



# Waarneemlijsten

The paper story

DEEP-SKY COMPANIONS

# The Messier Objects

Second Edition

Stephen James O'Meara

## De Heilige Lijst

Charles Messier

110 deepsky objecten

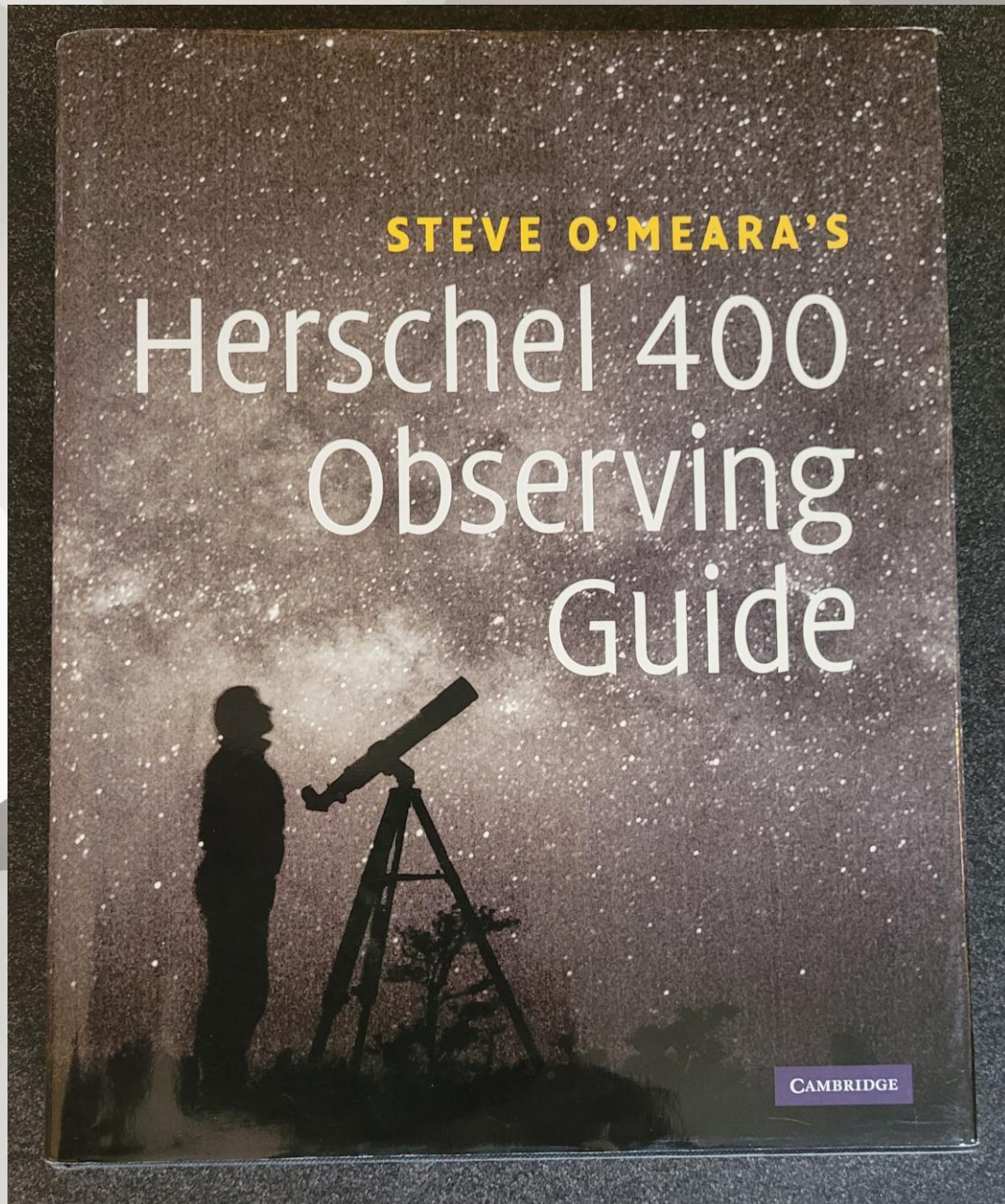
Zichtbaar in 15cm reflector

Alles boven -35 declinatie

Mogelijk in 1 nacht: Marathon!

Doel: 1995 - 2000

→ 114cm Newton



## Het Grote Vervolg ...

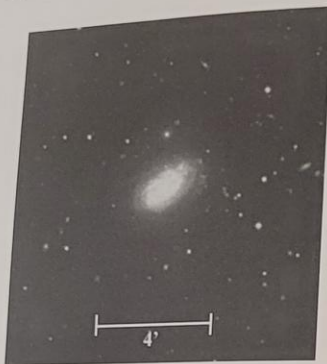
Sir William & Caroline Herschel

400 deepsky objecten

Zichtbaar in 20cm reflector

Doel: 2000 - 2010

→ 200mm f/5 Newton EQ3

**General description**

NGC 3949 is a very small and very faint spiral galaxy less than  $1\frac{1}{2}^\circ$  east of Chi ( $\chi$ ) Ursae Majoris. This galaxy will be extremely difficult to see from skies with any kind of light pollution, especially for small-telescope users.

**Directions**

Using Chart 23a, from NGC 3893, return to Chi Ursae Majoris. Now, with low power, move a little more than  $30'$  east to 9th-magnitude Star b, which marks the northern apex of an  $8'$ -wide equilateral triangle with two 10.5-magnitude stars. Now move about  $40'$  southeast to 8.5-magnitude Star c. NGC 3949 is less than  $20'$  northeast of Star c.

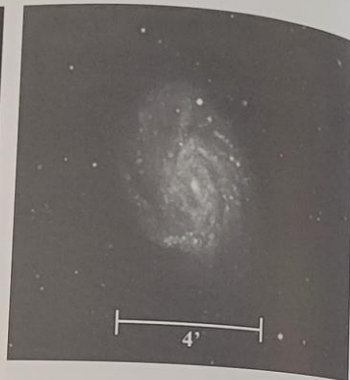
**The quick view**

At  $23\times$  in the 4-inch, under very dark skies, NGC 3949 is a very dim circular glow, about  $1.5'$  in diameter – and that's with keen averted vision. At  $72\times$ , the galaxy is a very delicate oval glow, oriented northwest to southeast, with a very soft core of light.

Stop. Do not move the telescope. Your next target is nearby!

**4. NGC 3726 (H II-730)**

| Type                | Con        | RA                              | Dec             | Mag  | Dim                | Rating |
|---------------------|------------|---------------------------------|-----------------|------|--------------------|--------|
| Mixed spiral galaxy | Ursa Major | $11^{\text{h}} 33.3^{\text{m}}$ | $+47^\circ 02'$ | 10.4 | $5.6' \times 3.8'$ | 3      |

**General description**

NGC 3726 is a relatively large, low-surface-brightness galaxy about  $2\frac{1}{4}^\circ$  west-southwest of Chi ( $\chi$ ) Ursae Majoris. Its appearance is very much like that of a dim comet just beginning to shine.

**Directions**

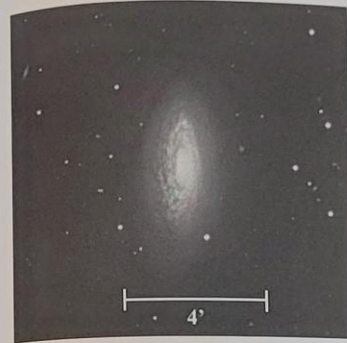
Using Chart 23a, from 3949, return to Chi Ursae Majoris. Now use your unaided eyes or binoculars to find 6th-magnitude 60 Ursae Majoris about  $1\frac{1}{2}^\circ$  to the southwest. Center 60 Ursae Majoris in your telescope at low power, then move a little less than  $1^\circ$  west-northwest to your target, NGC 3726.

**The quick view**

At  $23\times$ , NGC 3726 is a  $4'$  comet like glow with a weakly condensed inner lens surrounded by a dim circular halo. At  $72\times$ , the galaxy's core, with averted vision, brightens a bit, though it remains, overall, a large amorphous glow. An 11th-magnitude star is projected against its northern flank.

**5. NGC 3675 (H I-194)**

| Type          | Con        | RA                              | Dec             | Mag  | Dim                | Rating |
|---------------|------------|---------------------------------|-----------------|------|--------------------|--------|
| Spiral galaxy | Ursa Major | $11^{\text{h}} 26.1^{\text{m}}$ | $+43^\circ 35'$ | 10.2 | $6.2' \times 3.2'$ | 4      |

**General description**

NGC 3675 is a fairly bright spiral galaxy near 5th-magnitude 56 Ursae Majoris. With its bright core, the galaxy is a good object for small telescopes and a prominent object in larger telescopes.

**Directions**

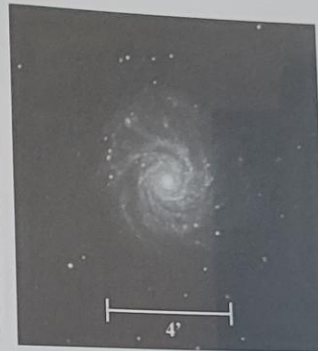
Use Chart 23 to locate 3rd-magnitude Psi ( $\psi$ ) Ursae Majoris, which is a little more than  $7^\circ$  southwest of Chi Ursae Majoris. From Psi Ursae Majoris, use your unaided eyes or binoculars to find 5th-magnitude 56 Ursae Majoris, only  $2\frac{1}{2}^\circ$  further to the east-southeast. NGC 3675 is only  $35'$  east-northeast of 56 Ursae Majoris. Use Chart 23b to identify the object's exact location.

**The quick view**

At  $23\times$ , NGC 3675 is a fairly bright,  $4'$ -long ellipse, oriented north-south, that swells with averted vision. The inner core is very bright and the halo is quite diffuse. A magnification of  $72\times$  reveals a bright inner lens, about  $2'$  across, surrounded by a mottled elliptical halo twice that extent. With some concentration an S-shaped spiral structure can be discerned. A very nice object for small-telescope users.

