

# The View From Arunah

Arunah Hill Natural Science Center

Fall 2005

The Journal of the Arunah Hill Natural Science Center Inc.

Volume 51



**The rocket's red glare at his year's Arunah Hill Days!**

## **Inside this issue:**

**Bill Naff Remembered  
Star Watch is coming!  
Deep Sky Treasures**

# **Inside This Issue**

**Fall 2005**

## **Regular Sections**

### **5 Deep Sky Treasures**

The Observer's Notebook

### **“A Hero's Welcome...Part 1”**

Edited by John Davis

## **Articles**

### **3 The Editor's Desk.**

#### **Fall at Arunah Hill**

by Steve Pielock

### **4 In Memorium**

#### **Remembering Bill Naff**

### **Front Cover:**

Jim Downing at the launch pad as rocket builders watch the launching of one of their rockets at this year's Arunah Hill Days.

### **Back Cover:**

## **A Note from the Treasurer**

I don't know if you noticed it, but there is something on the mailing label you should check out. We added the date that your membership expires. So please check it. (10/2005 means that your membership expires at the end of October 2005). If the date on your mailing label indicates that your membership has expired, this will be the last issue of “The View from Arunah” that you will receive unless we hear from you. We value you as a member but if you don't value us we can't continue to bring you the benefits of membership in the Arunah Hill Natural Science Center. So, if this applies to you, act now before you forget, and renew your membership!

Thank you,  
Peter Scherff,

Fall Scedule

# The Editor's Desk

by Steve Pielock

## Fall at Arunah Hill

I would like to take a moment to say how deeply saddened I was when I heard the news of Bill Naff's passing. My heart goes out to his wife Rose. Both Bill and Rose were with Arunah Hill right from the start; their hard work has helped to make Arunah Hill what it is today. We will all miss you Bill!

I would like to thank all of you that attended Arunah Hill Days 2005. This was without a doubt the most successful convention we ever had, with attendees numbering close to 300. The weather cooperated for a change, with four wonderful sunny days and 3 great nights of observing, I believe this may be an AH Days first! (LOL).

It may be Fall but there is plenty happening at Arunah Hill. We are still rebuilding the Gaertner platform as well as milling the cherry for the finish trim on the pavilion. Star Watch is coming October 21 -23 as well as public Star parties at Windsor Town Park, look below in the announcements section for details.

Steve

## Announcements

### Film at Hampshire College

"A Sidewalk Astronomer"

Here's the Website for the film:  
[www.telescopepictures.com](http://www.telescopepictures.com)

Date: October 20, 2005 Time 6:30pm: Screening of the film " A Sidewalk Astronomer" 7:50pm: Discussion with the film-maker, Jeffrey Fox Jacobs at 8:30pm: Star gazing if weather permits. Venue: West Lecture Hall, Franklin Patterson Hall, Hampshire College

### Windsor public star parties

At Windsor Town Park will be held on Saturday, October 29 and Saturday, November 5. As always, we are looking for volunteers and telescopes to show Mars and the rest of the heavens to a very enthusiastic crowd.

**2005 Star watch** is coming in Friday evening, October 21<sup>st</sup> – Sunday Oct. 2<sup>3rd</sup>.

### The Editorial Staff of *The View From Arunah*

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Astronomy Association:

Alan Rifkin and John Davis

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#### Columnists

Deep Sky Treasures: John Davis

Barlow Bob's Corner: Barlow Bob

#### Photographers

Bob Osgood

#### Photocopying

Copy Cat Print Shop of Amherst, MA

#### Assembly/Distribution

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## DEEP SKY TREASURES A Hero's Welcome...Part I

By John Davis

Any serious watcher of the autumn skies will no doubt agree that the rising in the northeast of three constellations: Andromeda with her great galaxy, then the “W” of Cassiopeia, the queen (already “up”), followed by the hero, Perseus with his magnificent Double Cluster climbing up the northeastern sky is a welcome sight. The three personalities represented by these constellations play lead roles in perhaps the best known saga that has come down to us from Greek mythology. The story involving the King Cepheus, Queen Cassiopeia and her daughter, Andromeda is confined to one romantic drama. In it Perseus rescues Andromeda from the jaws of a sea monster after she was chained to a seaside cliff to atone for the arrogant and boastful bragging about her beauty by the vain queen. Our hero, Perseus however, was engaged in several other heroic exploits chronicled in the annals of Greek mythology.

