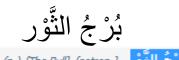


http://www.morfix.co.il/en/Taurus



بِّرْجُ النَّوْرِ {/The Bull} {astron.}

http://www.arabdict.com/en/english-arabic/Taurus



https://translate.google.com/#auto/fa/Taurus

# Taurus (constellation)

From Wikipedia, the free encyclopedia

**Taurus** (Latin for "the **Bull**"; symbol:  $\mathcal{G}$ , Unicode:  $\mathcal{G}$ ) is one of the constellations of the zodiac, which means it is crossed by the plane of the ecliptic. Taurus is a large and prominent constellation in the northern hemisphere's winter sky. It is one of the oldest constellations, dating back to at least the Early Bronze Age when it marked the location of the Sun during the spring equinox. Its importance to the agricultural calendar influenced various bull figures in the mythologies of Ancient Sumer, Akkad, Assyria, Babylon, Egypt, Greece, and Rome.

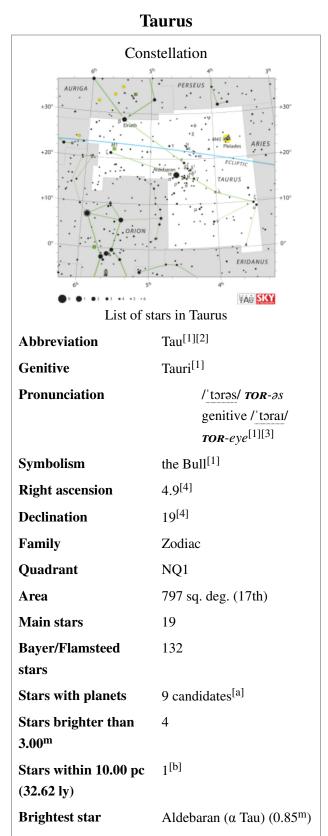
There are a number of features of interest to astronomers. Taurus hosts two of the nearest open clusters to Earth, the Pleiades and the Hyades, both of which are visible to the naked eye. At first magnitude, the red giant Aldebaran is the brightest star in the constellation. In the northwest part of Taurus is the supernova remnant Messier 1, more commonly known as the Crab Nebula. One of the closest regions of active star formation, the Taurus-Auriga complex, crosses into the northern part of the constellation. The variable star T Tauri is the prototype of a class of pre-main-sequence stars.

## Contents

- 1 Characteristics
- 2 Notable features
- 3 History and mythology
  - 3.1 Astrology
  - 3.2 Space exploration
- 4 See also
- 5 Notes
- 6 References
- 7 Book references
- 8 External links

## Characteristics

Taurus is a big and prominent constellation in the northern hemisphere's winter sky, between Aries to the west and Gemini to the east; to the north lie Perseus and Auriga, to the southeast Orion, to the south Eridanus, and to the southwest



1 of 8

Cetus. In September and October, Taurus is visible in the evening along the eastern horizon. The most favorable time to observe Taurus in the night sky is during the months of December and January. By March and April, the constellation will appear to the west during the evening twilight.<sup>[5]</sup>

This constellation forms part of the zodiac, and hence is intersected by the ecliptic. This circle across the celestial sphere forms the apparent path of the Sun as the Earth completes its annual orbit. As the orbital plane of the Moon and the planets lie near the ecliptic, they can usually be found in the constellation Taurus during some part of each year.<sup>[5]</sup> The galactic plane of the Milky Way intersects the northeast corner of the constellation and the galactic anticenter is located near the border between Taurus and Auriga. Taurus is the only constellation crossed by all three of the galactic equator, celestial equator, and ecliptic. A ring-like galactic

Nearest star	Gliese 176	
	(30.72 ly, 9.42 pc)	
Messier objects	2	
Meteor showers	Taurids	
	Beta Taurids	
Bordering	Auriga	
constellations	Perseus	
	Aries	
	Cetus	
	Eridanus	
	Orion	
	Gemini	
Visible at latitudes between +90° and –65°.		
Best visible at 21:00 (9 p.m.) during the month of January.		

structure known as the Gould's Belt passes through the Taurus constellation.<sup>[6]</sup>

The recommended three-letter abbreviation for the constellation, as adopted by the International Astronomical Union in 1922, is "Tau".<sup>[2]</sup> The official constellation boundaries, as set by Eugène Delporte in 1930, are defined by a polygon of 26 segments. In the equatorial coordinate system, the right ascension coordinates of these borders lie between  $03^{h} 23.4^{m}$  and  $05^{h} 53.3^{m}$ , while the declination coordinates are between  $31.10^{\circ}$  and  $-1.35^{\circ}$ .<sup>[7]</sup> Because a small part of the constellation lies to the south of the celestial equator, this can not be a completely circumpolar constellation at any latitude.<sup>[8]</sup>

## **Notable features**

During November, the Taurid meteor shower appears to radiate from the general direction of this constellation. The Beta Taurid meteor shower occurs during the months of June and July in the daytime, and is normally observed using radio techniques.<sup>[10]</sup> In October, between the 18th and the 29th, both the Northern Taurids and the Southern Taurids are active; though the latter stream is stronger.<sup>[11]</sup> However, between November 1 and 10, the two streams equalize.<sup>[12]</sup>

The brightest member of this constellation is Aldebaran, an orange-hued, spectral class K5 III giant star.<sup>[13]</sup> Its name derives from *الدبر*ان *al-dabarān*, Arabic for "the follower", probably from the fact that it follows the Pleiades during the nightly motion of the celestial sphere across the sky. <sup>[14][15][16]</sup> Forming the profile of a Bull's face is a *V* or *A*-shaped asterism of stars. This outline is created by prominent members of the Hyades,<sup>[17]</sup> the nearest distinct open star cluster after the Ursa Major Moving Group.<sup>[18]</sup> In this profile, Aldebaran forms the bull's bloodshot eye, which has been described as "glaring menacingly at the hunter Orion",<sup>[19]</sup> a constellation that lies just to the southwest. The Hyades span about 5° of the sky, so that they can only be viewed in their entirety with binoculars or the unaided eye.<sup>[20]</sup> It includes a naked eye double star, Theta Tauri, with a separation of 5.6 arcminutes.<sup>[21]</sup>

