

ASTRONOMY

# Stars of Legend

## Dramatis Personae of Famous Story are All Present In the Constellations of the December Skies

By JAMES STOKLEY

**M**ANY are the stories associated with the constellations, stories which date in most cases from remote antiquity. The dramatis personae of one of these famous mythological tales is now entirely with us in the evening sky. It is a story of a princess who was rescued from a horrible death by a great hero. In the constellation of Andromeda we see the heroine of the tale. She was a princess of Ethiopia. Cassiopeia, just to her north, was her mother, the queen. King Cepheus, her father, stands in the northwest, directly below his wife. His constellation is not nearly as conspicuous as the queen's; perhaps this is in accord with their relative importance when, and if, alive!

On the old star maps which, unlike the modern and more scientific charts, showed the mythological figures around the stars, Andromeda is represented as chained by her hands and feet to a huge rock. According to the legend, this was the punishment that was visited upon her because of her mother's boast of being more beautiful than Juno or the sea nymphs. These ladies were so insulted that they appealed to Neptune, god of the sea, for vengeance, and he sent a great sea monster to ravage the Ethiopian coast. This not being sufficient for the blood-thirsty god, he required Cassiopeia to sacrifice her daughter, and so she was chained to the rock to await the monster's pleasure.

### Hero to the Rescue

In accordance with the best traditions of fairy tales, however, a hero appeared to rescue her. This was none other than Perseus. Having obtained, with the assistance of Mercury and Minerva, the winged sandals and the helmet of invisibility, he had been able to slay and behead the Medusa. She was one of the three Gorgons, women whose locks consisted of serpents, and who were so terrible to look upon that anyone doing so was turned to stone. Perseus slew her by looking not directly at her, but at her reflection in his shield. As the blood

from her body fell upon the ground, Pegasus, the winged horse, sprang from it. According to Ovid, Perseus then mounted Pegasus, and a famous painting by Rubens shows Pegasus and Perseus together with Andromeda. However, there is no classical authority that Pegasus was his steed, and anyhow, he could already fly with the winged sandals. According to the classical story Pegasus was later caught by another hero, Bellerophon, with golden bridle given to him by Athena.

### Petrifying Sight

Regardless of his exact form of aerial locomotion, Perseus flew over the coast of Ethiopia, just as the monster was about to devour Andromeda. By waving the Medusa's head before the monster, he turned that creature to stone, and then severed the chains that bound the princess. Of course, he then married her but apparently they did not "live happily ever after," for Perseus later got into other adventures and seems to have left his princess behind.

The constellation of Perseus lies just to the east of Cassiopeia, and may be recognized from a curved row of stars called the "segment of Perseus" that forms the hero's body and upraised arm in which he holds a sword. Two stars

rather close together, just north of the Pleiades, form one of his feet. Pegasus is also in the sky and the "great square" is shown on the map. Even the monster is there as well. Towards the southwest you can see a quadrilateral of stars, with a somewhat brighter one just below the westernmost of the four. The latter is Deneb Kaitos, the tail of Cetus, the whale. The head of the beast lies just about half way between the four stars and Aldebaran, in the eye of Taurus.

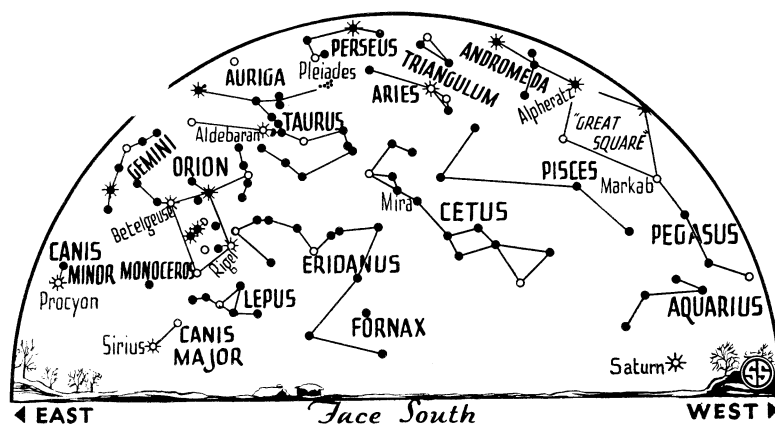
### Not Portraits

You needn't, by the way, be surprised if you cannot see any resemblance between the stars as arranged in the skies, and the objects they are supposed to represent. Most constellations would represent almost anything better than the objects after which they are named. One should think of them as areas dedicated to these mythical characters, rather than as accurate pictures of the characters themselves.

There is an important change in the motion of the sun during this month. Since last June it has been moving southwards in the sky, but on Dec. 22 at 7:50 a. m., eastern standard time, it reaches its farthest south, and then starts northwards. This is the winter solstice, and is the moment at which winter commences. Also, it makes the shortest day of the year, and the longest night.

