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Skywatch
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Skywatch

Deep Sky and Pine Belt

Rod Mollise

Star parties are iffy things weather-wise. Especially in this area of the county, the southeast. But we had high hopes for this year's 18th Annual Deep South Regional Star Gaze. After two years of so-so seeing and last years *complete* rain-out, the weather gods *owed* us a "good one." And indeed, it looked like conditions were going to be fantastic. October began with unseasonably cool and very dry weather. But, wouldn't you know it, as the date for this edition of the DSRSG approached (October 25-29), the pattern changed again, to the more familiar clouds and humidity.

Nevertheless, when I set out for the site of the star party, McComb, Mississippi's Percy Quin State Park (located in southern Mississippi's sparsely populated "Pine Belt"), on Thursday morning 26 October, things looked pretty darned good. Oh, it was warmer than I'd have liked, but there were only a very few light clouds scuttering across the sky on a beautiful, warm morning that suggested Spring rather than late Fall. After a very pleasant 3 hour journey, I arrived at the site, unloaded my equipment, and set up the scope as quickly as I could. By the time I finished, I was drenched in sweat, but the sky was *still* holding.

If you've never been to DSRSG, my next stop, the cabin area, is a prime attraction. Actually, "cabins," a word conjuring drafty, decrepit boy scout dwellings, is not a very apt description of Percy Quin's accommodations. *These* cabins are clean, comfortable, and, best of all, feature central air-conditioning and heating! And they are within easy walking distance of the observing field, a football field-sized expanse of grass ringed by pine trees.

After I was settled in my room, I wandered around the observing field, renewing acquaintances and talking shop with other astronomy old timers. Following what seemed like an endless, sweaty afternoon, the Auburn Astronomical Society's Russell Whigham, a long time observing companion of mine, and I joined DSRSG organizer Barry Simon and the rest of Ponchartrain Astronomical Society contingent for the traditional Thursday evening meal at Mr. Whisker's Catfish Restaurant. "Whiskers" is a nearby eatery well-known as "the home of all you can eat catfish." *Naturally*, I did my very best to take advantage of that offer!

As evening came on, the sky seemed to just get better and better, really opening up with that velvety black appearance we crave. Using both my 12.5" dobsonian and my faithful 80mm f/5 refractor ("Woodstock") I toured a wealth of beautiful deep sky objects until the wee hours. I visited many marvels, both old and new, but my favorites on this night were these:

NGC 7000, the North America Nebula. Many new observers long for a glimpse of this fantastic swath

of red-glowing gas. But it is large, VERY large, at about 2 degrees across. This huge size spreads out its already dim red light, making it quite a challenge for even larger scopes. My 12" was able to pick out vague patches of nebulosity here and there, but what a difference wide-field makes! In the 3" f/5 refractor on Thursday evening the whole thing fitted perfectly in the field of a 26mm plossl. The "North America" shape was amazingly well defined.

M27, the Dumbbell Nebula is *always* a treat, and from a dark site with a moderate aperture scope it becomes a revelation. I alternated between using an OIII filter and looking at the nebula unfiltered. With the OIII the entire stretch of nebulosity is visible, with the nebula beginning to look more like a *football* than a *dumbbell*. Without the OIII, this planetary nebula's central star was easily visible.

M31 and NGC 206. The Great Andromeda Nebula (Galaxy) was simply awesome! From the city, observers, especially novices, are often disappointed by the appearance of this great, storied galaxy. It looks like nothing more than an elongated ball of faint haze. But from dark country skies it takes on real form and substance. On this night a pair of dark lanes were easily visible, defining the hard to see spiral arms. The galactic nucleus appeared as a tiny star-like point, and, most delicious of all, the great cloud of massive stars in one of the spiral arms, NGC 206, was *easily* visible. The two companion galaxies, M32 and M110 (NGC 205) were also marvelous, with M110 looking as large as I'd ever seen it.