In the northeastern quadrant of the Taurus constellation lie the Pleiades (M45), one of the best known open clusters, easily visible to the naked eye. The seven most prominent stars in this cluster are at least visual



The constellation Taurus as it can be seen by the naked eye.<sup>[9]</sup> The constellation lines have been added for clarity.

magnitude six, and so the cluster is also named the "Seven Sisters". However, many more stars are visible with even a modest telescope.<sup>[22]</sup> Astronomers estimate that the cluster has approximately 500-1,000 stars, all of which are around 100 million years old. However, they vary considerably in type. The Pleiades themselves are represented by large, bright stars; there are also many small brown dwarfs and white dwarfs. The cluster is estimated to dissipate in another 250 million years.<sup>[23]</sup> The Pleiades cluster is classified as a Shapley class c and Trumpler class I 3 r n cluster, indicating that it is irregularly shaped and loose, though concentrated at its center and detached from the star field.<sup>[24]</sup>

In the northern part of the constellation to the northwest of the Pleiades lies the Crystal Ball Nebula, known by its catalogue designation of NGC 1514. This planetary nebula is of historical interest following its discovery by German-born English astronomer William Herschel in 1790. Prior to that time, astronomers had assumed that nebulae were simply unresolved groups of stars. However, Herschel could clearly resolve a star at the center of the nebula that was surrounded by a nebulous cloud of some type. In 1864, English astronomer William Huggins used the spectrum of this nebula to deduce that the nebula is a luminous gas, rather than stars.<sup>[25]</sup>

To the west, the two horns of the bull are formed by Beta ( $\beta$ ) Tauri and Zeta ( $\zeta$ ) Tauri; two star systems that are separated by 8°. Beta is a white, spectral class B7 III giant star known as *El Nath*, which comes from the Arabic phrase "the butting", as in butting by the horns of the bull.<sup>[26]</sup> At magnitude 1.65, it is the second brightest star in the constellation, and shares the border with the neighboring constellation of Auriga. As a result, it also bears the designation Gamma Aurigae. Zeta Tauri is an eclipsing binary star that completes an orbit every 133 days.<sup>[13]</sup>

A degree to the northwest of  $\zeta$  Tauri is the Crab Nebula (M1), a supernova remnant. This expanding nebula was created by a Type II supernova explosion, which was seen from Earth on July 4, 1054. It was bright enough to be observed during the day, and is mentioned in Chinese historical texts. At its peak the supernova reached magnitude –4, but the nebula is currently magnitude 8.4 and requires a telescope to observe.<sup>[29][30]</sup> North American peoples also observed the supernova, as evidenced from a painting on a New Mexican canyon and various pieces of pottery that depict the event. However, the remnant itself was not discovered until 1731, when John Bevis found it.<sup>[23]</sup>

The star Lambda  $(\lambda)$  Tauri is an eclipsing binary star. This system consists of a spectral class B3 star being orbited by a less massive class A4 star. The plane of their orbit lies almost along the line of sight to the Earth. Every 3.953 days the system

#### temporarily decreases in brightness by 1.1 magnitudes as the brighter star is partially eclipsed by the dimmer

#### **Brightest NGC objects in Taurus**<sup>[27]</sup>

Identifier	Mag.	Object type
NGC 1514	10.9	planetary nebula
NGC 1551	12.1	elliptical galaxy
NGC 1589	12.0	spiral galaxy
NGC 1647	6.4	open cluster
NGC 1746	6	asterism <sup>[28]</sup>
NGC 1807	7.0	open cluster
NGC 1817	7.7	open cluster
NGC 1952	8.4	supernova remnant (M1)

companion. The two stars are separated by only 0.1 astronomical units, so their shapes are modified by mutual tidal interaction. This results in a variation of their net magnitude throughout each orbit.<sup>[31]</sup>

Located about 1.8° west of Epsilon (ɛ) Tauri is T Tauri, the prototype of a class of variable stars called T Tauri stars. This star undergoes erratic changes in luminosity, varying between magnitude 9 to 13 over a period of weeks or months.<sup>[5]</sup> This is a newly formed stellar object that is just emerging from its envelope of gas and dust, but has not yet become a main sequence star.<sup>[32]</sup> The surrounding reflection nebula NGC 1555 is illuminated by T Tauri, and thus is also variable in luminosity.<sup>[33]</sup>

This constellation includes part of the Taurus-Auriga complex, or Taurus dark clouds, a star forming region of sparse, filamentary clouds. This spans a diameter of 98 light-years (30 parsecs) and contains 35,000 solar masses of material, which is both larger and less massive than the Orion Nebula.<sup>[34]</sup> At a distance of 490 light-years (150 parsecs), this is one of the nearest active star forming regions.<sup>[35]</sup> Located in this region, about 10° to the northeast of Aldebaran, is an asterism NGC 1746 spanning a width of 45 arcminutes.<sup>[28]</sup>

# History and mythology

The identification of the constellation of Taurus with a bull is very old, certainly dating to the Chalcolithic, and perhaps even to the Upper Paleolithic. Michael Rappenglück of the University of Munich believes that Taurus is represented in a cave painting at the Hall of the Bulls in the caves at Lascaux (dated to roughly 15,000 BC), which he believes is accompanied by a depiction of the Pleiades.<sup>[36][37]</sup> The name "seven sisters" has been used for the Pleiades in the languages of many cultures, including indigenous groups of Australia, North America and Siberia. This suggests that the name may have a common ancient origin.<sup>[38]</sup>

