



# OBSERVATIONS

A MONTHLY PUBLICATION OF THE  
CHESTER COUNTY ASTRONOMICAL SOCIETY



★President: Edwin Lurcott

**JUNE 1996**

★Vice President: Jim

★Treasurer: Pete LaFrance

(VOLUME 4, NO. 6)

Sylvester

★Secretary: Nancy Armstrong

## CCAS June Observing Session

DATE: **Friday June 14, 1996**

RAIN DATE: Saturday June 15, 1996

**(regardless of weather)**

TIME: 8:15 PM EDT

PLACE: Brandywine Valley Association  
(BVA)

LOCATION: Brandywine Valley Association  
1760 Unionville-Wawaset Rd  
(PA Rte. 842)

West Chester, PA (see map)

**Important Note:** In June, July, and August the monthly Society meeting is combined with the monthly observing session. Both are held at the BVA. If skies are bad on Friday, there is no meeting or observing. If skies are bad on Saturday, then the Society meeting will be held at the BVA, but there will be no observing session for that month.

At our June meeting, Kathy Buczynski will have a presentation on the constellation Bootes. There will also be some time for questions from the floor. The BVA property is approximately six miles west of West Chester on Route 842. As usual, there will be help available to set up and use your telescopes. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their 'scope. A map is enclosed.

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## CCAS Officer Election News

The election of Society officers for the coming year, scheduled for our May meeting, had to be postponed because we weren't ready yet. We still had no candidates for some of the positions. Thankfully, some members volunteered to run, and the Election Committee mailed out the ballots to all current members shortly after the May meeting. The Election Committee will announce the results at the June meeting.

## June's Skies

### Moon Phases

Full Moon	6/01
Last Quarter	6/08
New Moon	6/15
First Quarter	6/24
Full Moon	6/30

### **Blue Moon Special !! Two for one !!**

A Blue Moon occurs when there are two Full Moons in one calendar month: the second Full Moon of that month is the "Blue Moon." On average, this happens about every 2.72 years. As you can see above, we have a Blue Moon in June, on the 30th. The dates above, though, are based on Eastern Daylight Savings Time (EDT); Full Moon on June 30 occurs at 11:58 PM EDT. If we convert that to Universal Time (UT), then that Full Moon occurs at 03:58 on July 1. Using UT, then, the Full Moon on July 30 becomes the Blue Moon. But if you combine the two, and say that you are using EDT in June, you could claim to see a Blue Moon on June 30. The next day, you change your mind, and switch to using UT in July. Now you have another Blue Moon to look forward to in July! You can claim to have seen two Blue Moons in a row! A much rarer occurrence, I'm sure, than just seeing a single Blue Moon. Sorry, I don't have the averages on that one, NASA took away my access to their supercomputers... Oh, just for the record, the technical term for this method of interpreting astronomical data is "having your cake and eating it, too."



### **The Planets**

Mercury will be low in the morning sky in June. Later in the month it gets easier to find when Venus joins it. The best mornings to find Mercury are June 22 and 23, when Venus is only about 2° away (meaning that you could see both at one time in a pair of binoculars). You'd have to go out about 30 minutes or so before sunrise (sunrise on those days is around 5:30 AM). It would also help to have a relatively obstruction-free horizon to the northeast of your observing site, because both planets will still be

low in the sky. Just above them on those days will be Mars, which will be fainter than Mercury.

Venus leaves the evening sky this month. On the 1st, Venus will still be in the evening sky after sunset, but it will be very low. By June 10 it is lost in the Sun's glare. Around June 17 or 18, early risers may be able to find Venus in the morning sky, rising before the Sun.

Mars emerges into the morning sky in June also. In the later part of the month, bright Venus joins Mercury and Mars, making the two fainter planets easier to find. You'll be able to find Mars this month, but it's still too far away for good viewing. The beginning of 1997 will give us better observations of Mars; it will be much closer then.

Jupiter, king of the planets, begins a summer-long reign of our night sky in June. On June 1, Jupiter rises by 11 PM, rising right at sunset as the month ends.

Saturn is rising early in the morning this month. Best time to see it is before morning twilight, when it will be high in the southeast.