But the prize beauty Thursday night? **Old faithful M15**. This pretty globular star cluster, located not far from Enif, The Horse's Nose, in Pegasus, is always pretty, being fairly easily resolvable even with moderate-sized scopes under relatively poor conditions. But out

here in the dark, this highly compressed glob was amazing. You've probably heard about M15's curious, bright core (at one time it was thought to contain a black hole), but if you've never seen it from a good, dark site, you really have no idea how striking this feature really is. In the 12" the core simply blazed away, looking like a brightly glowing ember surrounded by countless sparks of light!

And so it went, object after object until around 3 am. I really wasn't even ready to turn it at this hour, but there was no doubt weariness was beginning to assail me. I'd awakened at 6 am the preceding morning in order to pack, and the long day and night were beginning to take their toll. Reluctantly then, I shut down, tired and happy. I covered the scopes with a tarp, though I probably didn't need to. This had been one of the few McComb evenings in memory when the dew hadn't been heavy.

Friday was a busy day for me. I was scheduled to give a talk in the meeting hall at 3 pm in support of my forthcoming book from Springer-Verlag, *Choosing and Using a Schmidt Cassegrain Telescope*. I was anxious that all go smoothly, so I spent some time getting my 35mm slides sorted out. Shortly before noon, my friend and observing companion, Pat Rochford, and my wife, Dorothy, arrived, and I spent some time helping them get set-up/settled in. We then repaired to the park cafeteria (located adjacent to the cabins) for the first on-site meal of DSRSG 2000. Some folks still complain about the food, but in my opinion, it was excellent. Simple but very tasty.

I was gratified to have a good-sized and responsive audience for my SCT talk, and felt that it went well despite some initial fumbling on my part (the slides I made with Microsoft Powerpoint were a big help). I hope to have further

opportunities to deliver this presentation at other star parties and will continue to improve it as best I can.

There was no doubt, as twilight deepened, that Friday night was going to be another "good one." And indeed it was. If conditions were not *quite* as good as they were Thursday night, it was only because the humidity had spiked up a bit. The dew was heavier, and the light-dome from McComb correspondingly more evident, but things were still very, very good. Which deep sky object struck my fancy on this evening? An object that I've seen before, but did not remember well, NGC 6905, the Blue Flash planetary nebula in Delphinus. This 12th magnitude object was large and well defined in the 12", and, in addition to its rather striking blue color, exhibited some "blinking" like the nearby Blinking Planetary. That is, look straight at it and the object tends to fade away, use averted vision and it springs back up dramatically. NGC 7331 and Stephan's Quintet also looked quite good on Friday, with Stephan's being pretty dramatic in Pat Rochford's 24 inch dobsonian.

Was I close to **deep sky overdose** when I shut down at about 4 am? Not at all...the spirit was still strong. The body was weak though, and I finally called it quits after a good long tour of M42, the Great Orion Nebula. In the 12 inch, the nebula seemed to tower above me in the eyepiece field. Cold, stark and beautiful--if almost threatening in aspect!

Saturday is always a terribly long day at DSRSG. Everybody is starting to feel like zombies if the nights have been clear, and, even in October, Sunset seems to take forever to arrive. Luckily, *Rex's Astrostuff*, an astronomy vendor familiar to many of you, was on site, so I amused myself—how else?—by buying "stuff" from Rex. My purchases this year were fairly

modest, but were some items I'd wanted for a while: a Thousand Oaks glass solar filter for my 3 inch refractor, a Celestron variable-brightness LED flashlight, and a deck of George Kepple's Astro Cards--index card finder charts for locating deep sky objects. These Astro Cards are a staple of vendors at star parties, and I've been meaning to try a set for years. Look for a review in the near future.

Saturday night started out great, with the heavens again opening up as night descended. But it was not to be. The sky gods had no doubt determined that the DSRSG's fanatical observers had had enough for one year. By 9pm, heavy haze had moved in. It cleared somewhat after midnight, but conditions were not close to being as good as on the previous two evenings, with humidity being very high. It was all just as well, I suppose, since these conditions encouraged me to call it quits a little earlier than I had on the other nights. There was Sunday morning packing and the drive home to contend with, after all. Before the haze moved in, though, Pat Rochford and I had a wonderful time playing with a loaner **Meade ETX 60**—look for a review of this small wonder in this issue of *Skywatch*.

