

*Out of the dark
Astronomy as
unifying thread
for cultures*

ERASMUS+ 2017-1-ES01-KA219-038074_1



Supported by
the Erasmus+ programme
of the European Union



Centro de Especialización
Deportiva



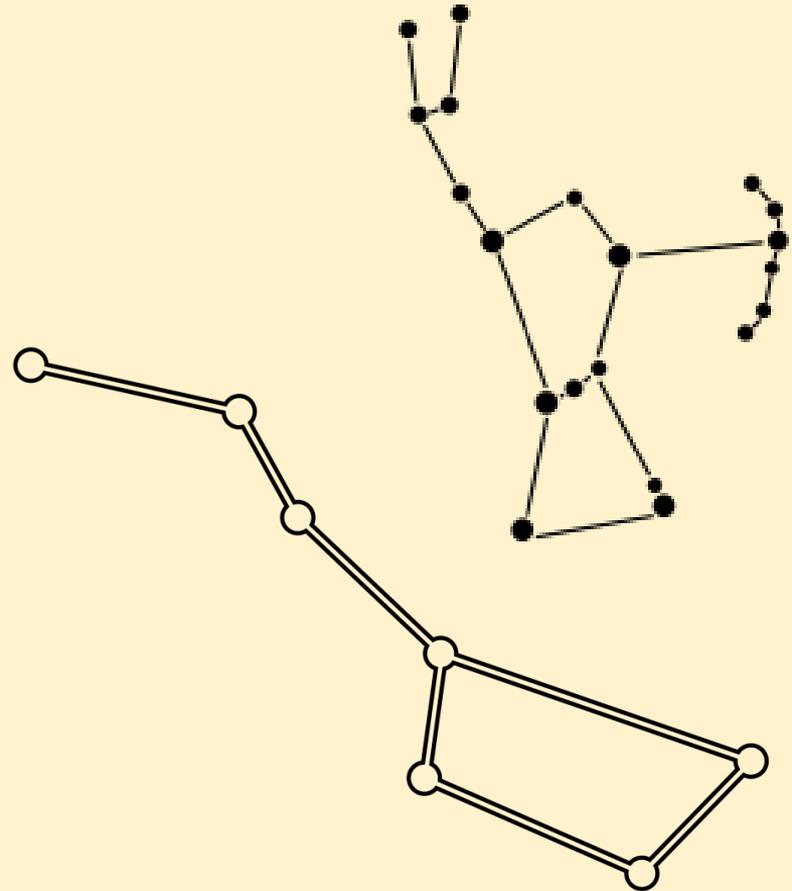
Eskilstuna
kommun

MYTHOLOGICAL ASTROLOGY



INDEX:

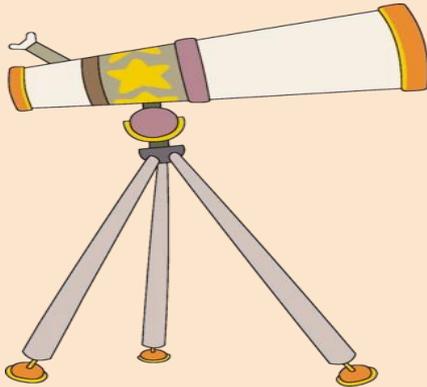
1. Definition of astronomy and astrology.
2. Experts of the astronomy in Greece.
3. Principal theories.
4. Planets: Olympian Pantheon
 - a. The " Errant stars "
 - b. Description of the planets
 - c. The planets and the calendar
5. The not zodiacal constellations.
6. The signs of the zodiac.
7. Mythological pictures
 - a. Perseo's mythological pictures
 - b. Orion mythological pictures
8. Bibliography



1. DEFINITION OF ASTRONOMY AND ASTROLOGY

Astronomy: science that studies the structure and the composition of the stars, his location and the laws of his movements.

Astrology: study of the influence that the position and the movement of the heavenly bodies have on the life and the human events.



What differences are between astronomy and astrology?

- The astronomy is a science, whereas the astrology is considered a pseudo science.
- The astronomy is based on the logic and the deduction, whereas the astrology is based on the intuition and the comparison between the stars and the human beings.
- The astronomy studies effects as the eclipses, step of meteorites, comets, etc., whereas the astrology is related to aspects like the horoscopes, astral charts, zodiac, etc.

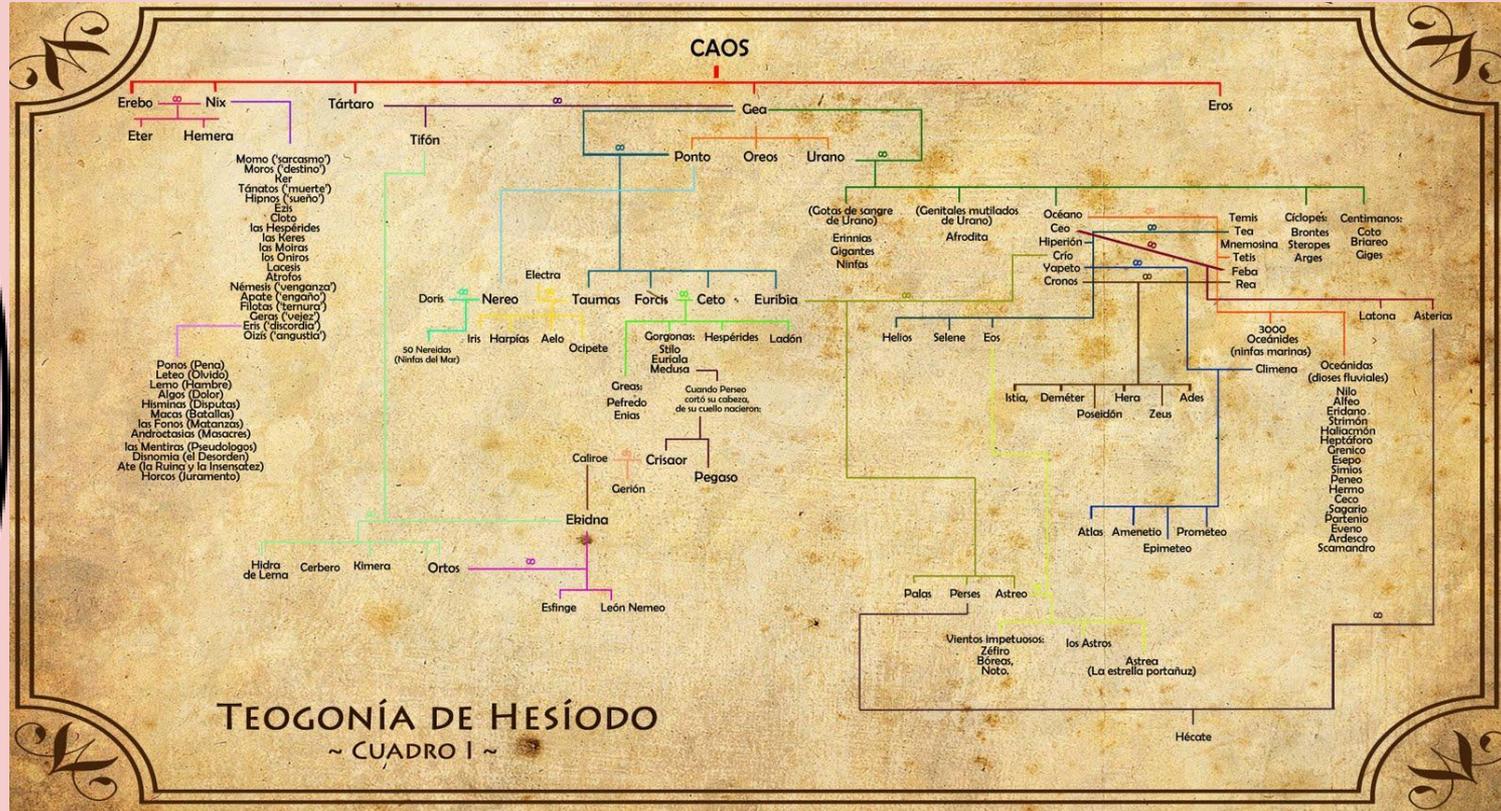
2. EXPERTS IN ASTRONOMY IN GREECE.

