

SOLAR ECLIPSE NEWSLETTER

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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 (patrick_poitevin@hotmail.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 email messages that other subscribers send to the listserver. Only subscribers can send messages.

Solar Eclipse Mailing List

Dear All

This is the Eclipse special newsletter, containing all the information, mails and data received from you since the eclipse, check out the guy with the eclipse haircut on page 45, along with all the other pictures taken by us and yourselves. Patrick armed with a new digital camera made it his mission to take pictures of every eclipse related thing he saw, much to the dismay of the children, and played the part of the to-



tally un-cool parent exceedingly well.

Many of the pictures are included here in the newsletter, but I suspect he will compile them at some later stage into a presentation. We would like to thank everyone for their contributions, as without them the newsletter would be incomplete. The next newsletter should follow shortly as things are now settled for us at our new address.

Please keep on mailing to the list with those solar eclipse related messages. The membership is growing and the quality remains. We want it to remain that way and we are sure that you do too.

Best regards

Patrick & Joanne



21 June 2001 Eclipse

From: Eric Pauer <pauer@bit-net.com> To: Solar Eclipse Mailing List <solareclipses@aula.com> Sent: Wednesday, June 20, 2001 7:03 PM Subject: [SE] **Astronomy Picture of the Day - Eclipse!**

Quite appropriate!

Total Eclipse of the Active Sun <http://antwrp.gsfc.nasa.gov/apod/ap010620.html>

The narrative has a nice set of eclipse links. FYI, the APOD for Eday will be of a diamond ring <http://antwrp.gsfc.nasa.gov/apod/ap010621.html> (will be active after today) Regards, Eric

From: OCM NS <ocmns@hotmail.com> To: <solareclipses@aula.com> Sent: Thursday, June 21, 2001 11:16 AM Subject: [SE] **Virtually there...**

June 21 2001 Thursday Southern California ...3 AM plus here...

Know those in Africa right now are ready to start into the fun part of the Africa Eclipse 2K1. "Virtually" there in spirit with you. Gathered a couple e-friends to connect to webcams sites. Thanks to those who provided the webcams, the sites, and various info re time and place. ...And then my computer started crashing. Spent a whole day trying to solve that to no avail. So not to miss this, I am soon on way to Kinko's. Best to all, EG

From: Ted Saker Jr. <ted@saker-law.com>

How many watched the eclipse via webcast or satellite? I think a new category of eclipse time is in order. In addition to real time, there should be virtual time, too.

From: Nicolas Roumiantzeff <nicolasr@esker.fr>

I did, twice in fact: from Zambia, then from Zimbabwe.

Although it seems to be easier to follow the different phase transitions around totality through the webcam, the emotion has nothing to do with real reality (1999 eclipse viewed from France).

Mitigating factors: - the real eclipse was my first and this one is my second eclipse. - the uncertain weather in France surely increased the excitement. - since 1999 I had time to study the things to watch for around totality. Nicolas Roumiantzeff

From: Ted Saker Jr.

I can't argue with you there. I've seen two (## 130/1998 and 145/1999). The anticipation, the lighting and landscape changes, the reactions of everyone else around you make being there much better than watching it. Someone shouted out "shadow bands" just before totality.... talk about rubbing it in.

From: Chris Malicki <kmalicki@idirect.com>

I watched the eclipse on CNN. They had well over 40 min. of live coverage. I even shed a few tears being in North America rather than in Africa :((There's always Ceduna 2002 to look forwards to). One common mistake alluded to by an earlier posting to the SE list: The CNN cameraman took off the solar filter too late and therefore missed the 2nd contact diamond ring. The prominence at 3 o'clock looked spectacular on the TV - bet it was fabulous to you lucky ones in Africa. Chris Malicki

From: Evan Zucker <ez@AbacusTotality.com>



(Continued on page 3)

I saw that too, at cnn.com. It was very frustrating watching totality approach -- at length, on the playback -- and see Baily's Beads come and go with the filter seemingly still on the lens. (It was either a filter or a very stopped down aperture because when they finally showed totality it looked more like a lens opening up than taking a filter off.)

Thankfully, they kept the filter off (or aperture open) for at least a few seconds after third contact. Evan H. Zucker

From: Gerard M Foley <gfoley@columbus.rr.com>

I didn't see the broadcast, but this sounds as if the whole thing may have been due to automatic exposure control, with delay at both radical changes in brightness. Gerry K8EF

From: <Jay.M.Pasachoff@williams.edu>

Could someone please send me a videotape of the CNN coverage (and any other coverage in the US)? I'll be back from Zambia on July 8 and would be glad to have any tapes sent to me at

33 LAB CAMPUS DRIVE
WILLIAMSTOWN, MA 01267

THANKS. Jay Pasachoff

From: Grant Leffingwell <leffingwell.6@osu.edu>

I watched with great enjoyment the "live-eclipse.org" webcast, with the sat feed from NASA TV running on another

monitor. The webcast was very impressive: views from 3 countries, music, crowds, etc.

NASA's views were terrific, 3 or 4 different views (H-A, white, wide, etc.). Only complaint is that 2 minutes before totality (they were set up alongside the Zambezi) they cut away for a press conference & missed 2nd contact & half of totality. Showed plenty of footage later to make up for it, though.

Ever more depressed at having to miss this one... --Grant Leffingwell

From: Dale Ireland <direland@drdale.com>

I had a very hard time getting any connection on the web to any eclipse site live. I watched and recorded CNN and some local news reports. I thought CNN did a fine job with the glaring exception of their videography of the eclipse itself. Not only was their timing with the filters absolutely terrible but most of totality was way out of focus. I don't know how the guy was monitoring his image but as soon as he removed the filter (way too late) the image went out of focus and was not corrected. It really stunk. It appeared he didn't know what he was doing, didn't have a plan or a dry run. Nice equipment and a lot of potential just wasted. Dale

From: OCM NS <ocmns@hotmail.com>

-When is an eclipse "fast"? Virtual TSE Experience --Africa June 21 ,2001-- Santa Ana California USA

Sites from Eric Pauer list Wed. afternoon all connecting. During event rush found could connect to Japan site. Good live then still going later in day. At a Kinko's, a multiple business service 24 hour chain store. (My PC still crashed.)

Online about 4 AM Thursday PDT USA. Guys on duty, Brian and Bill, got into the spirit of the moment. I called them to monitor when good pics. They called me to on site TV for CNN blips. The Japanese site had a nice large image in place with a simultaneous live video image also available later Thurs. afternoon.

Time compressed. When is an eclipse "fast"? Truly there or virtually there when time is suspended, turning in ever slowing motion, immersed in the awe of the moment, when completed, all had gone by too quickly.



The web cam efforts really came through for everyone. Images are impressed into memory. (Thanks!) EG

From: Eric Pauer <pauer@bit-net.com>

I wrote an eclipse article for the July newsletter for my local astronomy club, the Amateur Telescope Makers of Boston (ATMoB). It describes about watching the eclipse "virtually" from the Museum of Science in Boston, and briefly discusses how various live eclipse webcasts went. Murphy's Law was at work! The article is online, about in the middle of the following web page:

<http://www.atmob.org/news01/Jul01.html>

It's great to read report after report of great weather, excellent close up and wide angle photos, interesting video clips, and the great eclipse experience everyone had. Regards, Eric

From: <Jay.M.Pasachoff@williams.edu> To: <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 21, 2001 1:10 PM Subject: [SE] **[Secllipse under way**

It is 2:09 pm in Lusaka, one yhour before totality. The partial eclipse is well under way in perfectly clear and blue sky. Jay Pasachoff

From: Gerard M Foley <gfoley@columbus.rr.com>

At 1315 UT third contact had passed at the Spanish site in Zimbabwe. <http://www.terra.es/ciencia/expedicionafrica/eclipse.htm> Nice broadcast. Gerry K8EF

From: Evan Zucker <ez@MrTotality.com>

Jay, Congratulations on the successful observation! I wish I had recorded CNN's coverage at 5:00 AM PDT.

From: Jeff Batten <jeff.batten@csun.edu> To: <solaRECLIPSES@AULA.COM> Sent: Thursday, June 21, 2001 5:10 PM Subject: [SE] **Way to go CNN - Wow**

Having seen three totals I have a sense of what they are like in person.

I must say the CNN coverage from Zambia was spectacular.

I had the feeling that I was right there with you guys. I am not so sad now I could not afford the trip this year.

Wow - The Diamond Ring was SPECTACULAR. Very long. Thank You again CNN. Jeff

From: Carton, WHC <Wil.Carton@corusgroup.com>

Poor eclipse-report. In the Amsterdam Planetarium the receival of the eclipse webcast from Internet failed. None of the dozen announced internetaddresses passed through the internet traffic jam. At 15h08 (13H08 UT) the plantariumleader decided to select the television-channel of CNN and projected this report of the total eclipse from Mana Pools on the dome. Image and sound from there was well, but short, and brutally interrupted by a commercial "Headlines of the Wall Street stock market". There were (my estimate) hundred twenty people in the dome. The main impression was deception, "just like August 1999" summarized some visitors behind me. Wil Carton,

From: <Jay.M.Pasachoff@williams.edu> To: <solareclipses@aula.com> Sent: Thursday, June 21, 2001 9:58 PM Subject: [SE] **today's eclipse/space image**

Our scientific expedition to Lusaka from Williams College, Williamstown, Massachusetts, USA, successfully observed the corona in many ways from our site in the city. One of our CCD images, a 4 s exposure through a narrow band green filter (3 A wide), has been merged by NASA Goddard Space Flight Center with one of the images from the Extreme-ultraviolet Imaging Telescope (EIT) on the SOHO spacecraft, and is given below. Of course, we haven't had time to process the image yet; this is a raw image.

http://umbra.nascom.nasa.gov/eit/images/eclipse/williams/eclipse_composite.html Jay M. Pasachoff

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

Go see http://www.sat.dundee.ac.uk/pdus/XV/200106211300XV1_g.jpg for a great iimage from a satellite over the Indian Ocean that shows the moon shadow at 13:00 UT over Angola.

From: Evan Zucker

And here is a great animated GIF from EUMETSAT of the shadow from the beginning to end of the path of totality: http://www.eumetsat.de/en/index.html?area=left5.html&body=/en/area5/special/eclipse_21062001.html&a=500&b=0&c=0&d=0&e=0

Here's the description from this page:

During the total eclipse of the Sun on 21 June 2001 EUMETSAT used its in-orbit stand-by satellite Meteosat-6 to observe the shadow of the Moon on the Earth's or

cloud surfaces using a special scanning mode. Instead of covering the full Earth disk in half-hourly intervals, a large part of the southern hemisphere was scanned in 10-minute intervals. This allowed for a more rapid observation sequence of the movement of the Moon's shadow along the Earth's surface. In the figure below the path of the shadow is indicated.

And congratulations to Olivier for having two of his shots as Friday's Astronomy Photo of the Day at <http://antwrp.gsfc.nasa.gov/apod/>. Evan H. Zucker

From: Alan Leighton

Do any of you computer whizzes know how I can turn this fabulous GIF animation into a screensaver? Thanks in advance. Alan Leighton

From: Gerard M Foley

Try the program Photo Recall from <http://photorecall.com/> Gerry K8EF

From: Michael Gill <eclipsechaser@yahoo.com>

The Operational Significant Event Imagery (OSEI) team produces high-resolution imagery of environmental events visible in remotely -sensed data available at the NOAA Science Center.

Some images on their website taken during the June 21st eclipse:

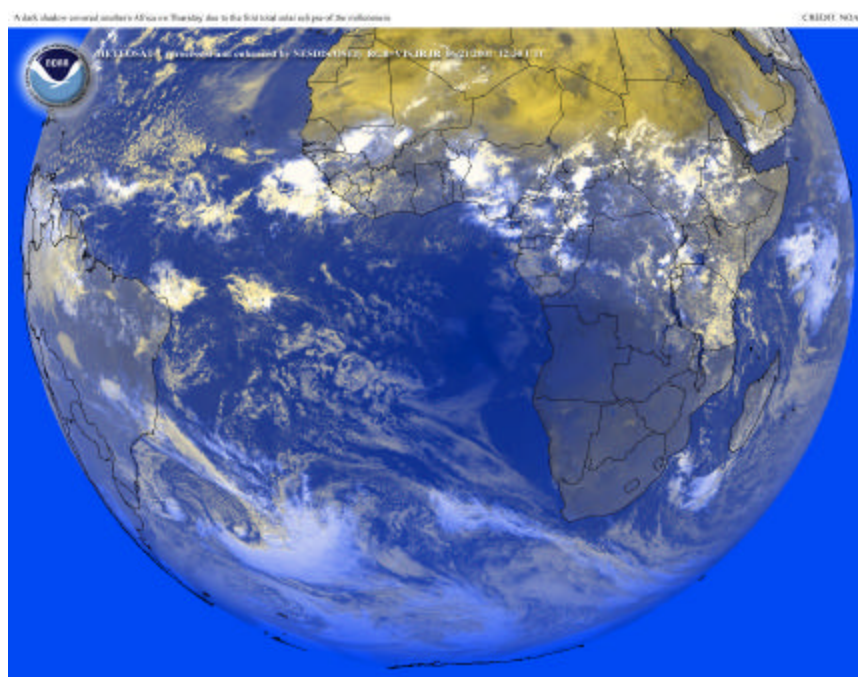
http://www.osei.noaa.gov/Events/Unique/Eclipse/UNIEcl172_MT.jpg (561Kb)

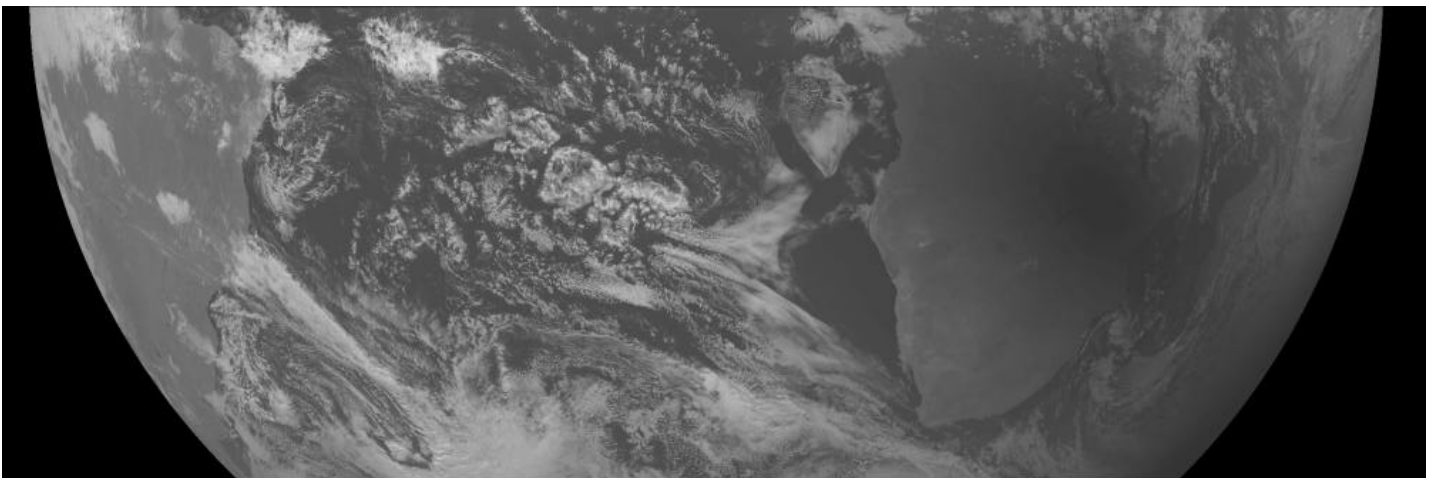
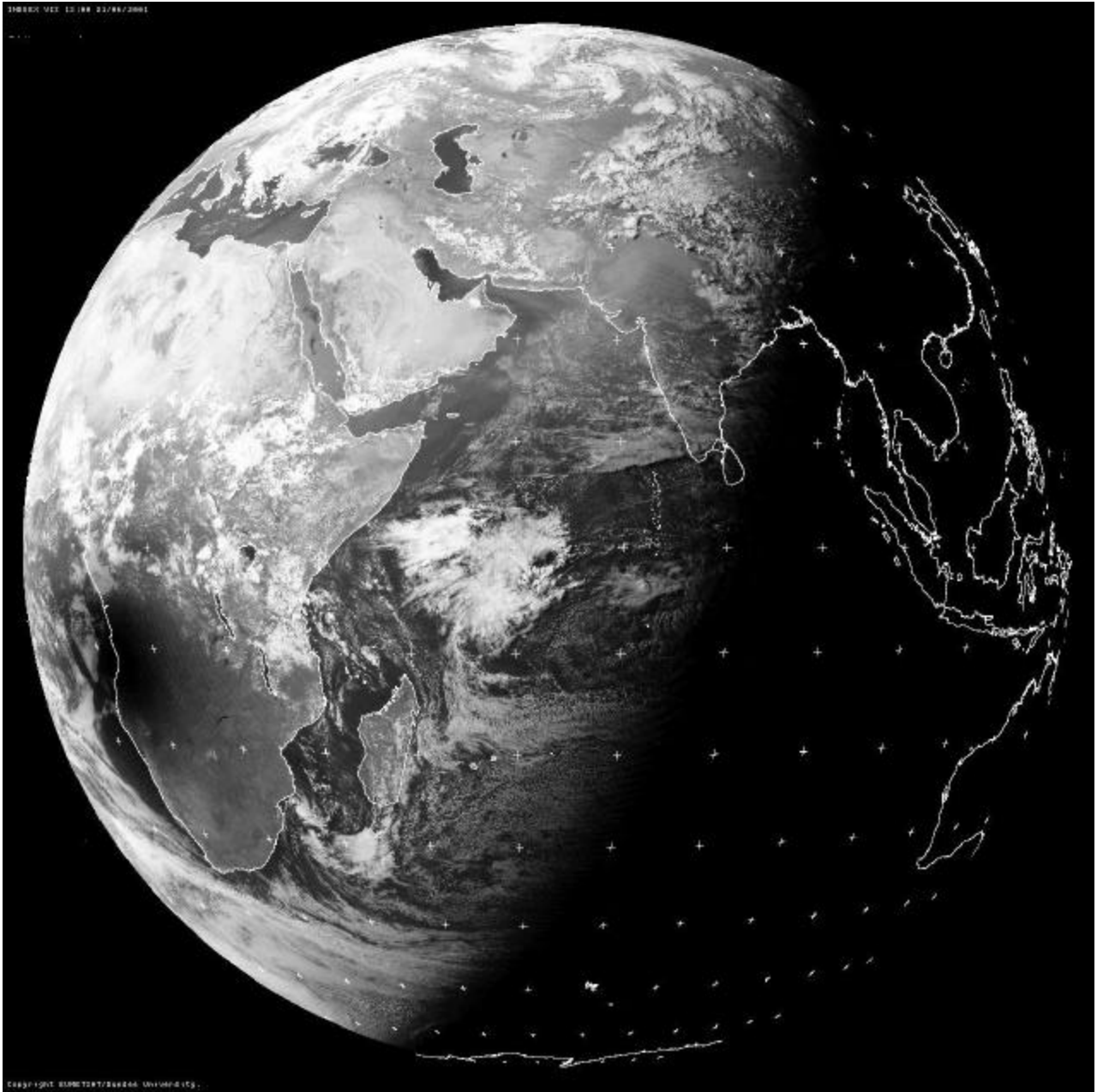
http://www.osei.noaa.gov/Events/Unique/Eclipse/UNIEcl172_MT.avi (432Kb - movie loop)

http://www.osei.noaa.gov/Events/Unique/Eclipse/UNIEcl172_MTL.jpg (68Kb)