Uranus and Neptune can be found in the morning sky this month. They are near the Capricornus-Sagittarius border. They follow Jupiter across the sky, but are better placed for viewing after midnight.

Pluto is in the constellation Ophiuchus, well placed for observing. You'll need good seeing and at least an 8" scope to see it. Both of the major astro magazines had good finder charts for Pluto in the last couple of months.

## Space Exploration Notes

### Historical Notes for June

In 1963, Valentina Tereskova becomes the first woman in space. She is still the only woman to ever fly solo in space.

In 1965, Ed White takes America's first space walk on the Gemini 4 mission.

In 1971, the 3 people aboard the Soviet craft Soyuz 11 die, after spending 22 days on the Salyut 1 space station. Soyuz 11 lost its air just after leaving Salyut 1.

In 1975, the Soviets launch Venera 10, the second spacecraft to photograph the surface of Venus.

In 1983, the Pioneer 10 spacecraft leaves the Solar System, outward bound for the stars.

Also in 1983, Sally Ride takes a ride on STS-7, the Space Shuttle *Challenger*, becoming America's first woman in space. Only took us 20 years to catch up!



### Comet Hale-Bopp by Jim Anderson

If you missed the great show put on by Comet Hyakutake in March, don't despair. You'll get another chance to see a great comet in the coming months. Comet Hale-Bopp is inbound toward the Sun, getting steadily closer and brighter since being discovered last summer by two American amateurs. When found, it was still way out past the orbit of Jupiter: the farthest out that a comet has ever been found by amateurs. Since it will be farther away from Earth as it passes by on its path toward the Sun, it will appear to move more slowly than Comet Hyakutake. That's good news, because it means that the "big show" will last for months, not just a week or two. Right now the comet is a 7th magnitude fuzball in the constellation Sagittarius. It's visible in binoculars if you know where to look. By July 15 it reaches 6th magnitude, visible to the unaided eye under dark skies. It will be in Scutum then. By September it should be about magnitude 5.4, in Ophiuchus. By the end of the year, it will be easily visible to the naked eye, and projections say it will probably get brighter than Hyakutake. The "really big show" will be in the first three months of 1997. But now is a good time to start tracking Hale-Bopp. Astrophotographers have a good photo op on July 15, when it will be within 1° of open cluster NGC 6649. Yet another good photo op is on August 5, when the comet passes right between two globular clusters that are only 2° apart: NGC 6517 and NGC 6539. There is a good article, a finderchart for use with binoculars or small telescopes, stellar coordinates for the summer months, and the orbital elements, all in the July 1996 issue of *Astronomy* magazine, now on newsstands.



### First Light by Jim Anderson

Here's a brief guide to finding your way around the June sky. As usual, start by finding north, so you know which direction is which. The key to this is finding the Big Dipper. On June evenings, the Big Dipper is almost straight overhead. Look up and find it. Now find the Pointer Stars: the two stars that form the end of the Dipper's bowl (the end away from the handle, that is). Draw a mental line through these two stars, continuing in the general direction of the horizon, almost like the line is a stream of milk being poured out of the Dipper. Extend that line about five times the distance between the Pointers, and you will come to a fairly bright star. This is Polaris, the Pole Star. You will

notice that it is not the brightest star in the sky. But it does lie just above the Earth's North Pole, so if you find it and face that way, you are facing north.

As you face north, extend your left arm straight out to your side. Now your hand is pointing west. Halfway between north and west, or in the northwest, you should see a bright star near the horizon. This is Capella, in the constellation Auriga the Charioteer. Further to the left and a bit higher are the Gemini twins, bright Castor and Pollux. Castor is the northern most of the Twins.

Now turn and face due west. About halfway up the sky to overhead is another bright star, Regulus, in Leo the Lion. You should be able to see some other stars near Regulus, that with Regulus form a sickle shape. Regulus is at the end of the handle of the sickle. The sickle can also be seen as a backwards question mark, with the open end facing down toward the horizon. The sickle marks the head of Leo, so the Lion is diving headfirst into the western horizon this month! A little above the sickle you may be able to see a triangle of stars about half the size of the sickle. That's the rear haunches of the Lion (he's lying down).

