Finder Charts for "Difficult Doubles"
On the A. L. Double Star List

Several of the double stars on the Astronomical League's Double Star List can be difficult to find. There are two reasons for this problem.

The first reason is that the double star is in a crowded star field. On the popular star charts, the symbols for the stars therefore overlap, making it hard to tell which star is which. The stars Theta[1] (θ^1) and Theta[2] (θ^2) Orionis are one example of this problem. Figure 1 on the following page shows where these stars are, in the Orion Nebula (M42). The other example of a crowded field also has two A. L. doubles in it: Iota (ι) Orionis and Struve 747 (Σ747). Figure 2 on the next page shows how to tell these stars apart.

The second reason a double star can be hard to find is that many of the popular star charts may actually plot the double star, sometimes even with a special symbol for a double star, but there is no label to tell you which double star it is! Any of the "Struve" (Σ) or "Otto Struve" (OΣ) double stars fall into this group. There are detailed finder charts for these stars in this document. These charts were developed on a home computer using the software package *Guide 8.0*, from Project Pluto (168 Ridge Road, Bowdoinham, ME 04008 or http://www.projectpluto.com). On these charts, the double star's name is in the lower left corner. The double star itself is labeled with an arrow pointing to it. The names of the constellations in which the double star is located is also labeled. Finally, the chart for Struve 2816 in Cepheus has the double star labeled, but there is also a nearby label there that says "IC 1396". That is the label for the open star cluster that Struve 2816 is in; as you can see, Struve 2816 is in the center of this cluster, and is the brightest star in the cluster. On this chart, therefore, you can also see a larger, very fine dotted-line circle: this is the boundary (very roughly) for the star cluster. This means you can expect to see several more stars in your eyepiece, in addition to Struve 2816.

Happy Hunting!

James Anderson
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ALCor and Newsletter Editor
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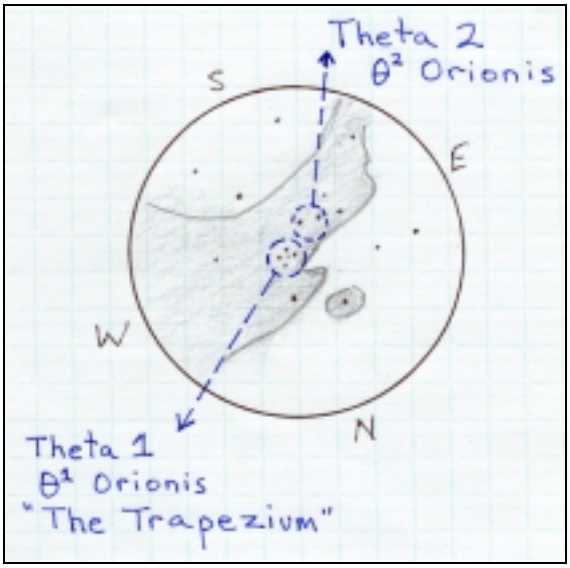


Figure 1

This drawing shows the field around Theta Orionis. The circle in this drawing is about 0.6 degrees in diameter. The shaded area is the Orion Nebula, M42 and M43.

This drawing was done using a 10" f/6 Newtonian Reflector.

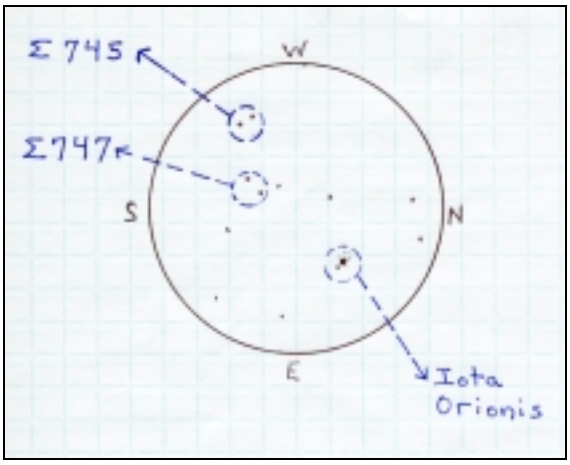


Figure 2

This drawing shows the field around Iota Orionis and Struve 747, which are both on the A.L. Double Star list. It also shows another double star in the same field, Struve 745. The circle is about 0.6 degrees in diameter.