Sunday, time for the wrap up meeting and goodbyes. It's always sad to leave DSRSG for another year, but 2000 had been a great one, and almost before you know it it will be Deep South Time Again! The good skies and smoothly running star party have definitely put DSRSG back on track after several years of disappointingly poor weather, ensuring its continuing health. Won't you join me for the first DSRSG of the new millennium, DSRSG 2001?

Meade's Small Wonder

The ETX 60 AT

Pat Rochford

I was approached a few weeks ago by a gentleman who manages Wal-mart vision centers in several southeastern states. (He'd just recently been transferred here to Mobile.) The favor he asked of me was to help him teach his employees about telescopes, so that they might better understand what it was they were selling. I thought it was a great idea, since it is not uncommon for me to get several calls after Christmas from parents wondering what to do with Johnny's new telescope. If mom and dad got a little better information when buying Johnny's Christmas gift, they might get the model that would suit Johnny best. Perhaps it might actually get used and not relegated to the closet after only a few weeks.

And I was absolutely dumbfounded when being told the number of units sold each year at Mr. Walton's stores. Meade has become their supplier these days, with units ranging from a very basic 60mm alt-az to a couple of computerized go-to models. He also seemed interested in getting my opinion on the models offered by Wal-mart, and whether or not they were the right ones to stock. Well, he really had my attention now. If it were possible to influence some of the models being ordered, perhaps it could be a step in getting rid of the typical department store 525 power, 60mm crap refractor with .965" eyepieces on a spindly tripod. It will at least be worth a try.

I'm sorry, I'm getting away from the topic here. I caught up with this gentleman again just before I left to attend the 18th annual Deep South Regional Stargaze. He left with me



In the past Wal-marts typically exploded with telescopes prior to Christmas, but recently they have become available all year round.

a little something to take along and try out--a Meade ETX 60 AT. To be perfectly honest, I wasn't really expecting much, after all, which telescope sold in a discount

department store ever amounted to much? But I decided to be open-minded about it and give it a fair tryout. Perhaps this little scope might be worth owning some day.

Since I had never operated any of Meade's Autostar telescopes, I approached the initial startup just as the typical Wal-mart customer would. It was an opportunity to judge how well written the owner's manual and instructions were. I wasn't disappointed at all--it was quite understandable. Let me note here, that I did not attempt to do all the multitude of things Autostar is capable of. This session was merely an attempt to initialize the scope and send it around the sky in search of some objects contained in its database. By the way, this trial was conducted with my good friend and observing buddy Rod Mollise, who was as anxious as me to find out just what an ETX 60 was all about. For that matter, before it was all done and over with, quite a few people in attendance at the stargaze had gravitated toward our area of the field after hearing Rod and me oohing and aaahing for over an hour!

The start-up is quite simple. You tell the scope its location, what day it is and the local time. You then level the optical tube, point it north and tell it to "do its thing." It will then choose a star and automatically slew to it. Here you need to center the star in the eyepiece using the directional buttons on the hand paddle and then press *enter*. (The star, Vega in our case, was not in the field of the supplied low power eyepiece at the end of the slew, but not too far away from it either.) The ETX then chose a second star, Altair, and we repeated the procedure. Once this step is completed, the ETX will know exactly where to go for the rest of the night.

We then began putting the little scope through its paces. From the

very first Messier object we requested to the last one about an hour later, the ETX60 placed each of these objects in the eyepiece with consistent accuracy. And even though the field of view with the supplied 25mm eyepiece is over three degrees, the fact that every object we requested was found is still quite remarkable. Had we used an illuminated reticle eyepiece to center the initialization stars, I believe the ETX would have placed these objects in the field of the other supplied eyepiece, a 9mm. Speaking of eyepieces, the two that come with the scope are Meade's Modified Achromatics that have been given a flexible rubber eye guard. The quality of these is certainly not in the same league as a Plossl, but at magnifications of 14X and 39X they were quite acceptable. (The focal length of the ETX-60AT is 350mm F/5.8) Rod and I used a 4.8mm Nagler to push the magnification up a bit and were pleased with the images of Jupiter and Saturn, but I don't believe this scope should be used much over 90X to 100X.