Interesting images from other eclipses can be viewed at: <http://www.osei.noaa.gov/Events/Unique/Eclipse/>

Michael Gill





From: Ian Lessing <ian@lessing.org> To: <eclipse@hydra.carleton.ca> Sent: Thursday, June 21, 2001 6:41 PM Subject: [eclipse] **oh to have been in africa**

Hi Folks, I saw the 1998 & 1999 eclipses but was not able to travel to Africa for this one. I've watched video clips from the BBC & the exploratorium but I'd love to hear more from people who were in the path of totality. I know it's impossible to fully describe your experience but give it a try. Those of us who could not be there hunger mightily for your account of this solstice eclipse. ---Ian

PS. Here are urls for various coverage on the web:

RealMedia of eclipse: BBC <http://www.bbc.co.uk/science/space/realmedia/eclipse2001.ram>

Exploratorium <http://www.exploratorium.edu/eclipse/zambia/rm/archive-100.ram>

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch>

howdy, got some images up at <http://eclipse.span.ch/210601.htm> and <http://eclipse.span.ch/liveshow.htm> here in Lusaka we have had no clouds for the past 5 days - amazing eclipse weather today again. great eclipse, just great.

From: <KCStarguy@aol.com>

Greetings, Just got in from Capetown on Saturday 6/23/01 at 12:30 in Kansas after almost 24 hours of assorted travel by land, air, train and vans. Excellent eclipse by Dr. Eric Flescher (KCStarguy@aol.com) Date : 6/21/2001 Notes pics and information will be at: <http://members.aol.com/kcstarguy/blacksun/2001eclipse.htm>

Eclipse observations location: near Chisamba, North of Lusaka, Zambia almost near centerline. GPS coordinates: weather: Near perfect- no clouds, some smoke from some local fires on horizon.

Results: with Panasonic digital- 900: digital video footage of the corona and outgoing diamond ring and tried to photograph shadow bands after 2nd contact. with Kodak 290 camera: Pictures of ring of fire, eclipsed sun in the background pictures (TIFF files for advanced processing and printouts).

Highlights:

- (1) shadow note defined as it moved in
- (2) good 2nd and 3rd contact diamond rings
- (3) saw shadow bands for the first time after 3rd contact and they lasted for more then 3 minutes. (I am analyzing my video to see if I caught them).

Other highlights of the trip:

- (1) Victoria Falls (got some great digital shots)
- (2) Capetown is gorgeous.

- (3) Cape of Good Hope, Seal Island and Penguin beach.
- (4) Safari ride and animals.
- (5) People in Zimbabwe and Zambia
- (6) Train ride

More later.

In the meantime, please let me know if you have accounts, photos, videos or more about what you saw. Fill out the form below and send to me for posting on my site. I am also looking for photos of eclipse t-shirts, stamps you collected, original rhymes poems, drawings, emotional writings (short) about the eclipse. Permission for link at Black Sun Eclipse <http://members.aol.com/kcstarguy/blacksun/eclipse.htm> also add me to any links you have thank you Send to Dr. Eric Flescher (KCStarguy@aol.com)

Eclipse 2001 accounts and links

Name of author of the site and email address:

Subject of link: eclipse 2001 eclipse accounts astronomy other

name of your site/ account as you want posted:

your account url link:

town/country observed from:

GPS coordinates if possible:

Indicate if you site has the following:

Photography posted (Y or N):

video posted (Y or N):

accounts posted (Y or N) :

links to other sites about eclipses (Y or N)

other information (Y or N):

From: Olivier "Klipsi" Staiger <olivier.staiger@span.ch> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 22, 2001 4:14 AM Subject: [SE] **images of eclipse**

hi dear friends, got some images of what I saw at <http://eclipse.span.ch/210601.htm> enjoy ! did have lots of web-traffic for live webcast with www.solareclipseafrica.com , some folks could not access site some times, sorry. have a great weekend. next solar eclipse (annular) december 14 Costa Rica ! Klipsi

From: Chris Malicki <kmalicki@idirect.com>

Congratulations on posting so quickly onto your website. Yours is the first image I saw of the eclipse - faster than anyone else. Chris Malicki

From: Ted Saker, Jr. <ted@saker-law.com>

Ditto from Ohio. I looked at your corona vidcaps thinking that 2001 looked much like 8/11/99.

From: <Jay.M.Pasachoff@williams.edu> To: <solareclipses@aula.com> Sent: Saturday, June 23, 2001 10:14 AM Subject: [SE] **eclipse/SOHO combination**

You may be interested in the following combination of our eclipse image from the Williams College team on the ground in Zambia and a space image from SOHO at the same time.

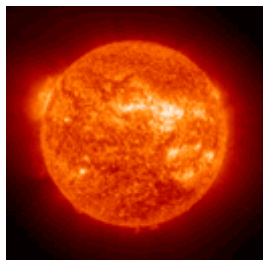
http://umbra.nascom.nasa.gov/eit/images/eclipse/williams/eclipse_composite.html credit: eclipse image: Williams College (Williamstown, Massachusetts, USA)--Jay M. Pasachoff, Stephan Martin, Kathleen Gibbons, Roban Kramer; SOHO image: EIT Team; combination by Joe Gurman, NASA's Goddard Space Flight Center

Acknowledgments: National Science Foundation, National Geographic Society, NASA, ESA Jay Pasachoff

A composite image of the Sun during the total solar eclipse of 2001 June 21

2001 June 21 White light image (outer): 13:10 UT EUV image (inner): 12:38 UT

The component parts of this image: Williams College eclipse expedition, Lusaka, Zambia, visible light 2001 June 21 13:10 UT SOHO EIT L1 Lagrange point 304 Å (EUV) 2001 June 21 12:38 UT



From: Odille Esmonde-Morgan <analog6@ozemail.com.au> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 23, 2001 2:23 AM Subject: [SE] **BEWARE**

The Dangers of Eclipse Watching! (or being careless after the event). From the Daily News, Zimbabwe, 22 June 2001 Cheers - Odille Esmonde-Morgan, Canberra, Australia

Hippo attacks tourist 6/22/01 8:00:10 AM (GMT +2) Staff Reporter

JORDI Mesdre, a tourist, said when he returns home to Spain that he would gaze at wild animals only in the zoo, after he was attacked by a hippopotamus last Saturday while holidaying in Kariba.

Mesdre, who arrived in the country on Saturday to watch the solar eclipse, sustained injuries on his legs and arms after the attack. Speaking from his hotel bed, Mesdre, from Carnbris town near Barcelona, he said: "It was terrifying, but after falling I could only try to fend off the beast and I consciously did not scream in fear of aggravating it." Mesdre and his friend, Inaki Berregui, were returning to the hotel just after midnight when they came across the hippopotamus with its calf. The two waited for the animals to cross the path, but the animals stopped to graze about 12m from them. As Mesdre walked back towards Berregui, the hippo charged at him. He fell to the ground and thrust his hands and feet at the hippo's muzzle, sustaining several bruises from its teeth while scrambling backwards on his back. But he managed to retreat several metres away from the beast and escaped. He said he feared that he would be trampled to death if he screamed.

From: Daniel Fischer <skyweek@web.de> To: <SolarEclipses@Aula.com> Cc: <sofi2001@yahoogroups.com> Sent: Saturday, June 23, 2001 4:23 PM Subject: [SE] **Back from the Kafue NP** - with 3'46" of totality

I'm happy to report that the German eclipse expedition which ventured into the "Wild West" of Zambia has not only returned safely to Lusaka - but we also got 3 minutes and 46 seconds of totality in perfectly clear skies near the far north-western corner of Zambia's Kafue National Park.

Actually our group of 14 (in 4 mighty 4WD vehicles) was located just outside the National Park, in the adjoining Game Management Area - in a location where hardly anyone seemed to have ventured before, judging from the condition of the "roads" here: We were basically breaking through the forest most of the way up north from the main road ...

Despite the remoteness of the area there were actually several traffic jams on the way: A big convoy of eclipse chasers was stuck (they had lost one wheel) - and just beyond our own camp site we discovered another German expedition. It included the famous Unimog that G. Meiser had driven all the way from Germany to Zambia in the last 4 months (they haven't been able to update their www.african-odyssee.de site since leaving Egypt but promise to deliver eventually).

This was my 10th total eclipse (and the first "Saros Repeater"), and the setting was probably the most unique one, given the long and complicated (let alone adventurous) travel there. But the choice was right, as we stayed clear of the smoke clouds from some smoldering wildfires that had threaten to reduce the contrast somewhat.

Nonetheless the smoky patches low in the sky may have helped to make this the most colorful eclipse in more than a decade for me, with very strong horizon colors I hadn't encountered since the 1980's. The corona was very similar to the one of 1999 (though perhaps a bit smaller), but there were fewer large prominences. Only one was really "prominent", staying visible long after 2nd contact.

Our group had brought a lot of equipment, and the digital video sequences we have replayed so far are excellent. As I type a photo lab on the outskirts of Lusaka is printing some of my corona images (I've already checked the negatives - they are perfect, also for further enhancement in the future, the best I got since 1991). A complete travel report with pictures will follow after our return to Germany, in early July.

Daniel Fischer, at the Sernet Limited internet cafe (lacking coffee :-)) in Lusaka, Zambia

P.S.: The eclipse is now history here, and the newspapers are full of negative commentary - the country and especially its fledgling tourism industry could have made so much more out of the event. While we encountered some less-than-honest business practices esp. in Lusaka, the overwhelming majority of our experiences has been positive, and the fun of sharing our astronomy stories with our National Park scouts in the middle of nowhere, under the Southern Cross and the southern Milky Way was worth all the hassle. Going to Zambia and going way west of the capital was the right choice, and organizing this trip all on our own (with kind support of Dr Mweene of Lusaka University) has made this ongoing 3-week trip not only affordable but also very special experience.

From: Daniel Fischer <dfischer@astro.uni-bonn.de> To: <solareclipses@aula.com> Sent: Saturday, June 30, 2001 2:53 PM Subject: [SE] A website on the Great Zambian Expedition ...

... is now growing at <http://www.geocities.com/skyreports/zam2001> - there will be much more material coming up in the days and weeks ahead. Having spent the week after the eclipse in the incredible Chongwe River Camp at the edge of the Lower Zambezi National Park (among crowds of elephants and hippos - and no fences) all 14 of us have made it back to Germany yesterday (with British Airways delivering about half the luggage to our front doors today :-), in good health and overwhelmed by the three weeks in 'the real Africa'. For some the real work begins only now, with tons of pictures to be processed and some 50 hours of digital video (some of broadcast quality) to be edited ...

When we left Lusaka, one week after the eclipse, the local newspapers were still full of eclipse scandal stories, ranging from alleged drug abuse as well as a mountain of debt at the Solipse festival to calls (by opposition politicians) for punishment of all those government officials who didn't release the money quickly enough that would have provided for free eclipse glasses for everyone. At least the Zambian press is now viewing the eclipse as a natural disaster that the government failed to prevent, and dire predictions are being voiced about half of Zambia getting blind soon. There also seems to be the general feeling that the country has missed a great opportunity tourism-wise as well, yielding all the major profits to

(Continued on page 10)

foreign operators. Daniel

From: Daniel Fischer <dfischer@astro.uni-bonn.de> To: <solareclipses@AULA.COM> Sent: Monday, July 23, 2001 10:16 PM Subject: [SE] African pictures uploaded

Finally I've finished the preliminary structure of the website about our Zambian expedition and have prepared all the pictures (with most of the captions still missing). The material resides at

<http://www.astro.uni-bonn.de/~dfischer/skyreports/zam2001>

right now and will move to www.geocities.com/skyreports/zam2001 later this week.

Apart from various views of the eclipse and the 'usual' safari views, there are also widefield views of the sky over Lochinvar NP, pictures of comet LINEAR with a really long tail and even a picture of Mars with some details, recorded by video in the middle of nowhere, in the night before the eclipse. Daniel Fischer

From: Daniel Fischer <dfischer@astro.uni-bonn.de> To: <SOLARECLIPSES@AULA.COM> Sent: Wednesday, July 25, 2001 9:56 PM Subject: [SE] Zambian picture gallery complete ...

It took a bit longer than I thought, but now it's (more or less) complete: at www.geocities.com/skyreports/zam2001 or at a German mirror site at www.astro.uni-bonn.de/~dfischer/skyreports/zam2001 (which ever is faster) you can find some 4.3 MB of pictures of the solar eclipse itself (including some processing experiments), of comet LINEAR with many degrees of tail, of the night sky over Zambia, of African sunsets galore, of our 3-week expedition and so on. For those who can read German, there's also a long story at <http://www.geocities.com/skyreports/zam2001/bericht.html> about our trip. Enjoy! Daniel

From: Jean Marc Larivière <jeanmarc.lariviere@sympatico.ca> To: EclipseListServer <solareclipses@aula.com> Sent: Friday, June 22, 2001 9:01 PM Subject: [SE] Madagascar

Unlike 1999, the weather cooperated and it seems everyone on continental Africa had a clear view of totality. But what about Madagascar? A number of groups from France went there as was Jay Anderson of NASA Reference Publication fame, I believe. Any news?

From: Evan Zucker <ez@AbacusTotality.com>

I read that a bunch of people were clouded out on the western Madagascar coast.-- EVAN

SKY & TELESCOPE'S NEWS BULLETIN - JUNE 22, 2001

AFRICA'S DARKEST DAY

June 21st is a date for northerners to welcome summer and those in the Southern Hemisphere to prepare for winter. But for millions of people in south-central Africa the shortest day of the year was a few minutes shorter than usual as the Moon's shadow swept across the continent during the first total solar eclipse of the new millennium.

The shadow cast the country of Zambia in the limelight, which became a Mecca for eclipse-chasers from around the world. Thousands of them were drawn to Lusaka, its capital city, by prospects of clear skies, more than three minutes of totality, and relatively easy international access. Among them were more than 250 participants in the Sky & Telescope/Scientific Expeditions tour. Many were adding a second or third notch in their eclipse-chasing belts, but sprinkled among the group were veterans of more than a dozen eclipses and a large compliment of those experiencing their first taste of totality.

Conditions were virtually perfect at the observing site northwest of Lusaka, where the last vestiges of the Sun's disk slipped behind the Moon at 3:09 p.m. local time (13:09 UT). Cheers and shouts rang out as an exceptionally long diamond ring at the beginning of totality gave way to a brilliant, round corona spiked with several slender streamers that extended more than one degree from the Sun's limb. Electric-pink prominences were easily visible to the unaided eye near the beginning and end of totality.