Now look back up to the Big Dipper. Follow the curve of the handle out away from the bowl until you come to a very bright star. This is Arcturus, in Bootes the Herdsman. There's a phrase to help you remember this trick: "arc to Arcturus." If you continue the line on toward the south, but make it a bit straighter, you will find another bright star that is a bit fainter than Arcturus. This is Spica, the brightest star in Virgo the Virgin. The phrase for this extension of the line is "spike to Spica." At this point you should be facing south (see if Polaris is straight behind you). If so, just a bit to your left (which is east when you're facing south) you should be able to see a very bright, reddish star. This is Antares, in Scorpius the Scorpion. Antares, by the way, means "Rival of Mars." You can see why.

To finish up our brief tour, face east (if you're facing south, extend your left arm straight out to the side, and your hand points east). You should see two very bright stars, and possibly a third one closer to the horizon. These three form a large triangle, called the "Summer Triangle." Over the coming months, the Summer Triangle will become an old friend, as it is one of the major guideposts for the summer sky. The highest, and

brightest of the three is Vega, in Lyra (the Lyre, or Harp). Lower and to the north (left if you're facing east) is Deneb, the tail of Cygnus the Swan. If you're lucky you may be able to see some other stars that seem to form a cross (the Northern Cross) with Deneb. Deneb would be at the top of the Cross, with the foot of the Cross to the south. The third star in the triangle may be lost in the skyglow (Philadelphia is to our east). Waiting until later in the evening may help you find Altair, in Aquila the Eagle. For an easy treat, take a pair of binoculars and scan down through Cygnus. A simple pair of 7x35 binoculars will suffice. You will be amazed at what you see. The Milky Way passes through Cygnus. It is always a beautiful sight in any size instrument. Believe it or not, as little as 50 years ago you could see the summertime Milky Way from here without optical aid, stretching like a river of milk across the sky. It's been drowned out by modern sky glow, or light pollution. What's light pollution? It's another story, for another time. Next month: some simple stellar coordinates for beginners.

### Also Available

A free brief overview called *Getting Started In Astronomy* is available from the CCAS. It can be picked up at a CCAS function, or you can call the newsletter editor to get a copy mailed to you. Suggestions for improving this introduction to our hobby are always welcome. Articles for the *First Light* column, intended for beginners, are also needed.



### Contributing to the Newsletter

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to the editor at [skywalkr56@aol.com](mailto:skywalkr56@aol.com). Or mail to:

Jim Anderson  
1086 King Road IVY-312  
Malvern, PA 19355



## Membership Renewals

Check the date printed on the address label of this issue of *Observations*. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance. Mail to:

**Pete LaFrance**  
**413 Church Rd.**  
**Avondale, PA 19311**

## Sky & Telescope Magazine Group Rates!

Subscriptions to this excellent periodical are available through the CCAS at \$27 per year, about half the newsstand price, and also cheaper than individual subscriptions! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance.

**Note:** Sky Publishing recently announced a price increase for club subscriptions like this, raising the price from \$24. Just in case you're wondering why the above paragraph no longer says \$24.

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## CCAS Membership Information

The present membership rates are as follows:

### REGULAR MEMBER

(18 years or older) .....\$20/year

### SENIOR MEMBER

(65 years or older) .....\$10/year

### STUDENT MEMBER

(full-time college student) .... \$ 5/year

### JUNIOR MEMBER

(under 18 years old) .....\$ 5/year

### FAMILY MEMBER

(husband, wife & children) ....\$ 30/year

For further information on membership or society activities you may call:

<b>President:</b>	Edwin Lurcott	(610) 436-0387
<b>Vice Pres:</b>	Jim Sylvester	(610) 696-1102
<b>Treasurer:</b>	Pete LaFrance	(610) 268-2616
<b>Secretary:</b>	Nancy Armstrong	(610) 873-7531
<b>Public Rel:</b>	Kathy Cseke	(610) 644-9543
<b>Obs Chm:</b>	Mike Tucker	(610) 584-8236
<b>Newsletter:</b>	Jim Anderson	(610) 993-0261

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