RSS of Astronomy News Blog Remove from the mailing-list **September 2011**

EDITORIAL

The first news of this issue is to remember you that you still have time to participate on *Catch a Star* because the deadline is October 30th. The EAAE is also proud to announce a new contest called "Find a Sundial".

On this month's issue you can find links to astronomy news the that were published on our EAAE News site in the "It happened last month" section.

On the "Astronomical Observations" section we bring you the Aquila constellation to explore in the "First Astronomical Observations" and M11 - Wild Duck Cluster in Aquila in the "Advanced Astronomical Observations" section.

On the " Software and Internet Astronomy" section we will present you "Eyes on the Solar System" an online tool created NASA to explore the Solar System.

We also bring you an announcement of the International Astronomical Union that is searching for volunteers to promote astronomy world wide.

This month for the "Picture Gallery" we have selected a beautiful astronomical picture of June 2nd's Solar Eclipse that was send to us by long term EAAE member Sakari Ekko.

We wish you all clear skies during the next month.

The EAAE Webteam

EAAE's Activity News

Catch a Star submissions finish on October 30th

REMEMBER! Submission of Catch a Star's works finishes on October 30th, 2011.

The idea of the program is to encourage students to work together, to learn about astronomy and discover things for themselves by researching information. The goal of the European Astronomy Contest "Catch a Star" is to stimulate the creativity and independent work of students, to strengthen and expand their astronomical knowledge and skills, and to help spread the use of information technologies in the educational process.

All students who have studied in European countries during the current year and have a strong interest in astronomy and information technology can send works.

The students will write a report about an astronomical object, phenomenon, observation, scientific problem, or theory, etc. The students may also wish to include practical activities such as their own observations. They will create the project's report as PDF document and upload it online on the website's application form.

The student teams who prepare the best projects will receive exciting prizes like the special grand prize is one observational session on the 2-meter Faulkes telescopes or free remote 3x60 minutes observational sessions National Astronomical Observatory "Rozhen" in Bulgaria using the 2-meter RCC telescope; the 50/70 cm Schmidt telescope and the Cassegrain telescope "Zeiss-600".

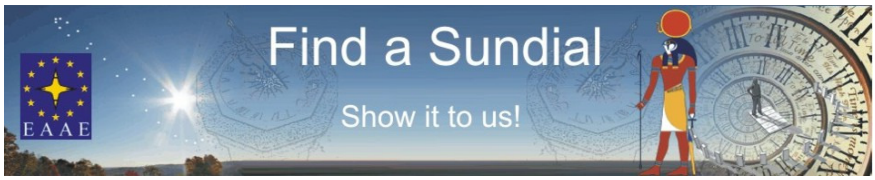
There will also be astronomical books and 10 astronomical DVD for honor mentions.

Links:
Catch a Star project

EAAE launches *"Find a Sundial"*

The sundials competition

Find a Sundial **is a simple competition for all students in Europe.**



In many European towns and cities, walking the streets, we find sundials of various shapes and sizes. Some are old and they were built to be used as a way of measuring time. In many cases the only one available. Other more moderns are built in prominent places as pure ornament and also, we can find sundials in private houses and gardens.
Sometimes we come to small towns lost in the landscape and in the tower of the church or in any manor we find a sundial discolored and damaged by the passage of time. A broken clock but accurate enough.
In our opinion, these sundials that can be found throughout Europe and that some were built in the Middle Ages are part of the European Cultural Heritage.

Church of St. Felix in Revilla, Huesca (Spain). Image credits: Eder Viñuales.

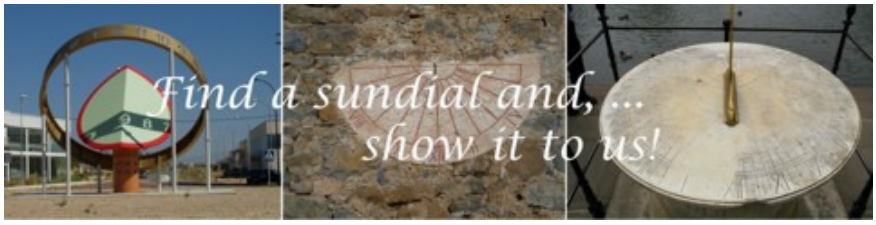
As it is well know, one of the aims of the EAAE is the knowledge and diffusion of the common culture of a branch of science, Astronomy, which by its interdisciplinary approach allows us to manage other cultural areas where we find again common European contents as in History, Art, Philosophy and Science in general.

Therefore, this competition aims to "rescue" these sundials spread throughout Europe to be known by the public.

Vertical Sundial at St. Felix in Revilla. Image credits: Eder Viñuales.

So to participate in the competition is only necessary to find a sundial, photograph and study it in the way that it is outlined in our webpage.

The competition is open to any student who wants to participate both individually and in groups of no more than three or four students from school.



Important information

- The registration for participation in "*Find a sundial and, ... show it to us"* competition may take place from September 1st of 2011 to March 30th, 2012.

- The deadline to send the work done to participate is the March 30th, 2012.

- The work shall be mailed to both the Webmaster and project chairperson within the period specified.
Webmaster: Antonio Pérez Verde.
Email: aperezverde@gmail.com
Chairperson: Ederlinda Viñuales Gavín.
Email: ederlinda.vinuales@gmail.com

- The competition winners will be announced the second fortnight of April of 2012 by email to the winners and on our website.