After 3-1/2 minutes of darkness applause from the gathered crowd of about 300 signaled totality's end. "God's Gift. Magnificent!" exclaimed Joyce Smith a few moments after totality ended. "It made me feel so peaceful." She had traveled with her husband, Brian, from California to view her first eclipse. Moments later Stephen James O'Meara noticed the corona was still visible to the unaided eye when the emerging crescent of sun was blocked by the limb of a nearby tree. He and Sky & Telescope Senior Editor Dennis di Cicco report glimpsing the corona for another 6 minutes 55 seconds.

For additional eclipse reports and images, see <http://www.skypub.com/sights/eclipses/solar/010621africa.html>.



From: Olivier "Klipsi" Staiger To: SOLARECLIPSES@AULA.COM Sent: Saturday, June 23, 2001 4:32 PM Subject: [SE] **links to various sites**

howdy, I have now arrived home in Geneva and updated the journal's final days of my trip, see <http://eclipse.span.ch/220601.htm> and <http://eclipse.span.ch/230601.htm> met Fred and his group at Lusaka airport, great joy for me :-)

now if YOU have a website with your own photos of the 21 june eclipse I will link to it from <http://eclipse.span.ch/230601.htm> , just send me a note at olivier.staiger@span.ch , thanks. best regards,

From: Govert Schilling <mail@govertschilling.nl> To: <SOLARECLIPSES@AULA.COM> Sent: Sunday, June 24, 2001 1:17 PM Subject: [SE] **Zimbabwe report**

Hi all -- Yesterday morning, I returned from Zimbabwe, after seeing my fifth total solar eclipse (or in fact my fourth, since Finland 1990 was clouded). Also, this one was in the same Saros as my first eclipse (Java 1983). Below are some quick impressions.

I was traveling with a Dutch group of 16 people, who are still in Zimbabwe for a hiking and safari holiday, organized by SNP travels in the Netherlands. SNP has regular group travels to remote locations, and I talked them into combining their Zimbabwe trip with the eclipse, and hiring me as their 'astronomy expert'. We arrived in Harare on Monday, hiked in the surroundings on Tuesday, traveled to Mutoko on Wednesday (along the A2, exactly on the southern border of the totality zone), and moved further northeast on Thursday morning, to a small settlement called Dendera, which is pretty close to the Mozambique border.

In the group of 16 there were only two 'seasoned' amateur astronomers; the other participants just had a 'lay-person's' interest in seeing the eclipse, mainly because they had been clouded out in France or Germany in 1999, or because they were lucky, saw the eclipse in 1999, and wanted to experience it once more.

The eclipse site had been selected by a travel agent in Harare, Nyati Travel, and they did a great job. The site was on a 'kopje' - a small natural rise in the landscape, about 50 meters or so above the surrounding terrain, but very easy to access (by foot). The top of the 'kopje' slanted a little bit towards the west, so people didn't block each other's view. In the east there even were some trees, which provided some shadow. Nyati had provided catering (lunches, drinks, fruit etcetera) and even a number of toilets. We were not the only group there; there were four other Dutch groups (from Sawadee Travel, another Dutch travel organisation), and a lot of local people. I guess about 80 Dutch tourists and maybe 70 local residents or so.

In Dendera, there is a secondary school which services the wide surroundings (school children walk 4 to 7 miles to reach the school!). Harry Otten, a Dutch meteorologist who was the eclipse expert on the other Dutch groups, and myself provided a brief explanation for the 200 pupils of the school. This was a great experience; there was much interest of course. We handed out eclipse glasses for everyone.

On Wednesday afternoon, there had been many clouds around eclipse time, so I was rather worried, but although there was some haze and a few wisps of cloud on Thursday, we were able to watch the eclipse in a clear sky. My main impressions:

* It was **SHORT!!!** (Actually, we had 3min 15 sec, but it seemed like 1.5 minutes at most...)

* The diamond rings were spectacular, both at 2nd and at 3rd contact.

* I liked the bright prominences a lot. Especially the one on the right side of the sun was stunning, and easily visible by the naked eye.

* The partial phase was great to watch because of the large sunspots, which could also be seen by the naked eye, and which were very spectacular through binoculars.

* For some reason (mainly because I spend not enough time looking for them, I guess), I didn't see Mercury, Saturn or any stars, although I heard that Sirius and Canopus were easily visible. Jupiter of course was very conspicuous.

* In my opinion, the corona was markedly smaller than in 1999. Also, in 1999 it has a very 'wild' appearance, mainly because of the remarkable 'kink' in one coronal plume on the north side of the sun. The Africa eclipse was just pretty symmetric, with a few plumes, but in my humble opinion it wasn't extremely spectacular.

* Because we were above the surrounding plains, the colours on the horizon in the north and south were spectacular. I've never seen them so well, maybe partly due to the fact that the zone of totality was not too wide (160 km at our location).

The fact that we were observing together with a large number of local residents, including small children, made this a very special experience. Directly after 3rd contact, some 20 or 30 school children started to sing a sweet children's song in the local language, in which they thanked God (I wasn't able to find out if they thanked Him because the sun returned, or because this was such a beautiful phenomenon...).

My video footage, shot with an old Hi-8 camera without exposure control, is not terrific, but although the image quality is poor, it gives a very good impression of the atmosphere. I saw the footage of one of the group participants, shot with a digital camera, and that was pretty spectacular. I haven't seen my photos yet, but since I'm not an experienced astrophotographer at all, I don't expect too much from it.

On Friday, I flew back to the Netherlands. Interest in the eclipse here in Holland has been pretty high, with lots of radio broadcasts and the tv news paying attention to it (I did one radio interview and wrote a report for the newspaper that I'm freelancing for).

All in all, this was a great experience, mainly because of the unique location. I look forward to seeing the photo results of others. And for those who are still in Africa: have a safe trip home! --Govert

From: Michael Gill <eclipsechaser@yahoo.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 25, 2001 5:35 AM Subject: [SE] **Brief Report From the Lower Zambezi National Park.**

Just a quick note from an internet cafe in Amsterdam airport on my return home:

I saw totality from the Lower Zambezi National Park close to the central line. It was a marvellous eclipse in a cloud-free sky with three and a half minutes of totality.

I had two Umbraphile users - Glenn Schneider and Dan McGlaun - beside me. Glenn's program is really superb and should be seriously considered by people on this list. It offers automated eclipse picture taking while you stand back and enjoy totality! He offers it free to all eclipse chasers.

Thanks to Peter Tiedt for the recommendation of Mvu Lodge and to Eric Pauer for the solar activity reports. Michael Gill.

From: Peter Tiedt <rigel@stars.co.za> To: <SOLARECLIPSES@AULA.COM> Sent: Tuesday, June 26, 2001 2:01 AM Subject: [SE] Brief Report From the Lower Zambezi National Park.

The Getaway Travel Magazine / Wild Frontiers group arrived safely back in Johannesburg after a highly successful trip to the banks of the Chongwe River on the border of the Lower Zambezi National Park in Zambia.

Initial report;

3m 24.5s in a cloud-free but dusty sky, with many prominences, especially near 3rd contact. Short Baily's Beads. Corona was very spiky and large, extending out many solar radii. Shadow bands were observed by some of the group on a batch of riversand (but not photographed).

Pictures will be posted on the Africlipse site within the week.

Besides the eclipse, the setting and the lodge chosen as a

base were excellent. The beers were always cold and the vehicles and game scouts always ready for duty. The roads were awful, but reports had it that there were more people in the Zambezi Valley in three days than in the past 10 years - and the same went for their vehicles. Naturally, some were not aware of the correct driving techniques for these roads and caused a great churning up of the surface, which became a vicious circle.

The local population were well supplied with mylar and glasses and throughout the (human) inhabited area of the valley many cultural and educational lectures were organised by various agencies. Peter Tiedt

From: Peter Tiedt <rigel@stars.co.za> To: Solar Eclipse Mailing List <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 28, 2001 8:35 PM Subject: [SE] Full Report from the Getaway/Wild Frontiers Eclipse Adventure

Day 1 - Sunday 17 June The group gathered at Lanseria airport in Johannesburg on a chilly Sunday 17 June at 07h00 and met each other, receiving Getaway Caps and travel documents from the tour organisers. Delaney, a 1942 vintage DC3 (Dakota) aircraft was readied and we boarded (after a group photograph) at about 08h00. Take off was smooth and we climbed to our cruising altitude of 9000 feet above sea level, heading north for Bulawayo for immigration and customs formalities. Shortly after crossing the Botswana and Zimbabwe borders, the left hand engine started giving indications of fuel starvation and the pilot turned back with Pietersburg in SA's Northern Province being chosen for a precautionary landing. This was reached without incident. After about two hours on the ground, a bit of technical fiddling and refuelling it was once again take off and head north. Not for long though, as after about 30 minutes, we once again turned back, this time heading back for Johannesburg which was reached in the mid afternoon. Debon Air, owners of the aircraft (now christened Delay-ney) accommodated the group overnight in the nearby Shuma Valley Lodge. Our replacement aircraft was to be Victoria, also a DC3 and take-off was scheduled for 06h00 the next morning.

Day 2 - Monday 18 June The wonderful sight of Venus just west of the crescent Moon greeted early risers, and as promised, Victoria took off at 06h00 and Bulawayo was reached without incident. While the aircraft refuelled, the group cleared customs and immigration and we were soon in the air again, heading for Kariba, where we landed shortly after 11h00. Transport to take us to Anchorage Marina was ready and waiting and once at Anchorage Marina we were allocated our houseboats, which were to be home for the next two days. Houseboats used were Karibezi, BarBelle, NaviStar and Morning Star. Once we were aboard, we set off at a leisurely 4 knots for the Matusadona Game Reserve on the southern shore of Lake Kariba. Not a cloud in the sky and an ideal situation to check gear (for the umpteenth time) and to

look for sunspots. Matusadona was reached at dusk and an evening Game Cruise was laid on for all. The famous sunken trees of Kariba were everywhere and provided a grand sunset photo opportunity for all. Back on the houseboats, the ever helpful crews had prepared dinner and bedding and after a great evening of socialising (and Zambezi Lager) it was off to bed.

Day 3 - Tuesday 19 June (2 days to go) A crystal clear day dawned, not a cloud in the sky, and the Moon edging ever closer to its meeting with the Sun. A morning game cruise was the first item on the agenda. Good sightings were had of Hippo, Crocodiles, Fish Eagles and other birds, then hungry passengers headed back for the houseboats, and the cruise to Antelope Island, near the north-eastern shore of Kariba. Supper and an explanatory briefing followed an early evening game cruise on eclipses and what to expect on the BIG DAY. The ESA video of the 1999 eclipse was also shown to the group. Back to sleep, some under the stars on the top deck of the houseboat, some in their cabins. Those on deck were treated to the glorious sight of southern hemisphere stars in a black sky free of light pollution.

Day 4 - Wednesday 20 June (24 hours to go) Another crystal clear morning, no clouds in sight, and the Moon edging closer to the sun, with just a thin crescent visible, almost in the glare of the sun. This would be the last sighting of the Moon before it came in-between the Sun and us. An early start ensured we were back at moorings before 09h30 to await the transport to take us to Mvuu Lodge on the Zambian side of the Zambezi River. Transport duly arrived in the form of two busses, and a happy group set off for the Zimbabwe border post above the Kariba Dam wall. The Zimbabwe border crossing was fairly uneventful and the usual official bungling minimal. Obviously, all had been told to "be nice to the tourists". A short sightseeing walk on the Kariba wall was taken, and then the climb up the hill to the Zambian Border Post. Crowds of people there, all with a similar mission! However, we were all cleared in a few minutes and off again, past money changers, curio sellers and then over (mostly) surfaced roads to Chirundu, where we turned left and headed for the Lower Zambezi Valley. Just before Chirundu, lunch was taken at a truck stop and weary posteriors were rested. Here the road surface changed from surfaced to unsurfaced, gradually deteriorating into abominable. The Kafue River was crossed by pontoon. Especially for the eclipse, tractors on each bank, which hauled the pontoon across the river, had replaced the normal hand winching. Locals indicated that there were more people in the Zambezi Valley than since the advent of humankind! More vehicles had entered the valley in the past three days than had in the past ten years. Eclipse fever was everywhere, from the signs advertising eclipse cultural experiences in every village, to the hundreds of local children lining the road into the valley, all cheering and

asking for sweets and eclipse shades. They surely had no idea of what experience was heading their way! After five hours travel over ever deteriorating roads we at last arrived at Mvuu Lodge (Place of the Hippo) with our tents ready for us, supper being cooked and coffee and tea waiting. There were also ice-cold Zambezi's a-plenty, just what was needed to wash down the Zambian dust. Still crystal clear skies. I scurried off to find Glenn Schneider and get the latest weather information, which was excellent. No cumulous likely, and only a 10% chance of light cirrus in the south. Evening consisted of readying tents, final checks on equipment, and filter making for those who did not have these ready. A restless night - (who can sleep the night before an eclipse?)

Day 5 - 21 June (ECLIPSE DAY) I was first up - clear skies! No moon visible in the east as it was too close to the sun. Much more filter making, using all of the available Mylar, cereal boxes, cardboard strips and glue. In the end, almost everyone had filters for at least their binoculars. After breakfast the advance party left for the pre-surveyed location on the banks of the Chongwe River, about 16km further downstream. The rest of the group were to follow in the busses, together with lunch and Zambezi's. The location was excellent, GPS co-ordinates obtained and a last minute predictions done. Equipment unpacked, compass bearings obtained and the best locations chosen. Lunch was taken early and then the group moved down to the banks of the river to await first contact. Everyone, under penalty of 6 Zambezi's for every flash, placed black tape over camera flashes! First contact was right on time, and soon the tiniest bite could be seen on the Sun's western limb. Gradually the partial phase deepened and the ambient light dimmed and became greyer. At about 70%, some baboons came down to the river to drink, and the butterflies disappeared. Crescents appeared under the bushes. The feeling of unreality became more intense as the light continued to fade. Birds were quiet, the bush became silent.

"Baily's Beads!"

"Filters Off!"

"Diamond Ring!"

were the cries, and in a rush totality was on us - only time for two quick shots of the diamond ring, and then reset f/stop, reset shutter speeds, and into the totality photo sequences, with the tape recorder counting down the seconds remaining. The symmetrical corona with many many spikes in all directions, prominences everywhere, an indigo sky tinged with reddish-orange for the full 360 degree horizon, and this black orb where the Sun used to be. The different bird sounds, sounds of frogs croaking in the river and the wow's and aah's and excitement of the group, most of whom had never seen totality before, some who had been clouded out in Europe in 1999 all added to the unreal and awesome experience of totality. Dark, but not so dark. And all dominated by the magnificent corona and the red prominences extending all around the Moon's edge.

"Diamond Ring!"

"Baily's Beads!"

"Filters On!"

and it was over - 3 minutes 24.5 seconds was what we had received, and it had felt like only 30 seconds.

The sudden brightening was almost frightening as the Moon's shadow rushed eastward over us. The spontaneous applause by the group was tinged by a sadness that we would not be able to stand in the Moon's shadow for another 531 days. There was a feeling of euphoria as champagne corks popped, yet a feeling of desolation that the beauty of the eclipse had been experienced for too short a time. Then it all came out in a rush - "I saw this ..."; "I saw that ..." Did you see that" "Wasn't the corona beautiful?" "Weren't the prominences awesome?" "How many prominences did you see?" The birds, the sounds, some still photographing the waning partial phases. But - all had been touched by the shadow of the Moon, and the wonder of a total solar eclipse. There were tears, there was joy, there was wonder, and there was amazement. The sceptics had been silenced. Those who wondered why this bunch of mad people had endured the long journey over impossible roads just to see an eclipse now understood. And the final thought and question, - "When is the next one?" - "Where is the next one?" Then the Zambezi's - lots of them! The trip back to Mvuu was full of excitement; the supper was full of chatter as the group relived their experiences. Glenn's group had had a magnificent spot virtually on the centreline, and the Australians in camp had also had a good spot and excellent viewing. Late to bed after many Zambezi Lagers.

Day 6 - 22 June This was chill-out day. After a leisurely breakfast, half the group went down river by boat and the other half of the group went by road, to meet up well into the Lower Zambezi National Park (LZNP). We then swapped mode of transport and returned to camp. Sightings included hippo, crocodiles, many bird species, and a mock charge by an irritated elephant and various antelope species. Baobab trees with their leafless branches were everywhere, proof that we were in pristine Africa. A late lunch, more Zambezi's and then supper around the campfire, followed by packing, ready for an early 07h00 start the next day.

Day 7 - 23 June At 07h00, the convoy departed Mvuu. Back to the pont over the Kafue River, still with tractor power, and on to Chirundu, the truck stop for a short break, and then Kariba. Border crossings were easily done with friendly officials. A quick stop for souvenirs in Kariba, and then to the airport by 12h10 to await Delaney, who we were assured was en-route and just returning from a Victoria Falls excursion. No Delaney! News was that the left hand engine had finally given up and the aircraft had to make an emergency landing at Vic Falls. We were stranded. As Kariba Airport closed at 18h00 and did not have landing lights, there was no chance to get off before the next day. It was

off to the Carribbea Bay Resort for an overnight stay. Fortunately it was a very comfortable hotel and a good supper and many Zambezi's tempered the disappointment of not getting home.

