

Helix Nebula

- Planetary nebula in Aquarius
- Distance to earth ~655 light years, spanning ~2.5 light years
- Expansion of the whole planetary nebula structure is estimated to have occurred in the last 12,100 years, and 6,560 years for the inner disk. Spectroscopically, the inner disk's expansion rate is 40 km/s, and about 32 km/s for the outer ring
- The outer-most ring appears flattened on one side due to it colliding with the ambient interstellar medium
- The central star of the Helix Nebula is a white dwarf. The star has a radius of 0.025 solar radii (17,000 km), a mass of $0.678 M_{\odot}$, a temperature of 120,000 Kelvin and has an apparent magnitude of 13.5



Frank Alvaro

Helix Nebula

Skywatcher

Esprit 120

ASI2600MM

Ha and O3 filters

3.8 hrs

Ian Puckrin

Helix Nebula

Seestar S50 Pro

Processed in
Astro Wizard





Ian Puckrin

Helix Nebula

Seestar S50 Pro

Processed in
Astro Wizard



Jennie Kidd

Helix Nebula

Seestar S50.
EQ mode, 20
second frames.
Total image time
57 minutes.
Stacked in scope
then fits file
processed in
Astrowizard.



Phil Kidd

Helix Nebula

Dwarf 6EQ
mode,
15 seconds,
60 gain.
826 frames
stacked in
Stacking Wizard,
Processed in
Astrowizard.



Phil Kidd

Helix Nebula

Dwarf 6EQ
mode,
15 seconds,
60 gain.
826 frames
stacked in
Stacking Wizard,
Processed in
Astrowizard.



Robert McGoven

Helix Nebula

ASI 533 MC Pro
on SVbony
MK127 Maksutov
@ 971mm with
reducer,
IdasNB filter
 $76 \times 180\text{sec} =$
 $3'48''$
AsiAir Plus/PIX

NGC 300

- NGC 300 (also known as Caldwell 70 or the Sculptor Pinwheel Galaxy) is a spiral galaxy in the constellation Sculptor.
- It is one of the closest galaxies to the Local Group, and it most likely lies between the latter and the Sculptor Group, the closest galaxy group beyond the Local Group
- Some astronomers consider it a member of the Sculptor Group. Others put it somewhere between these groups. It is thought to be gravitationally bound to NGC 55, a bright, large SB-type edge-on galaxy 8° west.
- It is the brightest of the five main spirals in the direction of the Sculptor Group.
- It is about 94,000 light-years in diameter, somewhat smaller than the Milky Way, and has an estimated mass of $(2.9 \pm 0.2) \times 10^{10} M_{\odot}$



Phil Kidd

NGC 300

Dwarf 6.
EQ mode,
15 second,
60 gain.
349 frames
stacked in
Stacking Wizard,
processed in
Astrowizard



Phil Kidd

NGC 300

Dwarf 6.
EQ mode,
15 second,
60 gain.
349 frames
stacked in
Stacking Wizard,
processed in
Astrowizard



Robert McGoven

NGC 300

ASI 533 MC Pro
on SVbony
MK127 Maksutov
@ 971mm with
reducer
SVbony SV260
(Multiband) filter
76 x 180 sec =
3'48"
AsiAir Plus/PIX



Robert McGoven

NGC 300
(cropped)

ASI 533 MC Pro
on SVbony
MK127 Maksutov
@ 971mm with
reducer
SVbony SV260
(Multiband) filter
76 x 180 sec =
3'48"
AsiAir Plus/PIX



Ian Puckrin

NGC 300

689 images
stacked by
S50 Pro



Ian Puckrin

NGC 300

S50 Pro

430 images

Stackingwizard
and processed by
Astrowizard



Frank Alvaro

NGC 300

Original data
from 2022
ZenithStar 81
ASI294MC
UV/IR cut filter
10.5 hrs



Frank Alvaro

NGC 300

Original data
from 2022
ZenithStar 81
ASI294MC
UV/IR cut filter
10.5 hrs

Small Magellanic Cloud

- The Small Magellanic Cloud (SMC) is a dwarf galaxy near the Milky Way. It is currently a satellite of the Milky Way but is likely a former satellite of the Large Magellanic Cloud (LMC)
- Classified as a dwarf irregular galaxy, the SMC has a D25 isophotal diameter of about 18,900 light-years, and contains several hundred million stars. It has a total mass of approximately 7 billion solar masses
- At a distance of about 200,000 light-years, the SMC is among the nearest intergalactic neighbors of the Milky Way and is one of the most distant objects visible to the naked eye
- The SMC has an average apparent diameter of about 4.2° (8 times the Moon's) and thus covers an area of about 14 square degrees (70 times the Moon's)
- The SMC contains a central bar structure, and astronomers speculate that it was once a barred spiral galaxy that was disrupted by the Milky Way to become somewhat irregular
- There is a bridge of gas connecting the SMC with the LMC, which is evidence of tidal interaction between the galaxies. This bridge of gas is a star-forming site. The Magellanic Clouds have a common envelope of neutral hydrogen, indicating they have been gravitationally bound for a long time

Ian Puckrin

SMC

280 10 sec subs
from S50.

Ian Puckrin

SMC

280 10 sec subs
from S50. Pushed
brilliance with
iPhone photo
app.



