A Spyglass Telescope

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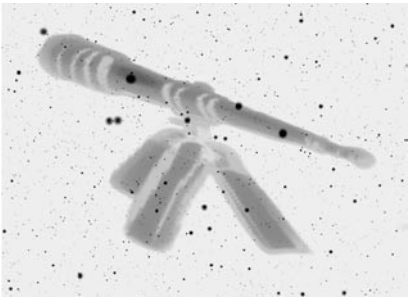


Image source: Stellarium.org

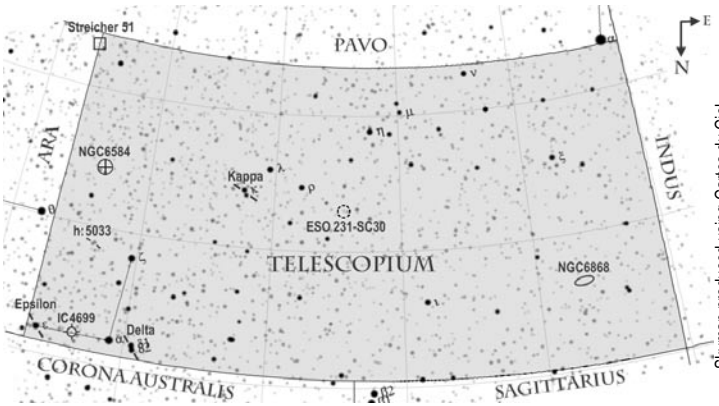
Would we ever – even in our wildest dreams – have been able to imagine the universe as we know it today if we had not had any telescopes? We owe the telescope the most honorary position in relation to the stars, because without doubt it is this faithful instrument that reveals so much of the truth to us.

It is with great joy that we celebrate 2009, the International Year of Astronomy and the 400th anniversary of Galileo Galilei's earliest telescopic observations of the starry night sky. Galileo was born in Pisa on 15 February 1564 and died in January 1642. I can only try and put his thoughts into perspective. The amazement, the fear and the wonder of it all. Galileo found that Venus goes through a cycle of phases, like the Moon, which can happen only if Venus is circling the Sun and not the Earth. This discovery changed the perception of Earth being the centre of the universe.

Robert Frost once wrote a poem to say he would burn his house down for the fire insurance and spend the proceeds on a telescope to satisfy a lifelong curiosity about our place among the infinities. (Credit to an article written by Charles Laird Calia)

The German scientist Hermann Oberth first proposed a space observatory in 1923, followed by American physicist Lyman Spitzer (1914–97), who suggested such a telescope in 1946. Today we are blessed to have telescopes of different kinds in space, opening up to us the universe in its full immensity and providing astronomers with information. The space shuttle Discovery finally carried the Hubble Space Telescope into space on 24 April 1990. This unique telescope, named after Edwin Powell Hubble (1889-1953), who was born in Marshfield, Missouri, has shown that spiral nebulae lie much further away than previously thought, revealing them to be galaxies like our own Milky Way. But you do not need a space telescope to explore the beauty of the night skies; just an ordinary pair of binoculars or a small telescope will bring to your eyes a wealth of deep-sky objects that lie on your path.

The Telescopium constellation was invented by Abbé Nicolas Louis de Lacaille (1713–62) during his stay at the Cape of Good Hope in 1751–3. The original Lacaille constellation was much larger with stars of neighbouring constellations included, but is now a mere shadow of its former self.



Neighbouring constellations are Indus to the east, Ara to the west and Pavo to the south. The telescope's outline points to the north-west with the lovely reddish glow of magnitude 4.1 Zeta Telescopii as the eyepiece holder. Discover a medium-sized galaxy group of about 120 million light years distant in the far north-eastern part of the constellation by drawing an imaginary triangle with Iota and Xi Telescopii. The group consists of no fewer than twelve NGC-numbered galaxies, spanning a three degree field of view. The brightest member in this grouping is the giant **NGC 6868**, situated close to the eastern edge of the group. John Herschel discovered this globe of light in 1834. To me NGC 6868 resembles a relatively bright oval in an east-west orientation, growing gradually brighter towards its nucleus.

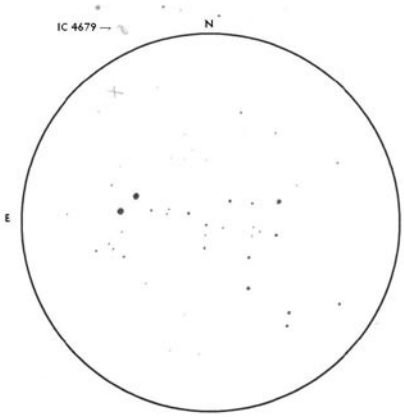
Only 25 arc minutes towards the west, the elliptical galaxy NGC 6861 occupies the middle spot of this galaxy group, being the second brightest member. NGC 6861 displays a soft south-east to north-west oval haze with a bright, outstanding small nucleus, which seems slightly off-centre to the south-east. It could also be that the galaxy is slightly brighter towards the eastern part, giving such an impression. A further 8.5 arc minutes west, galaxy IC 4943 can barely be seen as a soft smudge of light through my heavenly 12-inch telescope. Use the yellow magnitude 10 star GSC 8396 1709 as a guideline; it is situated between NGC 6861 and IC 4943.