Day 8 - 24 June Breakfast at 08h00, and then the wait for news of a replacement charter. First one plan, then another. More waiting, people now getting disgruntled, especially those with onward connections. The cold Zambezi's helped a bit. At last arrangements were made for a flight from Victoria Falls to Harare to be diverted to Kariba, and then a charter from Harare to Johannesburg. We eventually set off for Harare after 17h30, just making the airport deadline and landed there an hour later. Through immigration and customs, precious films clutched in hand to avoid the dreaded X-Ray and onto the HS748 for the flight to Lanseria, Johannesburg, where we landed at about 23h15.

A long, hot and dusty journey into the heart of pristine and wild Africa, with some air travel disruptions, but all crowned by the magnificent experience of a total solar eclipse.

Roll on 4 December 2002!

Thanks to:

Natal Portland Cement (my employers) for the loan of the IBM ThinkPad.

Hewlett-Packard for the loan of the Digital Camera.

PhotoWorld in Durban for their excellent and speedy processing.

Cliff Turk for the quick supply of large amounts of Mylar at short notice.

Trade Litho for the pre-cut strips of cardboard for filter making.

Peter Tiedt



From: Fabio Pettinati <fabio@best.com> To: <solareclipses@AULA.COM> Sent: Monday, June 25, 2001 4:32 PM bSubject: [SE] [SE] **Back from Angola: flash report**

I am finally back to civilization! I arrived yesterday, Sunday, afternoon, and have yet to recover from jet lag, and having crossed two hemispheres (East -> West, and South-> North). I'll file a detailed report later today.

The week in Angola had many ups and downs, and moments of great frustration. Nothing works in that country. The fact I speak Portuguese helped tremendously. At the end the only redeeming thing I can think of was the eclipse itself.

I stationed my equipment about 30 meters away from Prof. Serge Koutchmy's site (the amount of computing power in that site alone was mind-boggling). The eclipse was marvelous, the corona full of wild spikes that seemed never ending. The sky was lighter than in '99 in Iran. There is only one thing I can say: 4.5 minutes weren't enough. Hope everyone has had great experiences as well. Fabio Pettinati

From: Francisco A. Rodriguez Ramirez <farr@navegalia.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, June 25, 2001 10:54 PM Subject: RE: [SE] **From Kaue Park, Zambia**

Hi all, SAROS 2001 Expedition has just arrived to Gran Canaria (Canary Islands), after observing the Total Solar Eclipse in Kafue Park (Zambia).

In few days we update our web site with the preliminars results. Regards, Francisco A. Rodriguez, SAROS 2001 www.astrored.net/eclipse

From: Francisco A. Rodriguez Ramirez <farr@navegalia.com>

Hi all, SAROS 2001 observed the eclipse from Mukambi Lodge, very near to Kafue river.

You can see our preliminars results in www.astrored.net/eclipse

- Eclipse photos
- Panoramic photos
- Sound files in real player during the totality
- Grafics: Temperature, Humity and Pa

In few days we will upload more photos and the eclipse video. Regards, Francisco A. Rodriguez Ramirez

From: Francisco A. Rodriguez Ramirez <farr@navegalia.com>

Hi all, You can see our preliminars results in www.astrored.net/eclipse

net/eclipse

- Eclipse photos (originals, no digital composite)
- Panoramic photos (firs contact, 50%, 95% and totality)
- Sound files in real player during the totality
- video AVI (second contact and totality) *new*
- Grafics: Temperature, Humity and Pa
- Observations c/2001 A2 (LINEAR)
-

Regards, Francisco A. Rodríguez

From: Francisco A. Rodriguez Ramirez <farr@navegalia.com>

Hi all, Yesterday, I updated my new personal website about the total solar eclipse (21/06/2001).

<http://www.navegalia.com/personal/eclipseonline/ets2001/index.htm> Regards, Francisco A. Rodriguez

From: <KCStarguy@aol.com> To: <eclipse@hydra.carleton.ca> Sent: Tuesday, June 26, 2001 4:47 AM Subject: [eclipse] **eclipse sighting**

eclipse sighting: On Jay Leno show on Monday 6/25/01

Jay Leno said " you heard about the solar eclipse on 6/21 " " it's amazing the moon blocks out the sun " "Goerge Bush said - see you can't count on solar power"

From: <KCStarguy@aol.com>

Eclipse sightings TV commercial , late June on TNT cable TV channel for upcoming TV movie for Avalon The 'O' in Avolan is in a subdued diamond ring mode with bright white-cream inner corona like rim around the Black 'o' as the sun with a beginning (or ending) diamond ring at around 5 o'clock.

The eclipse sightings are any thing that either use related pictures having to do with eclipses or the word. (examples are in movies, TV shows, commercials, books, magazines and more). If you find please submit to:

From: <KCStarguy@aol.com>

Eclipse sightings by Dr. Eric Flescher (KCStarguy@aol.com)

Laura Croft Tomb Raiders moving 7/1/2001 Over an ancient Egyptian landscape a total eclipse with corona laden sun later in the movie during a planetary alignment Partial stage moves into 2nd contact showing the bailey's beads, then diamond ring effect and then total eclipse

From: <KCStarguy@aol.com>

I keep finding more. The one so of the past 3 years will be posted at <http://members.aol.com/kcstarguy/blacksun/eclipsesightings.htm>

PS this information may be distributed to other listserves etc. just give me credit by displaying info below.

In the Times of Zambia , 6/22/01

Fed ex express advertisement shows the F in fed ex surrounded by a half (left part of the eclipse sun with inner corona) arc around the F.

It said "Fedex zambia would like to welcome all eclipse visitors and wishes you a pleasant viewing and an enjoyable stay" followed by ad info about sending goods back home. On the bottom os a mountain range with aura above it (ring of fire) and a star above the peak rim.

PS Tomb raiders had a lot of great action but it was not very well made regarding plot although graphics were quite good. Mummies II was much much better and had eclipses in it (see previous posts).

Also

Memories of solar eclipse by Chileshe Puta in the comments and letter in International News Zambia paper

The writer mentions the everlasting effect of the eclipse on many people who may have seen it including the many visitors to Zambia very briefly. The main body of the article was not really about the eclipse but the government. He decries the pathetic way and lack of organization in providing knowledge about proper viewing and proper warnings in which the Zambia government charged for the eclipse instead of giving them away unlike other countries. The cost was as much as MK7,000 (kwachas) equal according to some rate exchanges 75 US dollars!!!! He ends by saying " when will we have a government that will be considerate of its people."

I should say when our train was parked near Lusaka, that night before the eclipse , students were shouting to us for many hours at the metal siding which departed the crowd from the tracks. It took us a little bit to figure but we noticed that the clamoring was for the eclipse glasses. Even if supplied they would have been torn apart most likely by the hundreds.

From: <KCStarguy@aol.com>

eclipse sightings/news from Zambia summarized by Dr. Eric Flescher (KCStarguy@aol.com) webmaster Eric's Black Sun Eclipse website - <http://members.aol.com/kcstarguy/blacksun/eclipse.htm> -editor- Black Sun eclipse newsletter (eclipse and astronomy news) to subscribe send email to blacksunnews-subscribe@egroups.com- Eclipse Train Land cruise June 2001- Host/presenter

In: The Post , Zambia leading newspaper Date: 6/22/2001 "Eclipse is a wonder of God, says Chiluba" by Chama Nsabika and Joe Kaunda President pictured looking through viewers

"The eclipse was not brought by an action of man but a wonder of God," said President Chiluba at the Lusaka airport. He thanked the vistors for coming to Zambia and the country recorded more tourists then any other time since independence. He wondered was some Zambians thought it was too expensive to host the Organization of African Unity summit as it was a good way to market the country. (realize \$15 million dollars from visitors).

on page 3 there were partial pictures and one of totality and the corona. The text said eclipse coordinator Seenka had given out as much information for safegaurds. Also said that they thought most black sun chasers "would go to Australia next year instead." Although money was released to purchase more viewers it was said by some it arrived to late to make the purchase of the glasses eventhough it was said 800 million kwachas (8 million dollars? were released to buy previously).

Also mentioned Eclipse has long, magical history for Ngonis by Charlene Hunter- Gault The Ngoni tribe had entered Zambia near the Zambezi and Luangwa river , 170 years ago when an eclipse occurred, but descent Zulus and others joined on 6/2101 to observe from the same location another eclipse. Shaka Zulu had use the eclipse as a ploy to punish the Ngoni for running away.

(Continued from page 16)

Africa marvels at solar eclipse In some countries, witch doctors said to stay indoors so many did. Night insects appeared in Mana Pools while other animals were confused by the darkness. In Angola, police warned people to stay off roads. Zambia declared a national holiday. Local inhabitants were quoted as marveling at the darkness and how strange it was. "You feel in touch with the cosmos," retired visiting professor Paul Kissinger said.

From: luca quick <lqecli@yahoo.fr> To: <solareclipses@Aula.com> Sent: Wednesday, June 27, 2001 10:02 AM Subject: [SE] **From a small village near BalBala campsite, Zambia**

I watched the eclipse in a small village next to the BalaBala campsite (14°50'16"S, 28°01'07"E) near Chisamba, Zambia. The sky was blue and cloudless, the temperature was nice and it was no windy like the previous day. At the camp site everyone was busy preparing telescopes, cameras and binoculars to observe the three and half minutes of totality. We were approximately 350, mostly French people but there were also some Italians (as me), Germans and English. As a fraction of this people, I belonged to the ones disappointed in 1999 for having been completely clouded out. I watched the first contact and the first half an hour of partial phase with them and then I decided to go to a small village next to the campsite to admire totality with local people. At the beginning I met only a girl and a boy to whom I showed the crescentlike sun and the shadow of a tree with the similar crescentlike spots of light. The girl left immediately afterwards but the boy followed me almost everywhere. At the village there were only some women with their children, approximately ten persons. Nearly noon observed the partial phases of the eclipse up to five minutes before totality. They stayed in their houses chatting and working. Meanwhile I walked around and I try to observe animals' behaviour during the decrease of ambient light. Two cocks began to sing ten to five minutes before totality. I saw a hen leading its chicks towards a cage where the boy told me they usually sleep during the night. Some cows initially calm began to bellow. The rapidly changing light made people coming outside their houses. We were nearly ten watching the last crescent of Sun. Shadow bands appeared clearly on the reddish soil, the dark bands being larger than the bright ones. I had the impression that they were standing and only vibrating and not moving. The crescent of Sun disappeared, the moon shadow felt upon us and then, at the same moment, without having said anything, they cried and I cried. A magnificent and wonderful corona was surroundind the dark gray disc of the Moon. That image will never leave my memory: the faint and full of details outer corona encircling the brilliant inner corona with a giant ruby prominiscence. A woman began to knock at the door of her house to make her children come out and see this unimaginable and extraordinary display of primitif beauty. The boy who followed me from the beginning cried "Stars!" and everyone looked at the deep blue

sky above us where Sirius and Canopus were well visible. The 360° orange-red horizon was wonderful. Around us it was not very dark but a sort of luminosity remained during totality. Some birds continued to sing and frogs (or something like frogs) began to croak like after sunset et before sunrise. The second diamond ring was announced by another communitary cry of joy. Shadow bands were again easily visible on the soil. I burst into tears as I did, even if seldom, when I was a child. Noone spoke, I took my bag and I reached the campsite where everyone had a smile of satisfaction.

From: Jane Morrison <JaneMorrison@compuserve.com>

This morning I went to a graduation ceremony at my daughter's school where the balloonist Bertrand Piccard, an alumnus, made a little speech and presented a prize to the student who best combined proficiency in chemistry/physics and philosophy. Piccard, whose grandfather tried to get to the top of the world, and whose father tried to get to the bottom of the sea, said in his speech that at the beginning of the 21st century he found the world limping. The leg of science and technology had grown long, he said, while the leg of human values remained underdeveloped.

There have been many wonderful accounts of the June 21 eclipse, in images and words, on this listserve. As an armchair eclipse-watcher I have been grateful for all of them. But the report from BalBala brought tears to my eyes. Whoever wrote it should get a prize too. Cheers. Paul Montgomery, Lausanne, Switzerland

From: Gerard M Foley <gfoley@columbus.rr.com>

A wonderful description from a very sympathetic observer. On several occasions at the end of totality the people around me have applauded!

From: luca quick <lqecli@yahoo.fr>

Just in order not to remain a completely unknown person, I'm a 27-year-old student and I've seen four solar eclipses: two partials in 1994 and 1996 from the north of Italy and two totals. In 1999 I observed on top of a hill in the Vosges mountains in France. As I wrote in my previous message, I was completely clouded out during totality (it rained!) and the only thing that I could see, even if very spectacular, was the rushing arrival of moon shadow over a valley oriented westward. Last week eclipse was then my very first successful occasion to see totality (I hope the first of a long serie). Now I can truly understand why there are people who travel all around the world to see the outstanding beauty of totality. Bye and visit Africa if you can, Luca Quaglia (I've forgotten to sign the previous time)



From: Massimiliano Lattanzi <m.lattanzi@unesco.org> To: <SOLARECLIPSES@AULA.COM> Sent: Wednesday, June 27, 2001 11:28 AM Subject: [SE] **Total Solar Eclipse from Zambia**

Hallo everybody! I have just posted in the "Files" section of the AP-UG (Astro-Physics User Groups at <http://www.egroups.com/>) a low-res video, and some raw frames, of the solar eclipse of June 21, as taken from Chisamba (Zambia) 14°50.2' S, 28°01.092' E.

I used an AP Stowaway with a Sony DV TRV900 3CCD, a-focally coupled through the optical component of the AP Barcon.

I am posting right now a very small QT compressed version (1.4Mb), as the video at full resolution (135 lines/mm) takes up one full gigabyte!

In the coming days I shall extract some short sequences with a higher resolution, as even the frames 640*480 JPEG are rather distant from the full-screen resolution of the DV.

Here are some technical data

FEQ: ca.1650mm
f/eq.16-22
Resolution: ca.135 linee/mm
Shutter speed: 1/1000 ÷ 1/10.000 "

Enjoy! Max

From: Gerard M Foley <gfoley@columbus.rr.com>

The link takes me to a page that says egroups has been taken over by Yahoo. After some fiddling I come to a page which lists this message, but there is no information on how to access the "Files" section. I can highlight "Files" on the left edge of the page, but this is not a link, at least for my IE5.5 browser. Gerry K8EF

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Actually the link is accessible only if you sign in (upper right corner). I would suggest to do it. You have several astronomical forums there. I apologise for the inconvenience, but I did not have time to come up with a web page...

Any space on the SE server?

From: Ted Saker Jr. <ted@saker-law.com>

Not only do you have to sign in, but you also have to be a member of the AP users' group as well. In order to join the group, I think you have to provide an AP serial number from an AP product, proof of ownership of that product, and give the secret AP handshake. <G>

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Oh no! This is not enough! You also need your blood group to be an officially certified " AP+ ";->

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Hi all, I've just posted seven pix in my public album in Yahoo. <http://photos.yahoo.com/m.lattanzi>

This is accessible to everybody, without any "AP+" blood certificate ;-)> I cannot upload the movies, though... We'll work it out! Enjoy! Max

From: Patrick Poitevin <patrick_poitevin@hotmail.com>

Solar Eclipse accounts and pictures are welcome for the Solar Eclipse Newsletter. Please send your files to Joanne at joanne_edmonds@hotmail.com

Make sure the files are not larger than 1 MB. No websites please, just the files. Joanne will make a Special SENL edition about this eclipse. Best regards, Patrick

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Hi all, I've just uploaded four frames at 1024x768 resolution (to be used as screen background!) extracted from my video.

They are available for free download at <http://photos.yahoo.com/m.lattanzi> My photos => TSE-2001 => Frames 1024x768

A reminder on technical data. These are frames extracted from a hi-res video taken from Chisamba (Zambia) 14° 50.2' S, 28°01.092' E. I used an AP Stowaway coupled with a Sony DV TRV900 3CCD. FEQ: ca.1650mm, f/eq.16-22, Res: ca.135 linee/mm, Shutter: 1/1000" (1/10.000" for the 3rd contact). No digital processing. Enjoy! Max

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Dear All, Finally I decided to fast at lunch and here is the result. Some videos - at last! - on line.

I uploaded to my Yahoo Briefcase (<http://briefcase.yahoo.com/m.lattanzi>) three extremely short sequences with three different resolutions:

8" < 2nd contact (Diamond ring)

(240x180 = 96Ko

(320x240 = 475Ko

(640x480 = 1.2Mo

(Continued on page 19)

5" - from inner to middle corona (shifting shutter speeds)

(240x180 = 73Ko)

(320x240 = 315Ko)

(640x480 = 740Ko)

10" < 3rd contact (Bailey's Beads)

(240x180 = 148Ko)

(320x240 = 685Ko)

(640x480 = 1.2Mo)

For those with a fast connection I warmly recommend the 640x480 version. Is only 25% of the original resolution, but enough to please those who did not have the possibility to fly to Africa. Enjoy (and feed me back) ! Max

From: Glenn Schneider <gschneider@mac.com>

Hi Max, I went to your 1024x768 directory, but the four images there are 640x480. (?) Glenn schneider

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Dear All, I played a bit with compression algorithms and transfer rates and here is the result.

I added to the video section of my Yahoo Briefcase (<http://briefcase.yahoo.com/m.lattanzi>) a folder with a 800x600 (!) version of the three sequences hereunder.

