



Rings around

Lyra

by Magda Streicher

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The winter months occasionally sport a wonderfully clear night, ideal for visiting the area around the constellation Lyra and the Ring Nebula. Yes, I know it is fairly far north, but allow me the opportunity to show you around.

Legend has it that Orpheus was able to bring forth the most beautiful melodies on the harp, earning him a place of honour amongst the stars. The Arabs called it the Phoenician harp, while other cultures knew it as the Swooping Eagle or the Goose. This small but interesting constellation does, in a way, resemble the shape of a harp. The crown of the harp houses the brilliant blue-white 0.03 magnitude Vega, the fifth brightest star in the night sky, beautifully rounding off this sky-scene. Some 12 000 years ago, Vega was the north pole star, which it will be again in about the same amount of time.

Double stars are well represented in the constellation of Lyra. Certainly one of the best known double-double stars is **Epsilon Lyrae**, about one and a half degrees NE of Vega. As discussed in the previous issue (*MNASSA*, 65 (5&6), 70), this 3.5 arcminute binary is the



traditional test for visual acuteness and is possible to split without optical aid under ideal conditions. However, medium to high power is needed to separate each of its companions, which, in turn are doubles in themselves. Epsilon¹ (the northern double of the pair) has a separation of 2.6 arcseconds, oriented N-S, while the stars of Epsilon² (the southern double) are 2.4 arcseconds apart and arranged E-W.

It is customary with many to listen to music while observing. Most of the time, I prefer silence with only the stars as company. When I have the urge to listen to music, I prefer the golden oldies of yesteryear. This harp-shaped asterism nostalgically makes me want to listen to Dean Martin's song of way back, "Baby it's cold outside". Cold it is indeed, but music as food for the soul provides a wonderful shield against the cold.

In this tiny constellation, it is possible to form a triangle (see skymap) consisting of just double stars. Two degrees due south of Epsilon is Zeta Lyrae, at the apex of this isosceles triangle, with **Delta Lyrae**, another two degrees SE, at its third corner. Delta² has a characteristic rich deep orange colour in contrast to the slightly cream-white 5.6 magnitude Delta¹ to its north-west.

The open cluster, **Stephenson 1**, sneakily spreads its handful of stars snugly between those of Delta Lyrae and further south to form a V-grouping of about 20 arcminutes in size (12-inch – 95x). Very appropriately, with the sound carried on the cold night-wind, comes the voice of Jim Reeves with his 1960 hit, “When two worlds collide”.

Lyra sports a second double-double star, 4.5 degrees SE of Delta Lyrae, visible in a low power eyepiece (Fig 1). The two main components, also known as **Struve 2470 & 2474** (circled on the skymap and enlarged in Fig. 1), are 10 arcminutes apart, with both pairs this time oriented E-W (12-inch – 95x). The northern grouping (Struve 2470) has a cream-white, 6.6 magnitude primary separated by 13.4 arcseconds from its uniquely aqua-coloured 8.6 magnitude companion. Both companions are situated to the west of their primaries. In contrast,

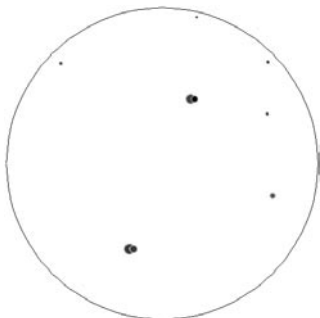
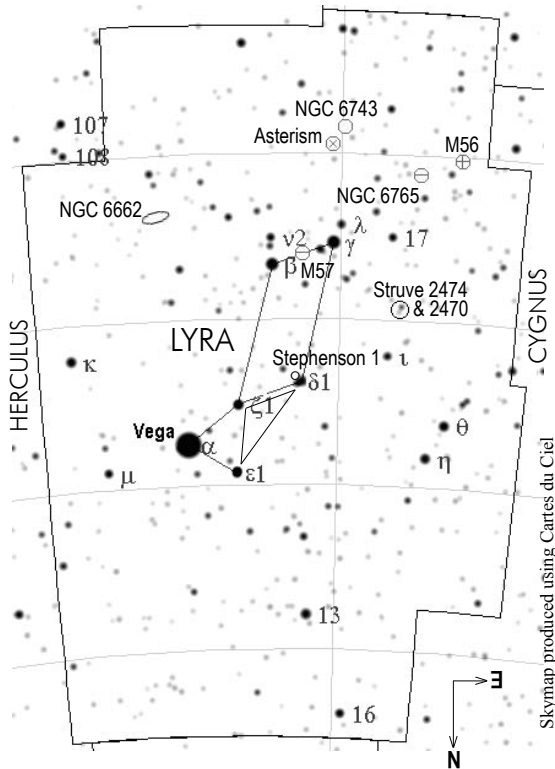
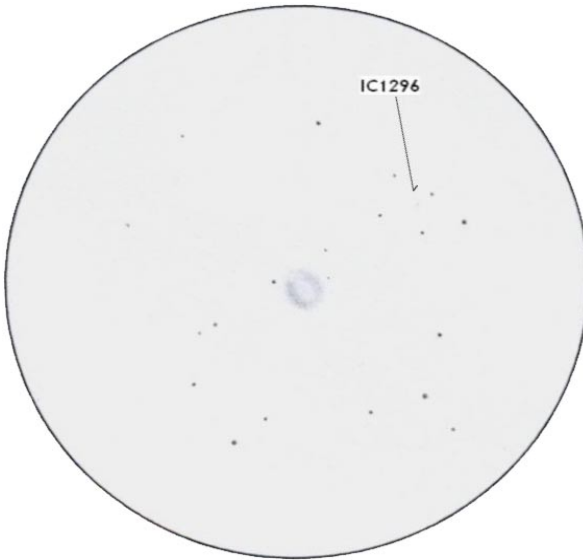


