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SOLAR ECLIPSE NEWSLETTER

July 2003

SOLAR ECLIPSE NEWSLETTER

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IN THE BODY OF THE MESSAGE TO listserv@Aula.com SUBSCRIBE SOLARECLIPSES name, country.

The Solar Eclipse Mailing List

The Solar Eclipse Mailing List (SEML) is an electronic newsgroup dedicated to Solar Eclipses. Published by eclipse chaser Patrick Poitevin.

solareclipsewebpages@btopenworld.com

It is a forum for discussing anything and everything about eclipses.

Thanks to the voluntary efforts of Jan Van Gestel of Geel, Belgium, the Solar Eclipse Mailing List (listserver) has been in operation since 10 December 1997. This is the first mailing list devoted solely to topic of solar eclipses on the internet.

You can send an e-mail message to the list server solareclipses@Aula.com, which will then forward your e-mail to all the subscribers on the list. Likewise, you'll receive e-mail messages that other subscribers send to the listserver. Only subscribers can send messages.

The sole Newsletter dedicated to Solar Eclipses

Dear All,

May 2003 was busy for most of us. In this issue contributions and pictures of the Transit of Mercury, the Total Lunar Eclipse and last but not least, the annular solar eclipse. Some of them successful, some of them not at all.

Many of us are preparing them for the Transit of Venus in 2004. Quite a bit of contributions on this in the Solar Eclipse Newsletter.

From no on, for the safety of the contributors, email addresses will not be mentioned in full anymore. Spam and hackers are too keen to send and dump their messages to those addresses.

The picture on this front page is from Logan in Australia. More about it in this issue as well.

The next issue will be ready soon. We were late with this issue for various reasons, but we are catching up fast. Apologise for those whom were waiting for the SENL issues.

We hope though, that you will enjoy.

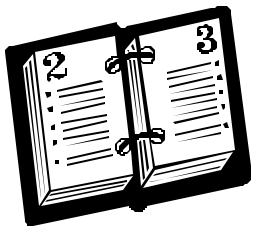
If you have contributions to the solar Eclipse Newsletter, please send them to us and we will publish in the next newsletters. No need to say, it should be solar eclipse related. But it is all welcome.

Keep up the good work and ... keep those solar eclipse related messages coming ...

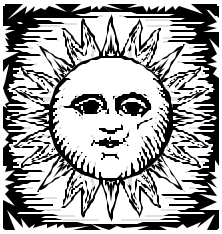
Best regards,

Joanne and Patrick

SECalendar



July 2003



Dear All,

Please find herewith the solar eclipse calendar (SECalendar) for July. If you have any additional information, queries or remarks, please drop us a mail.

For the whole Solar Eclipse Calendar, see our Solar Eclipse WebPages at

http://solareclipsewebpages.users.btopenworld.com

July 01, 1916 Iosif S. Shklovskii, Rusian astronomer was born. He researched the corona and proved the temperature of million degrees. (ref. DD 6/99).

July 01, 1943 Birthday of Professor Jay Pasachoff. Asteroid 5100 Pasachoff was named after him. "Pasachoff's broad range of astronomical work has centered on the sun, and especially on studies of solar eclipses."

July 01, 2000 The last occurance that there were 3 eclipses in one month, and of which two solar eclipses. For July 2000 being on 1stt a partial solar eclipse, 16th a total lunar eclipse, and 31st a partial solar eclipse. The next occurance with a month with 3 eclipses will be December 2206 with a partial solar eclipse on 1st and 30th and a totla lunar eclipse on 16th. Ref. Fred Espenak 06/00 SEML.

July 02, 1963 Death of Seth B. Nicholson, American astronomer. Besides the discovery of some Jupiter moons and Minor Planets, his mean task was observing the sun. He published for many years the annual reports of sunspots and magnetism of the sun. (ref. DD 6/99).

July 06, 1815 Total solar eclipse on the North Pole. Ref. More Mathematical Astronomical Morsels by Jean Meeus; Willmann-Bell, 2002.

July 07, 1339 This was an annular-total eclipse, with the total part of the track finding its way between the Orkney and Shetland Islands without touching either. At this location the track of totality was only 1 km wide, with a duration of 1 second! Presuming that you could position a boat to an accuracy of 1 km, totality must have been a ring of Baily's Beads. (SW-UK Eclipse's)

July 08, 1842 "The hour for the beginning of the eclipse approached. Nearly twenty thousand people, with smoked glasses in hand, examined the radiant globe projected on an azure sky. Scarcely had we, armed with our powerful telescopes, begun to perceive a small indentation on the western limb of the sun, when a great cry, a mingling of twenty thousand different cries, informed us that we had anticipated only by some seconds the observation made with the naked eye by twenty thousand unprepared astronomer. A lively curiosity, emulation and a desire not to be forestalled would seem to have given to their natural sight unusual penetration and power. Between this moment and those that preceded by very little the total disappearance of the sun we did not remark in the countenances of many of the spectators anything that deserves to be related. But when the sun, reduced to a narrow thread, commenced to throw on our horizon a much-enfeebled light, a sort of uneasiness took possession of everyone. Each felt the need of communicating his impressions to those who surrounded him: hence a murmuring sound like that of a distant sea after a storm. The noise became louder as the solar crescent was reduced. The crescent at last disappeared, darkness suddenly succeeded the light, and an absolute silence marked this phase of the eclipse so that we clearly heard the pendulum of our astronomical clock. The phenomenon in its magnificence triumphed over the petulance of youth, over the levity that certain men take as a sign of superiority, over the noisy indifference of which soldiers usually make profession. A profound calm reigned in the air; the birds sang no more. After a solemn waiting of about two minutes, transports of joy, frantic applause, saluted with the same accord, the same spontaneity, the reappearance of the first solar rays. A melancholy contemplation, produced by unaccountable feelings, was succeeded by a real and lively satisfaction of which no one thought of checking or moderating the enthusiasm. For the majority of the public the phenomenon was at an end. The other phases of the eclipse had hardly any attentive spectators, apart from devoted to the study of astronomy." Refers to the total solar eclipse in the south of France, 8 July 1842 From: Camille Flamarion, Popular As-

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tronomy, 1894. The words are those of François Arago. Reprinted, with permission, from The Sky: Order and Chaos by Jean-Pierre Verdet, copyright Gallimard 1987, English Translation copyright Thames and Hudson Ltd, London, and Harry N Abrams, Inc., New York, 1992. Ref FE 01/01

July 08, 1842 Dominique Francois Jean Arago (1786-1853) observed this solar eclipse and attempts that the sun does exist of gas.

July 08, 1842 First attempt to photograph a total eclipse was made by the Austrian astronomer Majocci. He failed to record totality, though he did succeed in photographing the partial phase.

July 08, 1842 Following anecdote appeared according Dominique Francois Jean Arago (1786-1853) in the Journal of the Lower Alps, July 9, 1842: A poor child of the commune of Sieyes was watching her flock when the eclipse commenced. Entirely ignorant of the event which was approaching, she saw with anxiety the sun darken by degrees, for there was no cloud or vapour visible which might account for the phenomenon. When the light disappeared all at once, the poor child, in the height of her terror, began to weep, and call out for help. Her tears were still flowing when the sun sent forth his first ray. Reassured by the aspect, the child crossed her hands, exclaiming in the patois of the province, "O beou Souleou !" (O beautiful Sun !). ref. History of Physical Astronomy

July 08, 1842 Francis Baily (1774-1844) UK, at an eclipse in Italy, focuses attention on the corona and prominences and identifies them as part of the Sun's atmosphere.

July 09, 1945 Canadian astronomers, J. F. Heard and P. M. Millman, while in the RCAF, got moderately good photographs of the corona and flash spectrum during this solar eclipse. They were high above the clouds in Bredenbury, Saskatchewan where ground-based astronomers saw nothing of the eclipse. (HASTRO 24/6/97-Peter Broughton)

July 09, 1974 American Satellite OSO 7, Orbiting Solar Observatories, falls back. (ref. DD 7/98)

July 09, 1996 With the satellite SOHO, they discover that solar flares causes sun quakes. (ref. DD 7/98)

July 10, 0028 This two and a half minute eclipse crossed south western Ireland and Cornwall before the Sun set in France shortly afterwards. (SW-UK Eclipse's)

July 10, 1910 Death of German astronomer Johann Gottfried Galle. Besides the discovery of Neptun, he calculated the paralax of the sun from measurements of Minor Planets. (ref. DD 7/99)

July 10, 1972 Chukotka 2509 (1977 NG): Minor planet discovered July 14, 1977 by Nikolaj S. Chernykh at Nauchnyj. Named for a National Area of the R.S.F.S.R., situated in the northeastern part of the USSR. The discoverer participated in an expedition there to observe the 1972 Total Solar Eclipse (MPC 7472). Ref. VK 6/97

July 10, 1983 Minor planet (3222) Liller 1983 NJ. Discovered 1983 July 10 by E. Bowell at Anderson Mesa. Named in honor of William Liller, formerly Robert Wheeler Wilson Professor of Applied Astronomy at Harvard University, on the occasion of his sixtieth birthday. A premier observer, he has made substantial contributions through observations of a broad range of astronomical objects and phenomena: planetary nebulae, minor planets, comets, novae, variable stars, globular clusters, X-ray sources, quasars, solar eclipses and stellar occultations. Now living in Chile, he has in recent years participated in the PROBLICOM survey and has discovered several novae. During the recent passage of Halley's Comet he was a crucial member of the IHW Island Network. He has been a leader in astronomical education and an important supporter of amateur astronomy. His enthusiastic encouragement has been greatly appreciated by his colleagues and students. (M 12015) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

July 11, 1732 Birth of French astronomer Joseph Jerome le Francois de Lalande (1732-1807). Calculated the distance to the sun in 1771 and being 154,198 million km. (ref. DD 7/98, Rc 1999)

July 11, 1909 Death of Simon Newcomb (1835-1909), American mathematician and astronomer. He used carefully analyzed measurements of stellar and planetary positions to compute motions of the sun, moon, planets, and their satellites. Studied the velocity of light and calculated the distance to the sun. March 12, 1835 Birth of Simon Newcomb (1835-1909) in Wallace, Nova

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Scotia, Canada. Simon Newcomb died 11 July 1909 in Washington DC. Ref. Bibliography of Astronomers by Paul Luther, 1989.

July 11, 1991 The so called Great Eclipse which was visible in Mexico and Hawaii.

July 12, 1941 Jones, Barrie W. born 1941. Professor of Astronomy at the The Open University of Milton Keynes. Recording and explanation of shadow bands at solar eclipses. Search for pressure waves in the lower troposphere, generated by solar eclipses. Ref. Private correspondence BWJ 07/02.

July 13, 0158 This was the first total eclipse to have passed over London since 1 AD. It provided for them 1 minute of glory. (SW-UK Eclipse's)

July 13, 2018 Next solar eclipse on a Friday the 13 th. The last solar eclipse on a Friday 13 th was in December 1974. Both are partial solar eclipses. There are 24 solar eclipses on a Friday the 13 th between 0 and 3000. Of which 13 partial, 9 annular and 2 total solar eclipses. The most odd is the one of 13.03.313 which was an annular eclipse.

July 14, 1977 Minor planet (2509) Chukotka 1977 NG. Discovered 1977 July 14 by N. S. Chernykh at Nauchnyj. Named for a National Area of the R.S.F.S.R., situated in the northeastern part of the U.S.S.R. The discoverer participated in an expedition there to observe the 1972 total solar eclipse. (M 7472) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

July 15, 1975 During the nine-day mission launched July 15, 1975, astronauts Thomas P. Stafford, Vance D. Brand and Donald K. Slayton rendezvoused and docked their Apollo spacecraft with the Soyuz 19 spacecraft with cosmonauts Aleksey Leonov and Valeriy Kubasov onboard.

July 16, 0809 "The sun darkened at the beginning of the fifth hour of the day on Tuesday, July 16th, the 29th day of the moon." Refers to a solar eclipse in AD 809. From: The Anglo Saxon Chronicles translated and collated by Anne Savage, CLB Publishing Ltd. Ref FE 01/01

July 16, 1330 A short Eclipse at under 1 minute, but yet another for northern Scotland. The Orkney and Shetland Islands are blessed with more Total Eclipses than anywhere else in the UK. Although this Eclipse did not cross these islands, it came pretty close. The Eclipse track traveled into Holland, Germany, Czechoslovakia, Austria, Hungary, Romania, Bulgaria and sets in Turkey. (SW-UK Eclipse's)

July 16, 2186 Closest approach to maximum possible duration of totality with 7 min 29 sec in the Atlantic Ocean. Maximum theoretical duration is 7 min 31 sec. During the 4th millennium there are only 2 solar eclipses with maximum duration of totality longer than 7 min. In the years 3973 and 3991. There are none in 21st century. Ref. More Mathematical Astronomical Morsels by Jean Meeus; Willmann-Bell, 2002.

July 17, -0187 (188 BC) "Before the new magistrates departed for their provinces, a three-day period of prayer was proclaimed in the name of the College of Decemvirs at all the street-corner shrines because in the daytime at the third hour darkness had covered everything." Probably refers to the solar eclipse of 17 July 188 BC. Livy, Roman. Quoted in Encyclopedia Britannica CD 98.

July 17, -0187 (188 BC) "Emperor Hui, 7th year, 5th month, day ting-mao, the last day of the month. The Sun was eclipsed; it was almost complete. It was in the beginning of (the lunar lodge) Ch'i-hsing" Refers to a partial solar eclipse of 17 July 188 BC. Pan Ku Han-shu (AD 58-AD76). Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 234.

July 17, 0334 Firmicus (Sicily) is first to report solar prominences, seen during an annular eclipse.

July 17, -0708 (709 BC) "Duke Huan, 3rd year, 7th month, day jen-ch'en, the first day (of the month). The Sun was eclipsed and it was total." Refers to a total solar eclipse of 17 July 709 BC.From: Ch'un-ch'iu, book I (Chinese). Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 226.Stephenson says: "This

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is the earliest direct allusion to a complete obscuration of the Sun in any civilisation. The recorded date, when reduced to the Julian calendar, agrees exactly with that of a computed solar eclipse." Reference to the same eclipse appears in the Han-shu ('History of the Former Han Dynasty') (Chinese, 1st century AD): ". . . the eclipse threaded centrally through the Sun; above and below it was yellow."

July 17, 1905 Birth of Roderick Oliver Redman. On August 31, 1932 G.G. Cillie (UK) and Donald H. Menzel (US) uses eclipse spectra to show that the Sun's corona has a higher temperature (faster atomic motion) than the photosphere. Confirmed, with much higher temperature, by Roderick Oliver Redman (1905-1975) during an eclipse in South Africa on October 1, 1940. (ref Rc 1999)

July 18, 1860 "At the commencement of the obscuration, the sky was overcast, with heavy masses of cloud in the east, and there was much reason to fear that the celestial phenomenon would not be at all apparent hereabouts. But a brisk gale of wind having scattered the clouds, shortly before six o'clock the sun became visible to the eager gaze of thousands, and again astronomical prediction was verified. The black shadow had eaten its way a considerable distance into the surface of the bright orb, and slowly but steadily the darkness appeared to extend itself over that dazzling surface. What a scrutiny the great change was attracting from all quarters of the earth! What an array of telescopes were eagerly searching the blue vault above during those precious moments!" Refers to a solar eclipse of 18 July 1860, at Upper Fort Garry, Manitoba (outside the path of totality). From: William Coldwell and William Buckingham, Nor'Wester. Reprinted, with permission, from Chasing the Shadow, copyright 1994 by Joel K Harris and Richard L Talcott, by permission of Kalmbach Publishing Co. Ref FE 01/01

July 18, 1860 "But at the moment of totality, all became silent and dumb. Neither a cry nor a rustling, nor even a whisper (was heard), but everywhere there was anxiety and consternation. To everyone the two minutes of the eclipse were like two hours. I do not exaggerate or imagine any of these details. Several people whom I questioned after the eclipse regarding the duration of totality replied that it had lasted for two hours." Refers to a total solar eclipse in Sudan of 18 July 1860. From: M Bey, Comptes Rendus. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 385.

July 18, 1860 First wet plate photographs of an eclipse; they require 1/30 of the exposure time o f a daguerreotype.

July 18, 1860 Warren de la Rue (1815-1889), UK and Angelo Secchi (1818-1878), Italy, use photography during a solar eclipse in Spain to demonstrate that prominences (and hence at least that region of the corona) are part of the Sun, not light scattered by the Earth's atmosphere or the edge of the Moon, because the corona looks the same from sides 250 miles apart.

July 18, 1898 The authors, Meeus-Grosjean-Vanderleen, started as close as possible with the 20 th century for their Canon Of Solar Eclipses 1898-2510 in 1966. They started with eclipse number 7401 of von Oppplozers' Canon der Finsternisse, which was the solar eclipse of 18 July 1898 and so 600 eclipses could be compared from both Canons.

July 19, 0418 First report of a comet discovered during a solar eclipse, seen by the historian Philostorgius in Asia Minor. Many chronicles do mention this observation (12 western, 3 Byzantine). Philostorgius mentions that the sun was eclipsed at the 8 th hour of the day. In his sketch there is a comet. This Total Solar Eclipse was from the Caribbean, Bay of Bengal, north Spain, central Italy, little Asia and ends in the north of India.

July 19, 1975 The Apollo and Soyuz spacecraft undocked at 8:02 am EDT. While the spacecraft were in station-keeping mode, the crews photographed them. The Apollo spacecraft served as an occulting disk, blocking the sun from the Soyuz and simulating a Solar Eclipse, the first man-made Eclipse. Leonov and Kubasov photographed the solar corona as the Apollo backed away from the Soyuz and toward the sun.

July 21, 1979 Minor Planet (4013) Ogiria 1979 OM15. Discovered 1979 Ju ly 21 by N. S. Chernykh at Nauchnyj. Named in memory of Maiya Borisovna Ogir' (1933-1991), solar physicist and staff member of the Crimean Astrophysical Observatory for more than 30 years, known for her research on the active processes on the Sun. (M 22500) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

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July 21, 1990 Meteorologist Joe Rao was able to coerce American Trans-Air Airlines to alter the course of one of their regularly-scheduled flights in order to be in the right position to experience the total phase of the July 22-21, 1990 total solar eclipse. The eclipse began on Sunday, July 22, with the path of totality passing over Helsinki, Finland. The shadow path then moved across northernmost sections of Russia, then crossed the International Date Line, causing the eclipse date to change to Saturday, July 21. The totality track swept southeast over Alaska's Aleutian Island chain, before reaching its end at a point midway between Honolulu, Hawaii and San Francisco, California. American Trans-Air Flight 403 normally flies from Hawaii to San Francisco on Saturday afternoons. A few weeks in advance of the eclipse, Rao informed the airline that by delaying the flight by 41 minutes out of Honolulu, that Flight 403 would likely be in position to catch the total phase. The airline agreed to make the attempt, allowing most of the 360 persons on board their Lockheed L-1011 jet the opportunity to witness totality. Rao, his wife Renate, and two friends, flew out of New York's JFK airport late on Friday night, July 20 . . . arrived in San Francisco early on Saturday morning for a few hours of sleep, before boarding ATA Flight 402 to Hawaii. They were in Honolulu for 45 minutes before turning around and heading back for San Francisco (encountering the eclipse along the way). After spending the night in San Francisco, they returned to New York the next day, having traveled over 11,000 miles in 46 hours just to see 73 seconds of a total eclipse! Ref. Pers. Corr. Joe Rao.

July 22, 1784 Astronomer Friedrich Wilhelm Bessel (1784-1846) was born in Muiden. Son of a government employee. Friedrich W. Bessel, German astronomer and mathematicus determined precession, nutation, aberration and inclination of the ecliptic. Famous for his Bessel elements for the calculation of Solar Eclipses. (ref. DD 7/98, Rc 1999)

July 22, 1990 The Finland-Russia eclipse, which was clouded out for many eclipse chasers.

July 22, 2009 Next total solar eclipses with a totality duration longer than 5 minutes are 22 July 2009 (6m40s), 11 July 2010 (5m20s) and 2 August 2027 (6m23s). Ref. More Mathematical Astronomical Morsels by Jean Meeus; Willmann-Bell, 2002.

July 22, 2028 Christmas Island will get a total solar eclipse on 22 July 2028 with almost 4 minutes of totality. There will be a Partial Solar Eclipse on Christmas Day, December 25, 2038 (mag. of 0.845). On December 26, 2019 there is a partial eclipse of magnitude 0.658 on the same island.

July 22, 2381 The maximum theoretical length for a British total eclipse is 5.5 minutes. The eclipse of June 16, 885 lasted for almost 5 minutes and the same will be true for the Scottish total eclipse of 22 July 2381. This TSE will be the first total solar eclipse in Amsterdam since 17 June 1433. Ref WC 7/01 SEML

July 23, 0594 The Sun was well up (17°) at 6:11 am when totality occurred. On a warm summer's morning it must have got surprisingly cold as totality approached, giving a clue that something unusual was about to happen. At 258 km wide this was an Eclipse with a very wide track and a good duration of over 3 minutes. The Eclipse track traveled into Denmark, Norway, Sweden, Finland, Estonia and Russia. (SW-UK Eclipse's)

July 24, 1853 Birth of Henri Alexandre Deslandres (1853-1948) in Paris, French physicist and astronomer did spectroscopic research. Designed, independent from Hale but at the same time, the spectra helio graph. (ref. DD 7/98, Rc 1999)

July 25, 6337 Is in Santiago de Compostela, a religion place in Spain, the day July 25 on a Sunday, then the year is called Ano Santo Compostelano. The next central eclipse visible in Santiago de Compostela will be the annular eclipse of 3 October 2005. For a total solar eclipse the pelgrims have to wait till 4 October 2480. Because this is a total eclipse at sunrise, the next favorite will be 30 October 2665. The last total solar eclipse was 16 March 1485. But an eclipse in Santiago de Compostela and in an Ano Santa Compostelano? On 16 februari 2743 there is an annular eclipse. The same year 25 July is on a Sunday which is Ano Santo Compostelano. Maximum is 4 degrees under the horizon. The total solar eclipse of 16 June 1406 was in an Ano Santo Compostelano as well. Between -1000 and 8000 there is only one solar eclipse on a Sunday July 25 and visible in Santiago de Compostela: The partial solar eclipse of Sunday 25 July 6337 with maximum magnitude of 0.328 at 15h23.

July 27, 1801 Birth of Sir George Biddell Airy (1801-1892), British Astronomer and Astronomer Royal from 1835 till

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1881, president of the Royal Society from 1871 till 1873. Calculated distance to the sun and observed transit of Venus, etc. (ref. DD 7/98, Rc 1999). Born in Alnwick, Northumberland. Died in "White House," Greenwich of injuries from a fall on 2 January 1892. Ref. The Bibliographical Dictionary of Scientists, edited by David Abbott, 1994.

July 28, 0873 "This solar eclipse was observed by Abu al-'Abbas al-Iranshahri at Nishapur early in the morning on Tuesday the 29th of the month of Ramadan in the year 259 of al-Hijrah . . . (date on the Persian calendar) . . . He mentioned that the Moon's body (i.e. disk) was in the middle of the Sun'd body. The light from the remaining uneclipsed portion of the Sun surrounded it (i.e. the Moon). It was clear from this that the Sun's diameter exceeded in view that of the Moon." Refers to an annular eclipse of 28 July AD 873. From: al-Biruni al-Qanun al-Mas'udi (1030). Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 467.

July 28, 1851 "The observations were tolerably successful. although the full beauty of the corona was not seen at Christiania, owing to the prevalence of thin clouds during the totality. The prominences were clearly visible, especially a large hooked protruberance. This remarkable stream of hydrogen gas, rendered incandescent while passing through the heated photosphere of the Sun, attracted the attention of nearly all the observers at the different stations. I succeeded in noting accurately the mean solar times of the beginning of the eclipse, and of the beginning and end of totality. As at Christiania the total darkness lasted only a few seconds more than 2-1/2 minutes, I could only examine in a hurried manner the various phenomena visible in the telescope. So absorbed was I during this short interval that when the limb of the Sun reappeared I could scarcely realize the fact that 2-1/2 minutes had elapsed since the commencement of totality. These were truly exciting moments, and although I had hastily witnessed most of the phenomena, I felt somewhat disappointed that more had not been accomplished. Few can imagine how much I longed for another minute, for what I had witnessed seemed very much like a dream. As a spectacle, those who were not encumbered with telescopic work had the best of it. Several persons in different positions were requested to note the effects of the darkness on the landscape, plants, and animals. I kept my eye devotedly fixed to the eye-piece of the telescope during nearly the whole time of totality. I only removed it in order to obtain a few seconds' glance at the marvellous transformation around me, for the landscape had lost all its natural aspect, being tinted with various shades of colour over the intermixture of land and water. Some of my friends described the appearance, as the darkness gradually crept onwards, as truly awful." Refers to the total solar eclipse of 28 July 1851, as seen from within the northern edge of the path of totality, in Scandinavia. From: Edwin Dunkin, Autobiography, unpublished. Compiled by Peter Hingley, Royal Astronomical Society. Ref FE 01/01

July 28, 1851 First American eclipse expedition to Europe when George Phillips Bond (1825 - 1865) led a team to Scandinavia.

July 28, 1851 Robert Grant and William Swan (UK) and Karl Ludwig von Lottrow (Austria) determine that prominences are part of the Sun because the Moon is seen to cover and uncover them as it moves in front of the Sun.

July 28, 1851 Sir George Biddell Airy (1801-1892) (UK) is the first to describe the Sun's chromosphere: he calls it the sierra, thinking that he is seeing mountains on the Sun, but he is actually seeing small prominences (spicules) that give the chromosphere a jagged appearance. Because of its reddish color, Sir Joseph Norman Lockyer (1836-1920), in 1868, names this layer of the Sun's atmosphere the chromosphere.

July 28, 1851 The first photograph of a total eclipse was taken in 1851 by Berkowski in Konigsbert, East Prussia using the 6.25 in Königsberg heliometer and giving an exposure of 24s.

July 29, -0430 (431 BC) ". . . the sun assumed the shape of a crescent and became full again, and during the eclipse some stars became visible." Thucydides (Greek, c460-400 BC).Refers to an annular solar eclipse of 3 August (29 July) 431 BC. Ref FE 01/01

July 29, -0430 (431 BC) "The same summer, at the beginning of the new lunar month (the only time by the way at which it appears possible), the Sun was eclipsed after noon. After it had assumed the form of a crescent, and some of the stars had come out, it returned to its natural shape." Refers to an annular solar eclipse of 3 August (29 July) 431 BC. Thucydides (Greek historian, c460-400 BC) History of the Peloponnesian War. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 346, and, in part, in Encyclopaedia Britannica

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CD 98.

July 29, 1878 Height of search for intra-Mercurial planet Vulcan using eclipses to block the Sun. Several observers claim sightings, but they are never confirmed. The problem is finally resolved by Albert Einstein (1879-1955) in his general theory of relativity in 1916.

July 29, 1878 Possible observation of comet Encke (Johann Franz Encke (1791-1865)) during the eclipse of 29 July 1878 by J.B.Rutherford from Colorado Springs. Besides the comet he also observed Procyon, Regulus, Mercury and Mars with the naked eye and "... feels sure he saw ..." But no other observer did notice the comet. Even not F. Hess, whom specially searched for the comet during this eclipse.

July 29, 1878 Samuel Pierpont Langley (1834-1906), and Cleveland Abbe (US), observing from Pike's Peak in Colorado, and Simon Newcomb (1835-1909) (US) observing from Wyoming, notice coronal streamers extending more than 6 degrees from the Sun along the ecliptic and suggest that this glow is the origin of the zodiacal light.

July 31, 1995 European spacecraft Ulysses passes the northern pole of the Sun at 9,78. (ref. DD 7/98)

and ... keep those solar eclipse related messages coming ...

Best regards,

Patrick and Joanne

solareclipsewebpagesSENL200307btopenworld.com
http://solareclipsewebpages.users.btopenworld.com

SECalendar for July - 1963 TSE

From: Gerard M Foley To: SOLARECLIPSESSENL200307AULA.COM Date: Sun, 29 Jun 2003 02:38:25

July 20, 1963 Total Eclipse of the sun observed by the Foley family at Plessisville, Quebec:

http://home.columbus.rr.com/gfoley/eclipse.html

Gerard Foley's third TSE (now up to nine). Gerry http://foley.ultinet.net/~gerry/aerial/aerial.html http://home.columbus.rr.com/gfoley http://members.fortunecity.com/gfoley/egypt/egypt.html

SEDates

Development of Solar Research Colloquium Germany

From: solareclipsewebpagesSENL200307btopenworld.com To: SOLARECLIPSESSENL200307aula.com Date: Sun, 15 Jun 2003

Item 5 ENHA No. 51, June 15, 2003 Colloquium "Development of Solar Research"

By Gudrun Wolfschmidt, Axel D. Wittmann and Wolfgang Schmidt (From: "Elektronische Mitteilungen zur Astronomiegeschichte" Nr. 63, 14. Juni 2003, Item 6. Translation by James Caplan.) The Working Group for the History of Astronomy will hold a Colloquium on "Development of Solar Research" on Monday, 15 September 2003, in Freiburg im Breisgau, Germany. The Colloquium is a component of the Annual Meeting of the Astronomische Gesellschaft (AG) to be held in Freiburg from 15-20 September 2003. However, separate participation in the Colloquium is possible, in particular for non-members of the AG.

Because the Kiepenheuer-Institut fuer Sonnenphysik (KIS; see http://www.kis.uni-freiburg.de and links therein to the AG meeting) is located in Freiburg, the Working Group for the History of Astronomy has proposed the Colloquium theme "Development of Solar Research". Participants are invited to an informal get-together beginning at 19.30 on Sunday, 14 September, in a restaurant in Freiburg (details will be on the web page of the Colloquium and communicated to the registered participants). The Colloquium itself is scheduled for Monday, 15 September 2003, from 9.00 to 17.00, in the AG's meeting area in the "Institutsviertel" of the Albert-Ludwigs-Universitaet Freiburg, in the building "Hochhaus 21a" of the Chemisches Laboratorium and the Physikalisches Institut; lectures will be in Hoersaal 1 and coffee breaks will be in the foyer. Fee for the meeting: 20 Euros, which will contribute towards financing publication of the meeting contributions. This fee does not apply to those taking part in the general AG Meeting, for which the participation fee includes the cost of this Colloquium.

Webpages of the Colloquium: http://www.math.uni-hamburg.de/math/ign/events/akag03.htm
Webpages of the general AG Meeting: http://www.astro.uni-jena.de/Astron_Ges/agtagfbg.html

Registration for the AG Meeting as well as booking of hotel rooms by: CSM Congress and Seminar Management Industriestrasse 35 82194 Groebenzell/Muenchen Germany Tel.: 49-8142-570183, Fax: 49-8142-54735 E-Mail: infoSENL200307csm-congress.de Detailed information on registration as well as hotel booking (unless you wish to do this yourself) can be found on the conference web pages. Administrative information: Assessorin jur. Ute Rynarzewski Kiepenheuer-Institut fuer Sonnenphysik Schoeneckstrasse 6 79104 Freiburg i. Br. Deutschland Tel.: 49-761-3198-0 (secretary's office) Fax: 49-761-3198-111 E-Mail: ag03-locSENL200307kis.uni-freiburg.de

Thematically the colloquium is open to all contributions on the history of solar research, thus not only the history of solar physics. The topic is intentionally very open: lectures can concern sun cults of ancient cultures, Stonehenge or the sky disk of Nebra, continuing through the discovery and observation of sunspots in early modern times. The emphasis, however, should be on the 19th century, with the beginnings of solar physics starting with Fraunhofer's discovery of the dark lines in the solar spectrum: photography of the Sun (also with the heliograph), solar eclipse expeditions, clarification of the nature of the prominences, the discovery of the chromosphere, observation of the corona and its spectrum, study of magnetic fields, new instruments of solar physics such as solar towers, spectroheliographs, coronographs, etc. The history of solar observatories is also a relevant topic. In the 20th century, questions concern solar physics during the Nazi era. For the second half of the 20th century, one could include solar observations from space, and international cooperation in solar research, e.g. JOSO.

Coordinators of the colloquium: Prof. Dr. Gudrun Wolfschmidt, IGN, Universitaet Hamburg, Bundesstr. 55, D-20146 Hamburg e-mail: wolfschmidtSENL200307math.uni-hamburg.de, Tel. 49-40-42838-5262 Dr. Axel D. Wittmann, Universitaets-Sternwarte Goettingen, Geismarlandstr. 11, D-37083 Goettingen e-mail: wittmannSENL200307uni-sw.gwdg.de, Tel. 49-551-395045 Dr. habil. Wolfgang Schmidt, KIS, Freiburg, Schoeneckstrasse 6, D-79104 Freiburg i. Br. e-mail: wolfgangSENL200307kis.uni-freiburg.de, Tel. 49-761-3198-162 Please direct your inquiries and your registration for the colloquium to Ms. Wolfschmidt, and well as to at least one of the other two coordinators, with whom your speaking time (< 20 min) must be agreed upon. Please register even if you do not give a talk, so that the program can be sent to you. Talks can be given in English or German. Deadline for abstracts, in English: to be submitted by e-mail until 20 June 2003 using the Abstract form of the AG (http://www.kis.uni-freiburg.de/AG03/abstracts.html) - to be submitted to Dr. Reinhard E. Schielicke, Universitaets-Sternwarte Jena, email: schieSENL200307astro.uni jena.de AND to Ms. Wolfschmidt AND (at least) one of the other two coordinators. Further local information is available from Dr. Wolfgang Schmidt. After the conference a Proceedings volume is planned (depending, however, on the financial situation!): "Development of Solar Research" - Acta Historica Astronomiae (ISSN: 1422-8521), Verlag Harri Deutsch.

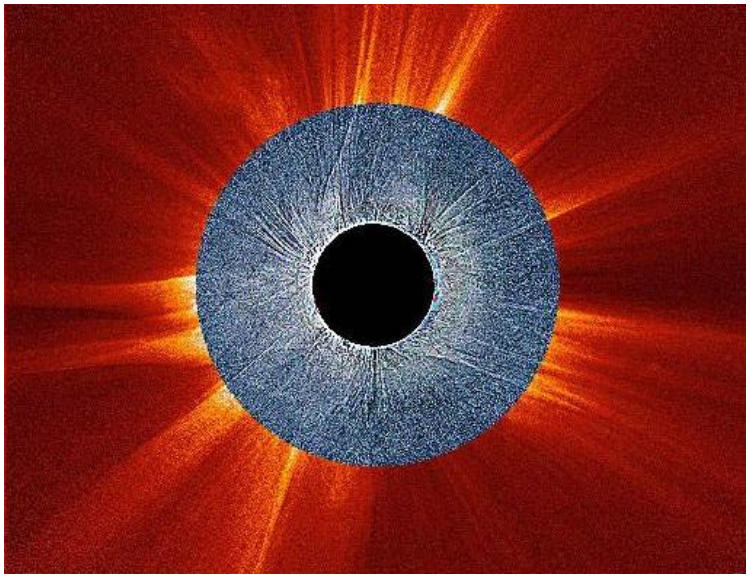
SEScannings

Movie featuring 1999 eclipse coming up on German (and European satellite) TV

From: Daniel Fischer To: SOLARECLIPSESSENL200307AULA.COM Date: Fri, 27 Jun 2003 21:50:56

On Monday, June 30, at 22:15 CEDT (20:15 UTC) the German TV channel ZDF, available for free Europe-wide on various satellite feeds, will broadcast the 2000 movie "Im Juli" in which original footage of the August 1999 eclipse is being used - even twice (close to the beginning and near the end). Find out more details about this excellent movie in http://us.imdb.com/Title?0177858 (in English) and http://www.filmszene.de/kino/j/juli.html and http://www.zdf.de/ZDFde/einzelsendung_content/0,1972,2147537,00.html (in German)! Daniel

11 August 1999 LASCO composite



New book on eclipses

From: Jean Meeus To: Solar Eclipses <solareclipsesSENL200307aula.com> Date: Fri, 20 Jun 2003 06:55:53

Recently a new book on eclipses has been published in Italy. The title is "Eclipses: an astronomical introduction for humanists", and the author is Salvo De Meis.

"Humanists" here mean historians, philologists and scholars of classical antiquities.

After basic astronomical concepts (time, what is an eclipse?, precepts) the author discusses many solar and lunar eclipses from the 8th century B.C. to the 18th century. Many references and citations are given. For every solar eclipse dealt with in the book, a map showing the region of visibility is provided.

The size of the book is A4. It has 300 pages + many pages with figures and maps. The book can be ordered from: Herder, International Book Centre 120 Piazza Montecitorio 00186 Rome, Italy The price is Euro 85,00 plus shipping. Jean Meeus

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1987 China annular eclipse photo ?

From: Klipsi To: SOLARECLIPSES-SENL200307AULA.COM Date: Mon, 02 Jun 2003

Has anyone seen a photo , or taken a photo, of the September 1987 annular eclipse in China ? I received a request from someone in China who chased that eclipse and is trying to find a photo of it. Thanks. Olivier "Klipsi" Staiger

From: Evan Zucker

A quick Google search find one at http://www.yk.rim.or.jp/~shiva/photo/eclipse87/annular.jpg. -- EVAN

AC plug adapators/ voltage transformers

From: DribalzSENL200307aol.com To: SOLARECLIPSESSENL200307aula.com Date: Mon, 02 Jun 2003 13:34:16

When we travel on eclipses expeditions to other parts of the world we need plug adapters and voltage transformers for other countries. I am taking a poll as to what most people use--is there a recommended brand that won't burn out or melt on the first use?

I am heading to Japan, (not for an eclipse) and am strongly considering Turkey in 2006. Any input would be appreciated. Please reply privately. Andrew at DribalzSENL200307aol.com

Lunar limb profiles

From: Jay.M.PasachoffSENL200307williams.edu To: solareclipsesSENL200307aula.com Date: Mon, 02 Jun 2003

This reference has improved lunar limb profiles to improve eclipse predictions. Let's see what Fred has to say.

I'm just back from Iceland and will send out my film to be developed today. Jay Pasachoff

7622600 INSPEC Abstract Number: A2003-12-9620-002
Title: Limb profiles of the Moon from grazing occultation observations collected at RGO
Author(s): Soma, M.; Kato, Y.
Journal: Publications of the National Astronomical Observatory of Japan vol.6, no.4 p.75-105
Publisher: Natl. Astron. Obs. Japan,
Publication Date: 2002 Country of Publication: Japan
CODEN: PNAJEH ISSN: 0915-3640
SICI: 0915-3640(2002)6:4L.75:LPMF;1-S
Material Identity Number: N502-2003-001
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: From lunar grazing occultation observations it is shown that the present lunar limb profile data sometimes have large errors, and therefore it is apparent that they need to be modified. For that purpose observations of grazing occultations collected at the Royal Greenwich Observatory until 1980 were analyzed and lunar limb profile data were obtained. As a result the number of the lunar limb profile data obtained from grazing occultations was almost doubled. These profile data are being used for the predictions of lunar grazing occultations in order to locate observers at better positions, so that they can also get good grazing occultation data to improve the lunar limb profiles. These profile data will be used in the future analyses of solar eclipse observations and of the possible errors of the Hipparcos proper motion system.

Eclipse season "grand slam"

From: Wil Carton To: SE <SolarEclipsesSENL200307Aula.com> Date: Tue, 03 Jun 2003 12:13:15

Fellow eclipse-chasers, In 1954 at age 12 I saw my first eclipse: the solar eclipse of 30 june 1954. Now in May 2003 it was my first eclipse season, in which fortnight I observed both the belonging lunar eclipse (first half) and solar eclipse (last half) both from my mother country Holland. Both events were remarkable late night/eraly morning events. The next important solar eclipse during sunrise here will occur on 4 January 2011, not in 2081 as stated by news papers here. Wil Carton

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Stars

From: Klipsi To: SOLARECLIPSESSENL200307AULA.COM Date: Tue, 03 Jun 2003 22:33:53

> This report says that some people saw some stars during annularity in northwest Iceland. As we went there and had a pretty good sky (about 90% clear), we didn't saw any stars in the sky, but I have to confesse that I didn't search for them. Despite the fact that the sun was very low and partially hidden by clouds, the light was still very strong. I was told that no stars will ever be visible during any ASE. Did someone here have really seen some stars during an annular solar eclipse ? This report seems doubful ...

Venus was about 22 deg. to the right of the Sun as seen from Iceland during annularity, and Venus was slightly higher over the horizon than the Sun. So they probably saw that planet. If they saw more stars, there were 3 bright stars up , Vega, Arcturus, Capella. It is possible they saw them. at the annular eclipse in 1999 in western Australia we saw several planets, and also one or two stars. True, the annular phase was closer. Klipsi

From: Dale Ireland

Klipsi I would like to hear about your experiences viewing the eclipse from a commercial flight. Were there many dedicated eclipse chasers on the flight. Was it crowded, was there a rush to the windows, I mean were the rest of the passengers interested in the event?. Did the crew make much of the event. Any unique sights like Venus from the high altitude? Was your window clean :) Did you time it or get a full video. Just wondering how much shorter the duration since you were flying with the earth's rotation direction. see any beads? Dale

From: ccmarlot

Dear friends, Thanks for your reply. As I can see, this is not so difficult to spot some planets during ASE, which is not surprising after all, as Venus can easily be spoted during daylight when the sky is good. Lets try that in 2005. On april 8, 2005, Venus will be just 2.5° away from the Sun, and Mercury a mere 17°. On october 3, 2005, Mercury will be at 12° elongation and Jupiter 14° ; it should be possible to spot Spica (mag +1), just a few degrees apart from this two planets ... But Spica and the planets will rest between the Sun and the horizon. Interesting challenge ... Christophe

Zimbabwe TSE

From: Crocker, Tony (FSA) To: "'SOLARECLIPSESSENL200307AULA.COM'" <SOLARECLIPSESSENL200307AULA.COM> Date: Wed, 04 Jun 2003 18:11:58

We brought home a souvenir newspaper from Bulawayo. The Mugabe-controlled press claimed 20,000 foreign eclipse tourists, which we were almost sure was a total fabrication. There were 3 major road intersections with totality: Plumtree, ours at Kezi, and yours NW of Beitbridge. Ours was the most remote location, but yours should have been the most popular, given Fred & Jay's predictions and proximity to SA border.

Let's hope the current protests succeed and free the people of Zimbabwe from their current predicament.

From: KidinVSSENL200307aol.com

I think thankfully, we will not need to travel to Zimbabwe for another TSE for some time...however, I am happy to say that I have received confirmation of my hotel space for the 2006 Turkey Eclipse, and I now have a plan in order. This will be my 8th tour that I have put together, and it will be a super one at that. If you are interested in details, go to the following website, where you will find the itinerary with pricing.

http://www.eclipse-chasers.com/e06/ecl2006.htm Rick Brown EclipseSafaris

Visit to Denver

From: Peter Tiedt To: Solar Eclipse Mailing List <SOLARECLIPSESSENL200307AULA.COM> Date: Wed, 04 Jun 2003 20:10:38

Is anyone from the group based in or near Denver, Orlando, Washington or New York?

I will be visiting the above places in the US from 7 - 21 June and would love an opportunity to discuss upcoming eclipses. E-mail me off list and we can set up a meeting?

June
07 - 12 Denver
12 - 16 Orlando
16 - 18 Washington DC
18 - 21 NYC

Peter Tiedt

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2004

From: Klipsi To: SOLARECLIPSESSENL200307AULA.COM Date: Wed, 04 Jun 2003 23:44:58

> P.P.S.: Is anyone considering a trip to Alaska in October 2004 for a deep partial eclipse at sunset? Sounds like fun to me ...

yep. Klipsi

Souvenirs of the 4-Dec eclipse

From: Katherine Low To: SOLARECLIPSES-SENL200307aula.com Date: Mon, 09 Jun 2003 14:38:36

When looking for the Africlipse web page, and typing the wrong URL, the clever browser program directed me to the following web page:

http://www.1stexclusiv.com:8080/africlipse/control/main

It is an advertisment for internet sale of a CD-ROM about the eclipse concerts and surroundings in Musina, 4Dec. Some of you that have been there may be interested in this. Kris Delcourte

(PS. I have no interests at all in this CD. Just for the information of people interested in memories)

Delta T

From: Jean Meeus Date: Mon, 09 Jun 2003 17:06:31

On 2003 May 1, the difference between Dynamical Time and Universal Time was Delta T = 64.55 seconds. Jean Meeus

Eclipse chasing

From: Darren Osborne To: SOLARECLIPSES-SENL200307aula.com Date: Wed, 11 Jun 2003 05:33:29

Sheridan Thank you for adding me to the list. I hope to add more toward the end of the 'decade'.

I forgot to add that I have experienced another total eclipse from my 'home', although I was locked inside.

Not sure if you woul dlike to add it, but here are the details anyway.

1. Your full name: Darren Osborne
2. Country in which you reside Australia
3. Email address darren.osborneSENL200307bigpond.com (preferred)
4. Month/Year of total eclipse 23 October 1976
5. Location (lat/long, or nearest place name) from where you observed -37.681, 145.025, Thomastown (suburb north of Melbourne, Australia)
6. Duration of totality at your site 3:00 minutes (I saw 0 seconds, but did experience a very sky room and sky through the easterley windows. Also saw it live on television).
7. Sky conditions during totality (estimate please) 2=light cloud (so I'm told)

Paul Gerber

From: Wolfgang R. Dick To: HASTRO-LSENL200307LISTSERV.WVU.EDU Date: Wed, 11 June

On 15 Apr 2003 , jan Vandenbruaene wrote: Dear List,
>
> Now the Mercury-transit is coming nearby, I have a question about the discovery of the real reason of the additional displacement of the perihelion of Mercury. It is normally accepted that Einstein was the first to explain the reason of this additional displacement.
>
> But I read a short article about a certain German physicist Paul Gerber who 18 years before Einstein gave an explanation for the phenomenon. (In Zeitschrift für Mathematik und Physik, Leipzig; Teubner, 1898 volume 43 p.93-104, title "Die räumliche und zeitliche Ausbreitung der Gravitation").
>
> Can anybody give me more information about Paul Gerber or about his explanation? Thanks, Jan Vandenbruaene Flemish astronomical society

Dear Jan Vandenbruaene, Paul Gerber, born on 1 January 1854 in Berlin, studied from 1872 to 1875 in Berlin. In 1877 he became teacher at the "Realgymnasium" (high school) in Stargardt in Pommern, Germany (now in Poland). (see Poggendorff vol. 4, p. 429)

His theory on the displacement of the perihelion of Mercury was nor new, nor did it have any real basis. It became of some importance only because Ernst Gehrke republished Gerber's works in 1916 to use these as arguments against Einstein. Einstein and Hugo von Seeliger criticized the theory harshly. (For more details and references to the original works see Albrecht Foelsing [Folsing], Albert Einstein, chapter V.1 - I used the original German edition of 1993, but there is also an English edition, to my knowledge still available. See also the name index in this book to look

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for Gerber and Gehrke. At the end of chapter V.1 there is a comment on how Gehrke's use of Gerber's works played a role in the fact that Einstein did not get the Nobel prize for the Theory of Relativity.)

I would be intested to get the reference for the short article about Paul Gerber which was the basis for your request. Kind regards, Wolfgang Dick <www.astrohist.org>

ETX 90 for eclipse photography

From: Francisco A. Rodriguez Ramirez To: SOLARECLIPSESSENL200307AULA.COM Date: Sun, 08 Jun 2003 14:42:06

Hi all, I would like to know opinions about the ETX 90 for eclipse photography. Thank you very much Best Regards Francisco A. Rodriguez

From: Robert B Slobins

In general, a total solar eclipse tests the quality of the lens. I have used cheap, and expensive lenses and you will be better off with expensive. There is no Santa Claus in optics. I speak from experience.

You may get internal reflections of the chromosphere and inner corona on long exposures. I know that we have the means to digitise and doctor the images, but why make work for yourself.

I want to be assured that the optics are coated properly and the tube is adequately baffled.

I personally have been disappointed with Meade as a company. If your ETX is a sound instrument optically and mechanically, then go for it. I would, however, carry at least a second assembly with as high a quality tripod, camera body and lens as you can afford, with the investment going more into the tripod and glass than the body (bring extra bodies as backup). cheers/rbs

From: Michael Gill

Francisco, The ETX 90 is certainly portable and can easily be carried as hand luggage onto an aircraft.

For some examples of eclipse photography using an ETX90 go to Mike Weasner's ETX site:

http://www.weasner.com/etx/guests/guests_solar_eclipse00.html

http://www.weasner.com/etx/guests/guests_solar_eclipse01.html

Cheers, Michael Gill

From: ccmarlot

Hi Bob, I used an ETX 90 for eclipse photography in Zim 2001, Australia 2002 and for ASE in Mexico 2002 and even in Iceland a couple of weeks ago. I have never been disappointed by the results using this optical system. There is no internal reflections, even at long time exposure. The chromosphere and protuberances are very well seen once the focus is perfect. You can check some photos here (sorry, in french only) : http://www.astrosurf.com/carnets-astronome Christophe

New: Space Weather Archives (fwd)

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSENL200307aula.com> Date: Mon, 16 Jun

I got the msg below today - good.

If you go to www.spaceweather.com/archive.php you can select any date since 2000. And the pages for 4 June and 5 June 2003 have ASE images. as well as links to the GALLERY. Francis

Transits of Venus at IAU General Assembly Australia

From: solareclipsewebpagesSENL200307btopenworld.com To: SOLARECLIPSESSENL200307aula.com Date: Sun, 15 Jun

Item 2 ENHA No. 51, June 15, 2003 History of astronomy at the IAU General Assembly By Wayne Orchiston, Epping, Australia (From: "Elektronische Mitteilungen zur Astronomiegeschichte" Nr. 63, 14. Juni 2003, Item 2.)

Every three years the International Astronomical Union holds its General Assembly (GA) in a different major city of the world, and this year the GA will be in Sydney, Australia, from July 13 to 26.

IAU Commission 41 and the Inter-Union Commission for History of Astronomy (ICHA) have organised a rich history of astronomy program that is designed to appeal to every research taste. It is packed into just three days, with two parallel streams each day. This allows us to offer the following range of Science Meetings (SM) and Working Group Meetings (WG):

SM1: Applied Historical Astronomy

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SM2: The Early Development Australian Radio Astronomy
SM3: Recent Research
SM4: Ethnoastronomy & Archaeoastronomy

WG1: Astronomical Archives
WG2: Astronomical Chronology
WG3: Historical Instruments
WG4: Transits of Venus

For the detailed program, see http://www.astro.uni-bonn.de/~pbrosche/iaucomm41/meetings/ga2003/ .

Please feel free to contact me if you would like further information about the Sydney history of astronomy program, or about C41 and the ICHA.

Author's address: Dr Wayne Orchiston, Anglo-Australian Observatory, PO Box 296, Epping, NSW 2121, Australia. (C41/ ICHA Secretary and Sydney History of Astronomy Program Co-ordinator)
[Source: Wayne Orchiston to HASTRO-L, 17 Jan 2003.]

2004 Transit of Venus

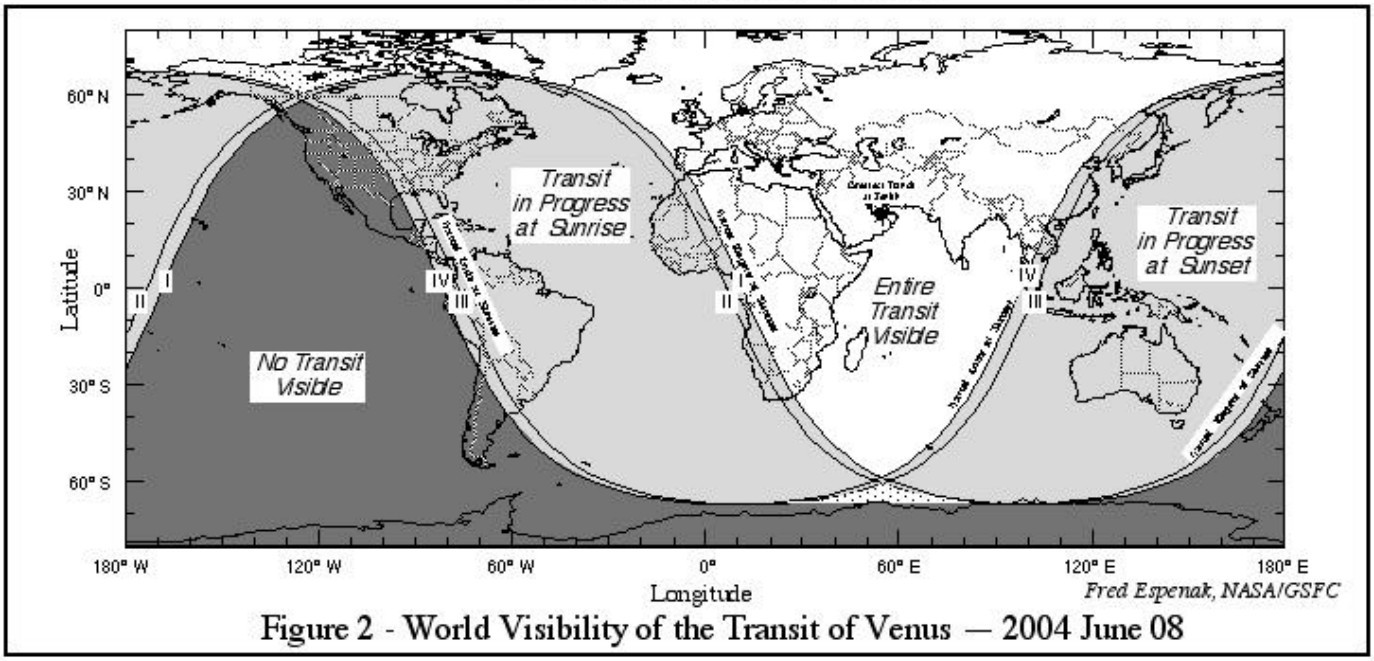

Figure 2 - World Visibility of the Transit of Venus — 2004 June 08

Venus transit

From: Robert B Slobins To: '"SOLARECLIPSESSENL200307AULA.COM"' <SOLARECLIPSESSENL200307aula.com>
Date: Tue, 10 Jun 2003

Is there a source of general and specific weather information available for the transit?

I would prefer a Greek island. As I view it, being at such a location will afford one nice, sunny skies and steady seeing. It will be morning and that will help observations. But we also need be careful about localized weather conditions.

(Continued on page 16)

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Desert locations are more chancy. I have had marvelous seeing and steadiness during daylight in Laredo, Texas through a summer afternoon (43 + C in the shade), and I have also had terrible conditions there: observing over a parking lot as it were.

I would appreciate a discussion of what to look for in terms of an observing site.

Come to think of it, I was on Malta for the 1993 Perseid shower. Nice place, great people and an astronomy society that makes up in enthusiasm for what it lacks in equipment (as of 1993). How would that work as a possibility? cheers/rbs

From: Mike Simmons

I was surprised to see the date of 8 June go by without a mention here of the event occurring on that date next year -- the first transit of Venus in 122 years. We had a party of friends who will be traveling overseas to observe it. Fred's usual fine work gives the details of visibility at http://sunearth.gsfc.nasa.gov/eclipse/transit/venus0412.html . I think the most comprehensive site is http://www.transitofvenus.org/ by Chuck Bueter. If you can't find what you want elsewhere Chuck will have it on his page or a link to it. He also includes several tours to interesting sites for observing the event on his "Observing the 2004 Transit of Venus" page. There's no central solar eclipse anyway so if you're not in a favored region then satisfy your astronomical wanderlust with this "small annular eclipse". Our trip to Iran is at http://www.vtransit.com . Contact me off-list with questions. There are also trips to Egypt, Greece and Central Asia (Turkmenistan, Uzbekistan, etc.) and a cruise or two in the Mediterranean. Mike Simmons

From: Jay.M.PasachoffSENL200307williams.edu

Yes, less than a year to go.

We have started a site at www.transitofvenus.info. It links international projects and provides some photographs of past transits.

I will keep adding links as the year goes on on behalf of the Commission on Education and Development of the International Astronomical Union. Jay Pasachoff

From: Mike Simmons

>Is there a source of general and specific weather information available for the transit?

Jay Anderson, the eclipse weather maven, has a site for the Venus transit at http://home.cc.umanitoba.ca/~jander/transit/transitmenu.htm

>I would prefer a Greek island. As I view it, being at such a location will afford one nice, sunny skies and steady seeing. It will be morning >and that will help observations. But we also need be careful about >localized weather conditions.

Because the event lasts six hours you're not going to have morning conditions for the whole thing, in particular the egress. Check the timings for your chosen site on Fred's web site. The map gives a quick look at what the view will be throughout the event.

>Desert locations are more chancy.

Be sure and check the topography throughout the region, too. There is more than desert at many of the locations favored by timing and solar altitude, especially off the Arabian Peninsula. On the other hand, mountains can have notoriously bad seeing, too, depending on how the air flows over them. I am choosing a high desert area in a large valley without local topographic features to disrupt the air flow that is usually a mild breeze from the west that moves the warm air from the ground layer. The seeing is known to be good at night but we're sending someone to do daytime measurements. If you're

(Continued on page 17)

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thinking of an area that has local amateur astronomers you should be able to get some idea of the conditions well ahead of time by contacting them.

>Come to think of it, I was on Malta for the 1993 Perseid shower. Nice place, great people and an astronomy society that makes up in enthusiasm for what it lacks in equipment (as of 1993). How would that work as a possibility?

Sounds like a winner! Mike Simmons

Transit of Venus 1874, was: parallax

From: Peter Abrahams To: HASTRO-LSENL200307LISTSERV.WVU.EDU Date: Wed, 18 Jun 2003 07:01:48

The 1874 Transit of Venus motivated a number of elaborate & expensive expeditions, using newly developed photographic instruments, which were thought capable of greatly improved parallax measurements. The instruments worked as planned, but a combination of poor seeing & especially the limitations of photographic plates combined to greatly reduce the accuracy of transit timing. There was something of a scandal at the waste, and most interestingly, the use of photography was discouraged for the 1882 transit.

In addition to Steve Dick's narration of the failures of the 1874 transit expeditions in 'Sky & Ocean Joined', an excellent account of this era is found in: Lankford, John. Photography and the 19th-century Transits of Venus. Technology and Culture 28:3 (July 1987) 648-657. Also a brief narration in my essay 'Telescopes for Solar Research' http://www.europa.com/~telscope/solartele.txt " The transit of Venus of December, 1874 motivated a new generation of photoheliosco pes, hoping to avoid the 'black drop' effect experienced by visual observers. De la Rue advised the R.A.S. on the use of photography during the event. Exposures of 1/50 to 1/100 second could be timed with great accuracy, and photographs could be accurately measured, and the motion of the planet could then be deduced to obviate the need for precise timing of the actual moment of contact. Optical distortion in the image of the sun needed to be accurately described to allow precise measurements, and De la Rue proposed photographing a scale of equal parts, placed a mile or two from the instrument. The 'relative adjustment' of the objective and the secondary lens can be used to control distortion. He advocated the construction of six precisely similar instruments, mounted equatoreally but without circles or drive clock, with optical parts rigidly fixed & measured for distortion. "No difficulties exist in photographing a transit of Venus...no strain on the nerves would occur, as in the anxiety consequent on the desire of rendering available every moment of the short duration of a solar eclipse. All the operations could be conducted with that calm so essential for...the determination of the Solar Parallax. (MNRAS 29 (Dec. 1868) 48-53.) John Dallmeyer completed construction in 1874 of about 6 photoheliosco pes for the transit. These were optically a modification of the earlier design, using a rectilinear four inch objective, with an enlarging lens to form an image 4 inches in diameter. Dallmeyer photoheliographs were sent to Mauritius, Dehra Dun India, and the Cape of Good Hope. German expeditions for the 1874 transit used Repsold instruments. French expeditions used a French design of photoheliograph, displayed at the Loan exhibition, similar to De La Rue model, but using a daguerrotype plate instead of collodion. Careful planning and elaborate expeditions for the 1874 transit included many experiments involving telescopes and cameras, but not involving the photographic media; and on that issue foundered the efforts of all transit expeditions. Many of the astronomers returned with successful photographs, but the images could not be measured with the needed precision. The exact location of the edge of the limb of the sun or of Venus was blurred when the photographic silver deposit faded between light & dark, or the atmosphere blurred image. Several years spent measuring the many photographs, but the goal of the effort, an improvement in the measure of parallax, was not attained. In 1881, an international conference in Paris on planning for 1882 Transit recommended against the use of photography, and the English & German expeditions of 1882 "

From: Gent van R.H.

Peter Abrahams wrote: [snip] In addition to Steve Dick's narration of the failures of the 1874 transit expeditions in 'Sky & Ocean Joined', an excellent account of this era is found in: Lankford, John. Photography and the 19th-century Transits of Venus. Technology and Culture 28:3 (July 1987) 648-657. Also a brief narration in my essay 'Telescopes for Solar Research' http://www.europa.com/~telscope/solartele.txt [snip]

References (with online links) to many of the original articles on the use of photography during the transit of 1874 can now be found in:

http://www.phys.uu.nl/~vgent/venus/venustransitbib.htm

At the moment the references are listed chronologically - I am still adding new references to this list and in the near future I intend to rearrange the material into more logical subgroups.

> John Dallmeyer completed construction in 1874 of about 6 photoheliosco pes for the transit. These were optically a

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(Continued from page 17)
modification of the earlier design, using a rectilinear four inch objective, with an enlarging lens to form an image 4 inches in diameter. Dallmeyer photoheliographs were sent to Mauritius, Dehra Dun India, and the Cape of Good Hope.

The Dutch transit of Venus expedition to Réunion also employed a Dallmeyer photoheliograph that is still preserved in Teylers Museum, Haarlem. It would be interesting to know if any of the others are still preserved and where they are at the moment.

I will be reporting on the Dutch transit of Venus expeditions during the Notre Dame conference at the end of this week. Best wishes,

2012 Transit of Venus

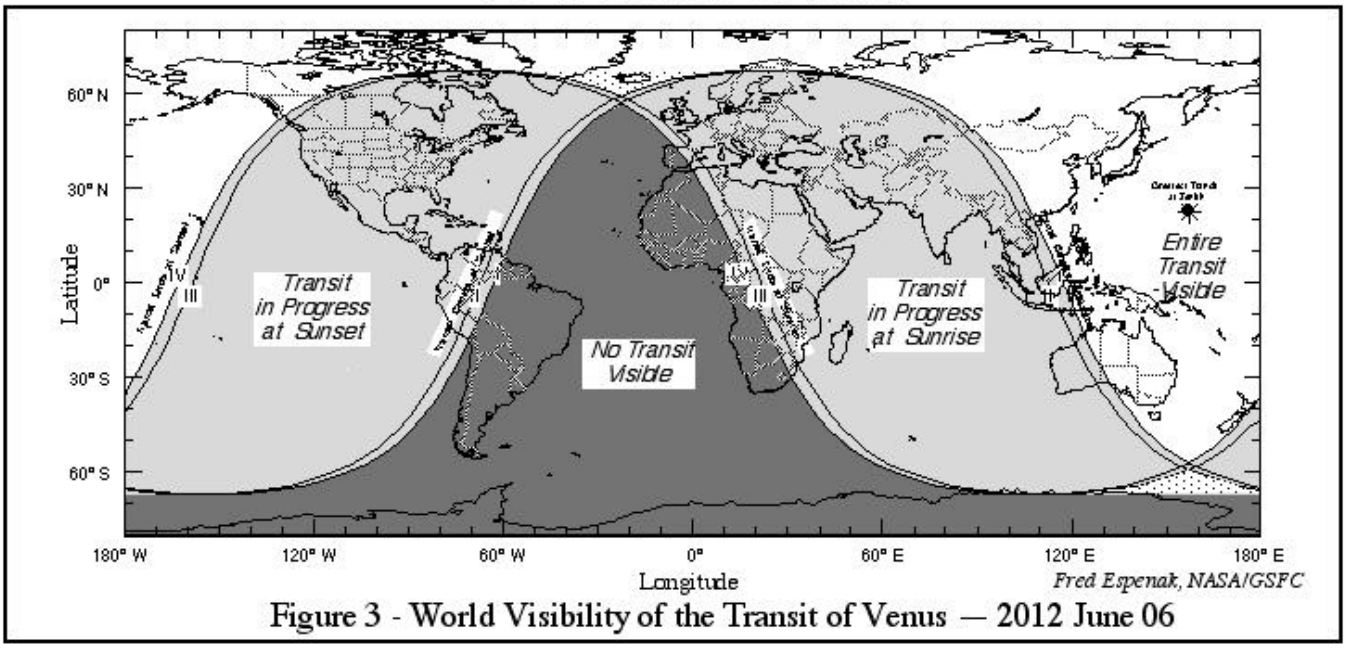

Figure 3 - World Visibility of the Transit of Venus — 2012 June 06

First edition Galileo's Sunspots from 1613 to be auctioned this Thursday

From: Stephen Tonkin To: HASTRO-LSENL200307LISTSERV.WVU.EDU Date: Thu, 12 Jun 2003 06:33:08

Found on another list: Greetings,

>PBA Galleries of San Francisco will be auctioning a first edition of Galileo's Sunspots ("Istoria e dimostrazioni intorno alle macchie solari..."), the rarest of all early Galileo publications, this Thursday, June 12, at 1 PM Pacific Time. The book will be available for bidding by telephone as well as over the Internet, via PBA Galleries' Real Time Bidder. This is a beautiful, near-fine copy of the book which provoked Galileo's censure.
>
>To preview the book, please visit http://www.pbagalleries.com/search/item.php?anr=133561 (straighten out the link before pasting...)
>
>If you have any questions, please feel free to contact Shannon Kennedy at shannonSENL200307pbagalleries.com Thank you! John Gerac PBA Galleries www.pbagalleries.com

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Best, Stephen

From: Bob Garfinkle

Hi Stephen, Did you by any chance find out how much the book sold for, that is if it met its reserve? Let us know what you find out. Bob Garfinkle

From: Stephen Tonkin

Bob Garfinkle <ragarfSENL200307EARTHLINK.NET> wrote: Did you by any chance find out how much the book sold for, that is if it met its reserve? Let us know what you find out.

I understand that it failed to reach its reserve and therefore did not sell. Best, Stephen

From: corbin.brendaSENL200307USNO.NAVY.MIL

I received the reply below to my query to the bookseller re the Galileo Sunspots volume.

Brenda - Brenda G. Corbin, Librarian Phone: 202/762-1463 U. S. Naval Observatory Fax: 202/762-1083 3450 Massachusetts Ave., N.W. Washington, D.C. 20392-5420 e-mail: corbin.brendaSENL200307usno.navy.mil

USNO Library Home Page: http://www.usno.navy.mil/library/
Direct link to online catalog: http://moon.usno.navy.mil/urania.htm

Original Message----- From: Shannon Kennedy [mailto: shannonSENL200307pbagalleries.com]

Dear Ms. Corbin, Greetings. Galileo's Sunspots sold with a price realized of $20,700.00 to a private collector.

Thank you for your interest in PBA Galleries. Best, Shannon Kennedy

1905 TSE

From: ccmarlot To: SOLARECLIPSES-SENL200307AULA.COM Date: Wed, 18 Jun 2003

Dear friends, I tought this link valuable for those interested by old books and early eclipse photos. The first book price is only ... 225 $! http://www.schicklerart.com/rare/space_astronomy.html# Christophe

Mutiple Exposure Sequence

From: Logan Shield <wavelengthphotographySENL200307bigpond.com> date: Thu, 19 Jun 2003 13:29:12

Hi Patrick and Joanne, I have just discovered the SENL and your fantastic sources of SE information. I thought that you might be interested in a multiple exposure sequence that i took at the Dec 2002 eclipse from South Australia. I have attached a thumbnail below.

The image is indeed a genuine M.E - it was taken on the one frame of film. I spent many months planning and preparing and was really lucky with the weather at Lake Everard (~200kms inland from Ceduna).

I also have a webpage on which i have posted an article written for a local science teachers journal as well something i am preparing on multiple exposure techniques. Its not 100% complete yet, but if you would like to have a look, its at:

http://www.users.bigpond.com/wavelengthphotography/Eclipse.html

Having spent the time working out all the details for the photo - i thought it would be nice to condense this into a guide for M.E sequences as there is not that much out there on this style of photography (compared to others).

Anyway, please let me know what you think and if you would like me to write something for the SENL based on this photo. Is it possible for you to post a link to our site for others to have a look? Kindest Regards, Logan Shield Melbourne wavelength photography ph 61 3 9370 9405 fax 61 3 9375 7584 www.wavelengthphotography.com.au

From: Logan Shield

Dear Patrick, Thank you very much for your interest. I have included a few words about the sequence below for the newsletter. It would be fantastic if you could also pass our webpage on to others as well, hopefully they will find some of the information useful. Our url is www.wavelengthphotography.com.au , however to go directly to the eclipse page, you need to use www.users.bigpond.com/wavelengthphotography/Eclipse.html since this is where the site is actually hosted.

"Capturing a successful image of a total solar eclipse is one of the most rewarding achievements. However, most images record less than a second's worth of an event that usu-

(Continued on page 20)

SETalk

ally lasts for around 2 hours. A multiple exposure sequence image is a visually compelling record of the entire eclipse, allowing you to record both the partial phases and totality on the same image. In essence you are photographing 'time'.

This multiple exposure sequence was taken from near Lake Everard, South Australia, during the 2002 Total Solar Eclipse using a medium format camera and Fuji Velvia ISO 50 transparency film. The camera was mounted on a solid tripod, which was weighed down with a bag of sand and partially buried, to prevent even the slightest movement while the mutiple exposure ring was reactivated after each exposure.

To compose the image, I made a scale drawing of the Sun's trajectory and used a window overlay to represent the field of view of the lens that I was using. This ensured that the planned sequence would indeed fit nicely into the frame and that there was room to include the horizon as well. The placement of the first image in the camera's viewfinder was practised before eclipse day to make sure that the Sun was moving as predicted. Since sunset was to occur before 4th contact, I decided to make only 7 exposures before and after totality to give the overall image symmetry and balance. The first exposure was made exactly 35 minutes before mid-totality and at 5 minute intervals thereafter until sunset.

Calculating the required exposures proved to be quite difficult due to the time of the eclipse and the diminishing luminosity at low altitudes. Many tests were performed beforehand to find the best exposure at various altitudes. This data was then fitted to an exponential curve to obtain a smooth transition in exposures, although a slight haze did affect the final image. The first exposure was taken at 1/250s SENL200307 f/32, while the final one was 1/30 SENL200307 f/8 - a difference of 7 stops!. A 1/2 stop and full stop compensation was made for solar limb darkening for the two shots on either side of totality. During the excitement of totality, I also managed to take a light meter reading on the horizon to check that the entire image would not be under or overexposed. More details can be found at www.wavelengthphotography.com.au

While many months of planning and preparation went into this image, the advantage of a multiple exposure sequence is that you only have to take one exposure during totality, leaving the rest of the time to observe and appeciate nature's greatest spectacle."

Please let me know if the image that I sent with the last email will be OK, or if you would like a larger version.

Thanks again, and i look forward to becoming an active member of your fantastic newsletter and mailing lists. Kindest Regards, Logan

Total Lunar Eclipse Images from Gran Canaria

From: Francisco A. Rodriguez Ramirez To: lista eclipse <SOLARECLIPSESSENL200307AULA.COM> Date: Sun, 29 Jun 2003 16:18:47

Hi all, New updates from Gran Canaria (Canary Islands). http://eclipsechaser.astroeduca.com/etl2003_1.html Best Regards Francisco A. Rodriguez Ramirez www.astroeduca.com / http://eclipse.astroeduca.com www.saros.org

SETalk

Duplicating eclipses of the past

From: KCStarguySENL200307aol.com To: SOLARECLIPSESSENL200307aula.com Date: Fri, 20 Jun 2003

I am in the process of duplicating some total eclipses using Starry Night Pro. I have found records of the May 27, 668 BC eclipse However I don't see any records of January 1, 1468 BC and May 6 or 9 724 BC. Where there eclipses on those dates? Is there any information online about these eclipses? Thanks in advance. Dr.Eric Flescher http://ericsblacksuneclipse.com

From: Robert B Slobins

Eric: Get shareware emapwin.com. It is a simple eclipse path dislpay program but should at least give you the dates. You can then copy the info to Starry Night. cheers/ rbs

From: Fred Espenak

For a catalog listing the dates of all solar eclipses from 2000 BC to 3000 AD, see:

http://sunearth.gsfc.nasa.gov/eclipse/SEcat/SEcatalog.html

For a catalog listing the dates of all lunar eclipses from 2000 BC to 3000 AD, see: http://sunearth.gsfc.nasa.gov/eclipse/LEcat/LEcatalog.html - Fred Espenak

From: brian seales

Hi All, Dr.Eric Flescher was looking for info on eclipses on particular dates in the past. A quick look at Emapwin and Wineclipse lists the following for the years he was enquiring about
22nd May 1468 BC. Total
15th November 1468 BC. Central Annular (listed as 14/11/1468 BC by Emapwin)
17th May 724 BC Partial
15th June 724 BC. Partial
9th November 724 BC. Partial
9th December 724 BC. Partial (listed as 8/11/724 BC by Emapwin!)
Hope this is of help. Regards Brian Seales www.ecliptomaniacs.com

From: Jay.M.PasachoffSENL200307williams.edu

Remember to take into account the deviations in the Earth's rotation charted by F. R. Stephenson. Jay Pasachoff

Forbidden planet eclipse sighting

From: KidinVSSENL200307aol.com To: SOLARECLIPSESSENL200307aula.com Date: Tue, 01 Jul 2003 18:31:02

Yes, that is the right site... for any fans of Sci-Fi, I HIGHLY recommend the film, available in any Blockbuster type rental place, in VHS, and DVD... Honestly, it is a wonderful movie, with an excellent plot, and fabulous special effects being that it is from almost 50 years ago!!!!!...even the solar eclipse footage (all 10 seconds of it) is just great

KCStarguy writes: At the site, the main web page (http://sfstation.members.easyspace.com/fbhome.htm) has the spaceship (classic plate shape with hub on top) in front of an eclipsed sun. hat is the first one that shows before the slide show starts.

Quicktime VR movies and panoramas

From: KCStarguySENL200307aol.com To: SOLARECLIPSESSENL200307aula.com Date: Mon, 30 Jun 2003 22:19:01

After a lot of work, I have created panoramas and QuickTime VR movies (you click on the window and stroll 360 dgrees around as you move the mouse up and down).

(The movies and panoramas take a little while to load)

I have posted my 360 degree movie of 1999 eclipse 1 minute before totality- pre ring of fine and 360 degree movie of the 2001 eclipse during totality

images taken from my videos so they are not crystal clear but you get the idea. The panoramas (straight jpeg long images) are at http://members.aol.com/kcstormguy/stormsatori/panoramas.htm

This includes a sectioned off set of frames going from left to right, showing the darkening in 1999 as the shadow moved in. Maybe a movie soon.

Panoramas made with SimplyVR, frames with Imovie3 and MacIntosh. questions and comments let me know. Dr. Eric Flescher (kcstarguySENL200307aol.com)

SETalk

Multiple Exposure Sequence

To: eclipseSENL200307hydra.carleton.ca Date: Fri, 20 Jun 2003 17:00:03 From: Logan Shield <wavelengthphotographySENL200307bigpond.com>

Dear All, I would just like to let everyone know that i have setup a new site with some information and photos of the 2002 TSE. In particular, there is a beautiful mutiple exposure sequence that i took (on one frame of film!) from South Australia, and some information on how to take a similar sequence, including calculating exposures, choosing a lens, composing the image and more. There is also an animation of the eclipse that you can have a look at.

The eclipse page is at: http://www.users.bigpond.com/wavelengthphotography/Eclipse.html

I have also had some posters made up if anyone is interested, and would be greatful for any feedback or ideas that you may have about the site. Many thanks, Logan Shield

From Logan Shield, Australia

Have a look at his wonderful picture at

http://www.users.bigpond.com/wavelengthphotography/Eclipse.html

"Capturing a successful image of a total solar eclipse is one of the most rewarding achievements. However, most images record less than a second's worth of an event that usually lasts for around 2 hours. A multiple exposure sequence image is a visually compelling record of the entire eclipse, allowing you to record both the partial phases and totality on the same image. In essence you are photographing 'time'.

This multiple exposure sequence was taken from near Lake Everard, South Australia, during the 2002 Total Solar Eclipse using a medium format camera and Fuji Velvia ISO 50 transparency film. The camera was mounted on a solid tripod, which was weighed down with a bag of sand and partially buried, to prevent even the slightest movement while the mutiple exposure ring was re-activated after each exposure.

To compose the image, I made a scale drawing of the Sun's trajectory and used a window overlay to represent the field of view of the lens that I was using. This ensured that the planned sequence would indeed fit nicely into the frame and that there was room to include the horizon as well. The placement of the first image in the camera's viewfinder was practised before eclipse day to make sure that the Sun was moving as predicted. Since sunset was to occur before 4th contact, I decided to make only 7 exposures before and after totality to give the overall image symmetry and balance. The first exposure was made exactly 35 minutes before mid-totality and at 5 minute intervals thereafter until sunset.

Calculating the required exposures proved to be quite difficult due to the time of the eclipse and the diminishing luminosity at low altitudes. Many tests were performed beforehand to find the best exposure at various altitudes. This data was then fitted to an exponential curve to obtain a smooth transition in exposures, although a slight haze did affect the final image. The first exposure was taken at 1/250s SENL200307 f/32, while the final one was 1/30 SENL200307 f/8 - a difference of 7 stops!. A 1/2 stop and full stop compensation was made for solar limb darkening for the two shots on either side of totality. During the excitement of totality, I also managed to take a light meter reading on the horizon to check that the entire image would not be under or overexposed. More details can be found at www.wavelengthphotography.com.au

While many months of planning and preparation went into this image, the advantage of a multiple exposure sequence is that you only have to take one exposure during totality, leaving the rest of the time to observe and appeciate nature's greatest spectacle."

From: Odille Esmonde-Morgan & Warwick Lawson

As the eclipse was at sunset, just what magic did you use to photograph it for an hour after sunset? Odille Esmonde-

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Morgan Terranora, NSW, Australia

From: Glenn Schneider

Logan, It is a very nice multiple-exposure image indeed! Thanks for sharing it with us, and the details of its planning and execution in your email and on your web site. My own "mosaic" of this same eclipse, taken with UMBRAPHILE primarily totality (but a sunset not soon to be forgotten) is on: http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_02/TSE2002.html That, as you can see, was a different sort of post-facto composite - not the "real time" multiple imagery spanning much of the partial phases as well, you so well achieved.

(Where in Australia are you located? I'll be down in Sydney in a few weeks for the IAU meeting, if you happen to be in that area... [an off-line from SEML reply is probably appropriate]. And, yes, I know Australia is a very big place, but you never know.) Cheers, Glenn Schneider http://nicmosis.as.arizona.edu:8000/

Venus transit

From: Robert B Slobins To: "'SOLARECLIPSESSENL200307AULA.COM'" <SOLARECLIPSESSENL200307aula.com> Date: Wed, 18 Jun 2003 02:21:36

The disadvantage of islands is the lack of mobility in case of clouds. Therefore being on a ship would be great, provided that the ship would take us to decent skies and we disembark to see the transit. The other choice could be southern Africa. We had good luck in June 2001 for the total solar eclipse. It is two weeks earlier for the Venus transit, but the winter clearing should be well underway. Again, it is easier to drive the required distance to the skies we need than to sail a ship.

The other choice is to be in Europe with an eye on the weather to make a break for clear skies. At least there are super highways (motorways, autobahnen) to speed on from Austria, Italy, and all the way to Spain and Portugal. cheers/rbs

From: Mark Friedman

My wife and I are considering a trip for the Venus transit in conjunction with a visit to her ancestral home town of Felitto, Italy. From a preliminary assessment of Jay Anderson's weather data, the probability of clear skies throughout Italy isn't as high as I would like it to be. So I was thinking of a side trip to the Greek island of Samos, which is in the Aegean Sea just off the coast of Turkey. Jay's tables don't have data for Samos specifically, but I believe that Izmir Turkey is relatively close. Does anyone know much about Samos? I'd like to hear your thoughts about the island both as a reliable location for observing the transit as well its accomodations. Mark Friedman

From: Mike Simmons

See Jay Anderson's weather stats at http://home.cc.umanitoba.ca/~jander/transit/transitmenu.htm , especially the map for an overview. Unfortunately, most of Europe has a good chance of clouds but being close to the Mediterranean helps. Being *in* the Mediterranean gives you the best odds and that weighs in in favor of being on a ship. Southern Africa has very good prospects on the west side of the continent but even the center and east are better than Europe's chances. Northern Africa is better yet -- if you can take the heat there in June -- and you're at the best latitude to have the Sun higher in the sky. Of course, the expected and the observed (at the time of the transit) may well be entirely different but all you can do is play the odds and -- as you say with mobility -- be ready to move as needed. Mike Simmons

From: Robert B Slobins

At the risk of being off-topic....

The Middle East would be the best place to view the transit. The issue, unfortunately, is with the dangerous politics, not with the seeing going down as the heat goes up.

If I were arranging a ship cruise, I would locate the ship at the best place in the Mediterranean where it could make it to a clear port in 36 hours. This would preclude some tourism, as we would need to commit some time to getting to the location. However, I am sure that the priorities are clear, the transit comes first.

I would want to record the transit from dry land, using a Coronado H-alpha filter setup.

For those who have such equipment, here is the exposure data for solar disk details:

Fujichrome Velvia ISO 50, f/33 at 1/750 - 1/375 (bracket!!). The Velvia is contrasty enough for this purpose.

I need to check out the circumstances on the Canaries where the solar observatory is placed. We also have other major observatories available to the transit: Kanzelhohe and Catania come to mind. I also believe that Pic du Midi

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can see the entire transit. cheers/rbs

From: Jean Meeus

In the Canary Islands, the ingress of Venus takes place before sunrise! Jean Meeus

From: Mike Simmons

If you are not a politician then the politics won't matter. The people are still quite friendly in the countries that make the political news, just like people anywhere else. If the conditions for observing the transit are really all-important (as seems to be the case for you), I would suggest contacting fellow astronomers in the countries of interest before dismissing the entire region of the world that provides the best possibilities. You will find them eager to have you join them. And -- like any other scientific endeavor -- you'll find that a decision is best based on data rather than conjecture from afar. I guarantee you will find the reality is different from your expectations after even minimal research. I can provide some contacts in different countries if you (or anyone interested) write to me by private email.

>I would want to record the transit from dry land, using a Coronado H-alpha filter setup.

We will have an H-alpha video image displayed on a monitor for the spouses and others that aren't astronomers and don't bring telescopes but would still be interested in seeing what's going on. We will record the ingress and egress, at least, and make it available late, of course. Mike Simmons

From: Gerard M Foley

Since the event will be visible from about half the world, I doubt if anyone will charter a ship just for this. A ship, however, should be stable enough for almost any kind of photography of the sun that one can want. The dimming of the sun by Venus is not great(:-)).

Although the event is rare, personally I am not excited by the prospect of seeing a tiny dot crossing the sun. Good luck to all who feel differently.

Gerry

From: Robert B Slobins

Evan: What about a Caribbean trip? Also, one can make reservations to fly to inexpensive locations as in Spain.

It would be an interesting image: Venus on the sun on the horizon at sunrise. You would certainly not need filtration--just focus for infinity and use f/64, Velvia film and bracket. I have done this with sunspots with a Tamron 400 mm with a 2X teleconverter.

Although I dislike teleconverters, the atmosphere makes the optics bad enough. Venus, I am sure, will be visible on the sun anyway.

I wonder if the early Chinese observed a Venus transit and recorded the event as something else. If the transit is a naked-eye event, perhaps they would have seen it as a horizon event, calling it a 'bird on the sun'. cheers/rbs

From: Mike Simmons

Gerry,

>Since the event will be visible from about half the world, I doubt if anyone will charter a ship just for this. A ship, however, should be stable enough for almost any kind of photography of the sun that one can want. The dimming of the sun by Venus is not great(:-)).

While the event is visible to anyone on Earth for whom the Sun is visible, keep in mind that the event lasts more than six hours. In order to see the *entire* event one needs to be within a smaller area than half the Earth. See Fred's map at http://sunearth.gsfc.nasa.gov/eclipse/transit/venus/Map2004-2.GIF . And your doubts not withstanding, there is at least one cruise in the Mediterranean already scheduled for this. :-)

>Although the event is rare, personally I am not excited by the prospect of seeing a tiny dot crossing the sun. Good luck to all who feel differently.

I felt the same about Mercury transits and was surprised at how interesting I found my first one (fortunately occurring at home). But a TSE it ain't.

Mike Simmons

From: Evan Zucker

>Since the event will be visible from about half the world, I doubt if anyone will charter a ship just for this.

I agree about the charter, but a cruise ship may remain a good idea for the mobility of being able to search for clear skies.

(Continued on page 25)

SETalk

>Although the event is rare, personally I am not excited by the prospect of seeing a tiny dot crossing the sun.

In view of the costs of travel from the west coast of the U.S., I'm inclined to agree, especially since I've already seen a transit of Mercury and expect to observe more of them. A quick and dirty and relatively cheap option is to try to observe the end of the transit from the east coast of the U.S., although weather could definitely be a problem. And there's always 2012. -- EVAN

From: Robert B Slobins

And I have this vision of setting up the equipment near one of these islands' restaurant's open-air section and working the transit while having breakfast and lunch... cheers/rbs

From: Robert B Slobins

Dale: To overuse Joe Rao's quotation---"Climate is what you expect; weather is what you get", I have to say that although being on a nice island in the Aegean on 8 June would be great, there is always the risk of being trapped in a cloud zone.

So, I lean in your direction although I would love to be munching on feta cheese, bread and dolmathakia while working this event from a Greek restaurant's patio. (A caution, these islands tend to be overrun with cats, and if you make friends with such cats, they will tend to rub themselves on your tripod's legs, so a water pistol may be required.)

And I know of your experience with Coronado. I have had good luck with them, however. (I wonder how Vic Winter is doing with his product.) cheers/rbs

From: Robert B Slobins

Mike, It had to be a case of being at the right place at the right time doing the right thing. Now one needs to pore through oriental archives and determine when these transits occurred--to match any suspicious entries then with the transit information derived now. cheers/rbs

From: Mike Simmons

Robert, An interesting question. There's no evidence that anyone observed a transit of Venus before the invention of the telescope. There is speculation but without records there's no way to know. It seems hard to believe no one *ever* saw it but it's possible. Even the first Venus transit after the invention of the telescope and Kepler's work on the planetary orbits (probably the first that could be predicted) in 1631 it appears no one saw it since those that had telescopes and aware of it were clouded out and there are no reports of success. The 1639 Venus transit had two know successful telescopic observers. While there were a lot of observers at the Venus transits occurring since then, there have only been four so far -- two each in the 18th and 19th centuries and none in the 20th. Mike Simmons

From: Crocker, Tony (FSA)

Jay Anderson's Mediterranean weather table lists 2 Greek Islands, and the prospects are excellent for both, better than anywhere on mainland Europe. So the original Greek Island suggestion was very reasonable. And a 6-hour long event is less weather-critical than the typical central eclipse frenzy, though the ingress/egress are more time constrained.

The Venus transit falls into the "attraction of the region (what it has to offer to us before and after the event)" category for me. So I'm rather likely to end up in Italy or Greece, both of which my wife is eager to visit on their own merits.

From: Dale Ireland

Robert I agree it would be better to be on land just because it is so much easier to keep the Sun in the field of view. Full disk imaging from a ship is relatively easy and the exposures will be short enough that there is no problem there. Just high

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resolution imaging would be tough. I don't think you could have a cruise ship that could pick a clear port at the last minute to put you on dry land however. Any sizeable ship needs prior permission and arrangements made at a port for mooring and/or disembarking passengers, not something you can do on a couple hours notice. I would lean towards finding an area with good highways for moving around in the last few hours. Also, there are other H-A filters besides "Coronado" ;). Dale

From: Jay.M.PasachoffSENL200307williams.edu

Kepler in 1607 thought he was observing a transit of Mercury, though it turned out to be a sunspot. When Gassendi saw the first truly observed transit of Mercury, he thought at first that it might be a sunspot.

On the previous e-mail about observing the transit from a ship: one of the most interesting things to do is to see the black-drop effect and the scientific thing to do is to time the ingress to and egress from the solar disk of Venus. The sad story of Le Gentil and his frustration in having to observe the transit of 1761 from a ship, on which is pendulum clock didn't work, preventing him from timing the event, is well told in a series of stories by Fernie.

See my reviews of four books about the transits of Venus by Eli Maor David Sellers Patrick Moore and J. D. Fernie at http://www.pbk.org/pubs/Keyreporter/Spring2003/Spring%20Issue.pdf on the final pages of that issue of the Phi Beta Kappa Newsletter. I can recommend them all.

We maintain a page with information about transits of Venus and our observations with the TRACE solar spacecraft of the last transits of Mercury at http://www.transitofvenus.info. Jay Pasachoff

From: ccmarlot

Dear friends, There is a paper in the Monthly notices of the RAS, nov 1882 by the rev. SJ Johnson about a possible transit of Venus observed in Assyria. A broken tablet was found which should be translated as "The planet Venus ... It passed across ... The Sun" Christophe

From: K. Wiersema

I can defintely recommend Pic du Midi. I observed with the Telescope Bernard Lyot (a 2 meter telescope) at the Pic du Midi a year ago, so I stayed there for three weeks, from the 11th to the 29th of june. We had just two fully overcast nights in that period. There was just one day in that period that was fully overcast. On june 8th there was still a lot of snow on the mountain. The Pic du Midi observatory is a big observatory and is located on the top of a beautiful mountain at 2880 m above sealevel. The view there is breathtaking, and there are plenty of facilities for tourists (a lot of tourists go up the mountain to see the view of Pyrenees). There are a lot of telescopes (professional as well as amateur) on the mountain, among them 2 solar telescopes. I'm sure they'll organise something for the transit. The URL of the Pic du Midi observatory: http://www.obs-mip.fr/omp/Pic/ Greets, KLaas Wiersema

From: Robert B Slobins

Klaas: This sounds good. However, since weather is what we get, if I am staying in the Pic du Midi area, how far can one drive in a 24 hour period from Pic du Midi, in case of clouds? cheers/rbs

From: Robert B Slobins

Christophe: Now my question is: How did they identify this object as Venus? Did these ancients keep good-enough records on planetary motion so that they could account for Venus' location? Did they have any form of an ephemeris for forecasting planetary positions back then? cheers/rbs

From: Michael Gill

The reference Christophe cites can be viewed at the following URL:

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http://adsbit.harvard.edu/cgi-bin/nph-iarticle_query?bibcode=1882MNRAS..43...41J

To attempt to identify certain possible transit dates that match the "before the sixteenth century B.C." criteria go to Fred's Six Millennium Catalog:

http://sunearth.gsfc.nasa.gov/eclipse/transit/catalog/VenusCatalog.html

Fred's catalog goes back to –1999. Certain events can be ruled out (e.g., as the entire transit would not be visible from Babylonia).

Fred also has a useful online feature to see which events could have been seen in their entirety from Babylon. Just go to the following URL:

http://sunearth.gsfc.nasa.gov/eclipse/transit/catalog/VenusTransit1.xls

And then amend the latitude to 32.5 and the longitude to 44.5 (approximate co-ordinates of Babylon). Where a transit contact could be seen from Babylon the spreadsheet cell is coloured yellow. Where the contact occurred below the horizon, the cell is coloured grey. Great tool Fred. Cheers, Michael Gill

From: George Madden

I'm thinking Egypt. Not only do we get the transit, there are the Pyramids, the Nile, Aswan, and I get to see my mummy.

Everywhere seems dangerous these days, particularly if one is an American (local issues notwithstanding). In Venezuela (1998) we were strongly advised not to leave the hotel after 9 pm. And in Coro, there was a parking lot guard at the hotel packing a machine gun each night. Just a few days before we left for Turkey in 1999, there was a bombing in a cafe around the corner from the hotel we stayed in Elizig. I believe there were several casualties. Those who went to Angola (or whatever they call it at the moment) in 2001 had no problems that I am aware of.

So . . for me, 'dangerous politics' is relative and not necessarily a contraindication for travel. One must be prudent, but I wouldn't dismiss any possibilities merely for this reason. In fact, I'm thinking of Libya for 2006 (point of maximum eclipse!) George Madden Rochester NY USA

From: Mike Simmons

And I wonder how they would know that Venus could (and would) come between Earth and the Sun. Did they know it was possible? I'm afraid I'm not up on my ancient Assyrian astronomy. Mike Simmons

From: K. Wiersema

> This sounds good. However, since weather is what we get, if I am staying in the Pic du Midi area, how far can one drive in a 24 hour period from Pic du Midi, in case of clouds?

That's a bit of a problem. To get to the summit of the Pic du Midi de Bigorre you need to take the "telepherique" (a cable-cart), which takes approx 30 minutes. The telepherique goes up and down the mountain about 6 times an hour, starting at (if I remember correctly) 8 a.m. It's possible they start their service earlier at transit-day. On the base of the mountain is a small village (ski-resort in winter) called La Mongie, which houses the starting point of the telepherique, and has a lot of big hotels. The name of the village might ring a bell: the finish of one of the "etappes" of the Tour de France was there. The road to La Mongie leads from Tarbes to La Mongie and is a small road, passing over a number of famous cols, like the Tourmalet. You can't drive faster than 80 km per hour there. >From Tarbes northwarts there's a highway. By the way: Tarbes / Lourdes has an airport. I travelled from Toulouse, which is also close by. The Pic du Midi is located at the start of the Pyrenees, roughly in the middle in the east-west direction. Mind you: the weather in La Mongie is totally different from the weather at the summit of the Pic! The Pic du Midi is located above a layer of the atmosphere that prevents clouds from ris-

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ing (I don't know much about meteorology). The observatory is at the summit because of the great seeing-conditions: down to 0.3 arcsecs in the morning and afternoon, the observatory is at 2880 meters. I have often experienced thick layers of clouds beneath the terraces of the Pic (so cloudy in La Mongie) while the sky was clear on the summit. I think the people on the Pic might have some better meteorological data. There is a small (but nice) museum at the observatory, it aslo has a website with very beautiful pictures: http://www.picdumidi.com.fr/ Cheers, KLaas Wiersema

From: Sheridan Williams

It occurs to me that it would be quite a good idea to watch the 2004 Venus Transit from the same loaction in Antalya as one would use for watching the 2006 total solar eclipse.

I know they are in different months, but it would allow people to check out the lie of the land. Best wishes

From: AlcovedbaseSENL200307aol.com

Hi, Then that makes two of us. I am planning to be in Antalya (or environs) for both the transit '04 and TSE '06! Hope to see you around. Clear skies! Haldun I. Menali Boston, MA http://members.aol.com/astroalcove/index.html

June 30th 1954 TSE

From: Michael Gill To: "SOLARECLIPSESSENL200307AULA.COM" <SOLARECLIPSESSENL200307AULA.COM> Date: Sun, 29 Jun 2003 18:28:13

Monday is the 49th anniversary of the 1954 TSE. The BBC web site is soliciting eyewitness accounts of the June 30th 1954 TSE for their "ON THIS DAY" feature:

http://news.bbc.co.uk/onthisday/hi/witness/june/30/newsid_3004000/3004636.stm

http://news.bbc.co.uk/onthisday/hi/dates/stories/june/30/newsid_3000000/3000176.stm

There must be a few on the SEML who saw either totality or the partial phases of that eclipse.

The BBC appears not to know about the Metonic Cycle - they don't ask for accounts of the June 30th 1973 and June 30th 1992 TSEs.

http://sunearth.gsfc.nasa.gov/eclipse/SEplot/SEplot1951/SE1954Jun30T.gif
http://sunearth.gsfc.nasa.gov/eclipse/SEplot/SEplot1951/SE1973Jun30T.gif
http://sunearth.gsfc.nasa.gov/eclipse/SEplot/SEplot1951/SE1992Jun30T.gif

Cheers, Michael Gill

From: Robert B Slobins

Thanks, Michael. I just taught the BBC about the Metonic cycle and put in my remarks about the eclipse of 30 June 1973.

A note on this one: Before I left, I checked a climatological atlas that included the Mauritania area. It turned out that 30 June was on average the rainiest day there. Guess what happened?

There was a disturbing spread of altocumulus over the sun before totality, but we all did see totality after all. Five hours later, the temperature, after being held to 37 C, soared to 51 C (124 F). This was a shade temperature and stands as my personal record. Two hours after that maximum, a sandstorm blew up and then it rained. We were lucky. cheers/rbs

From: Gerard M Foley

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Thanks for the reminder. A short account of my family's visit to the center line is at http://home.columbus.rr.com/gfoley/eclipse.html

The reference above also has an account and pictures of the cruise my wife and I took to see the June 30th 1973 eclipse.

1954 was number two, 1973 number six of my nine trips to centerlines. Gerry

From: Kidger

I don't quite understand this mailing. The Significance of the June 30th 1954 eclipse over the other ones cited is that it was the last one visible from the British Isles before the August 11th 1999 eclipse. That is why the BBC picked up on it and not on eclipses that were not even visible from the UK (okay, the 1973 eclipse was just partial on the south coast of the UK, but that is not a news story). The BBC is still the BRITISH Broadcasting Corporation.

As you will notice, the August 11th 1999 eclipse is one of the "On this day" picks for August 11th and is linked from the page.

Mark Kidger

From: Michael Gill

Since it is the thirtieth anniversary of the 1973 TSE, some might be interested in the following:

"World Off Road" ran an article in August 1999 to coincide with the total solar eclipse in Cornwall that month.

The article concerned the logistical support of a 1973-eclipse expedition in Mauritania.

Although it was short on eclipse content and long (as you might expect) on 4x4 motoring, it does successfully convey the problems that expeditions in such remote regions encounter. There is a lot of groundwork required to get tonnes of scientific equipment to such areas.

The article can be read online at...

http://www.worldoffroad.com/travel/eclipse.asp

http://www.worldoffroad.com/travel/eclispeappd.asp

Interestingly, the temperature rise mentioned by Robert Slobins is borne out by the table of temperatures displayed on the second page linked above. The data point for 18:00 on June 30 showed the highest temperature of those recorded (higher even than those temperatures recorded at 12:00 during their stay). Cheers, Michael Gill

From: Michael Gill

True enough. I take your point about the other eclipses, especially the 1992 event that wasn't visible from the UK or reported on there.

Non-British witnesses to the 1954 event shouldn't be dissuaded from contributing to the BBC web site however. An offering by a Georg Larsson, Sweden is published. Michael Gill

From: Kidger; Mark R.

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The BBC website now has an international edition and uses eye-witness accounts from abroad very widely now in reporting news events so I would very much encourage people to send their reports. My point was just the uniqueness of this event from the British reporting perspective. Mark

Beijing olympic eclipse

From: Matthias Graner To: SOLARECLIPSESSENL200307aula.com Date: Tue, 01 Jul 2003 21:39:21

Decision by the IOC executive board, meeting in Prague this week: The Beijing Games will now be held from 8 to 24 August 2008. Matthias

From: Evan Zucker

You do a heck of a good job in following up on old messages! It appears that these dates are a significant change from what was previously expected. Looks like there will be 17 days between the total solar eclipse and the Opening Ceremonies. -- EVAN

From: Crocker, Tony (FSA)

7 days: the eclipse is on August 1.

From: Evan Zucker

I believe it's July 22: http://sunearth.gsfc.nasa.gov/eclipse/SEplot/SEplot2001/SE2009Jul22T.gif -- EVAN

From: Mike Simmons

Wrong eclipse. That's 2009. Look at 2008 when the Olympics are held. Mike

From: lloyd.franklinSENL200307boeing.com

It's July 22, 2009, the year after the Olympics. Flights and hotels should be available by then. - Lloyd

From: Evan Zucker

Oops! Mea culpa. I've been so fixated on the long 2009 eclipse in the Far East that I automatically thought of that one. Thanks for setting me straight. -- EVAN

From: Crocker, Tony (FSA)

China is the likely land viewing spot for both eclipses. But 2008 passes through the Gobi Desert with presumably decent weather. 2009 will attract many for its duration, but I believe weather prospects are poor and mobility will be highly desirable. Jay or Fred can feel free to substitute facts for my opinions on weather.

From: Robert B Slobins

Regarding China: I may pity the athletes. The air pollution in China can be nasty.

I knew people who spent several months in Shanghai and Beijing setting up telecomm infrastructure. What was notable was pollution so bad at times one could not see more than a city block, say, 100 metres ahead! This is not good for eclipse chasers!

I went through something like this in Texas in 1998. El Nino created a drought so bad that the fires burning down the Yuca-

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tan covered our skies with smelly and smoky haze. At times, the streetlights went on in 'broad daylight'.

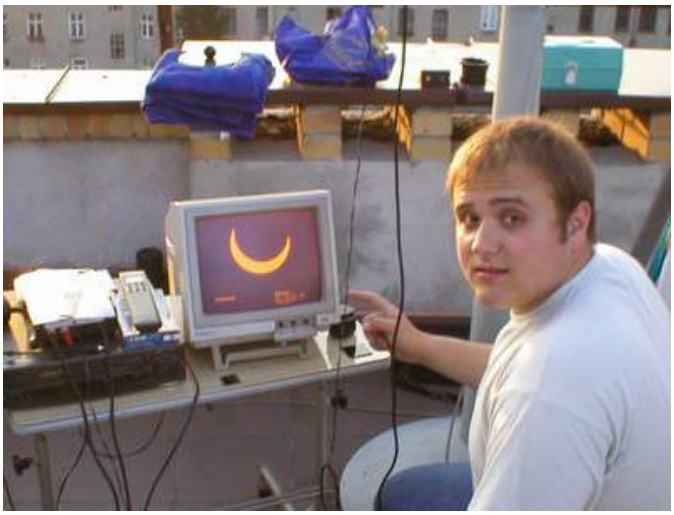
We need to consider this in 2008 and 2009. The desert may work. As the monsoons are from the south, which will drench India, the lee side of the Himalayas may work very well in 2009.

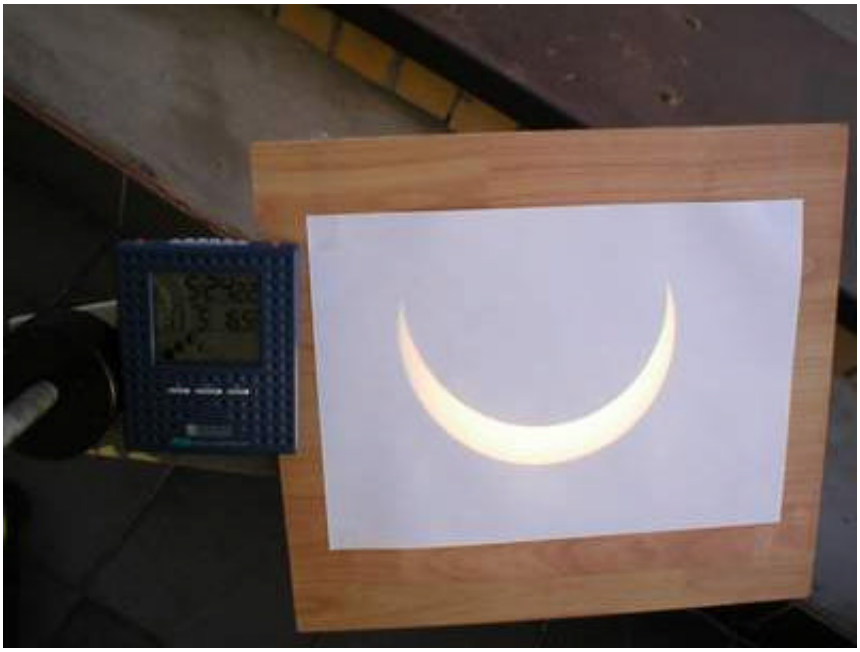
There is also the potential for a typhoon in the Pacific in July. That would ruin our day on board. :-) cheers/rbs

Picture from Poland

From: PaweB Max Maksym To: solareclipsewebpagesSENL200307btopenworld.com Date: Sat, 21 Jun 2003 13:11:47

Hi! It's some picture of last Solar Eclipse made in Lodz Observatory by Pawel Maksym. (Olympus 120 C - Digital Camera + (sometimes) Tal 1 M telesope) Sunny Sky - Pawel Maksym





All pictures by Pawel Maksym

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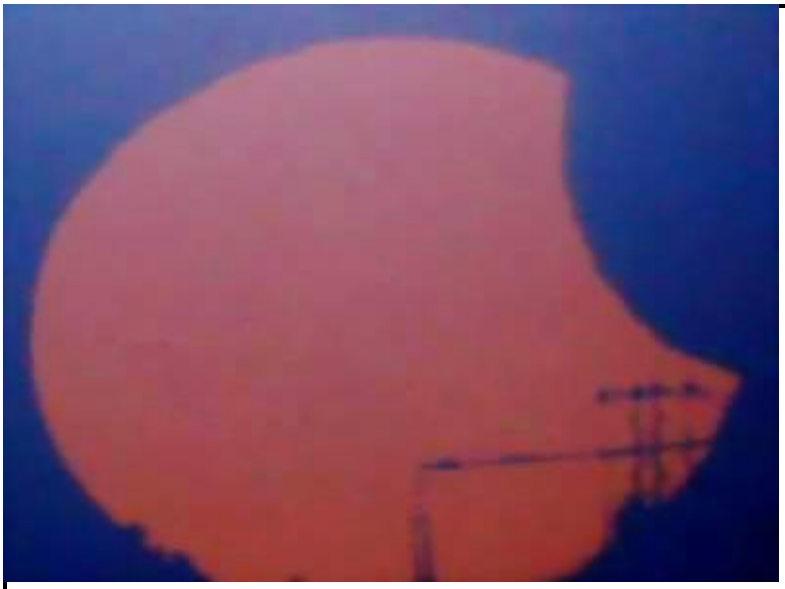

All pictures by Pawel Maksym, Poland

Solar viewing equipment ban / request for help

From: Starfield Scientific To: SOLARECLIPSESSENL200307AULA.COM Date: Tue, 10 Jun 2003 13:20:12

The situation at the moment is that the ban has been lifted. The Western Australia Product Safety Committee banned ALL solar viewing devices for a one month period to cover the eclipse. This means that a telescope supplier could be fined up to A $5,000 for selling primary solar filters, h-alpha filters, eclipse shades, or any other device used for solar observations during the ban.

Some of you are already aware of the absurd battle we had with the media and health authorities in South Australia in the few days leading up to the December 2002 TSE.

For those of you who aren't aware I can easily describe the situation as a bureaucratic nightmare.

A study was performed after the eclipse and 5 people were found in the southern Adelaide area with mild forms of solar retinopathy. The Department of Human Services (the government agency I blame for the whole debacle) said it was "less than we expected". Given that it was arguably their fault that these 5 people received eyesight damage in the first place, I'd say that it was several hundred cases less than expected.

The only thing that protected the population from wide spread eye damage was a pure stroke of luck...most of Adelaide was under think cloud during the eclipse.

I was in Adelaide the week before the eclipse with an eclipse safety stand set up in the largest shopping mall advising people of the risks and selling Eclipse Shades. Over 5 days I'd estimate we advised around 1,000 people about eclipse safety, with only about 5% of those having any rudimentary knowledge about eclipses in the first place.

There were no ads on TV or radio, or in newspapers advising people of the dangers. Despite our best efforts the whole country was virtually uneducated about the risks.

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The SA Tourism Commission did a better job protecting the public than all the health departments put together.

I currently have a bitter fight on my hands to retain the right to sell Eclipse Shades in Australia. The WA people have already advised me that they are considering imposing the ban again during the partial phase of the November 2003 TSE. I wouldn't be surprised if the other states follow suit.

The only evidence against eclipse shades that these organizations can point to is an abstract published on the RCO web site http://www.rcophth.ac.uk/congress/2001/abstract14.html

I am in contact with the RCO to determine if these "claims" have been proven, but I doubt that they have. Anyone familiar with this issue can poke holes right through this abstract and back again.

While I would agree with most people that eclipse shades aren't the whole solution to the problem, I'm sure that I would be correct in saying that they are still a vital part in protecting the public against their own curiosity. Take Eclipse Shades away and we will have eyesight damage in the hundreds, as was recorded in Australia in the days before Eclipse Shades.

I am requesting help from all those people who can backup the role that eclipse shades play in public safety.

What I need to fight the bureaucracy are statements from individuals and organizations to highlight the benefits of supplying eclipse shades and correct education about eclipse safety based on the advice issued by the IAU.

I am completely out-gunned at the moment and need some "big guns" from the international astronomy community to support my fight. As I said, I have only been following the advice issued by the IAU regarding eclipse safety. I have not proposed any radical ideas, just tried and proven education and protection.

Please note that this fight may escalate into a court battle, and any statements could end up in court to help support my case.

For those of you wondering why I am doing this, it's not to make money from the sale of eclipse shades...and hopefully those of you on the SEML that do know me can back this up. The next TSE in 2012 through Darwin and Cairns would see the same disaster on a massive scale. I'd like to prevent this from happening and bring a bit of sense and intelligence back to eclipse preparations.

Any assistance that can be offered is appreciated. I'd prefer that we did not clog the SEML with this issue, and further correspondence can be sent to me directly.

Here's hoping that common sense can prevail. Kind Regards David Finlay Secretary - Wollongong Amateur Astronomy Club Starfield Scientific & Photographic Services

From: Marc Weihrauch

Dear David, dear friends, That abstract actually supports your and our viewpoint, that eclipse shades are indeed necessary for a safe observation! It says "All had observed the eclipse with the naked eye, via sunglasses, or claimed that their 'eclipse viewer' spectacles had slipped." So either the injured persons did not use their filters properly (the shades actually cannot slip, and if they do any intelligent person will immediately look away - direct sunlight for that fraction of a second should not do real harm; perhaps they used binoculars in conjunction with the shades?), or they did not use any filters at all. Therefore, all these eye injuries could have been prevented if those persons had heeded the warnings and information regarding safe solar observations. Cheers Marc

From: Fraser Farrell

David also mentions recent press reports here of a post-eclipse survey by the Australian opthalmologists. Five confirmed cases of eye damage from the Dec 4 TSE; reportedly none of them serious or permanent. None of the afflicted were using eclipse shades, and the report I read didn't mention when or for how long they looked at the sun.

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As I have said in private email to David, I find it difficult to believe that the eclipse shades can just "slip off"; unless the wearer has missing earlobes or a very flat nose or something. The common problem of someone who also wears prescription glasses is easily overcome by holding the eclipse shades over the front of the glasses. Or, like about two dozen of my party of eclipse tourists figured out for themselves, using tape or paperclips or rubber bands to fasten the eclipse shades to the glasses.

Readers may also recall that we have one well-documented case (in Germany during the 1999 Aug TSE) of eclipse shades staying -on- the wearer's face during the violence of a fatal car crash!

My four year old niece managed to keep her (adult sized) eclipse shades on at Lake Everard - in that blustery 60-70km/h wind - by the simple expedient of placing her hands on the sides of her head, over the arms of the shades. She understood the safety instructions when they were read out to her. My sister tells me that my niece nagged everyone near them about wearing their eclipse shades...

Does this mean that my niece is a genius, for understanding eclipse safety instructions? Or does it mean that some adults require constant supervision for the simplest activities? I suspect the latter. cheers, Fraser Farrell

From: Jay.M.PasachoffSENL200307williams.edu

I actually prefer to use and recommend flat pieces of filter material held in a rectangular holder and held up by hand. When I have eclipse eyeglasses, I often cut or tear them in half and give each person only one half. If people are holding something up rather than wearing them, they pay more attention and, I think, are more likely to look for only a few seconds, which is appropriate. Jay Pasachoff

From: Starfield Scientific <davidSENL200307starfield.com.au>

Jim, The ban was in Western Australia, whereas Adelaide (where I was selling the bulk of eclipse shades) is in South Australia. I had supplied a few hundred shades to a telescope shop in WA and they had to stop selling all their solar viewing equipment. As far as I know WA was completely unprotected, and they saw all the partial phase of the eclipse, up to about 85%, from start to finish before the sun set. No study on eclipse blindness was performed in WA.

I had already spoken with the product safety people in SA and once I supplied them with my laboratory test data on eclipse shades they said they couldn't find anything wrong with them.

I had also spoken on numerous occasions with the department of human services, and sent them samples of shades along with the test data. They never once informed me that they had a problem with the shades and they were aware that the product safety people didn't have a problem either. They also didn't indicate there was any problem with the shades in their press releases issued months before the eclipse.

What they did do is wait until the week before the eclipse to drop their bombshells, telling the media that they felt the shades were unsafe and said that 4 people in England were hurt using them. The media went to town and did a complete front page write-up, using the ban in WA as well, saying that "Eclipse glasses can hurt your eyes".

I tried defending my position but by this time it was too late.

>From what Ralph Chou tells me their claims based on the RCO web page are completely without any shred of evidence, and do not differentiate between eclipse glasses and welding filters.

A common problem I observed during this eclipse was that some Australian "experts" were claiming that welding filters could be used but did not state what density filter was required for safe viewing. I saw many people using welding filters, and when I asked them what density rating it was they had no idea. Turns out they were filters designed for ordinary spot welding, not the shade 14 high density filters that are recommended.

So the 4 people they refer to in the RCO study may well have used low density welding filters.

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I would not be surprised if the WA safety people placed their ban on solar viewing equipment because of what the DHS was saying.

When you look at what has happened in this situation it really is insane. People in high government positions who had no idea what they were talking about held control over the entire situation. Astronomers both local and international were completely ignored.

I will be contacting the DHS in the next few weeks with the information I am collecting. I will keep the SEML informed of my progress. Regards David Finlay

You wrote, "I was in Adelaide the week before the eclipse with an eclipse safety stand set up in the largest shopping mall advising people of the risks and selling Eclipse Shades."

So, how did you manage to avoid getting busted and having to pay the A$5k fine? I'm not trying to give you a hard time; this could be useful in the USA in 2017. Jim Huddle

From: Darren Osborne

Whilst being a supporter of eclipse shades I do not agree with some the statements that David has made to the list regarding the last total solar eclipse.

To put into context I work for the Commonwealth Scientific and Industrial Research Organisation as a science magazine Editor and communicator, and I coordinated a webcast of the eclipse from Ceduna. We worked closely with a number of amateur astronomers, our own scientists, South Australian Government Departments and the Royal Australian and New Zealand College of Ophthalmologists (RANZCO). We felt it was best to put forward a consistent message to the public from all Government Departments. The message we promoted in the end is on our website at http://www.csiro.au/helix/eclipse/solar/viewing.html

Let me address some of the issues

> A study was performed after the eclipse and 5 people were found in the southern Adelaide area with mild forms of solar retinopathy.

I spoke with Dr Angela McLean from the South Australian Department of Human Services as recently as last month and there was no record of any eye damage. Could you please provide a source for this information.

> There were no ads on TV or radio, or in newspapers advising people of the dangers. Despite our best efforts the whole country was virtually uneducated about the risks.

This is certainly untrue. There were numerous news stories and articles in Australian newspapers, including The Adelaide Advertiser. Many (if not most) of these articles included methods for safely viewing the eclipse (pinhole being the most widely promoted). Our group alone generated close to 100 newspaper stories nationwide and several hundred radio and television spots.

> Please note that this fight may escalate into a court battle, and any statements could end up in court to help support my case.

I hope that this does not happen. It would be pointless to see both sides go to 'war'. There are many within Government Departments sympathetic to eclipse viewers and want to see Australian Standards developed, but as with everything in the public sector, these processes take time.

Admittedly what happened in Australia (particularly West Australia) was unfortunate. The truth was, everyone was caught out by the 'suddenness' of the event. No one planned for it and rather than rushing in new standards, a minimalist

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approach was taken. This will happen again in November, as there has not been enough time to work on the problem. When it was realised that Safety Standards for sunglasses didn't exist in this country it still took five years for them to be developed. These things are not 'slapped' together.

Another problem was the promotion of the solar viewers safety. There were a range of solar filters that claimed to have passed the Australian/New Zealand safety standards 1338.2 and 1338.3. These standards have been developed for welder's masks and are not designed for the purpose of testing solar filters. Because of this they couldn't be promoted by Govemment Departments as 'safe' options as the standards were being applied to something that they were not directly developed for.

You must also take into context that Australia places a high emphasis on public safety and health (look at our anti-smoking laws) and litigation due to negligence is reaching high levels.

I believe jumping up and down and causing a 'stink' will not help the cause. Although it will take time, it will happen. Darren Osborne Canberra, Australia

From: Gerard M Foley

If these standards relate to the protection of arc welder's vision, then there is no reason whatever for considering filters which pass them unsafe for solar viewing (oxyacetylene torch welding is another matter). The light from arc welding is more likely to cause eye damage, because of the ultra violet, which from the sun is attenuated by the atmosphere. Also, the welder's job requires a much more extended view of the bright source than does the casual eclipse view. Gerry

From: Starfield Scientific

I started to make a reply to Darren's letter and before I knew it I'd written 5 pages. I don't think the SEML is the place for starting a slanging match, so I'll refrain from publishing it. The situation last year was very complicated and is difficult to describe by email anyway. I could have rambled on for another 5 pages and still not talked about everything.

Besides, a lot of you were in Australia for the eclipse and would have witnessed the things I have talked about for yourselves. This was obvious from the many emails I received offering support.

I think Fraser Farrell summed the situation up best (as he often does) in his report to the IAU Working Group on Eclipses. The report can be viewed about 2/3 the way down the page SENL200307 http://physics.open.ac.uk/IAU46/newsletter58.html

A small modification will be made to the report shortly; Fraser mentions that I have been considering taking the WA Product Safety Commission to court over the ban on solar viewing devices, however this has never been my intention. In fact I have been working closely with them, and other relevant organisations, to make sure that what happened last year doesn't occur again.

The only people who have to fear me taking them to court are those who are guilty of doing something wrong. Regards David Finlay

From: Robert B Slobins

Dale, thanks for your reply. I was nine years old in 1963. I clearly recall the publicity of the total eclipse through Maine. I remember all of the instruction about not staring at the sun, even in deep partial eclipse, and plenty of coverage on 1--methods of solar image projection 2--filtration using #14 welders glass and 3--using black and white negative film developed to D-max. Even as a boy, I would have not have trusted Herschel wedges and certainly not those little solar filters that fit into the eyepieces of cheap telescopes. The publicity was very clear on what to do and how to do it.

Incidentally, there were mostly broken clouds over New England dense enough to cloud out totality in some locations and provide adequate filtration of the partial eclipse in many others.

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SETalk

There were other widely-viewed eclipses in the past for the United States: 1900, 1918, 1925, 1932, 1945, and 1954. I recall reading accounts of them in newspapers and how the stories covered the subject in a similar fashion. Furthermore, the incidence of eclipse blindness was quite rare, indeed.

After 1963, there were the 1970, 1972, 1979, and 1984 eclipses also widely viewed, with similar stories on how to prepare for viewing them. There were metallised glass and mylar filters available by that time. I wonder how many people got blinded from the event.

The change occurred in 1994. I read of many stories where schools were locked down for the eclipse to prevent the students from witnessing the spectacle properly. America was no different than India when it came to eclipse terror. Contrast this with Thailand, which made the study of the 1995 total eclipse a required subject in the schools.

In Lusaka, most people knew of the dangers of looking at the sun directly and were willing to pay exorbitant prices for the scarce Mylar filter glasses. I spent about an hour instructing the hotel staff on how to look at the 2001 eclipse's progress using projection methods as simple as looking at the sidewalk under a tree or projecting solar crescents through pinholes made by simply crossing one's fingers. When I returned to the hotel late that afternoon, everyone was very happy with the experience--they saw totality and none were blinded.

I am sorry, but one can not eliminate risk. There is a growing issue with counterfeit drugs, despite the mountains of regulations concerning drugs. Yes, one may take a counterfeit drug and die. One may use a counterfeit filter, with a counterfeit certificate, and get hurt. I suspect that the growing insistence on third-party certification of everyone and everything is going to cause even more grief. There is always blowback.

Ralph Chou has made quite an effort in investigating the characteristics of solar filters. This was not his research mission; he was studying industrial eye safety and it just happens that he is not only interested in astronomy but also an eclipse chaser. If he says that a filtering device is safe or not, I would trust him. He`is also putting his own eyes on the line when he is in the path of totality.

We are looking at a group of spiritual defectives whose purpose is not ensuring safety. Their purpose is getting recognition and acknowledgement by making trouble or getting in people's way. This is no different than what my cats do, and a spray of water will tell them that they are out-of bounds.

Eclipse chasing, indeed any astronomy activity, requires civilisation to make it successful. (You can't do it and be afraid of the night!) What Western Australia and other in 'authority' are doing is destroying civilisation. We need to make this clear, or we will have a very, very difficult time with doing astronomy in the future.

It is time they back off,or be made to back off. Regulating astronomical equipment is not their business. cheers/rbs

P.S. Oh, I forgot: Did Oppolzer in 1887 not predict the 2002 eclipse? Certainly Meeus, Venderleen and Grosjean published the path in 1965--I finally have the book. West Australia has had at least twelve significant partial solar eclipses with four of them central in the past fifty years.

Yeah, they do come from nowhere. :-)

From: Dale Ireland

ROFL! This certainly reinforces my faith in the government. Kurt Vonnegut couldn't have stated it more clearly.

How can you set standards for a product that was banned because it might not be used. Do current sunglasses standards include provisions for assuring they don't slip down the nose?

Yes, These eclipses just come out of nowhere Dale

(Continued on page 38)

SETalk

From: Stephen Russell

They sure do. One of the lamentable things about this whole safety issue is that _exactly_ the same discussion occurred here in 1976. I remember talking to Roger Tuthill, who's solar filter material had been banned since there were no standards. He was astonished by the ignorance and stupidity of the people who imposed the ban.

26 years later, nothing has changed. The Australian authorities, with who knows how many partial eclipses in between, still haven't worked out the safe ways to view an eclipse. Almost _exactly_ the same press release was released again by the ophthalmologist association, claiming that it is never safe to directly view a total eclipse. The local media, particularly the Adelaide _Advertiser_, simply sprouted rubbish about how people travelling to Ceduna were fools, risking their eyesight forever.

I shake my head in disbelief when I compare this to the situation in Zambia in 2001. The night before the eclipse, they had a very accurate education program on their state-run television. The papers contained excellent information on the eclipse and how to view it safely. Alas, the government had left it a little late to order in sufficient quantities of solar glasses, so many people I met were afraid they would not know when to look safely at the sun. They obviously had understood and heeded the information provided.

The opposite applied in Australia.

So which one is the third-world country? The one that doesn't have an excess of feral lawyers and bureaucrats posing as self-appointed experts, and which believes in telling its citizens the facts. Cheers, Steve.

PS. Any bets that 2012 will catch Australia by surprise too? Or 2028, 2030, 2037 and 2038?

From: Robert B Slobins

Steve: In the so-called 'first world', we have too many people who are on a power trip.

It is true that it is never safe to directly view a total eclipse. The opthamologist did not add "...without adequate protection." Of course, if an opthamologist says that added phrase, but someone does not bother to comprehend it properly, the opthamologist may be held responsible for that someone's inability or unwillingness to listen and understand what was communicated.

It is also never safe, for example, to directly walk out into extreme cold without adequate protection. There are many cases in which we put ourselves at risk and we learn how to reduce the chances of coming to grief in such situations.

We were together in Zambia and I am sure that if you had a copy of the Lusaka Times, you noticed that the paper carried a supplement covering educational subject matter. I recall seeing sentence diagrams and geography lessons therein. Another paper I read on the plane covered trigonometry and the Millikan oil drop experiment. Clearly, being properly educated is a high priority in places like Zambia and Brazil, whereas it is not so important in America and Australia, among other places.

You wonder about 2012. We ought to wonder about 2012, 2017, 2023 and 2024 in the United States! I wonder if these so-called do-gooders would outlaw viewing the 2017 total eclipse altogether. :-/ cheers/rbs

From: Jean Meeus

Yes, of course he predicted it. In his monumental Canon (1887) Oppolzer published the elements for *all* solar eclipses from -1207 to the year +2161. Jean Meeus

From: Starfield Scientific

Not if I can help it. I started educating the authorities early 2002 for the Dec TSE. I obviously didn't begin early enough.

(Continued on page 39)

SETalk

I'm preparing for 2012 & 2028 now (I'm not kidding).

One thing that was funny (if the situation wasn't so pitifuly sad) was that I contacted the Federal Department of Health 6 months before the eclipse. I got passed around from one section to another, with the same response from everyone..."this isn't my responsibility, I suggest you talk to blah blah blah." After 5 months of this I finally found out that the original section I had talked to had been given the responsibility of dealing with the eclipse, and they promptly decided to ignore all my advice and put the whole issue in the too hard basket. They hadn't even heard about the eclipse until I told them.

Every government department I contacted I gave details on how to contact Jay Pasachoff and Ralph Chou so that they could confirm my information. Jay tells me that nobody from a position of authority in Australia bothered to contact him and I'm assuming the same happened with Ralph.

The real issue here is that I don't have any letters after my name (PhD. BSc. etc.) and I'm not associated with any large companies or research departments.

After 15 years of safe solar observing and educating people about the sun and eclipse safety, you'd think I'd know what I was talking about. Besides that, I follow the advice issued by the IAU Working Group on Eclipses. If Australian authorities want to ignore their advice as well then it is no wonder people got hurt from our eclipse. Regards David Finlay

From: Jay.M.PasachoffSENL200307williams.edu

I can take this reference two years farther back, since my wife and I were in Western Australia for the 1974 total solar eclipse, and we railed against these ignorant "danger" statements then. Jay Pasachoff

From: Glenn Schneider

Sorry for some posting redundancy, but for some of those "new" to SEML a quick read through:

http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_76/ECLIPSE_76_SCARE.html

might bring a chuckle, or more likely a tear to your eye (but not for the reasons advocated in some of the linked newspaper reports).

I am still looking for a 4 page newspaper-sized cartoon presentation about the 1980 eclipse done by the Kenyan government called something like "Missionary Joe Explains The Eclipse". This had very simple prose and lots of easily understood explanatory pictures, and was widely distributed to the Massai and others in the Kenyan bush and back country. It was one of the most informative, and well presented of such explanations I have seen designed for a general populace with limited formal education. Unfortunately, my only copy went astray shortly after that eclipse. If anyone should happen to have saved one please contact me as I would very much like to arrange to obtain a copy. Cheers, Glenn Schneider

From: Robert B Slobins

It was pointed out to me that I goofed...

Of course that is not correct. I should have said: "It is true that it is never safe to view directly a solar eclipse unless the moon totally covers the sun." cheers/rbs

From: Joseph Cali

I've read the comments on this topic over the last 6 months with interest without response. I think we are getting a bit radical or a wee bit evangelical about eclipse watching. Does it really matter if the general public does or doesn't look at a partial or total eclipses? After all, the authorities are not telling us that we can't look at it. Even if they did, would that stop us? If people can't be properly educated, isn't it better that they are warned not to look.

(Continued on page 40)

SETalk

Eclipse chasing is not compulsory, at least not last I heard. I wonder whether the sort of people who would read a tabloid like the Adelaide advertiser would be capable of appreciating an eclipse or even want to watch it in the first place. There is plenty of well-researched information on the subject available to anyone who wants to be educated properly. Eclipse filters are readily available to any of us with sufficient expertise. Talk of litigation is really unnecessary though I do appreciate that some people may have lost a money-making opportunity and see this as a way of recouping their losses.

Reading Stephen Russel's comments praising Zambia's eclipse preparations, I think Stephen probably didn't leave the grounds of his upmarket Lusaka hotel. The television campaign in Zambia was great if you had electricity and a television. Eclipse tourists staying in upmarket hotels in Lusaka had both. In the shanty towns out the outskirts of Lusaka and in the villages they are not so lucky.

I am certain that there were no widespread reports of people suffering solar retinopathy in Zambia. But then they don't even have a handle on the number of people who are infected with HIV in Zambia. That sort of data would not be collected and certainly not distributed to the press.

Out in the villages, teachers and villagers received no information from the Govt. TV education is ineffective if you don't have electricity or a TV. Most villages have one TV operated by a 12v battery that is only turned on for Football (Soccer) matches. They have to take the battery to Lusaka to charge it. There was one international match about three days before the eclipse but I know that the message didn't get through in the area I was working in.

I spent the 10 days before the eclipse running a small education campaign in one village 27km north of Lusaka. I lived with one family in the village during much of this period. It was a fantastic experience though some of the food was mentally challenging.

Before I arrived, there was only wrong information circulating like -

- You can watch the partial eclipse safely without filters but you must turn away during the total eclipse or you will go blind.

- Filters can be made from smoked beer bottle glass and silvered sweet wrappers.

Teacher's in the village heard these pearls of wisdom on the radio, their only information source.

My Zambia eclipse report is no longer on my web site. Here is an extract -

Most of the money probably went into making the TV commercials that only reached ~30% of the population.

There was also reference in Stephen's post to "lawyers and bureaucrats posing as self-appointed experts." The old saying that people in glass houses.....comes to mind. With a few notable exceptions, most of the people commenting on this issue, and I now have to include myself in that list, are also self-appointed experts who have no specific qualifications or authority. None of us are held to blame if anything goes wrong. Even though people like Ralph Chou and Jay Pasachoff might be "authority figures", they are not ultimately responsible for public health in their own country let alone foreign countries.

What happens in many countries pre-eclipse is probably not ideal from our narrow perspective. Eclipse observing is not a burning priority for most government authorities. Public health and education tend to top the list in first world countries, military spending and initiatives in the third world. Governments are elected for 3 or 4 years in Australia depending on the part of govt we are talking about. Eclipses miss the election cycle. Even if they happened within it, would anybody care? In any one country, too much time psses between eclipses. they fall off the radar.

Sometimes you have to take a step back and look at the broader picture. The members of this group are enthusiasts (obsessed even?), better educated, wider travelled and better read than the average reader of the Advertiser. Let's not lose sight of the fact that this is a special interest for us. We don't have to turn the whole world into eclipse chasers. I think we need to lighten up a bit on this issue. Joe Cali

(Continued on page 41)

SETalk

From: Evan Zucker

Thanks for the intriguing e-mail. I think you offered a viewpoint that needed to be heard.

They may not want to watch it in the first place due to ignorance -- and that applies just as much to the family members of some members of the TSE list -- but I can firmly state that the vast majority of the people anywhere in the world would appreciate an total solar eclipse given the chance to observe it in person. Nevertheless, your other points are very well taken. Evan H. Zucker

From: Michael Gill

I agree with Joe - last December in Australia the number of people who put themselves into the track of totality was probably less than 50,000 - about 1 in 400 of the population of Australia.

Of course had the eclipse track fallen between Melbourne and Sydney and the event was on a weekend more people would have put themselves out. Even so, if you can only get 0.25% of a well educated population in a major industrialised, affluent, first world nation with good communications facilities to travel to see a total eclipse that had been hyped in advance then it should be evident that it is a forlorn hope to "convert" the majority of non-astronomers into eclipse-chasers.

Don't think for a moment that I'm disparaging those involved in public outreach of solar eclipses. Joe Cali and many others on the SEML devote a lot of their time and energy to educating the public about the delights and the dangers of solar eclipses both in person and on the Internet and I applaud them for doing so. The job needs doing and I'm glad that there are such capable people on this list doing it.

On a lesser scale I, like many others on the SEML, will attempt to enlighten the enthusiastic members of the general public who cross my path on an eclipse expedition.

But those of us who plan our lives around these celestial events would do well to remember that for the majority of people, an eclipse is just a "blip" on their radar once in a while. We shouldn't lose sight (forgive the pun) that there are an awful lot of "them" and only a few of "us" with an eclipse obsession. Michael Gill

From: Joseph Cali

To Ewan, Mike Simmond, Mike Gill and Robert, Nice to know that there are some kindred spirits around. I posted it because I thought the rage and disparaging comments were getting a bit out of hand & tried see the argument from the average persons viewpoint. Obviously like everyone on this list, I'd love the authorities to be on the ball. But then I'm an optimist.

I do agree with Evan that the majority of people who happen to find themselves in the path of totality definitely do appreciate seeing a total eclipse. I was referring to people in an off track city like Adelaide showing enough interest to watch a partial eclipse or getting them motivated enough to travel the 1800km round trip to Ceduna & back. I realise that I didn't make that very clear in my first posting.

For that matter try getting Joe Average interested enough to travel 100km. Two friends of mine were travelling through Germany in August 1999. They knew they would be very close to the eclipse path. I can't remember where they were but it was about 99.5% partial) Despite my explanations, their attitude was, "Well 99.5% is only 0.5% off a total eclipse. If we do travel the 50 km that day, we will miss out on going to the xyz museum." I just couldn't get the message across to them that a 99.5% partial is in fact 100% short of a total eclipse. They were more interested in going to the museum.

One of my friends from Canberra who did make the effort to come out to Cameron corner last December described the eclipse as like seeing the sun slip behind a dark cloud. The other two people who came with him loved it. These are all well-educated people. Some just ain't interested.

(Continued on page 42)

SETalk

Two victories :

On December 3rd, last year I went to talk to the children at Tibooburra School for about 45mins about eye safety. The asked dozens of iintelligent Q's. It was a real pleasure talking to them. One of those children was out at Lindon station at Cameron Corner on the 4th. She had obviously told her parents all about the session at the school. Her parents made a point of thanking me personally for taking the time to talk to the kids. The whole exercise only cost me one 5 minute phone call to the headmaster the week before to arrange it and 45 mins on the day.

My happiest recollection is one from Kapini village in Zambia. One older man from the village told me he thought we (Bengt Alfredsson and I) were a bit crazy coming half way round the world to watch the sun disappear. Why not watch sunset at home. I asked him to wait until after the eclipse and tell me that again. He did come back after totality, tears in his eyes, shook my hand and thanked me for helping him and his family to see it. He said it was something that he would never forget.

Enjoy the victories when they come but accept defeat gracefully. Getting angry does no good at all. cheers Joe

From: Crocker, Tony (FSA)

There were 2 associates from my company who were also on European vacations in August 1999. On August 11 one was in Paris and the other in Vienna, and despite my advance e-mailing them maps and links to Fred Espenak's site, neither traveled the trivial distance to reach totality. Both presumably had the "Well 99.5% is only 0.5% off a total eclipse. If we do travel the 50 km that day, we will miss out on going to the xyz museum" rationale.

From: Mike Simmons

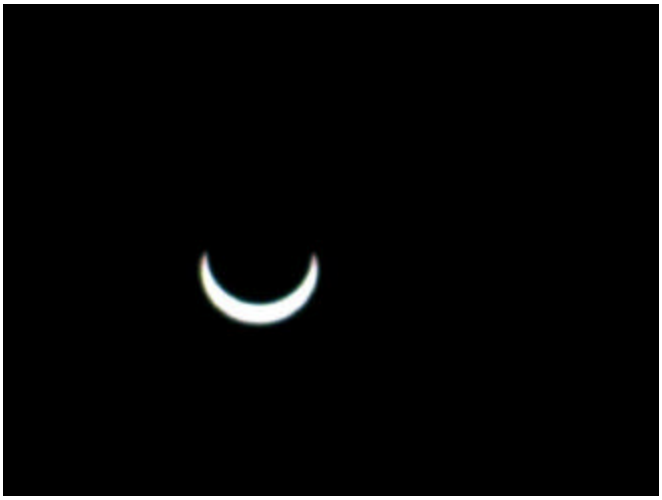
My sister-in-law was in the path of totality of the 26 Feb 1979 morning eclipse but refused to get out of bed to see it. Mike Simmons

Pictures from Poland

From: Jan Sládeèek To: "'solareclipsewebpagesSENL200307btopenworld.com'" <solareclipsewebpagesSENL200307btopenworld.com> Date: Wed, 25 Jun 2003 10:26:55

Dear Patrick, I would like to send you some enclosed pictures of:
1. transit the planet Mercury across the solar disc 7th May 2003 (Camcorder SONY, Digital 8, photographet from TV screen)
2. partial solar eclipse 31st May 2003 (Camera Olympus C-2100) This pictures are not much quality, but I have joy of it. My specialization is more the camcorder, some colleagues more the camera. Yours sincerely, Jan Sladecek

SETalk



All pictures by Jan Sladecek, Poland

ASE 2003

Solar horse-shoe in Holland

From: Wil Carton To: SE <SolarEclipsesSENL200307Aula.com> Date: Mon, 02 Jun 2003 11:14:58

Solar horse-shoe Here in the Castricum dunes there were during the enlengthened twilight some scattered clouds and thin ground fog, that allowed the solar rays to pass through on seven minutes after local sunrise = six minutes after maximum eclipse. I saw an orange 'back slash', that grew to a 'horse shoe' with the points upside left, and decreasing eclipse magnitude. But in Noordpolderzijl in the Dutch province of Groningen there was a magnificent orange solar horse-shoe straight upside on the horizon! The Dutch TV-news showed it, together with the traffic jam of people, attended by the Groningen astronomer Theo Jurriens on the preceding evening TV-news. Wil Carton

From: J.P. van de Giessen

Hi all, Short report from the biggest chicken town of the world.

Very good weather, from the beginning till the end of the eclipse. No clouds at all. Daybreak was very blue and not reddish as expected, the sun was deep red.

And thanks to the local government, who gave special permission to our group for coming together in an area which was closed because of the chicken desease. Jan Pieter van de Giessen

from Reinder Bouma

A brief report of our succesful observation of the May 31 solar eclipse from Delfzijl, the Netherlands with (900 Kb of) images can be found at out homepage (http://www.shopplaza.nl/astro/) under the 'pictures' button. There are also reports of the lunar eclipse of May 16 and some earlier eclipse trips (Australia 2002 and Zambia 2001). best regards, Reinder Bouma

Help - Iceland webcams

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSENL200307aula.com> Date: Sat, 31 May 2003 04:19:32

Hello - it's 5:55 am here in Zimbabwe and I cannot find a webcam in the annularity track which is working - can anyone now online tell me which links ARE ok right now?? Thnx. Francis

From: Evan Zucker

http://www.live-eclipse.org/index.html.en is showing annularity or close to it right now. -- EVAN

From: Dave Schmahl

This one has been active throughout the eclipse.

http://www.live-eclipse.org/index.html.en

The clouds stayed away and I watched full annularity on this link.

From: F.Podmore

Off list I got the following information yesterday, but in my haste this morning I'm afraid I forgot to try the link -

maybe Alessandro can tell us if it was OK from Italy.

The QUESTION: What is the scientific value of observing annular eclipses, if any? Or is it just the 'excitement/beauty/rarity of the spectacle' that motivates eclispe chasers? Francis

ASE 2003

Fogged out in John O Groats, Scotland

From: fred%moonglow.netSENL200307mail1.abac.com To: SOLARECLIPSESSENL200307AULA.COM Date: Sat, 31 May 2003 05:13:00

Hello all, There was thick fog over Scotland at eclipse time, so we didn't see anything of the annular eclipse. I am typing this from the beach at John O Groats, where visibility is currently less than one mile. The fog was much thicker at Duncansby Head. We could all tell that it got dark at the appointed time, but that was the only sign. A group of folks took off in a boat to see if they could get out to sea past the fog but they returned before annularity so I assume things were pretty bad out there.

I hope other locations have had better luck. Fred Bruenjes All the way from San Diego, California, USA http://www.bruenjes.org

From: F.Podmore

And Edinburgh was fogged out too - I've just had this report from my son-in-law.

Hello! We made it up, and we went to Arthurs Seat to have a look, well supplied with food and drink etc. But it was totally fogged out. Totally. We thought at around 4.39 that it had gone darker and we are pretty sure that we were right, but it was really only one shade of grey being replaced by a darker one.

Thank you though for all of the work that you did putting the package together for us, so that we had viewers and maps etc if everything had been better weather-wise. It was much appreciated and a huge stimulus to get out of bed! Next time, hey. Mark

Eclipse report

From: Jay.M.PasachoffSENL200307williams.edu To: solareclipsesSENL200307aula.com Date: Sat, 31 May 2003 07:06:38

6 am, May 31 Jay Pasachoff reports: We successfully observed the annular phase of the eclipse from an airplane at an altitude of 1800 feet, between two cloud banks, 17 km north of the northeast coast of Iceland. Annularity lasted about 3 min 35 s, and we have seen digital photos and videos already, with film left to be developed.

A weather front came into Iceland from the southwest, bringing rain to Reykjafik by the time our Icelandair Twin Otter took off, taxiing at 2:05 local time (local time is the same as UT and is four hours later than Eastern Standard US Time) and taking off at 2:15 am from Reykjavik airport (not the international airport at Keflavik). We flew about 45 min north and landed. We stayed there about a half hour, having some food. The Sun was below some mountains and eventually rose above them but was in clouds. We did see some parts of the partially eclipsed Sun between cloud layers.

We took off at 3:30 am and flew due north, to get ahead of the clouds. Our plane had 19 passengers and a crew of 2. It was piloted by Stefan Saemundsson, the brother of astronomy professor Thorsteinn Saemundsson of the University of Iceland. Snaevar Gudmundsson, an amateur astronomer who had an article about the eclipse in Sky and Telescope magazine, was aboard. Others came from Iceland, Germany, France, and the U.K. We also had a television cameraman from local Channel 2. The annularity was off the right side of the plane, and passengers on the right and on the left side of the aisle (one on each side) alternated viewing during annularity. Right after annularity, the plane turned and we saw the crescent off the left side of the plane. Both Snaevarr and I had Nikon vibration-limited (VR) 80-400 mm zoom lenses with solar filters; his was on a digital Nikon D-100 and mine was on a film Nikon F5.

We landed back at Reykjavik airport at 5 am. Best wishes to all. We hope those on the ground got to see it too. Jay Pasachoff

Jay Pasachoff is Field Memorial Professor of Astronomy at Williams College, Williamstown, Massachusetts, USA, and Chair of the Working Group on Eclipses of the International Astronomical Union. This was his 36th solar eclipse.

ASE 2003

Eclipse report from Belgium

From: Nicki Mennekens To: SOLARECLIPSESSENL200307AULA.COM Date: Sat, 31 May 2003

Hi all, Here in Vilvoorde, the eclipse was great: sunrise was at 5:34, but the sun was behind the clouds until 6:04. From then till 6:28, we had a perfect view of the eclipse. When my father and I were looking at the pictures we took, he saw that he made this photo with his Fuji S602:

http://members.lycos.nl/mennekens/eclips2003.jpg

I know that planes crossing the sun aren't so original anymore (we've had a couple of them the last month), but it's still an amazing shot. My father really didn't know he had caught this until he saw it! Other pictures of the eclipse will soon be uploaded to:

http://members.lycos.nl/mennekens/eclips/engels/eclips03a_en.html Grtz, Nicki

From: Dale Ireland

Beautiful photos from Belgium http://users.pandora.be/create/hotzone/events/evpg.htm Dale

Clouded out in Wick (Scotland)

From: Jean-Paul GODARD To: solarECLIPSESSENL200307AULA.COM Date: Sun, 01 Jun 2003 12:15:05

Hi All, I had a very short trip to Scotland to try viewing the annularity... I was in Wick (Noss Harbour exactly)... We (about 30) waited for the sun which stay fogged... After 4th contact , I returned to south , find a sunny landscape and met a friend from France who successfully saw it....in Dornoch

Martine (my wife) was not with me on this time: 31th of may was the last flight for Air France Concorde: A great eclipse chaser is leaving Http://Concorde.ever.flying.free.fr That was her choice.....

Driving back to Aberdeen, I was listening the news on BBC.... In the headlines, they first spoke about Concorde and later mentionned the Eclipse... Cordialement, Martine & Jean-Paul ("We met in Moon's Shadow") tlouzeauSENL200307noos.fr jean-paul.godardSENL200307noos.fr

Annularity from Tongue, Scotland

From: Govert Schilling To: SOLARECLIPSESSENL200307AULA.COM Date: Sun, 01 Jun 2003 18:17:11

Dear all -- We just returned from a brief trip to Tongue on the north coast of Scotland, where we had a similar experience as Julien Onderbeke described from Durness, which lies a bit farther west. We (my wife, children and myself) went a bit to the northwest of Tongue, where we had a beautiful view over the eastern horizon. The sky above was pretty clear, but there was much fog at the horizon. Before sunrise, just a bit of orange dawn could be seen in the fog. Dawn seemed to last an eternity, as if the effect of the increasing partial eclipse of the sun just offset the effect of the rising sun. Sunrise was not observed, and between 04.30 and 04.45 local time, the sky grew noticeably darker, and birds became quiet.

Then, around the predicted time of annularity, I saw 'something' a bit below a bright patch in the clouds. Using binoculars, I clearly recognized the ring, but it could never be seen as a whole: parts of the ring drifted in and out of the clearing in the fog. Nevertheless, it was a spectacular sight, especially since the surrounding clouds were illuminated so nicely. It also was clearly visible to the naked eye, but again, always in parts. A few minutes after annularity, the sky became clearer, and we could see a bright orange crescent, still partly hidden by wisps of fog. Later on, the partially eclipsed sun was clearly visible. All in all, it was a serene and beautiful sight, and we were lucky to be in the right place. This was my first annular eclipse, and I'm sure I will travel to Spain in October 2005 to see my second.

The next morning, a Scottish (or British?) tabloid wrote 'Mist it?' in its headline, referring to the mist / fog, and giving hints for future eclipses. It also wrote that Patrick Moore and Queen guitarist Brian May were in Tongue, very close to where we were. --Govert http://www.govertschilling.nl

ASE 2003

Sunrise image and artefacts

From: Marc Weihrauch To: SEML <SOLARECLIPSESSENL200307aula.com> Date: Sun, 01 Jun 2003 22:53:24

Dear friends, when I received the prints of my sunrise photos of May 31st I discovered one image that shows something like a tiny green flash. Can you please take a look at astroverein-halle.de/ergebnisse/blitz.html and tell me what you think of it? Are there any artefacts that might fake a green flash? Cheers Marc

From: Mike Simmons

I believe it is a green "flash". While we're used to seeing a very short ("flash") of green from the top of the Sun at sunset I've seen green appear across the top of the Sun for up to a few (three?) minutes before sunset while watching it in a large solar telescope. The appearance is very much like what you have in your image. Note that there is green across the top of the solar crescent to the right of the larger spot and more to the far left edge of the close-up image. I can't offer any more than that it looks very much like what I've seen several times before and I'm convinced it's a real green "flash". Mike Simmons

Success, eventually, near Dornoch

From: Jmeccleston To: SOLARECLIPSESSENL200307aula.com Date: Mon, 02 Jun 2003 01:01:31

Many thanks for the suggestion from a member of the French contingent to try the beach at Embo, near Dornoch. I arrived after midnight, and failed to meet up with the group, but only the security guards at the camping site's centre.

After sort of sleeping in the car, day started dawning soon after 3am BST, and through the haze, the sky seemed quite blue around 4, so I drove the last bit down to the beach through the campsite, where most still seemed to be abed. 'That's a lot of cloud out there on the NE horizon' methinks. The sun's shining on that cloud though. Dawn at 4.32 (so the book says): not a sight of anything phenominal except a cloudy horizon and blue skies elsewhere.

4.45 approaches - Mm, is this going to be the same as Reims in 99? (Which reminds me, where DID my French intermediary get to? I was hoping to exchange memories.) I was taking my eye off the ball (sorry), when a call from a neighbour (others had got up by then) says something had appeared through the cloud. It looked a bit like a large gold engagement ring! Having so far taken photos of clouds for the record, I start taking eclipse photos, and keep on. The annularity was a bit ghostly, but very pleasing to see. The subsequent partial phases were also very beautiful, and hopefully also resulted in some good images.

I used slide film, so have not yet seen the outcome, although I expect some camera shake, as my lens was a bit heavy for my tripod, but not so much as at Plumtree in December, where it was also quite windy.

A final note: there's been some strange reports here: Annularity in Edinburgh? Germany?

Also see todays 'Observer" the UK Sunday newspaper. A report from Orkney says no eclipse was seen, but the party was great! And the caption to the photo on the front page refers to annularity in Scarborough (Yorkshire). Mm, nice photo of a partial eclipse though.

The BBC news also referrred to clouds preventing any sight of the eclipse. Just like southern Africa, when reports said the eclipse was clouded out - including an astronomy mag, no less.

We were lucky with the weather, as it improved much sooner in southern Britain, but then only at the last minute in Scotland, some of it, Then the reverse: on the next day the pilot advises that it is warmer in Inverness than Gatwick, Then arriving back after some holding and there had been a splendid view of some huge storm clouds from the aircraft, and then an excursion over the channel, there was a tropical storm after landing, whilst still taxiing. Jeffrey Eccleston (Mission no 4 successfully completed, or perhaps I should say 3 out of 4. Libya 2006 next for me, I hope).

ASE 2003

CNN/Reuters ASE report and picture

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSENL200307aula.com> Date: Mon, 02 Jun 2003 08:55:47

I've just seen this - perhaps others would like to have a look.

http://edition.cnn.com/2003/TECH/space/05/31/eclipse.reut/index.html

I'm very glad some people had a splendid view. Francis

From: ccmarlot

Dear friends, This report says that some people saw some stars during annularity in northwest Iceland. As we went there and had a pretty good sky (about 90% clear), we didn't saw any stars in the sky, but I have to confesse that I didn't search for them. Despite the fact that the sun was very low and partially hidden by clouds, the light was still very strong. I was told that no stars will ever be visible during any ASE. Did someone here have really seen some stars during an annular solar eclipse ? This report seems doubful ... Sincerely, Christophe Marlot

From: Timo Karhula

Hi Christophe, I think you can see (fix)stars during a very deep annular eclipse (>99%). During the ASE in Western Australia in 1999, I could see both Venus and Jupiter naked eye when the eclipse magnitude was 99.06%. I found Jupiter 10 minutes before 2nd contact. I remember Olivier "Klipsi" Staiger mentioned to me that he saw Mercury (magnitude -1.3). Someone else saw Saturn (mag +0.5) but maybe he/she used binoculars? The brightest star Sirius (mag -1.5) should then be visible naked eye since it is never close to the sun and thus in a darker sky (but more difficult to find quickly). I could not see Venus now from Olafsfjördur because it was behind clouds to the right of the sun. /Timo Karhula

From: John Leppert

Friends, I recall during the 10 May 1994 annular eclipse as seen from Illinois that Venus was easy to spot east of the sun some 10 minutes or so before annularity, and at maximum eclipse Mercury could also be seen between Venus and the sun. After checking the distance between them just now using Guide software, Venus was 27-degrees east and Mercury was 12-degrees of the solar disk. John Leppert Deneb Observatory

Deja View

From: Glenn Schneider To: SOLARECLIPSESSENL200307AULA.COM Date: Mon, 02 Jun 2003 05:46:41

Jay Pasachoff reported: We successfully observed the annular phase of the eclipse from an airplane... ...taking off ... from Reykjavik airport ... piloted by Stefan Saemundsson, the brother of astronomy professor Thorsteinn Saemundsson of the University of Iceland.

No doubt the view of the eclipse by Jay, Thorsteinn, Stephan and others on board was quite different then our view of the Oct 1986 chromospheric "diamond tiara" eclipse: http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_86/ECLIPSE_86.html But reading Jay's words the feeling of deja vu (or jeja view) befell me as it was Stephan Saemundsson who was OUR pilot then, though lofting us (including also his brother Thorstein) from Reykjavik, but to 44,000 ft in a Citation II rather than 1,800 ft in a Twin Otter. Still, it is a remarkable confluence as history parallels if not quite repeats. I wonder if the Saemundsson brothers will pull of a hat trick with the next Icelandic eclipse. Glenn Schneider http://nicmosis.as.arizona.edu:8000

GOOD PHOTO LINK

From: analog6SENL200307oze-mail.com.au To: SOLARECLIPSESSENL200307aula.com Date: Mon, 02 Jun 2003 01:36:28

An excellent photo from Bavaria puiblished in the Sydney Morning Herald today at

http://www.smh.com.au/photography/regular/snapshots/image/2003/06/01/image.html?picindex=0 Regards Odille Esmonde-Morgan Terranora NSW Australia

ASE 2003

Eclipse from Germany

From: Marc Weihrauch To: SEML <SOLARECLIPSESSENL200307aula.com> Date: Sat, 31 May 2003 14:17:01

Dear friends, of course Jay is right: Seeing a partial solar eclipse as compared to a total eclipse is like seeing an opera house from the outside as compared to attending an opera performance. However, many opera houses have a beautiful and impressive architecture which you might not notice when going to the performance, since you have other things on your mind then. So it pays to visit the opera house just for a look at the beautiful building, especially when you come at an unusual time of day.

I have seen todays eclipse as deep partial from a mountain near my home. The sun rose at about 3.00 UT in eclipse of slightly more than 50% magnitude; that was so very beautiful! A slight haze at the horizon only deepened the red colour and prolonged the time for safe visual observation without additional filter.

Less than half an hour later we had greatest eclipse with 86.9% magnitude. While the dawn had appeared darker, weaker than usual just before sunrise, now the sky was a beautiful blue too dark and too deep for this time of day. Feeble golden light was pouring from the solar sickle just 2.5° above the horizon, creating a wonderful colour effect with the deep blue sky and some broken clouds at the zenith. Although it was a partial eclipse only there was definitely a touch of magic there. (In the German press someone had said that the darkening around greatest eclipse would be no more than the darkening due to clouds. Obviously that guy has never seen an eclipse himself!)

That much for now. In the following days I will put a report and some images online. Best regards Marc

From: Jay.M.PasachoffSENL200307williams.edu

I am very pleased to read this eloquent and lyrical report on why it is interesting to see a (deep) partial eclipse.

I write even from Iceland, where I am now enjoying the architecture (and the Internet cafe) in the National Gallery of Art. Jay Pasachoff

From: Marc Weihrauch

Dear friends, a short report of the solar eclipse over Germany with some images is online now at http://astroverein-halle.de/ergebnisse/ase2003.html . It will be extended during the days to come, but perhaps you want to take a look already. Cheers from Halle Marc

Anular Eclipse from Dunnet Head

From: Francisco A. Rodriguez Ramirez To: SOLARECLIPSESSENL200307AULA.COM Date: Mon, 02 Jun 2003 19:04:06

SAROS Group could not register the eclipse from Dunnet Head. A lot fog and clouds .... Best Regards Francisco A. Rodriguez Ramirez www.saros.org

Nearly perfect viewing at Strathy Point

From: heliconSENL200307skynet.be To: SOLARECLIPSESSENL200307AULA.COM Date: Mon, 02 Jun 2003 21:57:03 Hello, We stayed in Wick for the ASE but changed observation point at 03:20 after seeing the heavy mist there. Drove up to Strathy Point (60 km to the east) and where able to view the eclipsed Sun just after third contact until fourth contact. Very sorry to have missed the max of the ASE by no more than 5 minutes. No filters needed, the partialy eclipsed Sun was colored red. Just returned from Scotland. Films will be developed tomorrow (yes!) and put on the website www.vandenbrempt.be. Please allow until end of the week. Group constist of my wife Marina, son Jordy (4.5 year old) and myself. See you all in Luxor for 95% change of totally clear sky for the transition of Venus Luc Van den Brempt.

From: Thibault Mangold (IF) Hi, Only some parts of the ring emerged from the mist from Strathy Point (Scotland, 58° 35' 00" N, 004° 02' 00" W): half ring or a quater seen alternatively. Beautiful partial phase afterwards ;-) Thibault Mangold.

ASE 2003

Eclipse from Flight 34 today

From: Dale Ireland To: Solar Eclipse List <SOLARECLIPSESSENL200307aula.com> Date: Sat, 31 May 2003 00:34:07

Hello Olivier Staiger's plane NW34 from Seattle to Amsterdam lifted off on time and is actually a bit ahead of schedule which should hopefully result in intercepting the eclipse near Scotland. I am following the flight on a tracking program and will update. Olivier stayed with us the past couple days and we had a chance to see his excellent videos of tornados from his tornado chasing expedition this month and give him a tour of our the area including Mt. St. Helens volcano. Good Luck Olivier Dale and Suzanne Ireland

From: Klipsi

howdy ! have landed in Amsterdam with 35 minutes ahead of flight schedule. We still saw annularity from aircraft, flight NW34. Perfect ! one image at http://eclipse.span.ch/liveshow.htm . will upload full report and more images later this evening. Klipsi

From: Klipsi

thanks, Dale and Suzanne, for the comment. And thanks again for your great hospitality ;-)

and this to Vic and Jen Winter : guess what T-shirt I was wearing on this eclipse-flight today ? The Astronomical Tours T-shirt, of course ! It brought me luck ;-) best regards, Klipsi

From: Alejandra León-Castellá

Congratulations Klipsy and all others who captured and shared the images!! I hope to be able to access more through the web in the next days!!

Meanwhile I will dis seminate the URLs of web sites that have posted pictures and videos of this wonderful event through our e- bulletin. Alejandra Leon-Castella From rainy Costa Rica

From: Klipsi

> I would like to hear about your experiences viewing the eclipse from a commercial flight. Were there many dedicated eclipse chasers on the flight.

haven't seen any other. I was in business class, so I don't know what went on in coach.

> Was it crowded,

it seemed to me the plane was almost full. In biz class it was full.

> was there a rush to the windows, I mean were the rest of the passengers interested in the event?.

oh yes, they were quite curious to see it. It was a true blessing for them to see this as a free bonus.

> Did the crew make much of the event.

they loved it too. When I boarded the plane, the crew did not know about the eclipse. So I told one flight attendant and asked to speak to the captain, for details about the flight route. I handed out several eclipseshades. The captain announced the eclipse to the passengers once it had already begun and it was shortly before annularity (also because most people were sleeping. The eclipse occured shortly before breakfast service). He also pointed out not to look at it without the eclipse shades, and suggested to use pinhold projection method. I was positively surprised that he knew about this.

(Continued on page 51)