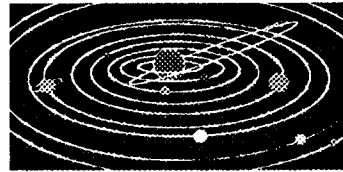


# THE FLINT RIVER OBSERVER



Vol. 2, No. 5

FLINT RIVER ASTRONOMY CLUB

July, 1998

**Officers:** President, Larry Higgins (227-2233); 1st Vice President/newsletter editor, Bill Warren (1212 Everee Inn Rd., Griffin, GA 30224 / 229-6108 / e-mail: WE1212LW@aol.com; 2nd Vice President/Secretary-Treasurer, Ken Walburn (P. O. Box 1179, McDonough, GA 30253 / 954-9442/e-mail: atkew00@kgf.geis.com); AlCor, Neal Wellons (946-5039), e-mail: nwello01@sprynet.com; Librarian, Keith Cox (227-8171); Observing Chairman, Steven "Smitty" Smith (583-2200). Club mailing address: 2431 Old Atlanta Road, Griffin, GA 30223. All of these phone numbers have 770 area code/prefixes.

Please notify **Bill Warren** and **Neal Wellons** promptly if you have a change of address.

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## **Club Calendar. Fri., July 10:**

Beaverbrook "First Light"/ FRAC joint observing, Fair Oaks Farm at dark; **Sat., July 11:** FRAC meeting (*pool party*, see p. 2 for details; **Fri., July 24:** deep-sky observing (Cox Field at dark).

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**President's Message.** I hope you'll try to attend our club party at **Bill Warren's** house on **Sat., July 11th**. It'll be a good-time get-together for fun, eating and socializing, and will take the place of our

formal club meeting in July. Bring your swimsuit, towel and rubber ducky, or just sit around the poolside and chat.

Our August meeting will be held in Bill's carport, where you'll learn how to clean your mirror, lenses and eyepieces. Next month's newsletter will tell you what to bring if you want some hands-on experience. While it's true that you shouldn't clean your optics any more often than is absolutely necessary, it's also true that a properly cleaned mirror will improve your view by up to a magnitude over a dirty mirror.

- Larry Higgins

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**June Meetings/Activities.** Forget the calendar, summertime officially arrived at Cox Field on **May 29th**, with yr. fearless reporter and **Smitty** sitting around under pot-hole skies swapping lies and providing the main course for mosquitos that were big enough to play offensive tackle in the NFL.

Then, two days later, those same mosquitos showed up with their big brothers on **June 1st** at Camp Calvin, where yr. bloodied but unbowed reporter gave a solo observing for the counselors. Afterward, everyone adjourned to the counselors' lodge for blood transfusions.

Our **June 11th** club meeting at the Flint River Regional Library in Griffin had more

no-shows than a pep rally for Timothy McVeigh, with only 11 members showing up to find out whether **Katie Moore's** birthday present, a 10" Dob, has arrived. (*We'll never tell, but we'll give you a hint: now you know who to blame for every cloudy observing night we have this summer.*)

\* \* \*

**Renewals.** Club members whose renewal dates are 08/98 include: **Kimberly Novak.**

\* \* \*

**Upcoming Meetings/Activities.** July will kick off with our BB/FRAC joint observing at Fair Oaks Farm on **Fri., July 10th.**

**WE'RE HAVING A PARTY!!!!** Stop what you're doing and mark this down on your calendar right now: *We won't have our regular club meeting on Thurs., July 9th; instead, we're having a pool party at my house on Sat., July 11th.* Louise and I are supplying such necessities as the pool, a 6'-long submarine sandwich, and an abundant supply of chicken wings; the club is supplying plates, forks, napkins, soft drinks and ice. Here's what we need from **you**: a call or e-mail by Wed., July 8th, telling me how many people will be coming with you (it's members only, but that includes everyone on your mailing label) and what you're bringing (e.g., potato salad, pork and beans, a dessert, or something else appropriate). Bring along your swimsuits, towels, and your telescope if you'd like to stay and observe after it gets dark. We have a pretty good backyard observing area with the same sort of light pollution that you probably have, and the full Moon will be only 2 nights old, but so what? Fair Oaks Farm has a full Moon and

Griffin to the south, and we always manage to have a good time there. We live on the SW side of Griffin, so the lights of Griffin and the airport are behind us and to the east, as is the Moon.