It happened last month

Last Month's highlights from EAAE News

- Hubble Movies Provide Unprecedented View of Supersonic Jets from Young Stars
- The Star That Should Not Exist
- Comet Garradd C2009 P1 passing M71
- New supernova found in M101
- NASA Moon mission in final preparations for September launch
- The American Association for the Advancement of Science, publishers of Science Magazine, Honours Deirdre Kelleghan for her 'Deadly Moons' Drawing Workshop with the Prestigious SPORE Award.
- Sunspot Breakthrough
- Proba-2 fuel tank refilled from 'solid gas'
- Swift satellite spots Black Hole devouring a Star
- WISE mission discovers coolest class of stars
- VLT Looks into The Eyes of the Virgin
- A Spiral in Leo
- Spacecraft Sees Solar Storm Engulf Earth
- Black holes and pulsars could reveal extra dimensions
- Giant Space Blob Glows from Within
- NASA Plans to Visit a Near-Earth Asteroid
- Mars Rover Opportunity arrives at Endeavour Crater
- Perseids are coming
- Earth from Space: Madagascar jellyfish
- Mars' northern polar regions in transition
- Coming up: Comet Garradd
- NASA's spacecraft data suggests water flowing on Mars
- Juno spacecraft launches to Jupiter
- Sun's activity is growing
- VISTA Finds 96 Star Clusters Hidden Behind Dust
- MESSENGER Marks Seventh Anniversary of Launch
- The Sky by Eye from Durrus Co Cork Ireland plus What's Up for August 2011 - Windy Worlds plus Juno to Jupiter
- Herschel Telescope detects oxygen molecules in Space
- Dawn's smooth orbital insertion at Vesta
- Segue 1 - The heart of darkness

ASTRONOMY CALENDAR

SEPTEMBER'S CALENDAR

Mount Wilson's Telescope.

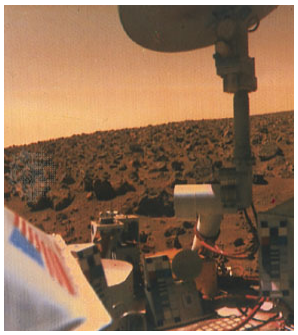
September 1st: Day 244 of the Gregorian calendar.
History: In 1804, Juno, one of the largest main belt asteroids, was discovered by German astronomer Karl Ludwig Harding.
In 1859, solar physicist Richard Carrington observed the first solar prominence. An intense aurora occurred the next day.
In 1979, Pioneer 11 flyby of Saturn (closest approach, 20.900 km). Pioneer 11 mapped the magnetosphere and Saturn's magnetic field and found that its largest moon, Titan, was too cold to support life.
In 2000, an object with half a kilometer, known as 2000th QW7 - discovered in August 26, 2000 by the NEAT system of NASA / JPL - passed by Earth at a distance slightly greater than 12 times the distance to the Moon

Observations: Spica (a Vir) 2,2º North of the Moon

APOLLO Program insignia.

September 2nd: Day 245 of the Gregorian calendar.
History: In 1859, a super solar storm affects telegraph services across Europe, America, Japan and Australia.
In 1970, NASA announced the cancellation of the two Apollo missions to the moon, Apollo 15 (the same name was re-used in a later mission) and Apollo 19.

Observations: Maximum of Delta Cephei 18h40m U.T.


Asteroid 2004 XP14.

September 3rd: Day 246 of the Gregorian calendar.
History:
In 1976, Viking 2 landed on Utopia Planitia, on *Mars*. Utopia Planitia (Latin: "Nowhere Plain") is the largest recognized impact basin on *Mars* with an estimated diameter of 3300 km.

Observations: Mercury at maximum elongation West (18º) and in its ascendant node

September 4th: Day 247 of the Gregorian calendar.
Observations: FIRST-QUARTER MOON (17h39m U.T.). Antares (alpha-Scorpius) is 3,7º South of the Moon.

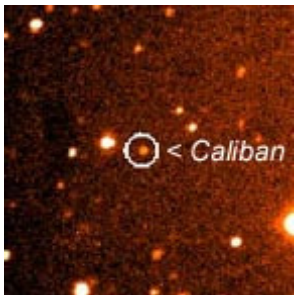
Voyager.

September 5th: Day 248 of the Gregorian calendar.
History:
In 1977 Voyager pulled the program with the launch of Voyager 1.
In 1984, the Space Shuttle Discovery made its maiden flight.

First Quarter of the Moon

September 6th: Day 249 of the Gregorian calendar.
History: In 1899, the Astronomical and Astrophysical Society of America, now the American Astronomical Society was founded.

Observations: Pluto 3º North of the Moon.



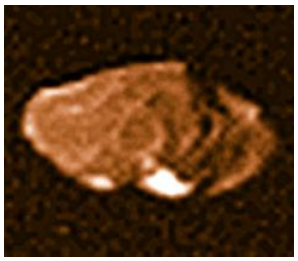
Caliban

September 7th: Day 250 of the Gregorian calendar.
History:
In 1997, the first of the Uranian irregular moons, Caliban, was discovered using the 5-meter Hale telescope on Palomar Mountain. The discovery was made by Brett J. Gladman, Philip D. Nicholson , Joseph A. Burns and JJ Kavelaars . Uranus has 16 regular moons.

Star Trek

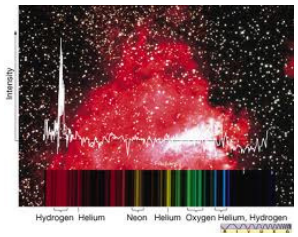
September 8th: Day 251 of the Gregorian calendar.
History: In 1966 the series Star Trek begins, inspiring people's interest in space, astronomy, technology, special effects, and alternative social systems.
In 1999, Asteroid 699 Hela made its closest approach To Earth (0.644 AU).
In 2004, STS-106 by Atlantis was launched for a mission to the International Space Station. The five astronauts and two cosmonauts began all required preparations to open ISS for business.

Observations: Mercury is in at perihelion.


Amalthea

September 9th: Day 252 of the Gregorian calendar.
History:
In 1789 William Cranch Bond was born in Portland, Maine. In 1839 Bond became the first director of the Harvard College Observatory (1839--59).
In 1892 Lick Observatory astronomer Edward Emerson Barnard discovers Jupiter's innermost satellite, Amalthea.
In 1975 the probe Viking 2 was launched. It arrived at Mars on September 3, 1976.
In 1999 Russia launches Microgravity Research Satellite aboard a Soyuz-U and successfully puts a Foton-12 spacecraft into orbit.

Observations: Look for faint Regulus (a Leo) less than 1º right of Mercury low in the east 45 to 30 minutes before sunrise, Binoculars help.



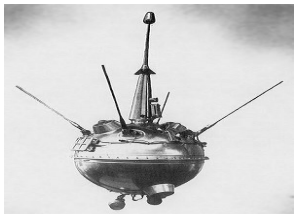
Nebula spectroscopy.

