



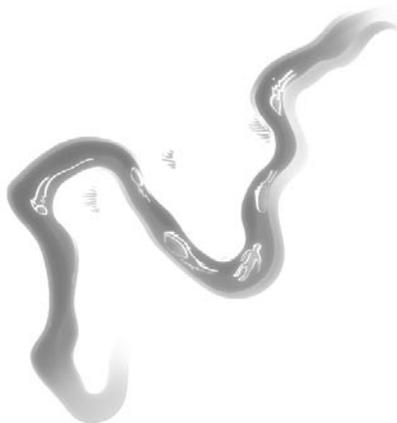
## *Sailing along River Eridani*

by Magda Streicher

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I have always been fascinated by the long, outstretched summer constellation Eridanus, the longest of the 88 constellations. Erastosthenes and Hyginus said that it represents the river Nile. It is the only great starry river that flows from south to north and is divided into a northern and southern stream. Except for the brilliant 0.53 magnitude “Achernar”, the ninth brightest star in the sky, this constellation has no stars brighter than magnitude 3. Follow the southern stream from Achernar to the east and it is easy to pretend that the river flows to the sea as Beta Eridani with the last port of call still beyond the eastern horizon. Achernar, also known as “the end of the river”, is a hot blue giant star with a luminosity 650 times that of the Sun, 144 light-years from us.

Let’s go on a cruise along this mighty starry river, departing from the star Achernar, situated virtually on the Hydrus border. Eridanus is surrounded by the constellations Tucana (the Water Snake) to the south, Phoenix to the west and Horologium to the east. From Alpha Eridani (Achernar) we sail along and pass the ports of chi, phi and kappa Eridani to stop and share a few moments with the double star **Theta 1 & 2 (Acamar)**. This

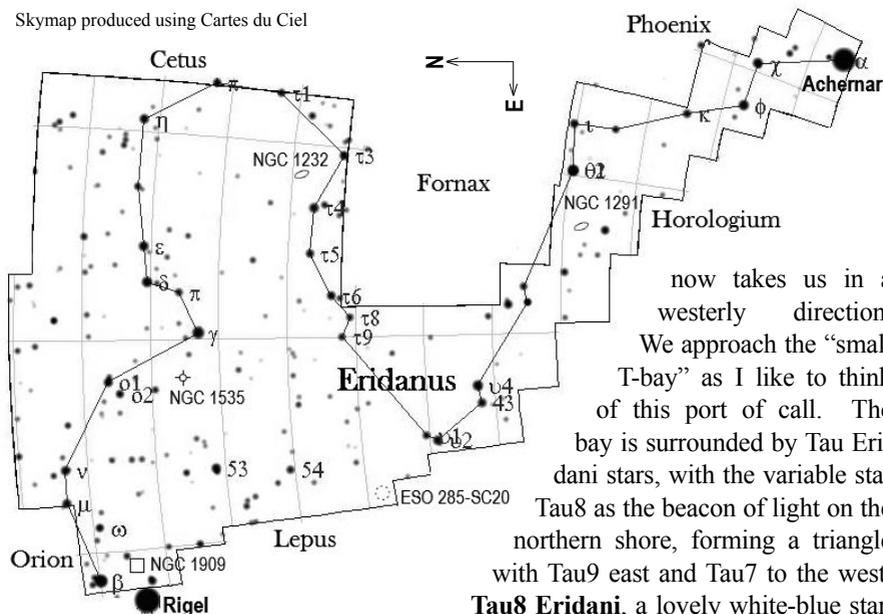


elegant white bright pair is arranged in an E-W direction, easily split with a separation of 8.2” and 88° position angle. Theta 1 appears slightly brighter at 3.4 magnitude against its somewhat dimmer but nevertheless brilliant companion of 4.5 magnitude.

The constellation Eridanus sports a multitude of galaxies along its shoreline. They are like soft faint glows of light nestled against the dark riverside guiding us to stop at our first deep-sky object, **NGC 1291 (Bennett 12)** approximately 3.7 degrees ENE of Theta. A relatively bright medium to large oval-shaped galaxy, slowly brightens to a striking stellar nucleus. This elliptical galaxy, in a N-S direction, displays diffuse edges extended into a soft halo (16”-127x). With higher power (290x) a faint 12.5 magnitude star is just visible at its southern hazy tip. The galaxy can even be picked out with binoculars as a small hazy smudge under dark skies. A few brighter field-

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Skymap produced using Cartes du Ciel



stars stand out well in the southern field of view.

River Eridani flows close by the Fornax galaxy city situated on the NW shoreline on our way to the 3.5 magnitude star Upsilon4 Eridani. Cruising still further through Upsilon 1 and 2, around the river bend, we head for the lonely open cluster **ESO 285-SC20** approximately 5 degrees NE of these two stars. At a glance this cluster displays a triangle of 8 magnitude stars; however, at closer investigation fainter members mingle well towards the north giving it a rounder shape ( $16^{\circ}$ - $127^{\circ}$ ). The cluster has an open feeling to it and is about  $5'$  in diameter.