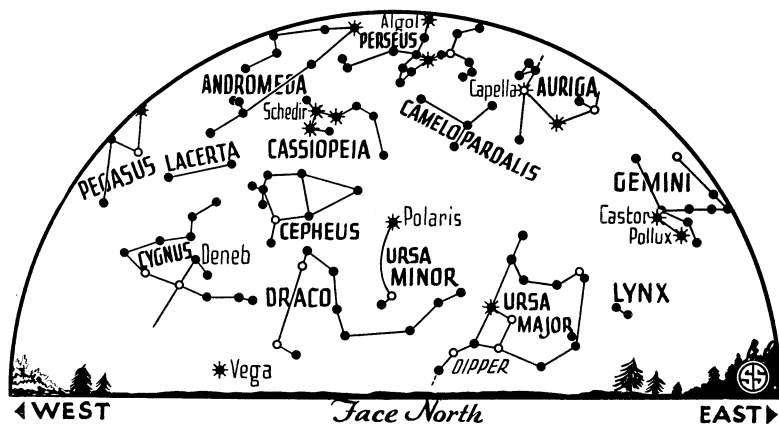
The glorious winter constellations are now coming into view. Low in the east can be seen the most brilliant of all,

### • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS



### FAIR LADY AND HERO

*In the northern skies you may now see Andromeda, fair princess chained to the rock, and her hero Perseus, to say nothing of her vain mother, Cassiopeia.*



FISH AND WHALE

Represented by Pisces and Cetus, these two creatures join with Taurus, the bull, Pegasus, the horse, Canis Major and Canis Minor, the big and little dogs, and Aries, the ram, in making the southern skies a sort of heavenly zoological garden.

Orion, mighty warrior of the sky. As you see him this evening, he is on his back. The three stars of his belt are vertical; to the right is Rigel, in one of his legs, to the left can be seen Betelgeuse, in one shoulder. Above him is ruddy Aldebaran, the eye of Taurus, the bull, which is charging on the hunter. Directly above Aldebaran, in the bull's shoulders, appear the Pleiades, a little cluster of six faint stars, which are famous in song and story.

Heavenly Twins

As high as Orion, to the northeast, is the constellation of Gemini, the twins, with Castor above, and Pollux, the brighter, below. Directly above them is Auriga, the charioteer, with Capella as the brightest star. All of these are shown on the accompanying maps, which picture the December skies as seen at 10 p. m. on the first of the month, 9 p. m. on the fifteenth and 8 p. m. on the thirty-first. Two other bright winter stars appear nearer the eastern horizon. One is Sirius, the dog star, in Canis Major, the greater dog, which is just below Orion when it rises. This is the most brilliant star in the sky, so it is easy to find. Incidentally, it is also the nearest star that can be seen from the United States with the unaided eye. Its light reaches the earth in the astronomically short time of nine years, though travelling every second a distance equal to seven times the circumference of the earth.

The maps show other conspicuous star groups which have been with us in the evening for the last few months.

Low in the southwest can be seen Saturn, not a star at all, but one of the planets, including the earth, that encir-

cle the sun. Its steady brilliance is very different from the twinkling stars, and can readily be located.

High in the western sky, resting on one corner, is the Great Square of Pegasus. This is really a misnomer, because one of the stars, Alpheratz, the topmost as now seen, is not in Pegasus at all but in the neighboring constellation of Andromeda. Just north of this group in the inverted W-shaped figure of Cassiopeia, the queen, seated on her throne. Quite low, (too low to show on the maps) and directly west, is Altair, marking the eagle, Aquila, while farther north is Vega, in Lyra, the lyre. Between them and a little higher, standing erect, is the northern cross, or Cygnus, the swan. At the top of the cross is Deneb, the swan's tail. Albireo marks the foot of the cross, or the beak of the swan.

Christmas Moonlight

During December, the moon can be seen in the evening sky from about the tenth, when it will be a well developed crescent in the west, until about the 24th, when it will rise between eight and nine o'clock, in a gibbous phase, a few days past full. On December 9 at 3:00 a. m. eastern standard time, the moon will be at its closest for the month, 226,620 miles from the earth; on the 25th, at 5:00 a. m., eastern standard time, it will be at its farthest. Then 251,920 miles will separate us from our satellite. The new moon is on December 6 at 12:25 p. m., E.S.T.; it is at First Quarter on December 13 at 5:52 a. m.; Full on December 20 at 3:53 p. m.; and at Last Quarter on December 28 at 9:08 p. m.

Science News Letter, November 24, 1934

ENTOMOLOGY

Stinging Bees Do Not Always Die

THE widely held belief that the bee can only sting once, and must die afterwards, is denied by Dr. J. G. Myers of the Imperial College of Tropical Agriculture, Trinidad. Dr. Myers carried out experiments with bees under various conditions, inducing them to sting handkerchiefs, insects, and frogs. Even after stinging several times, the bee usually recovered. (See SNL, June 2, p. 350)

Dr. Myer's zeal was not sufficiently great to withstand the bee's sting, for he remarks: (Nature, Aug. 25) "I was stung on the thumb and, perhaps because it was unexpected and I acted more violently than our other subjects, the sting was left in the wound."

Science News Letter, November 24, 1934

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