Another wow factor comes into play as Autostar tells you just about everything you want to know about what you're looking at. A phenomenal amount of information scrolls across the screen of the hand paddle. Now what more could you possibly ask for? Kids as well as adults will find themselves learning about astronomy without even trying. Way to go Meade!

The objective lens appears to be fairly well made, sporting dark blue coatings. Stars appeared as sharp little pinpoints over nearly the entire field of view. The 60 has an unusual means of focusing--the eyepiece remains in a fixed position while the objective lens travels back and forth. The focusing knob has a very smooth feel to it, but has micro-fine threads and takes a number of turns to change the focus. I'm surprised Meade didn't supply two eyepieces that were parfocal. It takes *forever*

to change focus between the 25mm and 9mm. I found myself not sure if I was even going in the right direction, it took so long. This could prove very frustrating to the novice. One other thing about the focuser that I found annoying was its location, right between the diagonal and fork arm. I doubt you could work it if you had gloves on. (Scopetronix, <http://www.scopetronix.com>, offers an extension for this engineering oversight.)

Like the ETX90, the 60 has the same flip mirror arrangement to allow straight through terrestrial viewing as well as attaching a 35mm camera for limited photography.

I found only two other problems with the 60. It does not come with a finder scope and it really should. Even though the two initialization stars were close to being in the field of view, it is necessary to do a little slewing with the hand paddle to finish the job. Sighting down the tube to accomplish this is awkward. If Meade is trying to keep the cost down by not supplying a 25 or 30mm finder, then they could surely throw in a cheap red dot finder like Celestron does with their Nexstar series (the Autostar's competition). The other problem is the means of attaching a tripod to the drive base. It is not possible to use a standard camera tripod, as there is no hole in the center of the base. Instead Meade has given it two holes away from the center, which obviously requires a special Meade tripod. (Rod and I did use a photo tripod - offset to one side, but I would certainly not recommend this to anyone.) Again, I believe that Scopetronix makes an inexpensive adapter.

So what's the verdict? If you are looking for a relatively inexpensive (under \$300), very portable (less than six pounds) telescope that will take you on a guided tour of the heavens, this may be exactly what you are looking for, whether you are a beginner or seasoned veteran.

Because of its relatively small aperture, it does require a fairly dark site to perform well. And because of its short focal length, planetary viewing does not come easy - although it will produce acceptable images with a higher quality eyepiec/barlow combination. Powered by six AA batteries, it requires no external source of power—a definite plus. (Meade claims twenty hours of use from a set of batteries.) There is a port for downloading future versions of software and the whole thing fits in an optional case that I believe is considered airline portable. What more could you ask for? Well, perhaps its bigger brother, the ETX-70AT. It is identical in every way to the 60, except that it sports 10mm more in aperture (F/5). Although I have not looked through one of the 70's, I believe I would cough up the extra \$50 for a slightly brighter view.

I am, unfortunately, not in the market right now for an ultra-portable scope. But if I were, there is a very good chance one of these might just find its way into my hands. Hell, it could happen anyway. Astro-rationalizing is a very powerful force. It has been known to over power normal deductive reasoning and cause us to exhibit extremely subjective behavior. *Beware, should you ever try one of these scopes out!*



Astronomy on the Cheap Part II: Astronomy Software

<http://www.astrosurf.org/astro>

Quite a few amateur astronomers are now embracing the "computer

revolution" that has finally overtaken our formerly mechanical-electrical-optical hobby. Yes, bits and bytes have practically taken over our pursuit. Goto telescopes, digital setting circles and computer based CCD cameras are now the norm. Even if you're not ready to equip yourself with a telescope that acts more like Robby the Robot than your comfortable and familiar RV-6 or dobsonian, there's one area of computer astronomy you'll want to investigate—computerized planetariums and star atlases.