This drawing was done using a 60mm f/15 refractor.

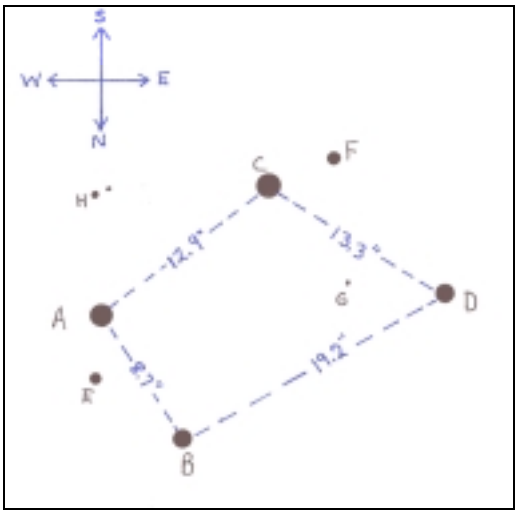
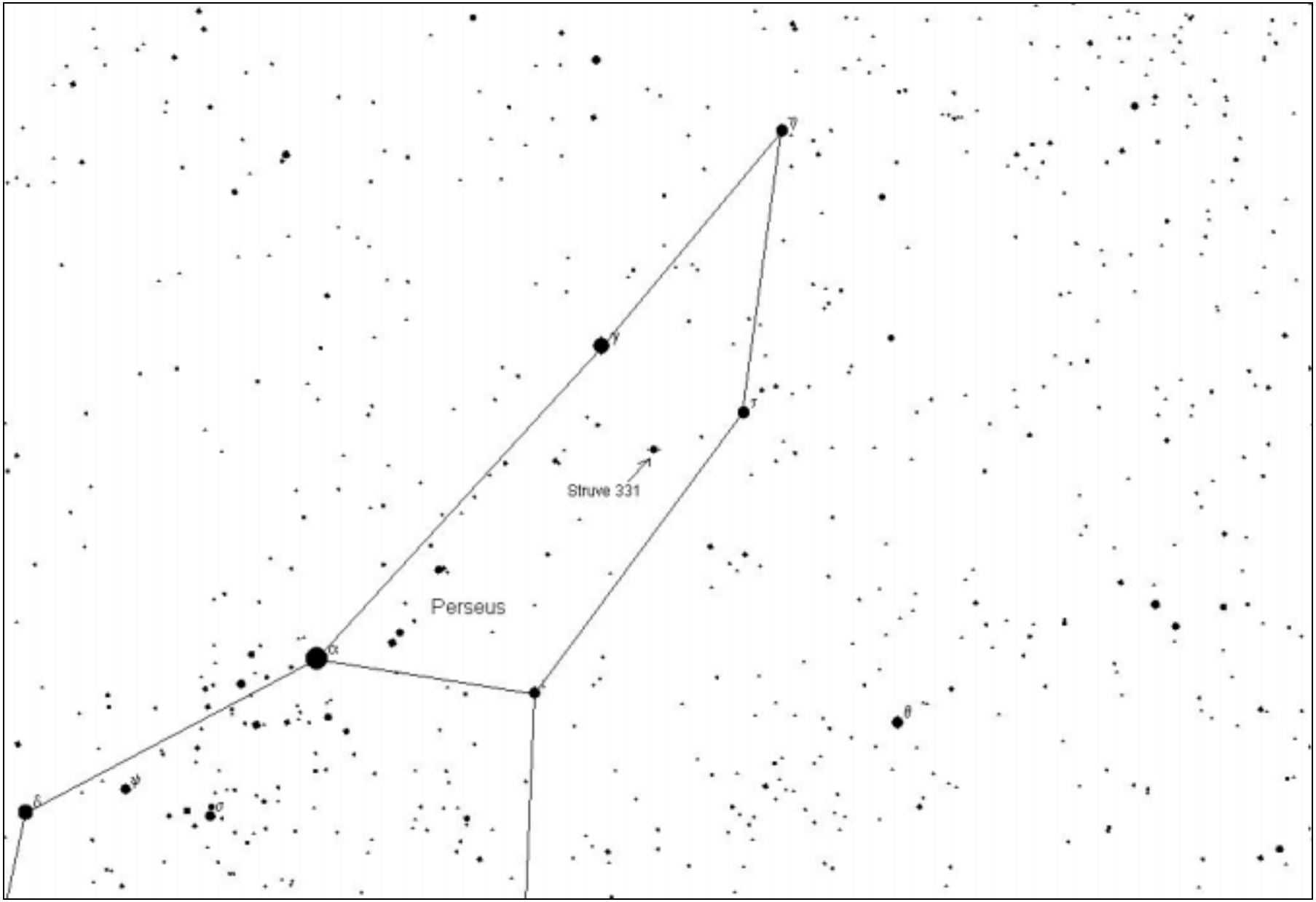
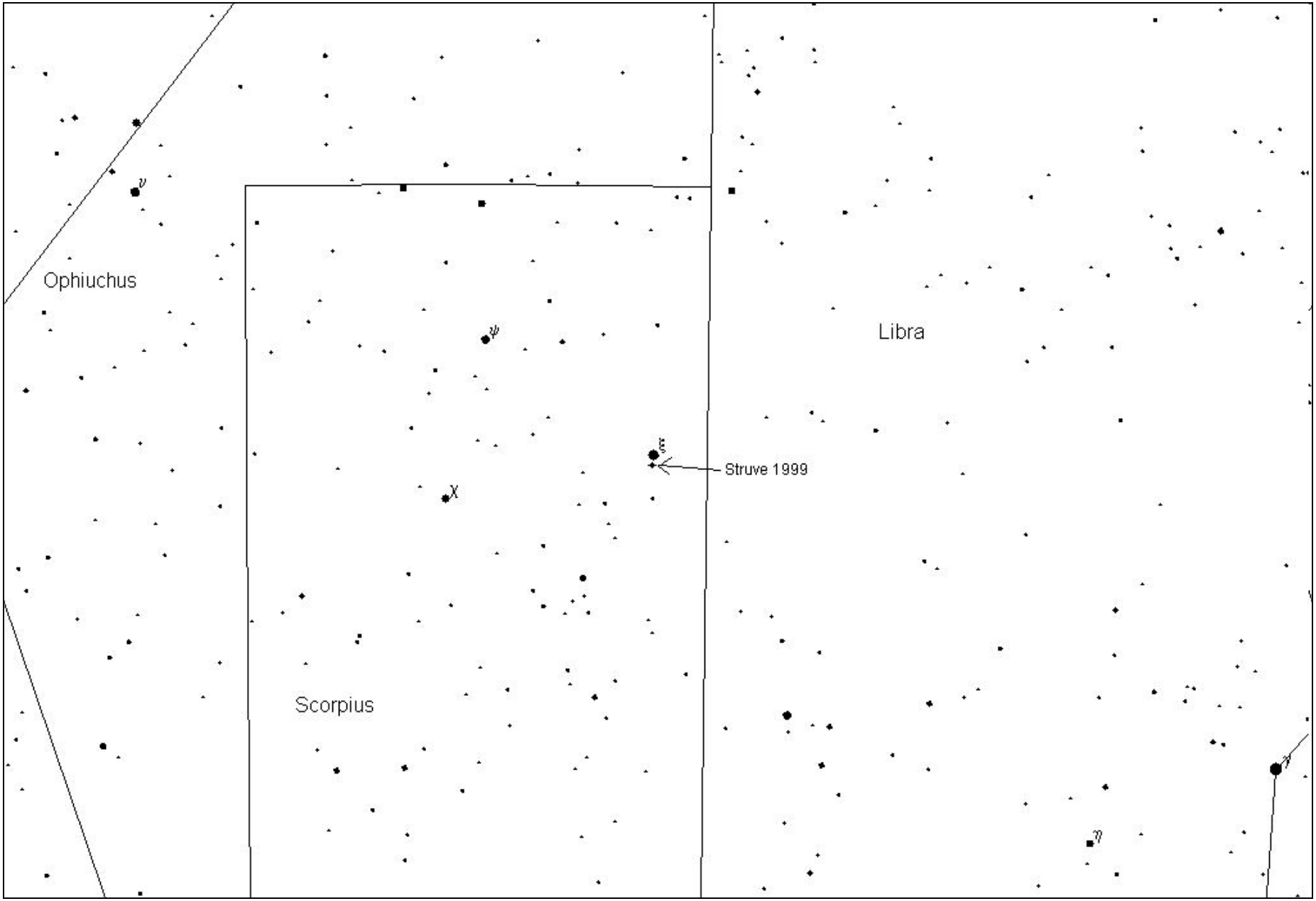


