The American Astronomer

THE QUARTERLY NEWSLETTER OF
THE AMERICAN ASSOCIATION OF AMATEUR ASTRONOMERS

Volume VI, No. 2 March 2002

Comet Ikeya-Zhang (C2002/C1) was photographed by Michael Jäger near galaxy M31. He took his photo near Jauerling, Austria, on April 4, 2002. You can find this photo on the AstroStudio website, www.astrostudio.at

Comet C2002/C1, Ikeya-Zhang

Comet Ikeya-Zheng was discovered February 1, 2002, by Japanese observer Kaoru Ikeya and Chinese amateur Zhang Daqing. At time of discovery, the comet was visible in binoculars from dark-sky locales near the stars Beta and Iota Ceti, which define the "head" of Cetus, the Whale. The comet was about 8th magnitude in brightness.

On February 7th, Doug Kniffen in Missouri observed the comet. "In spite of hazy skies," he says, "and proximity to a bright display of the zodiacal light, comet Ikeya-Zhang is visible in 10X50 binoculars."

In mid-March, Ikeya-Zhang stood well up in the west as darkness fell in the constellation Pisces. Doug reported another observation on March 10th. "2002 C1 was observed last night. Very impressive through the binoculars. With averted vision, the tail stretched beyond the 5 degree FOV. The coma was small, only a few arc minutes, but it was quite bright. The pseudo nucleus appeared to be at least 4th magnitude, maybe brighter. Through the 4-inch at 25X, quite a bit of fine structure was seen in the tail within 2 degrees of the coma."

In Angola, Indiana, on March 16, Tim Tyler also observed this comet, "and it is a beauty!! It was an easy naked eye object, had an obvious tail in binos, and was stunning in a 6-inch newt. A 1.5 degree long tail was easily noted, but I couldn't detect any color. It's definitely the best comet I've seen with a telescope in the last 2 years."

Around March 27, Ikeya-Zhang passed just a few degrees from the spiral galaxy M33. And in early April it crossed just above M31, the great Andromeda galaxy.

Ikeya-Zhang moved into view in the morning sky around the first of April, while remaining visible in the evening. It slid past the W-shaped constellation Cassiopeia around April 10-15, and became "circumpolar." But the comet will continue to fade quickly as it moves farther from the Sun.

Ikeya-Zhang will pass closest to Earth on April 28, at a distance of about 38 million miles (61 million km).

An Eclipse Behind the Clouds

by Ernie Piini

10 deg, 01', 20" N. Latitude
85 deg, 44', 29" W. Longitude
San Juanillo, Costa Rica

Our intrepid group of five adventurers traveled by van for two hours from the coastal town of Samara, through rain and over bumpy gravel roads, to the half-moon shaped beach of San Juanillo, about 30 kilometers north as the crow flies. This was our destination where we expected to see the

continued on page 4

Roseann Johnston Earns Double Star Certificate

She's Done It Again! Roseann Johnston of Vincent, AL, has earned another observing certificate! This time, it's the AL's Double Star Certificate, awarded for observing 100 double stars. Roseann used 10x50 binoculars and a 4.5-inch reflector telescope to make her observations. "It's amazing," she says, "at the various colors of some of them." That's now six certificates for Roseann. Way to go, Roseann!!

AAAA members are eligible to earn any of the AL's observing awards.

AAAA Members who have completed AL observing projects should submit their observations directly to the AAAA for certification. Be sure to send COPIES of records ONLY. Do NOT send original photographs or observing logs.

AAAA

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A Member Society of The Astronomical League

Letters to AAAA

As some of you know, there is a convention in Topeka, Kansas, June 27-30, 2002. There have been changes from the original plans, and the new schedule and registration form are now online at http://www.washburn.edu/cas/physics/crane/convention.htm.

The convention is sponsored and hosted by the Department of Physics and Astronomy of Washburn University. Everyone is invited to attend.