Please let me know by *July 8th* if you plan to attend so we'll know how many people to plan for. If you don't know what to bring, we'll tell you what we need.

A map appears in the back of the newsletter, but to get to my house from, say, Hampton, stay on Hwy. 19/41 and the 4-lane past the Griffin exit, past the Hwy. 16 (Newnan) exit, and past the Hwy. 362 (Williamson) exit. Turn left at the blinking light at the next exit (Airport Road). You'll pass NACOM on the left and the Girl Scout HQ on the right before reaching a 4-way-stop at Everee Inn Road. Turn right on Everee Inn, and our house will be the brick house on the left at the next corner (Roberts St.), beyond the tall hedge. Turn left onto Roberts and park in the driveway or on the left side of the road.

To get to my house from downtown Griffin, go S on Hill St. past the shopping center on the left and the fairgrounds, national guard armory and airport on the right. Turn right at the Airport Rd. stoplight, and stay on Airport Rd. until you reach the 4-way stop at Everee Inn Rd. Turn left there, and our house is one block down, on the left corner.

If you arrive around, say, 4:30-5:00, it'll give you time for a long swim before we eat at 6:30.

Our Cox Field dark-sky observing will be held on **Fri., July 24th.** It'll be one day past the new Moon phase, so the sky will at least be *dark* if not clear. Use insect repellent liberally -- preferably, before you come but at least apply it away from your instruments or anyone else's -- and don't forget to bring something long-sleeved if you plan to stay late chasing Messiers or

simply enjoying the splendors of the summer sky.

With renovations in full swing at Beaverbrook during the summer, our **August** club meeting will be held in the carport at my house and will be devoted to cleaning mirrors, lenses and eyepieces. The hands-on session will be conducted by **Larry H. and Smitty**.

\* \* \*

**The Sky in July.** Mercury will be visible in declining phases in the WSW at dusk all month, its brightness fading from mag. 0.3 to 1.6 as July progresses. Mercury will start out to the left of *Castor* and *Pollux* in Gemini, and will end up the month to the lower right of *Regulus* in Leo, in the same binocular field.

**Pluto** will be an evening star in July, located where Ophiuchus meets Scorpius. *Astronomy* (p. 76) gives excellent instructions for finding Pluto from a dark site with apertures as small as 8".

**Jupiter**, growing ever larger as it nears opposition in mid-September, will rise around midnight in early July and at 10 p.m. by the end of the month. **Neptune**, in Capricornus, rises in the SE about 10 p.m., just N of M75; at mag. 7.8, Neptune's bluish, 2" arc disc may appear faintly in 10x50 binoculars. *Astronomy* offers detailed finder instructions on p. 73.

**Uranus** (mag. 5.8) rises at 10:40, about 2° SW of Theta Capricorni. Both Uranus and Neptune will be about as bright as they ever get in late July.

On *July 15th*, **Saturn** will be 2° NNW of the Moon and, including its rings, will appear almost as large as Jupiter. Telescopes should give a nice view of the shadow of Saturn's rings across the planet, since it has thoughtfully tilted in its orbit so we can see the rings better.

**Venus** (mag. -3.9) and **Mars** (mag. 0.4) will be there for early morning risers or all-night observers, Venus at about 4:30 a.m. in the first few days of July and Mars 8° E of Venus on *July 21st*.

Elsewhere in the sky, the galaxies of Spring are fading in the west as the Milky Way takes over, meandering leisurely through Sagittarius, Aquila and Cygnus and beyond and offering lush star fields and countless viewing delights to enthrall and captivate anyone whose brain is more sensitive to beauty than a tapeworm's.

By the way: in observing the region of sky halfway between **Lagoon Nebula** in Sagittarius and **M6** in Scorpius, you're looking directly toward the center of our galaxy, 24,000 light-years away.