Taurus marked the point of vernal (spring) equinox in the Chalcolithic and the Early Bronze Age, from about 4000 BC to 1700 BC, after which it moved into the neighboring constellation Aries.<sup>[39]</sup> The Pleiades were closest to the Sun at vernal equinox around the 23rd century BC. In Babylonian astronomy, the constellation was listed in the MUL.APIN as GU<sub>4</sub>.AN.NA, "The Bull of Heaven".<sup>[40]</sup> As this constellation marked the vernal equinox, it was also the first constellation in the Babylonian zodiac and they described it as "The Bull in Front".<sup>[41]</sup> The Akkadian name was *Alu*.<sup>[42]</sup>

In the Mesopotamian *Epic of Gilgamesh*, one of the earliest works of literature, the goddess Ishtar sends Taurus, the Bull of Heaven, to kill Gilgamesh for spurning her advances.<sup>[43]</sup> Some locate Gilgamesh as the neighboring constellation of Orion, facing Taurus as if in combat,<sup>[44]</sup> while others identify him with the sun whose rising on the equinox vanquishes the constellation. In early Mesopotamian art, the Bull of Heaven was closely associated with Inanna, the Sumerian goddess of sexual love, fertility, and warfare. One of the oldest depictions shows the bull standing before the goddess' standard; since it has 3 stars depicted on its back (the cuneiform sign for "star-constellation"), there is good reason to regard this as the constellation later known as Taurus.<sup>[42]</sup>

The same iconic representation of the Heavenly Bull was depicted in the Dendera zodiac, an Egyptian bas-relief carving in a ceiling that depicted the celestial hemisphere using a planisphere. In these ancient cultures, the orientation of the horns was portrayed as upward or backward. This differed from the later Greek depiction where the horns pointed forward.<sup>[45]</sup> To the Egyptians, the constellation Taurus was a sacred bull that was associated with the renewal of life in spring. When the spring equinox entered Taurus, the constellation would become covered by the Sun in the western sky as spring began. This "sacrifice" led to the renewal of the land.<sup>[46]</sup> To the early Hebrews, Taurus was the first constellation in their zodiac and consequently it was represented by the first letter in their alphabet, Aleph.<sup>[47]</sup>



Taurus as depicted in the astronomical treatise *Book of Fixed Stars* by the Persian astronomer Abd al-Rahman al-Sufi, c. 964.



Taurus as depicted in *Urania's Mirror*, a set of constellation cards published in London c.1825.

Taurus (Chinese astronomy)

#### In Greek mythology, Taurus was identified with Zeus, who assumed the form of a magnificent white bull to abduct Europa, a legendary Phoenician princess. In illustrations of Greek mythology, only the front portion of this constellation are depicted; this was sometimes explained as Taurus being partly submerged as he carried Europa out to sea. A second Greek myth portrays Taurus as Io, a mistress of Zeus. To hide his lover from his wife Hera, Zeus changed Io into the form of a heifer.<sup>[48]</sup> Greek mythographer Acusilaus marks the bull Taurus as the same that formed the myth of the Cretan Bull, one of The Twelve Labors of Heracles.<sup>[49]</sup>

Taurus became an important object of worship among the Druids. Their Tauric religious festival was held while the Sun passed through the constellation.<sup>[39]</sup> In Buddhism, legends hold that Gautama Buddha was born when the Full Moon was in Vaisakha, or Taurus.<sup>[50]</sup> Buddha's birthday is celebrated with the Wesak Festival, or Vesākha, which occurs on the first or second Full Moon when the Sun is in Taurus.<sup>[51]</sup>

#### Astrology

As of 2008, the Sun appears in the constellation Taurus from May 13 to June 21.<sup>[52]</sup> In tropical astrology, the Sun is considered to be in the sign Taurus from April 20 to May 20.<sup>[53]</sup>

#### **Space exploration**

The space probe *Pioneer 10* is moving in the direction of this constellation, though it will not be nearing any of the stars in this constellation for many thousands of years, by which time its batteries will be long dead.

## See also

Pleiades in folklore and literature

## Notes

- a. Stars with candidate extrasolar planets: Epsilon Tauri, Gliese 176, HD 24040, HD 37124, 2M J044144, LkCa 15, HD 28678, HD 285507, HL Tauri, and FW Tauri.
- b. This is Gliese 176.

## References

1. "The constellations" (http://www.iau.org/public\_press/themes/constellations/). IAU. Retrieved 2010-02-09.