Please pass this information along to other groups and individuals you think might be interested. If you have questions, please contact me directly at zzbculbe@washburn.edu.

Thanks much.

Brenda Culbertson

Dear Ed,

I just got the AAAA newsletter. Thanks so much for including my pics and that member profile of myself. All the other images, including yours, are spectacular, too! AAAA is a great astronomy club and very unique. Keep up the great work.

I just recently became an Astromart sponsor and am selling some of my Leonid 2001 images for those in the astronomical community who may not have had the chance to see the best meteor storm since 1966, or were not able to capture images on film. My sponsor Ad(s) are listed in Astromart.com under the CCD/ Astrophotography category, which includes a link to my astroimage page.

Ron Zincone, Richmond, RI
rzincone@uri.edu

Ladies and Gents:

You are cordially invited to view our monthly updates on ASTRONOMY TODAY. (www.AstronomyToday.com) Several new items have been posted, including more interviews with interesting people in our beloved field of ASTRONOMY.

I have a friendly chat with a talented lady: AAAA member Ms. Roseann Johnston, the second interview following my theme of Women in Astronomy.

This and more on ASTRONOMY TODAY.

Kindest Regards,

Lydia Lousteaux
www.astronomytoday.com

Magazine Subscriptions

A regular subscription to* Sky & Telescope *magazine is $39 per year, but you can get it at the club discount through the AAAA for only $30 per year.* Astronomy *magazine is also $39 per year, but the club discount rate is only $29. Subscribe to these magazines or extend your current subscription on the AAAA web page. Or send a check for the correct amount, made out to AAAA, to:

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www.corvus.com/a4-news/a02-mar.pdf

OBSERVING IS THE HEART OF AMATEUR ASTRONOMY

The American Association of Amateur Astronomers provides the AL's FREE Observe Programs on our website in Adobe Acrobat Portable Document File format at no charge as a service to members of the AAAA, the Astronomical League, and the astronomical community at large. The Observing Programs which require a published manual must still be obtained from Astronomical League Sales, PO Box 572, West Burlington, IA 52655. (You can now purchase AL manuals online at the AL Sales website, http://www.astronomicalleague.com.)

AAAA encourages you to download these PDF files for your own use, and to distribute them, in either electronic or printed form, to your friends and other interested observers, as an encouragement to further participation in amateur astronomy.

AAAA members are eligible to earn any of the AL's observing awards. We encourage you to participate in all of the programs which interest you.

AAAA Members who have completed AL observing projects should submit their observations directly to the AAAA for certification. Be sure to send COPIES of records ONLY. Do NOT send original photographs or observing logs.

www.corvus.com/aa01006.htm

Lake Whitney Star Party organizer and AAAA member Thomas Williamson proudly shows off an 8-inch Dobsonian telescope to AAAA member Glen Johnson and his son. The telescope was made at Lake Whitney and donated to the state park for use in its public astronomy events. Telescope making is a featured event at LWSP. Lake Whitney State Park is about 70 miles south of Dallas/Fort Worth, Texas.

Lake Whitney Astronomy Day Star Party, April 13, 2002

http://whitneyastro.dnswh.com

The 3rd Annual Lake Whitney Astronomy Day Star Party was again held at Lake Whitney State Park, near Hillsboro, TX, about 70 miles south of Dallas/Fort Worth. For the past two years, AAAA has been participating by providing programs and sponsoring observing certificates at Lake Whitney.

Like all good star parties, the Lake Whitney Star Party is geared to public observing programs. But LWSP is also known for its telescope making events, since organizer Thomas Williamson is an enthusiastic ATM. This year, he ground a 14.5 inch mirror during the two days of the event. Kelly Stripling helped out by making tile tools, and John Dowell built the Dobsonian scope mount for the new mirror. Mirror null testing demonstrations were also held. LWSP has donated a total of three Dobsonian telescopes to Lake Whitney State Park to use in their public programs.