Heading for deeper waters, the river

now takes us in a westerly direction. We approach the “small T-bay” as I like to think of this port of call. The bay is surrounded by Tau Eridani stars, with the variable star Tau8 as the beacon of light on the northern shore, forming a triangle with Tau9 east and Tau7 to the west. **Tau8 Eridani**, a lovely white-blue star, varies between 4.5 and 4.6 magnitude in 0.86 days.

Further west river Eridani flows into a busy harbour, dotted with the silvery ship-lights we call galaxies. Bright beacon lights line this large shoreline bay indicated by Tau4, Tau2 (Angetenar), Tau1, Eta (Azha), Zeta (Zibal), Epsilon, Delta and the lovely 2.9 magnitude Gamma Eridani at the far eastern end of this unmistakable bay.

Turn back to the star Epsilon Eridani and ponder for a while; it is the nearest star which is reasonably similar to the Sun, therefore it might well be expected to have a planetary system. However it is less luminous and slightly cooler than our Sun, yet comparable enough to be promising.

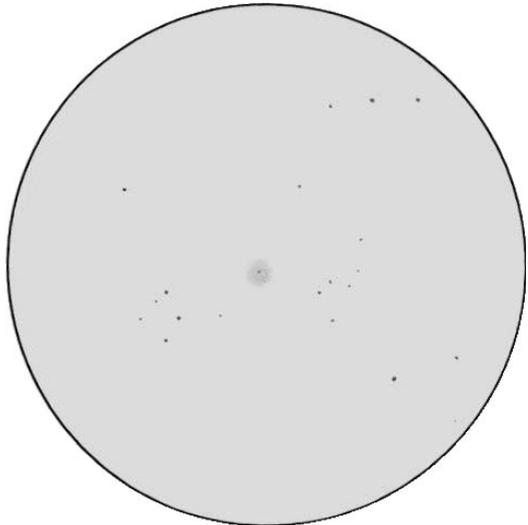
**NGC 1232 (Bennett 10a)** is situated 2.5' NW of Tau4 Eridani and displays a relatively large, round shimmer of light with a hazy outer halo. A small stellar oval nucleus can be seen surrounded in nebulosity (16"-127x). This open spiral, a true light beacon along the shore, displays an uneven disc with low surface brightness. It also displays a very uneven dusty edge that gradually fades into the star-field, with the eastern side somewhat more flimsy and hazy (218x). A few faint stars of roughly 12.5 magnitude can be spotted on the dusty surface, and with careful observation and averted vision, specks of brighter dust can be detected on its surface. Using really high power (346x), I tried to detect the small companion galaxy NGC 1232A on the eastern side of the parent galaxy but to no avail. The field of view is rounded off with a 9 magnitude yellow star, 8' to the east.

Back in the open waters, the planetary Nebula **NGC 1535 (Bennett 22)** is situated on the last straight home. Discovered by William Herschel in 1785, he described it as a remarkable and interesting object. Indeed, with low power (16"-76x) the planetary nebula displays a small, bright, frosted and well-defined round shape. Higher power (218x) however brings out the metallic blue hue, uneven layers of nebulosity, a cloudy milky edge, only now slightly more oval in shape. The

northern portion is slightly more defined compared to the southern side which appears fuzzy. The central star which is 12 magnitude is a fairly easy target.

If you want to swim in real deep waters, try the Eridanus Globular Cluster situated approximately nine degrees north of the planetary nebula NGC 1535. I could only see this globular as a faint round haze, a few arc-minutes in size, as a very faint and dim object of around 14 magnitude against the dark water of river Eridani.

As we approach Beta Eridani (Cursa) at the end of our cruise, the shoreline towards the constellation Orion is seen



**Planetary Nebula NGC 1535 sketched by Magda using her 16-inch telescope at 184 power. The object is 18 arc-seconds in size. North is up and east to the left.**

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to be shrouded in a cloud of mist. **NGC 1909 (IC 2118)** is a faint misty elongated S-N reflecting cloud, covering about 50' x 10', also known as the "Witch Head Nebula". The brightest part of this nebula is about one degree south of

Beta Eridani and it shines by reflecting the light of the star Rigel, situated two degrees east. Don't just cruise along River Eridani, stop at its ports; view and discover the brilliant deep-sky objects on display. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
Theta Eri	Double star	02 <sup>h</sup> 58.3 <sup>m</sup>	-40°18'	3.4-4.5	Sep 8.2"
NGC 1232	Galaxy	03 09.8	-20 35	10.0	6.8' x 5.6'
NGC 1291	Galaxy	03 17.3	-41 08	8.5	11' x 9.5'
Tau 8 Eri	Variable	03 53.7	-24 36	4.5-4.6	
NGC 1535	P/Nebula	04 14.2	-12 44	9.6	18"
Eri Cluster	Globular	04 24.5	-21 11	17.6	
ESO485-SC20	Cluster	04 50.4	-25 57	9	5.0

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