Crewkerne & District Astronomical Society

Sky Notes January 2019

All timings are Universal Time (G.M.T.), U.K. local time is now the same.

Moon's Phases

New	January	06d. 01h. 29m.
First Quarter	"	14d. 06h. 47m.
Full	"	21d. 05h. 17m.
Last Quarter	"	27d. 21h. 11m.

Moon at apogee (furthest from Earth) Jan. 09d. 04h. Diameter 29' 25".
Moon at perigee (nearest to Earth) Jan. 21d. 20h. " 33' 26"

Total Lunar Eclipse on Jan. 21st

The full eclipse will be visible throughout the U.K. Penumbral eclipse begins at 02.36 and full eclipse at 04.41. Full eclipse ends at 05.43 and it will be all over by 07.48.

The Planets

Mercury ; A late morning object all month. On the 1st. it rises at 07.00, 1 hour & 10 minutes before dawn, and by the 19th. at dawn, 08.00. It is at conjunction with the Sun on the 30th. It starts the month in S.W. Ophiuchus. Travelling East, it moves 60° during the month, crossing into Capricornus at the end.
Mid month Mercury will be mag. -0.7, diam. 4.7", elongation 10° W.. and rising at 07.50, 10 minutes before dawn.

Venus : Also a morning object, but earlier than Mercury. At the start of the month it rises at 04.10, and by the end. at 05.00, 2 hours & 40 minutes before dawn. It reaches its greatest W. elongation, 47° on the 6th. It begins the month in eastern Libra. Moving E.S.E. it goes 48° S.E during the month. It enters Scorpius around the 10th. and crosses it into Ophiuchus on the 15th.
Mid month it will be mag. -4.4, 22.5" diam., elong. 47° W. and rising at 04.30, 3½ hours before dawn.

Mars : Continues to be a evening object - for the next 8 months. At the start of the month it sets at 23.20, and continues this time for the setting for the next 3 months. Starting in S.W. Pisces, it travels 20° N.E. during the month, ending it 7° from the border with Aries.
Mid month Mars will be mag. 0.7, 6.8" diam., elong. 70° E..

Jupiter : A very late morning object. On the 1st. rises at 06.00, 2 hours & 10 minutes before dawn, and by the 31st. at 04.30, 3 hours & 10 minutes before dawn. On the 1st. it is in S.E. Ophiuchus. It moves 6° E.S.E. during the month, ending it 7° S. of Sabik, 3.5 mag. Eta.
Mid month Jupiter will be mag. -1.8, 32.5" diam., elong. 42° W. and rising at 05.20, 2¾ hours before dawn.

Saturn : An even later late morning object On the 1st. it rises at dawn, 08.10. By the 31st. it rises at 06.30, an hour & 10 minutes before the Sun. Remaining in Sagittarius, Northeast of the 'Teapot'. It travels 4° E. during the month, ending it 4° N.E. of the Teapot's handle.
Mid month it will be mag. 0.5, disc diam. 15.1", rings 34.2", elong. 11° E. and rising at 07.20, 40 minutes before dawn.
Titan, too near dawn to be easily visible. Better next month.

Uranus : An evening and early morning object. At the start of the month it sets at 02.00. On the 31st. it sets at midnight.
On the 1st. it lies in Southern Pisces. It moves 10 minutes N E. from a stationary point, 11.3° N. of 6th. mag. star Omicron (110) Psc.
Mid month it will be mag. 5.7, 3.6" diam., elong. 90° E. and setting at 01.10.

Neptune : An early evening object. At the month's start it sets at 21.45, and by the end at 20.00, 3½ hours after sunset. Still in Aquarius. It starts the month 0.22° S.S.E. of the 7th. mag. star 81 Aqu. It travels 40' N.E. to end the month 0.6° S.E. of 8th. mag. star 82 Aqu.
Mid month it will be mag. +7.9, 2.2" diam., elong. 14° W. and setting at 50.50.