Those exploits had their origins on the island of Argos where an oracle had warned the king, Acrisius that he would one day be killed by his own grandson. When his daughter, Danae, whom he had confined in a dungeon because of the oracle's prophesy was visited by Zeus through the skylight in the form of golden raindrops and bore a son, Perseus, the king locked mother and son into a wooden chest and threw them into the sea. Washing ashore on the island of Seriphos they were rescued by Dictys, a fisherman who adopted Perseus and brought him up. Dictys's brother was the evil and scheming king of the island, Polydectes who, having designs on Perseus's mother, Danae, sent her protector, the now grown Perseus away on a dangerous mission: to slay the hideously ugly Gorgon, Medusa, one of three sisters who had hair of live snakes. Any creature that looked upon her fearsome countenance would immediately be turned to stone. Perseus was well prepared for this exploit however, as being the son of Zeus he had the gods intervening with gifts to assist him. He was

protected by a magic helmet rendering him invisible, and a reflective bronze shield. He wielded a diamond sword, and flew off on his mission on winged sandals.

Eventually, in a far off land, he located the sleeping Medusa in her lair. Looking at the reflection of the Gorgon in his shining bronze shield, Perseus decapitated her with one powerful stroke of his sword, and stashed her snake covered head into his leather pouch. Incidentally, the winged horse, Pegasus sprang from the blood of the slain Medusa. Flying back home with the Gorgon's head, he came to seek rest in the country where Atlas ruled, holding up the Heavens. When Atlas then refused him hospitality, Perseus held up the slain Medusa's head for him to see, turning Atlas to stone and rock, the Atlas Mountains that remain to this day in North Africa. Eventually arriving closer to home, Perseus came upon the beautiful Andromeda helplessly chained to the cliff, and flew down to her rescue. By pulling the head of Medusa from his pouch and holding it up to the monster's glare, the sea monster (Cetus) was also turned to stone (seen today as the rocky cliffs on the Israeli shore near Jaffa, or now, Tel-Aviv).

With the permission of her parents of course, Andromeda and Perseus were married and in time had six children, including Perses, the ancestor of all the Persians. Returning to Seriphos with Andromeda, Perseus rescued Dictys and his mother Danae who had been in hiding from King Polydectes. He entered the palace where he encountered the evil king and his minions. Showing them the head of Medusa, he turned them all to stone. He gave the head of the Gorgon to his patroness, the goddess Athena, who placed it in her shield. As to the oracle's prophesy that his grandfather, King Acrisius would be killed by his own grandson, we find that Perseus at one time was participating in athletic games in Thessaly and hurled a discus, which, diverted by a gust of wind as it flew through the air, struck one of the spectators, killing him. It turned out that that spectator was King Acrisius.

After this rather lengthy discussion of the extensive mythology surrounding the exploits of our hero, Perseus, we'll turn now to some of what we can see

among the many deep sky treasures in this constellation. One of the most glorious sights in the heavens for binocular viewers (or through a finder scope) is cataloged as **Melotte 20** (or **Collinder 39**) better known as the **Alpha Persei Association**. It is a true cluster, however, with well over 100 known members, not the loose grouping of stars that is found in a stellar association. Like the well known Hyades in Taurus, it is more accurately and often referred to as the **Alpha Persei Moving Cluster**. Whatever you call it, it is a “must see”...not difficult to do, as it is the brightest part of the constellation, but because neither the Messier listing nor the NGC catalog contains this beautiful cluster it is often overlooked. Look for the dominant member of the cluster, the bright star Mirfak ( $\alpha$  Per.) near the center of the constellation in the curving arc of stars extending from  $\eta$  Per. to  $\delta$  and 48 Per., called in Burnham’s *Celestial Handbook* the “Segment of Perseus”. In the region stretching about  $5^\circ$  from 29 Per. SSE through Mirfak to  $\delta$  Per. you’ll catch this dazzling array of about 40 stars with medium size (around 7-10 X 50) binoculars. At our recent Arunah Hill Days this cluster was a magnificent sight in my newly acquired 7 X 35 Nikon binoculars. Larger binoculars and small, rich field scopes at low power are also ideal for viewing this celestial treasure. With many hot, young B and A type stars, it is a young cluster with its age estimated to be something of the order of 20 million years. It lies a relatively close 570 light years away and is moving in the general direction of the star  $\beta$  Tauri.