**6. NGC 3938 (H I-203)**

| Type          | Con        | RA                              | Dec             | Mag  | Dim                | Rating |
|---------------|------------|---------------------------------|-----------------|------|--------------------|--------|
| Spiral galaxy | Ursa Major | $11^{\text{h}} 52.8^{\text{m}}$ | $+44^\circ 07'$ | 10.4 | $4.9' \times 4.7'$ | 3      |

**General description**

NGC 3938 is a small but somewhat bright spiral galaxy near 5th-magnitude 67 Ursae Majoris. You will need to make a careful star-hop to it. So move slowly and be patient as you confirm various stars. Fortunately, the galaxy has a bright core, so small-telescope users should have no problem identifying the galaxy.

**Directions**

Use Chart 23 to locate 67 Ursae Majoris, which is  $5\frac{1}{2}^\circ$  southeast of Chi Ursae Majoris. You want to center this star in your telescope at low power, then switch to Chart 23c. Note: 67 Ursae Majoris is easy to identify because it is a fabulous multiple star whose brightest components comprise part of a  $15'$ -long asterism that somewhat resembles the W of Cassiopeia with unevenly bright stars. From 67 Ursae Majoris, move about  $30'$  northwest to 8.5-magnitude Star a. Next, hop  $30'$  due west to solitary 9th-magnitude Star b. Now make a very slow and careful sweep  $50'$  northwest to a  $5'$ -wide row of three roughly 9.5- and 10th-magnitude stars (c), oriented east to west. NGC 3938 is  $30'$  due north of Row c, just about  $10'$  southeast of 9th-magnitude Star d.

**The quick view**

At  $23\times$ , NGC 3938 is a relatively bright  $4'$ -wide circular glow wedged between two stars. At  $72\times$ , the galaxy is a highly concentrated bright mass with a bright inner core and outer halo.

|   | Naam     | Decl    | Sterrenbeeld                | Class             | Contr.Res | Details | D16 | C11 | D9 | N8 | M6 | N4 | D3 |
|---|----------|---------|-----------------------------|-------------------|-----------|---------|-----|-----|----|----|----|----|----|
| X | NGC 1245 | 47d14'  | Perseus                     | OpenCl            | 0.5       | ++      |     | x   |    |    |    |    |    |
| X | NGC 1342 | 37d22'  | Perseus                     | OpenCl            | 0.9       | +       | X   |     |    | x  |    |    |    |
|   | NGC 1407 | -18d35' | Eridanus                    | Galaxy <i>Gx</i>  | 0.4       | +       |     | x   |    |    |    |    |    |
| X | NGC 1444 | 52d40'  | Perseus                     | OpenCl            | 1.8       | ++      |     | x   |    |    |    |    |    |
| X | NGC 1502 | 62d20'  | Camelopardalis              | OpenCl            | 1.2       | ++      |     |     |    | x  |    |    |    |
| X | NGC 1513 | 49d31'  | Perseus                     | OpenCl            | 0.6       | ++      |     | x   |    |    |    |    |    |
| X | NGC 1528 | 51d13'  | Perseus                     | OpenCl            | 0.7       | ++      |     |     |    |    | x  | x  |    |
| X | NGC 1545 | 50d15'  | Perseus                     | OpenCl            | 1.0       | +       | X   | x   |    |    | x  |    |    |
| X | NGC 1647 | 19d06'  | Taurus                      | OpenCl            | 0.3       | +       | X   |     |    | x  |    |    |    |
| X | NGC 1664 | 43d41'  | Auriga                      | OpenCl            | 0.4       | +       |     | x   |    |    | x  |    |    |
|   | NGC 1788 | -03d21' | Orion <i>CLS! ReflNb Nb</i> | 0.0               | ++        | X       |     |     |    | x  |    |    |    |
| X | NGC 1817 | 16d41'  | Taurus                      | OpenCl            | 0.5       | +       |     | x   |    |    |    |    |    |
| X | NGC 1857 | 39d21'  | Auriga                      | OpenCl            | 1.4       | ++      | X   |     |    | x  |    |    |    |
| X | NGC 1907 | 35d20'  | Auriga                      | OpenCl            | 0.8       | ++      | X   |     |    | x  |    |    |    |
|   | NGC 1931 | 34d15'  | Auriga                      | H-II <i>Nb</i>    | 0.0       | +       | X   | x   |    |    |    |    |    |
|   | NGC 1961 | 69d23'  | Camelopardalis              | Galaxy <i>Gx</i>  | 0.0       | ++      |     | x   |    |    |    |    |    |
|   | NGC 1964 | -21d57' | Lepus                       | Galaxy <i>Gx</i>  | 0.1       | +       |     | x   |    |    |    |    |    |
|   | NGC 1980 | -05d55' | Orion                       | OpenCl + Nb       | 0.0       | ++      | X   |     |    | x  |    |    |    |
|   | NGC 1999 | -06d43' | Orion <i>Keyhole</i>        | ReflNb + H-II     | 0.0       | +++     | X   |     |    | x  |    |    |    |
|   | NGC 2024 | -01d50' | Orion <i>Tank T</i>         | ReflNb + H-II     | 0.0       | +++     |     |     |    | x  |    |    |    |
| X | NGC 2126 | 49d52'  | Auriga                      | OpenCl            | 0.1       | +       |     | x   |    |    |    |    |    |
| X | NGC 2129 | 23d19'  | Gemini                      | OpenCl            | 1.4       | +       | X   |     |    | x  |    |    |    |
| X | NGC 2158 | 24d06'  | Gemini <i>+ M35</i>         | OpenCl            | 0.9       | ++      |     | x   |    |    |    |    |    |
|   | NGC 2185 | -06d14' | Monoceros                   | ReflNb <i>Nb</i>  | 0.0       | ++      |     | x   |    |    |    |    |    |
| X | NGC 2186 | 05d28'  | Orion                       | OpenCl            | 0.9       | ++      | X   |     |    | x  |    |    |    |
| X | NGC 2194 | 12d48'  | Orion                       | OpenCl            | 0.4       | ++      | X   |     |    | x  |    |    |    |
|   | NGC 2204 | -18d40' | Canis Major                 | OpenCl            | 0.2       | +       |     | x   |    |    |    |    |    |
| X | NGC 2215 | -07d17' | Monoceros                   | OpenCl            | 0.4       | +       |     | x   |    |    |    |    |    |
| X | NGC 2232 | -04d51' | Monoceros                   | OpenCl            | 1.6       | +       |     |     |    | x  |    |    |    |
|   | NGC 2244 | 04d57'  | Monoceros <i>C50</i>        | OpenCl <i>Alu</i> | 1.8       | +++     | X   | x   |    |    |    | x  |    |
| X | NGC 2251 | 08d22'  | Monoceros                   | OpenCl            | 0.9       | ++      | X   |     |    | x  |    |    |    |
| X | NGC 2281 | 41d05'  | Auriga                      | OpenCl            | 1.4       | ++      |     |     |    | x  |    |    |    |
| X | NGC 2286 | -03d09' | Monoceros                   | OpenCl            | 0.6       | +       |     | x   |    |    |    |    |    |
| X | NGC 2301 | 00d28'  | Monoceros <i>bird</i>       | OpenCl            | 1.3       | +++     |     |     |    | x  |    |    |    |
|   | NGC 2304 | 17d59'  | Gemini <i>γ!</i>            | OpenCl            | 0.3       | ++      |     | x   |    |    |    |    |    |
| X | NGC 2311 | -04d37' | Monoceros                   | OpenCl            | 0.2       | +       |     | x   |    |    |    |    |    |
| X | NGC 2324 | 01d03'  | Monoceros                   | OpenCl            | 0.6       | +       |     | x   |    |    |    |    |    |
| X | NGC 2335 | -10d02' | Monoceros                   | OpenCl            | 0.8       | +       |     | x   |    |    |    |    |    |

Cnc

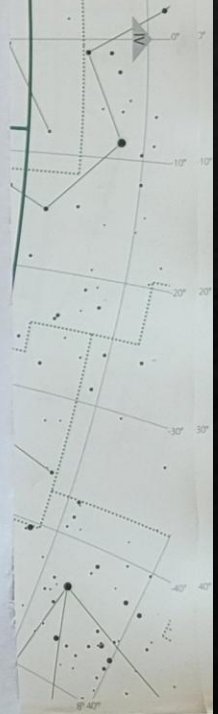
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Ari