In the first times of the history of Greece it was believed that the land was a disc in whose center was situated the Olympus and in his wheel, the universal sea.

The aim of the astronomic observations was to serve as a guide for the farmers. That is why they were involved intensely in the design of a calendar that was useful for these activities. For example Homero, in the *Odyssey*, mentions several constellations as Orion or the Great Bear. In addition to this, they named these constellations as a guide for navigation. Another example can be also The work "*The works and the days*", by Hesiodo that informs about the constellations that disappears or appears in different moments of the year, and indicates the best moment to plough, to sow and to gather.



3. PLANETS: OLYMPIAN PANTHEON



PLANETS: THE ERRANT STARS

Our week is organised in seven days because, before the invention of the telescope, seven objects were seen to move for the celestial vault. Seven errant stars that are the planets Mercury, Venus, Mars, Jupiter, more a star that is the Sun and a satellite, the Moon. But in the former Greece, they believed that all those heavenly bodies were stars that were turning concerning the Earth according to Aristotle's commanding Geocentric Theory.

- Monday: on Monday it comes from the Latin Lunae. It is the day of the Moon.
- Tuesday: of the Latin Martis. Mars' day, the God of the war.
- Wednesday: of the Latin Mercurii. Mercury's day, God messenger.
- Thursday: of the Latin Jovis. Jupiter's day. God of Gods.
- Friday: of the Latin Veneris. Venus' day. Goddess of the beauty and love.
- Saturday: of the Latin Sabbatum, day of rest. Saturn's day, God of the time.
- Sunday: of the Latin Dominicus. Day of the Gentlem. But in the former Rome was calling to this day solis. Sun's day.

PLANETS: DESCRIPTION

➔ **Mercury:** it owes his name to the god Hermes.

It is the nearest planet to the Sun and the second smallest of the Solar System. It gives the return to the Sun in less than three months. The surface of Mercury is a similar wing of the Moon.

➔ **Venus:** Aphrodite (goddess of the beauty, of the love and the fecundity).

It is the second planet of the System Solar and most similar to The Earth for his size, mass, density and volume. The two were formed in the same epoch, from the same cloudy. Venus turns on his axis very slowly and in the opposite direction to that of the other planets. It has big plains crossed by enormous rivers of lava and some mountains.



PLANETS: DESCRIPTION

➔ **Earth:** Gea (personification of the motherland, daughter of Chaos, wife of Uranus).

It is our planet and the inhabited only one. It is in the ecosfera, a space that makes a detour to the Sun and that has the necessary conditions in order that life exists. The Earth is the major one of the rocky planets. It could retain a gas cap, the atmosphere, which disperses the light and absorbs heat. By day he prevents the Earth from warming up too much and, by night, avoid it is cooled.

➔ **Mars:** (god of the war) (reddish color).

It is the fourth planet of the Solar System. Acquaintance like the red planet for his pink tones. The Romans identified it with the blood, and they put the name of his god of the war. In the current conditions, Mars cannot have life. His soil is dry and oxidizer, and receives of the Sun too many ultraviolet beams.



PLANETS: DESCRIPTION

➔ **Jupiter:** it is the biggest planet, for what it gets the name of the sovereign god of the Olympian gods (Zeus).

It has more matter than all the other united planets and his volume is thousand times that of the Earth. Jupiter has a tenuous system of rings, invisible from the Earth. Also it has 16 satellites, four of them were discovered by Galileo in 1610. It was the first time that someone observed the sky with a telescope.

➔ **Saturn:** he is the god of the time (Stopwatches), son of Gea and Uranus.

It is the second biggest planet of the Solar System and the only one with visible rings from the Earth. One sees clearly flattened by the poles because of the rapid rotation. The yellowish color of the clouds has bands of other colors, as Jupiter. Near the equator of Saturn the wind blows of 500 Km/h.



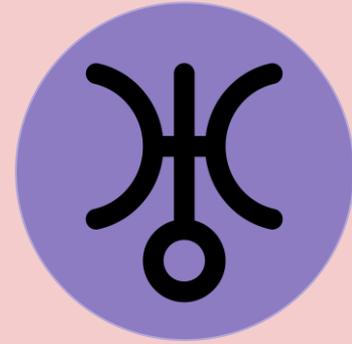
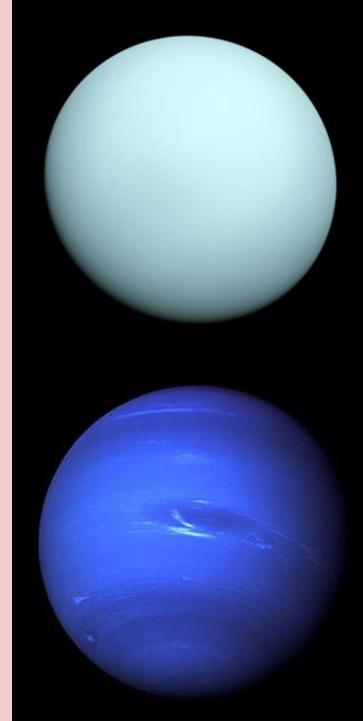
PLANETS: DESCRIPTION

➔ **Uranus:** basic god of the sky, son and husband of Gea.

It is the seventh planet from the Sun and the biggest third party of the Solar System. Uranus is also one of the first planets that was discovered thanks to the telescope. It is so far away that, from Uranus, the Sun looks like one more star. Though, much more brilliant than others.

➔ **Neptune:** god who governs all the waters and seas (Poseidon).

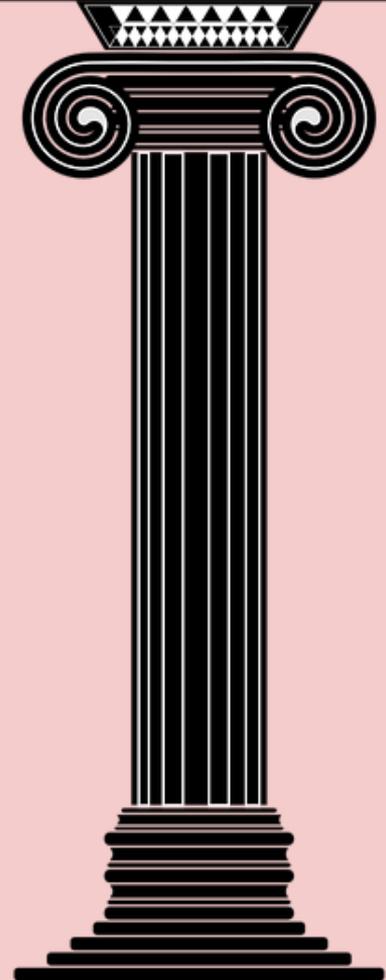
It is the most exterior planet of the gaseous giants and the first one that was discovered thanks to mathematical predictions. The interior of Neptune is rock fused with water, methane and liquid ammonia.