- 2. Russell, Henry Norris (1922). "The new international symbols for the constellations". *Popular Astronomy* **30**: 469–71. Bibcode:1922PA.....30..469R (http://adsabs.harvard.edu/abs/1922PA.....30..469R).
- 3. "Taurus" (http://www.merriam-webster.com/dictionary/taurus). Merriam-Webster Online. Retrieved 2010-02-09.
- Schaefer, Bradley E. (November 2002). "The latitude and epoch for the formation of the southern Greek constellations". *Journal for the History of Astronomy* **33** (113): 313–350. Bibcode:2002JHA....33..313S (http://adsabs.harvard.edu/abs/2002JHA....33..313S).
- 5. Garfinkle, Robert A. (1997). *Star-hopping: your visa to viewing the Universe*. Cambridge University Press. pp. 66–67. ISBN 978-0-521-59889-7.
- 6. Crossen, Craig; Rhemann, Gerald (2004). *Sky vistas: astronomy for binoculars and richest-field telescopes* (http://books.google.com/books?id=mfJeWrJRqrkC&pg=PA133). Springer. p. 133. ISBN 978-3-211-00851-5.
- 7. "Taurus, constellation boundary" (http://www.iau.org/public/constellations/#tau). *The Constellations*. International Astronomical Union. Retrieved 2012-01-02.
- 8. Seeds, Michael A. (2007). *Foundations of Astronomy* (http://books.google.com/books?id=b1n3Q3yRDVMC& pg=PA19) (10th ed.). Cengage Learning. p. 19. ISBN 978-0-495-38724-4.
- 9. "Taurus, the bull" (http://www.allthesky.com/constellations/taurus.html). Allthesky.com. Retrieved 2012-05-16.
- 10. Lewis, John S. (1997). *Rain of iron and ice: the very real threat of comet and asteroid bombardment*. Basic Books. pp. 48–49. ISBN 978-0-201-15494-8.
- 11. Jenniskens, Peter (September 2012). "Mapping Meteoroid Orbits: New Meteor Showers Discovered". *Sky & Telescope*: 22.
- 12. Jenniskens, Peter (September 2012). "Mapping Meteoroid Orbits: New Meteor Showers Discovered". *Sky & Telescope*: 23.
- 13. Burnham, Robert (1978). Burnham's celestial handbook: an observer's guide to the Universe beyond the Solar System. Three (revised ed.). Courier Dover Publications. pp. 1807–1830. ISBN 978-0-486-23673-5.
- 14. Mark R. Chartrand III (1983) Skyguide: A Field Guide for Amateur Astronomers, p. 188 (ISBN 0-307-13667-1).
- 15. Schaaf, Fred (2008). *The brightest stars: discovering the Universe through the sky's most brilliant stars*. John Wiley and Sons. p. 197. ISBN 978-0-471-70410-2.
- 16. Allen 1963, p. 383.
- 17. Olcott, William Tyler (1907). *A field book of the stars* (http://books.google.com/?id=47IAAAAAMAAJ&pg=PA96). New York and London: G.P. Putnam's sons. p. 96. ISBN 978-1-4179-0283-5. Retrieved 2009-06-30.
- Inglis, Michael D. (2004). *The Observer's guide to the northern Milky Way*. Springer. p. 184. ISBN 978-1-85233-709-4.
- 19. Sasaki, Chris; Boddy, Joe (2003). *Constellations: the stars and stories*. Sterling Publishing Company, Inc. p. 106. ISBN 978-1-4027-0800-8.
- 20. Ridpath & Tirion 2003, p. 55.
- 21. Kaler, James B. "Theta-1 Tauri" (http://stars.astro.illinois.edu/sow/theta1tau.html). *Stars*. University of Illinois. Retrieved 2012-05-22.
- 22. Marx, Siegfried; Pfau, Werner; Lamble, P. (1992). *Astrophotography with the Schmidt telescope*. Cambridge University Press. p. 80. ISBN 978-0-521-39549-6.
- 23. Wilkins, Jamie; Dunn, Robert (2006). 300 Astronomical Objects: A visual reference to the Universe (1st ed.). Buffalo, New York: Firefly Books. ISBN 978-1-55407-175-3.
- 24. Levy 2005, p. 94.
- 25. O'Meara 2011, pp. 74–77.
- 26. Chartrand, at p. 184.
- 27. "NGC objects in Taurus" (http://www.nightskyatlas.com/ngcData.jsp?id=TAU). *The Night Sky Atlas*. Retrieved 2012-04-23.
- 28. O'Meara 2011, p. 84.
- 29. Hawkins, Gerald S. (2002). Mindsteps to the cosmos. World Scientific. p. 231. ISBN 978-981-238-123-1.
- 30. Covington, Michael A. (2002). *Celestial objects for modern telescopes*. Cambridge University Press. p. 240. ISBN 978-0-521-52419-3.
- Fekel, F. C., Jr.; Tomkin, J. (December 1, 1982). "Secondaries of eclipsing binaries. IV The triple system Lambda Tauri". Astrophysical Journal, Part 1 263: 289–301. Bibcode:1982ApJ...263..289F (http://adsabs.harvard.edu /abs/1982ApJ...263..289F). doi:10.1086/160503 (https://dx.doi.org/10.1086%2F160503).
- 32. Bertout, Claude (1989). "T Tauri stars wild as dust". *Annual Review of Astronomy and Astrophysics* **27** (1): 351–395. Bibcode:1989ARA&A..27..351B (http://adsabs.harvard.edu/abs/1989ARA&A..27..351B). doi:10.1146/annurev.aa.27.090189.002031 (https://dx.doi.org/10.1146%2Fannurev.aa.27.090189.002031).