Starting with the splendid open clusters **M6** (the Butterfly Cluster) and **M7** in Scorpius, Messier hunters can star-hop NE in small steps through the Milky Way to find **M8** (Lagoon Nebula), **M20** (Trifid Nebula), open cluster **M21**, **M24** (the Small Sagittarius Star Cloud), open cluster **M18**, **M17** (Swan Nebula) and **M16** (Eagle Nebula), all in Sagittarius; and open clusters **M26** and **M11** (the Wild Duck Cluster) in Scutum. Along the way, they can also take side trips to globular clusters **M54**, **M70**, **M69**, **M22** and **M28** and open clusters **M23** and **M25**, all in Sagittarius. All told, the constellations Sagittarius, Scorpius, Scutum and Ophiuchus contain 28 Messiers, almost all of which are richly rewarding objects regardless of whether you're chasing down Messiers or simply interested in finding out how incredibly beautiful and diverse the night sky of Summer can be.

And that's just the southernmost portion of the summertime night sky; we haven't even considered the wonders to the north in Cygnus and elsewhere. (**Katie**, wait till you see **Veil Nebula**, **the Coathanger**, **the**

## **Blinking Nebula and Kemble's Cascade!)**

\* \* \*

**People You Should Know: Art Russell.** You already know Art through the "Star-Hops" that grace our newsletter every month. You've also seen him at our Cox Field observings, and perhaps taken a peek or two at objects of distant wonder through his 18", F4.9 (focal length: 88.5") open truss Tectron Dobsonian telescope. And if you've spent any time around Art while he's talking about telescopes or the night sky, you're aware that he knows those topics as intimately as most of us know our phone number or the names and ages of family members (and better, in the case of **Ken Walburn**).

Hardly an armchair astronomer, Art is an observer with a capital O. Having long since nailed down the Messiers, he has also successfully navigated the infinitely more difficult Herschel 400 and is presently forging his way through Herschel II and the Arp Peculiar Galaxies List, Globular 100 List and Abell Planetary List. His favorite objects for viewing are planetary nebulae and bright nebulae (emission and reflection).

One might suppose that such lofty goals and achievements and others -- Art is past president of the Atlanta Astronomy Club, and before that he served as the club's observing chairman -- might render such a person unapproachable. But that's not the case with Art. Patient, friendly and outgoing, Art is as comfortable talking with children or newcomers to stargazing as in discussing the composition of galaxies with the likes of **Rich Jakiel**.

Art is presently serving as a member of AAC's Board of Directors. He lives in Atlanta with his wife **Jane**. In addition to

observing when the weather permits, Art is also working full-time on his doctoral degree in educational psychology at Georgia State University..

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## **MIZAR AND ALCOR**

article by **Phil Sacco**

The bend of the Big Dipper's handle holds the most famous double star in the sky. These two stars, **Mizar** and **Alcor**, were used as a test of eyesight by the American Indians. They are clearly visible to the naked eye and are a spectacular sight in binoculars.

Mizar comes from the Arabic, meaning "waistband." It is a moderately bright, 2nd mag. star; Alcor, on the other hand, is several times dimmer at 4th mag., but it should be an easy target in dark skies. Mizar is about 70 times as luminous as our Sun and is separated by about 380 a.u.'s, or 35 billion miles, from its dimmer partner. This figure represents 10 times the distance between Pluto and the Sun, so when you observe them imagine Mizar as the Sun and visualize our solar system at those distances, overlaid on top of Mizar. It should give you a good feel for the scale of our system.

The two stars, known to the ancient Arabs as "the Horse and the Rider", rotate around each other with a very long period estimated at several thousand years. And since both Mizar and Alcor are themselves binaries, the former visual and the latter spectroscopic, the system is actually a double binary complex.

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## Beginner's Star-hop; June, 1996

By Art Russell

This month's star hop continues our discussion of astronomical objects in the area of the Big Dipper which we began last month. That area of the sky remains favorably situated for our star hop through the month of June so its there that we'll take a look at the galaxies **M51**, **M106**, **M63**, **M94**, and **M64**. We'll also take a look at two of the season's early globular clusters, **M3** and **M53** which are located nearby. If you find yourself enjoying these later objects, relax, there's lots more to come this summer! As ever, its best to get out under the darkest skies possible to observe any of these objects. The darker, the better for astronomy!