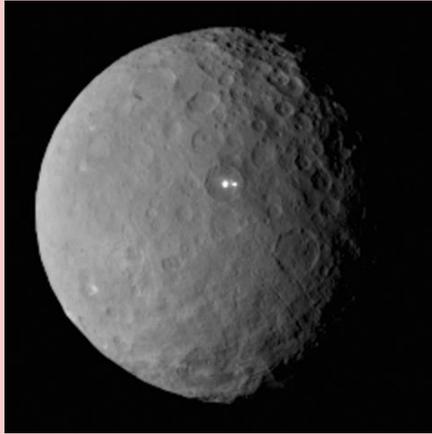


PLANETS: DESCRIPCION (dwarf planets)

Dwarf planets are a class of heavenly bodies, different from the planets and minor bodies of the solar system.



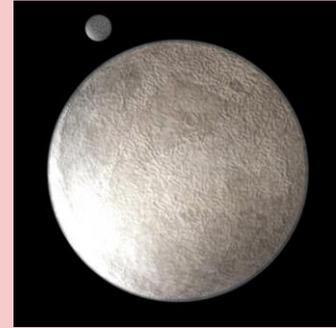
➔ Ceres:



➔ Pluto:



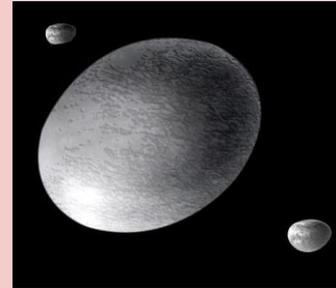
➔ Eris:



➔ Makemake:



➔ Haumea:



THE PLANETS AND THE TIMETABLE

In the Roman Empire the calendar was used from before the 7th century B.C. The year lasted 304 days distributed in 10 months, 6 months of 30 days and 4 of 31 days.

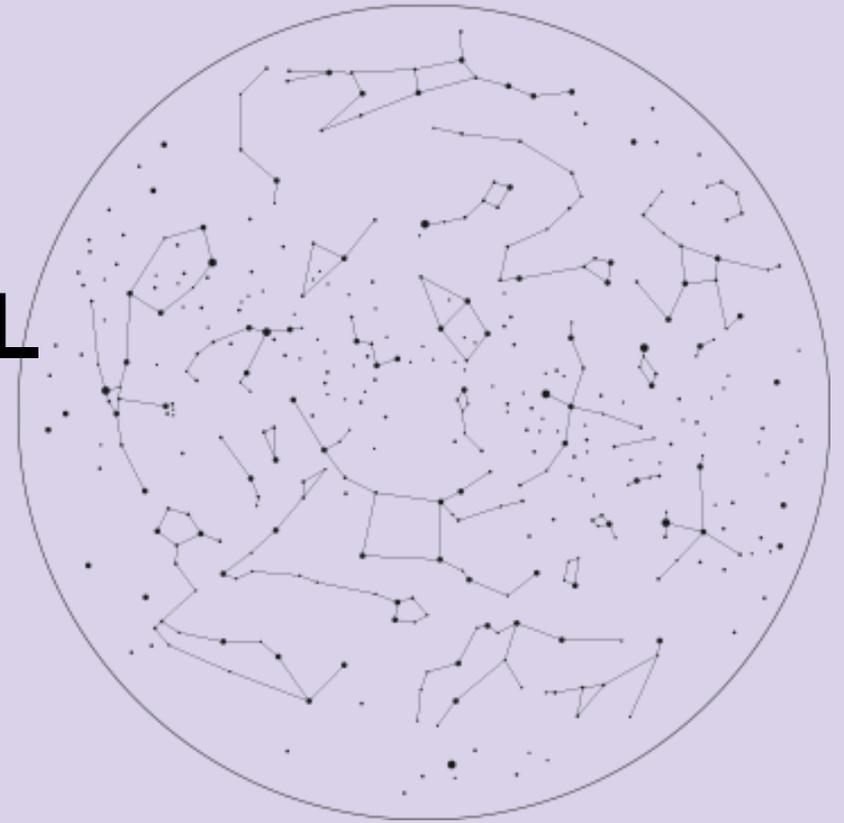
There was a problem with the seasons, because the duration of the year was very different at the time that the Earth was late giving a return around the Sun. Then, seasons were not repeating themselves in the same dates every year and it had always lack of coordination of time, for what annual adjustments had to be done.

The adjustments that the Roman authorities did were based on political conveniences, and not on the duration of the astronomic year, with the problem that the winter of the civil calendar ended up by happening in the astronomic autumn.

In the 7th century B.C. it was decided to add two more months, January and February, at the end of every year. The Roman year remained composed by twelve "lunar months". They called them this way because the duration of one month was the time between a full moon and the following one, time that they calculated of 30 days.



4. THE NOT ZODIACAL CONSTELLATIONS



THE NOT ZODIACAL CONSTELLATIONS: Milky Way

One tells that the Greek god Zeus had a son called Heracles of his union with Alcmena. Having found it out, Hera did that Alcmena took in the abdomen Heracles for 10 months, and tried itself to get rid of this, giving to two serpents the order that they killed the baby when he was eight months old. Nevertheless, Heracles could get away easily from them strangling them with his small hands. Heracles turned out to be the favorite of Zeus although the Oracle was that Heracles only would be a hero, since it was mortal. To be an immortal god he must demonstrate the worthy valor of a god.

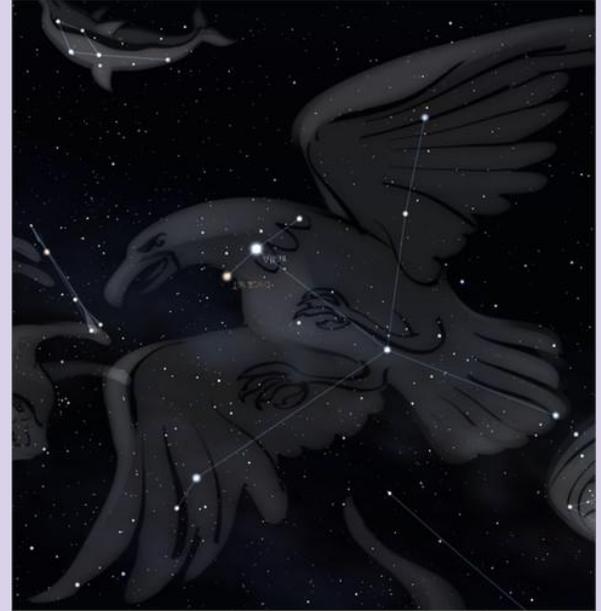
Atenea, the goddess of the wisdom, convinced Hera that Heracles was sucking of her, since he was a very pretty child, but it turns out that Heracles sucked the milk with such a violence, that hurt Hera, and made him spill the milk.

It is a galaxy spiral where one finds the solar system. Its mean diameter is approximately 100.000 light years, equivalent to almost one trillion and a half of kilometres. It is calculated that it contains between 200.000 and 400.000 million stars. The Milky Way forms a part of a set of approximately forty galaxies and it is the second biggest and brilliant after Andromeda's galaxy.



THE NOT ZODIACAL CONSTELLATIONS: The Eagle

The Eagle is a small constellation placed in the south of the Swan. His more culminating point is in July and it seems that it demolishes in direction this one for the Milky Way. Since it is placed in the equator, we can estimate her from any point, except from latitudes of the north or south end. Its most luminous star, Altair, forms one of the vertexes of the Summer triangle in the north hemisphere.



THE NOT ZODIACAL CONSTELLATIONS: Argos

In the Greek Mythology, this Ship is the one that Argus constructed by Jason, in his search of the Golden fleece.