- "T Tauri in NGC 1555" (http://www.noao.edu/image\_gallery/html/im1057.html). National Optical Astronomy Observatory. Retrieved 2009-08-16.
- 34. Schulz, Norbert S. (2005). *From dust to stars: studies of the formation and early evolution of stars*. Springer Praxis Books, Astrophysics and Astronomy Series. p. 231. ISBN 978-3-540-23711-2.
- 35. Babu, Gutti Jogesh; Feigelson, Eric D. (1996). Astrostatistics. CRC Press. p. 26. ISBN 978-0-412-98391-7.
- 36. Sparavigna, Amelia (2008). "The Pleiades: the celestial herd of ancient timekeepers". arXiv:0810.1592 (https://arxiv.org/abs/0810.1592) [physics.hist-ph (https://arxiv.org/archive/physics.hist-ph)].
- 37. Whitehouse, David (August 9, 2000). "Ice age star map discovered" (http://news.bbc.co.uk/2/hi/science/nature /871930.stm). BBC. Retrieved 2009-10-11.
- 38. Brown, Cynthia Stokes (2008). *Big history: from the Big Bang to the present* (http://books.google.com /books?id=HOaCuk6Wly0C&pg=PA64). The New Press. p. 64. ISBN 978-1-59558-558-5.
- 39. Noonan, George C. (2005). *Classical scientific astrology*. American Federation of Astr. pp. 66–67. ISBN 978-0-86690-049-2.
- 40. Rogers, John H. (1998). "Origins of the ancient contellations: I. The Mesopotamian traditions". *Journal of the British Astronomical Association* **108**: 9–28. Bibcode:1998JBAA..108....9R (http://adsabs.harvard.edu /abs/1998JBAA..108....9R).
- 41. Wilson, Robert (1997). Astronomy through the ages: the story of the human attempt to understand the universe. CRC Press. p. 13. ISBN 978-0-7484-0748-4.
- 42. White, Gavin (2008). Babylonian Star-lore: An illustrated guide to the star-lore and constellations of ancient Babylonia. Solaria. p. 65. ISBN 978-0-9559037-0-0.
- 43. Hines, Derrek (2002). *Gilgamesh* (http://books.google.com/books?id=E7rjQfzj-PoC&pg=PT11). Random House Digital, Inc. ISBN 978-1-4000-7733-5.
- 44. Ridpath, Ian (December 24, 1988). "Private lives of the stars" (http://books.google.com/books?id=wYbt\_U\_FjWgC& pg=PA36). *New Scientist* **120** (1644): 36. Bibcode:1986plos.book.....G (http://adsabs.harvard.edu /abs/1986plos.book.....G).
- 45. Rogers, J. H. (1998). "Origins of the ancient constellations: I. The Mesopotamian traditions". *Journal of the British Astronomical Association* **108** (1): 9–28. Bibcode:1998JBAA..108....9R (http://adsabs.harvard.edu /abs/1998JBAA..108....9R).
- 46. Ptak, Roger (1998). Sky stories: ancient and modern. Nova Publishers. p. 22. ISBN 978-1-56072-507-7.
- 47. Allen 1963, p. 381.
- 48. Ridpath, Ian (1989). Star tales. James Clarke & Co. pp. 18-20. ISBN 978-0-7188-2695-6.
- 49. Palaephatus; Stern, Jacob (1996). *On unbelievable tales*. Bolchazy-Carducci Publishers. p. 47. ISBN 978-0-86516-320-1.
- 50. Grünwedel, Albert (1901). Burgess, James, ed. *Buddhist art in India* (http://books.google.com /books?id=leMEAAAAYAAJ&pg=PA131). Agnes C. Gibson. B. Quaritch. p. 131.
- 51. *Encyclopedia of observances, holidays and celebrations from MobileReference* (http://books.google.com /books?id=5VhTa1Eiq7oC&pg=PT505). MobileReference. 2007. p. 505. ISBN 978-1-60501-177-6.
- 52. Comins, Neil F.; Kaufmann, William J. (2008). *Discovering the Universe: from the stars to the planets*. Macmillan. p. 20. ISBN 978-1-4292-3042-1.
- 53. Sharp, Damian (2005). *Learning astrology: an astrology book for beginners*. Weiser. p. 17. ISBN 978-1-57863-298-5.

## **Book references**

- Allen, Richard Hinckley (1963) [1899]. *Star names: their lore and meaning* (corrected ed.). Dover Publications.
  p. 383. ISBN 978-0-486-21079-7.
- Levy, David H. (2005). Deep Sky Objects. Prometheus Books. ISBN 978-1-59102-361-6.
- O'Meara, Stephen James (2011). Deep-sky companions: the secret deep (http://books.google.com /books?id=v859bKO0A4gC&pg=PA84). Cambridge University Press. ISBN 978-0-521-19876-9.
- Ridpath, Ian; Tirion, Wil (2003). Monthly sky guide (6th ed.). Cambridge University Press. ISBN 978-0-521-53306-5.
- Ridpath, Ian; Tirion, Wil (2007). Stars and planets guide. London: Collins. ISBN 978-0-00-725120-9.

# **External links**

- The Deep Photographic Guide to the Constellations: Taurus (http://www.allthesky.com/constellations/taurus/constell.html)
- BBC article on the possibility of Taurus being represented in Lascaux (http://news.bbc.co.uk/1/hi/sci/tech/871930.stm)
- Star Tales Taurus (http://www.ianridpath.com/startales /taurus.htm)



Wikimedia Commons has media related to: *Taurus (constellation)* (category)

 Taurus Constellation at Constellation Guide (http://www.constellation-guide.com/constellationlist/taurus-constellation/)

Retrieved from "http://en.wikipedia.org/w/index.php?title=Taurus\_(constellation)&oldid=664803373"

Categories: Taurus (constellation) | Constellations | Western astrology | Northern constellations | Constellations listed by Ptolemy

- This page was last modified on 31 May 2015, at 03:11.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.

# **Taurus (astrology)**

From Wikipedia, the free encyclopedia



A symbolic representation of Taurus.

**Taurus** (Latin for "the **Bull**"; symbol:  $\mathcal{G}$ , Unicode:  $\mathcal{G}$ ) is the second astrological sign in the present Zodiac. It spans the 30-60th degree of the zodiac, between 27.25 and 54.75 degree of celestial longitude. Under the tropic zodiac, the Sun transits this area on average between April 20 and May 20 each year. Under the sidereal zodiac, the sun currently transits the constellation of Taurus from May 16 to June 15 (approximately). People born between these dates, depending on which system of astrology they subscribe to, may be called *Taureans*.<sup>[1]</sup> The symbol of the bull is based on the Cretan Bull, the white bull that fathered the Minotaur and was killed by Theseus.<sup>[2]</sup>

## History

Taurus was the second sign of the zodiac established among the ancient Mesopotamians—who knew it as the Bull of Heaven—because it was

the sign through which the sun rose on the vernal equinox. Due to the procession of the equinox, it now follows Aries. The Bull represents a strong-willed character with great perseverance and determination. In Egypt, Taurus was seen as the cow goddess Hathor. Hathor was the goddess of beauty, love, and happiness, and she represented all of the riches seen in cattle as the providers of nourishment. Roman astrologers considered Taurus ruled by Venus, the goddess of beauty.

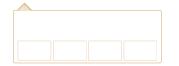
## References

- 1. Oxford English Dictionary (http://oxforddictionaries.com/definition/Taurus#m\_en\_gb0846670.006). Retrieved 17 August 2011.
- 2. http://www.theoi.com/Ther/TaurosKretaios.html

Retrieved from "http://en.wikipedia.org/w/index.php?title=Taurus\_(astrology)&oldid=664988017"

Categories: Astrological signs | Mythological bovines | Astrology stubs

- This page was last modified on 1 June 2015, at 08:05.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.



