

Observing in the High Andes - Uspallata, Argentina

by Bob McGown & Dareth Murray

Winery tours, local craft booths, banquets, and torrid tango dancers kept our attention the first few days of our trip to Argentina which the Grupo de Astronomos Mendocinos Aficionados (GAMA) billed as the "First Joint Astronomical Observations of GAMA – RCA". Our tour bus had a sign with the RCA logo and GAMA logo proclaiming the event as did the Hotel Aconcagua Lobby. Nineteen intrepid RCA members (well, one was a friend of a member) went on this ten-day adventure and were royally received by the GAMA club, showered with gifts and hospitality.



Leo with GAMA/RCA sign at Hotel Aconcagua

We boarded our deluxe double-decker bus and left Hotel Aconcagua Monday morning, September 18, for Uspallata and our long-awaited southern observing.

As we climbed up into the Andean foothills, past wine yards and oil fields & refineries, we could see the trees just coming into bud and the early spring green on the hills. It was an enjoyable trip, broken by a very long lunch, which became even longer due to a surprise birthday party for not one but three of our RCA party! We finally arrived at the Gran Hotel Uspallata in the late afternoon and settled in to our rooms.



Gran Hotel Uspallata

About 6 p.m. we piled into the bus, loaded up with all our astronomy equipment and some GAMA telescopes as well. Some of the GAMA members had ridden with us coming from Mendoza and others came in separate vehicles. A few kilometers out of the village, we turned onto a narrow bumpy dirt road to a privately owned farmstead, a distance of about 20 kilometers. After passing a stone corral with sheep and horses, we were surprised to see an army tent (along with two Argentine soldiers) and even small tables & chairs set up for observing!



Left: A herd of sheep near our observing site with Uspallata Mountains in background



Setting up our observing site in the high Andes!

Those of us who had solar telescopes set them up. We had our Coronado PST and there was a white light filter scope from the GAMA club. The two soldiers peered through the Coronado and observed the Sun for the first time through a telescope.



Argentine soldiers with the scope, or was it a rocket launcher?

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Everyone was very busy putting their scopes together, collimating and getting observing guides and star maps out on the tables. As the sun fell below the mountains in a blaze of golden glory, the night sky started to come alive.

Early in the evening we saw the Southern Cross. The great Omega Centauri globular cluster was visible - naked eye!

The Carina Arm of the Milky Way rose with Sagittarius overhead with the Large and Small Magellenic Clouds. We had seen these in Africa in January of 2006 but here they seemed even more brilliant. Early in the evening we saw the International Space Station traveling from west to east in the southern horizon. It was so luminous we weren't sure it was the ISS, but perhaps a UFO! Leo proudly claimed it as a special gift from GAMA to RCA! The following night we saw the ISS followed by a small speck of light which was the space shuttle Atlantis!

RCA night scopes included: Rod Shea's 90mm Takahasi, Ken Hose with his 8" truss Dob, Rob Guttridge's 80mm refractor, Margaret Campbell-McCrea's 12.5 truss Dob, Greg Babcock's 10" suitcase truss Dob and Larry & Loni Swenson's 90mm Orion. The members of the GAMA club were very proud of their telescopes, constructed out of material available to them. The only spotting device that the GAMA astronomers had was on Pepe's scope which had a homemade telrad. But they are wizards at just sighting down the tube to find deep sky objects. Some of the GAMA club who observed with us over the 5 days we were at Uspallata were: Leo Cavagnaro (Vice President of GAMA and co-organizer of the trip), Carlos Gutierrez, Eugenio Martin (President of GAMA), Alejandra (and sometimes her cherub-like 2-year old daughter Esperanza) Guerrini, Antonio Sanchez, Elio Delgado, Oscar Castro, Violeta Alonso, Jose Galli (Pepe) with a homemade telrad, Eduardo Gruciani and son Nicolas, Graziano Di Giannantonio, Marcelo Vera and Amedeo Tenaglia. Many of them spoke at least some English. Eduardo and Amedeo were the official "translators" for the group. Some of our observations included the constellations of Eridanus and Sculptor and the South Polar Group of galaxies with the barred spiral NGC 300 and NGC 1365 in Fornax. One of our favorite clusters was the Fornax cluster, the southern super cluster. In Leo's 8" scope there were eight galaxies in the field. It was awesome! We continued to observe as but it was getting pretty cold, so we piled on more layers and hats. The smell of hamburgers wafted from the cooking tent as professor Amadeo & Violeta became our chefs. About 10:30 we saw some clouds start to build up against the mountains, on both sides. When a few drops of rain were felt, we decided to call it a night and take the scopes down. They were left set up in the lower floor of the bus. There was a massive storm later that night and some of the fields and roads were flooded.