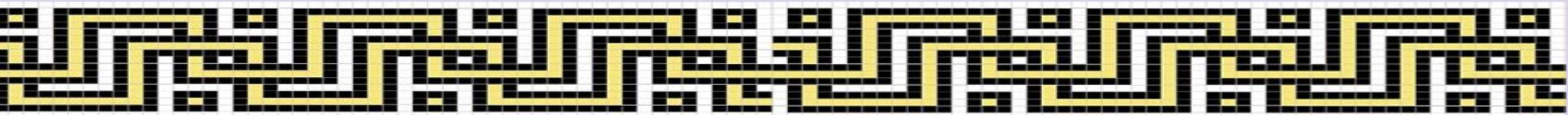
This former Constellation has been divided in Puppis (the Stern) the Candle, the Compass and Carina. It was divided by the astronomer Nicolás Louis de Lacaille in the 18th century.



THE NOT ZODIACAL CONSTELLATIONS: The Auriga

This constellation represents an auriga supporting a goat. It was said that it was the goat Amaltea which, according to the Greek myth, raised Zeus and several small goats in his hands.

This constellation is very showy in the winter skies in the north hemisphere. It is placed imminently to the north of the horns of Taurus, and has form of pentagon. His more brilliant star is Capella.



THE NOT ZODIACAL CONSTELLATIONS:

Boyero

He is a farmer, who controlled the oxen of the Great Bear with his two dogs, American ostrich and Asterion.

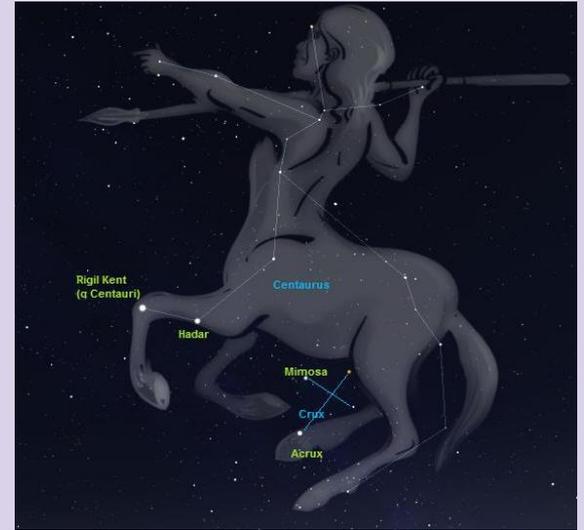
That way of managing to tie the oxen to the polar axis made possible that it support the skies in constant rotation. The Ox-herd is circumpolar and can be seen all the year round in the north hemisphere. It is a constellation next the Great Bear.



THE NOT ZODIACAL CONSTELLATIONS: Centaur

This constellation represents Quiron, the chief of the centaurs. The centaurs were creatures half average horse and man.

Centaur is a constellation placed to the north of Crux, and in the north limit of the Milky Way. His center is located 50° to the south of Spica and is under Hydra's tail.



THE NOT ZODIACAL CONSTELLATIONS:

Swan

Swan related to the myth of Zeus and the goddess Nemesis. To escape from Zeus and to be able to preserve his virginity, Nemesis changed with the form of different animals and she turned into a goose. Zeus transformed her in a beautiful swan and Nemesis's love was gained.

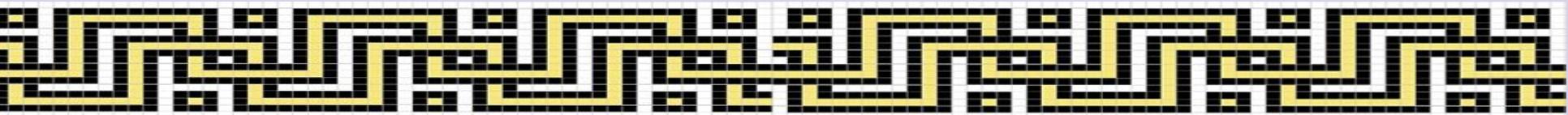
The Swan crosses the north Milky Way and it reaches the fullness in the skies of the north hemisphere.



THE NOT ZODIACAL CONSTELLATIONS: Couronne Boreale

This constellation represents the crown of Ariadne, daughter of the king Minos of Crete. The constellation of the Boreal Crown is composed by seven stars.

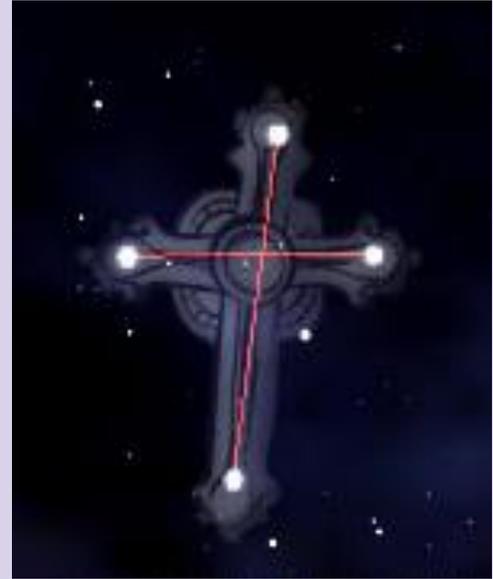
It is located between the constellation of the Ox-herd, in the western part, and Hercules, in the eastern part. May is the month where it most appears though it stands out in the whole northern sky every night from spring ends and during the summer.



THE NOT ZODIACAL CONSTELLATIONS: Southern Cross

The Cross of the South is very important in the south hemisphere. It has been used as a compass and since it looks like a cross they put to this constellation the name. It is considered to be the smallest constellation.

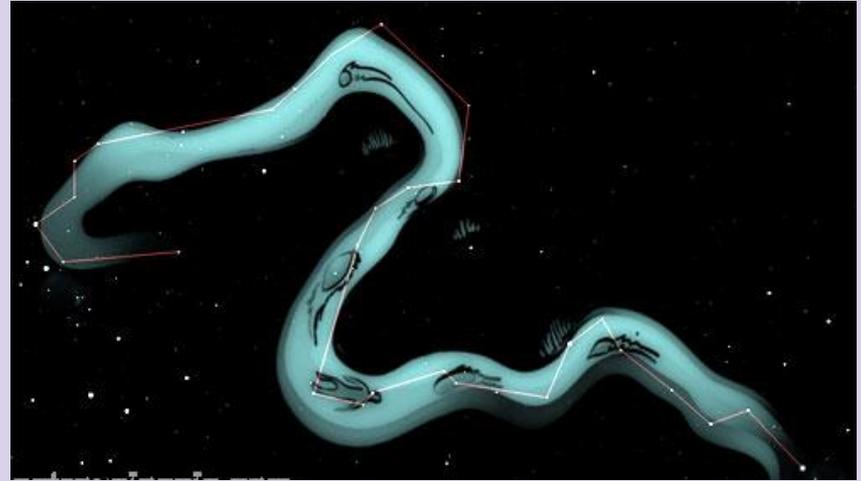
It is completely surrounded by the constellation Centaur.



THE NOT ZODIACAL CONSTELLATIONS: Eridano

The stars of this constellation have associated with different terrestrial rivers, among which they find the Euphrates, the Nile and the Padus. Eridano is a great constellation of the south.