|   | Naam     | Decl    | Sterrenbeeld           | Class            | Contr.Res | Details | D16 | C11 | D9 | N8 | M6 | N4 | D3 |
|---|----------|---------|------------------------|------------------|-----------|---------|-----|-----|----|----|----|----|----|
|   | NGC 129  | 60d13'  | Cassiopeia             | OpenCl           | 0.8       | ++      | X   |     |    |    | x  |    | x  |
|   | NGC 136  | 61d31'  | Cassiopeia             | OpenCl <i>oc</i> | 0.5       | ++      |     | x   |    |    |    |    |    |
|   | NGC 157  | -08d24' | Cetus                  | Galaxy           | 0.4       | +       | X   |     |    | x  |    |    |    |
|   | NGC 185  | 48d20'  | Cassiopeia <i>C18</i>  | Galaxy           | 0.0       | +       | X   | x   |    |    |    |    |    |
|   | NGC 225  | 61d46'  | Cassiopeia             | OpenCl <i>oc</i> | 0.9       | +       | X   |     |    | x  |    |    |    |
|   | NGC 247  | -20d46' | Cetus                  | Galaxy           | 0.1       | +++     | X   | x   |    |    |    |    |    |
|   | NGC 253  | -25d17' | Sculptor               | Galaxy           | 0.7       | +++     |     |     |    |    | x  |    |    |
|   | NGC 278  | 47d33'  | Cassiopeia             | Galaxy           | 0.4       | +       | X   | x   |    |    |    |    |    |
|   | NGC 288  | -26d35' | Sculptor               | GlobCl           | 0.5       | ++      |     | x   |    |    |    |    |    |
| X | NGC 381  | 61d35'  | Cassiopeia             | OpenCl <i>oc</i> | 0.5       | ++      | X   |     |    | x  |    |    |    |
| X | NGC 404  | 35d43'  | Andromeda              | Galaxy           | 0.4       | +       | X   | x   |    | x  |    |    |    |
| X | NGC 436  | 58d49'  | Cassiopeia             | OpenCl <i>oc</i> | 0.7       | +       | X   | x   |    |    | x  |    |    |
|   | NGC 457  | 58d17'  | Cassiopeia             | OpenCl <i>A4</i> | 1.1       | +++     | ✓   | x   |    |    |    | x  |    |
|   | NGC 488  | 05d15'  | Pisces                 | Galaxy           | 0.1       | +       | x   | x   |    |    |    |    |    |
| X | NGC 524  | 09d32'  | Pisces                 | Galaxy           | 0.4       | +       | X   | x   |    |    |    |    |    |
| X | NGC 559  | 63d19'  | Cassiopeia <i>C8</i>   | OpenCl <i>oc</i> | 0.6       | ++      |     |     |    |    | x  |    |    |
| X | NGC 584  | -06d52' | Cetus                  | Galaxy           | 0.5       | ++      | X   | x   |    |    |    |    |    |
| X | NGC 596  | -07d02' | Cetus                  | Galaxy           | 0.3       | +       | X   | x   |    |    |    |    |    |
|   | NGC 598  | 30d39'  | Triangulum <i>M33</i>  | Galaxy           | 0.5       | +++     |     | x   |    | x  |    |    |    |
| X | NGC 613  | -29d25' | Sculptor               | Galaxy           | 0.3       | +++     |     | x   |    |    |    |    |    |
| X | NGC 615  | -07d20' | Cetus                  | Galaxy           | -0.1      | +       | X   | x   |    |    |    |    |    |
| X | NGC 637  | 64d02'  | Cassiopeia             | OpenCl <i>oc</i> | 1.2       | ++      |     |     |    |    | x  |    |    |
|   | NGC 650  | 51d34'  | Perseus <i>M76</i>     | PlanNb           | 1.1       | +++     |     | x   |    |    | x  |    |    |
| X | NGC 654  | 61d53'  | Cassiopeia             | OpenCl <i>oc</i> | 1.7       | +       |     | x   |    |    |    |    |    |
| X | NGC 659  | 60d40'  | Cassiopeia             | OpenCl <i>oc</i> | 1.1       | +       | X   | x   |    |    |    |    |    |
| X | NGC 663  | 61d14'  | Cassiopeia <i>C10</i>  | OpenCl <i>oc</i> | 0.7       | +++     |     | x   |    |    | x  |    |    |
| X | NGC 720  | -13d44' | Cetus                  | Galaxy           | 0.4       | +       | ✓   | x   |    |    |    |    |    |
|   | NGC 752  | 37d47'  | Andromeda              | OpenCl <i>oc</i> | 0.5       | ++      |     |     |    |    |    |    | x  |
|   | NGC 772  | 19d00'  | Aries                  | Galaxy           | 0.0       | +++     | X   | x   |    |    |    |    |    |
|   | NGC 779  | -05d58' | Cetus <i>edge-on</i>   | Galaxy           | 0.1       | ++      |     | x   |    |    |    |    |    |
|   | NGC 891  | 42d21'  | Andromeda <i>C23</i>   | Galaxy           | -0.0      | +++     | X   | x   |    |    | x  |    |    |
|   | NGC 908  | -21d14' | Cetus <i>Spinal</i>    | Galaxy           | 0.2       | +++     | X   | x   |    |    |    |    |    |
| X | NGC 1022 | -06d41' | Cetus                  | Galaxy           | 0.2       | ++      | X   | x   |    |    |    |    |    |
|   | NGC 1023 | 39d04'  | Perseus <i>"A"?</i>    | Galaxy           | 0.3       | ++      |     | x   |    |    |    |    |    |
| X | NGC 1027 | 61d36'  | Cassiopeia             | OpenCl <i>oc</i> | 0.7       | +       |     | x   |    |    |    |    |    |
| X | NGC 1052 | -08d15' | Cetus                  | Galaxy           | 0.5       | +       |     | x   |    |    |    |    |    |
| X | NGC 1055 | 00d27'  | Cetus <i>Stalband</i>  | Galaxy           | -0.1      | ++      | X   | x   |    |    |    |    |    |
|   | NGC 1084 | -07d35' | Eridanus <i>Spinal</i> | Galaxy           | 0.3       | ++      |     | x   |    |    |    |    |    |





## Afgewerkte lijst (afap...)

- Caldwell (110)
- Herschel 400-II
- BOC lijst (Astroforum.nl)
- Local Group of Galaxies

Doel: 2010 - 2015

→ C11 f/10 op CGEM



# Het Donkere Gat ...

## Wat nu gaan observeren?

- Voldoende zichtbaar?
- Boeiende details?
- Ready-set-go

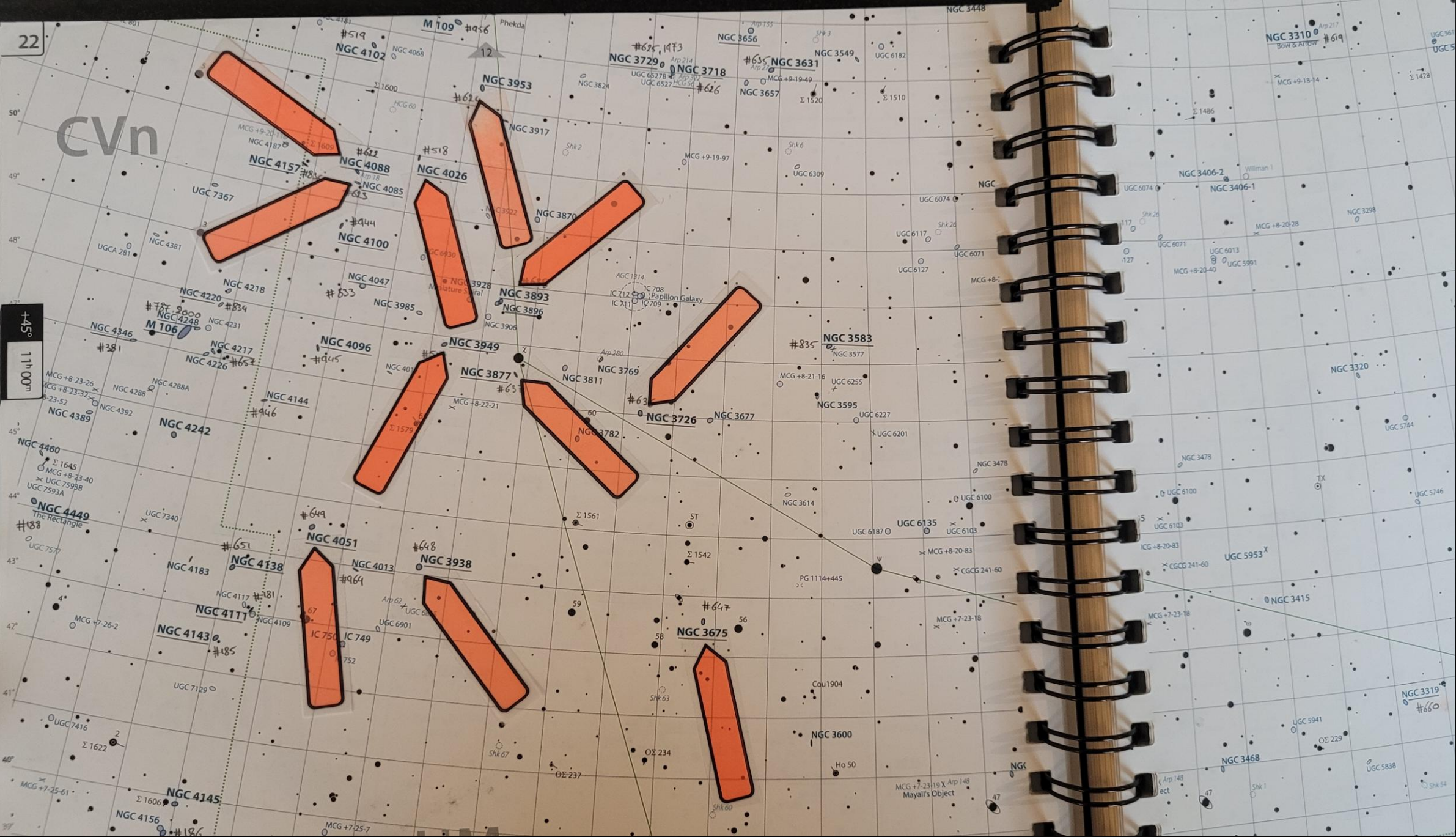
Reden = MOTIVATIE





CVn

+45°  
11h 00m



|                       |     |     |                            |            |
|-----------------------|-----|-----|----------------------------|------------|
| IC 1776               | oph | GC  | = pal 7                    | <u>K66</u> |
| NGC 6639              | Sct | oe  | ruak.                      |            |
| NGC 6649              | Sct | oc  | mooi! les                  |            |
| NGC 6728              | Sct | oc  | leuk, rijk                 |            |
| NGC 6561              | Sqr | oc  | les, 3+ dubbel.            |            |
| NGC 6567              | Sqr | PN  | φ 15" in M24, nabij +      |            |
| IC 4732               | Sqr | PN  | φ 13", holte?              |            |
| NGC 6716              | Sqr | oc  | φ 20", mooi, rijk!         |            |
| NGC 6737              | Sqr | oc  | φ 8' ruak                  |            |
| NGC 6774              | Sqr | α   | φ 20' klein, wijds.        |            |
| PK 019-13.01          | Sqr | PN  | De Ht 3, Mooi!!            |            |
| Abell 51              | Sqr | PN  | ruak rand +, <u>o.u.</u> ! |            |
| <del>ISA 1</del>      | Aql | PN  | φ 14", helder.             |            |
| <del>Knou 56</del>    | Sqr | PN  | φ 30", sdail!!             |            |
| MCG-2-53-3            | Aqr | Gx  | Aquarius Dwarf             | <u>K65</u> |
| <del>IC 5078</del>    | Cap | Gx  | edge-on 4x1'               |            |
| <del>Hickson 87</del> | Cap | Gx  |                            |            |
| NGC 7309              | Aqr | Gx  | rand, 2 armen;             | <u>K64</u> |
| NGC 7371              | Aqr | Gx  | face-on, Spiral            |            |
| <del>NGC 7443/4</del> | Aqr | Gx  | 2x spindels, leuk!         |            |
| <del>Ced 211</del>    | Aqr | Neb | rand RAqr - wow!!          |            |

