

Meeting Date

July 14, 2024

Night Begins

11:13 PM. EDT

Note: Astronomical Twilight Ends

Solar Noon / Midnight

1:38 EDT

Note: on Meeting Date

Moon Quarters

New 07/05, First 07/13, Full 07/21, Last 07/27

Darkest Evenings

06/26-07/11 07/25-08/10

Note: 2 days before Last thru 2 days before First

Viewing Resources

Evening Sky Maps

<http://skymaps.com/>

Astronomy Forecasts

<https://clearoutside.com/forecast/42.82/-83.14>http://oaklandastronomy.net/ambient_RH.html

Peter Birren's Deep-Sky Fieldbooks

<http://www.birrendesign.com/astro.html>**Featured Constellation: Cygnus**A selection from Peter Birren's excellent deep-sky fieldbook, *"Objects in the Heavens"*, pages 78-81

CONSTELLATION	COMMON NAME	SEASON, ON MERIDIAN	ABBREVIATION
ITEM IDENTIFIER	TYPE DETAILS	☆☆ SEPARATION / SIZE RA DEC	MAG
Cygnus	<i>the Swan, Northern Cross</i>	Summer Sep 1	CYG
<i>"This fine cruciform occupies a prominent position in the Galaxy, and its low-powered fields are overpowering in magnificence."</i>			
☆ <i>Deneb</i>	α 19th brightest; "fixed star"; 1600LY	20:41.6 45°19'	1.3
One of the great Super Giants; dim ☆☆ companion			
☆☆ <i>Albireo</i>	β !! Super-fine gold/blue; 380LY	19:31.2 27°59'	3/5
☆ <i>Sadr</i>	γ <i>The Swan's Breast</i> ; 1800LY	20:22.6 40°18'	2.2
☆☆ 31/Sigma	ο ¹ ! Patriotic Triple 1.8'/5.6'	20:13.9 46°46'	4/5/7
☆☆ <i>Rukh</i>	δ North ☆ in yr 11,250; 170LY	2.5" 19:45.4 45°10'	3/6.3
☆☆ 61	Both orange dwarfs; 11.4LY	20.4" 21:07.7 38°49'	5.2/6
☆☆ U®	Strong color; white companion	60' 20:19.9 47°56'	7-11.5
☆ V®	Red! carbon I; var. 465 days	20:41.7 48°11'	6.8-14
☆ AF®	Binoc variable, 93 days	19:30.6 46°10'	6.2-8
☆☆ LW®	Very red carbon ☆	1.4' 21:55.7 50°33'	9/12
☆☆ RV®	Very red carbon ☆; var. 300d	2.4' 21:43.7 38°04'	8/9.1
○○ M29 ₆₉₁₃	OC <i>Cooling Tower Cluster</i> ; 20☆	10' 20:24.4 38°32'	6.7
Trapezoid-shaped; weak; scattered			
○○ M39 ₇₀₉₂	OC 25☆; large, loose cluster	30' 21:32.2 48°29'	4.7
○ NGC6811	OC 50☆; dense; horseshoe shape	15' 19:37.6 46°25'	6.8
○○ NGC6819	OC <i>Fox Head Cluster</i> ; 150☆ to mag15	6' 19:41.7 40°13'	7.3
○○ NGC6826	PN ! <i>Blinking Planetary</i> ; light blue	24' 19:45.1 50°33'	9.5
○ NGC6834	OC Sparse; little compressed	5' 19:52.6 29°26'	7.8
○ NGC6866	OC 50☆; very large; rich; 2☆☆	10' 20:04.3 44°11'	7.6
○○ NGC6871	OC <i>Star Chain</i> ; rich; some ☆☆	30' 20:06.4 35°48'	5.2
○ NGC6874	OC 15☆ within 7'	10' 20:07.9 38°16'	7.7
○ NGC6883	OC Open cluster with nebula; 30☆	15' 20:11.7 35°51'	7.0
○ NGC6888	E/RN <i>Crescent Nebula</i> ; 4700LY	20'x10' 20:12.9 38°28'	8.5
○○ NGC6910	OC <i>Rocking Horse</i> ; 2K-5KLY; 40☆	10' 20:23.6 40°48'	7.0
○○ NGC6960	SNR <i>Witch's Broom</i> , Veil Neb. West	210'x6' 20:46.1 30°44'	7.1