Near the end of a prominent, curving and broken chain of stars extending eastward, running from  $\delta$  Per. at the SE end of the moving cluster toward the E, turning NNE, then abruptly W to end at  $\lambda$  Per, in a figure I call the “Fishhook”, lies the beautiful open cluster **NGC-1528**. More precisely it lies just over  $1\frac{1}{2}^\circ$  NE of 4<sup>th</sup> mag.  $\lambda$  marking the “point” of the fishhook, and  $1^\circ$  NNW of a 4.7 mag. star labeled “b” at the abrupt westward turn in the bend of the fishhook. With a total of about 80 stars ranging from 8<sup>th</sup> and 9<sup>th</sup> mag. on down, and an overall magnitude of 6.4, it is loosely concentrated, but a nice bright rich cluster, easy to find and pleasing to the eye in almost any scope. It has a distinct triangular shape containing strings of stars in parallel groups tending to run NW – SE. This big

bright cluster spans a generous 23’ of sky, at a distance of about 2600 LY. While you’re in this vicinity you might want to try observing two other less prominent clusters. **NGC-1545** is a sparse but interesting cluster of much fainter stars surrounding a triangle of fairly bright ones, located less than  $\frac{1}{2}^\circ$  due E from the aforementioned 4.7 mag. star b marking the abrupt bend in the fishhook. Mag. 8.4 **NGC-1513** lies exactly  $1^\circ$  SSE of 4<sup>th</sup> mag.  $\lambda$  at the “point” end of the fishhook and is faint but fairly rich with over 50 stars.

Now, lying just over  $1^\circ$  NNW of  $\lambda$  Per. (the fishhook point) and about the same distance NE from 5<sup>th</sup> mag. 43 Per. (located just over  $1\frac{1}{2}^\circ$  to the WNW of  $\lambda$ ) we’ll find a surprisingly bright little emission nebula **NGC-1491**, shaped like a fan and therefore also like a bright little comet. It spans over 20’ and I find it quite reminiscent of Hubble’s Variable Nebula (NGC-2261) in Monoceros. Larger scopes will bring out several involved stars, and a narrowband nebula filter will enhance the view that in dark skies even without the filter is most pleasing. Here is a neat little nebula that is certainly well worth hunting down!

We’ll slide now some  $13^\circ$  SW to the vicinity of the “Demon Star”, Algol (representing part of the head of the legendary Medusa) to present you with a challenge. If you have access to a 10” or larger scope (the more aperture, the better) you should be able to find and observe the active Seyfert galaxy **NGC-1275** (radio source **Perseus A** or **3C84**) dimly glowing at mag. 11.6 in the heart of **Abell-426**, the remote Perseus galaxy cluster nearly 300 million light years distant. You can locate NGC-1275  $2^\circ 18'$  ENE of Algol ( $\beta$  Per.) midway between an 8.0 mag. star and a 9.0 mag. star to the S aligned NNE-SSW  $45'$  apart. The galaxy lies just  $1^\circ$  WNW of a 6.5 mag. triple star that forms a flat triangle with 7.5 and 8.0 mag. stars just to the W of the triple star. The galaxy will appear in most scopes as a small (2.6’ x 1.9’) fuzzy patch with little detail evident. Larger scopes upwards of 13” or in the 16” to 20” range will reveal the much brighter core and the star-like nucleus so typical of an active Seyfert galaxy, surrounded by a fainter wispy oval halo. This very energetic galaxy and radio source is also a strong emitter of X-Rays. X-Rays also emanate from hot gases pervading the entire galaxy

cluster. Images taken in red light have revealed many irregular filaments radiating outward indicative of violent activity in the galaxy such as would be generated by a massive black hole or an exploding galaxy. A fairly well accepted theory today is one originally suggested back in 1957 by Walter Baade and Rudolph Minkowski. This is the view that NGC-1275 consists of two colliding galaxies now involved in a merger: possibly a loose, late type spiral (remnants of its spiral arms still evident in deep photographs) being absorbed into a lenticular or larger elliptical system. Part of the observing challenge here is to see how many other galaxies in the Abell 426 Cluster you'll be able to observe. Several years ago, with his 12 ½" reflector "dob" Chuck Musante and I picked out 3 or 4 additional tiny patches of light—elliptical systems within about 30 arc minutes of NGC-1275 in a moderately dark sky. Later, at a Connecticut Star Party, viewing through both a 20" dob, and later, one of 25" aperture we observed as many as 10 galaxies in this field. Most of them are ellipticals, the brighter ones all in the 12<sup>th</sup> and 13<sup>th</sup> magnitude range. As a guide to identifying them you'll find an excellent photo with the galaxies all labeled in Steve O'Meara's book, "The Caldwell Objects" on page 100. Also Luginbuhl and Skiff's "Observing Guide and Catalog of Deep Sky Objects" has an excellent chart of these galaxies on page 192. You'll also find a good one in the star atlas "Uranometria, Vol. 1, 2<sup>nd</sup> Edition in the appendix chart A4.

