TONIGHT'S SKY

August 2018

1
00:00:08,980 --> 00:00:11,320
Your guide to constellations,

2
00:00:11,320 --> 00:00:15,020
deep-sky objects, planets, and events:

3
00:00:15,020 --> 00:00:21,900
Tonight’s Sky. Highlights of the August sky:

4
00:00:38,240 --> 00:00:46,260
Bright Venus hangs low in the western sky at nightfall.

5
00:00:54,960 --> 00:00:57,760
A backyard telescope reveals the sunlight

6
00:00:57,760 --> 00:01:04,960
reflecting off the clouds of Venus’s thick atmosphere.

7
00:01:12,960 --> 00:01:17,920
Jupiter, largest of the planets, shines in the southwest.

8
00:01:17,920 --> 00:01:22,600
On the 15th, Jupiter, Venus, and the crescent moon

9
00:01:22,600 --> 00:01:28,900
form a beautiful arc in the sky.

10
00:01:28,900 --> 00:01:45,020
A small telescope reveals Jupiter’s major
cloud bands.

11
00:01:45,020 --> 00:01:47,640
In the southeast, Mars and Saturn

12
00:01:47,640 --> 00:01:53,500
shine on either side of Sagittarius.

13

00:01:59,280 --> 00:02:03,380
Telescope views show two very different planets—

14
00:02:03,380 --> 00:02:07,460
one a gas giant with rings, the other

15
00:02:07,460 --> 00:02:15,020
a much smaller terrestrial, or Earth-like, world.

16
00:02:22,500 --> 00:02:25,100
Stargazing on a hot August night

17
00:02:25,100 --> 00:02:31,780
reveals a multitude of wonders.

18
00:02:31,780 --> 00:02:37,600
Lyra, the Small Harp, lies high in the late evening sky.

19
00:02:37,600 --> 00:02:40,340
Its main star is the great Vega,

20
00:02:40,340 --> 00:02:43,040
one of the brightest in the sky.

21
00:02:43,040 --> 00:02:46,600
Look for Lyra by locating Vega and then

22
00:02:46,600 --> 00:02:50,900
the parallelogram of stars nearby.

23
00:02:50,900 --> 00:02:54,220
Epsilon Lyrae, the bright star near Vega,

24
00:02:54,220 --> 00:02:58,220
is actually a wonderful quadruple-star system,

25
00:02:58,220 --> 00:03:04,840
known as the Double-Double.

26
00:03:04,840 --> 00:03:06,880
In the parallelogram of Lyra

27
00:03:06,880 --> 00:03:10,280
lies the dramatic Ring Nebula.

28
00:03:10,280 --> 00:03:13,700
It is an expanding shell of glowing gas

29
00:03:13,700 --> 00:03:20,820
expelled by the dying star at its center.

30
00:03:26,480 --> 00:03:30,200
The great constellation Cygnus, the Swan,

31
00:03:30,200 --> 00:03:34,140
flies high through the August night.

32
00:03:34,140 --> 00:03:37,200
Using bright Vega as your guide star,

33
00:03:37,200 --> 00:03:40,820
look for the cross just to the east.

34
00:03:40,820 --> 00:03:45,340
Cygnus is also known as the Northern Cross.

35
00:03:45,340 --> 00:03:48,180
Albireo, at the head of the Swan,

36
00:03:48,180 --> 00:03:51,800
is a showpiece for small telescopes.

37
00:03:51,800 --> 00:03:54,880
This spectacular pair of stars features

38

00:03:54,880 --> 00:04:00,200
contrasting colors of sapphire and golden topaz.

39
00:04:00,200 --> 00:04:05,099
Deneb, the Swan’s tail, is a supergiant
star.

40
00:04:05,100 --> 00:04:07,960
If Deneb replaced the Sun in the center of our

41
00:04:07,960 --> 00:04:13,520
solar system, it would engulf Mercury and Venus.

42
00:04:13,520 --> 00:04:17,560
On a clear night, hazy patches of nebulae can be seen

43
00:04:17,560 --> 00:04:20,660
by casually panning across the Cygnus area

44
00:04:20,660 --> 00:04:24,660
with binoculars.