Figure 3

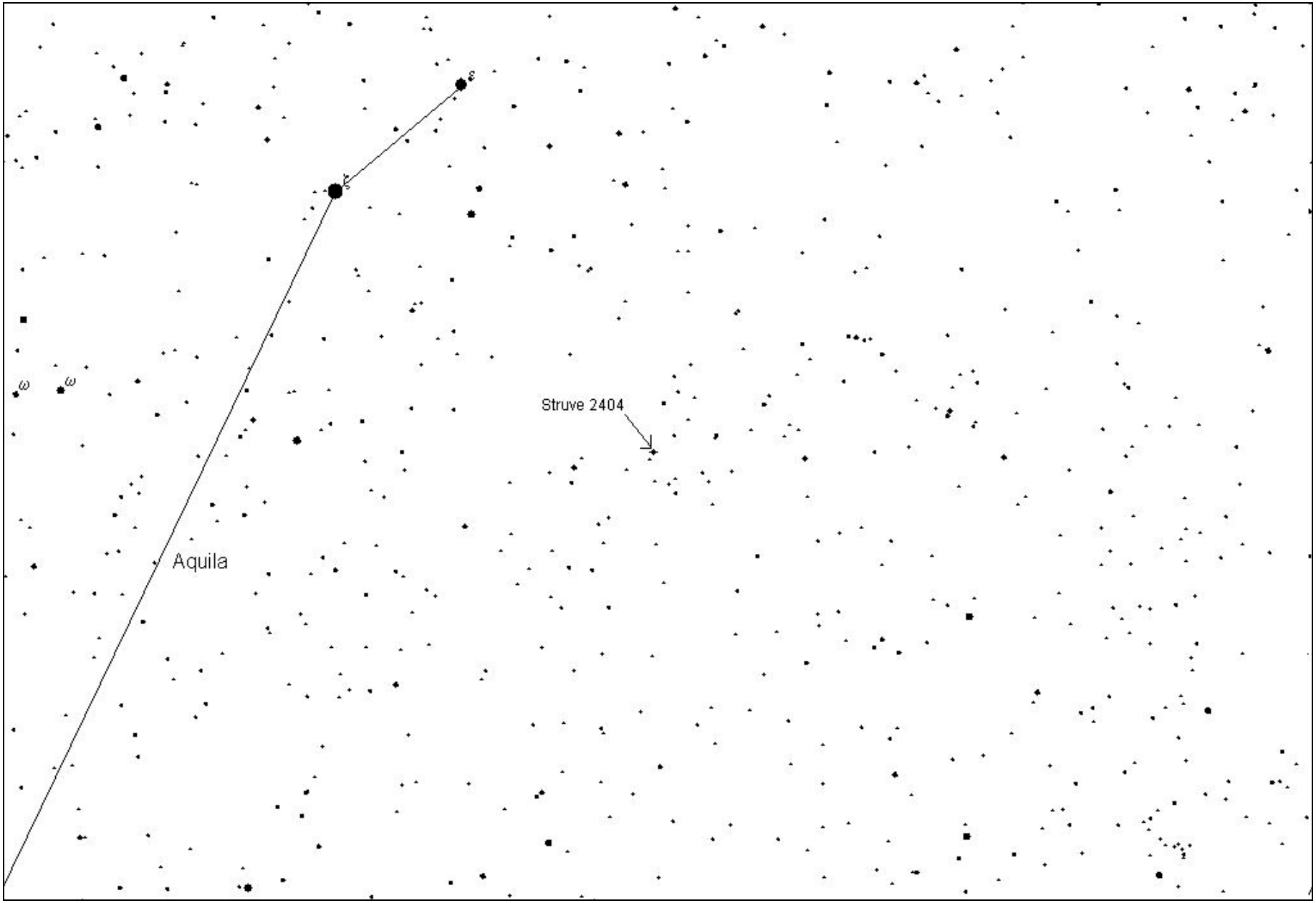
This drawing shows the arrangement of the stars in the "Trapezium", also known as Theta[1] Orionis. Note that the four brightest stars are labeled A, B, C, and D in west-to-east order (Right Ascension order). The labeling does not adhere to the usual convention of double star nomenclature; the A star here is not the brightest star; the C star is the brightest. The fainter members (E, F, G, and H) were labeled in the order that they were discovered. F, and sometimes E, can be seen in amateur telescopes. G and H are usually too faint to be seen by amateurs.



