

## ASTRONOMY

# Jupiter Shines All Night

Spring comes for the Northern Hemisphere as the sun crosses the equator on March 20 while it marks the first day of autumn for the Southern Hemisphere.

By JAMES STOKLEY

► THE PLANET JUPITER, which contains enough material to make 318 earths, is the most prominent star or planet now visible.

On St. Patrick's day it will be directly opposite the sun, which means that it will be visible all night, rising at sunset and setting as the sun rises. It is now in the constellation of Virgo, the virgin, whose evening position is shown on the accompanying maps.

These depict the sky as it looks about 10:00 p.m., your own variety of standard time, on March 1. By the middle of the month, it will look this way at nine o'clock, while at the end of March the eight o'clock appearance is indicated. Virgo is seen toward the east.

Jupiter is now of magnitude minus 2 on the astronomical scale, or more than half again as bright as Sirius, the brightest star, and it is easy to locate. Also in Virgo is the first magnitude star called Spica, which is so close to the horizon on March evenings that its light is greatly reduced.

Above Virgo stands Leo, the lion, with the bright star Regulus. This orb, with a semicircle of stars just above, forms a little figure known as the Sickle. Regulus marks the end of the handle, which points downward.

## Winter Constellations Going

With winter now approaching its end, the constellations that characterize that season are getting ready to bow off the celestial stage.

They are seen in the southwest, instead of being high in the south, as they were a month or two ago. The most familiar, perhaps, is Orion, the warrior. Three stars in a row form his belt, while Betelgeuse is above and Rigel below.

Just to the right is Taurus, the bull, with Aldebaran. Above Orion we find Gemini, the twins, with Castor and Pollux, the latter a star of the first magnitude.

Going from Rigel toward the left, one comes to Canis Major, the greater dog, in which Sirius shines. Above this group, after passing the faint figure of Monoceros, the unicorn, stands the lesser dog, Canis Minor, with the star called Procyon.

Swinging around toward the northern sky, Auriga, the charioteer, can be located to the right of Taurus, with the star Capella. High in the northeast is the familiar figure of the great dipper, which is really

part of Ursa Major, the great bear. In the bowl of the dipper are the two stars known as the pointers.

A line through them, downward and to the left at present, takes you to Polaris, the pole star, which always marks the north, since it stands directly over the north pole. The handle of the dipper also is a pointer, for by following its curve toward the east one comes to Arcturus, in Bootes, the bear-driver, tenth and last of the first magnitude stars seen on March evenings.

## Sun Over Equator

One welcome astronomical event occurs on the afternoon of March 20, for on that date (at 4:17 p.m., EST), the sun will stand directly over the equator. Since December it has been moving northward in the sky, and now it reaches the half-way point of its journey.

It rises directly east, and sets directly west, so day and night are of equal length. Hence the name of this event, the "equinox," which means "equal nights."

In the Northern Hemisphere this is the beginning of spring, but in the Southern Hemisphere it is the first day of autumn. While the sun during the winter was so low for us, it was high for them, and they could enjoy the warm weather of summer.

With Orion and his neighbors now descending into the west, and Leo and Virgo just coming up in the east, the center of the celestial stage, i.e., the part of the sky directly south, is occupied by a number of interesting but less conspicuous constellations. One of these, Monoceros, has already been mentioned as standing between the two dogs, Canis Major and Canis Minor. The brightest star in it is of the fourth magnitude, so it is not conspicuous.

In earlier times this part of the sky seems to have been left blank, but apparently Monoceros was added in the 16th century, when there was a revival of interest in astronomy.

Next to Monoceros, toward the left, is Hydra, the water-snake, considerably more conspicuous, since its brightest star is of the second magnitude. This is called Alphard and it is shown on our maps as the fourth star from the bottom.

Supposedly, it represents the heart of the reptile, while the little group of four stars at the upper end form the head. Actually the constellation continues farther to the south, even below the four stars shown of Corvus, the crow, but these are so dimmed by their low altitude that they are not bright enough to be shown on our map.

Corvus is another of the smaller constellations, but it goes back to ancient times. The Romans called it a crow while the Greeks regarded it as a raven, which is a member of the same family as the crow.

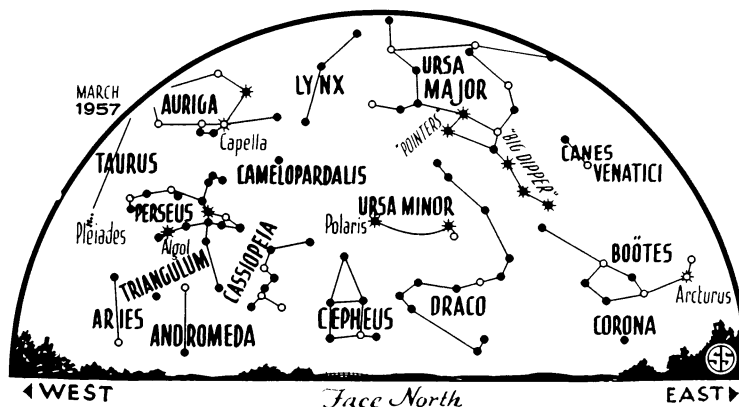
Quite low in the south, just left of Canis Major, are shown a few stars, marked Pyxis, Vela and Puppis. Actually these are all part of a much larger group, containing some very prominent stars, but they are so far south that they do not appear above our horizon. This is Argo Navis, the ship Argo, supposed to represent the mythological vessel that Glaucus built for Jason, who led the Argonauts in their quest of the Golden Fleece.