# Sacred bull

From Wikipedia, the free encyclopedia

The worship of the **Sacred Bull** throughout the ancient world is most familiar to the Western world in the biblical episode of the idol of the Golden Calf. The Golden Calf after being made by the Hebrew people in the wilderness of Sinai, were rejected and destroyed by Moses and the Hebrew people after Moses' time upon Mount Sinai (Book of Exodus). Marduk is the "bull of Utu". Shiva's steed is Nandi, the Bull. The sacred bull survives in the constellation Taurus. The bull, whether lunar as in Mesopotamia or solar as in India, is the subject of various other cultural and religious incarnations, as well as modern mentions in new age cultures.



Bull heads excavated from Çatalhöyük in the Museum of Anatolian Civilizations in Ankara.



2nd Century A.D sculpture of Nandi bull.

# Contents

- In prehistorical art
- 2 In antiquity
  - 2.1 Mesopotamia
  - 2.2 Egypt
  - 2.3 Eastern Anatolia
  - 2.4 Crete
  - 2.5 Iran
  - 2.6 Indus Valley
  - 2.7 Cyprus
  - 2.8 Levant
  - 2.9 Hellas
    - 2.9.1 Eucharist analogies
  - 2.10 Roman Empire
  - 2.11 Celts
- 3 Medieval and modern
- 4 Notes
- 5 See also
- 6 References
- 7 External links

# In prehistorical art

Aurochs are depicted in many Paleolithic European cave paintings such as those found at Lascaux and Livernon in France. Their life force may have been thought to have magical qualities, for early carvings of the aurochs have also been found. The impressive and dangerous aurochs survived into the Iron Age in Anatolia and the Near East and was worshipped throughout that area as a sacred animal; the earliest survivals of a bull worship are at neolithic Çatalhöyük.

The bull was seen in the constellation Taurus by the Chalcolithic and had marked the new year at springtide by the Bronze Age, for 4000–1700 BCE.

# In antiquity

#### Mesopotamia

The Sumerian Epic of Gilgamesh depicts the killing by Gilgamesh and Enkidu of the *Bull of Heaven*, Gugalana, first husband of Ereshkigal, as an act of defiance of the gods. From the earliest times, the bull was lunar in Mesopotamia (its horns representing the crescent moon).<sup>[1]</sup>

## Egypt

In Egypt, the bull was worshiped as Apis, the embodiment of Ptah and later of Osiris. A long series of ritually perfect bulls were identified by the god's priests, housed in the temple for their lifetime, then embalmed and encased in a giant sarcophagus. A long sequence of monolithic stone sarcophagi were housed in the Serapeum, and were rediscovered by Auguste Mariette at Saqqara in 1851. The bull was also worshipped as Mnewer, the embodiment of Atum-Ra, in Heliopolis. *Ka* in Egyptian is both a religious concept of life-force/power and the word for bull.

#### **Eastern Anatolia**

We cannot recreate a specific context for the bull skulls with horns (*bucrania*) preserved in an 8th millennium BCE sanctuary at Çatalhöyük in eastern Anatolia. The sacred bull of the Hattians, whose elaborate standards were found at Alaca Höyük alongside those of the sacred stag, survived in the Hurrian and Hittite mythologies as Seri and Hurri (Day and Night)—the bulls who carried the weather god Teshub on their backs or in his chariot, and grazed on the ruins of cities.<sup>[2]</sup>

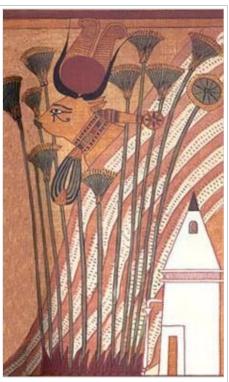
#### Crete

Bulls were a central theme in the Minoan civilization, being a major religious object, with bull heads and bull horns used as symbols in the Knossos palace. Minoan frescos and ceramics depict the bull-leaping ritual in which participants of both sexes vaulted over bulls by grasping their horns. See also "*Minotaur and The Bull of Crete*" for a later incarnation to the Minoan Bull.

#### Iran

The Iranian language texts of Zoroastrian scripture and tradition have several different mythological bovine creatures. One of these is Gavaevodata, which is the Avestan language name of a hermaphroditic "uniquely created (-aevo.data) cow (gav-)", one of Ahura Mazda's six

primordial material creations that becomes the mythological progenitor of all beneficent animal life. Another



Hathor as a cow, wearing her necklace and showing her sacred eye – Papyrus of Ani.



The Bull-Leaping Fresco: Knossos

Zoroastrian mythological bovine is Hadhayans, a gigantic bull so large that it could straddle the mountains and seas that divide the seven regions of the earth, and on whose back men could travel from one region to another. In medieval times, Hadhayans also came to be known as Srisok (Av. \*Thrisaok, "three burning places"), which derives from a legend in which three "great fires" were collected on the creature's back. Yet another mythological bovine is that of the unnamed creature in the *Cow's Lament*, an allegorical hymn attributed to Zoroaster himself, in which the soul of a bovine (*geush urvan*) despairs over her lack of protection from an adequate herdsman. In the allegory, the cow represents humanity's lack of moral guidance, but in later Zoroastrianism Geush Urvan became a *yazata* representing all cattle, and the 14th day of the month is named after her, and is under her protection.

#### **Indus Valley**

Nandi appears in the Hindu mythology as the primary vehicle and the principal *gana* (follower) of Shiva. Bulls also appear on the Indus Valley seals from Pakistan as well,

#### Cyprus

In Cyprus, bull masks made from real skulls were worn in rites. Bull-masked terracotta figurines<sup>[3]</sup> and Neolithic bull-horned stone altars have been found in Cyprus.

#### Levant

The Canaanite (and later Carthaginian) deity Moloch was often depicted as a bull.

Exodus 32:4 (http://biblelexicon.org/exodus/32-4.htm) "He took this from their hand, and fashioned it with a graving tool and made it into a molten calf; and they said, 'This is your god, O Israel, who brought you up from the land of Egypt'."

Nehemiah 9:18 (http://biblelexicon.org/exodus/32-4.htm) "even when they made an idol shaped like a calf and said, 'This is your god who brought you out of Egypt!' They committed terrible blasphemies."

