

1  
00:00:07,160 --> 00:00:10,679  
Your guide to constellations, deep-sky objects,

2  
00:00:10,679 --> 00:00:15,239  
planets, and events,

3  
00:00:15,240 --> 00:00:23,939  
Tonight's Sky, highlights of the August Sky

4  
00:00:36,420 --> 00:00:40,859  
Soon after sunset, look to the west to find Jupiter,

5  
00:00:40,859 --> 00:00:49,600  
king of planets.

6  
00:00:49,600 --> 00:00:52,880  
Use a telescope to glimpse its cloud bands

7  
00:00:52,880 --> 00:00:59,500  
and some of its moons.

8  
00:01:02,600 --> 00:01:05,040  
Saturn spends these August evenings

9  
00:01:05,040 --> 00:01:11,400  
perched in the southern sky.

10  
00:01:18,900 --> 00:01:26,420  
Catch sight of its famous rings through a telescope.

11  
00:01:36,700 --> 00:01:39,180  
Stargazing on a hot August night

12  
00:01:39,180 --> 00:01:46,540  
reveals a multitude of wonders.

13  
00:01:46,540 --> 00:01:52,120  
Lyra, the Small Harp, lies high in the late evening sky.

14  
00:01:52,120 --> 00:01:55,120  
Its main star is the great Vega,

15  
00:01:55,120 --> 00:01:57,840  
one of the brightest in the sky.

16  
00:01:57,840 --> 00:02:01,520  
Look for Lyra by locating Vega and then

17  
00:02:01,519 --> 00:02:04,459  
the parallelogram of stars nearby.

18  
00:02:04,459 --> 00:02:08,000  
Epsilon Lyrae, the bright star near Vega,

19  
00:02:08,000 --> 00:02:12,060  
is actually a wonderful quadruple-star system,

20  
00:02:12,060 --> 00:02:18,860  
known as the Double-Double.

21  
00:02:18,860 --> 00:02:21,120  
In the parallelogram of Lyra

22  
00:02:21,120 --> 00:02:24,300  
lies the dramatic Ring Nebula.

23  
00:02:24,300 --> 00:02:27,820  
It is an expanding shell of glowing gas

24  
00:02:27,819 --> 00:02:34,859  
expelled by the dying star at its center.

25  
00:02:41,780 --> 00:02:45,640  
The great constellation Cygnus, the Swan,

26  
00:02:45,639 --> 00:02:48,419  
flies high through the August night.

27  
00:02:48,419 --> 00:02:51,519  
Using bright Vega as your guide star,

28  
00:02:51,520 --> 00:02:54,620  
look for the cross just to the east.

29

00:02:54,620 --> 00:02:59,400  
Cygnus is also known as the Northern Cross.

30  
00:02:59,400 --> 00:03:02,379  
Albireo, at the head of the Swan,

31  
00:03:02,379 --> 00:03:06,039  
is a showpiece for small telescopes.

32  
00:03:06,039 --> 00:03:09,739  
This spectacular pair of stars features contrasting

33  
00:03:09,740 --> 00:03:14,159  
colors of sapphire and golden topaz.

34  
00:03:14,159 --> 00:03:19,139  
Deneb, the Swan's tail, is a supergiant star.

35  
00:03:19,139 --> 00:03:21,239  
If Deneb replaced the Sun

36  
00:03:21,240 --> 00:03:23,680  
in the center of our solar system,

37  
00:03:23,680 --> 00:03:27,260  
it would engulf Mercury and Venus.

38  
00:03:27,259 --> 00:03:30,699  
On a clear night, hazy patches of nebulae

39  
00:03:30,699 --> 00:03:33,500  
can be seen by casually panning across

40  
00:03:33,500 --> 00:03:39,180  
the Cygnus area with binoculars.

41  
00:03:39,180 --> 00:03:42,520  
The most prominent is the North America Nebula,

42  
00:03:42,520 --> 00:03:46,620  
an area of gas and dust illuminated by the nearby,

43  
00:03:46,620 --> 00:03:54,759

brilliant star Deneb.

44

00:03:54,759 --> 00:03:59,259

Cygnus also hosts several clusters of stars.

45

00:03:59,259 --> 00:04:04,819

The easiest to find are M29 and M39.

46

00:04:04,819 --> 00:04:09,919

M29 is found near the center of the Northern Cross.