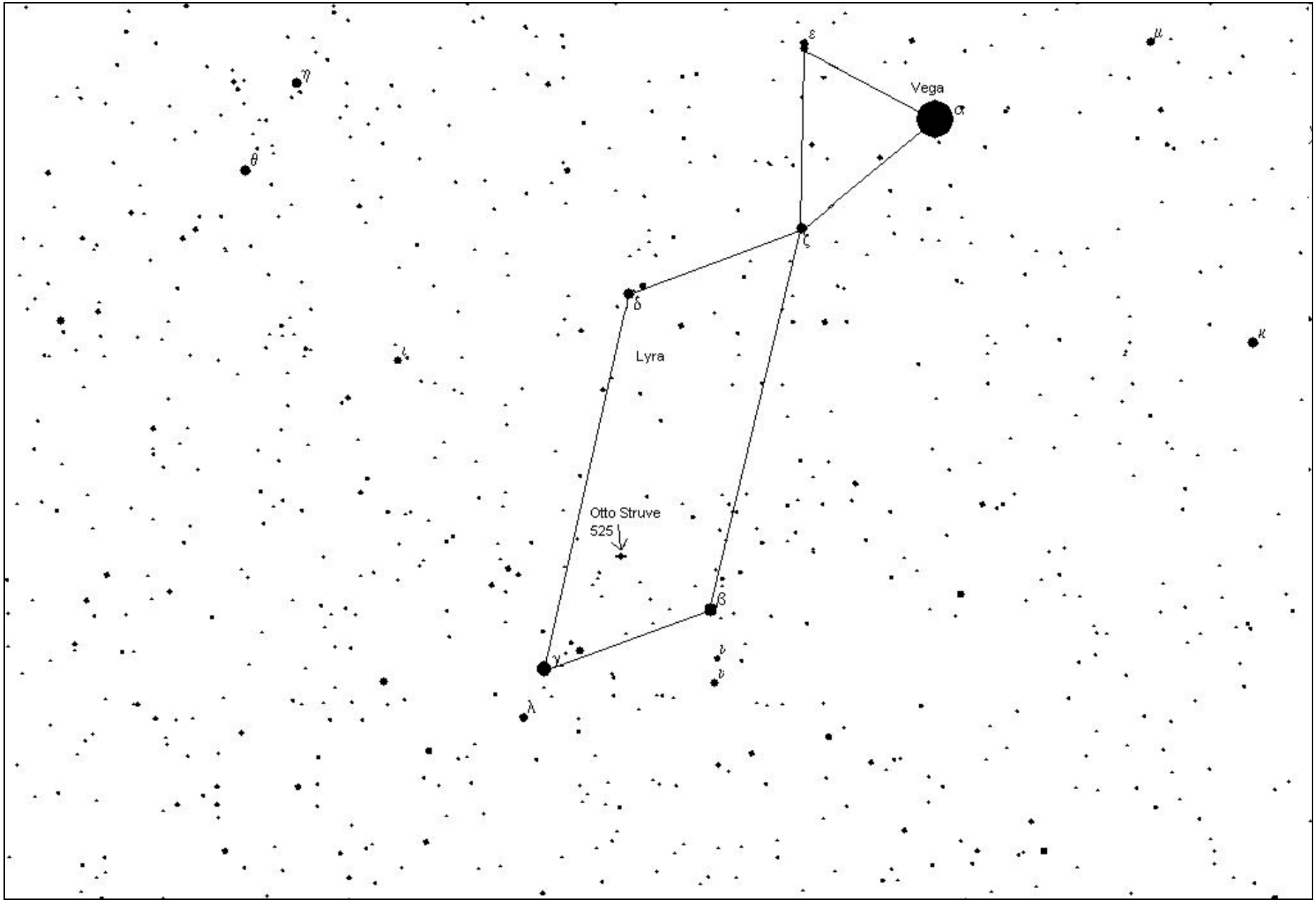
Finder chart for double star Σ331 (Struve 331) in the constellation Perseus.