**Star-hop #1.** **M106**, NGC 4258. Cradled in the arc of the Big Dipper's handle is the diminutive constellation Canes Venatici, the "Hunting Dogs." Two stars form this constellation, *Alpha* ( $\alpha$ ) and *Beta* ( $\beta$ ) Canes Venatici. Starting at *Beta Canes Venatici*, extend a line to the star *Gamma* ( $\gamma$ ) Ursa Majoris in the Big Dipper. **M106** is located a little less than half way along and just to the north of that line. You may remember that we visited *Gamma Ursa Majoris* last month as our guide star to the galaxy **M109**. In smaller telescopes, **M106** appears cigar shaped with a bright core. Its edges fade rapidly from a bright core and still brighter nucleus which appears nearly stellar. In larger telescopes, **M106** is more visible, but with few details.

**Star-hop #2.** **M94**, NGC 4736. **M94** is located off line to the northwest of *Alpha Canes Venatici* and almost directly east of *Beta Canes Venatici*. Small telescopes under dark skies should easily find **M94** only one or two fields of view away from these guide stars. In smaller scopes, **M94** appears as a star with a surrounding nebula. Its nucleus is stellar with a halo which appears 2-3 times in diameter that of the nucleus. In larger scopes, the galaxy is still not resolved. The nucleus is not bright, but is distinct from the surrounding nebula. Edges of its halo fade out evenly from body of the galaxy.

**Star-hop #3.** **M63**, NGC 5055. Our next two star-hops lie along the same line between *Alpha Canes Venatici* and *Eta* ( $\eta$ ) Ursa Majoris, the last star in the handle of the Big Dipper. **M63** is located about 1/3 of the way between *Alpha Canes Venatici* and *Eta Ursa Majoris*, and just slightly to the east of that line. Smaller scopes will show **M63** as a small elliptically shaped galaxy with a stellar nucleus. The edges of its halo fade rapidly. In larger scopes, **M63** has a small bright nucleus embedded in a large halo. The galaxy appears flattened and oriented northwest to sootiest. Its edges fade gradually. The galaxy's halo displays uniform density until edges begin to fade.