In the following days, we went on many excursions. One was to the Parque Provincial Aconcagua to see up close and personal the highest mountain in the western hemisphere - Mt. Aconcagua at 22,841 feet. One of the stops along the way was Puente del Inca which is a natural stone bridge over the Las Cuevas River, one of Argentina's natural wonders. The cop-

pery-gold color of the rocks comes from minerals in the water. The rubble at the right of the church is what is left after an avalanche swept away the hotel.



Puente del Inca mineral springs

The structures under the unusual mineral flow are the bath houses for the hot springs. We saw some of the Argentine Condors majestically winging their way from the high mountains down into the river valley. They are spectacular birds with a wing span of up to ten feet or more.

Another memorable excursion was to the Astronomical Observatory "El Leoncito" or more commonly referred to as "Casleo", a mere 100 kilometers away - we should have been there in plenty of time for lunch. The company was interesting, as usual, and we were happy to see the unending Andes mountain ranges and the beauty of the high desert plain. At the turn off to the observatory, we breathed a sigh of relief. After 4 hours, we were nearly there. Well, not quite. That road was not built to support a tour bus with 40 people plus equipment. At one point, we all got out of the bus so that it could make it around a particularly steeply banked corner.

Finally, we found ourselves at the top of the ridge. Here was the observatory and some very friendly folks with lots of food for us. The observatory was inaugurated in September 1986 and started operations in 1987 so it is fairly new. A state law has been passed by the state congress to protect the site and its sky as an astronomical reservation. After a late lunch, our host, Dr. Hugo Levato, gave us a tour of the observatory, pointing out all its unusual and interesting features. He told us the ob-



Carlos, Bob and Robin at the heart of the scope

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servatory enjoys between 270-300 nights of clear sky per year! The Boller & Chivens 2.1meter telescope with a Ritchey-Chrétien reflector optical system (called "Jorge Sahade") is used for CCD astronomy. Three of the group (including Bob) climbed past the "Jorge Sahade" dome to visit the sub millimeter solar telescope (SST) which has a 1.5m diameter and operates in 405Ghz and 212Ghz for observations of high-energy phenomena in the Sun. Outside the solar geodesic was a solar heliostat that reflected the Sun's spectra through a pipe on the outside of the observatory.

Another instrument nearby the observatory was a gamma ray spectrometer used to study gamma ray scintillations in the Earth's upper atmosphere. There were also three WWII search lights used in conjunction with the observations to confirm scintillations. This research is done to study electromagnetic pulses through the atmosphere. After the tour, Dr. Levato gave a presentation on his experiences at the most recent IAU conference in Prague, Czech Republic, the result of which demoted Pluto to non-planet status. Dr. Levato said way too much time was spent on this subject but he did agree with the decision. Bottom line for planetary status: the semi-major axis must be inside the planetary body and the planets must be formed by the same processes.

By this time it was getting on toward early evening and to the disappointment of many we learned that the research telescope would not be available for our use. In any case, we decided it was better to come down the mountain before it got dark. It was a long journey back to the hotel but some of the GAMA club serenaded us with traditional Argentine ballads. We even watched a Monty Python movie on the bus's TV monitors. We arrived back at the hotel well after midnight, too late for any observing and tired out from all that bus riding!

