Eridanus Optics CC

February 2006

Jewels in Crux

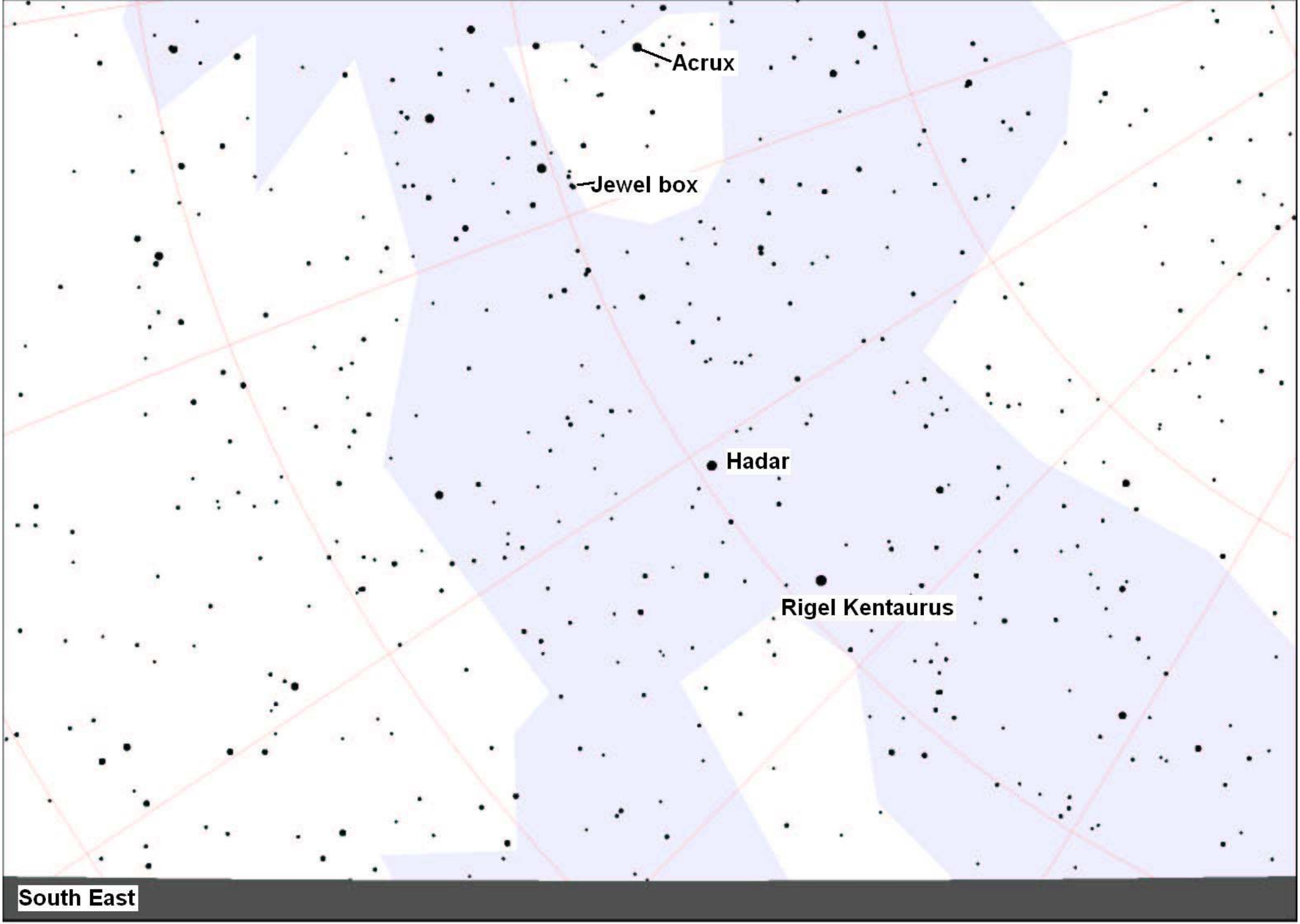
The Southern Cross (Crux) is currently well positioned for observations. At 20:30 in late February, Crux will be about 20° above the South Eastern horison (as viewed from Pretoria). Over the next three months, Crux will continue climbing to reach a maximum of about 50° above the Southern horison.

Crux, despite being the smallest constellation in the sky, has three of the 25 brightest stars:

- Acrux: 12th brightest (star at tip of the long leg)
- Mimosa: 20th brightest (bright star clockwise from Acrux) and
- Gacrux: 24th brightest (star at tip of short leg – clockwise from Mimosa).

Acrux is the Southern most first magnitude star, just beating Rigel Centaurus. Acrux is a double star, separated by 4" (acr seconds). If you would like to split these two stars, you would require a magnification of 15x or more. The two stars of Acrux would individually have been the 21st and 30th brightest stars in the sky. The brighter one of the two is also a binary, but they are separated at about 1 astronomical unit (average distance between the Sun and Earth) and orbit each other in 76 days. Mimosa is also double, but the two stars are so close together that they cannot be split. Gacrux is an optical double, separated about 2' (arc minutes). The fainter (7th magnitude) star is unrelated to Gacrux and is about 4x further away.

The real jewel in Crux is the 'Jewel Box'. The jewel Box can be found a short distance away from Mimosa (β Crux). This is an open cluster containing about 100 stars that span about 20 light-years. The Jewel box is about 7500 light-years away. One of the central stars is a red super giant which contrasts against the many blue stars surrounding it. Although the Jewel Box can be seen through binoculars, it is a sight worth seeing through a large aperture telescope. The picture below is a black and white image of the Jewel Box taken with a SAC 8 fitted to a 10" Meade LXD55 SN telescope.


Acrux
Jewel box
Hadar
Rigel Kentaurus
South East