The details are slightly better than at 640x480 and the size almost the same (1Mb). I hope those who did not see the eclipse will appreciate... Enjoy !!! Max

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Glenn, It's a Yahoo trick. You have to click on the image to get the full resolution.

Also have a look at the videos <http://briefcase.yahoo.com/m.lattanzi> Cheers, Max

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Dear All, I've added to my Yahoo briefcase (<http://briefcase.yahoo.com/m.lattanzi>) two shots of a prominence during the eclipse. My photos => TSE-2001 => Prominences.

The photos are taken through a Takahashi FS-60c on Velvia 50 slide. One is in RGB color. The other in RED light.

It is just a rough scanning. Nevertheless the level of details a small 60mm fluorite apo was able to deliver is amazing.

Enjoy and thank you for any feedback! Max

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Dear All, This morning, over breakfast, I did a simple digital double-stacking of the two images of yesterday, taken in CHisamba (Zambia) through a Takahashi FS-60c. Macrocontrast is improved, as well as S/N ratio and visibility of some fainter details.

You may find it (800x600 res.) at the same address (<http://briefcase.yahoo.com/m.lattanzi>) My photos => TSE-2001 => Prominences => Prominence_DS_800.jpg

As a world-renowned master optician was so kind to say: "That is a lot of detail for an instrument with a lens barely bigger than my finderscope."...

Enjoy and thank you for any feedback!Max

PS: I'll try to put up a web site over the week-end, so as to avoid all of you dealing with the Yahoo Briefcase. Thank you for your patience.

From: B Yen <byen00@earthlink.net>

Dr. Harold Zirin (prof emeritus, Caltech) had made a similar statement about BBSO observatory's 70mm (?) refractor, which was taking research quality images thru some special filter. The sun is bright, so aperture (light gathering power) isn't absolutely necessary. Aperture is necessary for resolution (smaller PSF, point-spread-function), but the atmosphere & film grain is the bottle-neck. A solar scientist from ESA just told me about a 4meter ground-based solar telescope, using AO (adaptive optics), which is a real jump. AO ground-based astronomy is a real revolution. I met the chief physicist at Palomar on the way back home, after the '99 solar eclipse. I showed him eclipse video, & he told me about the big push in AO.

Those prominence pictures on my website (<http://www.comet-track.com/eclipse/secl01/secl01.html>), were taken with a 70mm fluorite refractor with a hacked up 3x teleconverter. A cheapish looking old Celestron, with plastic focusing knobs (kinda falling apart). Daniel Fischer told me the Belgian scientists (observed from Busanga Plains, northern Kafue), used a "smallish" antiquated looking refractor (which they've been using for years).

Has anyone commented on "seeing conditions", during eclipse? (I was too busy unfouling myself up from bugs, too notice). At night, I noticed huge scintillating, 30 deg up from horizon. I don't know if it was due to bio-mass burning during the day (& night!). Towards the zenith, the seeing was better. Many of the horizon pics of the eclipse I've seen, show smoke from bio-mass burning. My area was free of it, during E-day. Bob Yen

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Fred, Thank you for the kind remarks!

The Takahashi FS-60c (355mm f/5.9) was modified to accept 2" eyepieces and then coupled with a TV Powermate 4x, and a Nikon F4s + DW-21 6x High Mag Finder + focussing screen M (photomicrography).

The DW-21 + M screen allowed to focus on the umbral and penumbral part of the sunspots and even on the solar granulation. This results in a perfect focussing, thus making use of the full resolution of the lens.

Furthermore, the use of a transparent screen allowed to see as clearly as using a telescope w/eyepiece and, at the same time, to take pictures.

These are the technical data:

FEQ: ca.1500mm
f/eq. 25
Slide: Velvia 50
Resolution: ca.180 linee/mm
Shutter speed: 1/60"

Thank you again! Max

> > From: FRED ESPENAK <u32fe@lepvax.gsfc.nasa.gov>

> >> As a world-renowned master optician was so kind to say: "That is a lot of detail for an instrument with a lens barely bigger than my finder-scope."...

> > Beautiful images! Did you shoot with the Takahashi FS-60c at prime focus, or did you use a barlow to increase your focal length? What focal length did you use? - Fred Espenak

From: Massimiliano Lattanzi <m.lattanzi@unesco.org>

Dear All, Pictures and videos of the 2001 Total Solar Eclipse are freely available on-line at <http://www.geocities.com/m.lattanzi/tse-2001>

It is just a small web site under construction. Nonetheless, I also posted some images of the 1998 TSE in Venezuela.

More to come (as well as H-alpha and planetary images). I hope you will like it! Max

Australia,
France and
Sweden in Lu-
saka



From: McCann, Stephen <stephen.mccann@roke.co.uk> To: <SOLARECLIPSES@AULA.COM> Sent: Wednesday, June 27, 2001 5:49 PM Subject: [SE] **Preliminary eclipse temperatures from Zambia**

Hello to you all. Here's some very quick results from my Thermochron experiments, which I'll sort out over the next few days, so they are not definitive, I just wanted to give you an idea of the 9 deg C drop we experienced !!.

Please email me directly at :-

stephen.mccann@roke.co.uk

if you'd like the full set of readings.

My station was south of Chisemba, Zambia at the 'solipse' site, co-located with one of the Sky & Telescope expeditions.

	ground	150cm
	=====	=====
1st contact	28.0	25.5
minimum temp	18.0	16.5
4th contact	23.5	22.5

All temps in centigrade.

I can not really add much more description to what has been already said earlier today. Just amazing. Can't wait for the next ten or so ! Cheers, Stephen McCann

From: McCann, Stephen <stephen.mccann@roke.co.uk>

Dear all, Success !! I enclose my thermochron results from Chisemba, Zambia.

Coords based on two GPS units about 100 metres apart are :-

Lat : 15d 00' 30.7" S
Long : 28d 11' 01.1" E
Altitude : 1158m

Lat : 15d 00' 17.45" S
Long : 28d 10' 50.0" E
Altitude : 1143m

(Thanks to Andrew White for the second set of coords)

Time of 1st contact was 11:40 UT and 4th contact 15:27 UT to the nearest minute.

If the excel spreadsheet is the wrong format for you, let me know and I'll send out an ascii version.

The 2 blips after 4th contact are a result of myself having to dismantle my kit to leave the eclipse site and get to the bar.

Please feel free to use these results in any way you wish, although do add a reference to me if you can.

I hope to produce a picture of my setup for those who are interested next week.

Thanks for your encouragement and kind regards to you all ! Stephen McCann

From: McCann, Stephen <stephen.mccann@roke.co.uk>

Hi, Pictures associated with my 'thermochron' temperature results can now be seen at :-

http://briefcase.yahoo.com/stephen_mccann

together with the results themselves.

My shades were made from 'normal' mylar plastic packaging material and the pole was just a long bamboo cane. My original idea of using cocktail umbrellas did not work as they are too small !

The 'ripples' on the ground measurement around 1st contact may be due to a gentle but gusty breeze that we had at that time.

You may be interested in the 'pseudo-morning' mist photo, that appeared about 10 minutes after 3rd contact and remained above the ground for about 5 minutes.

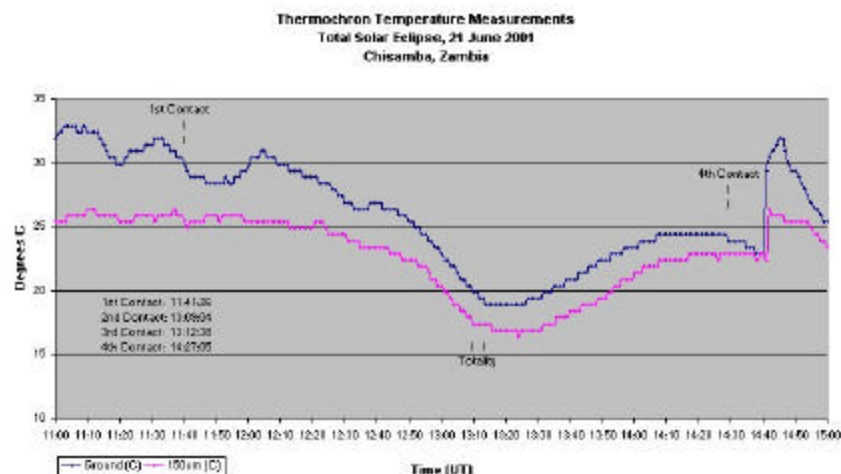
A full report of our trip, together with lots more data and newspaper reports/stamps etc can be found at Andrew and Val White's excellent web site :-

<http://www.vanda.demon.co.uk/travel/africa2001/africa2001.htm> and for a nice graph of my data :-

http://www.vanda.demon.co.uk/travel/africa2001/temperature_sm.htm

(Thanks to Andrew & Val for hosting my results)

We were the 'techies' in the field next to the solipse festival site. Kind regards, Stephen McCann



Smiley Bino by Stephen McCann

From: Richard Bareford <bareford@yahoo.com> To: <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 28, 2001 3:18 AM Subject: [SE] **More eclipse photos**

I uploaded a sequence of 35mm and digital 8 frames to my Yahoo photo album; free access for all at <http://photos.yahoo.com/bareford> Richard Bareford

From: Peter Tiedt To: 'SEML' Sent: Thursday, June 28, 2001 1:20 PM Subject: [SE] **Speed of Change of Brightness**

One of the things I will remember for a long time about this eclipse is the sudden return of brightness after 3rd contact.

Where I was observing (on the banks of the Chongwe River) on the border of the Lower Zambezi National Park where umbral velocity was in the region of 1300 m/s I was amazed at the sudden return of brightness - like the lights going up in Jay's Opera ;-)

Question: Is this rate of change of brightness completely dependent on umbral velocity, i.e. near maximum eclipse, where velocity is slower this would be more gradual, and at the sunrise and sunset ends of the path, where velocity approaches infinity this would be more rapid?

Pics will be going up on the Africclipse Website in the near future

Yes - I ignored all the advice for first-time observers about not taking photographs, but managed to observe just about everything and still get almost a spool of film. Maybe just lucky

In hindsight I think I would have seen a bit more if I had left the camera at home, but the photographer in me refused. Peter Tiedt

From: <timo.karhula@se.abb.com>

The change of brightness at 3rd contact has also a physiological explanation. The eyes get somewhat dark adapted during the fleeting minutes of darkness and to me the second Diamond Ring appears brighter than the first one. You simply get dazzled by the sudden light increase.

Tomorrow I will post a lengthy report of the eclipse as seen from Fringilla Camp near Kamilonga, Zambia./Timo Karhula

From: Evan Zucker

I've observed 5 total solar eclipses, with varying umbral shadow speeds, and I've never noticed any difference in the rate of brightening following 3rd contact. In my non-expert opinion, even when the shadow is at its slowest, it is still so

fast that there wouldn't be any significant difference in brightening (or dimming) rate compared with a sunrise or sunset eclipse, when the shadow's speed is nearly infinite.

I certainly agree with Timo Karhula that the psychological and physiological effects play a major role. Evan H. Zucker

From: Eric Pauer

During the 1999 total solar eclipse from Hungary, I used a light intensity logger which took light level measurements every 8 seconds. The light decrease before second contact is almost exactly the same as the increase after third contact. Graphs can be found online at: <http://www.bit-net.com/~pauer/eclipse99/envres/envres.htm>

Logarithmic scales were used due to the high dynamic range needed to plot the light levels. With the high brightness of the photosphere, I don't believe that umbral velocity would affect the rate of change much. In my view, the low sun angle at the sunrise/sunset ends of the totality path would tend to offset any effect due to the rapid umbral movement. Intuitively, I believe that your eyes notice the rapid increase more than the rapid decrease. Eric

From: Khalid alsubai

If we check this site : <http://physics.open.ac.uk/~ajh47/eclipse.htm>

I found such behavior has been recorded by the photometry graph, and I start to believe such intuition!! K.alsubai

From: Wasył Moszowski To: SOLARECLIPSES@AULA.COM Sent: Thursday, June 28, 2001 6:10 PM Subject: [SE] **o eclipse total do sol de 21 de junho de 2001, angola**

I have been observing my 12th total eclipse at the Instituto Nacional de Petroleos, some 13 kms to the NE of Sumbe, capital of Kuanza Sul province, where the shadow first touched land. Several groups were located here, Serge Koutchmy's from CNRS France, Eva Markova's from the Czech republic, Teodor Pinter's group from the Slovak Republic, as well as people from Austria, Portugal, Romania, Poland, Brazil and the U.S.A. The weather is perfect: as on previous days, the early morning cloud cover disappears completely at 10 am local time, 2 hours before the start of the partial fase. I search for Venus half an hour before second contact, but see it only 6 minutes before totality. A few minutes later: very pronounced, seemingly irregular and long shadow bands, on the white walls of the student's dormitory and on the rusty coloured soil. An inclined, dark coloured band in the sky, is seen low to the south or south west, where I do not expect the shadow cone to be visible. Jupiter shines before second contact, and then it gets really dark! I can't even read the settings on my camera wich is attached to the 70 mm Televue Ranger; the viewfinder

shows extremely long equatorial streamers, especially to the west. When I change the telescope's set-up to regular viewing at 24x, the corona looks distinctly solar maximum: delicate threadlike streamers, all around the disc, and 2 very narrow parallel rays radiating from approx. the NW corner. My attention skips from the large prominence to that mighty little star, 1 Geminorum, which shines one solar diameter from the edge, fully embedded in the corona. I memorized the rough positions for the brighter stars and planets, during the partial phase, and I am now hopping from Saturn and Aldebaran, to Jupiter and Beta Tauri (which I first mistook for Mercury), then to Sirius, Rigel, Betelgeuze, Procyon, fail to locate Canopus, and am impatient to search for Castor and Pollux: this is my largest count ever, 3 naked eye planets, 6 naked eye stars, and 1 very fine star shining in concert with the delicate light from the corona. Another anomaly: totality seems to last 4 minutes and 40 to 45 seconds, 10 to 15 seconds more than expected, surely a reading error, memory failure, or prolonged diamond ring effect. After staying 5 days at this Angolan prison camp, we foreigners are evacuated, and put on a plane to Luanda. I managed to escape however, to Sumbe beach, with a satisfied mind, as I had just begun a new round of eclipses at this one and only place, in former colonial times called Novo Redondo, new round or new circle. Wasył Moszowski, Brussels, Belgium

From: Bill Kramer <bill@autocode.com> To: Solar Eclipse Group <SOLARECLIPSES@AULA.COM> Sent: Thursday, June 28, 2001 10:01 PM Subject: [SE] TSE 2001 - **What a beauty!**

Hi All! I am back in Ohio to high humidity, non-transparent, light-polluted sky again.

I'll be putting a detailed report about our expedition into Zambia on my eclipse-chasers.com web page soon, but just wanted to let everyone know that we had a wonderful journey into the dark continent.

We saw 3m 33s of totality at our location about 70 km north of Lusaka, just south of Landless Corner. The sky was clear, the seeing excellent, and the hospitality was fantastic.

There were numerous prominences with one detached from the chromosphere visible at 2nd contact. A large flare had sent large pieces of the chromosphere and photosphere into the corona creating a wide streamer stretching out to one side (about 60 degrees off North to the East). This steamer appeared as two causing many to report six major steamers. However, I counted it as one since they were parallel and obviously the result of the same solar feature sitting between them - a large prominent flare.

Several polar spikes were quite visible with prominences

and a large hedgerow was seen edge on as third contact approached.

The sky was quite bright due to the bright corona and of the planets in the sky, only Jupiter was visible. Mercury was not too much further away in the sky, but was a 2nd magnitude object and not visible at all. Even in longer exposure photographs it did not show up.

The horizon was yellow orange and bright. We did see the approaching shadow but did not see any shadow bands - at least I didn't and I didn't hear anyone report them of the many people sitting near me.

I was with Eric Brown's "EclipseSafaris.Com" group and enjoyed it every moment of the way.

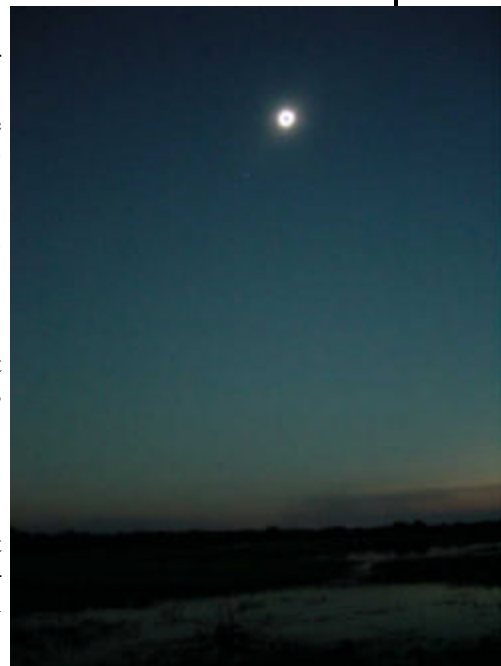
I'll be posting pictures and a more detailed report in the next few days.... -Bill Kramer

From: Patrick Poitevin <patrick_poitevin@hotmail.com>
To: SE Mailing List <SOLARECLIPSES@AULA.COM>
Sent: Thursday, June 28, 2001 9:34 PM Subject: [SE] **Total solar eclipse from Boets Farm, Zambia**

Dear all, Joanne and I were proud having the kids, Michael (13) and Laura (11), with us and showing them the total solar eclipse from Boets farm, not far from Chichamba in Zambia. No cloud was visible. We observed the eclipse with two C90 Celestron telescopes, the sunspotter and a 20x50 binocular. Joanne filmed the entire eclipse with the 25x optical zoom digital Sony camera and I took some general snapshots with a 3x optical zoom digital camera.