September 10th: Day 253 of the Gregorian calendar.
History: In 1857 James E. Keelers was born. This American spectroscopist and astrophysicist carried out important spectroscopic work on 120,000 nebulae. In 1895 Keeler showed that different parts of Saturn's rings rotate at different velocities, which demonstrated that the rings are not solid bodies but instead are a collection of small objects in independent orbits. Co-founder of the Astrophysical Journal. James Keeler died in 1900.
In 1858, George Mary Searle discovers the asteroid 55 Pandora.
In 1985, the probe ICE (International cometary explorer) made the first flyby of a comet, Comet Giacobini-Zinner.

Observations: Neptune 5,7º South of the Moon. Minimum of Beta Persei (Algol) 05h58m U.T.

Mars Global Surveyor

September 11th: Day 254 of the Gregorian calendar.
History:
In 1877 the English astronomical theoretician Sir James Jeans was born. In the first decade of this century Jeans worked out the fundamentals of gravitational collapse processes, which are of relevance to the formation of solar systems, stars, and galaxies.
In 1985 the International Cometary Explorer (ICE) makes the first ever comet tail transverse, a flyby of comet 21/P Giacobini-Zinner. The science mission goal was to study the interaction between the solar wind and a cometary atmosphere.
In 1997, Mars Global Surveyor spacecraft arrives at Mars.
In 2001 International terrorists used passenger jets as weapons of mass destruction and hit the Twin Towers of the World Trade Center, in Manhattan and the Pentagon. Crew aboard the International Space Station sent the view from space.(See pictures from space)


Luna 2 .

September 12th: Day 255 of the Gregorian calendar.
History:
In 1959 the Soviet probe Luna 2 becomes the first man made object to reach the moon.
In 1962 President Kennedy gives his famous speech at Rice University in which he declares "We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not only because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too. "
In 1970 the Russian probe Luna 16 was launched. The mission was noted for the first lunar samples recovered by an unmanned spacecraft and returned to the Earth.

Observations: FULL MOON (09h27m U.T.). Asteroid Juno 3,6º North of Saturn.

September 13th: Day 256 of the Gregorian calendar.
History: In 1994, the Ulysses spacecraft passes by the south pole of the Sun.

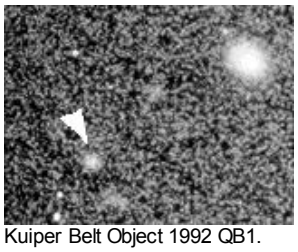
Observations: Uranus 6,1º South of the Moon. Minimum of Beta Persei (Algol) 02h47m U.T.

John Dobson in 2002.

September 14th: Day 257 of the Gregorian calendar.
History: In 1915, John Dobson, the founder of "Sidewalk Astronomers" was born. He taught many people to build modest telescopes and use them. He used to say: "We have a responsibility to show others our how universe is from a telescope - and explain what they are seeing."
In 1959, the Soviet probe Luna 2 crashes with the Moon, becoming the first man made object to reach it.

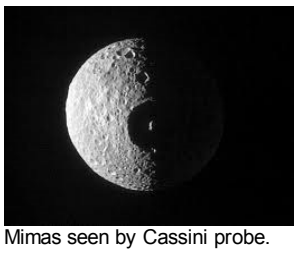
September 15th: Day 258 of the Gregorian calendar.
History: In 1968, launch of the Soviet Zond 5 that became the first spacecraft to take a ride to the Moon and re-enter Earth's atmosphere.

Observations: The Moon is at apogeum. Minimum of Beta Persei (Algol) 23h35m U.T.

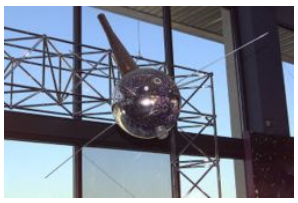

Kuiper Belt Object 1992 QB1.

September 16th: Day 259 of the Gregorian calendar.
History:
In 1992 D. Jewitt, of the University of Hawaii, and J. Luu, of the University of California at Berkeley, reported the discovery of the first object orbiting the Sun beyond the planet Pluto, in the Kuiper Belt.

Observations: Jupiter is 4,7º South of the Moon. Ceres, the largest asteroid, is at opposition. You could find easily it with binoculars (7,7 magnitude).

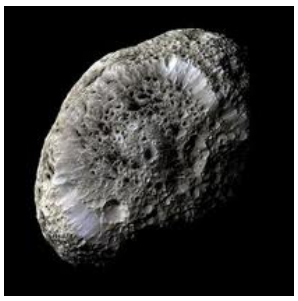

Mimas seen by Cassini probe.

September 17th: Day 260 of the Gregorian calendar.
History:
In 1789, William Herschel discovers Saturn's moon Mimas.
In 1976, the first Space Shuttle dubbed Enterprise was presented by NASA to general public.


Vanguard 3.

September 18th: Day 261 of the Gregorian calendar.
History:
In 1959, Vanguard 3 was launched into Earth's orbit.
In 1977, Voyager 1 takes the first picture of Earth and Moon together.
In 1980 Soyuz 38 carries 2 cosmonauts (1 Cuban) to Salyut 6 space station.
In 1999, mission Deep Space 1 ended its primary mission.
In 2000, the report of the UK Task Force on Near Earth Objects was released. The report covered made 14 recommendations which included improvement in the ability to detect incoming objects, an assessment of risks, measures to mitigate any future impacts, and new national and international arrangements to cope with the many issues that are raised.

Observations: Mercury is at its maximum latitude North. Minimum of Beta Persei (Algol) 20h24m U.T.


Hyperion.

September 19th: Day 262 of the Gregorian calendar.
History:
In 1848, Saturn's moon, Hyperion, was discovered by William Cranch Bond.
In 1988, Israel launched its first satellite.

Observations: Aldebaran (alpha Taurii) 6,2º South of the Moon

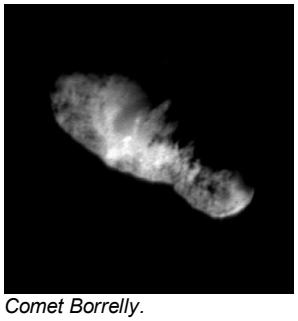
Galieo's judgement.