|                       |     |    |                          |            |
|-----------------------|-----|----|--------------------------|------------|
| <del>NGC 7829</del>   | cet | Gx | = Anp 144                | <u>K75</u> |
| Anp 256               | Cet | Gx | 2x gx, distarted         |            |
| <del>Hickson 14</del> | cet | Gx | 1 helder, 4 ruak         |            |
| IC 51                 | cet | Gx | Anp 230, balk?           |            |
| NGC 255               | Cet | Gx | Spiral, face-on, 1 arm   |            |
| IC 18+19              | Cet | Gx | = Anp 100, TIDAL PLUME!  |            |
| NGC 191               | Cet | Gx | = Anp 127                |            |
| Hickson 3             | Cet | Gx | 4 Gx, wijds, ruak        |            |
| Hickson 6             | Cet | Gx | 4 Gx, zeer COMPACT       |            |
| NGC 341               | cet | Gx | = Anp 59                 |            |
| Hickson 13            | Cet | Gx | 1 helder, 2 ruak Gx.     |            |
| <del>Hickson 14</del> | Cet | Gx | 4 stelsels op rij, mooi! |            |
| NGC 755               | Cet | Gx | lang uerpiq, knotjes?    |            |
| NGC 701               | cet | Gx | overal, oloktkenig       |            |
| <del>NGC 661</del>    | Cet | Gx | DUST LANE!!              |            |
| Anp 4                 | Cet | Gx | 2 Gx, ruak               |            |
| Anp 236               | Cet | Gx | compact 3 Gx knotjes     |            |
| Hickson 11            | cet | Gx | 3 galaxies, ruak.        |            |

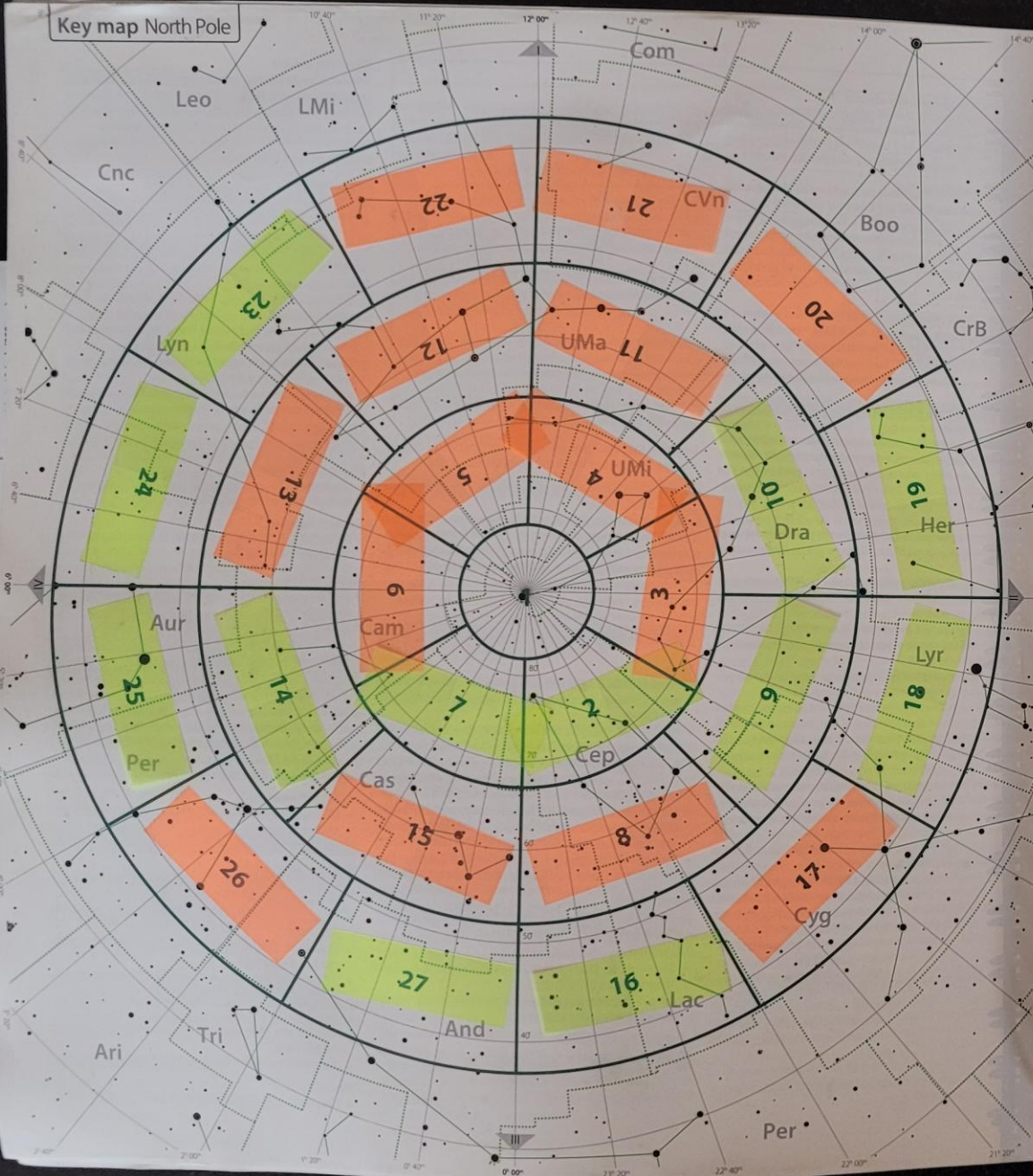
HERFST DECCINATIE 45° (extra)

|                      |      |     |                                     |            |
|----------------------|------|-----|-------------------------------------|------------|
| <del>NGC 7223</del>  | LAC  | Gx  | face on, klein, Spiral              | <u>K16</u> |
| <del>NGC 7255</del>  | LAC  | Gx  | zwaar, ruak, etc.                   | x and 28   |
| <del>IC 65</del>     | And  | Gx  | gke lange 4. ruak.                  | <u>K27</u> |
| <del>AGE 262</del>   | And  | Gx  | cluster - D18 154.                  |            |
| <del>NGC 755</del>   | And  | Gx  | face on 2x2'                        |            |
| <del>NGC 841</del>   | And  | Gx  | aaal + kern 2x1' <sup>face on</sup> | <u>K26</u> |
| <del>NGC 812</del>   | And  | Gx  | peukia, distarted 3x1' wow          |            |
| NGC 846              | And  | Gx  | compact 2x2' spiral                 |            |
| <del>NGC 982-8</del> | And  | Gx  | duo lang uerpiq                     |            |
| NGC 996-95-99        | And. |     | Trio Gx rand + lang.                |            |
| <del>NGC 1179</del>  | PER  | Gxc | compacte cluster! DSS.              |            |
| <del>NGC 1123</del>  | PER  | Gx  | aaal + kern, Spiral?                |            |
| IC 284               | PER  | Gx  | Mooi! gke 4x2' gloed + begeleider   |            |
| <del>NGC 1186</del>  | PER  | Gx  | lang 2x1' + ster + gloed.           |            |

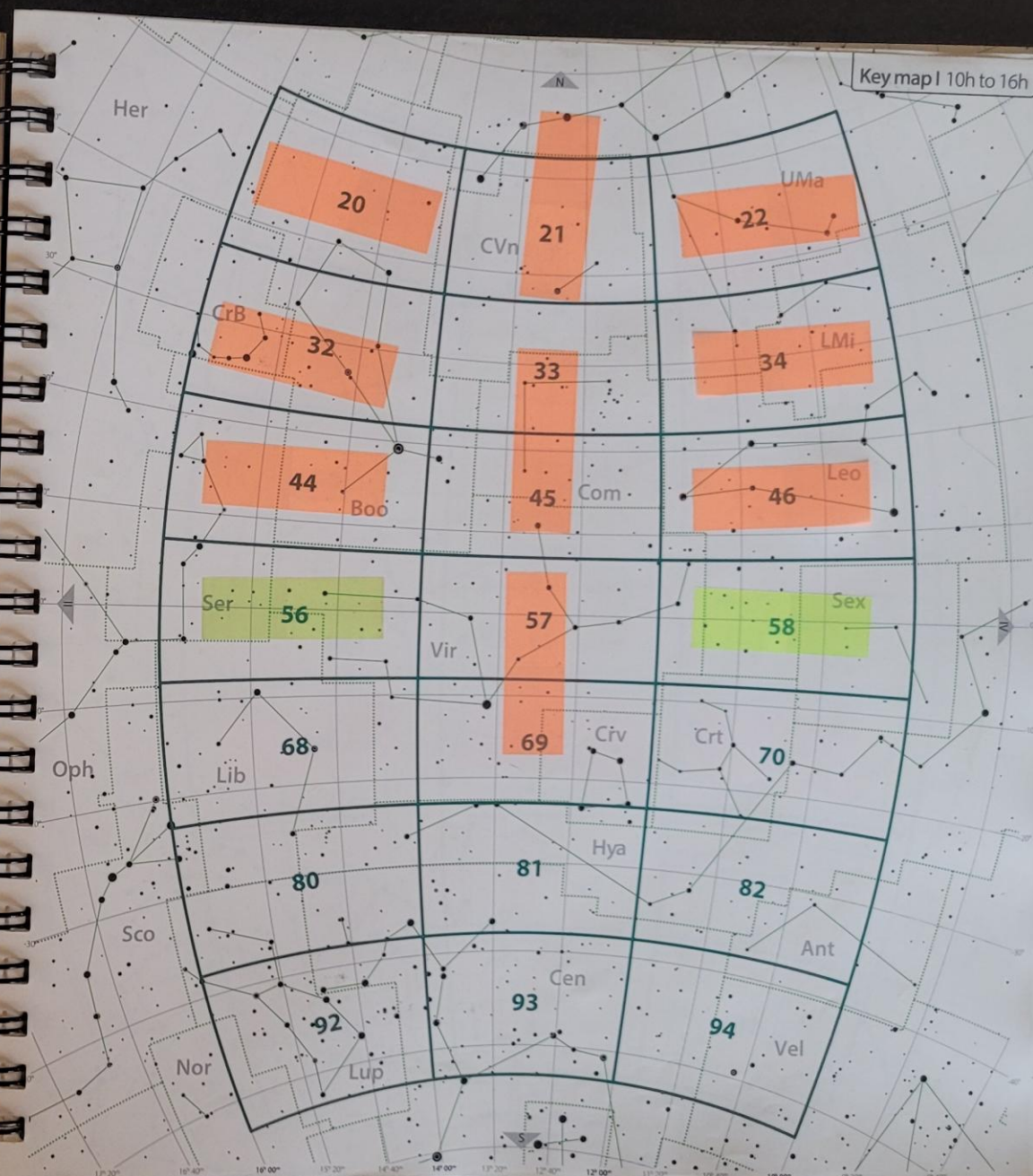
DECLINATIE 60°

|                     |     |     |                          |            |
|---------------------|-----|-----|--------------------------|------------|
| Sh 2-132            | CEP | Neb | Dragon Nebula (cont)     | <u>K8</u>  |
| <del>Sh 2-142</del> | CEP | Neb | Coiled Nebula (cont)     |            |
| Sh 2-157            | CEP | Neb | California Nebula (cont) |            |
| Sh 2-168            | CAS | Neb | rande gloed - H-beta     | <u>K15</u> |
| Maffei I            | CAS | Gx  | kleine in vierkant.      |            |
| Maffei II           | CAS | Gx  | zèer gke gloed.          |            |
| IC 1805             | CAS | Neb | Hart nevel - A4          |            |
| IC 1848             | CAS | Neb | Embryo nevel - A4.       |            |