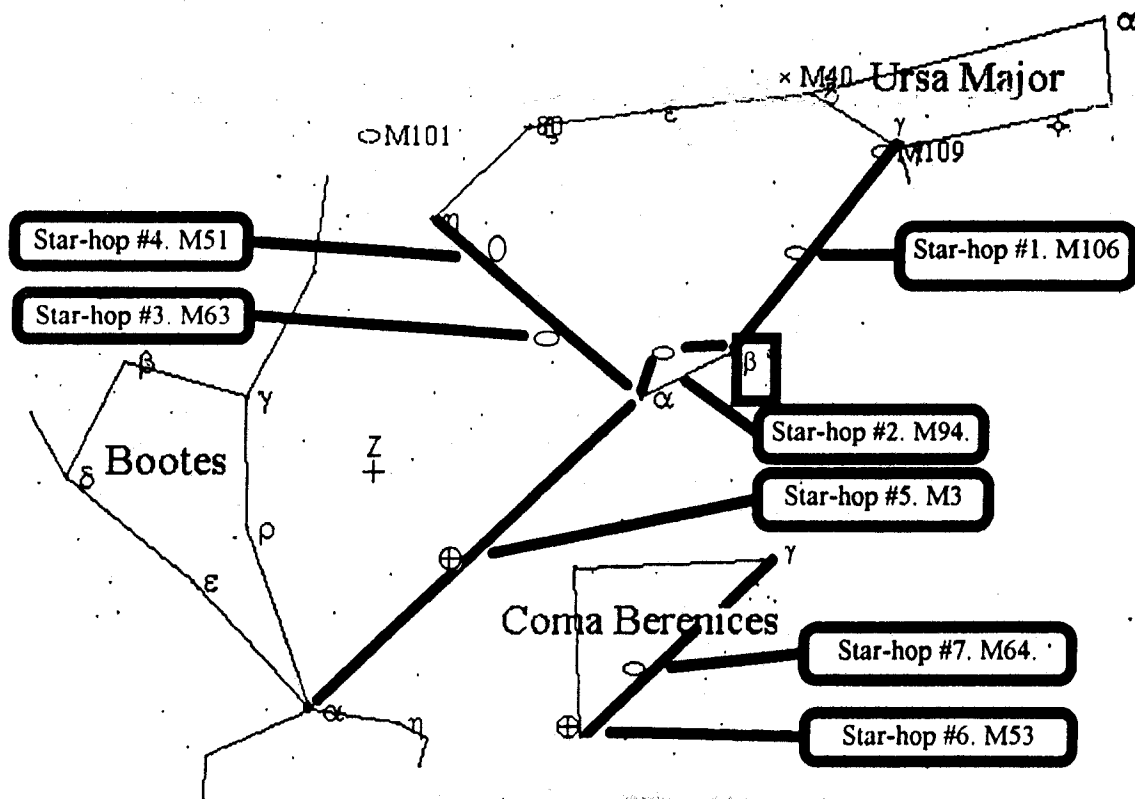
**Star-hop #4.** **M51**, NGC 5194 and NGC 5195. **M51**, also known as the "Whirlpool Galaxy," is one of the most spectacular sights visible in the northern hemisphere for amateur astronomers. This galaxy and its smaller companion galaxy, **NGC 5195**, demands dark skies for best viewing. Take the time to view these galaxies from the darkest site you can get to. You'll be amply rewarded! Using the same line as in Star-hop #3, we'll find **M51** located about 2/3 of the way from *Alpha Canes Venatici* to *Eta Ursa Majoris* and a bit west of that line. In binoculars and small telescopes the galaxy's halo is easy to spot and presents an irregular shaped oblong orientation. There is a smaller extension on **M51's** northeastern side. This is **NGC 5195**, itself a small galaxy. You can see the difference between **M51** and **NGC 5195** in averted vision. In larger scopes and dark skies **M51** and **NGC 5195** make a spectacular pair!! Spiral structure in both galaxies is very evident. **M51's** arms appear to spiral in a counter-clockwise manner. Multiple dust lanes are visible in both **M51** and **NGC 5195**!