Towards the middle of the Telescope constellation, approximately 1.5 degrees north-east of the yellow magnitude 5.1 star Rho Telescopii, the open cluster **ESO 231SC30** displays a faint, definite triangular-shaped grouping pointing sharply south. Although faint it consists of a handful of stars, nicely prominent against the star field. The brightest member, a reddish magnitude 7.9 star (HD 180021), is situated on the eastern side of the grouping with several members, spraying out into the northern extremity.

It is not unusual, when in the bush at night, to share the space around your telescope with the ever-present night creatures. Searching for asterisms, I could hardly believe my eyes when I stumbled across a small miracle in the far south-western corner of the constellation. **STREICHER 51** (as listed in the *Deep Sky Hunters catalogue*) consists of fifteen stars

resembling a praying mantis looking back at me with a pair of white stars situated on the eastern side of the asterism (see sketch). The brightest, magnitude 7 star (HD 165987) is its northern "eye", so to speak. The group is situated only 10 arc minutes south of the galaxy IC 4679.

Does it surprise you that I discovered a starry insect somewhere in the star field? Taking into account my fruitful imagination, I thought that a telescope cannot be without a tripod, so I figured the prominent magnitude 5 Eta Telescopii situated in the southern part of the constellation must indicate this essential part of the telescope. The southern area of the constellation is dotted with numerous galaxies flowing over the border into the constellation Pavo.



The *praying mantis* asterism, Streicher 51, sketched with my 12-inch view at 95x magnification.

The globular cluster **NGC 6584** is situated well away from the main telescope figure in the far western part of the constellation and 3 degrees south-east of Theta Arae. This object can be thought of as one of Lacaille's eyepieces lying to the side, if an imaginative mind like mine had to put it into perspective. NGC 6584 displays a lovely round bright haze, which stands out quite well against the star field. Higher power reveals faint stars getting hazier towards the unresolved core, which seems to be somewhat out of shape. Three prominent magnitude 10 stars can be seen enhancing the soft outer north-western part of the globular cluster. Careful observation reveals the southern star as double. The north-eastern side of the globular brings to the fore faint pinpoint stars spraying out into the field of view, whereas the south-western part of the globular contains fewer stars. The globular is about 45 000 light years distant.

Around 3.5 degrees further north, the multiple star **h5033** shows off its pack of four members. The deep yellow primary star occupies the south-western corner of the square formation with its slightly darker yellow companion in position angle 115°. The much fainter C companion is north of the primary in position angle 10°, appearing grey. To complete this multiple system, the plain white D companion is in position angle 46°.

Alpha Telescopii points north-west to focus on, and reveal, the soft distant light of the planetary nebula **IC 4699**, situated midway between Alpha and Epsilon Telescopii, barely 30 arc minutes from the Corona Australis border. Discovered by Williamina Fleming

in 1901, this planetary displays a tiny grey disc which responds well to an Oxygen III filter. The outstanding Delta Telescopii 1 and 2, respectively magnitude 4.9 and 5.0, situated only 50 arc minutes east of Alpha, proudly keeps our telescope viewfinder focused on the stars and the universe beyond. Let us point our ground-based telescope at the starry Telescope and explore its depths of delights for free to us earthlings.

This Schiefspiegler telescope, dating from the 1960s, made by Miss Dolly Robinson, was a gift by Mary Fitzgerald.

An antique Schiefspiegler telescope that once belonged to a dear friend, Mary Fitzgerald, was given to me as a gift a few years ago (see picture). During the mid-1960s Miss Dolly Robinson constructed this Schiefspiegler especially for Mary, as she required a telescope with a long focal length for observing Mars during one of its rare close approaches to Earth. Miss Robinson was a well-known amateur telescope maker who made many Newtonian reflectors at a time when telescopes were not that freely available and quite pricey. Not only did she grind, figure and polish the optics, she also made the tubes, mounts and tripods – quite an achievement for a lady in those days. Unfortunately she is no longer with us, but her instruments are still cherished by those lucky ones who own a Dolly Robinson telescope. I am blessed and proud to house a "Dolly" in my observatory. ☆

Object	Type	RA (J2000.0)	Dec	Mag	Size
Streicher 51	Asterism	$18^h10.4$	-56º30′	8.5	28′ x 13′
h: 5033	Multiple star	18 15.4	-48 51	A 6.8	
				B 10.8	Sep. 17.3″
				C 12.2	Sep. 18.2″
				D 10.7	Sep. 27.9″
IC 4699	Planetary Neb.	18 18.5	-45 59	13	14″
NGC 6584	Globular Cluster	18 18.6	-52 13	7.9	7′
ESO: 231-SC30	Open Cluster	19 16.9	-51 30	11.5	20′
NGC 6868	Galaxy	20 06.3	-48 31	11.6	3.6′ x 2.8′