The weather station of the Plymouth University did not arrive timely, but we recorded a temperature drop of 13 degrees C, with lowest temperature at 6 minutes after third contact. Humidity increased with 32 percent, with highest value at 27 minutes before forth contact.

We had 3 minutes and 37 seconds totality. The eclipse was not very dark. We observed Jupiter, Saturn and Sirius only. The

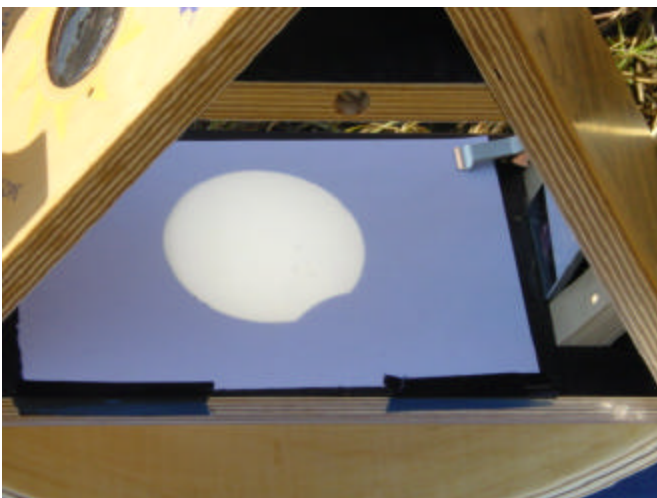


(Continued on page 24)



corona was wonderful and many prominences were visible, as well as rather dark lines as spikes in the corona. Our objective was showing and explaining the kids the full spectacle where we are travelling for for many times.

A full report of Michael and Laura can be read in the special edition of the SENL soon. Best regards, Patrick



Previous Page: Totality with a Sony 3.3 megapixel Cyber Shot camera 3x optical zoom.

Above: Noongallas group just before totality. In the front Laura at the C90, Joanne at the Sony Camcorder and Mike behind the C90.

Left: The partial phase as seen with the Sunspotter. See previous SENL issues for details about the Sunspotter.

From: <timo.karhula@se.abb.com> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 29, 2001 8:39 AM Subject: [SE] **Report of the eclipse from Fringilla Camping, Zambia**

The Total Solar Eclipse as seen from Fringilla Camping outside Kamilonga, Zambia

After having seen a perfect eclipse from Romania back in 1999 I started searching for tours going to Africa to see the next total solar eclipse on June 21, 2001. In February 2000 I found in Internet a trip organized by Sandveld Tours / Outback Africa in Germany who would conduct a 24 day solar eclipse safari from Cape Town to Lusaka. They arrange travels in minibuses for groups consisting of maximum 14 people so the tour was fully booked already in May 2000.

Our team of four Swedes, four Germans and six Americans plus two South African guides joined in Cape Town on May 30 for immediate travel northward. We camped almost every night in tents at various camping sites with differing levels of conveniences. Two weeks were spent in the fabulous Namibia and nearly one week in beautiful Botswana.

To be certain to be near the eclipse centerline well in advance, we decided to skip a day in Makgadigadi Salt Pan in Botswana and we were to arrive to the last camping site the day before Eday. That morning, near Livingstone, a very thin crescent was seen far below Venus in the bright twilight. It was clear that the people in Zambia was aware of the oncoming event. Kids wanted to have free eclipse shades from us, but unfortunately, we could not give away as many viewers we had wanted to. Signs had been set up in many places near Lusaka describing where to find good, public viewing spots. When arriving near Kamilonga we stumbled upon the Solipse festival in Chisamba where they had a 10 day long 'rave party' playing Techno-music all day and all night long. We set up our tents a few kilometers away in Fringilla Camping.

The solstice morning on the eclipse day greeted us with sunshine, as virtually every other morning the last 24 days in Africa. One man from England had brought a 400mm focal-length Coronado H-alpha solar telescope which showed one especially large prominence which we were going to witness in visual light in the afternoon. The telescope also showed a few prominences seen 'face-on' against the disc and almost 20 small sunspots in a chain. A change in the shape of the prominences could easily be discerned within two hours. People from Sky & Telescope travelling with Spears Travel had booked the guest-houses close to the shops. Here had also BBC arranged gear for streaming back live images from the event. There was plenty of time relaxing and choosing favourable spots where to set up our equipment in the camping area. There was a good open area towards the northwest where the Sun would be eclipsed after 3 pm. My site had the geographical coordinates: latitude = -15d00'17", longitude +28d09'30" and elevation 1130m according to my GPS-receiver and thus 1.6 km north of the exact centerline. I would video-tape some of the partial phases and the entire totality with my Sony CCD TRV65E cam-recorder on a Manfrotto tripod as I had done at the three recent central solar eclipses and the optical magnification I used was 18x. I calibrated the camera's timekeeping with the GPS-signal. This time I had mounted an Baader Astro Solar filter with Vekro-tape in front of the objective which I could very quickly remove when the right time arrived. The solar image had a pleasant blue-white hue. Our group's Safari Astronomer, professor Fritz Kleinhans from Indianapolis, had set up his 90 mm Maksutov telescope which everybody could use.

Just before 1st contact, I took my first video-shots of the Sun. At 11:41:29 UT, seven seconds after 1st contact, I could already see a tiny bite of the Sun at $V=123$ degrees (the so called Vertex-angle counted counterclockwise from zenith point of the Sun's disk). The corresponding position angle, PA, was 270 degrees (exactly due west). Just shortly afterwards the nibble was clearly visible with eclipse glasses. Eight sunspots was visible of which three could be seen with eclipse viewers naked eye. The first big sunspot disappears behind the lunar disc at 12:01 UT and the last big one disappears at 12:20 UT. It was about now one could see that something was going on in the sky due to the light change if one was not aware of the eclipse beforehand. More and more farm workers came to our site (this day was declared as a national holiday in Zambia) and they wanted to see the eclipse through our instruments. Because many of them had never acted in a film before, they were excited to become 'TV-stars', as I expressed it. There were some clouds in the general direction of the Sun but those were only weak smoke from distant bush-burnings. I started to monitor the temperature drop with a digital thermometer which I had tucked in a shrub one meter above ground. It was +23.5C at 2.00 pm local time and at 3.08 pm (a minute before 2nd contact) it had dropped to +17.2C. Four minutes before totality our tour leader, said that he was bitten by nightflies or mosquitos (first nocturnal animal activity?).

46 seconds before 2nd contact, a large group of people cheered in the distance. It must have been at the time just before the first Diamond ring at the crowd's site, since the umbral shadow was racing faster than the speed of the sound. A couple of people in our group noticed shadow bands on the ground about a minute before and after totality but I forgot to specifically

(Continued on page 26)

search for them. We shouted, screamed and whistled like mad at this time. I found Jupiter easily naked eye 13 seconds before totality. The first Baily's beads could be seen six seconds before 2nd contact (still with the filter on). Three seconds before the totality at our site, I removed the solar filter and captured an overexposed Diamond ring.

2nd contact began at 13:09:03 UT. Shots can be heard somewhere (champagne bottles were corked early?). I was using different exposure times in order to see all the details, from the bright prominences, inner corona and pink chromosphere to the faint, outer corona. The following position angles, PA, assumes the value of PA-V to be 126 degrees during totality. The huge prominence at PA 45 (three o'clock) was very prominent ;-) and asymmetric. Four more small ones were seen between PA 170 and PA 200 ('half past nine' - 'half past ten'). At PA 100 (one o'clock) there was a corona hole. An especially brighter inner part of the corona was towards PA 45-65 (two o'clock - half past two), next to the big prominence.

I took a quick glance of the sky and immediately found Jupiter (elongation 5 degrees, altitude 27 deg, magnitude -1.9), Saturn (el=22 deg, h=13 deg, mag +0.1), Sirius (el=41d, h=57d, mag -1.5), Canopus (el=76d, h=41d, mag -0.7) and Procyon (el=30d, h=61d, mag +0.4) with my naked eyes. Venus and Mars was below the horizon and Mercury was too faint, +4.0m. When I shouted saying that I saw Sirius and Saturn a man asked me if I was serious and certain ;-)

The Mid-eclipse occurred at 13:10:54 UT when the Sun's altitude was 31 deg and the magnitude of the eclipse was 1.022 (ratio of size Moon/Sun = 1.044). The corona could be traced to at least 1.5 solar diameters outwards and beautiful streamers were seen in every direction. I tried to spot the 4.2 mag star 1 Gem only 0.8 deg above the Sun's center with hand-held 8x20 binoculars, but I failed. Four more prominences appeared near PA 275 (seven o'clock). A pink chromosphere came into view between PA 260 and PA 305 (six o'clock - half past seven). It heralded the end of totality which would happen 12 seconds later.

At 13:12:36 UT a second Diamond ring brightened up the lunar limb at PA 274, after 3 min 33 seconds of totality. The second Diamond is always much brighter than the first one due to our eye's dark adaptation. I continued to video-tape the eclipse. The chromosphere and many Baily's beads can be seen some ten seconds later. The prominence at 'half past ten' can be seen up to 57 seconds later and the giant prominence at "three o'clock" could still be seen until 1 minute 12 seconds after 3rd contact when I finally decided to put on the solar filter again.

One and a half minute later we hear trucks honking on the road, cheering the end of a perfect totality. At 3.20 pm (8 minutes past 3rd contact) the temperature was +15.2C. Thus, the air temperature had dropped by 8.3 C after first contact and by 1.7 C during totality. The first sunspot appeared again at 13:34 UT. I continued to record the Sun every now and then until I no longer could see the Moon's bite of the Sun's surface at 14:26:39 UT.

This was the most colourful eclipse I had experienced but the corona seemed smaller and sported fewer prominences than in 1999. There are always things that I forget to observe. This time it was the oncoming lunar shadow and the shadow bands. Instead I studied the prominences and corona in detail with binoculars and saw at least five identified stars and planets naked eye. There was surprisingly few people in our tent camping near the centerline. Where were all they? There was room for dozens of more people! One thing which I liked especially this time was all the local farm workers gathering around me, watching the LCD-screen in a safe way and I could explain the eclipse to them. They had enjoyed the event immensely and I hear them yell in their native language on the video-tape. Our Outback Africa expedition celebrated the successful eclipse in the evening and we honoured our tour guides Harald and Hennie for the tremendous, about 7000 km long, bus-trip through five countries in southern Africa.

The next day was the flight back home from Lusaka to Stockholm via Nairobi and Amsterdam. It was really sad to say goodbye to the rest of our Outback Africa team. A large group of eclipse people arrived to the airport and I had the privilege to meet Mr Eclipse, Fred Espenak! I also chatted with Olivier Staiger who had made a web-cast from his room in Hotel Inter-Continental in Lusaka.

Needless to say, the trip up to Zambia, should require an article of its own. I only mention the highlights here and they were the Cedarberg Mountains in South Africa, canoeing on the Orange river, The Fish River Canyon (the world's second largest canyon), the huge Sossusvlei sand-dunes, Spitzkoppe, the Petrified Forest, Etosha National Park (with the 'Big five' observed), Okavango Delta in Botswana (the world's largest inland delta), Chobe National Park, Victoria Falls and ending in a fantastic eclipse north of Lusaka. I spent more than a dozen nights stargazing with my 20x100 binoculars in one of the clearest and darkest skies in the world in Namib Highveld and desert. It was really exotic to hear hippos grunting near me in the night while observing the deep-sky! I regard this as the best of my four video-taped central eclipses (my third total) and maybe I will be located within the umbral shadow in South Australia in December 4, 2002? Timo Karhula, Sweden

From: Glenn Schneider @ Home <gschneider@mac.com> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, June 29, 2001 11:41 PM Subject: [SE] **No two are alike...**

Sleep-deprived and jet-lagged, and now back in Tucson, the vision of the 2001 Total Solar Eclipse is etched in my brain (though, not on my retina). It seems while on my return the onslaught of reports on the [SE] mail list exploded and wonderfully pre-empts me. How spectacular it is to see one successful report after another - thus far no tales

of woe from clouds, rain, fog, etc. Clear skies abounded and graced us all. As much has already been said I'll be brief, and add more in a week or so after my films, now in transit to Kodak for processing, return. Many have commented on the likeness to this eclipse to 1999 - in some ways true; the "classic" sunspot maximum corona, and radial streamers. Yet, the placement and form of the prominences, the lightness of the sky, and the day-before assurance of severe-clear skies (a rare blessing) set it apart - as did the venue; in our case from the lower Zambezi Park just south of centerline off the Zambezi River. 3m 30.5s - an instantaneous eternity. Thanks to all through who information flowed. Uniquely, for me, receiving e-mailed solar activity reports via a satellite-phone email the day before the eclipse was a treat (I bow to Eric Pauer for this) and to meteorologist Lance Bozart at SUNY's Earth and Atmospheric Sciences Dept. for remote support. Thankfully, we didn't have to hop in an escape plane. Feet on the ground - THAT's the way to do an eclipse. Now, to plan for my 23rd TSE. The conundrum: Africa/Australia/Africa/Australia... Cheers, Glenn Schneider - 1h 06m 19.1s in the Umbra and counting...

From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 30, 2001 6:53 AM Subject: [SE] **preliminary results from Kabompo, Zambia**

I just got back a few hrs ago. Whew! what an eclipse & what an adventure.

Saw Daniel Fischer's group 3 times (at ZASTI, Lochnivar National Park, British Airways Flight #283 back to London), ran into Cees Bassa at a road block (we were both on our way to Livingstone), met Jay Pasachoff/Olivier Staiger at Hotel International in Lusaka.

I have some preliminary results at: <http://www.comet-track.com/eclipse/secl01/secl01.html>

just eclipse horizon videos (2nd & 3rd contact), & also temperature and light data (crude plots downloaded from TI86 calculator).

I develop film tomorrow, so I should have a complete portfolio in a few days. Updates will be posted on SEML.

I was on the banks of the Kabompo River, overlooking it towards the NW. The ferry (for cars) was broken, so 200lbs of equipment was transferred by canoe! It was fun. I made friends with the local farmers, & they took me canoeing all over.

Nighttime astrophotography & Southern Sky viewing was done on 10 nights. I actually remember THAT, more than the eclipse..and the eclipse itself was phenomenal! (I tracked Comet A2 Linear & saw it brighten considerably. 3rd magnitude I hear. saw it on the morning I left, the 28th. Mad dash back to Lusaka to catch my flight!! Crazy. I even lost my ticket to London!)

I totally fell in love with Africa, will probably go there for 2002 eclipse in December. I got a safari tour in Chobe Nat'l Park (eclipse path 2002 crosses there), & the operator filled me in on weather patterns in December. I think it's do-able, but one has to be VERY MOBILE to dodge bad weather. Bob Yen

From: B Yen <byen00@earthlink.net>

I uploaded some still images at: <http://www.comet-track.com/eclipse/secl01/secl01.html>

The prominences @2nd contact are the most interesting. There was no single bead: 3 beads extinguished simultaneously.

There was a cluster of coronal loops, which contained that interesting prominence. You can actually see a "negative" loop near the head of the prominence. B Yen

From: B Yen <byen00@earthlink.net>

I have a large portion of my material uploaded, see <http://www.comet-track.com/eclipse/secl01/secl01.html>

There is a real deep exposure, for the 20mm wide-angle lens. It shows how far the corona extends. (its extent is dependent on the detector, human-eye or camera lens. Function of detector area, radius**2)

I just got the scans of my corona bracketed-sequences (B&W and color), so I just have a corona-composite within a few hrs. Jon Kern/Wendy Carlos have theirs done, looks nice.

<http://www.ligo-la.caltech.edu/~jkern/Eclipse01/>

[I ran into Williams College group after the eclipse, at the Botswana border crossing (pontoon boat). I didn't know it at the time, but Jon Kern passed right by me. We had some email collaboration, prior to eclipse]

I'm going over my travel video (Hi8 and mini-DV), so I'll be uploading some cultural images as well (some of it is already up). I have time-lapse sequences (7.5mm, 14mm, 16mm, 20mm, 1650mm, 800mm), each have ~36 frames. This means some grueling scanning, but it will be worth it. People were commenting about the *long* 2nd contact (& 3rd contact)...I have the film sequences to prove it! I burned so much film on 2nd contact, it affected the rest of my eclipse program.

