ASTRONOMY

Twins Become Triplets

Mars joins Castor and Pollux in Gemini on May evenings. Hydra is the largest constellation, covering 3.16% of the total area of the sky.

By JAMES STOKLEY

➤ THIS MONTH the familiar constellation of the twins looks as if it had become triplets!

Toward the west on May evenings there appears the constellation of Gemini, the twins, one of the few remaining of the groups that were so conspicuous to the south in the skies of winter. The two brightest stars in Gemini are Castor and Pollux. Near together, of not greatly different brilliance, they do suggest the pair of brothers which, in mythology, they represent. But in May there are three objects there in a row, almost equally spaced. The newcomer is the planet Mars, to the left of the actual twins. Because it is now quite far away, Mars is relatively faint, of magnitude 1.7. It is fainter than Pollux, the twin nearer to it, but a little brighter than Castor. Mars and Castor both would be called second magnitude, while Pollux is included among the stars of the first magnitude.

Positions Shown on Maps

The positions of these stars and their planetary visitors are shown on the accompanying maps, where the appearance of the heavens is depicted for about 11:00 p. m. (your local war time) on May 1, and an hour earlier in the middle of the month.

In the west another planet appears—Saturn, in the constellation of Taurus, the bull. As shown on the maps, most of Taurus has set, with only one star remaining, near which Saturn is shown. This planet is now of magnitude 0.3, which places it in brilliance among the brightest first-magnitude stars but, when as low as it is mapped, the absorption of the earth's atmosphere dims it greatly.

Jupiter in Better Position

The third May planet is in a better position. This is Jupiter, in Leo, the lion, and close to the sub-group known as the sickle. Jupiter is of magnitude minus 1.6, which is about twenty times the brilliance of Mars, brighter, indeed than any other object in the evening sky (except for the moon, which passes it May 28).

Looking toward the south these May evenings, it is possible to see well placed the two largest constellations in the sky, which happen to be next-door neighbors. Hydra, the water monster, is the largest, its position indicated on the maps. As it contains no star brighter than the second magnitude, it is not a conspicuous group, but it can easily be located. The head is about half-way between Jupiter and Procyon, the lesser dog-star. From here a long stream of stars extends to the left, passing under the little figure of Corvus, the crow, which is shaped like the mainsail of a ship. No other constellation stretches over so great a length of sky as Hydra. It covers about 3.16% of the total area of the sky.

Virgo Above Hydra's Tail

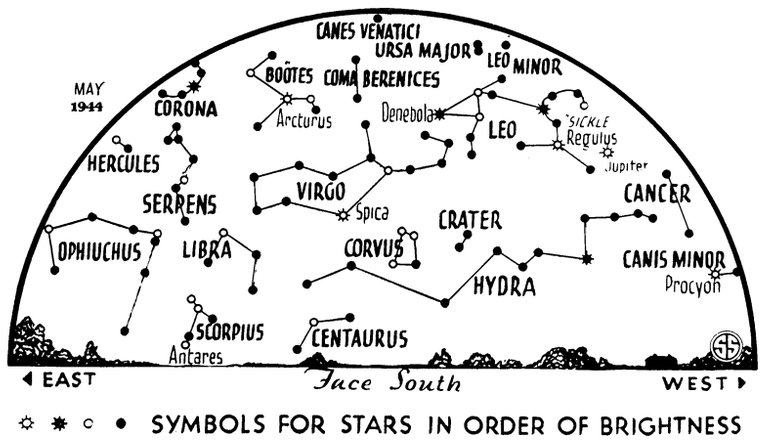
The second largest constellation is just above the end of Hydra's tail. It is Virgo, the virgin, and does contain a first magnitude star, called Spica. A good way to find it is to start high in the north with the familiar Great Dipper, in Ursa Major, the great bear (which, incidentally, ranks third in order of size). The handle of the dipper points upward. Follow its curved line to the south. The first bright star this brings you to is Arcturus, in Bootes, the bear driver, and then Spica. From there, the curve proceeds to Corvus. Virgo is important because it is one of the constellations of the zodiac, through which move the sun, moon and planets. It covers 3.14% of the whole sky, while Ursa Major, the next, covers 3.10%.

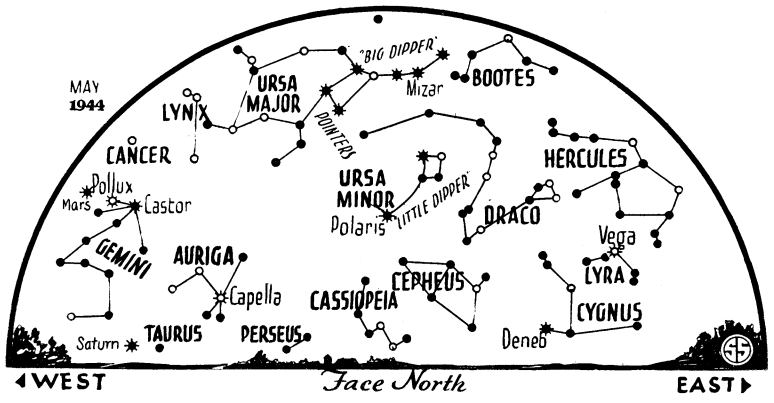
At the other extreme from these enormous constellations is Crux, the Southern Cross, only .17% of the total, a nineteenth the size of Hydra. The cross cannot be seen from most parts of the United States, though it rises just over the southern horizon in southern Florida and the southernmost tip of Texas; south, that is, of latitude 28 degrees. The cross is directly below Corvus, so a May evening, about the time for which the maps are drawn, is the time when the cross can best be seen from these southerly points.