Several hundred Girl Scouts were attending a jamboree in the park during the same weekend, and were treated to clear skies and good observing on Friday night. Sadly, Saturday night clouded over, and the closest anyone got to seeing stars was during AAAA President Ed Flaspoehler's slide presentation. Ed's topic, Observing Spring Deep Sky Objects, concentrated on five important objects visible this time of year,

Dr. Paul Derrick

representing each of the five type of objects available to observe: nebula M42 in Orion, open cluster M41 in Canis Major, planetary nebula M97 in Ursa Major, galaxy M51 and globular cluster M3, both in Canes Venatici.

Dr. Paul Derrick from Waco gave an interesting presentation about comets and asteroids. Dr. Derrick is Star Gazer columnist for the Waco Tribune-Herald newspaper. Dean Chandler gave a presentation describing the new planetarium being constructed at Central Texas College in Killeen. Harry Bearman, president of the Fort Worth Astronomical Society, was head judge for the ATM events.

AAAA is proud to sponsor the LWSP observing programs, and issued certificates for observing 20 objects to James and Matthew Ochoa from Bryan, TX, and Jay Porter and Mike Warren, both from College Station, TX.

25mm Eyepiece (48x) on 8-inch Dob

15mm Eyepiece (82x) on 8-inch Dob

Roseann Johnston - "Our Roseann"

Moon Pics

October 27, 2001

Roseann Johnston, AAAA

Vincent, AL - roseannj@bellsouth.net

Just thought I would "moon" y'all ... well, that is, with some Moon Photos I took.

These were taken Saturday evening, October 27, 2001, around 7:00 pm. I was trying out my new 8-inch Dob. The view through my new telescope is "out of this world!" (Think about it ... it really is!)

I used my Canon FTb with a 50mm lens and Polaroid 400 speed film. Eyepieces were a 25 mm (48x) and a 15mm (82x). Also I did a shot with my moon filter, which made a pretty "green moon." The camera settings I used were focus at infinity with a 1/8 second shutter speed.

I hope you like my pics. I think they are pretty good. There are prints that were made at York Photo, and they are not as good as the originals, since they look a tad washed out. But they are not bad, with it being the first time trying out photos with the new scope.

An Eclipse Behind the Clouds

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December 14, 2001 Annular Eclipse of the sun near the calculated centerline.

Our group included my 13-year old grandson, Matthew Piini from Dublin, California; retired Mount Hamilton astronomer Shiloh Unruh; Derek Gallion, a software programmer from Hastings, Minnesota; and our leader, Madelyn Dovano from Los Gatos, President of Migrant Travelers.

We arrived onto the sandy beach around 2 p.m. where the sky was quite cloudy and it rained occasionally. The moon's initial bite into the sun was to take place at first contact, 3:11 p.m. Annularity was to begin about 4:30 p.m. when the offset ring around the moon's perimeter appeared inside the solar disc. At this point no further beads from lunar mountains are seen. The ring, varying in shape, was to last for three and one-half minutes and then become a partial eclipse in reverse. The still partially eclipsed sun was to set at 5:22 p.m. A perfect ring occurs at mid-annularity when it is located exactly on the centerline as seen by the observer. I was expecting the best photo opportunities to occur during post annularity. A partial eclipse near sunset can be very colorful.

