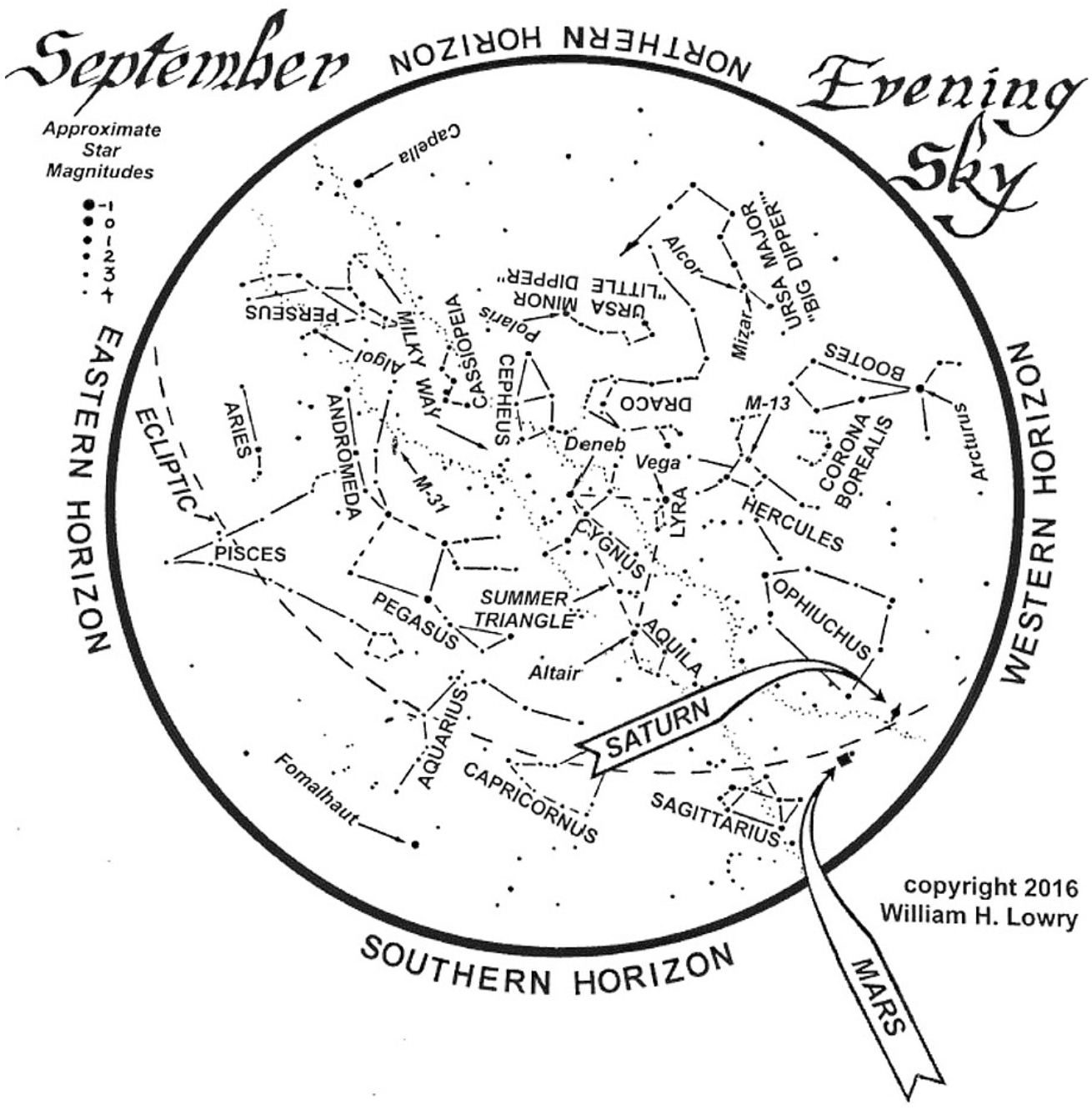
What planets can you see in the sky this month?



The purpose of the giant stone megaliths that prehistoric man dotted over the world's countryside has long produced intense speculation. The most favored explanation is that they represent Stone Age computers used by ancient agrarian societies to track the motions of the moon and sun and thus the change of seasons.

The book "Stonehenge Decoded" by Gerald Hawkins makes this argument for the most famous megalith of all, and "Celestial Geometry" by Ken Taylor covers many different megaliths both in Europe and around the world.

Researchers in Scotland have claimed they have definitive proof that a cross-shaped megalith at Callanish on the Isle of Lewis, constructed by Stone Age people over 5000 years ago had just such a purpose. They did a statistical 3-D analysis of the megalith and its environment with the sky as it would have appeared at that time.

