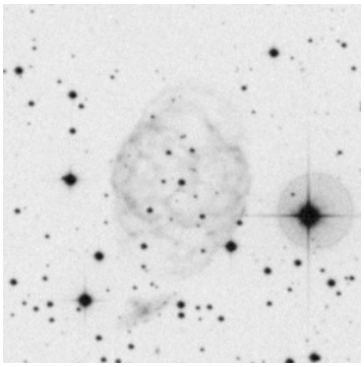
DSS II (blue) - 5.0×5.0'

| | |
|---|---|
| **Constellation** | Del |
| **Coordinates** | 21h07m47.33s / +16°20'09.09'' |
| **Brightness** | 12.8 mag |
| **Size** | 1.9×1.2' |



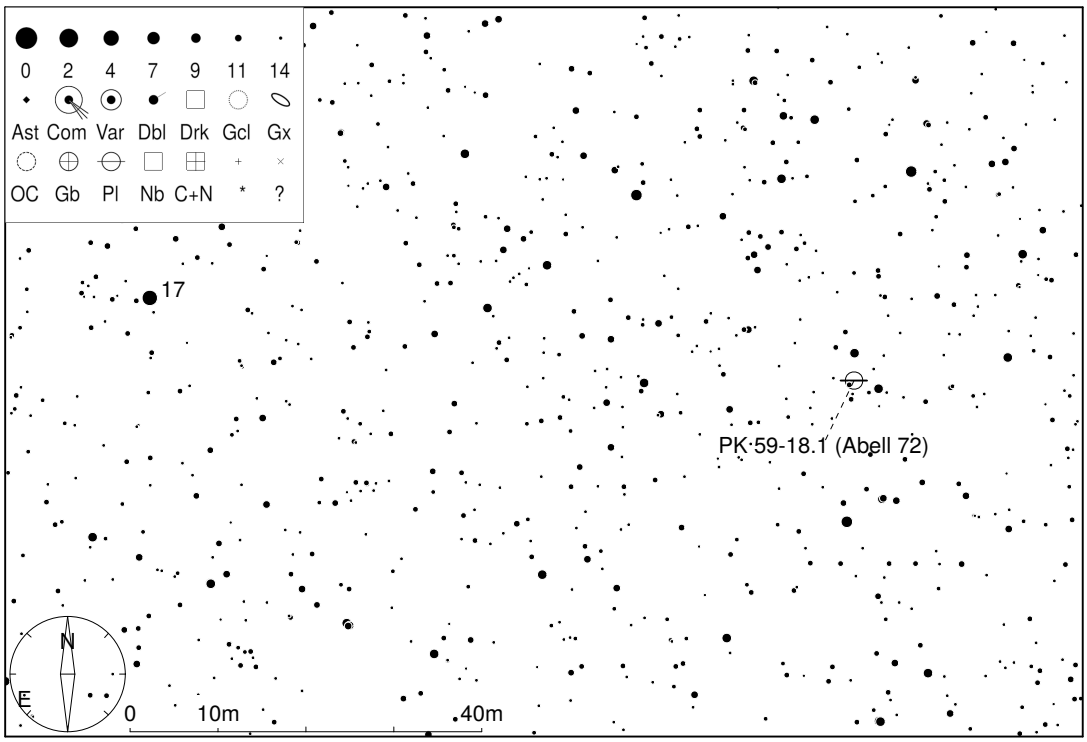

NGC 7025 is a spiral galaxy at a distance of about 210 million light years. It is classified as a so-called LINER galaxy (low-ionization nuclear emission-line region). This type of galaxy has emission lines with a low degree of ionization in its core region. Another well-known example of a LINER galaxy is the Sombrero galaxy (Messier 104). Under dark skies NGC 7025 can already be observed well with a medium-sized telescope. Even with 6 inch aperture it shows up as an oval, barely condensed brightening. The faint dust lanes are possibly accessible with large telescopes. Because of its "special" location at the bottom of the mushroom (French 1) it got the lovely nickname "foot fungus galaxy" from us on a star party years ago. This makes it much more appealing.

# Abell 72 (PK 59-18.1) PN



DSS II (blue) - 5.0×5.0'

| | |
|---|---|
| **Constellation** | Del |
| **Coordinates** | 20h50m02.05s / +13°33'29.60'' |
| **Brightness** | 14.6 mag |
| **Size** | 2.0×2.0' |




Abell 72 is a rather small representative of the planetary nebulae of the Abell catalogue and shows countless fine details. It is therefore certainly a nice target for photographers. But there are reports that also with a large telescope with 16 inch aperture or larger under a dark sky the first inner features can be detected visually. With a smaller telescope Abell 72 is at least reasonably well visible with averted vision as a roundish, uniform brightening. Abell 72 should not be difficult for an experienced observer with a 5 inch telescope under a dark sky, but an exact finder chart is necessary. In any case a [OIII] filter is recommended.