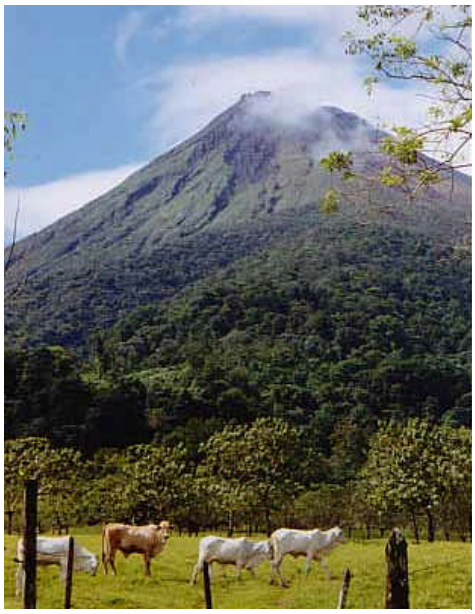
My special projects for this eclipse entailed building several solar filter assemblies for Matthew's JVC digital camcorder. These slip-on devices were machined to fit easily onto the front of his lens. I used the popular Baader ND-5 filter material. It reduces sunlight by a very safe 100,000 times. My set-up made use of a Takahashi "Sky Patrol" Equatorial Mount for tracking the sun. My recording equipment included a C-90 telescope with a Pentax ZX-5 camera and Kodak Royal Gold 100 film. Also on the mount was my Canon GL-1 camcorder.

As it turned out, I took two clear photos of the partial eclipse, the final at 3:30 p.m., but the clouds moved in shortly thereafter. It appeared that the clouds were moving southward and a clearing near the horizon was possible. This would have given us an opportunity for a colorful photo of the partial eclipse near the horizon without using our solar filters. It never happened.

It was dark when we left our eclipse site for the long bumpy ride back to Samara. The next morning we flew back to San Jose.

The Arenal Volcano

A good substitute for the clouded out eclipse was a visit to the Arenal Volcano. On a clear night, the active volcano can be seen spewing lava, and during the day, white-ash clouds from massive explosions. It has an almost perfect conical shape and reaches



View of the Arenal Volcano with white Brahma cattle grazing near the base.

1633 meters (5357 ft) high above sea level.

Near sunset, when we arrived at the park, the volcano was covered with clouds down to its base. During the night I kept looking out from our front observation window hoping to see red lava flows but we were actually in the cloud ourselves.

After an early breakfast, we were scheduled to depart the area at 8:30 a.m. As we packed for our departure, we could see the clouds around the volcano begin to lift. We can't leave now! Hold on, bus driver, we may luck out and see a substitute for the clouded out eclipse.

By 10:10 a.m., the clouds rose high enough to see the peak of the twin craters. What a grand sight. White Brahma cattle grazed near a fence at the bottom of the volcano. In India these are the sacred cattle which roam the streets freely. Near the summit lies an easily seen aircraft that crashed there about a year ago, killing all 10 passengers.

The last part of our trip was spent visiting Monteverde, a rain forest at an altitude of 1524 meters (5000 ft). It is green, green, green everywhere. Matthew got to see and photograph his favorite quetzal, a colorful, long tailed bird, during his walking tour through the reserve. We also saw exotic frogs and butterflies. We awoke at 4:00 a.m. to see the Southern Cross, Eta Carina, and the false cross beautifully displayed above the tree tops.

Yes, we did miss the eclipse, but the chance to mingle with the proud Costa Rican people, and to view their lush green country, its flora and fauna and beautiful beaches, and to experience the way the Arenal volcano cleared its cloud cover just for us, is unforgettable.

Astronomy With Cosmicmark

http://www.geocities.com/cosmicmark/

Mark Cunningham

Email:
cosmicmark@yahoo.com

Mark Cunningham is an amateur astronomer living in northwest Colorado, outside the city of Craig.

Mark has built his own observatory, which houses a Meade 16" f/4.5 reflector telescope, and has used it to take astrophotos for many years.

He has created his web site to share those photos with other astronomy buffs. Be sure to visit his photo pages.

Meade 16" f/4.5 Reflector

The Hale Bopp Comet

M92 Globular Cluster

Konus 500 Richfield Reflector

Dr. W. Sumner Davis' New Rich Field Scope

AAAA member Dr. W. Sumner Davis has worked almost exclusively with large optical and radio telescopes. Until his recent purchase of a 114mm KONUS Rich Field Reflector, the smallest telescope he had worked with was the 600mm SCT at the Collins Observatory.