If you enjoy observing challenges, here's another one that you should be able to handle especially with the right equipment, although in this case one key to success is using a Hydrogen Beta filter. Ideally a good way to approach this one is with large binoculars or a smaller scope that can provide a wide field and low magnification...especially one with a shorter focal length in a "rich field" (RFT) configuration. We're talking about observing the well-known "**California Nebula**" **NGC-1499**. It can be easily located near the lower "foot" of Perseus marked by the triangle of 3<sup>rd</sup> mag. ζ Per. and 4<sup>th</sup> mag. ο and ξ. It lies just half a degree N of ξ Persei, the radiation engine that illuminates the nebula, and is elongated ESE – WNW. Interestingly, it shows up clearly in photographs and quite realistically resembles the shape of California.

One reason for the difficulty seeing this elusive object is its huge size. Its low (mag.14) surface brightness expanse of nearly 3° length covers 145' x 40' of sky. This makes defining the nebula visually in a larger scope more difficult, where it's necessary to slowly slide your "13 incher" across the breadth of the nebula using low power and a filter. The brightest portions visually are along the N and especially the NE edge (between "San Francisco" and "L.A.") and on the S edge at a spot bordering central "Nevada". These "coastal" and "border" areas are also where the nebula's edges are sharply defined. Some hint of filamentary texture can be seen under good conditions with a filter. Using the Hydrogen Beta filter, I had a fairly good view in my 10" "dob" at low power sliding across the nebula. Also years ago from Arunah Hill, in Bill and Rose Naff's 5" Rich Field refractor with the H-Beta filter the nebula showed up very nicely. Medium to large binoculars with the H-Beta filter are highly recommended as well. In fact, the California Nebula has been seen with the naked eye, holding up the H-Beta filter. The narrowband UHC filter also works with NGC 1499, though not as well.

Our last stop is about 5° 20' just S of due W from 3<sup>rd</sup> mag. ζ Per., where there lies an interesting small reflection nebula, **NGC-1333**. The long end "point" of a 22' x 38' triangle of 7<sup>th</sup> mag. stars centered about a degree to its ENE seems to point toward the nebula. It is somewhat "off the beaten track" and as a result is no doubt rarely observed. However it shows up nicely in almost any scope as a 9' x 7' oval glow aligned NE-SW, brighter at the SW end and shining even more brightly at the NE end in which is embedded a 10.5 mag. star. The dark nebula **Barnard 205** borders it to the S. Look for evidence of B-205 intruding into the reflection nebula's SW end. Truly, NGC-1333 is another "neat little nebula".

We'll cover the "Double Cluster" along with other gems in Perseus in "Part II" in the winter issue of the V.F.A. In the meantime, take advantage of the crisp, clear skies this fall to observe these sights in Perseus and all across the autumn sky.

## IN MEMORIAM

### Remembering Bill Naff

It is with a great deal of sadness that we observe the passing of a true friend. One of the original founding members of Arunah Hill, William "Bill" Naff passed away on August 5<sup>th</sup> after a long struggle with Cancer at the age of 76. Bill and his wife, Rose were very active at Arunah Hill from our very early days. Of the many members of Arunah Hill, those of us fortunate enough to have known him will remember both Bill and Rose working with us transforming the original forest into a clearing, and, in the rain, helping to erect our club house at the then edge of the forest. He and Rose were often on hand helping to clear brush while we were enlarging our observing area clearing. Along with his wife, Rose, Bill was an avid and enthusiastic observer, as well as a good friend, and he could always be counted on to lend a helping hand, whether it was helping to carry telescopes and equipment or providing welcome transportation, he would always be there for you. Indeed, Bill was a true friend, and will be sorely missed.



