

Under Southern Skies

By Geoff Gaherty, Toronto Centre (geoff@foxmead.ca)

I'm back in the frozen wastes of southern Ontario again, after a month in New Zealand and Australia. The astronomical highlight of my trip was four perfect nights spent at the "Deepest South Texas Star Safari," held at Warrumbungle Mountain Motel near Coonabarabran, New South Wales. Coona is the astronomy capitol of Australia, located only a few kilometres from Siding Spring Observatory. You know you're getting close when you start seeing giant scale models of the planets along the roadside.

Picture a small 14-unit motel in the lush Australian countryside, far from civilization. A bend in the river encloses the motel, and a large field behind it is covered with closely trimmed grass. On that field are some of the largest Obsession Dobsonians to be found in Australia, 18-inch and 25-inch apertures (a couple of each), plus a pair of Fujinon 25×150 binoculars, and assorted other optical goodies, all manned by a bunch of Australia's top amateur astronomers: John Bambury, Tony Buckley, Gary Kopff, Lachlan MacDonald, and Andrew Murrell. As dusk falls, the occasional wallaby wanders through the field. Once the sky is fully dark, the southern Milky Way arcs overhead, and a myriad of southern deep-sky wonders beckons.

2008 March 02-03

My first task is to get myself oriented with my star charts, as described in the last issue, using my eyes and 10×50 binoculars. In the southeast, alpha and beta Centauri point upwards towards Crux, the Southern Cross, with the brilliant Carina Milky Way above it. The Large Magellanic Cloud is high over the south celestial pole, with the Small Magellanic Cloud down towards the southwest. These two satellites of our galaxy appear like faint puffs of cloud against the dark sky, but my binoculars soon reveal them to be rich star fields rivalled only by the Milky Way itself. Nestled below the Southern Cross is the inky dark nebula, the Coal Sack, and alongside it I make my first southern discovery, NGC 4755, the Jewel Box open cluster.

Soon I join my friend, John Bambury, fellow moderator of the Talking Telescopes Yahoo Group, who is at the controls of an 18-inch f/4.5 Obsession Dobsonian equipped with Argo Navis setting circles and a ServoCat GoTo system. We embark on a tour of what John calls "eye candy": the highlights of the southern sky. First up is the Tarantula Nebula, NGC 2070, in



Figure 1 — eta Carina from the 4000-m heights of Bolivia, by Jay Anderson

Dorado. In fact, this is a nebula not in our own galaxy, but in the Large Magellanic Cloud, large and bright enough to rival the Orion Nebula, even though much farther away. John has a soft spot for star clusters, both open and globular, and that is what we spend most of the evening on. Like most southern astronomers, he insists that 47 Tucanae (NGC 104) is a much better globular than its more famous rival, omega Centauri (NGC 5139), and both of them put our best northern globular, M13 in Hercules, to shame. I tend to agree with him; omega Centauri's rather even distribution of stars makes it look like what we now suspect it to be, a dwarf galaxy stripped of its gas and dust by an encounter with our Milky Way, while "47 Tuc" is a true globular with a brilliant concentration of stars at its core, fading away to nothingness in its outer reaches.

Another highlight is my first good look at NGC 5128, known as Centaurus A or the Hamburger Galaxy. This famous object is two galaxies in collision, resulting in strong radio emission, with a strong dark band across its centre, where the dust lane of one galaxy is silhouetted against the core of the other galaxy, hence its resemblance to a giant hamburger. Then I spend a long time examining one of the most intriguing objects in our galactic neighbourhood, the eta Carinae Nebula, NGC 3372. At its centre is the star that gives it its name, probably the best candidate for a supernova in our part of the

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Pen & Pixel



John Mirtle captured this image of the PacMan Nebula (NGC 281) in Cassiopeia from Mount Kobau in August 2005. The image is taken through a Takahashi FSQ-106N using an SBIG ST-8XE camera and a Hutech Type 2 filter. Exposures were 2x10 m in R and G, and 2x12 m in B. Several prominent dark Bok globules can be seen superimposed on the background nebula.