September 20th: Day 263 of the Gregorian calendar.
History: In 1633, Galileo Galilei was judged by the Congregation for the Doctrine of the Faith for teaching that the Earth orbits the Sun.
In 1999, the Space Telescope Chandra X-ray, launched on July 23, 1999, reveals features not yet seen in the remains of three supernova explosions.

Observations: LAST-QUARTER MOON (13:39 U.T.).

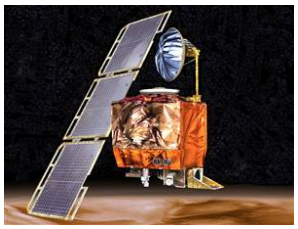
Galileo falls to Jupiter.

September 21st: Day 264 of the Gregorian calendar.
History:
In 1974, Mariner 10 made its second flyby of Mercury.
In 2003 the Galileo mission ends when the probe is crashed by the atmosphere of Jupiter.


Comet Borrelly.

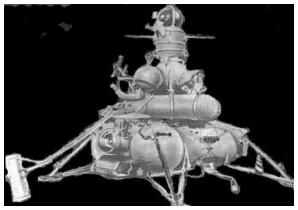
September 22nd: Day 265 of the Gregorian calendar.
History: In 2001, a risky move of the NASA probe Deep Space 1 successfully navigates the Comet Borrelly, giving scientists a better look inside the dense core and icy dust and gas.

Observations: Pollux (beta Geminorum) 9,9º North of the Moon.


Mars Climate Orbiter.

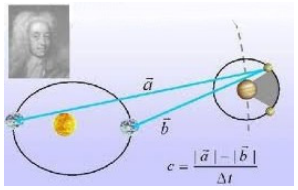
September 23rd: Day 266 of the Gregorian calendar.
History:
In 1846, Neptune was discovered by French astronomer Urbain Jean Joseph Le Verrier and the English astronomer John Couch Adams. The discovery is verified by German astronomer Johann Galle.
In 1999, NASA announced it had lost contact with the Mars Climate Orbiter.

Observations: Mars is upper left 4,8º North of the thick waning crescent Moon. AUTUMN begins in the Northern Hemisphere at the equinox, 09h05 U.T.


Luna 16.

September 24th: Day 267 of the Gregorian calendar.
History: In 1970, the first unmanned probe, Luna 16, returns from the Moon with more than one kilogram of lunar material.
In 1999 NASA lost Mars Climate Orbiter. Mars Orbit Insertion (MOI) was to occur at an altitude of 140 km but hours before the MOI bipropellant engine burn the JPL team worried about a navigation error that was bringing the orbiter to a 57 km altitude, 83 km beneath the intended orbit. Later analysis found that a navigation error occurred when a translation from British units to Metric units was incorrect.

Observations: Maximum of Delta Cephei 05h50m U.T.

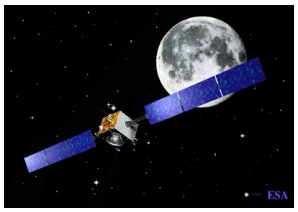


Romer's Experiment.

September 25th: Day 268 of the Gregorian calendar.
History:
In 1644, Ole Romer was born. Romer was a Danish astronomer that proved that the speed of light was finite in contrast to what was thought at the time. He used the difference of time between the disappearance of Jupiter's moons and their appearance after an eclipse by Jupiter to estimate the light speed.
In 2008, China launched Shenzhou 7.

Observations: Regulus (alpha Leo) 5,7º North of the Moon. From today until October 10th the zodiacal light is visible in the east 120 to 80 minutes before sunrise from dark locations at mid-northern latitudes.

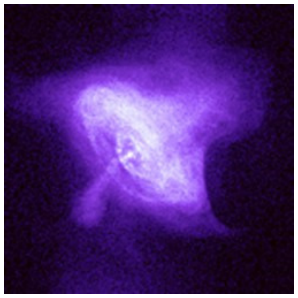
September 26th: Day 269 of the Gregorian calendar.
Observations: Uranus is at opposition tonight, rising around sunset, highest around midnight, and setting around sunrise.



Smart 1.

September 27th: Day 270 of the Gregorian calendar.
History: In 2003 ESA's spacecraft Smart-1was launched , the first attempt to launch a low-cost spacecraft.
In 2008, the Chinese Space Agency(CNSA) astronaut Zhai Zhigang becomes the first Chinese to do a spacewalk on the Shenzhou 7.

Observations: NEW MOON (11h09m U.T). Mercury 6,8º North of the Moon.


Crab Nebula X-ray ring..

September 28th: Day 271 of the Gregorian calendar.
History:
In 1999, NASA's Chandra X-ray Observatory released a stunning image of the Crab Nebula, the spectacular remains of a stellar explosion, revealing something never before seen. The brilliant ring around the nebula's heart are waves of high-energy particles that appear to have been flung outward over the distance of a light year from the central star, and high-energy jets of particles blast away from the neutron star in a direction perpendicular to the spiral.
In 2008, SpaceX launched its first private spacecraft, the Falcon 1, into orbit.

Observations: A telescope will show you Saturn less than 2º above Venus extremely low in the west 15 minutes after sunset, with a very thin crescent Moon setting 9º to their left. Spica (a Vir) 2,1º North of the Moon

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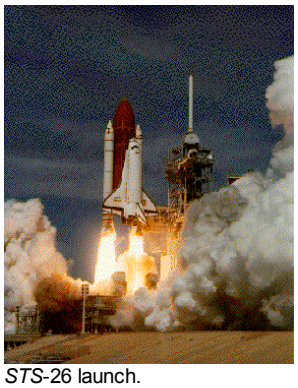

STS-26 launch.