Dr. Davis enjoys taking photographs of the planets, moon and deep sky images. He has also begun to image the Messier objects. "Taking astrophotography pictures with an autoguider, CCD, and 60-inch scope is very different from what I am doing on my own with my new scope and cameras."

The telescope was purchased through Owl Services in Pennsylvania, and was shipped with no problems to Dr. Davis' home in Maine. "What impressed me, almost as much as the optics on this scope, was the customer support and the price. I found this exact same scope at other stores for nearly 50% more. Tom at Owl Services has been an outstanding supporter, and, as an astronomer himself, knows what is important to others in this field."

Using the auto tracking to take long exposure photographs with a piggy back camera, and refitted with a 50mm short focus refractor as a guide scope, Dr. Davis can be aligned and "shooting" in under 5 minutes. He is planning on adding photographs to his astronomy web site, where you can find the personal pages of many fellow AAAA'ers, including the president, Ed Flaspoehler.

Dr. Davis' astronomy site can be found by following the links at: http://www.powerlink.net/drwdavis.

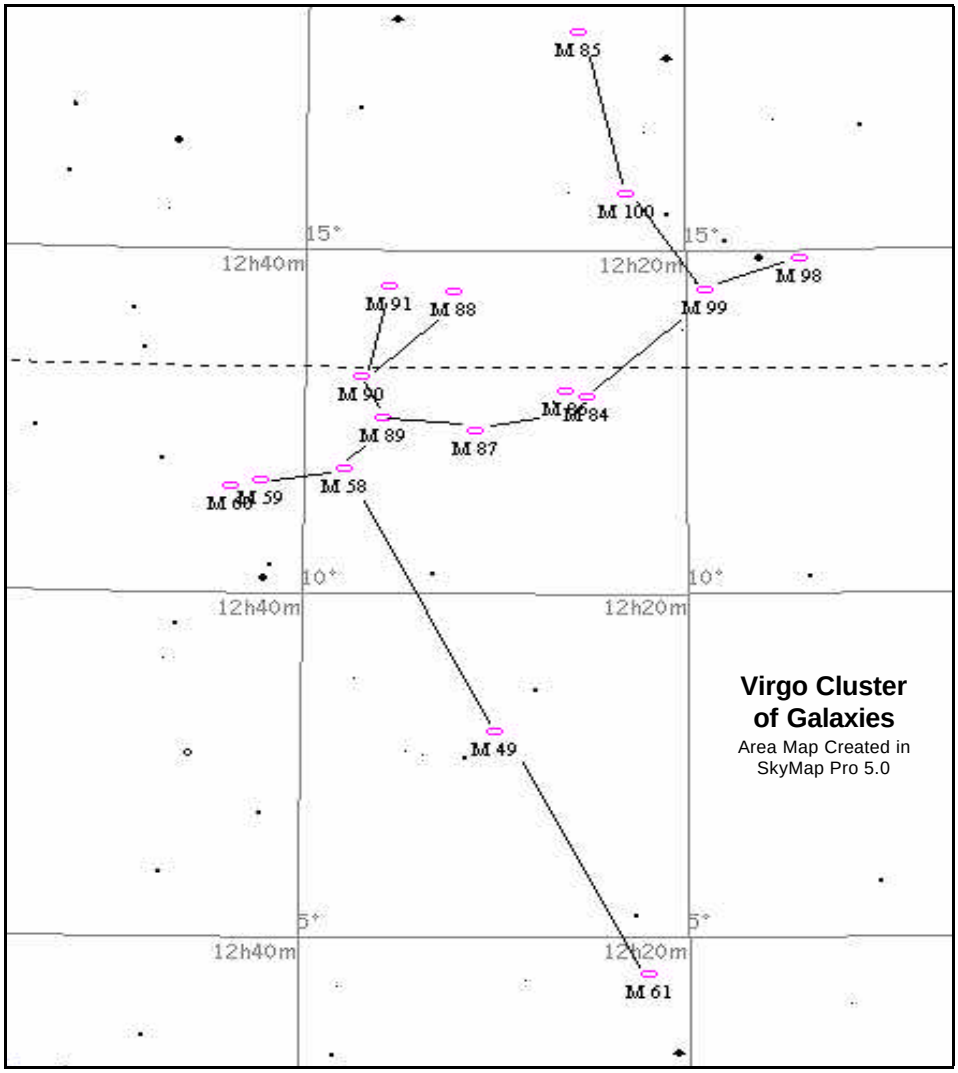
The Virgo Cluster, Leo, and Coma Berenices