OO NGC6992/5	SNR Veil Neb. East; use filter; ☆☆ 52CYG nearby (6' sep.)	7.1
O NGC6996	OC Faint group of 25☆ on hazy spot	14' 20:57.2 44°43' 10.0
O NGC6997	OC 20☆ mag10-12; u-shape	8' 20:57.2 44°44' 10.0
OO NGC7000	EN North American Nebula 2°x1.5° 20:59.2 44°23'	4.8
	50LY wide; use low power and nebula filter	
O NGC7008	PN Fetus Neb.; patchy oval ring 98"x75"	21:00.9 54°35' 10.0
O NGC7027	PN Proto-planetary; unique 15" 21:07.4 42°17'	9.2
	Pink Pillow; Richest spectrum of all the planetaries.	
O NGC7031	OC 14☆; small; poor	12' 21:07.6 50°55' 9.1
OO NGC7039	OC Large; rich; extended; 50☆	25' 21:11.2 45°40' 7.6
O NGC7062	OC Pretty rich/compressed; 30☆	6' 21:23.9 46°25' 8.3
OO NGC7063	OC Sparse; 18☆ mag10 and fainter	8' 21:24.8 36°32' 7.0

CONSTELLATION	COMMON NAME	SEASON, ON MERIDIAN	ABBREVIATION
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Cygnus	CONTINUED		Summer	Sep 1	CYG
○ NGC7067	OC	Involved with M39; 20☆	4'	21:24.8 48°03'	9.7
○ NGC7071	OC	15☆; elliptical; 1° from M39	4'	21:27.0 47°58'	10.0
○○ NGC7082	OC	Large; hundreds of ☆ in 42mmEP	25'	21:29.7 47°10'	7.2
○ NGC7086	OC	Very rich; pretty compressed	10'	21:30.8 51°39'	8.4
○ NGC7127	OC	2 small groups, 6☆ each; 19kLY	3'	21:44.2 54°41'	10.0
○ NGC7128	OC	30☆; small; pretty rich; ruby ☆	4'	21:44.2 53°45'	9.7
○ PK64+5.1	PN	Campbell's Hydrogen Star	5"	19:34.8 30°31'	10.0
○ Sh2-101	EN	Tulip Neb; 8kLY; 70LY wide	16'x9'	20:00.6 35°20'	9.0
○ Basel 6	OC	Ring of 8 ☆☆; Chaple's Arc invol.	14'	20:07.3 38°23'	7.7
○ Biur 2	OC	Near NGC6871/6883; 10☆	13'	20:09.6 35°31'	6.3
○ Star 26	Ast	Red Necked Emu; red ☆ center	45'	20:13.8 36°30'	8.0
○○ IC 4996	OC	14☆ mag 8-13; O-III filter helps	3'	20:16.9 37°41'	7.3
○ vdB 130	OC	Grouping near M29; 15☆	6'	20:18.1 39°23'	9.3
○ Cr 419	OC	14☆; compact, not rich	4.5'	20:18.5 40°45'	5.4
○ IC 1318	EN	Butterfly; 2x farther than Sadr	40'x20'	20:20.1 40°48'	10.0
○ Berk 86	OC	20☆; almost triangular	8'	20:20.8 38°44'	7.9
○ Cr 421	OC	22☆; sparse; small	4'	20:23.6 41°43'	10.1
○○ Ru 173	OC	20☆; sparse in stellar area	49'	20:41.8 35°33'	6.0
○ IC 5067/70	EN	Pelican Nebula; bright; 2kLY	60'	20:49.8 44°22'	8.0
○○ Star 10 (LG3)	DN	Funnel Cloud Nebula	12°x3°	21:00.0 55°00'	10.0
		Dark area north of Deneb, flowing to Cepheus			
○ Cr 428	OC	20☆; slight concentration	12'	21:03.6 44°38'	8.7
○ Star 28	Ast	Webb's Horseshoe; arc of 14☆	25'	21:08.3 47°14'	8.5
○ IC 1369	OC	Small cluster; 40 ☆ mag12	5'	21:12.5 47°47'	8.0
○ Barnard168	DN	Surrounds IC5146	22'x18'	21:46.0 48°00'	—
○ IC 5146	C/N	Cocoon Neb; hazy nursery	100'x9'	21:53.8 47°19'	8.5
○ L906	DN	Northern Coal Sack, cosmic dust between α, λ			10.0