September 29th: Day 272 of the Gregorian calendar.
History:
In 1962 was launched Alouette 1, the first Canadian satellite.
In 1988 was launched on mission STS-26 Shuttle Discovery. This mission marks the resumption of missions after the accident 1986 51-L. Mission duration: 97 hours and 11 minutes.
In 2004, the asteroid 4179 Toutatis passes the four lunar distances of Earth.
In this same year, the spacecraft SpaceShipOne Burt Rutan makes his first space flight, the two needed to win the Ansari X Prize.

Observations: Maximum of Delta Cephei 14h37m U.T.

M42-Big Orion Nebula.

September 30th: Day 273 of the Gregorian calendar.
History: In 1880, Henry Draper takes the first picture of the Orion Nebula. Research on M42 is still made from the HST images. It is a very interesting stellar nursery and due to its proximity is much used by researchers to understand stellar evolution.
In 1999, the closest approach to Earth Asteroid 1992 SK (0479 AU).

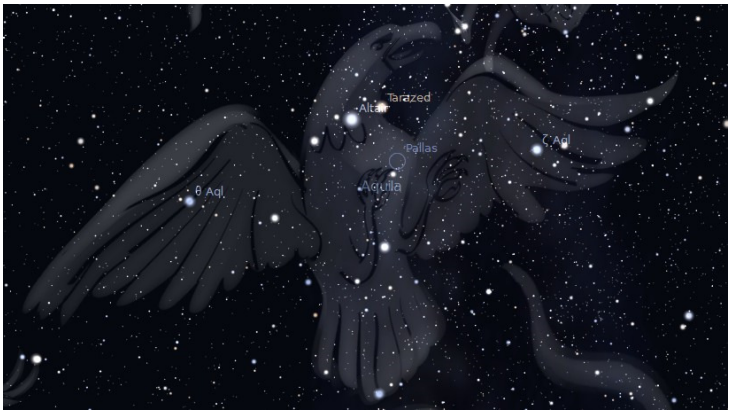
Observations: Saturn 1,4º North of the Moon.

ASTRONOMICAL OBSERVATIONS

First Astronomical Observations

The constellation of Aquila
by Jordi Delpeix

In the Greek mythology Aquila was Zeus's pet Eagle, it flies in the night sky near the tail of Cygnus the swan.



Mythological representation of the Aquila constellation.
(Click on the image to see a slightly bigger version.)

Aquila is a large and splendid constellation in the summer skies.

How can you find it?

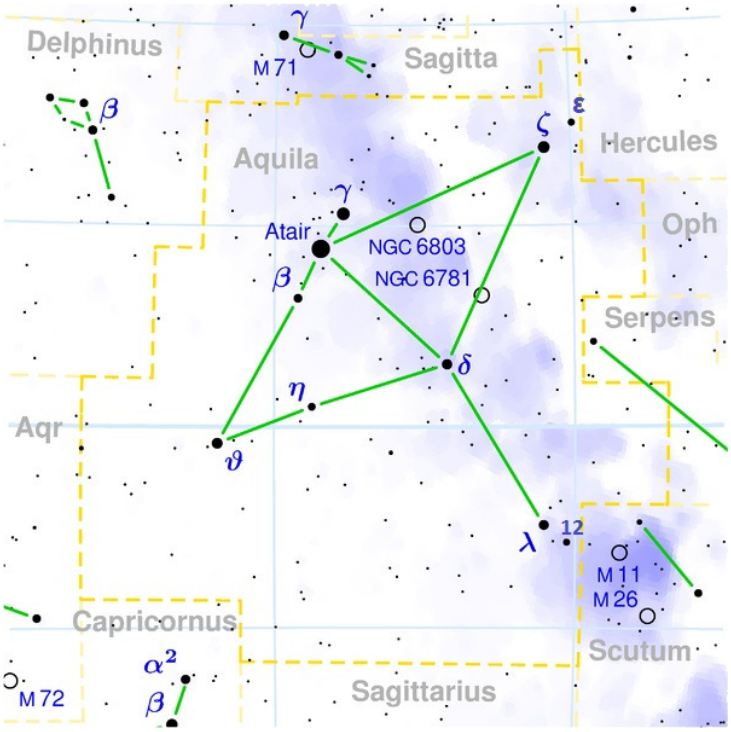
Following the line Polaris (α Ursa Minoris) – Deneb (α Cygni), you could find Altair (α Aquilae), a bright blue-white star. Altair is the brightest star of Aquila (0,8 magnitude) and together with Deneb (1,2 magnitude) in Cygnus and Vega (0,0 magnitude) α Lyrae it forms the famous asterism known as the Summer Triangle, (three of the brightest stars you could see in summer from northern hemisphere, which make up a triangular shape and are high during the summer months in the evening sky). Find Altair, the southernmost of the stars in the Summer Triangle.

Remember that the lowest the number of magnitude scale, the brightest the star is.

Altair:

Altair (Eagle in Arabic) is the 12th brightest star in the sky but the 8th you could see from European latitude. The star is a mere 17 light years away, so it is among the closest bright stars. It has a luminosity of 9 Suns and its diameter is 1.5 times that of the Sun. The most interesting feature related to this star is the fact that it rotates around its axis extremely quickly, which astronomers concluded from studying its spectrum. The rotational period is only 6.5 h! As a comparison, our Sun needs 25.4 days for one revolution! The velocity on the star's equator reaches 260 km/s, and Astronomers are convinced that the shape of Altair is closer to a flattened ellipsoid than a sphere.

The constellation:



The Aquila constellation.
(Click on the image to see a slightly bigger version.)

Aquila is a diamond-shaped constellation with a tail at the corner of the diamond opposite Altair (look at the chart below). Altair is its only bright star. Look closely at Altair; notice the faint stars on either side of it. In fact, Altair is flanked by dimmer stars on either side, one on the north-west (γ or Tarazed), and a dimmer one south-east of Altair (β or Alshain). The yellow-orange γ or Tarazed (2,7 magnitude) is the 116th brightest star in the sky. Is actually a giant with a luminosity of 1200 times that of the Sun! but it is 462 light years from us.