45
00:04:24,660 --> 00:04:28,080
The most prominent is the North America Nebula,

46
00:04:28,080 --> 00:04:32,100
an area of gas and dust illuminated by the nearby,

47
00:04:32,100 --> 00:04:36,960
brilliant star Deneb.

48
00:04:40,440 --> 00:04:44,700
Cygnus also hosts several clusters of stars.

49
00:04:44,700 --> 00:04:50,120
The easiest to find are M29 and M39.

50
00:04:50,120 --> 00:04:54,540

M29 is found near the center of the Northern Cross.

51
00:04:54,540 --> 00:04:56,680
When viewed in a small telescope,

52
00:04:56,680 --> 00:05:00,880
it resembles a small square.

53
00:05:00,880 --> 00:05:02,820
Best seen in binoculars,

54
00:05:02,820 --> 00:05:07,900
M39 is a loosely bound cluster of about 30 stars,

55
00:05:07,900 --> 00:05:12,760
just to the north of Deneb.

56
00:05:15,220 --> 00:05:19,100
Just south of Cygnus lies the small constellation

57
00:05:19,100 --> 00:05:23,940
Vulpecula, the Little Fox, first charted by Polish

58
00:05:23,940 --> 00:05:30,780
astronomer Johannes Hevelius in the 17th century.

59
00:05:32,060 --> 00:05:35,120
Vulpecula hosts the Dumbbell Nebula,

60
00:05:35,120 --> 00:05:39,460
which can be seen as a faint smudge in binoculars.

61
00:05:39,460 --> 00:05:46,420
A small telescope reveals its double-lobed shape.

62
00:06:06,020 --> 00:06:09,620
Aquila, the Eagle, was known to the ancient Greeks

63
00:06:09,620 --> 00:06:13,620
as the great bird of Zeus.

64
00:06:13,620 --> 00:06:16,760
Altair, the brightest star in Aquila,

65
00:06:16,760 --> 00:06:22,780
is only 16 light-years from Earth.

66
00:06:34,100 --> 00:06:38,560
The bright stars of the summer night sky, Vega, Altair,

67
00:06:38,560 --> 00:06:43,580
and Deneb, make up the Summer Triangle.

68
00:06:43,580 --> 00:06:46,380
Use binoculars to look for the Coathanger,

69
00:06:46,380 --> 00:06:53,340
located halfway between Altair and Albireo.

70
00:06:59,240 --> 00:07:01,840
This remarkable little group of stars

71
00:07:01,840 --> 00:07:03,840
forms a familiar pattern from our point of view.

72
00:07:17,520 --> 00:07:21,860
Comet Giacobini-Zinner may become visible this month

73
00:07:21,860 --> 00:07:27,720
as it approaches the Sun in its 6-and-a-half-year orbit.

74
00:07:27,720 --> 00:07:32,360
Its path will take it past Cassiopeia and Perseus during

75
00:07:32,360 --> 00:07:38,100

August, and then past Auriga in early September.

76
00:07:38,100 --> 00:07:42,100
Use binoculars to look for its fuzzy glowing head

77
00:07:42,100 --> 00:07:46,880
and short, dim tail.

78
00:07:46,880 --> 00:07:51,900
On August 11, skywatchers in remote northern Canada

79
00:07:51,900 --> 00:07:54,300
and Russia will be able to witness

80
00:07:54,300 --> 00:07:56,300
a partial solar eclipse

81
00:07:56,300 --> 00:08:04,340
as the Moon passes between Earth and the Sun.

82
00:08:04,340 --> 00:08:07,360
Shortly after, the Perseid meteor shower—

83
00:08:07,360 --> 00:08:11,280
an always-anticipated feature of the August night sky—

84
00:08:11,280 --> 00:08:14,360
will peak.

85
00:08:14,360 --> 00:08:17,420
Look for meteors during the early morning hours

86
00:08:17,420 --> 00:08:21,820
of August 12 and 13.

87
00:08:21,820 --> 00:08:25,180
With the Moon out of the way, the sky will be dark,

88
00:08:25,180 --> 00:08:27,900
and several dozen meteors per hour

89
00:08:27,900 --> 00:08:32,760
may be seen under good conditions.