Calf-idols are referred to later in the Tanakh, such as in the Book of Hosea,<sup>[4]</sup> which would seem accurate as they were a fixture of near-eastern cultures.

King Solomon's "bronze sea" basin stood on 12 brazen bulls.<sup>[5][6]</sup>

Young bulls were set as frontier markers at Tel Dan and at Bethel the frontiers of the Kingdom of Israel.

Much later, in Abrahamic traditions, the bull motif became a bull demon or the "horned devil" in contrast and conflict to earlier traditions. The bull is familiar in Judeo-Christian cultures from the Biblical episode wherein an idol of the Golden Calf is made by Aaron and worshipped by the Hebrews in the wilderness of Sinai (*Exodus*). The text of the Hebrew Bible can be understood to refer to the idol as representing a separate god, or as representing the God of Israel himself, perhaps through an association or syncretization with Egyptian or Levantine bull gods, rather than a new deity in itself.

#### Hellas

The Indo-European culture of Sacred Bull remembered by the Indo-European race in Aegean basin, the they worshiped their tradition beliefs on many occasions, in the form of the myths that have survived.

In the Olympian worship, Hera's epithet *Bo-opis* is usually translated "ox-eyed" Hera, but the term could just as well apply if the goddess had the head of a cow, and thus the epithet reveals the presence of an earlier, though not necessarily more primitive, iconic view. Schliemann, 1976 Classical Greeks never otherwise referred to Hera simply as the cow, though her priestess Io was so literally a heifer that she was stung by a gadfly, and it was in the form of a heifer that Zeus coupled with her. Zeus took over the earlier roles, and, in the form of a bull that came forth from the sea, abducted the high-born Phoenician Europa and brought her, significantly, to Crete.

Dionysus was another god of resurrection who was strongly linked to the bull. In a worship hymn from Olympia, at a festival for Hera, Dionysus is also invited to come as a bull, *"with bull-foot raging." "Quite frequently he is portrayed with bull horns, and in Kyzikos he has a tauromorphic image,"* Walter Burkert relates, and refers also to an archaic myth in which Dionysus is slaughtered as a bull calf and impiously eaten by the Titans.<sup>[7]</sup>

For the Greeks, the bull was strongly linked to the Bull of Crete: Theseus of Athens had to capture the ancient sacred bull of Marathon (the "Marathonian bull") before he faced the Bull-man, the Minotaur (Greek for "Bull of Minos"), whom the Greeks imagined as a man with the head of a bull at the center of the labyrinth. Minotaur was fabled to be born of the Queen and a bull, bringing the king to build the labyrinth



*The Rape of Europa*, Jacob Jordaens, 1615



*The Rape of Europa*, Jean-François de Troy, 1716

to hide his family's shame. Living in solitude made the boy wild and ferocious, unable to be tamed or beaten. Yet Walter Burkert's constant warning is, *"It is hazardous to project Greek tradition directly into the Bronze age"*;<sup>[8]</sup> only one Minoan image of a bull-headed man has been found, a tiny seal currently held in the Archaeological Museum of Chania.

In the Classical period of Greece, the bull and other animals identified with deities were separated as their *agalma*, a kind of heraldic show-piece that concretely signified their numinous presence.

#### **Eucharist analogies**

Walter Burkert summarized modern revision of a too-facile and blurred identification of a god that was identical to his sacrificial victim, which had created suggestive analogies with the Christian Eucharist for an earlier generation of mythographers:

The concept of the theriomorphic god and especially of the bull god, however, may all too easily efface the very important distinctions between a god named, described, represented, and worshipped in animal form, a real animal worshipped as a god, animal symbols and animal maskes used in the worship, and finally the consecrated animal destined for sacrifice. Animal worship of the kind found in the Egyptian Apis worship is unknown in Greece. ("Greek Religion," 1985).

#### **Roman Empire**

The religious practices of the Roman Empire of the 2nd to 4th centuries included the *taurobolium*, in which a bull was sacrificed for the well being of the people and the state. Around the mid-2nd century, the practice

became identified with the worship of Magna Mater, but was not previously associated only with that cult (*cultus*). Public taurobolia, enlisting the benevolence of Magna Mater on behalf of the emperor, became common in Italy and Gaul, Hispania and Africa. The last public taurobolium for which there is an inscription was carried out at Mactar in Numidia at the close of the 3rd century. It was performed in honor of the emperors Diocletian and Maximian.

Another Roman mystery cult in which a sacrificial bull played a role was that of the 1st-4th century Mithraic Mysteries. In the so-called "tauroctony" artwork of that cult (*cultus*), and which appears in all its temples, the god Mithras is seen to slay a sacrificial bull. Although there has been a great deal of speculation on the subject, the myth (i.e. the "mystery", the understanding of which was the basis of the cult) that the scene was intended to represent remains unknown. Because the scene is accompanied by a great number of astrological allusions, the bull is generally assumed to represent the constellation of Taurus. The basic elements of the tauroctony scene were originally associated with Nike, the Greek goddess of victory.

Macrobius lists the bull as an animal sacred to the god Neto/Neito, possibly being sacrifices to the deity.<sup>[9]</sup>

#### Celts

A prominent zoomorphic deity type is the divine bull. Tarvos Trigaranus ("bull with three cranes") is pictured on reliefs from the cathedral at Trier, Germany, and at Notre-Dame de Paris. In Irish mythology, the Donn Cuailnge ("Brown Bull of Cooley") plays a central role in the epic *Táin Bó Cuailnge* ("The Cattle-Raid of Cooley") which features the hero Cú Chulainn, which were collected in the 7th century CE *Lebor na hUidre* ("Book of the Dun Cow").