Sun and moon movements aligned with the megalith that could also track a cyclical lunar event that occurs every 18.6 years. One of the researchers, Dr. Gail Higginbottom of the Australian National University, said, "Knowing the times of the winter and summer solstice, the changing length of day, and the coming of colder or warmer seasons was vital to ancient agrarian societies."

CLAIR WOOD
MAINE SKIES

Focus on the planets

Mercury rises in the east about a hour and a half before sunrise at mid-month. As September nears its end, Mercury is about a quarter of the way up on the horizon and provides the best morning viewing for the year. On Sept. 28, the thin crescent moon passes just below Mercury.

Venus can be found in the west as darkness falls. On Sept. 3, Jupiter, Venus and the crescent moon forms an ascending diagonal line. Venus will grow more prominent as the month passes.

Mars rises in the south during the evening hours near the bright star Antares. On the evening of Sept. 8, Mars, Saturn and Antares form a close triangle with the passing moon directly above Saturn.

Jupiter rises low on the western horizon as darkness falls and by mid-month sets a half hour after the sun and is essentially lost to view. On Sept. 2, an extremely thin crescent moon is situated just to the left of Jupiter.

Saturn rises in the west shortly after sunset and sets around midnight. In this brief window, Saturn's rings are nearly at maximum tilt for excellent viewing as is its major moon, Titan.

Uranus rises in the southeast around midnight in Pisces where its blue-green disk is viewable by telescope.

Neptune comes into view in the southeast at dusk, its blue-gray disk is best seen around midnight in Aquarius. Help for finding both Uranus and Neptune can be found at the Sky & Telescope magazine's website.

September events

1 Sunrise, 5:57 a.m.; sunset, 7:13 p.m. New moon, 5:03 a.m.

2 The thin crescent moon is nestled near Jupiter at sunset with Venus to their upper left.

6 The moon is at apogee or farthest distance from Earth.

8 The moon passes above the trio of Antares, Mars and Saturn with the moon being directly above Saturn.

9 First quarter moon, 7:49 p.m.

16 The sun enters Virgo on the ecliptic. Full moon, 3:05 p.m. The full moon of September, being the one nearest the fall equinox, is traditionally called the Harvest Moon. It also is known as the Fruit Moon or Corn Moon.

21 Aldebaran is extremely close to the moon for the next two days at dawn.

22 The autumnal or fall equinox, 10:21 a.m. This is the point where the sun crosses the celestial equator and enters the southern hemisphere. The sun enters the sign of Libra on this first day of fall.

23 Look for Mercury low on the eastern horizon before sunrise with the bright star Regulus to the upper right. Last quarter moon, 5:56 p.m.

29 Look to the predawn eastern horizon where Mercury is situated just to the upper left of the very thin crescent moon with Regulus situated far above.

30 Sunrise, 6:31 a.m.; sunset, 6:18 p.m.

Send astronomical queries to Clair Wood at cgmewood@aol.com or care of the Bangor Daily News, Features Desk, P.O. Box 1329, Bangor, Maine 04402.

Now is the time for a rare sighting of a golden eagle

Any minute now, I'm going to receive a message from someone who wishes to report a golden eagle. I will be intrigued but skeptical.

It's possible. The golden eagle is the most widespread eagle in the world. It resides across North America, Europe and Asia. Its breeding range even reaches into North Africa. It's the official bird of countries as far apart as Mexico and Kazakhstan. It could be considered Maine's rarest breeder, since a pair nested in Maine for much of the 20th century. Wabanaki tribal lore identifies another site in Maine where golden eagles nested for centuries. However, the most recent pair gave up on the state in 1997.

BOB DUCHESNE
GOOD BIRDING

Young bald eagles often get mistaken for golden eagles. Bald eagles take five years to reach maturity, and the birds go through a series of plumage changes that confound birders. A fledgling begins life completely dark brown. It may look gilded in the golden light of a setting sun.

After the first year, young bald eagles acquire patches of white under the wings and tail that may appear similar to the more distinct patterns of a golden eagle. By their fourth year, bald eagles have taken on the basic color characteristics of an adult but still with some dark patches on the head. The eyes and beak of bald eagles even change color as the bird ages. A young bald eagle's eyes are dark and turn yellow as the bird approaches maturity. The bill becomes more yellow with age.

Golden eagles get the name from a golden tinge that adorns the head and neck. It's not easily apparent in a distant bird and sunlight can play tricks, so the appearance of a golden hue is perhaps the worst field mark for identifying these birds. Golden eagles also take four to five years to mature, but the color variation is less than occurs with bald eagles.