I put in a music playback (loop mode), to add some ambience. "Storms in Africa" is what's being used now (via Fair Use Doctrine). There was thread a while back, about eclipse music. Cat Stevens "Moon Shadow" was mentioned, & others. I need some feedback on appropriate (very subjective!) eclipse music. On the British Airways flight back to London Gatwick, there was some background music playing in the headsets, prior to takeoff.. it was a Vangelis-like sounding track. It had "astronomical wonder" feel to it, anyone know what artist/score it was? I forgot to buy some ethnic/cultural Zambian music, anyone buy any tapes or CDs in Zambia? Bob Yen

From: Arne Danielsen <arnedani@online.no>

Excellent images, Bob!! May I suggest the album "Millennium Eclipse: Darkness & Dawn" by Simon Cooper. This album was especially made for the 1999 eclipse. I find it very relaxing and a little Vangelis-like. Maybe it was this album they played during the British Airways flight?? Check these URL's for info & samples:

<http://website.lineone.net/~scmusic/discogra7.htm>
http://artists.mp3s.com/artist_song/248/248309.html

Best regards, Arne

From: B Yen <byen00@earthlink.net>

I just uploaded a B&W corona composite at: <http://www.comet-track.com/eclipse/secl01/secl01.html>

Since I missed the "long exposure", I had to push-process the film. This resulted in more contrast (gamma increases with increased development time) than I wanted. Also, I "lost" the short exposure, i.e. detail near the limb. So, the composite has more contrast than I wanted, & loses a bit of detail near the limb. I can get the short exposure from my color shot (it's grainier though), will do that later.

There has been some SEML commentary on how bright the corona is near the limb. I agree, & I've seen this too (looking thru the camera viewfinder, while taking exposures). The above composite is somewhat consistent with this. I'd like some feedback by visual observers (thru binoculars & telescopes), on how close the composite matches the human eye visual response. Someone from '98 eclipse, told me "that's what I saw", see the corona composite at <http://www.comet-track.com/eclipse/secl98/secl98.html>

It has a very bright inner corona, which doesn't look as "spectacular" as other digital composites. I'm picky about NOT going overboard on enhancement (i.e., overprocessed images), so that's why I did it that way.

I was talking to a scientist at SDSC (San Diego SuperComputing Center) back in '98, who was doing modeling work on the solar corona. He mentioned the "continuous component". I believe the corona has (at least) 2 components: the "continuous" (radial glow), & the part comprising the streamers. The composite at

<http://www.ligo-la.caltech.edu/~jkern/Eclipse01/>

is based on images from a Newkirk Camera, which uses a radial-gradient filter. This thing basically attenuates the radial component (which is really bright near the solar limb), & isolates/reveals the structure of coronal streamers near the limb. So, Kern/Carlos composite is a more scientific image. Places like S&T (which use/promote this image) don't mention this, & there is the incorrect implication that this is what is *visually* seen. There is that current research question of why the inner corona (just beyond chromosphere), is so hot. That would imply the inner corona should be very bright (wild guess).

The composite I just did is still too "contrasty", it looks

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overprocessed. It doesn't look real. It looks weird. I will go back, & tone down the processing. (like I say, part of it was due to the push-processing, which was the result of a boo-boo during my picture-taking). The color composite should be better (I deliberately used low-contrast film, with lots of dynamic range). Bob Yen

From: Pierre Arpin

Yours pictures match EXACTLY what I saw on my own eclipse site at Kamilonga, 40 km north of Lusaka. I liked very much the music. I would like to hear that kind of music during a next totality.

From: Evan Zucker <ez@AbacusTotality.com>

I was amazed by the photo of your equipment being loaded into what looks like a relatively flimsy canoe. Were you nervous about having all your equipment at the mercy of an errant wave? Evan H. Zucker

From: B Yen <byen00@earthlink.net>

At first, yes. (When I heard the car-ferry was broken, I thought that wiped out any chances of getting a nice site overlooking the river). But, I observed how efficiently & smoothly the oarman maneuvered the (flat bottomed) canoe. There were no waves, just a slow current going north to south. The weight (> 200 lbs) was not a problem, since they would fully load the canoe with people, until like the lip was 6" above the water-line.

I don't know how to swim, so if I went overboard, I probably would have been in deep trouble.

I saw a constant flow of canoes up & down the river, some being paddled by small children & women. They made it seem like 2nd nature. "Smooth is Fast", as the saying goes.

There were crocodiles down & up the river, BTW. (that would be the real danger) They stay away from this populated area.

The canoe rides were one of the highlights of my trip, a truly relaxing experience. I got a "real" tour by some natives (to the island, where they farm), not a canned tour that was paid for. I got what I was looking for, a REAL African experience. I made some real friends, we traded addresses. I gave them a free Kodak point-and-shoot camera (that came with the 10x50 binoculars I bought in Lusaka). They are sending me an eclipse book (there's a bookstore in Kabompo), & I'll be sending them a PAL videotape. (they had a vcr & TV in that restaurant). That US Christian volunteer teacher I met has a laptop computer, digital camera, & can dialup for Internet access to Lusaka.

British Airways lost one of my check-in cases, & I had to wait an extra day in Lusaka for it to come. THAT was what worried me. Without it, my entire program is severely jeopardized.

Africa was a gracious host. The weather came thru beautifully, the people were great, the scenery (fauna & wildlife) was incredible.

I uploaded a few more cultural & animal images. I also uploaded a temporary color corona-composite. The 1000 dpi scans had some line defects (which are visible in the composite). I'm working on the 2500dpi scans, which are apparently defect free. Bob Yen

From: B Yen <byen00@earthlink.net>

I put a more complete expedition report at: <http://www.comet-track.com/eclipse/secl01/secl01travel.html>

There is a more complete description of the eclipse there.

Note: there is a picture of Cees Bassa there. (I ran into him by accident, at a Hwy roadblock, on the way to Livingstone). There are also pictures of a highway accident.

I re-did the main page for my Zambia '01 eclipse: <http://www.comet-track.com/eclipse/secl01/secl01.html>

& split it into different sections.

I checked my mini-DV video camera, which shows shadow-bands (faintly). I will be acquiring some hardware, to get some frame-grabs (my current NTSC frame-grabber, is unable to digitize the shadow bands). Bob Yen

From: B Yen <byen00@earthlink.net>

I completed a 2nd update for my Zambia eclipse page: <http://www.comet-track.com/eclipse/secl01/secl01.html>

The main page is shorter, & is organized into sections. The travel section is really thorough, you should get a feel for my complete trip:

<http://www.comet-track.com/eclipse/secl01/secl01travel.html>

You will see that I, in fact, had some serious equipment problems before Totality. I came THAT close to blowing the whole thing. Fortunately, I found the major bug, & tried to catch up. I got most of my shots, not all.

"Go Hard..or Go Home!" -- extreme off-roader saying (mainly, Jeep rock-crawlers. like, at the infamous "SledgeHammer")

I pushed it a little bit too hard, almost Crashed & Burned. whew. that was a close one.

I put some people pictures up, I had a chance to see the REAL Africa. The outback, villages in West Zambia (not the posh private game reserves): <http://www.comet-track.com/eclipse/secl01/secl01people.html>

I put up pictures of fauna, which is one of the things that really interested me. They have fall colors down there (which I don't have in Southern California, it's always summer): yellows, reds..

<http://www.comet-track.com/eclipse/secl01/secl01landscape.html>

I put up a few more animal pics. I realized the crocodile I photographed from far away..was a big one! (well fed obviously)

<http://www.comet-track.com/eclipse/secl01/secl01wildlife.html>

Looking back, the wildlife was intense. Africa is truly a testbed for Survival of the Fittest. Termite Hills 20 ft high, Ant Hills in trees (don't see that in America), the food chain (everything eating each other). I saw diversity, like I've never seen before. It gave me new insight on Complexity (origin & dynamics of Complex Systems of Nature), which is an interest of mine. This trip has literally changed my life.

From: B Yen <byen00@earthlink.net>

I added more to my expedition report: <http://www.comet-track.com/eclipse/secl01/secl01travel.html>

I have a video still of some Zambia TV coverage, which shows some European eclipse-chasers. Are any of them identifiable? If anyone has an eclipse site, email me so I can list it on my set of links.

I'm taking a break, then going back to work on the time-lapses sequences. (I only had a chance to take a bath once in the last 2 weeks).

There was a large group observing from Chauvuma Falls (far west Zambia, on Angola border). I'd like to see any reports & pictures from there. Anyone know of people who went there? ZNTB had a large group there.

Here are some more links to eclipse reports: <http://www.jp1net.com/> <http://perso.club-internet.fr/legault/eclipse.html>

I do a poor job of promoting my site, since I spend my time on my eclipse program. You can help me, by listing my site on your site (or getting some visible astronomy sites you know of, to list my site).

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Daniel Fischer was telling me of people trying to buy his eclipse t-shirt off of his back. ZNTB ran out of some t-shirts, but had a few left. I know of a place in Zambia, which has a ton of t-shirts & caps still available (they didn't market it right). The caps are nicely done, 3 styles. (I bought one. The t-shirts were price at \$35, which was too expensive for me). Is there a demand for such items? If so, I can possibly arrange to have them available for sale. They're probably sitting around.

I bought this wood carving of villagers in a hut, which had Solar Eclipse '01 engraved on it. Really nice. Did anyone else find any unique eclipse souveneirs in Zambia? Someone gave me a ZNTB eclipse poster & brochure. B Yen

From: Greg Babcock <gregb@iccom.com> To: Solar Eclipse at Aula.COM <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 30, 2001 2:31 PM Subject: [SE] **SE from Lusaka**

Hello Everyone, Mel Bartels and I did a combined effort. I took close-ups, and Mel took Corona shots. Eventually, we will combine the shots. I have posted on my website. <http://www.synrgistic.com/eclipse2001/home2001.htm>

From: Pierre Arpin

Nice job you did with the animated GIF at second contact. I posted pictures on my web site at :www.ketaineries.com/parpin/rapport-2001-eng.html

From: B Yen <byen00@earthlink.net>

Wasn't Ring of Fire expedition led by Dr. Paul Maley (Johnson Space Center, Houston)? I emailed him shortly before I left, & your site (Kamilonga Farms) was one of my backup sites. (in case, by some weird circumstance, my west Zambia site got "dodgy" & I had to flee east).

Did your group do any nighttime observing? I.e., comet A2 Linear, meteor, etc. I believe they did meteor observing in '99 Turkey.

Wow, that biomass burning was nearby. That was one of my concerns, a close proximity burning. Luckily, I didn't have any at Kabompo on E-day. Bob Yen

From: Greg Babcock <gregb@iccom.com>

Hello Bob, I was with the Spears Travel Group. We stayed at Fringilla Farms. Same place as the BBC group. Yes there was burning and I could see the effects in the viewfinder. Greg



David Makepiece (Canada) and Joanne Edmonds in Zimbabwe



Serge Borgonoz Lopez and wife (Spain), Joanne and Jose Portoles (Spain) in front of telescopes and camping tents in Zambia

From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 30, 2001 4:29 PM Subject: [SE] **x-ray machines at Heathrow**

[recall Glenn Schneider's lengthy post about film @Heathrow airport, Re: "bypassing" x-ray machines using hand-check]

I wasn't able to get a hand-check, on the way to Zambia. I simply put my film in 3 lead-lined bags.

On the way back, my exposed-film was in lead-lined bags. Good. However, my un-exposed film for deep-sky astrophotography (100 asa, 800 asa, 1000 asa) was not protected..it was x-rayed without being in lead-lined bags (they say, their "new" machines don't affect film. But, I'm not sure about that).

I'd like to get some feedback, on people's experiences. One of my check-in cases (with exotic looking contents: Takahashi equatorial mount) did not arrive in Lusaka, & I had to wait an extra day. When I got it, it had a green sticker: "British Airways Security". I suspect, the delay was due to stringent security at Heathrow. I don't fault them for being cautious, but it delayed my expedition for 1 day. Eventually, it was one of the factors for causing me to get to my site later than planned (my eclipse program was slightly less than perfect as the result).

On the way back to USA, all my luggage came on time.

I'd really like to hear Glenn Schneider's experience in going thru London airports: Heathrow & Gatwick (or where ever). My extremely valuable carryon (filled with 12 still cameras & lenses, worth \$5000) got a suspicious eye at London Gatwick (no problem at my origin, LAX, going to London)...they made me ship it as a check-in ("fragile" category), but I had to buy a new check-in case at the last minute! They did send it as a courtesy (no charge), & reciprocated on my return flight. (that was good).

I carried some emails from Dr. Jay Pasachoff, Dr. Glenn Schneider, Dr. Jim Huddle, to demonstrate my expedition had some scientific value. The security chief (I had him called over) was totally insensitive to my pleas: "I would appreciate if you could make an exception for me, LAX didn't have a problem with it", & made me go back to check-in my bag filled-with-cameras.

Basically, my unexposed deep-sky films (400 to 1000 ASA) got x-ray once (w/o lead-lined bag protection) on the return trip. So, I wonder if they now have an increased base fog, due to x-rays.

Eclipsechaser.com has some info on this issue... on x-ray machines & film: <http://www.eclipsechaser.com/eclink/ecguide/airport.htm>

(see below)

Preparation for Your Encounter with an Airport X-ray Machine:

Your film (particularly after it is exposed) may be the most valuable part of your expedition. It is always best to protect your film in an X-ray bag, even if you plan to have it hand checked. To speed things up, keep your film bag easily accessible so you can have it hand inspected while you send everything else through the X-ray machine. The X-ray machine will not harm your cameras or lenses, and avoiding a hand inspection of these items will save time. Hand inspection of film usually does not present a problem, but there are unreasonable (though usually rare) exceptions. The following suggestions should prove useful in "reasonable" situations. It is a good idea not to load your film until you get past the last security checkpoint on the way to your destination. Likewise, it is a good idea to remove the film from all of your cameras before you catch your flight home. This way, you can send your empty cameras through the X-ray machine without having to take the time to have them hand checked. This will simplify things for both you and the security personnel. If your film is in a good X-ray bag, you can send it through the machine as well. X-ray machines will NOT damage film if it is in a good X-ray bag; I have the pictures to prove it! On the way to the eclipse, bring at least some film with you on the airplane, just in case your checked bags arrive late. After the eclipse, you may want to put your film in a checked bag, but if you do, leave it in an X-ray bag. X-rays and your film: X-rays can definitely affect your unprotected film! On my return from Thailand, I accidentally left a roll of relatively slow ISO 100 film in one camera. The camera was X-rayed twice on the return trip. When I got back, I had all of my film all developed at the same time, but there was a big difference in the base density between the X-rayed roll and other rolls of identical film. This resulted in a slight loss of shadow detail. These different rolls of film were purchased at the same time and had the same expiration date. Fortunately, my eclipse pictures were not on the X-rayed roll! In addition to this, I have seen Kodachrome 64 slides belonging to others that had been spoiled by just one trip through an X-ray machine at a domestic airport. Some X-ray machines may use a low enough level of X-rays that they will not significantly

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damage your film, but why take the chance? A further consideration is the fact that eclipse and other astrophotos are more sensitive to fogging than "conventional" photos. X-rays and magnetic media: X-rays themselves will not harm magnetic media, but the effect of other electromagnetic fields associated with high voltage used in generating the X-rays is a subject that is open to debate. Depending on the manufacturer of the X-ray machine, the magnetic fields could possibly be stronger just "outside" the machine than they are in the area where the X-rays are used; therefore; minimizing the time your tapes are in close proximity to any part of the machine is probably the best bet. Accordingly, I typically put my video tapes in checked bags, since they are more likely to pass by and through an X-ray machine more quickly. Again, the effect of these magnetic fields on magnetic media is debatable. It is very unlikely that an X-ray machine would actually "erase" a tape, but prolonged exposure to magnetic fields in a poorly designed or poorly maintained machine could have the potential to impart noise or cause a slight loss in signal strength. If you are concerned about this, try putting your tapes in a ferrous metal box. X-rays and film cameras: X-rays will not harm your film cameras. X-rays and CCD video cameras: X-rays should not harm video cameras and other electronics, but there have been rare reports of CCD sensors developing "hot" pixels (i.e. pixels that always appear like a white spot on the video) after being X-rayed. I cannot confirm or deny these alleged effects. This may develop into a much debated subject. If this issue concerns you, request a hand inspection of your video camera or try to orient your camera so the plane of its CCD sensor will be roughly parallel to the X-rays when it goes through the machine.

Anticipate the Possibility of Air-headed Security Policies: Airports in some countries (such as Brazil in 1994) were reported to have had some very disagreeable policies in regard to examining film (such as refusing to hand inspect film and insisting that people send their unprotected film through X-ray machines). I generally advise pleasant, patient, cooperation with security and airline personnel, but the issue of such unreasonable policies regarding X-rays and film may require that one be prepared to vigorously argue their case, particularly if the so-called "policies" are selectively imposed. Arguing may not always work, but it sure beats kicking yourself for not trying after having found that your film was damaged by X-rays. Fortunately, such disagreeable situations tend to be rare, and you may possibly avoid such problems by packing your film in a checked bag.

From: Madden.G <iluvex@netacc.net>

Once again, my clear plastic ziplock baggie with 35mm film cassettes (no box, no plastic 'can') worked all the way. No film was ever x-rayed. There was hand inspection at every security point. g madden

From: Joel M. Moskowitz, M.D. <moskowi@attglobal.net>

NEVER, NEVER, NEVER, put film in checked bags. The xray machines for checked bags are far more powerful than the walk through security areas. Also, there are new CAT scan type machines that will selectively aim at something at can't see (such as a film xray bag) at zap it with a very strong beam to see through it. ALL film xrayed by these machines gets totally ruined with obvious massive fogging.