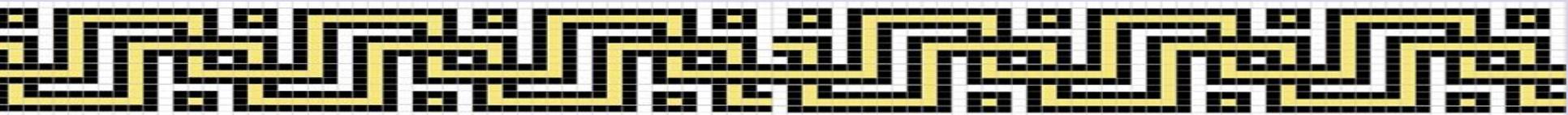
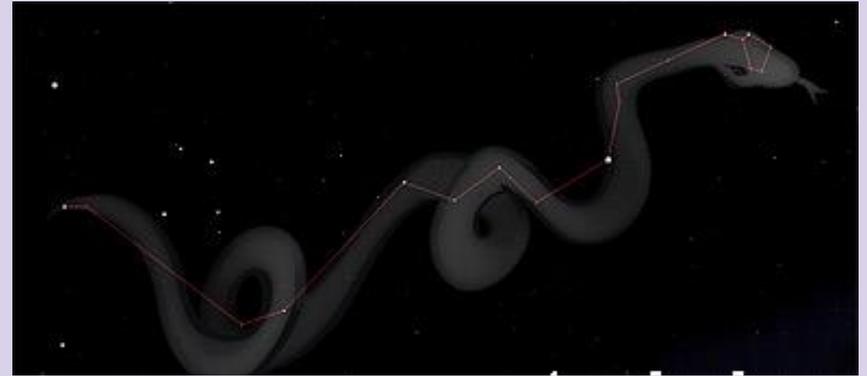
November is the best month to see this constellation. We can see some Eridano's portion from any part of the world, through a sight completes of this constellation only it is obtained from the south.



THE NOT ZODIACAL CONSTELLATIONS: Hydra

Hydra is like a serpent with many heads that killed the famous Hero Hercules.

Hydra, also is called the sea serpent, is the biggest constellation of the sky, but it is not easy to find. Nonetheless it is the major constellation that we can see in both hemispheres.



THE NOT ZODIACAL CONSTELLATIONS:

Lira

Hermes had invented the lira and Apollo gave her to his son, Orpheus.

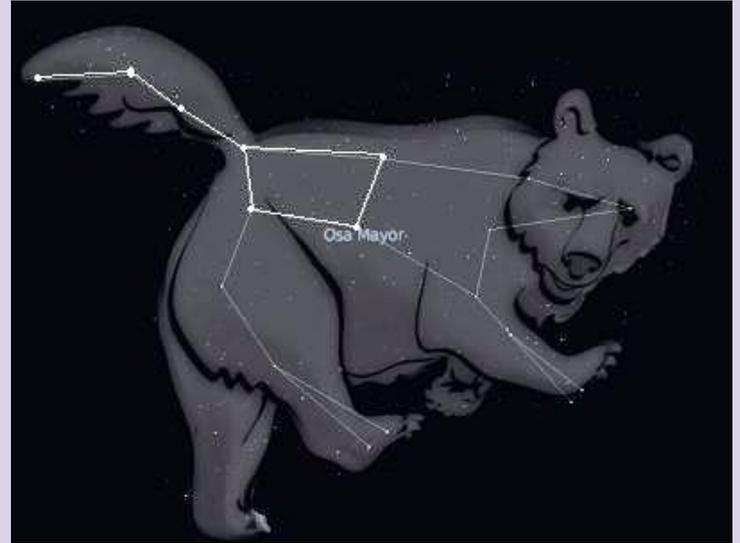
This constellation has an impressive sight from the north hemisphere, it is in the western shore of the Milky Way. It is easy to locate due to Vega, his brilliant major star, that forms one of the corners of the Summer triangle.



THE NOT ZODIACAL CONSTELLATIONS: Great Bear

Zeus huntress fell in love a day of the beautiful nymph Calisto, who was living in the forests of Arcady. Zeus seduced Calisto. Hera, the wife of Zeus was so jealous of the nymph that she turned her into bear.

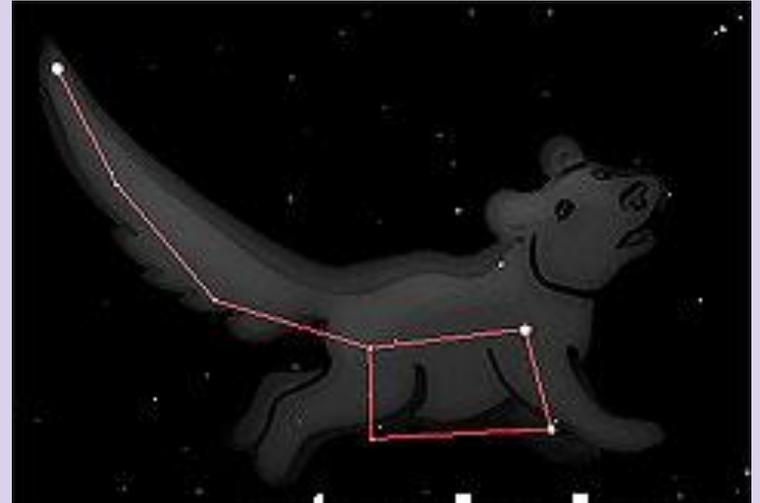
The Great Bear is a boreal constellation. The most emphasized from the Great Bear is that it is composed by 7 stars, which form the car. The Great Bear is closely together of the Pole, a constellation circumpolar, one of the constellations that one sees all the year round.



THE NOT ZODIACAL CONSTELLATIONS: Little Bear

Calisto met his son, who did not recognize her in his animal form and wanted to kill her. To save it, Zeus transformed his own son into a bear.

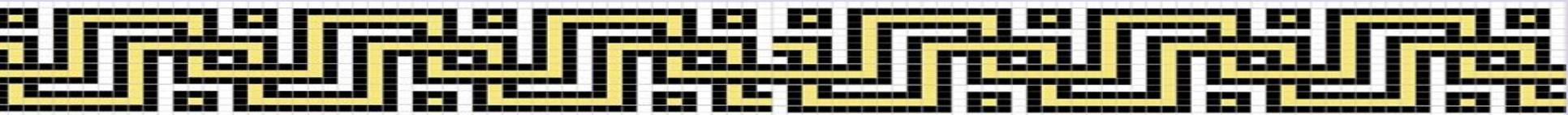
It is a constellation circumpolar and there exists a heap of the only stars called ring commitment, which they find slightly under the Pole Star.