Equuleus, the Little Horse

Slightly larger, with a little more than .17% of the sky, is the constellation of Equuleus, the little horse, which is the second smallest constellation, and the smallest visible from the greater part of the United States. It is not, however, visible in the evening just now, but will be in September, when it will be seen near Aquila, the eagle.

The smallest constellation shown on the accompanying maps is Corona Borealis, the northern crown, seen high in the east near Arcturus, with .18%. There are 15 constellations that are smaller, however, most of them southern ones. But just next to Corona, toward the left, is Hercules, the champion, which is fourth largest, with 3.00% of the sky. Third largest is Cetus the whale, visible in the winter evening sky, very slightly larger than Hercules.





A person interested in knowing more about the relative sizes of the constellations, as well as a great deal of other interesting material about them, will find these data given in the new third edition of *A Guide to the Constellations* by Samuel G. Barton and William H. Barton. An excellent series of twelve large charts shows the skies month by month, while the text and a number of tables give a wealth of astronomical information. There is probably no better book to introduce one to naked eye astronomy.

Celestial Time Table for May

May	EWT	
2	7:00 a. m.	Moon farthest distance 251,400 miles.
	1:00 p. m.	Mercury between earth and sun.
8	3:28 a. m.	Full moon.
15	7:12 a. m.	Moon in last quarter.
17	6:00 p. m.	Moon nearest: distance 228,900 miles.
22	2:12 a. m.	New moon.
23	11:37 p. m.	Moon passes Saturn.
26	8:37 p. m.	Moon passes Mars.
28	6:13 a. m.	Moon passes Jupiter.
29	4:00 p. m.	Mercury farthest west of sun.
	8:06 p. m.	Moon in first quarter.
30	2:00 a. m.	Moon farthest: distance 251,100 miles.

Subtract one hour for CWT, two hours for MWT, and three for PWT.

Science News Letter, April 29, 1944

MEDICINE

Hole in Esophagus

Soldier back from North Africa has perforation in his esophagus. Is unique condition, not result of wound. Surgeon expects it to heal by itself.

➤ CONVALESCING now at Walter Reed General Hospital in Washington is a soldier back from the North African campaign with a hole in his esophagus. He is Pfc. Otis Lumpkin, of Richmond, Va. By all the medical books, he should be dead, but he is very much alive and looking forward to resuming his war-interrupted career as a tenor. He may get well enough to go back to active duty as a soldier.

His condition, rare in medical experience, is not the result of a wound or an injury. It may have been due to an ulcer which ate its way through the wall of his esophagus. The esophagus, or gullet, is the passageway for food from throat to stomach. The most common cause of a perforation in the esophagus is cancer, but the surgeons at Walter Reed know from examinations they have made that he does not have cancer.

Such a hole in the esophagus sometimes results from swallowing a fish bone or chicken bone in childhood, but there is no history of that in this case.

"The principal point of importance about the case," the surgeon in charge of chest surgery at Walter Reed stated, "is that he is alive in spite of all. Most patients who have this condition die."

Whatever may have caused the condition, the first the patient knew about it was shortly after an evening meal in Tunisia some eight months ago, when he became violently nauseated and had one sharp regurgitation, or what the layman would call a "burp," of clear water. This was accompanied by "terrible pain" in the abdomen which moved up into his chest as he breathed. (The hole in his esophagus is at the lower end, right at the level of the diaphragm which separates the chest from the abdomen and moves as one breathes.) The doctors are sure that what he ate at mess that evening had nothing to do with the condition which, as one doctor told him, might have been present or developing for 10 years. They do not believe his singing could have caused it.

He was given a sedative that night and sent the next morning to a General Hospital of the British North African Forces, the only hospital in the vicinity at the time with facilities for treating such an unusual case. There a hole was cut into his chest in back and a tube inserted to drain off the fluid which had accumulated. Another tube was put through an opening made into his stomach through the abdominal wall and he was fed through this tube.

At first the feedings through the tube consisted of milk given every two hours day and night. Later these were changed to "meals" of milk and egg twice a day and, after he had been transferred to an American hospital, puréed baby foods were added. He remembers particularly one "meal" consisting of a milk shake with puréed beets and a few vitamin tablets ground up in it.

Strange as these meals may have looked, they were nourishing. Tube feeding was the only method that could be used, since everything he swallowed went through the tiny hole in his esophagus and into his chest. If he drank a glass of milk, by the time he swallowed the last drops, he could feel the first swallow running down his back, from the drainage tube in his chest.

After two months in the British hospital and about two and one-half months in an American hospital in Algiers, he was brought back to Walter Reed where he is now improving steadily. He is eating solid food and the tube into his stomach is no longer used. The drainage from the chest is very slight.

The hole in his esophagus seems to be healing. Occasionally liquids leak through it into his chest and drain out the tube in back. Once it was a glass of ice water and once a glass of beer, the patient related. He is able to be out of bed for two or three hours at a time and is regaining his strength.

The surgeon at Walter Reed believes the perforation will heal completely by itself. If not, the "formidable" operation of opening the chest and sewing up the perforation will be necessary. Otherwise, the only surgery the patient will need will be to close the openings where there are now tubes into his chest and stomach.

Science News Letter, April 29, 1944