

Stars of September

CELESTIAL TIME TABLE			
Sept. 1	3:25 p.m. EDT	Full Moon	
2	5:00 a.m.	Moon passes north of Jupiter	
5	4:00 p.m.	Jupiter opposite sun	
9	8:01 a.m.	Moon in last quarter	
11	noon	Moon passes south of Saturn	
14	noon	Moon nearest, distance 223,960 miles	
15	10:45 p.m.	New Moon	
23	3:08 a.m.	Moon in first quarter	
	5:59 a.m.	Sun stands over equator, autumn begins in northern hemisphere	
26	1:00 p.m.	Moon farthest, distance 251,760 miles	
29	5:00 a.m.	Moon passes north of Jupiter	

By James Stokley

Shining more brightly than for more than a year and visible from its appearance in the east at dusk until it vanishes in the west at dawn, Jupiter dominates the night sky of September. On Sept. 5 the planet will be opposite the sun and closest to earth—only 370 million miles away, almost the minimum possible distance. That's why it's so bright, far outshining any other planet or any star visible in the evening.

Jupiter, which is the largest planet, contains about twice as much matter as all other planets combined. It's a globe 82,900 miles in diameter from pole to pole, spinning once every ten hours. Centrifugal force causes a large bulge at the equator, which makes the equatorial diameter 88,700 miles, about eleven times that of earth.

Through a telescope Jupiter shows a disc with dark bands, parallel to the equator, between lighter salmon-colored strips. What we see are the tops of clouds. From these the atmosphere extends down an unknown dis-

tance, perhaps several thousand miles, to what may be an ocean of liquid hydrogen. At the center is a solid core. The outer part of the core is also hydrogen given a metallic form by the enormous pressure of the overlying material.

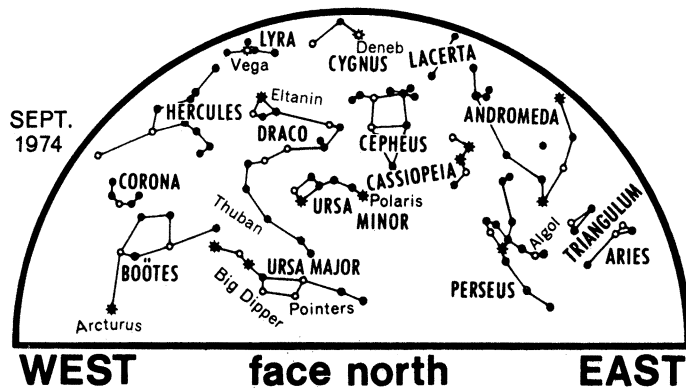
The presence of hydrogen, methane and ammonia, and probably also droplets of water, gives Jupiter the same sort of primordial "soup" as that from which life may have started on earth. It has been suggested, in fact, that there may be some sort of primitive life floating in Jupiter's atmosphere. This might resemble the plankton of earth, microscopic plants and animals

that float in vast multitudes in both salt and fresh water. The carbon-based compounds of Jupiter might provide their food.

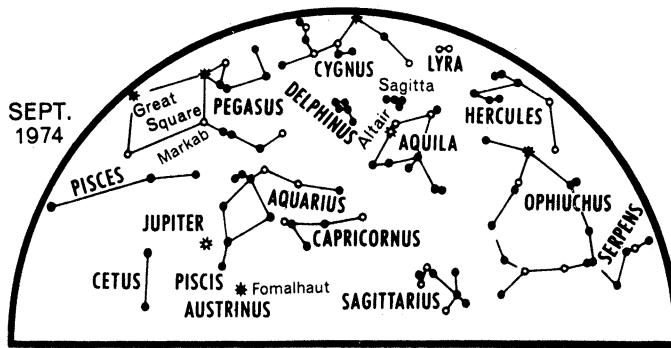
Brightest star of September evenings is Vega, in the constellation Lyra, high in the west. Vega is about a ninth as bright as Jupiter.

These stars, and others easily visible with the naked eye, are shown on the accompanying maps as they look about 11 p.m., local time, early in September and about 9 p.m., at the month's end.

On Sept. 23, at 5:59 a.m., EDT, autumn begins in the northern hemisphere. □



WEST face north EAST



EAST face south WEST

☀ ☀ ☉ ● Symbols for stars in order of brightness

New Products

The Helios planetarium demonstrates the relative motions of the planets around the sun with individual moving planets and a transparent star dome showing lines of ascension and declination, the ecliptic and the celestial equator. Powered by a six-volt power supply or batteries, the base of the unit may also be used to mount an earth globe and moon to illustrate seasons, eclipses and other phenomena.

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Boller & Chivens Division
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Astronomy Magazine
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Photomultiplier tubes capable of measuring irradiance levels as low as 1×10^{-14} watts/cm² or 1×10^{-7} foot-candles include a new version, Type PM270E, that provides flat spectral sensitivity from 400 nm to 850 nm, available with either point or full-scan calibration. A portable power supply is also available that can operate on 110-117 volts AC at 60 Hz, 220 volts AC at 50 Hz or built-in, rechargeable nickel-cadmium batteries.

International Light, Inc.
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Kohoutek's route is shown along with numerous other sky features on a 28.5-by-17-inch celestial map, printed in white on deep blue. The map includes 5,179 stars, 88 constellations, Yale Catalogue numbers, Greek letters and 250 star names, together with the magnitude of all stars visible to the naked eye.

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