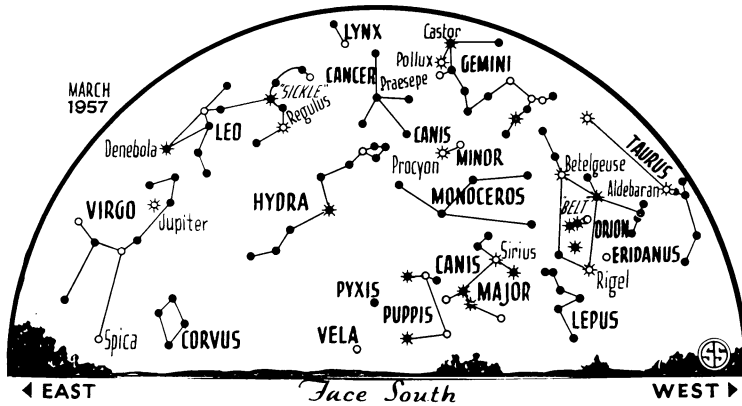
## Argo Has Four Parts

The group is so big that it is subdivided into four parts, each considered as a constellation. Puppis is the "poop," or stern; Vela the sail and Pyxis the compass. The fourth, Carina, the keel, is not shown. It is farther south and contains the brilliant star called Canopus.

In the southern states of the United States it comes into view, but not for points that are north of 38 degrees latitude.

High in the south is Cancer, the crab,





☼ \* ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

which does not contain any first magnitude stars, but it can hardly be called an unimportant constellation. It is one of the 12 that mark the zodiac, the band through which the sun, moon and planets all seem to move.

**Praesepe or the Manger**

In this group, on a dark clear night, one can see a faint misty light that has sometimes been mistaken for a comet. Actually this is a naked-eye star cluster, a great aggregation of distant suns, known as Praesepe. It is sometimes called the Manger, and two donkeys, represented by stars nearby, are supposed to be feeding from it.

Early in the 16th century, when he was making the first telescopic observations of the skies, Galileo looked at Praesepe and counted 40 stars, thus proving that there were stars which could not be seen by the naked eye.

Modern powerful telescopes reveal several hundred or more in this little group.

**Celestial Time Table for March**

MARCH	EST	
1	11:12 a.m.	New moon.
7	8:25 a.m.	Moon passes Mars.
9	6:50 a.m.	Moon in first quarter.
12	2:30 a.m.	Algol (variable star in Perseus) at minimum brightness.
14	5:00 p.m.	Moon nearest, distance 223,100 miles.
	11:19 p.m.	Algol at minimum.
15	9:22 p.m.	Full moon.
16	4:07 a.m.	Moon passes Jupiter.
17	1:00 p.m.	Jupiter in opposite direction from sun and nearest earth, distance 413,400,000 miles.
	8:08 p.m.	Algol at minimum.
20	1:00 p.m.	Mercury behind sun.
	4:17 p.m.	Vernal equinox (beginning of spring in Northern Hemisphere).
21	1:23 p.m.	Moon passes Saturn.
23	12:04 a.m.	Moon in last quarter.
26	11:00 p.m.	Moon farthest, distance 252,100 miles.
31	4:19 a.m.	New moon.

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, February 23, 1957

**ZOOLOGY**

**Dog, Bear Ancestor Same**

➤ THE ANCESTRY of man's best friend, the dog, can be traced back some 40,000,000 years to a common ancestor of bear and dog, *Miacis*, Dr. Edwin H. Colbert of the American Museum of Natural History reports in a new Museum publication in New York.

*Miacis*, who was built somewhat like a dachshund with a long body and short legs, was not very different in appearance from some of the modern East Indian or African civets.

*Miacis* lived during the transition from the Eocene to the Oligocene period of geologic history. Those were the days when horses were no larger than small sheep and had three toes on each foot. Rhinoceroses were still small horse-like running animals, quite hornless and probably completely lacking in the ferocity that so distinguishes their modern descendants. The first ancestors of apes and man were, in those days, small tree-dwelling monkeys, Dr. Colbert says.

During the Oligocene period the first canids evolved in North America as direct descendants of *Miacis*. There were two types. One of these later evolved into a heavy animal with a lumbering walk—the bear. The other was the ancestor of the dogs, wolves, and foxes.

The descendants had increasingly longer legs adapting them especially for fleet running after prey.

Almost from the beginning, the true dog was a runner. And he was among the most intelligent of the warm-blooded animals. In addition, early in the history of the dog's development, this animal displayed a "social intelligence," learning to act together as a group to run down a fleet victim and to hunt in packs.

And there are well authenticated records, Dr. Colbert reports, of wolves supplying food for an infirm and aged member of the pack.

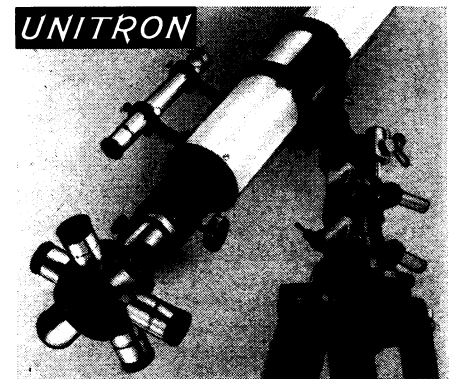
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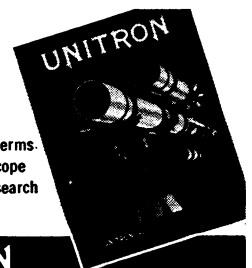
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