Meteors

Quadrantids : December 28 - Jan.12. Maximum on Jan. 4th. 03h. One of the major showers, with a Zenith Hourly Rate of 80+. Believed to originate from comet 96P/Machholz. Radiant at R.A. 15h. 18m., Dec. +49.5°, around 15° N. of Alkaid, mag. 1.9 Eta Ursa Majoris. Circumpolar. Moon favourable, 2 days before New, setting at 14.59.

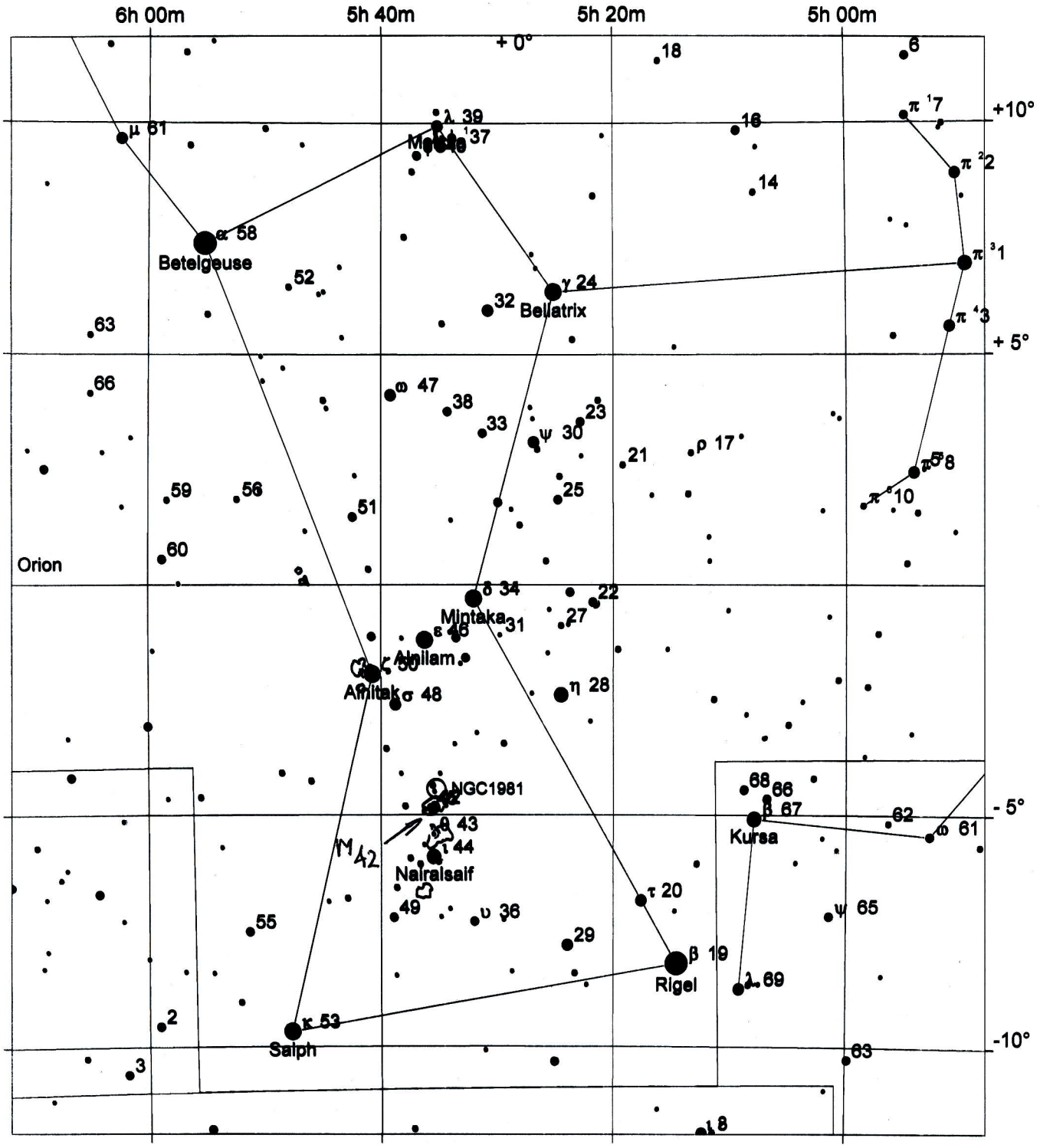
Deep Sky Objects

M42 (NGC 1976) : The 'Great' Nebula. A gaseous nebula in Orion. M42 is one of the best known and certainly the most spectacular of the Messier objects. As a 'star' in Orion's sword, it has been known since the beginnings of recorded astronomy. Ptolemy and Tycho Brahe commented on it. In 1603 Johann Bayer noted it as a 3rd. mag. star and designated it as Theta Orionis. Its discovery as a nebula is attributed to Nicholas Peiresc in 1611. Christian Huygens made detailed sketches of the nebula in 1656 and discovered the 'Trapezium' of 4 stars in Theta. Charles Messier observed and listed it in 1769. He prepared a detailed drawing of it for the Academy (of Sciences) which can be seen in their Memoirs for 1771.