March's lunar eclipse attracted astrophotographers across North America. This image was taken by the Winnipeg Centre's Steve Altstadt under clear skies and -25 °C temperatures. Steve used a Hutech-modified Canon D40, an f/5 Takahashi FSQ-106ED on an AstroPhysics mount, and an exposure of 1.6 s at ASA100 for this picture.

A brilliant “Capellid” meteor streaks into view as dawn breaks: the image is one still from a sequence of a few hundred that Alister Ling, Edmonton Centre later assembled into a short time-lapse movie.

See Bruce McCurdy’s column on P. 116 for more on the Orionids.



“This image — ‘Full Moon over Canoe Rock’ — was taken on 2007 August 27 at Valdes Island, British Columbia, while I was waiting for the total eclipse on the morning of August 28.” explains John McDonald of the Victoria Centre. Several exposures were taken as the Moon rose and this image is a montage of one that captured the Moon and rock at its best, and another that caught the bird over the rock moments later. Exposure was 1/500 sec. at f/5.6 and ISO 800 using a Canon 300-mm lens on a Rebel XT camera.

galaxy, the so-called “homunculus” looking like a tiny golden brain. Immediately adjacent to this is the dark Keyhole Nebula, and surrounding all of this are vast steamers of dust and gas.

Finally, I ask John if I can try for the Horsehead Nebula (*JRASC* December 2007, 256). The terrible Canadian winter of 2007-2008 has prevented my searching it out at home, so I have brought my Hydrogen-beta filter with me. With it I can see the faint background glow of the diffuse nebula IC 434, and then the Horsehead appears with averted vision as a shadow across the faint nebulosity...success!

2008 March 03-04

Tonight we concentrate on southern galaxies. Most memorable for me is the Fornax cluster of galaxies. In the 18-inch it looks just like the *Hubble* Deep Field: a huge scattering of many sizes and shapes of galaxies. Later on we check out some of the south's double stars, Acrux (a triple) and alpha Centauri (our nearest stellar neighbours), both blindingly bright after all those faint galaxies! Finally we observe some old friends from up north. First, my all-time favourite galaxy pair, NGC 4038 and 4039 in Corvus. Instead of looking like the faint vee I see in my 11-inch at home, each of the galaxies takes on a distinct size and shape. M104 in Virgo is as beautiful as always. The real surprise is M83 in Hydra. Seen high overhead, instead of through the horizon murk at home, its spiral arms show it to be much larger than the bare nucleus, which is usually all I can make out.

2008 March 04-05

Much of tonight is devoted to a tour of the showpieces of the Large Magellanic Cloud, organized by Lance Humphreys, attending from Paho, Hawaii. We view field after field in the 18-inch with a Tele Vue 13-mm Ethos eyepiece, each view containing several different deep-sky objects!

I turn in a bit early in order to get up at 4:30 a.m. to see the northern “summer” Milky Way joined up with the southern “winter” Milky Way, both high overhead. This is one of the most glorious sights I've ever experienced in a lifetime of astronomy! Poor little M13 looks so puny compared with 47 Tuc and omega Centauri, both bright naked-eye objects.

2008 March 05-06

Tomorrow will be the first half of a long drive down to Melbourne to visit our son David, so I turn in fairly early, though not before reviewing the highlights of the southern skies, plus visiting a few old friends in Monoceros. ●

Geoff Gaherty is currently celebrating his 50th anniversary as an amateur astronomer. Despite cold in the winter and mosquitoes in the summer, he still manages to pursue a variety of observations, particularly of Jupiter and variable stars. Though technically retired as a computer consultant, he's now getting paid to do astronomy, providing content and technical support for Starry Night Software. And now he's made us all jealous.

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