It's the young eagles that particularly confuse people. Young bald and golden eagles both have white underneath, often in patterns that suggest each other. Fortunately, there is less variation in the pattern of golden eagles. The white patches underneath the wing tips are more defined. The white underneath the base of the tail contrasts sharply with the black along the tips of the tail. The white disappears as the eagle reaches maturity. At that point, it's the all dark first-year bald eagle that can be confused with an all-dark adult golden eagle.

BDN FILE

A golden eagle was being rehabilitated at Avian Haven, a nonprofit wild bird rehabilitation center in Freedom.

Relative size doesn't help. Both eagles are roughly the same size, with a 6-foot wingspan. Geography affects size. Maine bald eagles are larger than Florida bald eagles. Eagles in Canada can be larger than our residents. So a migrating eagle of either species may seem a little larger than what we are used to seeing all summer.

Here are some other clues you likely will forget as soon as you put down the newspaper. I also forget such picky details. Golden eagles have smaller heads and beaks and slightly longer tails, giving the bird a more streamlined shape when soaring. Bald eagles soar with their wings straight out. Goldens soar with wings in a slight V-shaped dihedral, like turkey vultures, though not as pronounced. If viewed close up, all golden eagles have dark bills and eyes. Legs are feathered all the way to the toes. The legs of bald eagles are featherless.

Golden eagles prefer mountains and vast expanses. When they nested in Maine, it was in the state's western and northwestern mountains. They will nest in trees but favor cliff ledges. They are common in the western states but have largely disappeared from their former nesting sites across New England and New York. They may have vanished because of changes in forest management or encroaching development, though they were never numerous to begin with. In the West, they almost exclusively rely on a diet of small mammals and thus suffered little from the effects of DDT toxicity. However, our eastern golden eagles needed to supplement their diets with wading birds and waterfowl, and tests conducted before they disappeared showed dangerous levels of DDT, PCBs and mercury.

Golden eagles still nest in Quebec and Labrador. As a result, they are spotted annually in Maine during migration season, which is now underway. Keep an eye out, but remember that sightings in Maine are rare. I've seen one in the last 30 years. I've seen scores of immature bald eagles that made me take a second look. That'll happen again any moment now.

Bob Duchesne serves as vice president of Maine Audubon's Penobscot Valley Chapter. He developed the Maine Birding Trail, with information at mainebirdingtrail.com. He can be reached at duchesne@midmaine.com.

Habitat protection ordered for rare lynx

BY LAURA ZUCKERMAN
REUTERS

SALMON, Idaho — A federal judge ordered U.S. wildlife managers on Wednesday to enlarge habitat protections in Idaho, Montana and Colorado for the Canada lynx, a rare wild cat that roams the Rockies and mountain forests of several other states.

Chief U.S. District Judge Dana Christensen in Missoula, Montana, ruled that the U.S. Fish and Wildlife Service erred in 2014 when it revised its critical habitat designations for the lynx with little or no expansion beyond the original plan issued five years earlier.

The Canada lynx, whose large paws make it well adapted to hunting in deep, mountain snows, was listed in 2000 as threatened under the U.S. Endangered Species Act.

The lynx is not considered imperiled in Alaska or Canada, where it ranges widely in forest areas, but its population in the Lower 48 states is believed to be small, though actual numbers are unknown, according to government scientists.

But federal wildlife managers put off a plan to protect areas deemed critical to the survival and recovery of the elusive feline, which is slightly larger than a bobcat and about twice as big as a domestic house cat.

The Fish and Wildlife Service in 2009 set aside about 39,000 square miles where logging, mining, snowmobiling and other activities that could disturb the lynx would be restricted or banned in parts of six states.

Conservationists quickly sued, arguing the plan offered insufficient protections in Idaho, Montana and Colorado.

A federal judge in 2010 sided with conservationists and ordered the agency to reassess and potentially expand critical habitat acreage in those states.

In 2014, the Fish and Wildlife Service identified 38,954 square miles in Idaho, Montana, Wyoming, Washington state, Maine and Minnesota as critical habitat for the lynx, a decision that triggered yet another lawsuit by conservationists seeking greater protections.

In his ruling on Wednesday, Christensen ordered the agency once again to designate critical habitat for the lynx with an eye toward adding parts of certain national forests in Idaho and Montana and to include areas of Colorado inhabited by the lynx and its favored prey, the snowshoe hare.

However, the judge denied conservationists' demands for additional critical habitat in Oregon and Washington state.

Michael Garrity, head of the Alliance for the Wild Rockies, hailed the ruling but accused the Fish and Wildlife Service of dragging its feet on lynx protections for years, spending time and money instead on legal wrangling.

"Lynx populations continue to decline while the agency responsible for ensuring their survival lets the places lynx live and reproduce be destroyed," he said.

REUTERS FILE

The Canada lynx was listed in 2000 as threatened under the U.S. Endangered Species Act

An agency representative could not immediately be reached for comment.