M42 is one of the brightest examples of an ionised-hydrogen (H11) region surrounding hot young stars. It lies some 1,300 L.Y. from us, with a diameter of 35 L.Y., giving it an apparent size of 1½°x1° and a mag. of 3.7. The age of the central part of the nebula is around 30,000 years. Theta is a complex collection of stars. There are 2 main groups, Theta 1 & Theta 2. Theta 1 contains the group of 4 stars, the 'Trapezium' in an area 30" diam. 'A' the western one, is an eclipsing variable, mag. 6.7 to 7.5 over 65 days. 'B' in the North, is another one, mag. 7.9 to 8.5, over 6.4 days. 'C' in the South is mag. 7.5 and 'D' in the East is mag. 7.6. These young, very hot stars, provide much of the energy heating up the nebula. More recently hundreds of faint red stars have been discovered in the area.
10 minutes N. of M42 is a patch of nebulosity that Messier also observed in 1769, M43 (NGC 1982). Subsequent observations have shown that it is part of M42. M43 is around 3 L.Y. in extent, 6' x 3' and mag. 6.8.
To find M42, start from the middle star forming Orion's belt, mag. 1.7 Epsilon (46). M42 is 4½° S. of it.
R.A. 5h. 35.3m., Dec. -5° 23'.

Arthur Davis Dec. 2018.