Pliny the Elder, writing in the first century AD, describes a religious ceremony in Gaul in which white-clad druids climbed a sacred oak, cut down the mistletoe growing on it, sacrificed two white bulls and used the mistletoe to cure infertility:<sup>[10]</sup>

66 The druids — that is what they call their magicians — hold nothing more sacred than the mistletoe and a tree on which it is growing, provided it is Valonia oak.... Mistletoe is rare and when found it is gathered with great ceremony, and particularly on the sixth day of the moon....Hailing the moon in a native word that means 'healing all things,' they prepare a ritual sacrifice and banquet beneath a tree and bring up two white bulls, whose horns are bound for the first time on this occasion. A priest arrayed in white vestments climbs the tree and, with a golden sickle, cuts down the mistletoe, which is



Tauroctony of Mithras at the British Museum, London.



Bull used as an heraldic crest, here for the Fane family, Earls of Westmorland. (Great Britain, this example 18th or 19th century, but inherited early 17th century from a much earlier use of the idiom by the Neville family).

"

caught in a white cloak. Then finally they kill the victims, praying to a god to render his gift propitious to those on whom he has bestowed it. They believe that mistletoe given in drink will impart fertility to any animal that is barren and that it is an antidote to all poisons.<sup>[11]</sup>

## Medieval and modern

The practice of bullfighting in Iberia and southern France are connected with the legends of Saint Saturninus (or Sernin) of Toulouse and his protégé in Pamplona, Saint Fermin. These are inseparably linked to bull-sacrifices by the vivid manner of their martryrdoms, set by Christian hagiography in the 3rd century CE.

In some Christian traditions, Nativity scenes are carved or assembled at Christmas time. Many show a bull or an ox near the baby Jesus, lying in a manger. Traditional songs of Christmas often tell of the bull and the donkey warming the infant with their breath. This refers (or, at least, is referred) to the beginning of the book of the prophet Isaiah, where he says: "The ox knoweth his owner, and the ass his master's crib." (Isaiah 1:3)

#### Notes

- 1. Jules Cashford, *The Moon: Myth and Image* 2003, begins the section "Bull and cow" pp 102ff with the simple observation "Other animals become epiphanies of the Moon because they look like the moon.... the sharp horns of a bull or cow were seen to match the pointed curve of the waxing and waning crescents so exactly that the powers of the one were attributed to the other, each gaining the other's potency as well as their own."
- 2. Hawkes and Woolley, 1963; Vieyra, 1955
- 3. Burkert 1985
- 4. "Hosea 10:5 The people who live in Samaria fear for the calf-idol of Beth Aven. Its people will mourn over it, and so will its idolatrous priests, those who had rejoiced over its splendor, because it is taken from them into exile" (http://bible.cc/hosea/10-5.htm). Bible.cc. Retrieved 2012-10-30.
- 5. "1 Kings 7:25 The Sea stood on twelve bulls, three facing north, three facing west, three facing south and three facing east. The Sea rested on top of them, and their hindquarters were toward the center" (http://bible.cc/1\_kings/7-25.htm). Bible.cc. Retrieved 2012-10-30.
- 6. "Jeremiah 52:20 The bronze from the two pillars, the Sea and the twelve bronze bulls under it, and the movable stands, which King Solomon had made for the temple of the LORD, was more than could be weighed" (http://bible.cc /jeremiah/52-20.htm). Bible.cc. Retrieved 2012-10-30.
- 7. Burkert 1985 pp. 64, 132
- 8. Burkert 1985 p. 24
- 9. Macrobius, Saturnalia, Book I, XIX
- Miranda J. Green. (2005) Exploring the world of the druids. London: Thames & Hudson. ISBN 0-500-28571-3. Page 18-19
- 11. Natural History (Pliny), XVI, 95

### See also

- Bulls in Indo-European mythology
- Bucranium
- Bugonia
- Camahueto
- Cattle in religion

- Deer (mythology)
- Red heifer
- Taurobolium

## References

- Burkert, Walter, Greek Religion, 1985
- Campbell, Joseph Occidental Mythology "2. The Consort of the Bull", 1964.
- Hawkes, Jacquetta; Woolley, Leonard: Prehistory and the Beginnings of Civilization, v. 1 (NY, Harper & Row, 1963)
- Vieyra, Maurice: *Hittite Art, 2300-750 B.C.* (London, A. Tiranti, 1955)
- Jeremy B. Rutter, *The Three Phases of the Taurobolium*, Phoenix (1968).
- Heinrich Schliemann, "Troy and its Remains" (NY, Arno Press, 1976) pp. 113–114.

## **External links**

- An exhibit on the tombs of Alaca Höyük (http://www.metmuseum.org/explore/First\_Cities /death\_anatolia.htm) at the Metropolitan Museum of Art includes one example of the bull standards.
- Bull Tattoo Art (http://www.freetattoodesigns.org/bull-tattoo-art.html) The image of the bull in tattoo art.

Retrieved from "http://en.wikipedia.org/w/index.php?title=Sacred\_bull&oldid=657198578"

Categories: Comparative mythology | Indo-European mythology | Mythological bovines | Middle Eastern mythology | Minoan culture | Animal worship | Mythological bulls

- This page was last modified on 19 April 2015, at 16:04.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.



# ταύρος

Definition from Wiktionary, the free dictionary See also: Ταύρος

## Contents

- 1 Greek
  - 1.1 Etymology
  - 1.2 Noun
    - 1.2.1 Declension
    - 1.2.2 See also

## Greek

#### Etymology

From Ancient Greek ταῦρος (taûros), from Proto-Indo-European \*táwros.

#### Noun

ταύρος • (távros) m (plural ταύροι, feminine αγελάδα)

1. bull

2. (astronomy, astrology) Taurus

#### Declension

ταύρος (távros)

[show ▼]

#### See also

- βόδι *m* (vódi, "ox")
- μοσχάρι n (moschári, "calf")

Retrieved from "http://en.wiktionary.org/w/index.php?title=ταύρος&oldid=31964780"

Categories: Greek terms derived from Ancient Greek | Greek terms derived from Proto-Indo-European | Greek lemmas | Greek nouns | el:Astronomy | el:Astrology | el:Cattle | el:Mammals

- This page was last modified on 8 January 2015, at 14:30.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy.