

Travelogue Winter Solstice Borobudur

The team:

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Place: Jogjakarta, Borobudur & the villages around

Sunday, Dec, 20th, 2009

We arrived on Rani's grandmother's house (the HQ for the Jogjakarta visit) on morning, short after the dawn; and soon afterward we left, the first culinary travel. We went to the front of Panti Rapih Hospital, Sagan, Jogjakarta for '*bubur (porridge) Gudeg*'.

Afterward, we walk across the UGM campus, through the old Colombo Street & return to the HQ.

After a short break, then we went to the Tugu Train Station to reserve tickets for Rani (return to Jakarta) & Irma (return to Surabaya). Finished with the tickets, and with all the 'problems' to cross the street ;) we arrived to Malioboro.

After strolled the street for awhile, (during that time there was a culinary festival, but we didn't visit the festival due to another agenda), we visited the Mirota to buy some souvenirs.

The interesting souvenir was indeed the unique 'Javanese calendar', because the calendar could foretell about your life.

Then, after an exciting shopping, we took a short break in 'Cirebon Restaurant', still in Malioboro. A Cirebon in Malioboro? Yeah, don't forget that 'cempolai' is uniquely tied to Cirebon, so we tried some 1yrups in there.





sambel pete jamur





culinary festival



Tempus fugit, we left Malioboro after dark, and by the convoy of Betjaks (sort of pedicab, unique in Indonesia) we drove to Prawirotaman area, to have dinner in 'Milas'.





Fried spinach egg cheese rice

If you are a vegetarian, if you care about your environment, if you have profound interest in traditional live, child education, natural thingy, this is the place for you! There you will find various food served from natural ingredients, in particular vegetative one. You will stay inside rooms that constructed from traditional material (such as 'gedeg'/tiled bamboo wall), even, natural toilet! All in all, this is one place that should be noted as a green area.

We tried various food, until no longer space available inside our stomach, besides the day already late, unit should rest, the next day is the day for ...

Monday, Dec, 21st, 2009 - The Winter Solstice

After a night rest, we left from the HQ, directly to Borobudur. Granny's so kind to us, providing us a car for the travel, with pak Topo as the driver. Pak Topo knows the traffic in Jogjakarta very well, and he would like to take us wherever we want to. But our destination was clear, the Borobudur. The day was bright Sunny, seems a promising day. After an hour travel, through the Jalan Raya Magelang-Semarang, then we arrived. But ..

uh oh .. in a flash of sight, the time we arrived, the cloud hang over the site, and once we stepped our foot on the foot of the Candi .. oh .. by Great Hera's milk!! Rain!!!!!! Grrrrr



On the way to Borobudur, still high cloud ahead



Candi Mendut, look the cloud already low & dark

Okay, the rain stopped after a short a while, nonetheless, the cloud still hindered the Sun to shone on the summit of the Candi.



After the rain





Through the rain

There, we have to wait for awhile, just to make sure that the cloud will disperse, as the Sun shall shine & draw a shadow onto the Main Stupa, and verify Irma's calculation about her project.



After the rain & all the romanticism

So, there it was, the Sun gave her smile, gave us a hint about which direction of the shadow fell. So, did the Irma's calculation correct? Well, i shall leave this to Irma to tell her story further.



The path of the shadow in this stupa will reveal the mystery of Borobudur



After took some evidences about which direction the shadow fell, we move to another evidences about how our ancestors have profound knowledge about the celestial world. Then, after that we visit museums about the reconstructions of ancient voyage of our ancestors. (Forgot the name of the museum).



The true story of Manohara came from this relief



Do the seven spheres represent the Pleiades according the ancestor's eyes?

It was about 17, satisfied with the visitation, took a 'very late lunch', we continued to visit the Village of *Candirejo* (the eco-tourism village, noted by Melly). There we studied about what that village served, and consider, okay, we will return for a longer visit day. Yet, there is another agenda to do. We took a little detour to Aman Jiwo Hotel (hmm .. just take a short nap, and in the morning, you have to pay US\$ 1000 for your little nap) .. :D



Then ..

We have to meet with Mas Hatta (tx for Melly to introduce us to this very nice guy). We have a great discussion with Mas Hatta, and take a little trip to Village Maitan, to see the candidate for 'Sky Gazing Green Map'. Such a nice place, inside the wood of Jati (*teak/tectona grandis*). If the place is intended to be an observational site for Sun-rise, and the Borobudur as the foreground, that would be a great place, since there is a 'saung' already placed in the site.

Candirejo Village

*Being Another Different
Of the Javanese Culture*



Paket Atraksi Kesenian

Wisatawan serasa langsung dapat menikmati atraksi seni yang ada di Desa Candirejo dengan 5 alternatif pilihan, yang masing-masing jenis kesenian tersebut mempunyai karakteristik dan mengandung pelajaran yang berbeda-beda serta memiliki nilai budaya lokal yang tinggi. Wisatawan dapat belajar dan menikmati atraksi tersebut bersama-sama dengan masyarakat lokal untuk mendapatkan pengalaman yang unik.

Paket Wisata Kebun

Wisata ini akan meningkatkan kepedulian anda mengenai arti pentingnya pelestarian dan pengelolaan sumber daya alam berkelanjutan. Salah satu kegiatan yang dapat dipelajari adalah pertanian rompisgar, sekaligus mendapatkan pengalaman langsung di lapangan untuk menanam, mencangkul dan memetik buah-buahan segar.



Paket Tinggal Bersama Penduduk

Paket ini menawarkan belajar kebiasaan hidup masyarakat Jawa di Candirejo. Di sini wisatawan dapat melihat dan belajar langsung dengan pemilik Homestay tentang kegiatan kesehariannya. Misalnya mengenal masyarakat melalui aktifitasnya dari mulai bangun pagi sampai istirahat untuk tidur kembali. Contoh, ketika tamu sudah masuk larut ikut masak, ketika ke ladang turist ikut beladang, dan seterusnya. Sebagai pendukung dan menambah pengalaman, wisatawan bisa memilih alternatif paket lain.

Wisata Pendidikan Alam

Wisatawan akan diajak menyusuri kampung untuk melihat kehidupan masyarakat lokal sambil mengunjungi sentra kerajinan ukir bambu dan Home Industry snack tradisional.



Cara Pencapaian

Kira-kira 1,5 jam dengan mengendarai kendaraan bermotor dari kota Yogyakarta dan juga dapat ditempuh dengan menggunakan Andong dan Ojek dari Borobudur. Atau menggunakan kendaraan umum setiap pukul 05.00 hingga 18.00 dengan rute Borobudur-Candirejo.

Candirejo

New & Exciting Destination

Alamat Kantor :

Koperasi Desa Wisata Candirejo
Jl. Raya Candirejo-Borobudur Km. 1 Borobudur
Magelang Central Java - Indonesia 56553
Telp. / Fax. (0291) 789675
081328808520 (Tarak)

Paket Wisata Atraksi Air

Wisatawan dapat langsung melihat dan belajar bagaimana para nelayan dalam mencari ikan dengan alat jaring/jala yang dapat memberikan kesan unik dan menarik. Untuk penangkapan ikan dengan cara nyantrang sangat mudah untuk dilakukan oleh wisatawan. Selain itu wisatawan juga dapat menjadi cara berenang dengan ditemani pemandu dan yang senang dengan tantangan bisa menikmati derasnya sungai Eto dan Praga untuk air terjun/melting.



Wisata Jelajah Desa

Wisata Jelajah Desa dapat dilakukan dengan bersepeda, berjalan kaki atau menggunakan andong, akan memberikan pengetahuan baru bagi anda dalam mengenai adat istiadat, produk lokal, berupa makanan dan minuman tradisional.

Wisata Jelajah Perbukitan Menoreh

Wisata ini akan memberikan pengalaman baru dalam menegara kehidupan sehari-hari masyarakat desa. Kegiatan ini selain ini sekaligus meningkatkan apresiasi kita terhadap alam melalui kegiatan pengamatan burung, mempelajari system pertanian tumpang sari dan mempelajari tanaman obat.



Desa Candirejo

Desa Candirejo terletak 3 km dari pusat Wisata Budaya Candi Borobudur. Desa Candirejo menawarkan kenamparan alam khas Jawa serta juga keherifan suasana pedesaan di kaki Pegunungan Menoreh, berair, alam yang indah memandangi Borobudur dari "Pesanggrahan Watu Kendi" sambil menikmati makanan dan minuman khas setempat akan melengkapi kunjungan anda.



Melalui berbagai kegiatan wisata yang dikelola oleh masyarakat, anda akan memperoleh pengalaman yang unik dan menarik.



The site inside the wood of teak, and the Borobudur is the bright spot a far

But the place was not so promising, at least for two reasons, 1st, indeed, it was inside the wood, so the trees hindered the opening sky, so for the night time Star-Party, would hardly possible (Yes, during the dry season, the leaves of jati should fall, but that would

limit the possibility from time to time to visit). 2nd, there is a plan to build a guest house in the area, so it would be omitted from the green map eventually, once the house built, so no place to sky-gazing.

So, after a long discussion with Mas Hatta, the plan is settled, we have to map another place for 'Sky-Gazing Green Map'. There were various places considered, such as a football field on the vicinity of the Borobudur, and other various places, but due to the limited time we have back then, the surveyed should be postponed. Among other various places proposed, there is one noted, the Suroloyo, on the Summit of Menoreh mountain.

Yeah, we will return, perhaps March should be a good time, since there will be a Vernal Equinox in Borobudur in 2010!

But, that wasn't the end of the story. Surely we have to return to Jogjakarta, since the time was late, but not with the culinary visit! During the return home, we stopped by in Sleman, to visit the 'Jejamuran'. Yeah, Jejamuran, as the name stated, this restaurant catered various cuisines from Jamur (fungi). Name of kind dish that you like, all from fungi that cultivated in the back yard, even you can visit the cultivated garden of fungi!





And as the cloudy night crawled, we have to return home & rest, since the expedition ended. We have visited the Borobudur in Winter Solstice.

Tuesday, Dec, 22nd, 2009

Just a little work here & there, Irma visited the library of Archaeology Department UGM, to have further references for her work, then the team split up. Rani should finish her deadline, Irma return to Surabaya for Christmas, and i took my other adventure.

Lucky for us, Mas Isan from Astronomi Magazine, kindly allow us to use his Telescope for our next expedition; but now still in Solo, and we will use the telescope for our next plan (March?). If the plan works accordingly, we will have to visit Solo first (while also make another green map) to take the telescope, before continue with another Borobudur visitation.

Here his message about the hint to take the telescope:

alamat di solo : jalan tirtosari 6 solo.
nomor 6 di jalan tirtosari ada 2. rumah mertuaku yang nomor 6 jualan pempek Palembang. jadi carilah warung pempek Palembang di jalan tirtosari. ancer-ancernya: masuk jalan utama Slamet Riyadi. terus menuju Taman Hiburan Rakyat Sri Wedari. persis di depan gerbang Sri Wedari, di seberang jalan Slamet Riyadi, ada jalan Supomo (atau Sutomo ya?). masuklah ke jalan itu kira-kira 200 meter di sebelah kiri ada warung steak Obonk. nah...persis di sebelah steak Obonk inilah ada jalan tirtosari. masuklah ke jalan itu dan carilah pempek Palembang.

nanti blang saja mau bertemu dengan ibu satiya (mertuaku) dan perkenalkan diri temanku dari majalah astronomi. mertuaku sudah tahu. kalau mau lebih oke bisa telpon dulu : 0271 - 719 378. kalau beruntung bisa makan pempek Palembang dan es mie cool hehehe...

sip
isan

Do note that his telescope is quite a large one, with 20 cm diameter, should be a *Overwhelmingly Large Telescope* for casual user, the pro is, this telescope surely large window to peek the universe, but the con is this telescope quite bulky & large to be mobilized here and there.

End of part one!

Part two

My own adventure
by: nggieng

After the group disbanded, I went to the Village Boro, somewhere in the triangle between Jogjakarta, Wates & Borobudur.



Perhaps, sometimes in the past, this village got something to do with the Borobudur? No one can tell for sure, but with such a distance about 14 km from this village to Borobudur,

it might be a yes. Nevertheless, this place also can play as a 'back door' to Borobudur (and other various interesting places), because it span along the Menoreh mountain also. I rest a while, then, the journey continue.

Friday, 25th, 2009, The Christmas Day on Suroloyo

Guided by the Pak Lurah, (village chief) of Boro village, I went to ...



If previously Mas Hatta told that the road to Suroloyo is a difficult one, and if we want to travel there, we need to drive an-off road vehicle, so my travel from Boro village was quiet easier. By driving a Kijang Krista, complete with his whole family, we traveled there. The trip took about 45 minutes through high and low road of the mountain.



The summit of Suroloyo from the north-east direction

It was not so lucky day, since during the visit, the mist shrouded the mountain. And the ladders to the summit were quiet steep, so if one has a plan to visit to this place, please be prepare, otherwise, it would be a great sports. There are two pathway, and one rest area in between.



The first pathway, up and down, before the rest area



The second pathway, up and down, after the rest area



The view near and on the summit (the right is facing west)



The view on the top, notice the statue of the Siwa (?)



The statue and its back

The summit itself is merely a small catwalk, so the place is not so suitable for sky-gazing, at least for four reasons: 1st, the place cannot hold for large group of goers, and 2nd, the steep ladder can be a problem for general easy-goers travelers with no intention to sports,

3rd, that steep ladders should cause problems if we try to carry the telescope, and 4th, the view to the east is hindered by the mountain, so it would reduce the fun a lot if we try to gaze the sunrise!



The view to the east

From my personal recommendation, we should omit the Suroloyo summit as the candidate of sky-gazing. But the adventure to this place should be an interesting plan, if we consider the clear condition (we should consider the orographic climate of this site, should be a lot of mist formation annually).

Finished with the Suroloyo expedition, I still intrigue with the possible places for sky-gazing & Sun-rise. Why we have to pay \$ 15 only to see the Sun-rise? Darn! Sol lucet omnibus, the Sun shines to all, so the journey along the Menoreh mountain continues.

Monday, Dec, 28th, 2009 The Sun Rise

I took some days off to experience a rural life in the middle of raining season. Then, one morning, the rain stopped, I have the opportunity to explore further on the Menoreh mountain. The Boro village resides on the southern edge of the Menoreh mountain, just right south of the Suroloyo. In one clear night, even we can see the light on from the top of Suroloyo.



Entrance to the village, right in the center, shrouded in the mist is Suroloyo

The Boro village is quite an interesting village to visit for several reasons, such as, as previously stated, an alternate route to Suroloyo (and Borobudur), other unexplored area is the tomb of national heroine Nyi Ageng Serang; and the opening landscape right on the foot of the mountain has a potentiality as a place of aerospports (paragliding or some sort, but should be investigate further for this one) & of course, the wide opening area, is a blissful place for sky-gazing!



The soccer field on the entrance to the village, the mountain on the left is the edge of Menoreh mountain, directing to the west direction

But the most interesting thing about this place, the opportunity to observe the Sun-rise!





Greater view of the Sun-rise, with Merapi-Merbabu on the north-east (left)

Other interesting point about this Boro village, (but can be only for specific touristm activities), that is this village already well known as the place for *live-in* for many Catholic schools from Jakarta & also for KKN (field excursion) for UGM students.



Students from SMP Sang Timur live-in during the Christmas holiday

As I mention about the 'specific tourism' earlier, because of the village resides near the 'Sendang Sono', a place for pilgrimage for Catholic devotee, and at some point in history, the area play important roles on the earlier development of Catholic in Java. This might be an interesting place for those who have interest on history, or a devotee of Catholic to do the pilgrim. But aside from those reasons, this place has a potentiality as a place for those like the simple life in the rural area. Or even perhaps better as the 'green area'?

So there I was, satisfied with all the exploration, it's time to have my simple life in a remote area, far from digital life, but closer to nature. And the next thing to do was waiting for the changing of year, regardless I missed the eclipse due to cloud. Sigh.

Happy new year 2010!

Next?

1. Obviously, there is a need to arrange a plan to visit Solo, to obtain the telescope, because that would make the excitement for sky-gazing, what is a star party without a telescope?
2. There will be another plan to visit Borobudur, (March equinox?) and continue to map the green-sky-gazing area and other activities as planned with Mas Hatta previously. (And to continue Irma's project with Borobudur).
3. Eco-tourism & sky-gazing? How this two things intertwined already discussed indepth by Ammarell (1987), so I will not discuss much, but this kind of activity should be very interesting, afterall, 2010 is International Year of Biodiversity, so, let's have fun with our nature.
4. The Sky always surprises us with all the dynamics, with all the awe & wonder. For this year 2010, there will be various 'meteor shower' occurrence, so better we prepare, pack our stuffs and enjoy the show. (I include the sky calendar for 2010 as desideratum, and I marked the shower and other might be interesting event in red).
5. All in all, the excitement continue, who ever want to join the excitement, just join. All the plan will be prepared accordingly, as we know when & decide where to. Who will join the excitement?

Desideratum

The celestial event for the tropical sky in 2010

Jan	01	Fr		Venus: 2.5° W
	01	Fr	19:30	Moon Descending Node
	02	Sa	03:36	Moon Perigee: 358700 km
	02	Sa	22:29	Moon-Beehive: 3.2° N
	03	Su	03:59	Perihelion: 0.9833 AU
	04	Mo	02:05	Quadrantid Shower: ZHR = 120
	05	Tu	02:02	Mercury Inferior Conj.
	07	Th	17:40	Last Quarter
	11	Mo	19:43	Moon-Antares: 1.2° S
	12	Tu	03:34	Venus Superior Conj.
	12	Tu	15:33	Moon South Dec.: 25.8° S
	15	Fr	06:18	Moon Ascending Node
	15	Fr	14:07	Annular Solar Eclipse
	15	Fr	14:11	New Moon
	17	Su	08:40	Moon Apogee: 406400 km
	23	Sa	17:53	First Quarter
	25	Mo	18:00	Moon-Pleiades: 0°
	27	We	04:04	Moon North Dec.: 25.8° N
	27	We	11:59	Mercury Elongation: 24.8° W
	29	Fr	07:02	Moon Descending Node
	30	Sa	02:11	Mars Opposition
	30	Sa	09:48	Moon-Beehive: 3.1° N
	30	Sa	13:18	Full Moon
	30	Sa	16:03	Moon Perigee: 356600 km
Feb	01	Mo		Venus: 5.1° E
	05	Fr	19:12	Mars-Beehive: 3° N
	06	Sa	06:49	Last Quarter
	08	Mo	01:29	Moon-Antares: 1.2° S
	08	Mo	21:27	Moon South Dec.: 25.7° S
	11	Th	11:58	Moon Ascending Node
	12	Fr	12:55	Moon-Mercury: 2.6° S
	13	Sa	09:06	Moon Apogee: 406500 km
	14	Su	09:51	New Moon
	15	Mo	05:42	Neptune Conjunction
	22	Mo	01:32	Moon-Pleiades: 0.1° N
	22	Mo	07:42	First Quarter
	23	Tu	13:00	Moon North Dec.: 25.7° N
	25	Th	16:11	Moon Descending Node
	26	Fr	21:03	Moon-Beehive: 3.2° N
	28	Su	04:40	Moon Perigee: 357800 km
	28	Su	18:47	Jupiter Conjunction
	28	Su	23:38	Full Moon

Mar	01	Mo		Venus: 11.8° E
	07	Su	08:32	Moon-Antares: 1.4° S
	07	Su	22:42	Last Quarter
	08	Mo	04:18	Moon South Dec.: 25.6° S
	10	We	15:07	Moon Ascending Node
	12	Fr	17:07	Moon Apogee: 406000 km
	14	Su	20:05	Mercury Superior Conj.
	16	Tu	04:01	New Moon
	17	We	13:23	Uranus Conjunction
	21	Su	00:32	Vernal Equinox
	21	Su	07:08	Moon-Pleiades: 0.4° N
	22	Mo	06:54	Saturn Opposition
	22	Mo	19:15	Moon North Dec.: 25.4° N
	23	Tu	18:00	First Quarter
	24	We	20:05	Moon Descending Node
	25	Th	20:57	Moon-Mars: 4.5° N
	26	Fr	06:06	Moon-Beehive: 3.4° N
	28	Su	11:56	Moon Perigee: 361900 km
	30	Tu	09:25	Full Moon
Apr	01	Th		Venus: 19.3° E
	03	Sa	17:17	Moon-Antares: 1.6° S
	04	Su	12:23	Moon South Dec.: 25.3° S
	04	Su	15:25	Mercury-Venus: 3° N
	06	Tu	16:37	Last Quarter
	06	Tu	16:45	Moon Ascending Node
	09	Fr	05:59	Mercury Elongation: 19.3° E
	09	Fr	09:45	Moon Apogee: 405000 km
	14	We	19:29	New Moon
	16	Fr	19:55	Moon-Venus: 4.3° S
	17	Sa	06:54	Mars-Beehive: 0.9° N
	17	Sa	12:43	Moon-Pleiades: 0.5° N
	19	Mo	00:15	Moon North Dec.: 25.2° N
	20	Tu	20:38	Moon Descending Node
	22	Th	01:20	First Quarter
	22	Th	12:35	Moon-Beehive: 3.7° N
	22	Th	16:27	Moon-Mars: 4.7° N
	22	Th	23:35	Lyrid Shower: ZHR = 20
	25	Su	03:59	Moon Perigee: 367100 km
	25	Su	12:21	Venus-Pleiades: 3.5° S
	28	We	19:18	Full Moon
	28	We	23:38	Mercury Inferior Conj.
May	01	Sa	02:44	Moon-Antares: 1.8° S
	01	Sa		Venus: 26.6° E
	01	Sa	21:01	Moon South Dec.: 25.1° S
	03	Mo	08:56	Venus-Aldebaran: 6.4° N
	03	Mo	19:35	Moon Ascending Node

	05	We	12:50	Eta Aquarid Shower: ZHR = 60
	06	Th	11:15	Last Quarter
	07	Fr	04:53	Moon Apogee: 404200 km
	14	Fr	08:04	New Moon
	16	Su	06:07	Moon North Dec.: 25° N
	16	Su	17:16	Moon-Venus: 0.1° S
	17	Mo	22:39	Moon Descending Node
	19	We	18:03	Moon-Beehive: 4° N
	20	Th	15:38	Moon Perigee: 369700 km
	21	Fr	06:43	First Quarter
	26	We	08:59	Mercury Elongation: 25.1° W
	28	Fr	06:07	Full Moon
	28	Fr	11:30	Moon-Antares: 1.9° S
	29	Sa	05:09	Moon South Dec.: 25° S
	31	Mo	01:07	Moon Ascending Node
Jun	01	Tu		Venus: 34° E
	03	Th	23:50	Moon Apogee: 404300 km
	05	Sa	05:13	Last Quarter
	07	Mo	07:15	Mars-Regulus: 0.8° N
	08	Tu	21:59	Venus-Pollux: 4.7° S
	10	Th	19:24	Mercury-Pleiades: 6° S
	11	Fr	04:46	Moon-Pleiades: 0.6° N
	12	Sa	14:06	Moon North Dec.: 25° N
	12	Sa	18:15	New Moon
	14	Mo	04:54	Moon Descending Node
	15	Tu	14:08	Moon-Venus: 3.9° N
	15	Tu	21:54	Moon Perigee: 365900 km
	19	Sa	11:30	First Quarter
	20	Su	20:06	Venus-Beehive: 0.4° N
	21	Mo	18:28	Summer Solstice
	24	Th	18:41	Moon-Antares: 1.9° S
	25	Fr	12:09	Moon South Dec.: 25° S
	26	Sa	18:30	Full Moon
	26	Sa	18:39	Partial Lunar Eclipse
	27	Su	08:19	Moon Ascending Node
	28	Mo	18:49	Mercury Superior Conj.
Jul	01	Th	17:12	Moon Apogee: 405000 km
	01	Th		Venus: 40.3° E
	04	Su	21:35	Last Quarter
	06	Tu	20:59	Aphelion: 1.0167 AU
	08	Th	14:26	Moon-Pleiades: 0.6° N
	09	Fr	23:50	Moon North Dec.: 25° N
	10	Sa	15:48	Venus-Regulus: 1° N
	11	Su	14:30	Moon Descending Node
	12	Mo	02:34	Total Solar Eclipse
	12	Mo	02:40	New Moon

	13	Tu	18:21	Moon Perigee: 361100 km
	13	Tu	19:35	Mercury-Beehive: 0.2° N
	15	Th	08:06	Moon-Venus: 6° N
	18	Su	17:11	First Quarter
	22	Th	00:31	Moon-Antares: 1.9° S
	22	Th	18:12	Moon South Dec.: 25° S
	24	Sa	14:59	Moon Ascending Node
	26	Mo	08:37	Full Moon
	28	We	01:10	Mercury-Regulus: 0.3° S
	28	We	14:38	Delta Aquarid Shower: ZHR = 20
	29	Th	06:50	Moon Apogee: 406000 km
	31	Sa	21:12	Mars-Saturn: 1.8° N
Aug	01	Su		Venus: 44.9° E
	03	Tu	11:59	Last Quarter
	04	We	23:27	Moon-Pleiades: 0.6° N
	06	Fr	09:49	Moon North Dec.: 25° N
	07	Sa	07:59	Mercury Elongation: 27.4° E
	08	Su	00:24	Moon Descending Node
	08	Su	21:45	Venus-Saturn: 2.8° N
	10	Tu	10:08	New Moon
	11	We	00:56	Moon Perigee: 357900 km
	12	Th	08:34	Moon-Mercury: 2.3° N
	13	Fr	06:32	Perseid Shower: ZHR = 90
	13	Fr	19:07	Moon-Venus: 4.5° N
	17	Tu	01:14	First Quarter
	18	We	06:07	Moon-Antares: 2° S
	19	Th	00:07	Moon South Dec.: 24.9° S
	19	Th	11:15	Venus-Mars: 1.9° N
	20	Fr	08:59	Venus Elongation: 46° E
	20	Fr	15:37	Neptune Opposition
	20	Fr	19:13	Moon Ascending Node
	25	We	00:05	Full Moon
	25	We	12:51	Moon Apogee: 406400 km
Sep	01	We	05:11	Venus-Spica: 1° S
	01	We	06:46	Moon-Pleiades: 0.9° N
	01	We		Venus: 45.3° E
	02	Th	00:22	Last Quarter
	02	Th	18:20	Moon North Dec.: 24.8° N
	03	Fr	19:29	Mercury Inferior Conj.
	04	Sa	07:16	Moon Descending Node
	06	Mo	00:03	Mars-Spica: 2.1° N
	08	We	11:00	Moon Perigee: 357200 km
	08	We	17:30	New Moon
	11	Sa	20:05	Moon-Venus: 0.3° N
	13	Mo	18:14	Mercury-Regulus: 5.7° S
	14	Tu	12:55	Moon-Antares: 2.2° S

	15	We	06:47	Moon South Dec.: 24.7° S
	15	We	12:50	First Quarter
	16	Th	20:56	Moon Ascending Node
	19	Su	23:59	Mercury Elongation: 17.9° W
	21	Tu	15:03	Moon Apogee: 406200 km
	21	Tu	19:11	Jupiter Opposition
	21	Tu	23:42	Uranus Opposition
	23	Th	10:09	Autumnal Equinox
	23	Th	16:17	Full Moon
	28	Tu	12:32	Moon-Pleiades: 1.1° N
	30	Th	00:37	Moon North Dec.: 24.6° N
Oct	01	Fr	07:18	Saturn Conjunction
	01	Fr	09:42	Moon Descending Node
	01	Fr	10:52	Last Quarter
	01	Fr	16:26	Venus-Mars: 6.5° N
	01	Fr		Venus: 34.7° E
	06	We	20:41	Moon Perigee: 359500 km
	08	Fr	01:44	New Moon
	09	Sa	22:50	Moon-Venus: 3.3° S
	10	Su	08:51	Moon-Mars: 3.6° N
	11	Mo	21:39	Moon-Antares: 2.4° S
	12	Tu	14:49	Moon South Dec.: 24.5° S
	13	We	22:36	Moon Ascending Node
	15	Fr	04:27	First Quarter
	17	Su	07:35	Mercury Superior Conj.
	19	Tu	01:18	Moon Apogee: 405400 km
	21	Th	22:50	Orionid Shower: ZHR = 20
	23	Sa	08:36	Full Moon
	25	Mo	18:05	Moon-Pleiades: 1.3° N
	27	We	05:36	Moon North Dec.: 24.3° N
	28	Th	10:15	Moon Descending Node
	29	Fr	08:03	Venus Inferior Conj.
	30	Sa	19:46	Last Quarter
Nov	01	Mo		Venus: 7.6° W
	04	Th	00:22	Moon Perigee: 364200 km
	05	Fr	23:18	South Taurid Shower: ZHR = 10
	06	Sa	11:52	New Moon
	08	Mo	05:10	Moon-Mars: 1.7° N
	08	Mo	07:41	Moon-Antares: 2.6° S
	08	Mo	23:59	Moon South Dec.: 24.3° S
	10	We	03:14	Moon Ascending Node
	11	Th	03:16	Mars-Antares: 3.9° N
	12	Fr	22:34	North Taurid Shower: ZHR = 15
	13	Sa	23:38	First Quarter
	15	Mo	18:47	Moon Apogee: 404600 km
	15	Mo	23:18	Mercury-Antares: 2.4° N

	18	Th	00:32	Venus-Spica: 3.9° S
	18	Th	04:52	Leonid Shower: ZHR = 15
	20	Sa	22:39	Mercury-Mars: 1.7° N
	22	Mo	00:27	Full Moon
	22	Mo	01:03	Moon-Pleiades: 1.3° N
	23	Tu	11:24	Moon North Dec.: 24.2° N
	24	We	13:27	Moon Descending Node
	29	Mo	03:37	Last Quarter
Dec	01	We	02:09	Moon Perigee: 369400 km
	01	We		Venus: 38.6° W
	01	We	22:59	Mercury Elongation: 21.5° E
	03	Fr	03:35	Moon-Venus: 6.6° N
	06	Mo	00:36	New Moon
	06	Mo	09:10	Moon South Dec.: 24.2° S
	07	Tu	11:15	Moon Ascending Node
	07	Tu	15:48	Moon-Mercury: 1.9° S
	13	Mo	15:34	Moon Apogee: 404400 km
	13	Mo	20:59	First Quarter
	14	Tu	18:02	Geminid Shower: ZHR = 120
	19	Su	09:55	Moon-Pleiades: 1.3° N
	20	Mo	08:15	Mercury Inferior Conj.
	20	Mo	19:37	Moon North Dec.: 24.2° N
	21	Tu	15:13	Full Moon
	21	Tu	15:18	Total Lunar Eclipse
	21	Tu	21:08	Moon Descending Node
	22	We	06:38	Winter Solstice
	23	Th	02:00	Ursid Shower: ZHR = 10
	25	Sa	19:24	Moon Perigee: 368500 km
	28	Tu	11:18	Last Quarter