Sossusvlei Mountain Lodge Skies
15º53'19" E, 24º46'49" S, Elevation 2,941', Mtn 3,455' NE
12 June -11 July, 2007 Ken VanLew

7 PM EVENINGS

WEST
Setting, so do first, S ½ Winter Hexagon missing N Auriga, Taurus, & Orion
Gemini twins Castor & Pollux, Canis Minor's Procyon, and Canis Major's Sirius
08h 39m 57s +19°40'21"Castor 6 stars 3 sets of 2, T=9.2d, 2.9d, 0.8d, T_{AB}=380y, T_{AC}=10,000y
Spectroscopic by Doppler shift vs visual binaries telescopic
Sirius Dog star of Canis Major brightest star both hemispheres currently
06h 46m 18s -20°45'34"M41 Heart of Dog Open cluster of young stars orbits in plane of MW disk
08h 40m 22s +19°38'53"M44 Beehive open cluster in Cancer the Crab near Venus
Venus by M44 setting in Cancer phases but no detail because of 92Xearth atmosphere
Venus approaches Saturn Jun 30/July 1
ZODIAC Cancer to Leo to Virgo to Libra to Scorpio to Sagittarius west to east

NORTH
Everything upside down
Leo the Lion sickle & triangle γLeonis double
Regulus period at bottom of upside down backward question mark
13h 42m 33s +28°20'24" M3 globular cluster by Arcturus in Bootes
Saturn setting in Leo
Rings, Cassini Gap, Encke Division, B clumpy thickest ABCD inward, FGE outward ++
Titan believed largest moon by atmosphere, 2nd largest after Jupiter's Ganymede

SOUTH
αCen 3rd brightest star<Canopus<Sirius, 4.3 ly, Rigil Kent, double
βCen nearly as bright @500ly BlGiant point to Crux=Southern Cross
αβγδ Crux clockwise from bottom color variation blue to red temperatures
Crux points to S pole 4X cross height
00h 10m 29s Dec: -89°57'10" S Pole dim 1° σOctans star now, precession past/future South Stars
Acrux 400ly blue doubles each spectroscopic
12h 54m 04s -60°24'09"N4755 Jewel box >100* below Mimosa cluster
Left side of Crux is Coal Sack dark nebula
11h 38m 13s -63°24'00" IC2944 Running Chicken nebula open cluster in Centaurus W of Crux
18h 21m 16s -16°10'52"M17 Omega Centauri 10^8*, brightest glob, 17Kly
ηCarina largest star? Double star system >100 sun masses, possible violent supernova
Keyhole Nebula dark cloud on bright nebula just right of ηCarina
11h 36m 34s -61°39'22" NGC3766 >200* rich, concentrated similar to M37 Capella
07h 58m 12s -60°46'22" NGC2516 open cluster <10^7 h&chi Per age, >10^8M45 age
LMC & SMC below horizon until morning
Atria in Triangula Australis S Triangle circumpolar never sets
13h 25m 29s -43°00'58"NGC5128 quasar Centaurus A source

EAST obscured but rising
Jupiter rising in Ophiuchus
Io, Europa, Ganymede, Callisto outward 1.8, 3.6, 7.2 day resonances, 16 day orbits
Antares in Scorpio red supergiant possible supernova
Spica in Virgo from Big Dipper handle "Arc to Arcturus, Speed to Spica"
Spring Triangle: Arcturus in Bootes, Spica in Canis Major, Denebola in Leo
Arcturus in Bootes Red Giant star to go supernova?
Corona Borealis points to M13 globular cluster in Hercules
N Galactic Pole in Coma Berenices rich galaxy field
13h 42m 33s +28°20'24"M3 globular cluster in Canes Venatici
Corvus the Crow

ZENITH
Spica, Corvus the crow, and Crater the cup l to r
13h 37m 26s -29°54'33"M83 spiral face-on galaxy N of M17 10lrgs,25brtst

6 AM MORNINGS

WEST
Sagittarius Archer teapot toward Galactic center vs Perseus looking outward
18h 04m 18s -24°23'05"M8 Lagoon Nebula
18h 02m 47s -23°02'06"M20 Trifid Nebula 3 lobes visible
Altair in Aquila Eagle
Delphinus Dolphin
Corona Australis Southern Crown below Sagittarius teapot
Jupiter setting low in Ophiuchus
ZODIAC west to east Sagittarius, Capricornus, Aquarius, Pisces, Aries