THE NOT ZODIACAL CONSTELLATIONS: Triangle

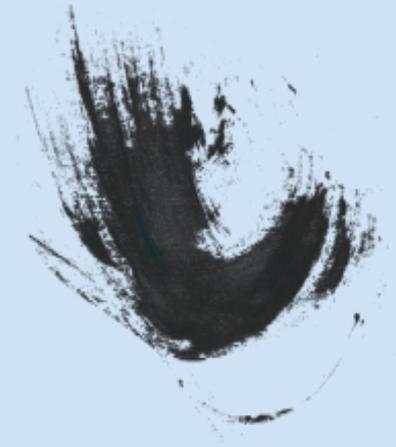
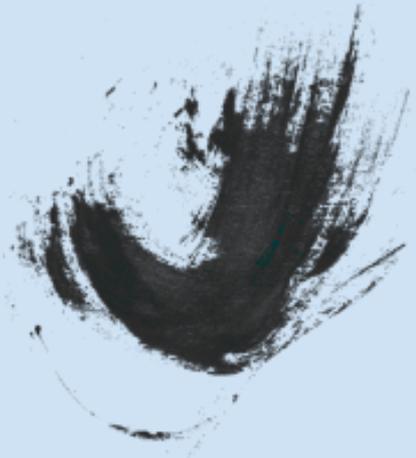
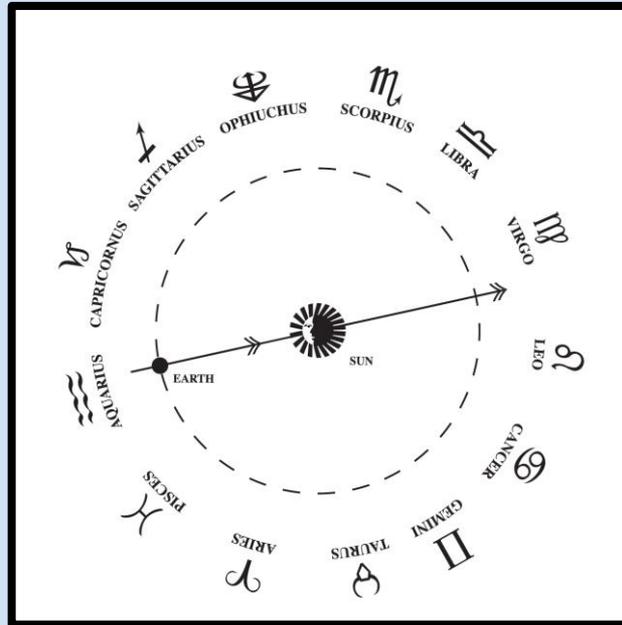
This constellation took Deltatron's name in Greece, the Delta identified with the Greek letter Δ (delta).

Small constellation with three stars that form a triangle. Placed in the south hemisphere.



5. THE SIGNS OF THE ZODIAC

Zodiac: Celestial strip for the center in which the Ecliptic happens. We know twelve constellations that the Sun crosses in his annual apparent course.

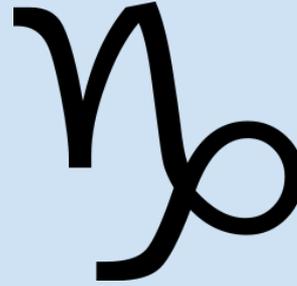


THE SIGNS OF THE ZODIAC: Capricorn

On January 20 - February 16

It symbolizes the wisdom and the final progression of the element land towards the waters. Saturn is the planet.

It represents the Goat Amaltea, nymph who nursed Zeus when his mother Rea hid it from the sight of his father Cronos.



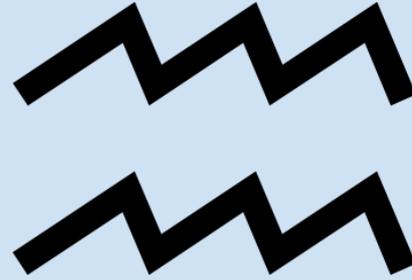
THE SIGNS OF THE ZODIAC: Aquarius

On February 16 - March 11

The constellation of Aquarius is one of the most difficult to distinguish to simple sight.

It symbolizes the revolution and his symbol represents the wisdom to the being. Aquarius was traditionally governed by the planet Saturn, nevertheless, from the discovery of the planet Uranus, this one has been considered to be his regent.

In the mythology, Aquarius is associated with the mythological figure of Odiseo, king of Ítaca. Ulises is represented carrying the "pitcher of the winds" delivered by the god Aeolus, who was containing all the opposite winds that could prevent his return Ítaca .



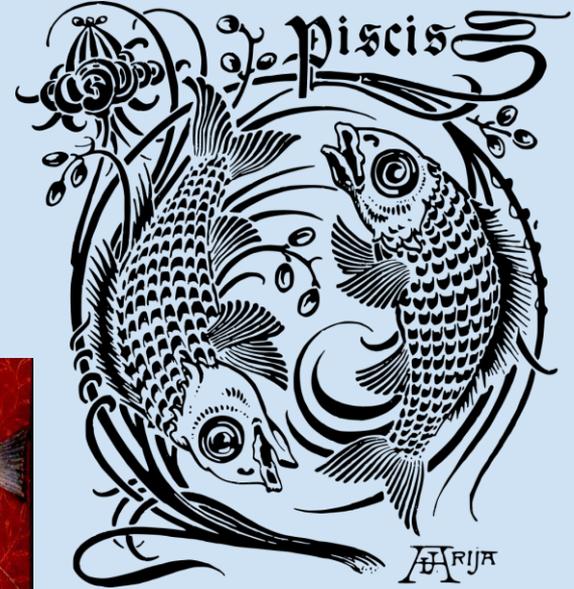
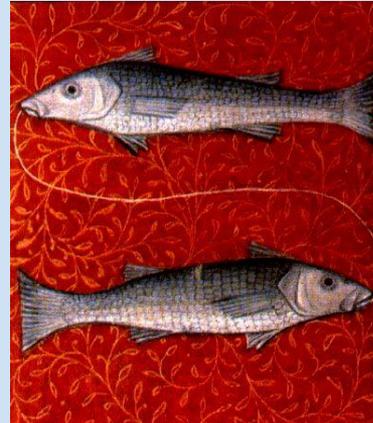
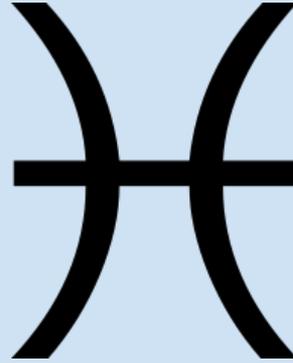
THE SIGNS OF THE ZODIAC:

Pisces

On March 11 - April 18 It

Symbolizes the dissolution and his symbol represents two fish wallowing in opposite senses. Neptune and Jupiter are the planets.

When the gods fled of the titan Typhoon, many people adopted animal forms. Eros and Aphrodite did it in the shape of fish and were fished by a fisherman. Other sources say that it were the damned Cadmo and Harmony those who were fished.



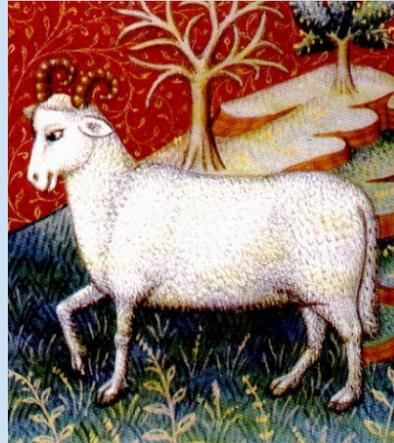
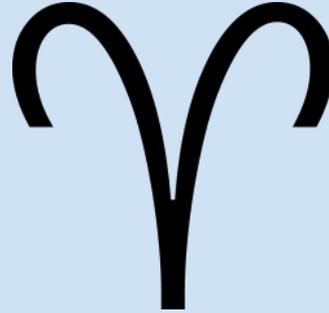
THE SIGNS OF THE ZODIAC:

Aries

On April 18 - May 13

The Sun realizes his tour on Aries from April 21 until March 13. Aries is located between the constellation of piscis and taurus. Mars is the planet.

It symbolizes the renaissance and his symbol represents the horns of a sheep. The sheep with which Frixio and Hele travelled, when they went out of his natal country to come to the Cólquide. It was later the fleece (leather of the sheep) of gold.



THE SIGNS OF THE ZODIAC:

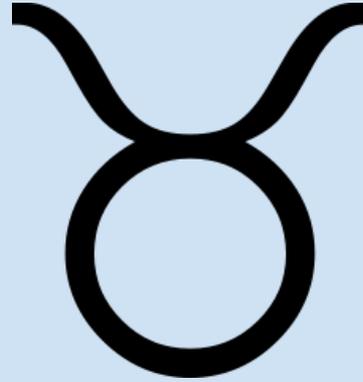
Taurus

May 13 - June 21

It sits large and prominent in the night sky, between Aries to the west and Gemini in the east; to the north is Perseus and Auriga, southwest Orion, and southeast Eridane and Cetus.