These stars are the head of Aquila, the Eagle. The body of the eagle is a line of stars running, from head to tail, northeast to southwest. In roughly equal steps, in a straight line, go from Tarazed (the flanking star north of Altair) down to δ (Delta) Aquilae; then to λ (Lambda) Aquilae, the tail star of Aquila. In this southern part of the constellation the Milkyway is really rich, but you could not find brilliant stars, only λ (Lambda) (3,5 mag.) and 12 (4,0 mag.). If you continue this line, you enter in the constellation of Scutum .

Slightly at south of the line from β - Altair – to γ, 12º from Altair you could find ζ (mag 3,0) and 2º further away ε (mag 4,1).

Extending the line Altair - β or Alshain three times to the south, you could find θ (3,2 mag.). From θ you can notice three stars in an almost straight line. These are θ, η (variable), and δ (3,4 magnitude). η is a Cepheid variable star and is a true giant. It changes its brightness from 3,6 mag. to 4,4 mag. as precisely as a ‘‘Swiss timepiece’’ with a period of 7,176641 days. When it is at its brightest its luminosity surpasses our Sun by 3,000 times and it is 1,200 light years from us. Proper stars to compare the brightness of η (Eta) are β (3,7 magnitude) and δ (Delta).

The constellation lies in the summer Milky Way, thus the entire area is rich in star fields. You could see about 70 stars to the naked eye in Aquila from a dark location. Beside countless stars and groups of stars we can also see dark nebulae, which are clouds of nontransparent gas and dust in the equatorial plane of our galaxy. Across this constellation runs the so-called Great Rift, a dark lane of nontransparent clouds that apparently divide the Milky Way in two; such dark lanes can be seen in some other spiral galaxies such as M-104 *“the Sombrero”* in Virgo.

In the constellation of Aquila had appeared two important novae, one of them in the year 389 which was as bright as Venus and the second one in 1918 it was brightener than Altair.

If you could take a space ship, visit one of the planets of Altair system and take look to its night sky, you could not appreciate a big difference in the constellations configuration. Only Alfa Centauri would be moved to the constellation of Hydra, Sirius would shine dimmer than Rigel or Betelgeuse in Orion but almost in the same place we are used to find it, making a couple with Beta Canis Majoris. The major surprise would be (of course) not to see Altair with the rest of the Aquila stars which would keep the same distribution. But it would be difficult to find in the constellation of Monoceros a faint star, yellowish with 3,7 magnitude which not appears in the sky maps. ¿A Novae? ¡Our Sun!

ASTRONOMICAL OBSERVATIONS

Advanced Astronomical Observations

M-11 (NGC-6507) An Open Cluster Close to Aquila
by Jordi Delpeix

For this month we have selected an easy view: M-11 in the small constellation of Scutum.

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M11, an open cluster in Scutum (very close to Aquila).

What you will observe

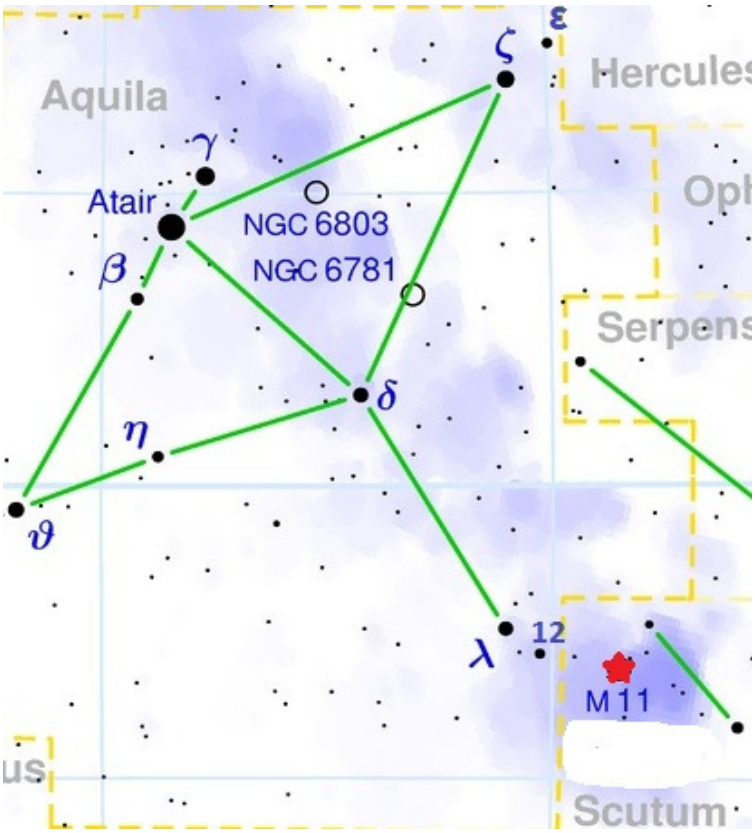
M-11 or NGC 6507 is an Open Cluster, it is approximately 6,000 light years away from us, so its actual diameter is 45 light years actually, a nearly circular group of more than 1,000 stars. Most of the brighter stars are hot young blue and white stars, spectral class A and F, but over a dozen stars have evolved into the Red Giant stage. Because the O and B stars have had time to evolve into these giants while the A stars have not yet reached that stage one can estimate than the whole cluster is probably about 250 million years old. By astronomical standards M11 is a young cluster.

It is one of the densest open clusters known to us. With so many stars in such a small area, in its central region, which measures 15 light years in diameter, the density of stars reaches as much as 8 stars per cubic light year, which means that the average distance between two neighboring stars is less than 1 light year. The density of stars in this open cluster is not much lower than in an average globular cluster. Try to envision the following: standing on a hypothetical planet in the central part of the cluster one could gaze in the sky and see a few hundred magnitude 1 stars, and at least 40 would be between 3 to 50 time brighter than our Sirius! What a sight that would be!

Note the fifth magnitude star just east of η (Eta), δ Delta Scuti. It is 190 light years away and unimpressive now; but in 1.25 million years it'll only be 9 light years from Earth, and shine as bright as Sirius in our skies!

How can you find it?