Key map North Pole



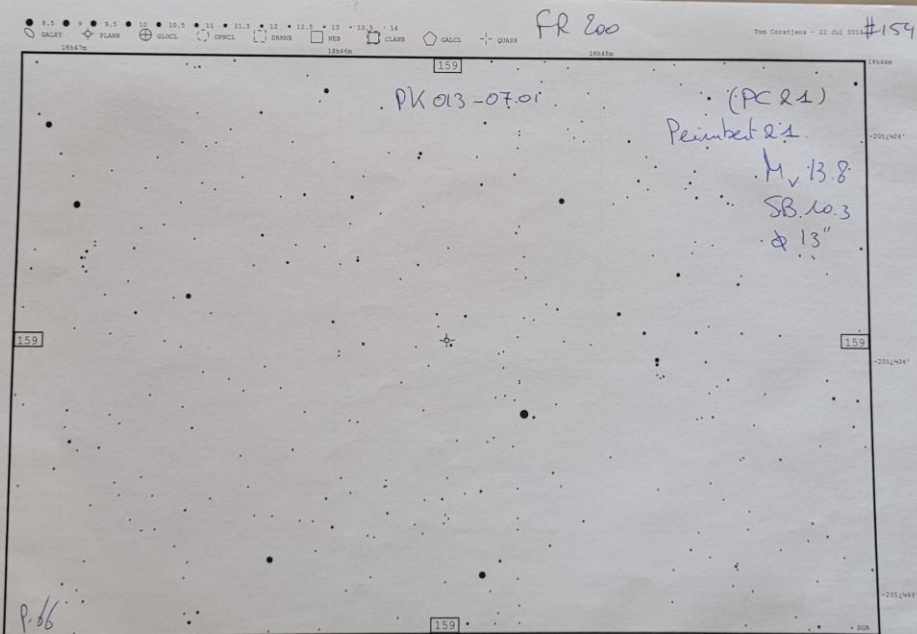
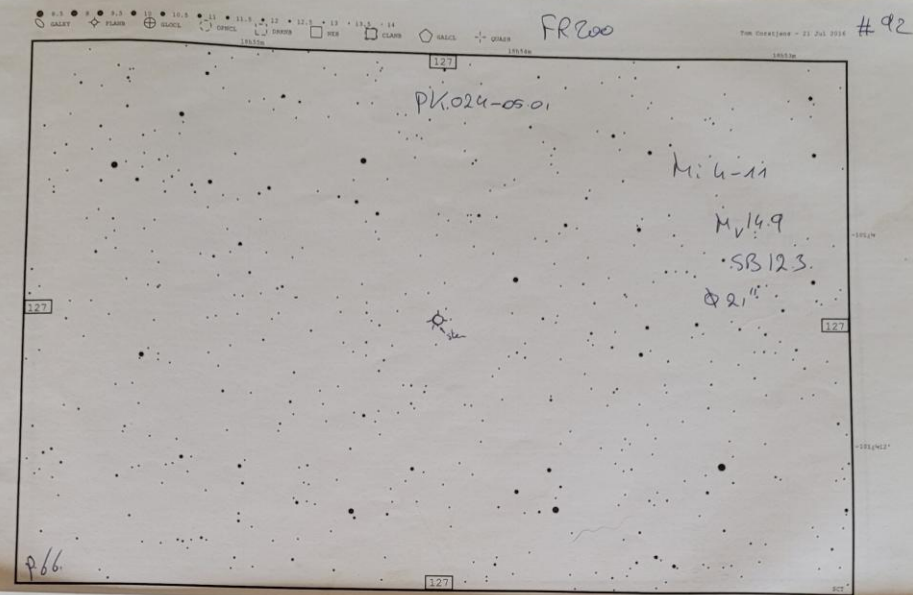
Key map I 10h to 16h



Deep sky objects

# Actieve projecten:

- Fred 200 Planetary Nebula
- Herschel 400 met Alkaid 16"
- Hickson 100 clusters
- Cambridge DSA
- La Palma Object List

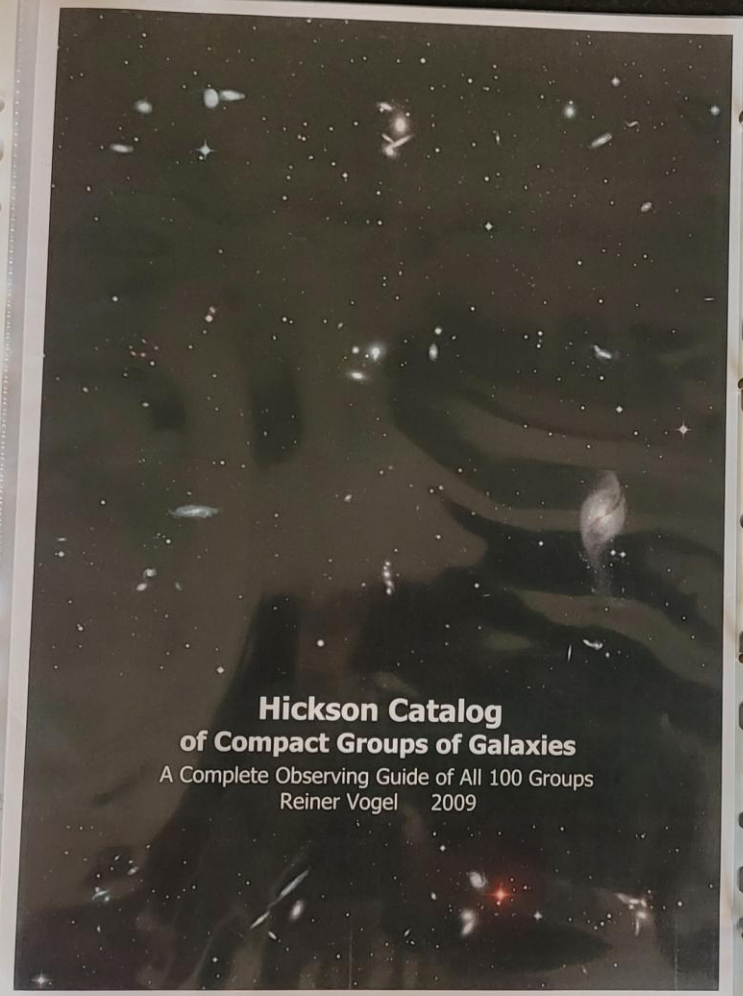


FOV: 0.7 x 0.5114 - Objecten tot mag: 13.83 - Sterren tot mag: 14 - (Centrum op 18h46m, -201°43')