Yes, its time to retire your *Norton's* and maybe even your *Sky Atlas 2000* and *Uranometria*. Drawing and printing star charts is an area where computers excel. The average computer program features millions of stars and hundreds of thousands of deep sky objects, far more than any printed star atlas could hope to offer. There's one problem, though, many amateurs are reluctant to invest the US\$100-300 that a competent computerized star atlas commands. They're not sure if they'll like one of these massive astro programs and are even less sure which one of the dozen or more offerings they should choose. Luckily, relief is at hand.

Cartes du Ciel, "Star Charts," is one of the best astronomy programs available today. It skillfully blends a computerized depiction of the sky with a computerized star atlas. It even does some things that few other programs, even the most expensive ones, do. And, best of all, it's FREE! Yes, that's right. Cartes' author, France's Patrick Chevalley, offers this program as freeware! Why? Because he enjoys working on and developing the program and, in his words, "I feel that you should rather invest your money in buying a good eyepiece than to waste it on software!"

I'd heard quite a bit about Cartes over the last year or so, and had resolved to give it a try. Just as I was getting around to downloading

it, though, I read a review of the program by Jeff Medkeff in *Sky and Telescope*. Jeff is a friend and I respect his opinion highly, so when he gave Cartes an overall "thumbs down," I decided to pass it by. Sometime later, though, I was told that the author had cleaned up some of the problems with Cartes and had added many new features. I figured, "What the heck, don't cost nothin'!" I went ahead and downloaded the program, and was very glad I did. In addition to curing the program's deficiencies (it used to be very, very slow, even on fast Pentiums), Mssr. Chevalley had added a host of new functions that made the program a surprising standout in a field crowded with basically similar offerings.

Cartes du Ciel's features include the following:

Full color planetarium-style representation of the sky.

16 ready-to-go star and deep sky object catalogs—everything most people could want, from the Tycho 2 star catalog to the PGC catalog of tens of thousands of galaxies is on the Cartes website for downloading. It is, however, very easy to convert ascii object catalogs to Cartes' format, too, meaning that the program is basically unlimited in its number of objects.

Can use the (optional) CDROM version of the Hubble Guidestar Catalog (GSC) OR GSC stars for the current field can be automatically downloaded off the Internet (for free) as needed.

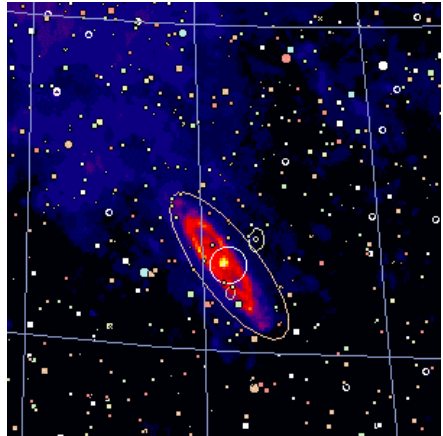
Accurate representation of the Solar System. User can easily download comet and asteroid data off the Internet as needed.

The sky can be animated, planetarium style.

Stars are represented with correct colors.

The program interface is easily customized to suit user preference—labels, colors, etc. are readily changable.

Photos from the Palomar



Observatory Sky Survey can be superimposed over star charts for the ultimate in realistic sky maps. These images can be downloaded from the Internet, or, if the user has them available, the Real Sky CDs can be used. The user can also superimpose her/his own astrophotos and CCD images over star fields.

Full search capabilities

Charts are printed with near typeset quality.

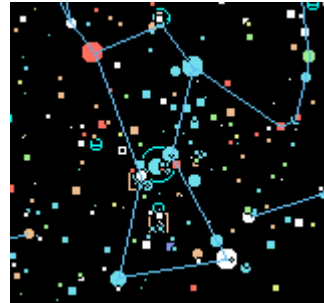
Full data available for most objects.

Interfaces with Steve Tuma's Deepsky 2000.