Astronomers say it's coordinates are: R.A. 18h 51' Dec. -6º 16'

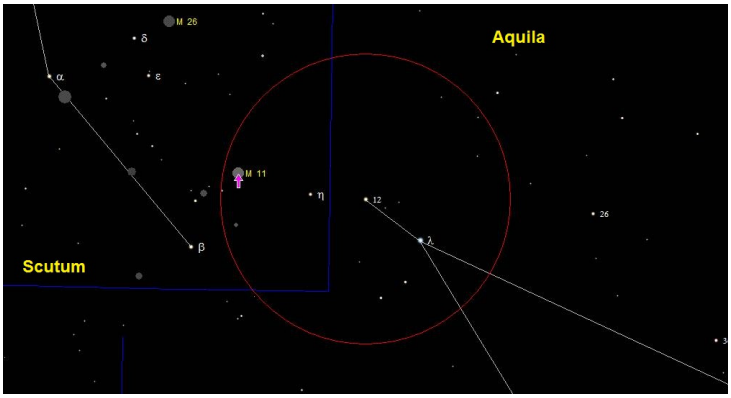


Position of M11 on a Sky Map.
(Click on the image to see a slightly bigger version.)

M-11 is in the small constellation Scutum, is easy to locate it by following the curving row of stars that make up the tail of Aquila, the Eagle.

M11 is easily found by identifying first Altair, the brightest star in Aquila and the southernmost of the stars in the Summer Triangle (see the First Astronomical Observation).

After that following the line of stars running from head to tail, northeast to southwest. In roughly equal steps, in a straight line, go from Tarazed (the flanking star north of Altair) down to δ (Delta) Aquilae, then to λ (Lambda) Aquilae, the tail star of Aquila. You'll see two fainter stars to the south and west of Lambda: 12 Aquilae and η (Eta) Scuti, all three should fit into your finderscope field. M 11 is in the same field of view as η (Eta) Scuti, so it is not hard to find.

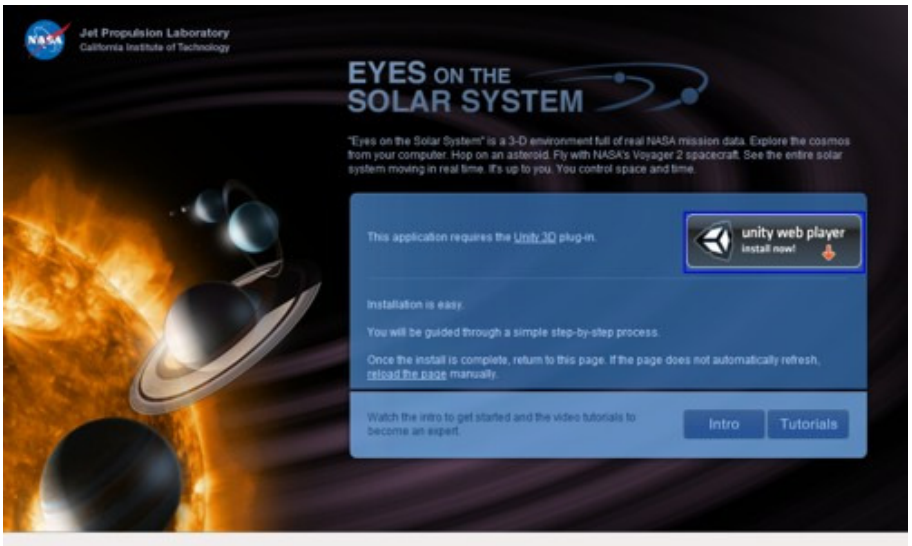


How M11 relative size should appear in your telescope's finderscope when you find it. (Click on the image to see a bigger version.)

SOFTWARE AND ONLINE ASTRONOMY

NASA creates new public Internet tool to explore the Solar System

"Eyes on the Solar System" is an internet tool created by NASA that is giving the public the power to journey through the solar system using a new interactive Web-based tool.



Screenshot of Eyes on the Solar System.

The "Eyes on the Solar System" interface combines video game technology and NASA data to create an environment for users to ride along with agency spacecraft and explore the cosmos. Screen graphics and information such as planet locations and spacecraft maneuvers use actual space mission data.

"This is the first time the public has been able to see the entire solar system and our missions moving together in real-time," said Jim Green, director of NASA's Planetary Science Division at the agency's Headquarters in Washington. "It demonstrates NASA's continued commitment to share our science with everyone."

The virtual environment uses the Unity game engine to display models of planets, moons, asteroids, comets and spacecraft as they move through our solar system. With keyboard and mouse controls, users cruise through space to explore anything that catches their interest.

A free browser plug-in, available at the site, is required to run the Web application. Users may experienced missions in real-time, and "Eyes on the Solar System" also allows them to travel through time. The tool is populated with NASA data dating back to 1950 and projected to 2050.

The playback rate can be sped up or slowed down. When NASA's Juno spacecraft launched on August 5, 2011, users could look ahead to see the mission's five-year journey to Jupiter in a matter of seconds.

Point of view can be switched from faraway to close-up to right "on board" spacecraft. Location, motion and appearance are based on predicted and reconstructed mission data. Dozens of controls on a series of pop-up menus allow users to fully customize what they see, and video and audio tutorials explain how to use the tool's many options. Users may choose from 2-D or 3-D modes, with the latter simply requiring a pair of red-cyan glasses to see.

"By basing our visualization primarily on mission data, this tool will help both NASA and the public better understand complex space science missions," said Kevin Hussey, manager of Visualization Technology Applications and Development at JPL, whose team developed "Eyes on the Solar System."

"Eyes on the Solar System" is in beta release. It has been demonstrated at science conferences, in classrooms and at the 2011 South by Southwest Interactive Conference in Austin, Texas.

Designers are updating "Eyes on the Solar System" to include NASA science missions launching during the coming months, including GRAIL to the moon and the Mars Science Laboratory Curiosity rover.

Link:
http://solarsystem.nasa.gov/eyes

Astronomy Education's Institutions' News

IAU Global OAD Call for Volunteers

Source: IAU

The OAD is compiling a list of potential volunteers willing to contribute to the IAU capacity building activities described in the IAU Strategic Plan. Astronomy for the Developing World 2010 – 2020: Building from IYA 2009.

http://iau.org/static/education/strategicplan_091001.pdf

It aims to use astronomy as a tool to stimulate development at all levels including primary, secondary and tertiary education, science research and the public understanding of science.