Bill was not only an amateur astronomer, but had many other wide interests. He was extremely accomplished academically as a University of Mass. Professor

Emeritus of Asian Language and Literature (See Below our reprinted copy of the newspaper obituary written by his wife, Rose).

William E. Naff, 76, of Leverett, Professor Emeritus of Japanese Language and Literature at UMass, died August 5, 2005, in Amherst, of cancer. Born February 14, 1929 in Wenatchee, WA, he was the son of G.E. and Susan (Barnholdt) Naff of Okanogan. He was a U.S. Air Force veteran (1946-1949) serving as a military bandsman, marching in a military band in the United States and Japan. He received a BA degree, *magna cum laude*, from the University of Washington, where he was elected to Phi Beta Kappa. He subsequently earned an MA in Japanese history and a Ph.D. in Japanese literature from that university. He came to the University of Massachusetts, Amherst in 1969 as founding chairman of the department of Asian Languages and Literature. In addition to teaching Japanese language and literature, he taught Japanese culture, scientific Japanese, science fiction and sometimes Chinese literature. As an undergraduate he was once offered a full scholarship if he would major in physics, but his interests in liberal arts were too wide ranging for that. He nevertheless retained his interest in the sciences in later life, especially in biology, astronomy and cosmology. Besides his scholarly interest, he was an avid landscaper and gardener. His translation of Shimazaki Toson's *Before the Dawn (Yo-ake Mae)* received the 1987 Friendship Commission Prize for the Translation of Japanese Literature. At his death he was finishing the translation of the 8 volume historical novel Shiba Ryotaro, *A Wisp of Cloud (Sake no Ue no Kumo)*, which tells of Japan and the Japanese from the Meiji Restoration of 1868 to the Russo-Japanese War of 1904-1905 and of Japan's emergence on the world stage in the late nineteenth century. He also completed his long-term project, a biography, *The Kiso Road: The Life and Times of Shimazaki Toson*. He leaves his wife of 48 years, Rose Hsieh Chih-hslen (Young) Naff. Memorial gifts may be made to Arunah Hill Natural Science Center, 218 Trouble St., Cummington MA 01026

# Star Watch 2005

Don't miss it this year. Register now for the  
October 21<sup>st</sup> – 23<sup>rd</sup> program.

Star Watch weekend is the most informative event of the year for Amateur Astronomers who want to be more active in their pastime.

The Program starts Friday Evening, Oct 21st and runs through till noon on Sunday.

As a participant you can relax, sit back with a coffee or cup of tea and learn about diverse topics important to a richer involvement in Astronomy.

Star Watch is more than a lecture series. It is discussion, interaction and hands on learning. It is leadership training, problem solving and the practical operation of telescopes. It is a chance to meet people from clubs and organizations all over the region. Friendships made during Star Watch have endured for years.

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Detach here, fill out other side, and Send to Arunah Hill Natural Science Center, 218 Trouble St., Cummington, MA 01026

**Yes! Sign Me Up For Star Watch 2005**

## “About Star Watch”

The Star Watch program was started by Amateur Astronomers More than 10 years ago. It was recognized that the demands of our modern age require more from us as individuals and organizations when it comes to presenting Astronomy to each other and the public.

Your Star Watch weekend will cover topics ranging from dealing with people with disabilities and teaching children, to a variety of leadership skills.

All your food and refreshments are included in the registration fee along with the Star Watch Handbook which is now going into its 6th edition. The Star Watch Handbook is a valuable tool for anyone involved with education and leadership.

Your reward for attending Star Watch is the key to Arunah Hill. (Literally) Only people who have been through Star Watch have the keys to the Clubhouse and telescopes at the 2000 foot observatory. As a graduate of Star Watch you can use the facilities any time you like and you are qualified to wear the special Star Watch patch.

For more information and to reserve a place fill out and send in the registration form below. Or give us a call at 1 - (413) - 665 - 8563 (Ask for Joe Zuraw) or 1 - (413) - 772 - 6715 (Ask for Steve Pielock)

### Join the ranks of Star Watch!

Registration fee is \$50.00, (for available openings) Size of program is limited so procrastinate at your own risk.

Send your Registration Form to:

Arunah Hill N.S.C.  
218 Trouble St.  
Cummington, MA 01026

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### Star Watch 2005

**Name (print Clearly)** \_\_\_\_\_  
**Address** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
**Phone Number** \_\_\_\_\_

Send More Information

Pre-register Me!