# Hickson 100 (HCG)

## Complete List of Groups

| HCG | Const | RA (2000)   | Dec      | brightest member | mag  |
|-----|-------|-------------|----------|------------------|------|
| 1   | And   | 00h 26m 01s | +25° 48' |                  | 14.4 |
| 2   | Psc   | 00h 31m 30s | +08° 26' |                  | 13.4 |
| 3   | Cet   | 00h 34m 12s | -07° 36' |                  | 14.7 |
| 4   | Cet   | 00h 34m 16s | -21° 27' | NGC 190          | 13.5 |
| 5   | Psc   | 00h 38m 55s | +07° 04' |                  | 14.6 |
| 6   | Cet   | 00h 39m 10s | -08° 24' | NGC 192          | 15.3 |
| 7   | Cet   | 00h 39m 24s | +00° 53' |                  | 12.6 |
| 8   | And   | 00h 49m 37s | +23° 35' |                  | 14.5 |
| 9   | Cet   | 00h 54m 18s | -23° 33' | NGC 536          | 14.9 |
| 10  | And   | 01h 26m 08s | +34° 41' |                  | 12.6 |
| 11  | Cet   | 01h 26m 35s | -23° 14' |                  | 13.0 |
| 12  | Cet   | 01h 27m 34s | -04° 40' |                  | 14.8 |
| 13  | Cet   | 01h 32m 23s | -07° 53' |                  | 14.6 |
| 14  | Cet   | 01h 59m 48s | -07° 02' |                  | 14.2 |
| 15  | Cet   | 02h 07m 39s | +02° 08' | NGC 835          | 14.3 |
| 16  | Cet   | 02h 09m 34s | -10° 10' |                  | 12.8 |
| 17  | Ari   | 02h 14m 07s | +13° 19' |                  | 16.5 |
| 18  | Ari   | 02h 39m 07s | +18° 23' |                  | 14.9 |
| 19  | Cet   | 02h 42m 46s | -12° 25' |                  | 14.0 |
| 20  | Ari   | 02h 44m 15s | +26° 06' | NGC 1099         | 16.7 |
| 21  | Eri   | 02h 45m 18s | -17° 37' | NGC 1199         | 13.9 |
| 22  | Eri   | 03h 03m 32s | -15° 41' | NGC 1214         | 12.2 |
| 23  | Eri   | 03h 06m 07s | -09° 35' |                  | 14.3 |
| 24  | Eri   | 03h 20m 19s | -10° 52' |                  | 14.9 |
| 25  | Cet   | 03h 20m 44s | -01° 03' |                  | 13.9 |
| 26  | Eri   | 03h 21m 55s | -13° 39' |                  | 15.6 |
| 27  | Eri   | 04h 19m 22s | -11° 43' |                  | 15.7 |
| 28  | Eri   | 04h 27m 20s | -10° 19' |                  | 15.3 |
| 29  | Eri   | 04h 34m 46s | -30° 33' |                  | 14.5 |
| 30  | Eri   | 04h 36m 29s | -02° 50' | NGC 1741         | 12.9 |
| 31  | Eri   | 05h 01m 37s | -04° 15' |                  | 12.5 |
| 32  | Lep   | 05h 01m 43s | -15° 25' |                  | 13.8 |
| 33  | Tau   | 05h 10m 48s | +18° 02' | NGC 1875         | 15.4 |
| 34  | Ori   | 05h 21m 48s | +06° 41' |                  | 14.2 |
| 35  | Lyn   | 08h 45m 20s | +44° 34' | IC 528           | 15.1 |
| 36  | Cnc   | 09h 09m 24s | +15° 46' | NGC 2783         | 14.5 |
| 37  | Cnc   | 09h 13m 36s | +30° 01' |                  | 13.0 |
| 38  | Leo   | 09h 27m 39s | +12° 19' |                  | 14.8 |
| 39  | Hya   | 09h 29m 29s | -01° 21' |                  | 16.6 |
| 40  | Hya   | 09h 38m 55s | -04° 51' |                  | 13.4 |
| 41  | UMA   | 09h 57m 40s | +46° 14' | NGC 3091         | 13.9 |
| 42  | Hya   | 10h 00m 22s | -19° 39' |                  | 11.7 |
| 43  | Sex   | 10h 11m 14s | -00° 02' | NGC 3190         | 15.1 |
| 44  | Leo   | 10h 18m 01s | +21° 49' |                  | 11.5 |
| 45  | UMA   | 10h 19m 12s | +59° 07' |                  | 15.2 |
| 46  | Leo   | 10h 22m 02s | +12° 49' |                  | 15.2 |
| 47  | Leo   | 10h 25m 49s | +13° 44' | IC 2597          | 16.1 |
| 48  | Hya   | 10h 37m 49s | -27° 05' |                  | 14.6 |
| 49  | UMA   | 10h 56m 37s | +69° 13' |                  | 13.2 |
| 50  | UMA   | 11h 17m 07s | +54° 55' |                  | 15.9 |
|     |       |             |          |                  | 18.4 |



**Hickson Catalog  
of Compact Groups of Galaxies**  
A Complete Observing Guide of All 100 Groups  
Reiner Vogel 2009

Hickson 15 in Cetus



HCG Const. coordinates (2000) bright. memb. mag  
15 Cet. 02h 07m 39s +02° 08' 14.3

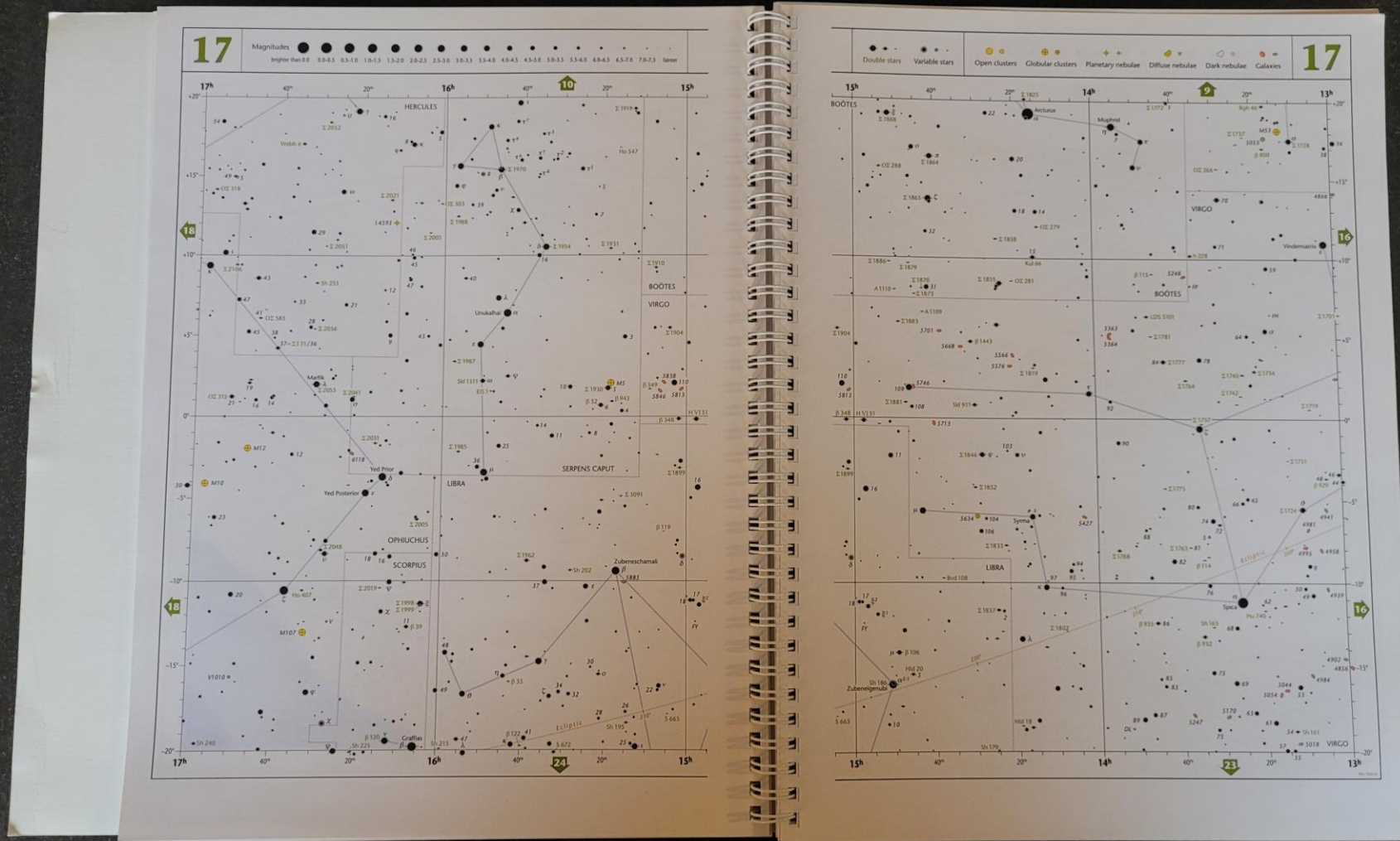
| galaxy | ra (2000) | dec | mag | type | r | r <sub>1/2</sub> | r <sub>1/4</sub> | r <sub>1/8</sub> | r <sub>1/16</sub> | r <sub>1/32</sub> | r <sub>1/64</sub> | r <sub>1/128</sub> | r <sub>1/256</sub> | r <sub>1/512</sub> | r <sub>1/1024</sub> | r <sub>1/2048</sub> | r <sub>1/4096</sub> | r <sub>1/8192</sub> | r <sub>1/16384</sub> | r <sub>1/32768</sub> | r <sub>1/65536</sub> | r <sub>1/131072</sub> | r <sub>1/262144</sub> | r <sub>1/524288</sub> | r <sub>1/1048576</sub> | r <sub>1/2097152</sub> | r <sub>1/4194304</sub> | r <sub>1/8388608</sub> | r <sub>1/16777216</sub> | r <sub>1/33554432</sub> | r <sub>1/67108864</sub> | r <sub>1/134217728</sub> | r <sub>1/268435456</sub> | r <sub>1/536870912</sub> | r <sub>1/1073741824</sub> | r <sub>1/2147483648</sub> | r <sub>1/4294967296</sub> | r <sub>1/8589934592</sub> | r <sub>1/17179869184</sub> | r <sub>1/34359738368</sub> | r <sub>1/68719476736</sub> | r <sub>1/137438953472</sub> | r <sub>1/274877906944</sub> | r <sub>1/549755813888</sub> 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Bruce MacEvoy and Wil Tirion

# THE CAMBRIDGE DOUBLE STAR ATLAS



# Cambridge Double Star Atlas



= met D80mm f/7  
(crisis tijd)