One morning in between observing, Ken, Marianne and Bob hiked up some hills in a wild wind storm. One of the most festive events of the week was the gala barbeque on Thursday. It was a feast, designed to outdo all the previous feasts we had become used to. There were the usual speeches and giving of gifts.

This time, each one of us received a large platter with both groups logo (all in color) giving the dates of the "First Joint Astronomical Observations". An extra plate was made for the Rose City Astronomers club and given to the club by Margaret at the October meeting.

Then we had the dancing! A group of children dressed in traditional Argentine garb, filed down and began to dance. They were probably between the ages of 6 and 12. After their performance, we were further treated to more by older couples in full costume, again showing off the traditional dances of the region.

After the barbeque, we attended a presentation by Dr. Richard Branham Jr., head of the Argentine Institute for Snow and Ice Studies in Mendoza. He is a physicist from Chicago and it was quite nice to hear a familiar American accent! He spoke about various aspects of General Relativity in a witty and conversa-

tional style and mentioned one of his colleagues was Vera Rubin, of astrophysics fame. The mini-conference broke up about 6 p.m. and we ran outside to see what the weather was up to. At 7 p.m. it was quite overcast and the group decided not to risk the hour and half trip out to the observing field.

Later on, a few die-hards noticed the sky clearing about 10:30 p.m. Bob and seven other GAMA and RCA renegades hijacked the bus, driving a few kilometers out of town to an observing spot Leo liked. They happened to have some telescopes on hand (in the lower part of the bus) and got in a few hours of observing. Observing southern Herschel galaxies, they even saw a fireball in the eastern horizon, glowing fiercely and then fading away.



Dancers at the Barbeque –the piano on stage in back was used for Eva Perón's performances

On the final day of our trip, a few courageous RCA'ers went on a white-water rafting trip which had been arranged the day before. We, along with Steve & Jan Katz & Greg Babcock roared down the spring-melt Mendoza river below Aconcagua for a afternoon raft trip that seemed to last a lifetime! What a view of the canyons and Andes towering high above! Soaking wet but very happy, we made it back to the hotel just in time for lunch. In the afternoon, the group had another mini-conference at the hotel with Bob McGown presenting on SETI: the search for Extra-terrestrial Intelligence and astrobiology.



White-water rafting on the Mendoza River!

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The beginning of the presentation was the first five minutes of the movie "Contact" which set the stage. The talk ranged from quantum computers & signal detections, as well as the detection of the beginnings of life in the form of microbes in extreme locations on this planet and perhaps Mars. Bob discussed his recent involvement in the NASA Marte project, a search for life in an underground biosphere near the Rio Tinto River in Spain.

Friday night was the last night for observing! Almost everyone turned out for the occasion and it was excellent. Some of the objects viewed included Palomar 9 & the Fornax Galaxies. We observed until after midnight. All too soon, our wake-up knock from Margaret came the next morning at 6:30. Nostalgically, we boarded the bus, making sure we had everything we had come with. This was our last trip on the bus and we spent the next few hours joking with Leo, Carlos, Eugenio and Amedeo about our adventure.

We made it to the airport in plenty of time, with the GAMA group taking care of us every step of the way. And then came the farewell speeches! And some last gifts. At the last moment, Bob gave his laser light pen to the GAMA group, as a final gift.

Our luggage was searched, passports checked and stamped and we were on our way back to Portland via Santiago, Chile and Atlanta. We arrived in Portland about 1 p.m. on Sunday the 24th. As we waited in baggage claim, the group exchanged

hugs and promises to get together soon and share our pictures and memories of the trip. We definitely plan a return trip to see our new friends in Mendoza, perhaps in the early fall, when it is warmer! It is a wonderful country, gracious people and with so many more things to see and do, we will plan on a much longer trip next time.



Margaret finishes her observing notes.

Visit <http://www.rosecityastronomers.org/> for more on all the folks who went on the trip and access their pictures too!