SOUTH
No Southern Cross visible just below horizon after 180º rotation in 12 hours
αCen & βCen just setting SSW
Large 160Kly & Small 210Kly Magellanic Clouds MW dwarf galaxies
SN 1987A brightest modern times, blue giant * rewrote book on supernovas
05h 38m 32s -69°05'08"NGC2070 Tarangula Nebula Lrgst Diffuse Nebula surrounds 30 Doradus
Corona Australis Southern Crown below Sagittarius teapot
Achernar αEridanus the river long constellation
17h 41m 21s -53°40'49"NGC6397 glob 10lrgst25brtst 10º S θSco
Peacock star αPavonis

NORTH
Pegasus right-side up flying horse, upside down for N Hemisphere
21h 30m 22s +12°12'01"M15 Globular cluster at nose beyond Enif
Pisces double fish tied at tail, circlet of Pisces above Pegasus, ½ circle to right
Mars near tied tails on long fish of Pisces
Cygnus swan extends along low MW, N American Nebula NGC7000
Albireo nose of swan blue orange optical double, not binary
M31 Andromeda Galaxy 2.5 million ly spiral collision 2-5 billion years
Sagitta little arrow
19h 59m 57s +22°44'29"M27 Dumbbell planetary nebula

EAST
01h 38m 00.403s -57°11'30.769"(Achernar αEridani the long river
SMC above βHydri in Hydrus opposite Crux from S Pole
LMC in Doradus low to horizon one of ~20 dwarf galaxies that orbit Milky Way
SN 1987A 169Kly in Doradus rewrote supernova textbook because blue not red giant
47Tuc globular 14Kly right & N362 ~30Kly left of LMC
HST Deep Field South by Tuc

ZENITH
Pisces fish tails point to Mira in Cetus
02h 19m 43.753s -02°56'24.883" Mira oCetus "wonder star" long term variable 331 days 3-9 mag visible-invisible
Pisces Austrinus
Comet Encke
S Galactic pole in Sculptor

A quick trip round some of the southern sky including the Milky Way (what it is, why it looks like that), the satellite galaxies the Large and Small Magellenic Clouds (and what a galaxy IS) and major constellations including:

- The Southern Cross, finding the South Celestial Pole (and what that means and how to navigate…the Southern Cross is on the flag of many Southern nations as a result – including Australia, New Zealand and Brazil); the motion of the stars overnight and why you can't see Polaris from here!
- alpha- and beta- Centaurus are important as the pointers to the Southern Cross. (Pointers plus Southern Cross together form a giraffe to some Namibian groups, Southern Cross plus Musca form a stingray to some Aboriginees of Australia)
- Orion, using it to introduce Betelgeuse and Rigel and talk about colours of and dying stars
- Taurus (which looks far more like a gemsbok) and the Pleaides (with comments about visibility and the Subaru car symbol)
- Canis Major, introducing Sirius as the brightest star in the sky – and why it is brightest…
- Briefly – Aries Gemini Cancer and Leo – ie the astrological star signs, and include info about the sun being in the current star sign (supposedly, but no longer the case!!)

More often than not during this time we will spot a 'shooting star' and/or a satellite which opens the opportunity to talk briefly about these.

Telescope viewing usually includes the following

- A double star (alpha Centauri provides a good intro also to 'closest star' and distances/ light years as well as why some stars look brighter than others – beta Centauri is about 100 x further away) Gives the opportunity to show Centaurus (and the comment that many constellations are hard to fathom – that the ancient civilisations had nothing better to do, and they had vivid imaginations and drank a lot!). (Other doubles can be used to show different colours … Albireo is magnificent but not visible at the mo)
- An open cluster (M44, M45, M35, N4755 (Jewel Box) or others.
- A globular Cluster N104 (47 Tuc) or N 5139 (omega Centauri)
- A nebula (M42, possibly M1 (Crab supernova remnant) or N3372 (Eta carina)) and talk about star 'birth life and death' in simple terms, and the difference between stars and planets and moons.
- The Tarantula nebula N2070, mainly because it is easily visible but so far away and in another galaxy! I tell them how long it has taken the light from there to reach the telescope (a revision of light years)
- Any visible planets (at the moment we have Venus in twilight, Saturn all night and Jupiter (well after midnight). Most guests only see Saturn.
- The moon (if it's there!), pointing out how to find the Apollo 11 landing site (and responding to the follow up discussion about why the footprints are probably still there, and the conspiracy theory)

There's a whiteboard in the observatory and you can list 'most viewed objects' code numbers on there for quick reference if you want to.

I tend to use a 32mm eyepiece which allows good viewing of clusters, nebulae etc. Galaxies are a difficult target for many so I only show ones other than the Magellanic Clouds if I think they can cope!