DECLINATIE -15°

|    |                      |                |            |     |         |  |
|----|----------------------|----------------|------------|-----|---------|--|
| 1  | Palomar 7            | Serpens Cauda  | Globular   | -7  | IDSA 54 | IC 1276 - Mv10.3 SB14.3 Q7'                |
| 2  | NGC 6749             | Aquila         | Globular   | +2  | IDSA 54 | Faint GC redo SB16.11                      |
| 3  | NGC 6781             | Aquila         | Planetary  | +6  | IDSA 54 | <b>Snow-globe Nebula</b>                   |
| 4  | M 9                  | Ophiuchus      | Globular   | -18 | IDSA 67 | Dark Neb B64 near Globular                 |
| 5  | <del>NGC 6537</del>  | Sagittarius #5 | Planetary  | -20 | IDSA 66 | <b>Red Spider Nebula</b>                   |
| 6  | <del>IC 1284</del>   | Sagittarius #6 | Emission   | -19 | IDSA 66 | Nebulosity on Cr 371                       |
| 7  | <del>NGC 6595</del>  | Sagittarius    | Reflection | -19 | IDSA 66 | incl. two stars + dark spot                |
| 8  | M 17                 | Sagittarius    | Emission   | -16 | IDSA 66 | <b>Swan Nebula</b> - Sketch A4             |
| 9  | M 16                 | Sagittarius    | Emission   | -14 | IDSA 66 | <b>Eagle Nebula</b> - Sketch A4            |
| 10 | Sh 2-54              | Serpens Cauda  | Emission   | -12 | IDSA 66 | Faint large Neb + NGC 6604                 |
| 11 | <del>Palomar 8</del> | Sagittarius #6 | Globular   | -18 | IDSA 66 | SB 11.9 Q1.6' small → KAART                |
| 12 | <del>ESO 594-4</del> | Sagittarius #6 | Galaxy     | -17 | IDSA 66 | <b>Sgr I Dwarf Gx</b> → KAART              |
| 13 | <del>NGC 246</del>   | Cetus #10      | Planetary  | -11 | IDSA 75 | <b>Skull Nebula</b> 4'x4'                  |
| 14 | NGC 247              | Cetus          | Galaxy     | -20 | IDSA 75 | <b>Dusty Spiral Gx</b> 21'x5' <i>wood!</i> |
| 15 | <del>NGC 578</del>   | Cetus          | Galaxy     | -22 | IDSA 75 | Spiral Gx, knotted 4'x3'                   |
| 16 | <del>NGC 1232</del>  | Eridanus #11   | Galaxy     | -20 | IDSA 74 | NICE Face-On Mlt-Spiral 6'x4'              |
| 17 | <del>NGC 1300</del>  | Eridanus #11   | Galaxy     | -19 | IDSA 74 | NICE Sbb-Barred Gx 6'x4'                   |
| 18 | <del>NGC 1395</del>  | Eridanus #12   | Galaxy     | -22 | IDSA 74 | Bright Ell Gx, rich star field.            |
| 19 | NGC 1461             | Eridanus       | Galaxy     | -16 | IDSA 74 | Lens-Gx 3'x1' Mv11.8                       |
| 20 | <del>NGC 1354</del>  | Eridanus       | Galaxy     | -15 | IDSA 74 | Long Gx 3'x1'                              |
| 21 | <del>NGC 1309</del>  | Eridanus       | Galaxy     | -15 | IDSA 74 | Face-on, near br. star 2'x2'               |
| 22 | <del>NGC 1357</del>  | Eridanus       | Galaxy     | -13 | IDSA 74 | Spiral face-on br. core 3'x2'              |
| 23 | NGC 1640             | Eridanus       | Galaxy     | -20 | IDSA 73 | Barred Theta Gx 2'x2'                      |
| 24 | NGC 1728             | Eridanus       | Galaxy Cl  | -11 | IDSA 73 | NICE 3Gx close cluster                     |
| 25 | NGC 1730             | Lepus          | Galaxy     | -15 | IDSA 73 | Small barred Gx 2'x1'                      |
| 26 | NGC 1888             | Lepus          | Galaxy     | -11 | IDSA 73 | NICE contacting NGC 1889                   |
| 27 | IC 2118              | Eridanus       | Reflection | -6  | IDSA 73 | <b>Witch Head Nebula</b>                   |
| 28 | NGC 2017             | Lepus          | Cluster    | -17 | IDSA 73 | NICE Mini Jewel Box                        |
| 29 | UGCA 114             | Lepus          | Galaxy     | -14 | IDSA 73 | Low SB Spiral Gx (no LGOG)                 |
| 30 | NGC 2359             | Monoceros      | Emission   | -13 | IDSA 72 | <b>Thor's Helmet</b>                       |

DECLINATIE -30°

|    |                       |                 |            |     |         |  |
|----|-----------------------|-----------------|------------|-----|---------|--|
| 31 | <del>NGC 5824</del>   | Lupus           | Globular   | -33 | IDSA 80 | FAST: 10" max horizon                    |
| 32 | <del>NGC 6026</del>   | Lupus           | Planetary  | -34 | IDSA 79 | 40 arcs disk, bright CS                  |
| 33 | <del>NGC 6072</del>   | Lupus           | Planetary  | -36 | IDSA 79 | NICE M27-like 70 arcs disk               |
| 34 | <del>IC 4604</del>    | Ophiuchus       | Reflection | -23 | IDSA 79 | <b>Rho Oph Nebula</b> + B42              |
| 35 | <del>NGC 6325</del>   | Ophiuchus #1    | Globular   | -23 | IDSA 79 | MUST-HAVE ... missing GC                 |
| 36 | <del>B 72</del>       | Ophiuchus       | DarkNeb    | -23 | IDSA 79 | <b>Snake Nebula</b> <i>gale (H)</i>      |
| 37 | HP 1                  | Ophiuchus       | Globular   | -30 | IDSA 79 | Mini-GC                                  |
| 38 | NGC 6383              | Scorpius        | Cluster    | -32 | IDSA 79 | Rich star cluster                        |
| 39 | <del>NGC 6357</del>   | Scorpius #1     | Emission   | -34 | IDSA 79 | <b>Lobster Nebula</b>                    |
| 40 | <del>NGC 6334</del>   | Scorpius #15    | Emission   | -36 | IDSA 79 | <b>Cat's Paw Nebula</b>                  |
| 41 | <del>NGC 6453</del>   | Scorpius #19    | Globular   | -34 | IDSA D5 | NICE - In Messier 7                      |
| 42 | <del>NGC 6526</del>   | Sagittarius     | Emission   | -23 | IDSA D6 | MUST-HAVE ... HII killer → KAAR          |
| 43 | <del>M 20</del>       | Sagittarius     | Emission   | -23 | IDSA D6 | <b>Trifid Nebula</b> - Sketch A4         |
| 44 | NGC 6546              | Sagittarius     | Cluster    | -23 | IDSA D6 | Milky Way star patch 13arcmin            |
| 45 | <del>IC 1274</del>    | Sagittarius     | Emission   | -23 | IDSA D6 | NICE complex IC1275 + B91 <i>no</i>      |
| 46 | <del>NGC 6559</del>   | Sagittarius     | Emission   | -24 | IDSA D6 | Faint wisps + B303 split <i>gale</i>     |
| 47 | <del>B 86</del>       | Sagittarius #19 | DarkNeb    | -27 | IDSA 78 | <b>Ink Spot Neb</b> + OC NGC 6520        |
| 48 | B 87                  | Sagittarius     | DarkNeb    | -32 | IDSA 78 | <b>Parrot's head</b>                     |
| 49 | <del>NGC 6556</del>   | Sagittarius #16 | Globular   | -31 | IDSA 78 | GC above -35°dec                         |
| 50 | <del>NGC 6563</del>   | Sagittarius #16 | Planetary  | -33 | IDSA 78 | <b>Southern Ring Nebula</b>              |
| 51 | <del>NGC 6652</del>   | Sagittarius #25 | Globular   | -33 | IDSA 78 | GC above -35°dec                         |
| 52 | <del>NGC 6723</del>   | Corona Aus #16  | Globular   | -36 | IDSA 78 | <b>Chandelier Cluster</b>                |
| 53 | <del>NGC 6729</del>   | Corona Aus #16  | Reflection | -36 | IDSA 78 | <b>C68 - R CrA Nebulae</b>               |
| 54 | <del>Tennant 7</del>  | Sagittarius     | Globular   | -34 | IDSA 78 | SB 12.3 1.3"x1.3' → KAART                |
| 55 | <del>Abell 85</del>   | Sagittarius #10 | Planetary  | -23 | IDSA 78 | Mv13.8 134"x34" long → KAAR              |
| 56 | <del>NGC 6925</del>   | Microscopium #2 | Galaxy     | -32 | IDSA 77 | Edge-on 4'x1' br. core                   |
| 57 | <del>Hickson 91</del> | Pisces Aus #10  | Galaxy     | -27 | IDSA 76 | 4 pce. incl. NGC 7214 → KAART            |
| 58 | <del>NGC 7314</del>   | Pisces Aus #7   | Galaxy     | -26 | IDSA 76 | SB 12.9 4.2'x2.0' - Arp 14               |
| 59 | <del>NGC 7252</del>   | Aquarius #7     | Galaxy     | -24 | IDSA 76 | <b>Atom for Peace</b> - 2' SB12.2        |
| 60 | <del>NGC 7293</del>   | Aquarius        | Planetary  | -20 | IDSA 76 | <b>Helix Nebula</b> <i>! 30 arcs pce</i> |

# La Palma

DECLINATIE 3°

|    |                       |             |            |      |         |  |
|----|-----------------------|-------------|------------|------|---------|--|
| 61 | <del>NGC 7793</del>   | Sculptor #7 | Galaxy     | -32  | IDSA 87 | Ultra-mottled 9'x6' SB13.2                   |
| 62 | <del>NGC 45</del>     | Cetus       | Galaxy     | -23  | IDSA 87 | Face-on spiral 8'x6', SB14.2 <i>g, wood</i>  |
| 63 | <del>NGC 253</del>    | Sculptor    | Galaxy     | -25  | IDSA 87 | <b>Silver Dollar Galaxy</b>                  |
| 64 | <del>NGC 134</del>    | Sculptor #4 | Galaxy     | -33  | IDSA 87 | <b>Giant Squid Gx</b> - 8'x2' SB13.2         |
| 65 | <del>NGC 289</del>    | Sculptor #4 | Galaxy     | -31  | IDSA 87 | Spiral 3'x2' SB 13.9 + star                  |
| 66 | <del>ESO 351-30</del> | Sculptor #3 | Galaxy     | -33  | IDSA 87 | <b>Sculptor Dwarf</b> - 35'x28' → KAART      |
| 67 | <del>NGC 578</del>    | Cetus #4    | Galaxy     | -22  | IDSA 87 | Spiral 4'x2' SB 13.3                         |
| 68 | <del>ESO 356-4</del>  | Fornax #9   | Galaxy     | -34  | IDSA 86 | <b>Fornax Dwarf</b> - 62'x50' → KAART        |
| 69 | <del>NGC 1049</del>   | Fornax      | Globular   | -34  | IDSA 86 | Fornax 3 + Glob challenge                    |
| 70 | <del>NGC 1097</del>   | Fornax      | Galaxy     | -30  | IDSA 86 | Only revisit - C67 Sbb spiral                |
| 71 | <del>NGC 1201</del>   | Fornax #22  | Galaxy     | -26  | IDSA 86 | Ellip Gx 3'x2' SB 12.2 starfield             |
| 72 | <del>NGC 1255</del>   | Fornax #23  | Galaxy     | -25° | IDSA 86 | Mottled Gx 4'x2' SB 13.1                     |
| 73 | <del>NGC 1302</del>   | Fornax      | Galaxy     | -26  | IDSA 86 | Face-on br. core 4'x4' Mv10.6                |
| 74 | <del>NGC 1360</del>   | Fornax #12  | Planetary  | -25  | IDSA 86 | NICE 6'x6' disk SB13.3 + br. CS              |
| 75 | <del>NGC 1385</del>   | Fornax #12  | Galaxy     | -24  | IDSA 86 | Knotty spiral 3'x2' SB12.8                   |
| 76 | <del>NGC 1398</del>   | Fornax #21  | Galaxy     | -26  | IDSA 86 | NICE Theta Sbc 7'x5' SB13.4                  |
| 77 | <del>NGC 1425</del>   | Fornax #21  | Galaxy     | -29  | IDSA 86 | Side 5'x2' SB13.2 starfield                  |
| 78 | <del>NGC 1406</del>   | Fornax #21  | Galaxy     | -30  | IDSA 86 | Edge-On 4'x1' SB12.5                         |
| 79 | <del>NGC 1344</del>   | Fornax #20  | Galaxy     | -32  | IDSA 86 | Ellip Gx 6'x4' Mv10.4                        |
| 80 | <del>NGC 1350</del>   | Fornax #20  | Galaxy     | -33  | IDSA 86 | NICE RingGx Sbc 5'x3' SB 13.0                |
| 81 | <del>NGC 1379</del>   | Fornax #13  | Gx Cluster | -35  | IDSA 86 | <b>Fornax Gx Cluster</b> - A4 sketch         |
| 82 | <del>NGC 1365</del>   | Fornax #12  | Galaxy     | -36  | IDSA 86 | <b>Fornax Propellor</b> - Bar 11'x6' → KAART |
| 83 | <del>NGC 1316</del>   | Fornax #12  | Galaxy     | -37  | IDSA 86 | <b>Fornax A</b> - Mv8.4 + NGC1317            |
| 84 | <del>NGC 1532</del>   | Eridanus    | Galaxy     | -32  | IDSA 85 | <b>Southern Deer Lick</b> - 11'x3'           |
| 85 | <del>NGC 1679</del>   | Caelum #14  | Galaxy     | -31  | IDSA 85 | Curved 3'x2' SB13.0                          |
| 86 | <del>NGC 1792</del>   | Columba #14 | Galaxy     | -36  | IDSA 85 | Mottled 6'x3' SB12.8                         |
| 87 | <del>NGC 1808</del>   | Columba #14 | Galaxy     | -36  | IDSA 85 | Outer arms Gx 6'x4' Mv9.9                    |
| 88 | <del>NGC 1827</del>   | Columba     | Galaxy     | -35  | IDSA 85 | Edge-On 3'x1' Mv12.5                         |
| 89 | NGC 1979              | Lepus       | Galaxy     | -23  | IDSA 85 | Ellip tiny 2'x1' yearcode                    |
| 90 | <del>NGC 2090</del>   | Columba     | Galaxy     | -34  | IDSA 85 | Long 6'x2' Phact Wazn                        |