by Brenda Culbertson
stargazr@holtonks.net

You have made it through the cold weather and many of you have enjoyed the long, cold nights of winter. Nights are now getting shorter, and temperatures are warming up. Time to dust off the cob webs again, and clean up the scope. Collimate the optics, align the finder, charge up the batteries, and find the red flashlight!

You are gearing up to take a walk through the Virgo Cluster to find a few fun objects, while performing some tricky astrobatics along the way. In other words, your sights will be set to find some objects that, in order to see them, will make you brush up on your observing skills.

Coma Berenices, the other constellation you will explore, will require some agility to get through also. Berenice, herself, was quite agile. Did you know that she is the only non-mythological human honored in the name of a constellation?



Easy Objects

Believe it or not, there is an object considered to be easy to see in the Virgo Cluster. It is the **Sombrero Galaxy, M-104 (NGC 4594)**, and is about 8th magnitude. It is on the Corvus / Virgo border, but is considered to be in the Virgo Group of galaxies. The Sombrero is a nearly edge-on galaxy with a definite dark lane going across the mid-point. The dark lane can be seen in instruments with as small an aperture as 6 inches, but an aperture of at least 10 inches is recommended.

An easy object in Coma Berenices is another galaxy with a nice dark lane. The **Black Eye Galaxy, M-64 (NGC 4826)**, is also about 8th magnitude, and easily seen with an 8-inch aperture telescope, although some 6-inch 'scopes can be used from dark sites. This galaxy is a spiral with a dark band midway between the hub and the outer areas. The dark band gives this galaxy its name "Black Eye." Maybe this galaxy is the black eye Berenices' husband gave her for cutting off her hair!?!

Do you want to see a naked-eye object? Well, if you look between Leo and Gemini, you should find **Praesepe (commonly called the Beehive Cluster), M-44**, at about 4.5 magnitude. You will see it much easier if you go to a dark site. Binoculars provide an excellent view of this cluster. It is the most noted feature of the constellation Cancer.

Leo has several easily observed objects, as well. Use your telescope to look for the spiral galaxies **M-65 (NGC 3623)** and **M-66 (NGC 3627)** in the same field of view. They are 21' apart and can be seen in a pair of binoculars on a good night.

Moderately Difficult Objects

Coma Berenices provides some beautiful objects of moderate difficulty to view. One is the amazing, large, spiral galaxy **M-99 (NGC 4254)**. This galaxy takes on a pinwheel shape, as it shows us its face-on detail at about 10.5 magnitude. One of the features of this galaxy is its extended arms and bright hub.

Another Coma object is **M-100 (NGC 4321)**. This galaxy in the Virgo / Coma Galaxy Cluster is the largest in that group. It is a nearly face-on spiral that is most breath taking. It is also about 10.5 magnitude and is best seen while at the observer's zenith.

Leo gives us another beauty to see in **NGC 2903**, a spiral galaxy. This galaxy shows many arms and a bright hub. It shines at about 10th magnitude as it waits to be viewed. Its hub is relatively small, but the arms extend far from the core.

Difficult Objects

Clusters like Praesepe are easy to see, but there are some objects which are difficult to to detect, and even more difficult to resolve. The Leo Cluster is one of these difficult groups to see. **M-105 (NGC 3379)** is clustered with **NGC 3384 and 3389**. They are around 11th magnitude and can be seen in the same field of view. Fairly large aperture and dark, clear skies are best to use for viewing any of the galaxies in the Leo Group.