It is ruled by the planet Venus. In Greek mythology, Taurus is the form of a bull that the god Zeus adopted to seduce Europe, a mythical Phoenician princess.

According to another version, Taurus is Io turned into a cow by her lover Zeus to prevent Hera from finding out about her loves.



THE SIGNS OF THE ZODIAC:

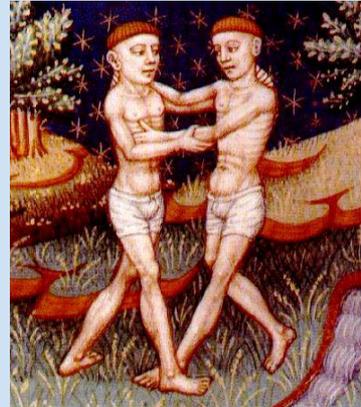
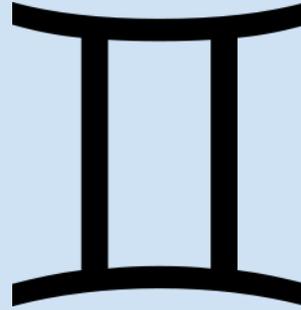
Gemini

June 21 - July 20

Its constellation is made up of millions of stars in the galaxy. It has the peculiarity that the sun is within it for more than thirty days, between the months June and July of each year.

It symbolizes concrete awareness and is represented by the Dioscuri, Castor and Pollux. It is ruled by Mercury.

The twins Castor and Pollux. Pollux was immortal, not his brother Castor. When Castor died, Pollux offered his immortality to save his brother.

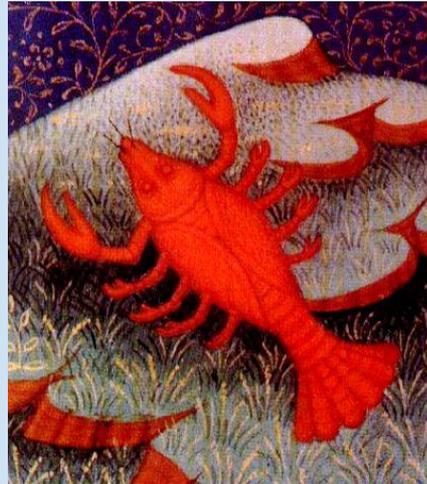
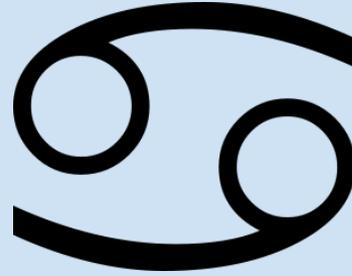


THE SIGNS OF THE ZODIAC: Cancer

On July 20 - August 10

His constellation is small and tenuous, already great it does not look like a crab.

It symbolizes the family and his symbol represents a crab. It is governed by the Moon. The crab that Hera sent to help the Hidra de Lerna, when this one was fighting against Hercules.



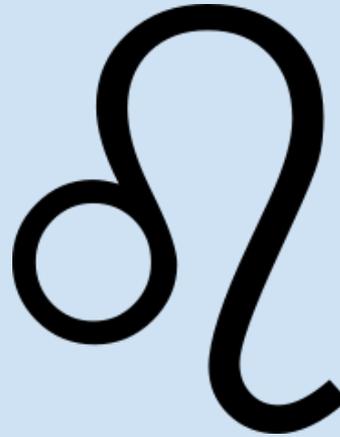
THE SIGNS OF THE ZODIAC:

Leo

On August 10 - September 16

The constellation is between that of Cancer in the west and that of Virgo in the East. This constellation contains many brilliant stars

It symbolizes the force of the life and his symbol represents the lock of the lion. It is governed by the Sun. The Lion of Nemea, died by Hercules' hands, which strangled it, because its skin was impenetrable. The hero skinned it with his own claws (the only thing that could hurt it) and the skin remained as his symbol.



THE SIGNS OF THE ZODIAC:

Virgo

On September 16 - October 30

It symbolizes the work and his symbol represents a Virgin. It is governed by Mercury.

The myth is Astrea, daughter of Zeus and Temis. She helped his father as carrier of the beams during the war with the titans. In reward to his loyalty, Zeus raised her to the sky and placed between the stars, giving origin to this constellation and end to the presence amongs the human beings of the last immortal one of the Golden Age.



THE SIGNS OF THE ZODIAC:

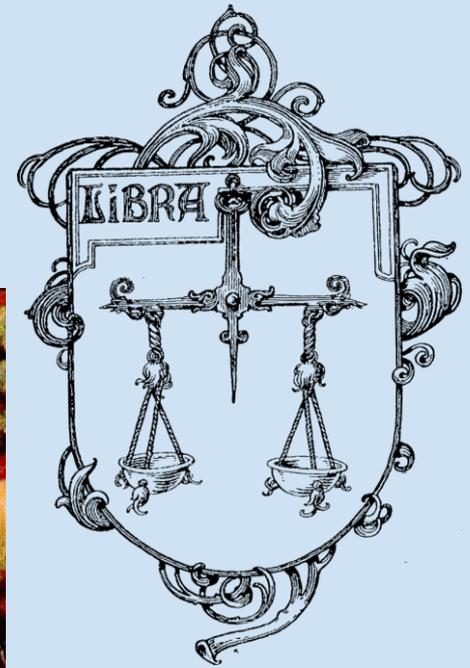
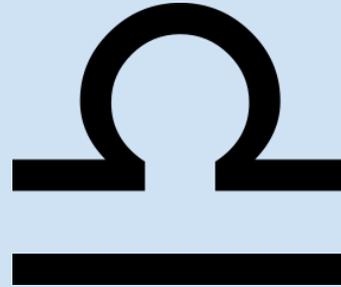
Libra

On October 30 - November 23

The constellation does not have stars of the first magnitude, is placed between Virgo in the western part and Scorpio in the eastern part.

It symbolizes the balance and the harmony and his symbol represents the scale. It is governed by Venus.

Myth assumes Says, the goddess of the Justice, as well as in former Roman representations it was illustrated by Julius Caesar carrying a scale, as symbol of his power and justice. Later, the Roman leader would be suppressed and the figure of the scale would be kept.



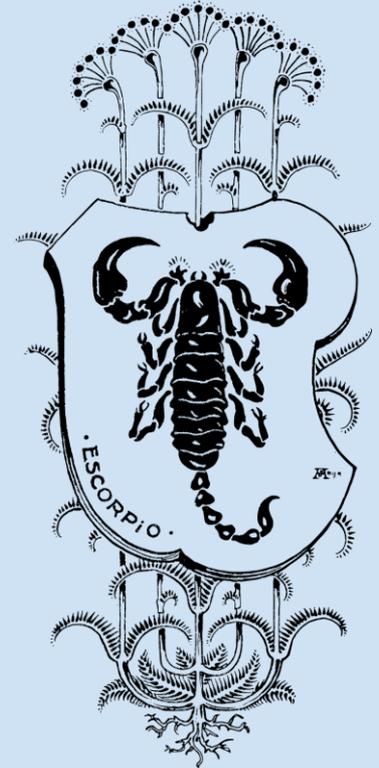
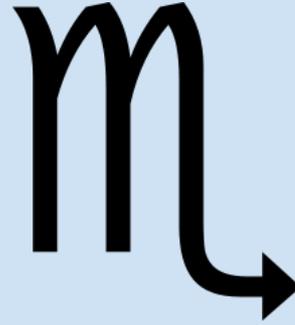
THE SIGNS OF THE ZODIAC:

Scorpio

On November 23 - November 29

It Symbolizes the destruction and the renaissance, and Mars and Pluto governed.