#2030

NGC 1832 (Fric)  
Alkaid 16" f4.2  
Delos 10mm (800x)  
ParaCar x  
05 Oct 2024 - 01h15 UT  
Tom Costjens  
Grandpère (FR)  
NELM: G4  
Seeing: 2.15 - Transp: 1.15

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#2031

NGC 7635 (Cas)  
Alkaid 16" f4.2  
Delos 6mm (330x)  
ParaCar + GHC  
05 Oct 2024 - 02h15 UT  
Tom Costjens  
Grandpère (FR)  
NELM: G.3  
Seeing: 2.15 - Transp: 2.15

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#2028

Sh 2-112 (Cyg)  
Alkaid 16" f4.2  
Delos 17.3mm (115x)  
ParaCar + GHC  
04 Oct 2024 - 23h40 UT  
Tom Costjens  
Grandpère (FR)  
NELM: G4  
Seeing: 2.15 - Transp: 1.15

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#2029

NGC 578 (Cet)  
Alkaid 16" f4.2  
Delos 8mm (250x)  
ParaCar x  
05 Oct 2024 - 01h30 UT  
Tom Costjens  
Grandpère (FR)  
NELM: G4  
Seeing: 2.15 - Transp: 1.15

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# 1954



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**Vela Supernova Remnant**  
Northern section

Alkaid 12" f/4.0 - Paracorr  
Nagler 26mm (50x)  
Astronomik OIII

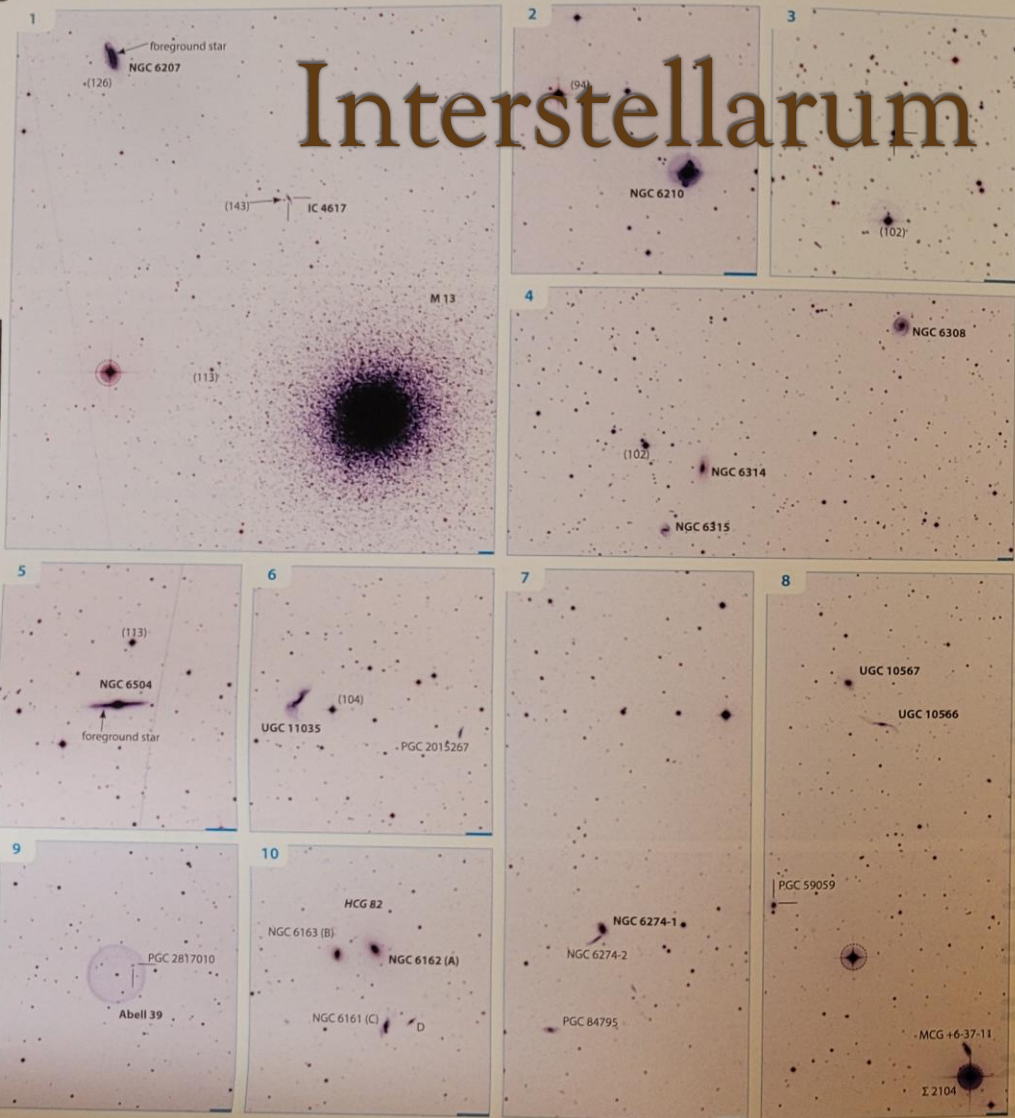
22 - 24 Feb 2023 / 23h00 - 1h30 UT  
Tom Corstjens - Puntagorda (ES)  
NELM: 6.6 - S: 2/5 - T: 1/5

# De toekomst ...

- Meer A4 schetsen
- Opnieuw de Messier lijst
- SMC + LMC
  
- .... en :

# Interstellarum Deepsky Guide

30°E  
17h 00m



30°E  
17h 00m

### Visible in 4-inch telescopes

- 1 M 13 GC Her Hercules Cluster. Beautiful star chains. Brightest stars 11.9. Use medium to high power for chains.
- 1 NGC 6207 Gx Her Spiral, NE of M 13. Foreground star close N of core. Use high power.
- 2 NGC 6210 PN Her Turtle Nebula. Small, faint outer extensions. Central star 12.8. Use high power and OIII filter for extensions; very high power and no filter for detail.

### Visible in 8-inch telescopes

- 3 Vy 1-2 PN Her Size 3.2. Central star 16.2. Use medium power and OIII filter to identify by filter blink; very high power to see disk.
- 4 NGC 6315 Gx Her Emission line galaxy, barred spiral. NGC 6314 to N.

### Visible in 12-inch telescopes

- 4 NGC 6314 Gx Her Edge-on spiral. NGC 6315 to S.
- 4 NGC 6308 Gx Her Face-on spiral.
- 5 NGC 6504 Gx Her Perfect edge-on galaxy. Foreground star in W part. Use high power.
- 6 UGC 11035 Gx Her Warped edge-on spiral.
- 7 NGC 6274-1 Gx Her Optical pair with NGC 6274-2 (=PGC 59381).
- 9 Abell 39 PN Her Beautiful but faint spherical planetary. Faint background Gx. Central star 15.8. Use low to medium power and OIII filter.
- 10 HCG 82 GxG Her Faint quartet. A 14.6, B 15.3, C 15.6, D 16.6.
- 11 AGC 2162 GxC CrB dc=1, rc=0. Dominated by pair NGC 6086/6085.
- 12 IRAS 17490+2659 Qs Her z=0.15 variable 14.3-15.1.

### Challenges for big telescopes

- 1 IC 4617 Gx Her Faint background Gx on NE edge of M 13. Can be seen with 74-inch telescope, use high power.
- 8 UGC 10566 Gx Her Probably interacting with UGC 10567.
- 8 UGC 10567 Gx Her Probably interacting with UGC 10566.



#1962

-- Einde --



NGC 6960 (C99)

Alkaid 16" f4.2 - ParaCorr

Delos 17.3 mm (115x) + OIII

Grandpré - 15 SEP 2023 - 22h00 UT