Ian Puckrin

SMC

280 10 sec subs
from S50

Stacking Wizard,
Processed with
Astro Wizard

Frank Alvaro

SMC

3 panel mosaic
(each panel
~4.5 hrs)

Skywatcher
Esprit 120
ASI 2600MM
R, G, B filters for
stars
Ha and O3 filters
for nebulosity

Barnard 104

- Barnard 104 is a dark nebula located in the constellation Scutum
- lies approximately 600 to 700 light-years away from Earth
- Roughly 20 x 10 arcminutes (or about 3 light-years across)
- The cloud gets its popular nicknames—the Fishhook Nebula, Checkmark Nebula, or "L" Nebula—from its sharply bent structure. It is composed of highly concentrated cosmic dust and cold molecular gas. Because it is entirely non-luminous, it does not emit its own visible light. Instead, it is visible as a "silhouette" or a cosmic hole, absorbing and blocking almost all visible starlight originating from the dense background stars of the inner galactic plane

Greg Bradford

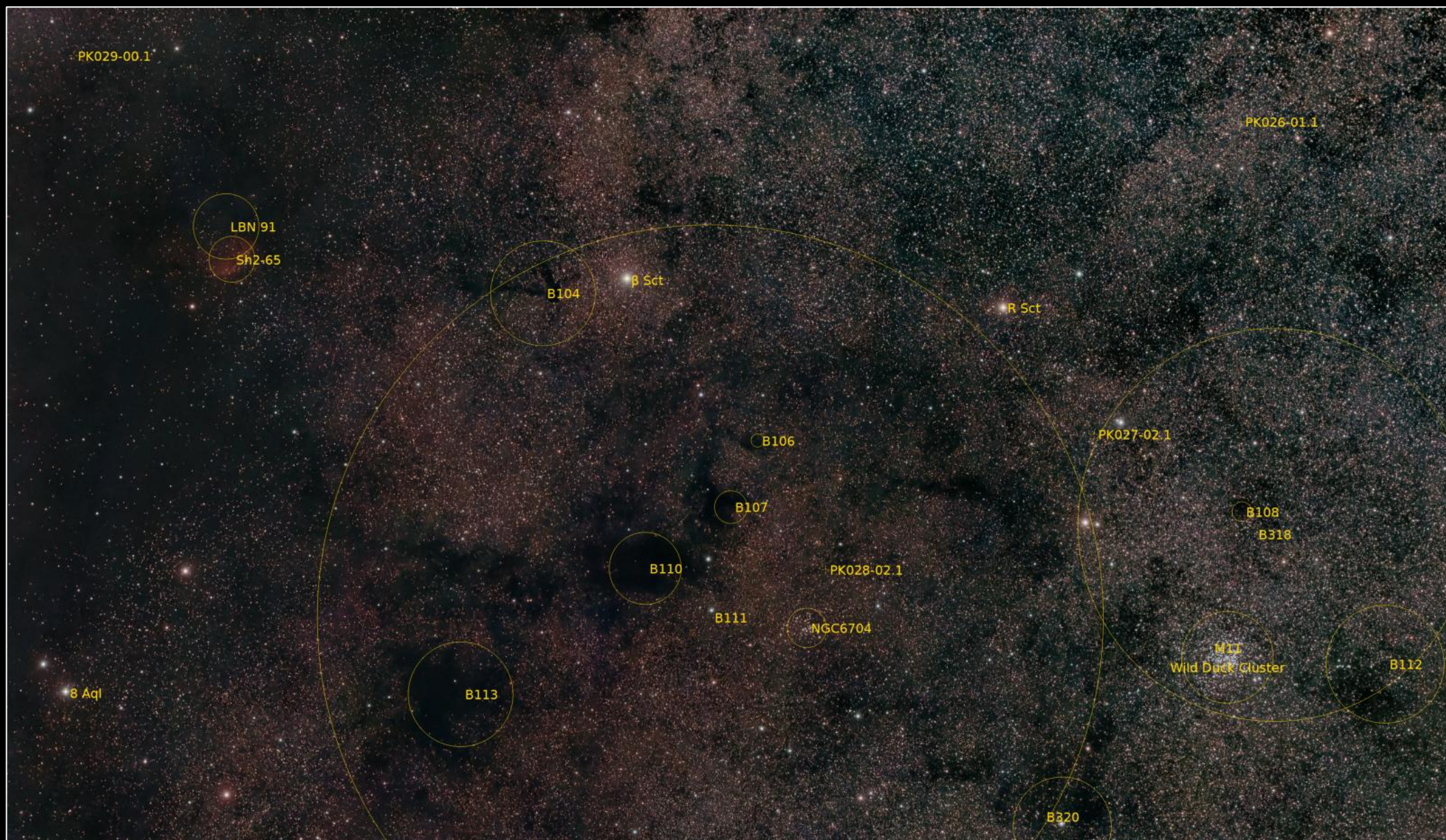
Barnard 104

Taken with
S30Pro
LP filter.
457x20sec.
Processed
entirely in Px.

Greg Bradford

Barnard 104
annotated

Taken with
S30Pro
LP filter.
457x20sec.
Processed
entirely in Px.





Robert McGoven

Barnard 104

ASI 533 MC Pro
on SVbony
MK127 Maksutov
@ 971mm with
reducer
SV260 Filter
(Multiband) 560
 $\times 180\text{sec} = 2'48''$,
AsiAir Plus/PIX

Ian Puckrin

Barnard 104

20 minutes of 10
sec subs, stacked
and enhanced in
Seestar S50 pro.

