

**ASTROGIES**

LOOK / DISCOVER / RECORD

English edition 1.1 | Northern mid-latitudes

Binocular Astronomy

Discover the night sky, step by step

For beginners and amateur astronomers

54 pages | 12 star charts | 6 fillable worksheets



Seeing more starts with looking carefully

Binoculars reveal a generous stretch of sky at once. That broad perspective makes them an astronomical instrument in their own right.

Who this book is for

This book is for adults who want to move beyond stumbling upon an attractive star field. You will learn to adjust your binoculars, choose a realistic target, recognise the correct field and record observations in a way that allows meaningful comparisons. Ordinary binoculars are enough to get started; a large or expensive instrument is not a prerequisite.

Three complementary parts

The **handbook** explains the optics and observing conditions. The **object atlas** connects nine fixed sky regions with photographs, finder charts and practical exercises. The **workbook** helps you record an observation, make a comparison and acknowledge uncertainty. The Moon, Jupiter and the Milky Way also have dedicated chapters.

Which part of the sky?

The seasonal guidance is intended primarily for the Netherlands and Belgium, around 50-53° north, and is broadly useful at similar northern latitudes. The altitude graphs are calculated for 52° N. They show geometry, not current rising times. Check the date, location, Moon, weather and horizon before setting out. The charts are orientation aids rather than a complete star atlas.

Start with one worthwhile evening

Read the safety and adjustment sections first, then choose the Pleiades, Hyades or M44 when well placed. Take one chart and one worksheet. Return to the same target on another evening: differences can teach you more than a long checklist.

The photographs show real astronomical objects; their colour and detail are produced photographically. The lunar image is explicitly identified as a scientific visualisation. Graphs use original calculations with stated assumptions. Star charts are calculated from catalogue positions. No AI-generated sky images are used.



The Pleiades

A compact group of bright stars, with enough space around it to appreciate the whole.



Astronomical photography; not a simulation of the binocular view. **Image:** ESO/S. Brunier (CC BY 4.0).

Understanding the object

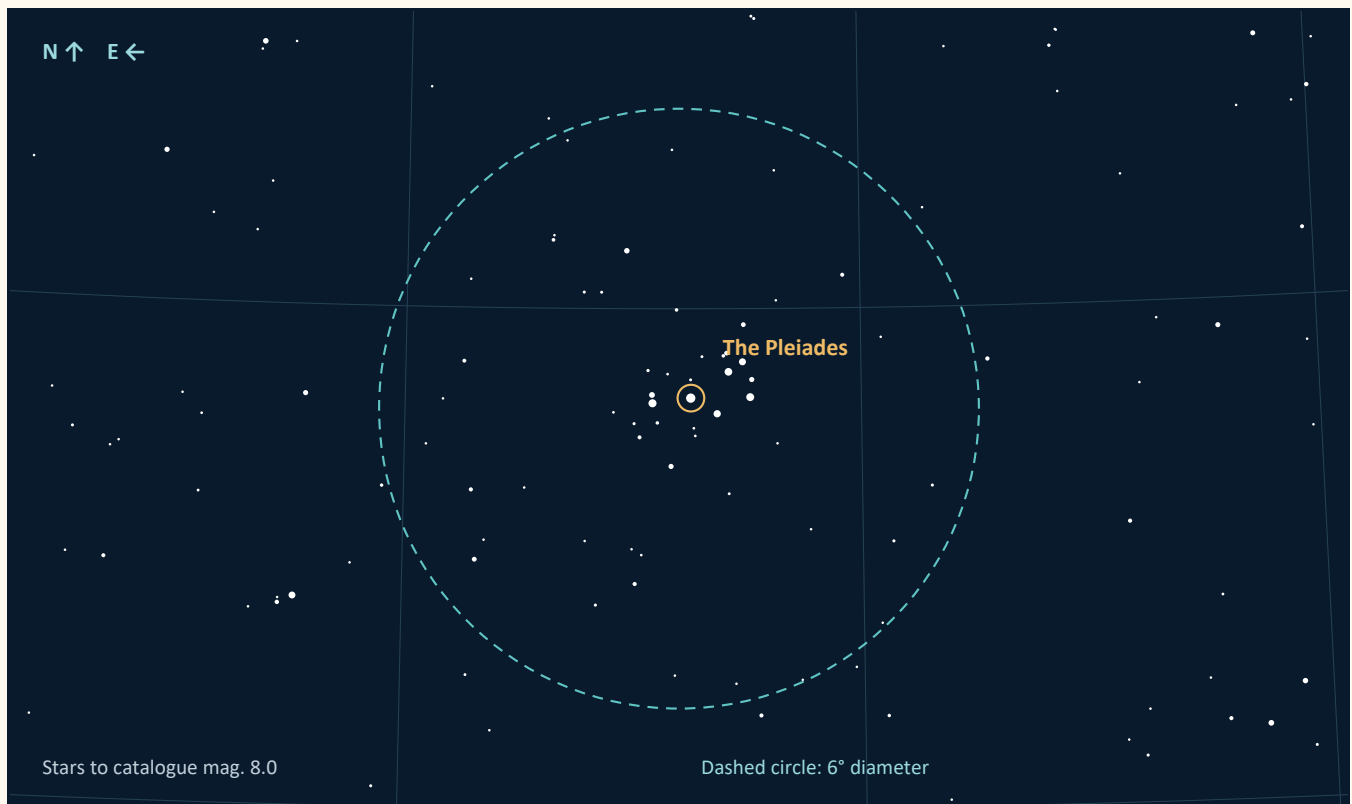
The Pleiades are an open cluster: a population of stars with a shared formation history. Some of the blue light in photographs is reflected by dust. That dust contributes to the appearance of this image, but is not a reasonable expectation for ordinary binoculars. A haze around a bright star may also be caused by moisture, scattered light or imperfect focus.

Through your binoculars

Look for bright stars, fainter companions and short chains. The number of visible stars depends on support, sky conditions and experience. Count within a defined section of the field rather than choosing a different area each time.



Finding the Pleiades



TAN projection; north up and east left at the chart centre. Height along the central axis: 8°. Centre: RA 3.80 h, dec +24.0° (J2000). HYG v4.1; AstroGies, CC BY-SA 4.0. Symbol sizes encode brightness, not diameters.

Catalogue centre: RA 03:47:28.6 | dec +24:06:19 (J2000). [5]

Finding the field

First locate the compact group in Taurus with the naked eye or an up-to-date sky chart. Centre the group and compare its brightest stars with the chart. Alcyone lies near the chosen chart centre; the target ring is a position marker, not an individual star.

A focused exercise

Choose three bright stars as anchors. Sketch their relative positions, then add up to ten fainter stars. Look again after a short pause without first consulting the chart. Which points can you independently find again?

Check: Record whether the view was handheld or supported, the magnification and the estimated true field. Note any nebulosity separately as uncertain until condensation and stray light have been ruled out.



01 / My instrument

Record your initial settings before making comparisons.

Make, model and magnification x objective diameter

True field of view and source of this value

Exit pupil: diameter / magnification, including units

Glasses, eyecups and dioptre setting

Support and a comfortable observing position

Sharpness check: centre, edge and each eye separately

What works well? Which limitation do I want to investigate?

Complete in a compatible PDF reader. Save a separate copy for each session. Sketch on paper or use the drawing tools in your PDF app.