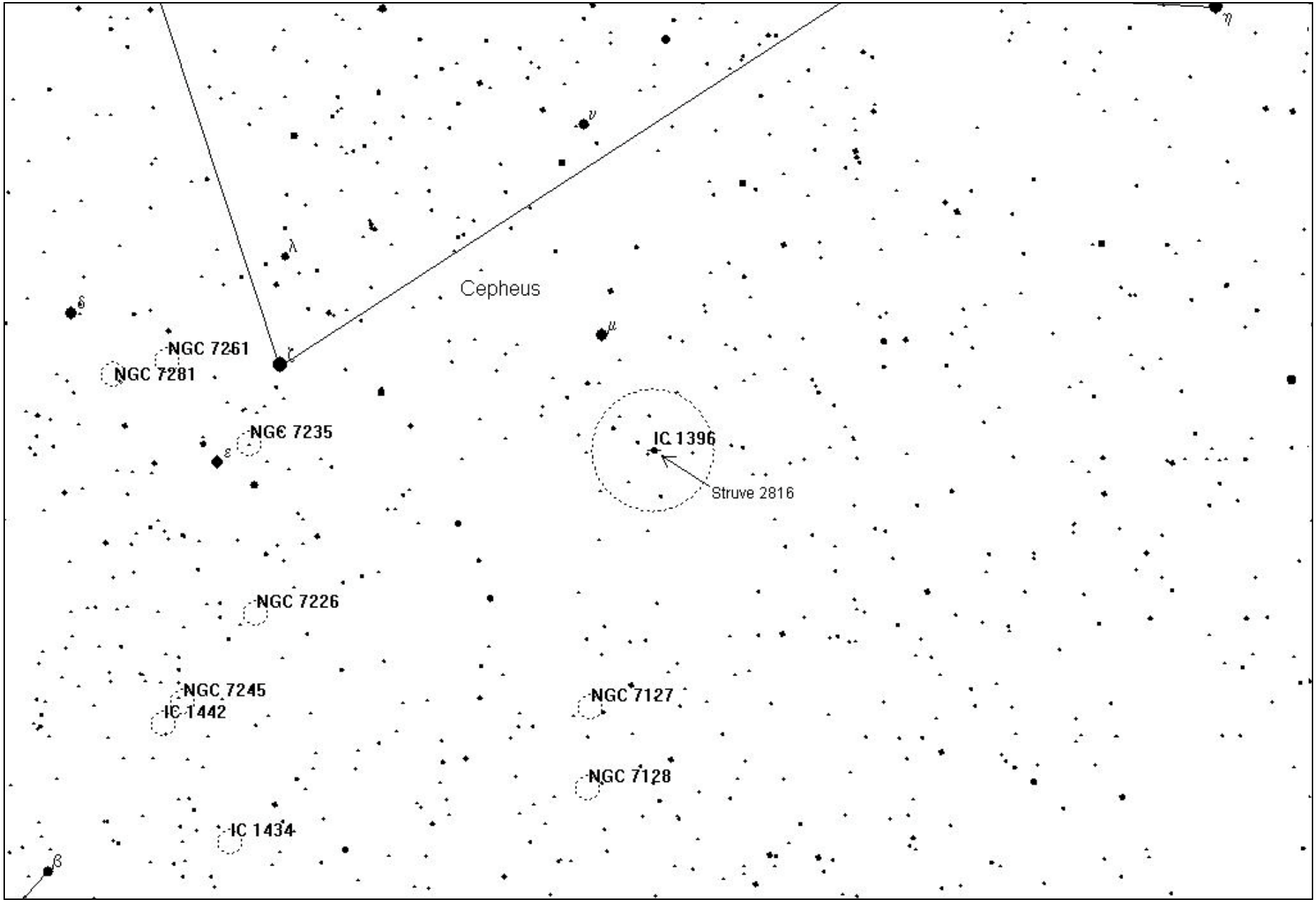
Finder chart for double star Σ1999 (Struve 1999) in the constellation Scorpius



Finder chart for double star Σ2404 (Struve 2404) in the constellation Aquila



Finder chart for the double star OΣ525 (Otto Struve 525) in the constellation Lyra



Finder chart for double star Σ2816 (Struve 2816) in the constellation Cepheus