The goddess Artemisa sent a scorpion against the giant hunter Orion. Orion trod on it and the scorpion fixed the sting to him. Both died and Zeus put each one opposite to the other, in order that they were not fighting anymore.

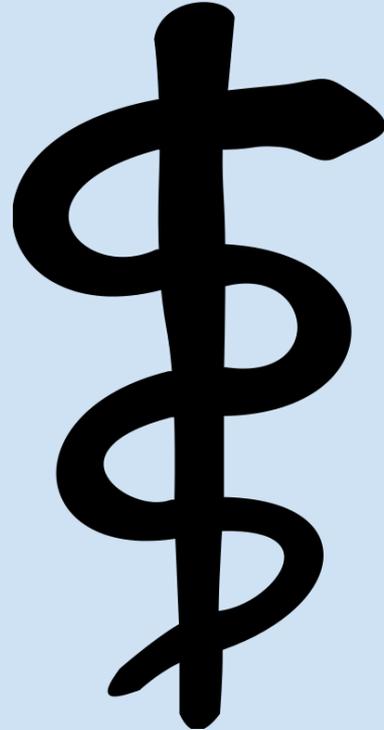


THE SIGNS OF THE ZODIAC: Ofiuco

On November 29 - December 17

It Symbolizes the Serpent and his element of origin is Aesculapius' Rod.

It corresponds with Asclepio, son of the god Apolo and the human Coronide. This one developed such a skill in medicine, that it was said that it was capable of reviving the dead men. Very offended by this, Hades asked Zeus to kill it for violating the natural order of the things, and Zeus acceded. Nevertheless, honoring his value, decided to place it in the sky surrounded by the serpent, symbol of the renewed life.



THE SIGNS OF THE ZODIAC:

Sagittarius

December 17 - January 20

It is one of the biggest constellations of the universe, being able to be observed from almost any point of the planet.

It is possible to visualize with major clarity in the north hemisphere in the summer nights. It symbolizes the top conscience and his symbol represents the arrow of the archer. It is governed by Jupiter.

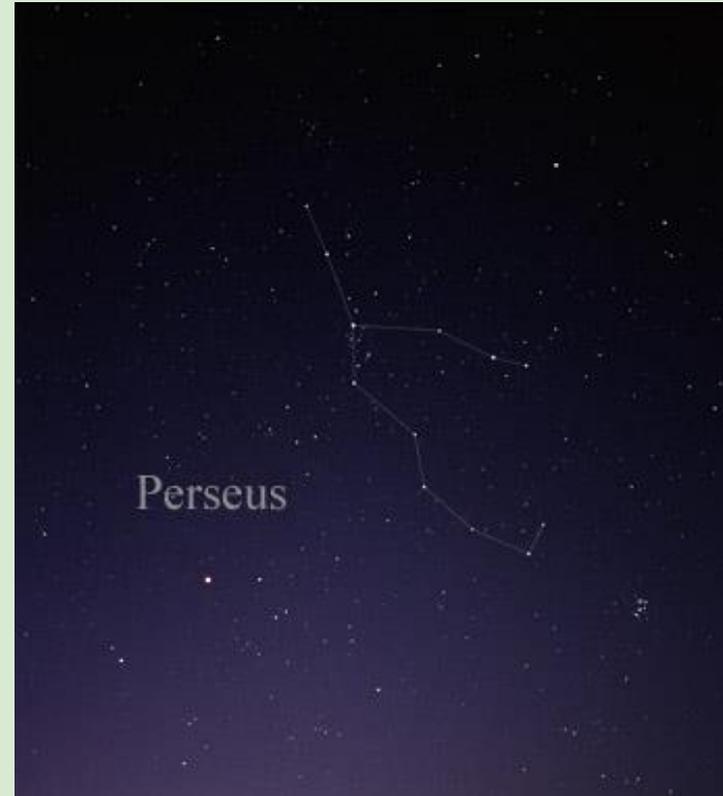
The centaur Quiron, doctor of the doctors, tired of his condition of immortal, decided to change it into Prometeo's salvation. When the treatment was formalized, Prometeo asked him "why have you done it? Now that you are dead, for much that you get tired, you are not going to be able to change it ...".



6. MYTHOLOGICAL PICTURES

MYTHOLOGICAL PICTURES: PERSEUS

Perseus is a very showy constellation of the North hemisphere, but it is well known for his form, for his position in the Milky Way, for his astronomical objects and for the famous rain of shooting stars that depart from this one, the Perseidas.



MYTHOLOGICAL PICTURES: PERSEO

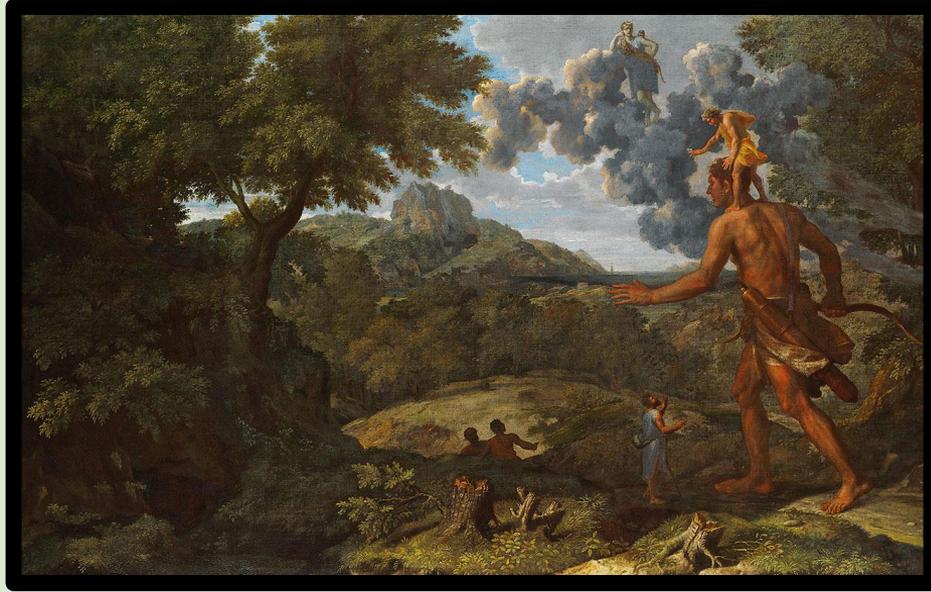


*Perseo liberating Andromeda,
Rubens*



*Winning Perseo of Jellyfish,
Giordano*

MYTHOLOGICAL PICTURES: ORION



*Four stations
Nicolas poussin*



BIBLIOGRAPHY

<http://www.wordreference.com/definicion/>

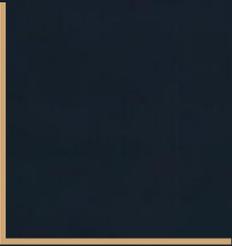
<https://educacion.uncomo.com/articulo/cual-es-la-diferencia-entre-astronomia-y-astrologia-22766.html>

<https://es.slideshare.net/maitemanzano/mitologia-y-planetas>

http://ecoplanets.fullblog.com.ar/descripcion_de_los_planetas_31190937028.html

<http://wikipedia.org>





Spanish erasmus team