Lots of features, but if they're not well implemented, that doesn't mean a thing. Thankfully, everything now works very well, and Patrick is quick to extinguish bugs when they appear. It should also be mentioned that new versions of the program are released every few months. The latest update, version 2.61, came out in August. In its current state, the program is easily competitive with such giants in the industry as Megastar and The Sky. I haven't been able to test the program's interface with Deepsky 2000 yet, but I'd guess that this will only improve things.

Nothing's perfect. What's not so hot about Cartes du Ciel? Well, its speed could be a little better. It runs fine on my 300mhz computer. But there's no doubt that it seems a little more at home on my 566mhz machine. And there are a couple features that Mssr. Chevalley needs to add before it's *really* on a par with Megastar and Skymap. First, I'd like to see the long-promised CDROM version of the program become available. It takes a while to download all the files needed for the program. If you're a dial-up user, you may not feel that it's too practical to download the entire Tycho 2 star catalog, for example. A reasonably priced CDROM version could also include the GSC. Sure, downloading GSC fields off the Internet works fine, but it would be nice to have them on a CD and ready to go all the time. I'd also like some isophotes—nebula outlines. For now, nebulae are represented by boxes—ok, and still useful, but certainly not as attractive. The fact that you can download POSS plates means this isn't a bad thing, since you can superimpose pictures of nebulae over your charts, but isophotes *would* be nice. Finally, the program needs to provide support for digital setting circles and goto telescopes. I've been told that Patrick is working all of these issues.

But as is, Cartes du Ciel is still a *fantastic* program. This is freeware as you've never seen it. It's been getting better for the last year, too, and I just expect that to continue. Even if you already have a favorite astro program, Cartes needs to be on your hard drive. If for no other reason than that it combines the best features of pretty planetarium programs and hardcore deep sky charting applications better, in my opinion, than most of the for-pay programs out there.



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My Back Pages



Ah! November! Turkey Time! Even down here in Lower Alabama, where November is more like June in other places, my thoughts can't help turning to Thanksgiving and the whole wonderful holiday season. In fact, I was thinking of turkey when those two **human** turkeys, Beavis and Butt-head appeared, bearing with them the latest...

Rumours

So where's the Nexstar 11 or 9.25? I had really expected to see a larger Celestron goto scope to compete with that perennial Meade favorite, the 10 inch LX-200, by now (I've been told that a 9.25 will be the next big Nexstar). Instead, Celestron has devoted its Christmas time to *little* gotos, the Nexstar 60, 80 and 114. Meade has been hanging tight too, with the LX-90 (still not in the hands of dealers, no matter what *Sky and Telescope* says about it "rolling out of the factory") being the latest thing. I STILL say there must be LX-300s or 400s waiting in the wings! Mr. Diebel, come on! Don't make the Anonymous one a liar! Let's save that label for the politicians.

Have you noticed those little-bitty ads in the back of Sky and Telescope? I mean the ones by the "Hardin Optical Company" for "New Astrola Mirrors?" Is this the first step toward resurrecting the legendary Cave Company?

And what's new in the East? Chineserefractorland, I mean? Despite a negative review in a recent *Sky and Telescope*, demand for the four, five and six inch refractors remains strong. And it may become even stronger if the long promised Aries Correctors finally see the light of day. These units, which are used much like barlows, apparently, are designed to remove the excess color from these refractors. If they work as advertised, this could really be something. Most of the Chinese (Synta) instruments the Anonymous

One has played with have had surprisingly good figures, with the unavoidable PURPLE being the only downer.

But Synta isn't stopping with refractors from what I hear tell. They've apparently got a Maksutov or two AND EVEN A COUPLE OF SCTS ready. They're also on the verge of introducing a larger GEM mount, the EQ6, which can be equipped with an inexpensive computer control system. Are Meade and Celestron nervous? I would be.

Which southern-fried newsletter editor has an astronomy book coming out this Winter? That's right, our old buddy Rod's book on SCTs, *Choosing and Using a Schmidt Cassegrain Telescope* is due out from Springer-Verlag London this Winter as part of Patrick Moore's *Practical Astronomy Series*.

Ciao for Now!

The Anonymous Astronomer



The EQ6, the CG5/EQ4's new big brother!