MegaStar

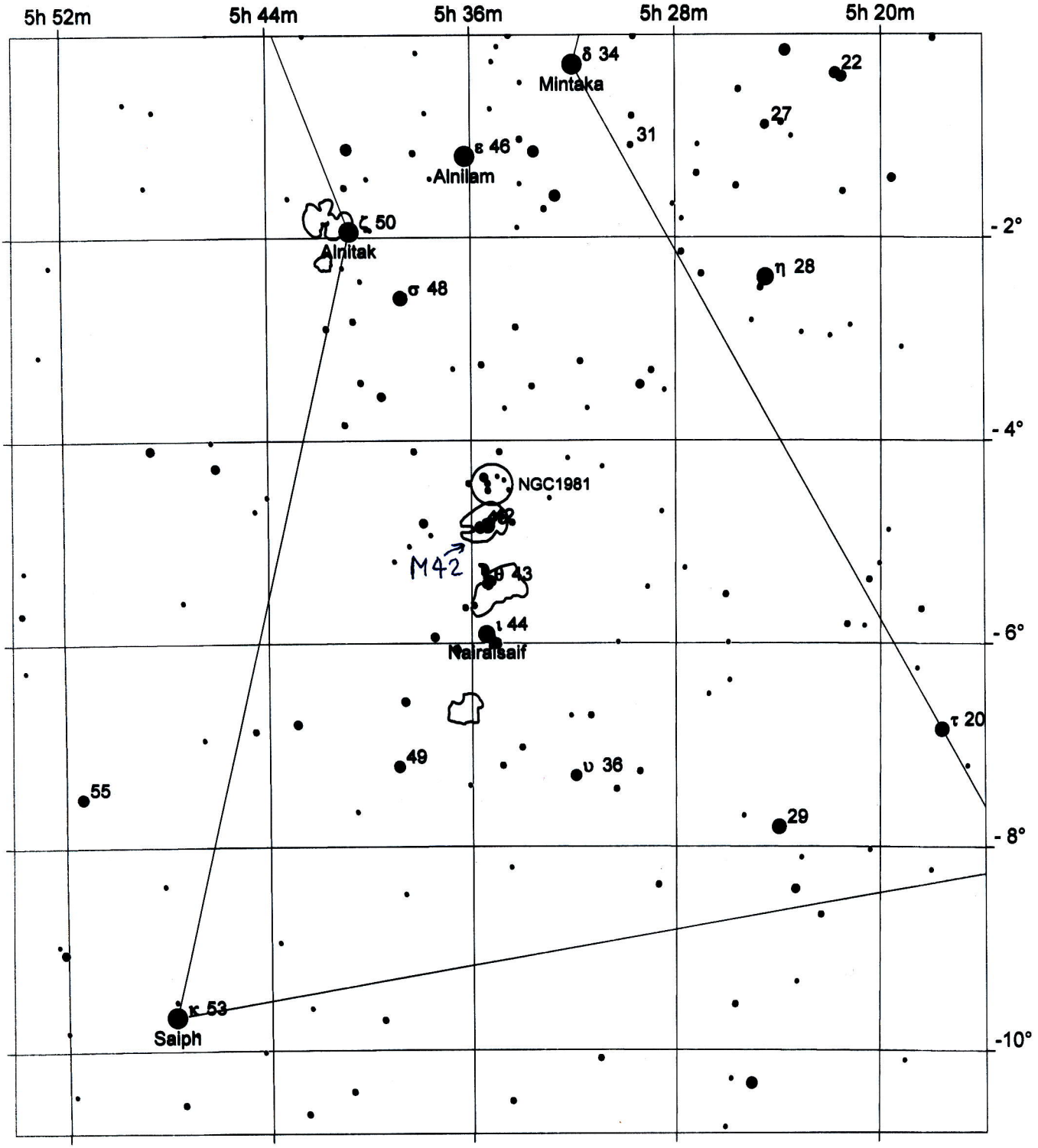
N / E W	0 1 2 3 4 5 6 7	23° 46.8' x 20° 50.3'	05h 30m 0.0s +00° 00' 00"	Dec 14, 2000 4:22pm LT 16:22 UT N 51° 0' 0.0" W 3° 0' 0.0" Alt: -16.1° Azim: 69.0° Trans: 00:10 Rise: 18:16 Set: 06:05	M42 NGC1976 LBN974 Bright Nebula 05h 35m 0.0s -05° 25' 00" Mag: --- Size: 60.0' Class: E r1 R.V.: --- Source: Lynds *			
Galaxy	Glxy Cl	Globular	Open Cl	Planetary	Clust+Neb	Ori		
						Uranometria 225		
Bright Neb	Dark Neb	Asterism	Unknown	Quasar	Dbl Star	Comet	Asteroid	



M42 (NGC 1976) A gaseus nebula in Orion.

MegaStar

N E W	0 1 2 3 4 5 6 7 8		10° 48.5' x 9° 28.3'	05h 35m 0.0s -05° 25' 00"		Dec 6, 2018 4:58pm LT 16:58 UT N 51° 0' 0.0" W 3° 0' 0.0" Alt: -20.7° Azim: 72.1° Trans: 00:48 Rise: 19:20 Set: 06:16	M42 NGC1976 LBN974 Bright Nebula 05h 35m 0.0s -05° 25' 00" Mag: --- Size: 60.0' Class: E r1 R.V.: --- Source: Lynds *
Galaxy	Glxy Cl	Globular	Open Cl	Planetary	Clust+Neb	Ori		
						Uranometria 225		
Bright Neb	Dark Neb	Asterism	Unknown	Quasar	Dbl Star	Comet	Asteroid	



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