47

00:04:09,919 --> 00:04:11,959

When viewed in a small telescope,

48

00:04:11,960 --> 00:04:15,620

it resembles a small square.

49

00:04:15,620 --> 00:04:17,480

Best seen in binoculars,

50

00:04:17,480 --> 00:04:22,620

M39 is a loosely bound cluster of about 30 stars,

51

00:04:22,620 --> 00:04:28,079

just to the north of Deneb.

52

00:04:29,740 --> 00:04:33,660

Just south of Cygnus lies the small constellation

53

00:04:33,660 --> 00:04:37,920

Vulpecula, the Little Fox, first charted by

54

00:04:37,939 --> 00:04:46,680

Polish astronomer Johannes Hevelius in the 17th cent.

55

00:04:46,680 --> 00:04:49,720

Vulpecula hosts the Dumbbell Nebula,

56

00:04:49,720 --> 00:04:53,740

which can be seen as a faint smudge in binoculars.

57

00:04:53,740 --> 00:05:01,460

A small telescope reveals its double-lobed shape.

58  
00:05:20,480 --> 00:05:23,319  
ancient Greeks as the great bird of Zeus.

59  
00:05:23,319 --> 00:05:28,060  
ancient Greeks as the great bird of Zeus.

60  
00:05:28,060 --> 00:05:31,459  
Altair, the brightest star in Aquila,

61  
00:05:31,459 --> 00:05:39,759  
is only 16 light-years from Earth.

62  
00:05:47,620 --> 00:05:52,120  
The bright stars of the summer night sky, Vega, Altair,

63  
00:05:52,120 --> 00:05:57,860  
and Deneb, make up the Summer Triangle.

64  
00:05:57,860 --> 00:06:00,740  
Use binoculars to look for the Coathanger,

65  
00:06:00,740 --> 00:06:08,180  
located halfway between Altair and Albireo.

66  
00:06:14,259 --> 00:06:16,920  
This remarkable little group of stars

67  
00:06:16,920 --> 00:06:25,040  
forms a familiar pattern from our point of view.

68  
00:06:34,120 --> 00:06:37,319  
The appearance of Venus in the east announces that

69  
00:06:37,319 --> 00:06:39,319  
dawn is approaching.

70  
00:06:48,579 --> 00:06:50,740  
Before the sky grows bright, catch a

71  
00:06:50,740 --> 00:06:58,000  
glimpse of Venus through a telescope.

72

00:07:05,279 --> 00:07:08,619

Skywatchers in eastern Europe, Africa,

73

00:07:08,620 --> 00:07:12,560

Asia, and Australia will have the chance to see a

74

00:07:12,579 --> 00:07:16,240

partial lunar eclipse on August 7th and 8th,

75

00:07:16,240 --> 00:07:18,699

depending on their location.

76

00:07:18,699 --> 00:07:22,279

The Moon will darken slightly as it passes through

77

00:07:22,279 --> 00:07:28,139

the edge of Earth's shadow.

78

00:07:30,839 --> 00:07:34,599

The Perseid meteor shower is an always anticipated

79

00:07:34,600 --> 00:07:41,320

feature of the August night sky.

80

00:07:43,860 --> 00:07:46,699

Look for meteors during the early morning hours

81

00:07:46,699 --> 00:07:53,459

of August 12th and 13th.

82

00:07:53,459 --> 00:07:57,239

Unfortunately, abundant moonlight will likely limit the

83

00:07:57,240 --> 00:08:00,620

show this year, allowing skywatchers to see

84

00:08:00,620 --> 00:08:06,300

only the brightest meteors.

85

00:08:07,660 --> 00:08:12,300

On August 21st, a total solar eclipse will wow

86

00:08:12,300 --> 00:08:15,900  
millions of skywatchers across the United States

87  
00:08:15,899 --> 00:08:23,060  
along a path stretching from Oregon to South Carolina.

88  
00:08:23,069 --> 00:08:26,800  
A partial solar eclipse will also be visible throughout

89  
00:08:26,800 --> 00:08:30,780  
the continental U.S., Canada, Mexico,

90  
00:08:30,779 --> 00:08:34,799  
and Central America.

91  
00:08:34,799 --> 00:08:41,839  
The night sky is always a celestial showcase.

92  
00:08:41,840 --> 00:08:49,759  
Explore its wonders from your own backyard.