M-84 (NGC 4374) and **M-86 (NGC 4406)**, at about 10.5 magnitude, can be seen in the same field of view with moderate ease. The most difficult part about observing these two galaxies is finding which one is which among all the other galaxies in the area. They are quite impressive once you get to them.

When it comes to the Coma Berenices / Virgo group, the objective is to get through the area while identifying which object is which, a most difficult task. Don't give up if you seem to get lost; just try a different path through the cluster. Burnham's *Celestial Handbook* has a nice chart of the objects in the cluster. You might try using it. Also, many star charts devote a special map just to this area. Or, ask someone who knows his way through the group to help you. I found that this was the best advice. I tried three seasons before I made it through with confidence.

Sunspots

Feb. 2, 2002

Image copyright
Isaac Kikawada
San Jose, CA

M104
NGC 4594

The Sombrero Galaxy in Virgo

Image copyright
Mark Cunningham
Craig, CO

M64
NGC 4826

The Black Eye Galaxy in Coma Berenices

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M44
NGC 2632

Praesepe or Beehive, Open Cluster in Cancer, with Mars in Upper Left, 5/20/92

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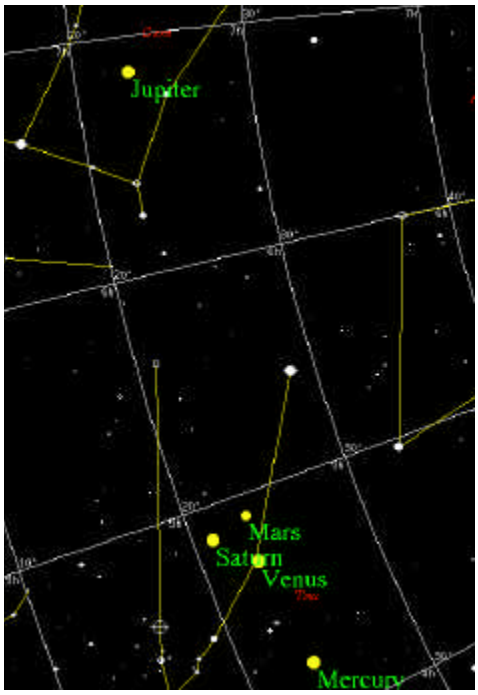

Mars, Saturn and Venus form a tight triangle in Taurus on May 5, 2002, as shown in this drawing made with SkyMap 5.0 software.

Spring Planetary Alignment

April and May 2002

During late April and early May, Venus, Mars, Saturn, and Jupiter will be clearly visible in the western sky just after sunset, with Mercury joining in at month-end April.

On May 5, 2002, an unusual grouping of the three planets Mars, Saturn and Venus will occur. These three planets will form a tight triangle in the constellation Taurus, easily viewable just after sunset.

Such a planetary alignment is a rare occurrence because all these planets are normally not visible in the same part of the sky. The best time to see the planetary alignment is just after sunset in the evening, in the Western sky. Venus will be the brightest of all the planets in the group, while Mars will be the dimmest.

In 1997, there was a planetary alignment in November. There was another planetary alignment in May 2000, but the planets were visible only in the morning, and in most places obliterated by the harsh light of the Sun.

AAAA Establishes Online Discussion Group

The American Association of Amateur Astronomers has started a new online discussion group, hosted by Yahoo Groups.

The purpose of the group is to create a forum in which AAAA members can share ideas, experiences and challenges, and just get to know each other. If you are an AAAA member, or have friends interested in amateur astronomy and the AAAA, we invite you and them to become a part of this Discussion Group. The Quad-A eGroup now has 120 members.

If you would like to join the AAAA discussion group, please send an e-mail request to: Quad-A-subscribe@yahoogroups.com or visit the web site at: http://www.yahoogroups.com/list/Quad-A/info.html

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StarCon 2002

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June 27-30, 2002

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