Fig. 1 A typical eyepiece view of Struve 2470 (top pair) & 2474. The circle is 20 arcminutes across with N at the top and E on the left.



Skymap produced using Cartes du Ciel



M57 (NGC 6720), the famous Ring Nebula was sketched by Magda using a 12-inch telescope at 218x magnification, indicating the position of elusive IC 1296. North is up and east to the left.

the southerly double (Struve 2474) has a rich yellow 6.7 magnitude primary with a dirty yellow-white companion, one magnitude fainter and 16 arcseconds away. Wilhelm Struve, the double-star observer discovered this pair in the early 19th century.

I cannot help agreeing when singing along with Pat Boone's "There is a goldmine in the sky" as the soft haziness of globular cluster **NGC 6779 (M56)** unfolds in front of my eyes. Higher magnification reveals stars sprinkled over its dense wide core, resembling a delicate brooch (12-inch – 95x). Closer investigation,

shows up a handful of yellow to red-coloured stars. The globular spreads out more towards the west and is slightly deprived of starlight towards the east (12-inch – 218x). To the west, a 10th magnitude star can be seen against a well-rounded globular. Just more than a degree west, the planetary nebula **NGC 6765** can be seen.

One of the few open clusters in Lyra is situated about 3.5 degrees SW of M56 and just 32 arcminutes to the north of the galaxy. **NGC 6743** is a cute little grouping,

quite round in shape, showing off a dozen white diamonds. The main focus of the cluster is a bar of faint stars running N-S – a wonderful object to sketch. Just 40 arcminutes NW of **NGC 6743** a stringy little **asterism** can be seen. It also displays about a dozen faint stars in a N-S direction.

I'm running rings around Lyra in search of a relatively bright galaxy to share with you. It is not that there is a shortage of galaxies in this constellation, but they are all pretty faint. **NGC 6662**, situated in the western starry field in this constellation, is a very faint, ghostly,

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needle-galaxy. It requires averted vision, high power and great care to see (12-inch – 218x). It is like singing along with Perry Como, “Catch a falling star”. I wonder what kind of music inspires your heart and makes you instinctively want to bond effortlessly with the dark starry sky filled with deep-sky promises?

Probably one of the best known nebulae is **NGC 6720**, also known as **M57** or even better as the Ring Nebula – Lyra’s precious jewel on display in its show-case. This well known nebula is outstatingly bright, showing off its

NE-SW oval shape. Conversely, the NW-SE ends of the nebula are better defined, with a slight brightening in the south easterly section. M57’s smoke-ring shape contrasts well against the dark halo. The nebula appears grey in colour and has a 12 magnitude star on its eastern border. I tried spotting the galaxy **IC 1296**, just 4.4 arcminutes NW of the nebula (see sketch). By applying all my skill, I suspect I succeeded. While preparing this delightful nebula sketch for you, I listened to Louis Armstrong singing, “What a wonderful world”. Don’t you want to agree with him? ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
NGC 6662	galaxy	18 ^h 34.0 ^m	+32°03’	13.7	1.7x0.5’
Eps. ¹ Lyrae	double star	18 44.3	+39 40	5.0-6.1	sep 3.1”
Eps. ² Lyrae	double star	18 44.3	+39 40	5.2-5.5	sep 2.3”
IC 1296	galaxy	18 53.4	+33 04	15.1	0.8x1.1’
NGC 6720 (M57)	planetary neb.	18 53.6	+33 02	8.8	71”
Stephenson 1	open cluster	18 53.8	+36 55	3.8	20’
Del. ¹ Lyrae	double star	18 53.7	+36 58	5.6-9.3	sep 174”
Del. ² Lyrae	double star	18 54.5	+36 54	4.5-11	sep 86.2”
Magda	asterism	18 59.3	+29 46	9	4’
NGC 6743	open cluster	19 01.2	+29 17	8.2	8’
Struve 2470	double star	19 08.8	+34 46	6.6-8.6	sep 13.4”
Struve 2474	double star	19 09.1	+34 36	6.7-8.8	sep 16.2”
NGC 6779 (M56)	globular cl.	19 16.5	+30 11	8.3	7.1’