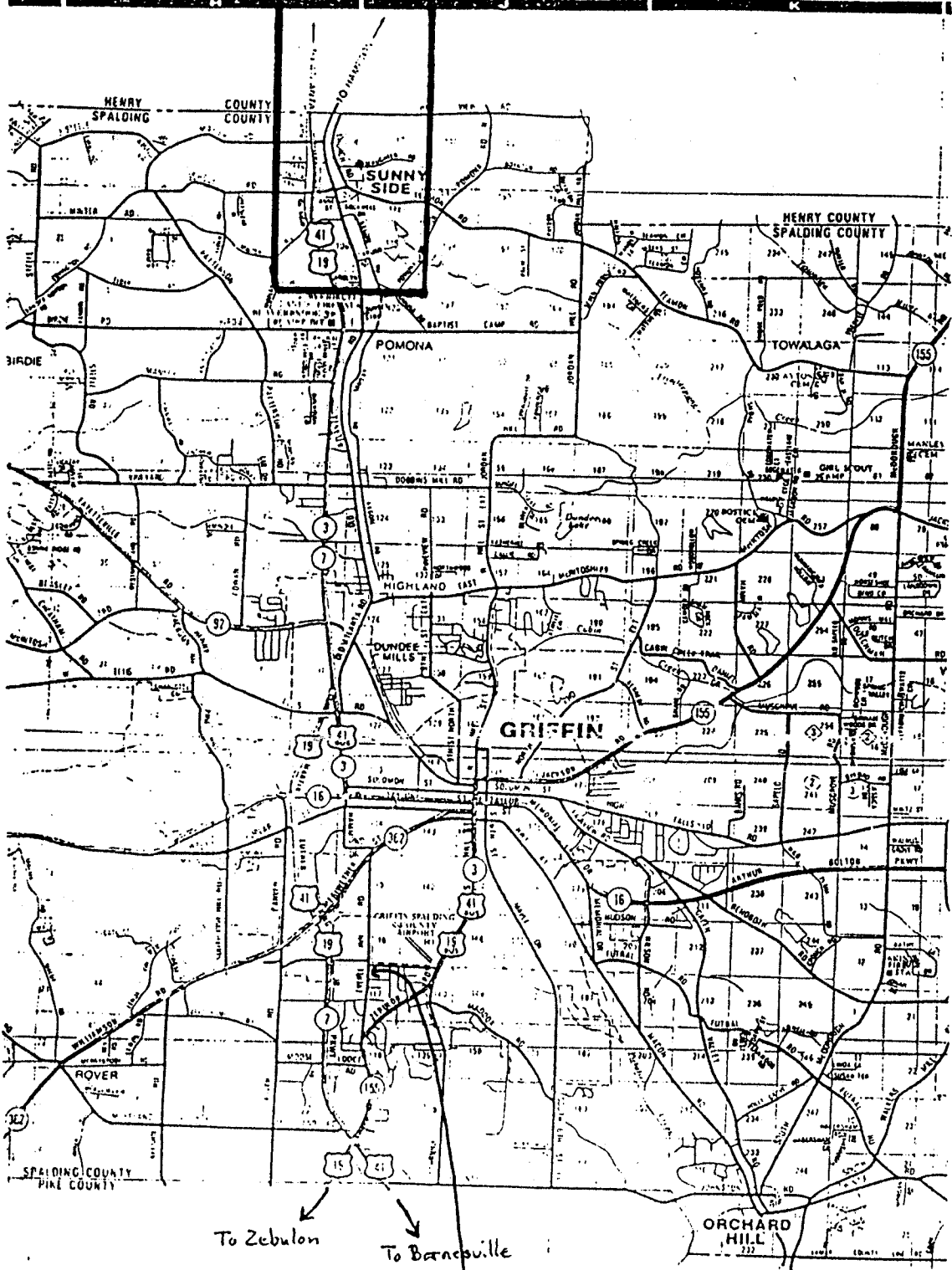
**Star-hop #5.** **M3**, NGC 5272. **M3** is our last object located in Canes Venatici. However, this time we'll be tracking down a globular cluster which is even visible from light polluted Atlanta! To find **M3**, extend a line from *Alpha Canes Venatici* to the star *Arcturus*, *Alpha* ( $\alpha$ ) Bootes, in the constellation Bootes, "The Herdsman." **M3** is located a little more than 1/2 the distance from *Alpha Canes Venatici* to *Arcturus* and just a bit to the north of this line. In binoculars and small telescopes, **M3** appears is easy to

find. The globular cluster is very concentrated and distinct. It appears to have a stellar appearing nucleus which fades rapidly to edges. No stars resolved. In larger scopes, M3 is a beautiful globular cluster with many well resolved stars.

**Star-hop#6. M53, NGC 5024.** We now turn our attention to the small constellation "Coma Berenices" to find our remaining objects for this month. You can find this constellation due west of Arcturus. The globular cluster M53 is very easy to find under dark skies because it is located less than a degree to the northeast of the star *Alpha* ( $\alpha$ ) *Coma Berenices*. Both *Alpha Coma Berenices* and M53 should be visible simultaneously in binoculars and telescope finder scopes. In larger scopes M53 is a beautiful, well concentrated globular cluster with many well resolved outlying stars.

**Star-hop #7. M64, NGC 4826.** Our last star-hop is to the "Blackeye Galaxy." As its name suggests, this galaxy has a dark marking near its center which is visible to moderate sized telescopes. M64 is a little more than 1/3 of the way and a little north of a line from *Alpha Coma Berenices* and *Gamma* ( $\gamma$ ) *Coma Berenices*. In moderate sized scopes M64 appears aptly named! The galaxy seems to have an edge on aspect with a distinct blackeye or dust lane below its nucleus. The galaxy's halo is relatively uniform in brightness and the nucleus is not overly bright.





THE WARRENS.  
 There's a small white sign with  
 "1212 Everee Inn Road" on it back  
 by the pine trees.