Present and planned activities include:

• Building Research Capacity and university education:

- Schools for university students
- Long-term visits to institutes in developing countries
- Long-term institute twinning
- Inspirational lectures to students on astronomy and related technologies.

• Astronomy for Schools:

- Teacher training courses
- Development and translation of educational material for children.

• Astronomy for General Public:

- Inspirational semi-popular lectures on astronomy or related technologies
- Activities building on IYA2009 including stargazing and engagement with amateur groups

In addition to participation in the delivery or helping with the organization of activities there are several general areas in which volunteer assistance would be valuable, e.g. translation of the OAD website into several languages.

IAU is particularly interested in contacting expatriates who are prepared to help carry out development activities in their countries of origin.

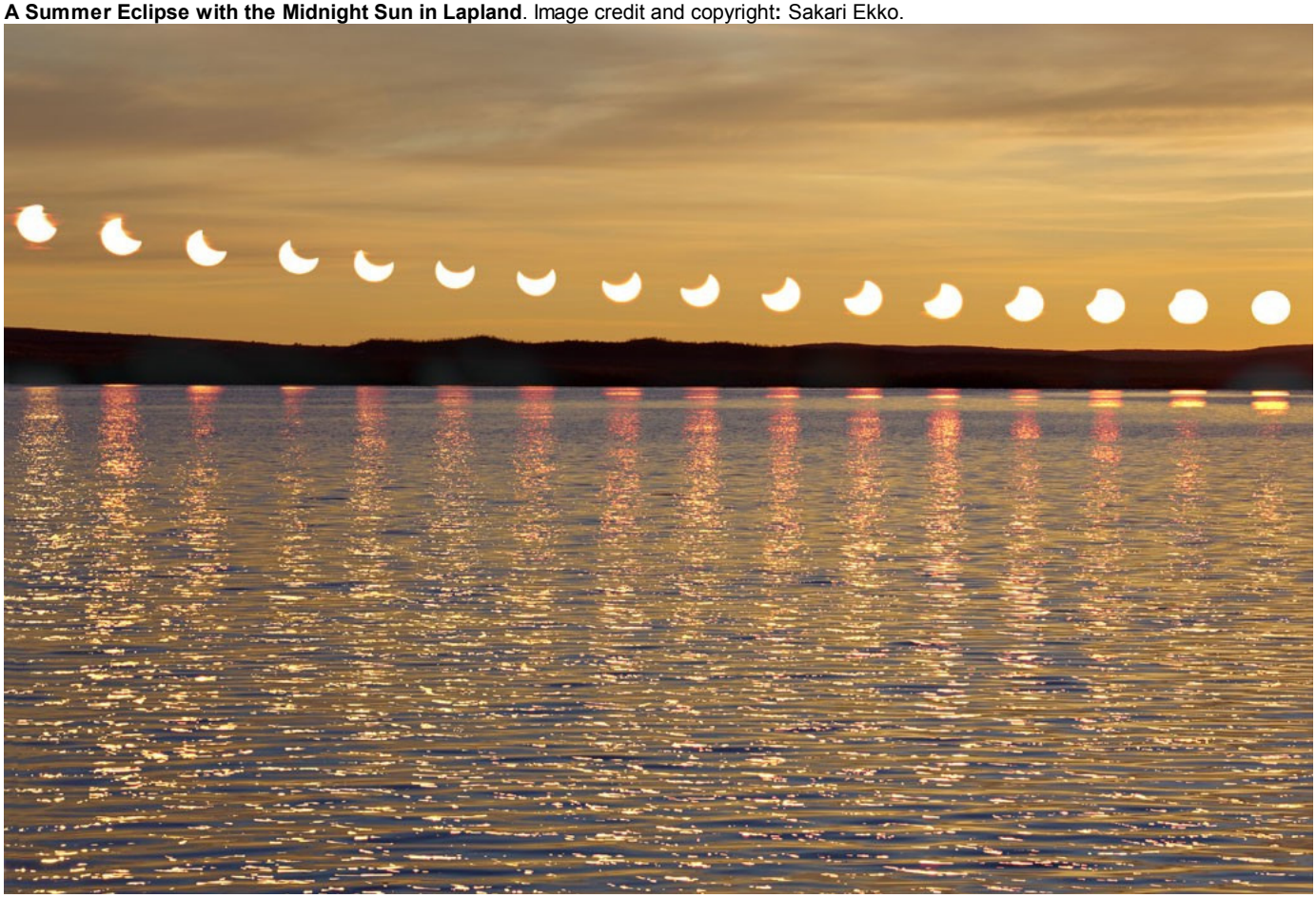
Note that the strategic plan spans a ten-year period. Assessing the number of potential volunteers, will help us gauge the scale of possible activities, develop an effective organizational structure to run them and provide information for fund raising campaigns. IAU shall gradually increase the number of volunteers and expand the programmes in line with funding possibilities.

We would therefore be grateful if you would complete the questionnaire for potential volunteers at http://www.astronomyfordevelopment.org/index.php/volunteers.

You can also reach IAU at info@astro4dev.org specifying as subject: “Call for Volunteers” or contact us personally.

PICTURE GALLERY

A Summer Eclipse with the Midnight Sun in Lapland. Image credit and copyright**:** Sakari Ekko.



(click on the image to see a bigger version)

This astonishing image was taken on June 2nd 2011 and sent to us by Sakari Ekko a long term collaborator of EAAE. He made exposures with 5 minute intervals that let you see the path of the Sun during the eclipse. The eclipse ended at local midnight and this image of a solar eclipse is only possible because Lapland is above the Arctic Polar Circle, which means that near the Summer Solstice, for some days, you can see the Sun 24 hours a day, which means you can have the Midnight Sun. At the last of the exposures (on right) we can clearly see that the Sun has stopped its approach to the horizon. It would now start to rise.

2010 - EAAE - European Association for Astronomy Education. Edited by Alexandre Costa and Jordi Delpeix. The contents of the links were active at the date of the publication of this newsletter, but some of them cannot be taken as granted to work in the future. Please don't answer to this e-mail.

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