From: Glenn Schneider @ Home <gschneider@mac.com>

B Yen's post on his recent experience with London Heathrow security came on an apt time, as I was preparing to comment on my own, which was very different than those of my past, in a most positive way. I was about to say something to the effect of "... so it appears that the past intransigent attitudes of the front line security people w.r.t X-ray inspection has changed - for the better." So, I was very surprised to read what B Yen had to say.

First, as a brief reminder, as I had posted previously, I have had a number of bad experiences at London Heathrow dating back to 1980, so I was anticipating the same this time. But, happily (for me) it just didn't happen this time. On the way to/from Africa I went through four X-ray inspection points at LHR, one in Terminal 3 and one in Terminal 4, in both directions. I had a single large hand-carry bag which held my camera equipment, computer, and film. I had all of my film neatly arranged in a clear plastic "zip-lock" bag which contained translucent film canisters, so you could easily see there were film cassettes in each. The canisters were arranged taped together in rows of seven with the tops in alternating directions so that they could be easily opened without disturbing the order. (The rows were flat so they flatly filled the zip-lock bag with minimal height so the whole thing took little room in my hand-carry). All but 4 of the film rolls were packaged this way. Those four were rolls of Kodak Tmax P3200, which I left in their original boxes from Kodak, unopened and factory sealed. One side of the each box is clearly and unambiguously embossed with "DO NOT X-RAY" right below the Kodak logo. I put one box of each of these in the corners of the array of canister rows. Each time I approached an X-ray station I had the bag-of-film in hand. As I put my carry-on on the X-ray machine conveyor belt I would pre-emptively hand the security attendant my bag of film, point to the prominent "DO NOT X-RAY" imprinting from Kodak as I did and said "could you please hand inspect or run these through

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your gas chromatograph {sniffer}. " In two cases the security area was quite busy with long lines, so I had added without hesitation "I see you are very busy, so please do so at your convenience, I am prepared to wait {as my flight connections were quite long} if you wish to clear other travelers first." What happened:

In three of the four cases the security attendant handed my film off to another and instructed me to go to him/her after I walked through the metal detector. I collected my hand carry and did so. First let me say that the evaluation of the contents of my hand-carry was similar to B Yen's though I was not carrying 12 cameras (now that's an aggressive photographic program!) but rather 4 Nikon bodies, 3 auto-winders, 3 lenses, a GPS hand-held, and my PowerBook G4 Titanium laptop with accessories. That was X-ray scanned with with no suspicion, (though once they asked about a laser pointer I had in the case). Maybe 12 carry-on cameras seem out of the ordinary? Anyway as to the film: In each of these three cases the bag was opened and the film canisters popped opened, swabbed, and all the swab run through a sniffer. One they only "spot checked" only four of the canisters by opening. Once they opened all of them and swabbed all of the cassettes. One the swabbed all of the cassettes and opened two of the sealed Tmax boxes as well. (I later reclosed them with a drop of white glue). And after I was found not to be a terrorist carrying plutonium or whatever they expect to find inside of film canisters, with a sincere "thank you for your time" I was on my way. Now, the fourth time (terminal 3 on the outbound leg), the security attendant took the bag, looked at it and said "are all these films the same"? I truthfully replied, "no they are not. I have a variety of films which will either be push processed or have been hyper-sensitized by being baked at 45C in forming-gas - both of which very significantly increases their susceptibility to X-ray damage in even only a single exposure as documented by Kodak in these technical reports". At which point I hand him (before he had a chance to say anything) three things: (1) a copy of Kodak report CIS-98 wherein I had pre-highlighted in fluorescent yellow the statements: "Film with an ISO speed or EI higher than 400 require added precaution because they are much more sensitive x-ray exposure." and "...film that you intend to push process may be particularly vulnerable to x-ray exposure... push-processing increases the density of ... x-ray fog" (2) a copy of Kodak's summary sheet "Effects of X-ray Surveillance at Airports" and a contact sheet also from Kodak) which nicely shows X-ray damage to a test roll of ISO 200 film. He then handed them off for hand inspection without further question. He never looked at the supporting material from Kodak. I suspect he may have just wanted to see if I was going to answer him truthfully - and it would have been pretty stupid not to have done so. In fact, after that I got into a fairly lengthy discussion with the guy who then swabbed all of the film canisters, who seemed quite interested. Maybe they really don't get respectfully "challenged" all that often? I find that hard to believe.

In any event, my experience this time through Heathrow was very different than in the past. They were still very security cautious and at each step through the airport my films were inspected or re-inspected - but I had no hassles or insistence in X-ray. Now that I am back, after my films are developed I intend to send a "formal" letter (on Steward Observatory, University of Arizona letterhead) to the chief of security at London Heathrow, along with some prints of the eclipse thanking him for the cooperation and thoroughness of his staff in this regard. After all, I will inevitably be going through Heathrow again, and as they say, you catch more flies with honey...

FYI - I also had to go through X-ray check points in Tucson, Chicago, Johannesburg, Lusaka, and Victoria Falls. I used the same "protocol" and had no problems. Though, of course in the U.S. FAR reg 108.17 (which I carry with me) says you have a right to hand-inspection, and I have never had a problem domestically. Glenn Schneider

From: <KCStarguy@aol.com> To: <eclipse@hydra.carleton.ca> Sent: Saturday, June 30, 2001 5:06 PM Subject: [eclipse] **eclipse t shirts**

I would like to post pictures of eclipse t shirts that heralded the 2001 eclipse. If you have pictures or scans send them to me and I will post them.

I also will post pictures of the stamps I found. Any others found out there? I will have some for trade or sale as well.



From: B Yen <byen00@earthlink.net> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 30, 2001 5:39 PM Subject: [SE] **Zambia eclipse, outer-corona? (visual & photo)**

I need some feedback on outer corona observed from Zambia:

- visually: how many sun-diameters did one see naked eye from Kabompo (western Zambia, no biomass burning near eclipse site), I *perceived* (very subjective!) that I only saw 1 diameter each side. I didn't get a chance to observe thru binoculars (nuts!), but I loaned my 10x50 binos to my driver & landowner friends. I wasn't able to get them to give me a precise evaluation on outer corona extent.

- visually: how many sun-diameters did one record factors affecting this are reciprocity failure (if any), threshold factor (Schwarzschild exposure, I believe), sky transparency.

my narrow-angle video shows at least 2.5 diameters on each side, the outer extent is very faint though.

I had some equipment problems, but I got most of my shots. I did 2 bracketed sequences on 120 format, color & TMAX 100. The color bracket sequence is OK, the latter B&W bracket sequence is missing the long exposure, 1 sec @f8 on ASA100. According to Fred Espenak's exposure guide (nominal figures, could vary according to previous factors: sky transparency especially), the 1 sec f8 exposure on ASA100 film gives 4 radiuses of corona (on each side of the solar limb? Is this correct). Since I did a 1/2 sec exposure, I need at least a 1 stop push to get my "missing exposure". If people are getting more than 2 sun-diameters of corona, I may have to go beyond a 1 stop push, maybe 2 stop push. (Kodak has formulas for 1,2,3 stop pushes, using Tmax developer.)

I queried some people last night, & they are recommending a developer which has a speed increase capability (they are against pushing, which increases contrast. blocks up high-lights). Probably a 1 stop push using Tmax developer is what I'll do.

I need some feedback on what I should do. (Glenn Schneider especially). The visual observations of corona extent w/ binoculars would be very valuable to me.

The locals told me their binocular views showed a yellowish tinge for the corona (outer extent I believe). This is what was observed in '99 Turkey. What causes this yellowish hue? Bob Yen

From: Mel Bartels <mbartels@efn.org>

Visually through a 6 inch 15 cm f/4 scope, the outer corona extended for 3-4 solar diameters on each side of the sun. Mel Bartels

From: Glenn Schneider @ Home <gschneider@mac.com>

Hi Bob, Caught me on a good day, I actually have time to read through all my email carefully, and saw your request:

(a) The site we were at had NO evidence of airborne particulates from burning or other sources. We were located about 10km south of dynamical centerline and 1km west of the Zambezi River. The sky was exceptionally clear and transparent (for a low altitude site).

(b) BEFORE removing my eyepatch about 10 seconds after second contact from my dark-adapted eye I judged the visual extent of the corona (on the azimuthal average) to be about 4 solar radii, though some streamers went out to about 5-6 radii naked eye.

(c) AFTER removing my eyepatch the corona "bloomed" and I could see the faintest part of the longest tendrils from the coronal streamers out to about 8-9 solar radii beyond the limb. Dark addition really makes a difference. That said, however...

(d) This eclipse seemed to have a comparatively very bright sky, given the width of the shadow and my very-close location to centerline. Brighter than I would have expected. In fact, though I had not explicitly taken time to look for it I hadn't noted any stars except Sirius. What about you or others?

(e) The problem you are facing is not very clear-cut as it will depend not only upon the opacity of the particulate obscuration but also on its wavelength dependence to some degree. Tmax is pretty panchromatic, so that should be no problem. I would have little hesitation pushing Tmax 1 stop. This will effectively increase the gamma on the linear part of the H&D curve, but should be only an increase of about 0.03-0.05. I do not think that is significant in terms of "blocking up highlights" and is probably a good hedge to gain some sensitivity. I am not sure I would push much beyond this though. It's a tougher call with color films which really are not panchromatic with reciprocity failure for exposure longer than, typically, a tent or few tenths of seconds. Though, you could "restore" the color balance in the darkroom or with PhotoShop post-facto.

(f) I certainly will report back on what I had achieved, but it will be late next week before my films come back from Kodak. For the eclipse I used only Kodachrome-25P and 64P, so they are being commercially processed. Though, this may be an apples and oranges comparison as it sounds like the sky conditions were very much dif-

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ferent. GOOD LUCK! I am anxious to see your results! Glenn Schneider

From: Marc Weihrauch <marc.weihrauch@student.uni-halle.de>

Hello, for me it was the first TSE without clouds, the first time to see the corona myself (if you don't mind I'll post a brief report later). I also remember it to look yellowish - I'm glad others saw this as well. Actually, from what I had read I expected it to look white, perhaps with a slight hint of green.

My suggestion is that the yellow hue is due to the atmosphere. In Zambia during totality the sun was about 30 degrees above the horizon. What was the altitude in Turkey 1999? We all know that after a long way through the air longer wavelengths are preferred. Could that already explain this colour? Best regards, Marc

From: B Yen <byen00@earthlink.net>

In Turkey, it was higher up, around 60 deg (roughly, don't remember exactly). Some clouds came by to block the sun about 1 hr before totality, & an experienced visual observer told me "that's *haze*". This might have contributed to the opaqueness to shorter wavelengths (like blue), therefore resulting in the complementary color (yellow).

So, the yellowish hue is the result of a "atmospheric color filter"..passing & blocking selective wavelengths. (analogous to photographers, who use colored filters in front of lens, to do artsy photos). So, the composites you see of the corona, that look yellowish (see S&T's spotlight print for the '99 eclipse), are rendering what the eye sees after atmospheric effects.

Someone in Bolivia (16,000 ft elevation) at the '94 eclipse, told me the corona was a pure pearly white. The polar brushes looked like a "wood carving", it had texture.

I'm still trying to get a binocular view of the corona...one of these days!! Both in Turkey ('99) & Zambia ('01), I had minor problems, which eliminated the visual part of my eclipse program. However, in both cases, a long exposure was done at 3rd contact diamond ring (which is unusual & unique). I should have an interesting corona-composite at 3rd contact (high-res B&W, TMAX 100)

Take a look at: http://www.astropix.com/HTML/L_STORY/BAJA91.HTM

The closeup shot of the prominence, shows a green tinge near the chromosphere. ?? That doesn't sound right, chromosphere is reddish-pink (visual wavelengths)..right? I'm thinking the green is too much contrast boost (color artifacting). Or, is it a phenomena similar to the green-flash at earth sunset? The prominences are way too red, they're pinkish-red, right? (I'm calling for feedback, on what color people see prominences as). I'm thinking a lot of astrophotographers (American variety, mostly) jump to conclusions, & make a lot of objects "red". Another well-known astrophotographer (who makes \$\$, scanning & processing people's astro negs), took someone's M1 (Crab Nebula), & made the filaments RED!! (if you do the physics, they're *pinkish* at visual wavelengths). This incident was *sarcastically* brought to my attention by a scientist/geologist, whose hobby is astronomy/astrophotography. The digital age (Photoshop craze) has introduced some pretty weird looking astro images. I have a lot to say about this, won't go any further now. (Brad Wallis/JPL is vocal about this, & we have discussed this. Dr. Mike Newberry & I, at the recent AAS in Pasadena, had a lengthy conversation about this. Incidentally, both Jay Pasachoff & Glenn Schneider were at the conference..missed seeing them, though) B Yen

From: Mike Simmons <msimm@ucla.edu>

I was above that altitude in Bolivia (we were on a mountain at various altitudes from 16.5k to 21.5k feet) and the corona looked white to me. It's looked white to me each of the four times I've seen it, though, from almost at the zenith in Baja California in 1991 to maybe 20 degrees just after sunrise in Washington State, USA in 1979 (you can tell the angle from the photo of my family observing a few minutes before 2nd contact at <http://webpages.charter.net/msimm/Washington/Report.html>) so maybe I'm not paying enough attention or something. Mike Simmons

From: Alan and Linda Leighton <leighton@gmx.net>

I have seen the corona and prominences (visually) only twice (91, 98) --- both times the corona seemed white to me (with shades of gray) and the prominences were indeed pinkish red, not the deep red seen in those photos. And I certainly do not remember any green in the chromosphere, though I did not consciously note those color(s) at the time(s). My brother saw the 99 eclipse in Hungary, and felt the prominences were "ruby red". Visual color perception is highly subjective, and people's eyes (and brains) also respond differently, so there are probably just as many ideas of the true visual color as there are observers. Having said that, I think nevertheless that most would agree that the colors in the photograph referred to above are not at all accurate.

I seem to remember a painting of a 19th century eclipse, I think, in S&T in which the artist rendered the corona with a greenish tinge. I can't remember which issue it was, but it was a few years ago. Perhaps you saw it, too. Alan Leighton



From: Harvey Wasserman <onsite@gate.net> To: <SOLARECLIPSES@AULA.COM> Sent: Saturday, June 30, 2001 5:55 PM Subject: [SE] **Landless Corner**

We are back and almost adjusted after 24 hour journey home, after staying with the Landlesses - Ron and Megan - on their farm, Landless Corners. Travel was by a Cessna 182 that I rented in Windhoek and flew to Chobe, Vic Falla, Kariba, and Landless Corner.

Arrival at the eclipse site was on Tues. afternoon. We cleared customs in Lusaka, after circling to land forever. There was a trainee controller on duty, and planes were stacked up all over!

The short flight from there to Landless Corners was made longer by having to dodge all the burning activity. There were *many* fires, and the sky was filled with smoke. After landing, we were sitting outside and debris was literally falling out of the sky. Ron and Megan said that the fires continue until they put themselves out. Not a good sign for eclipse day, 48 hours hence.

Surprisingly, we awoke on Wed. to clear skies and no fires or smoke in sight. What a relief! It stayed that way right through the eclipse.

We spent our time with the Landlesses working hard to make sure the various camps were set up properly. The biggest camp was "operated" by Geoffry Carew, of Carew Safaris. It seems that several groups contracted with Carew to stay at this site. The Landlesses had contracted to mow the field, provide water, and set up the showers/toilets.

Mr. Carew, however, left much more than this undone, and the Landlesses worked extremely long and hard days to make it all work out. Anyone who stayed at this site has much to be grateful for from Ron and Megan! They are very lovely people.

We set up some chairs and the binoculars adjacent to the main runway for viewing, and of course, what a magnificent eclipse it was! We had 2 DC3s land for the eclipse, transporting day trippers. Some one mentioned the DC3 "Victoria" in a previous post. This was one of the planes at Landless Corner. It had arrived from Livingston, where they were supposed to refuel, but the field had run out of Avgas, so after dropping off their passengers they took off to get fuel from Lusaka. Of course, Lusaka was a zoo, and it took much longer for them to get back than they thought.

About 3 minutes after 3rd contact, Victoria flew over the field and landed. I met up with the captain again in Kasane a few days later and he told me his experience of totality. Having never been in a total eclipse, he was totally unprepared for how dark it became. He was flying along, and "suddenly it was dark". They had a few moments of trying to find the in-

strument light switches, etc. before they got it sorted out. He said they could see Landless Corners, though, because of all the flashlights! This kind of surprised me because I would never dream of turning on a flashlight during totality. Then again, maybe people were trying to see the settings on their cameras/telescopes are whatever...

Africa is definitely not what we were told it was! We found the people very friendly, soft and ready to help - talk - or whatever. Each place we visited was better than the last. After helping Ron and Megan get ready for the eclipse, we flew back to Kasane for some needed R&R. There I fought a Baboon (!) on the deck of our room overlooking the Chobe River, and also got engaged to my future wife. This is what I call a vacation!!! All the best, Harvey Wasserman

From: Glenn Schneider @ Home <gschneider@mac.com>

Harvey, Congratulations! It's not every woman who can claim they got TWO diamond rings on her engagement! (Or was there yet another one of non-celestial origin?). Cheers, -GS-

From: Steve Schonberger <steve.schonberger@lycos.com> To: <eclipse@hydra.carleton.ca> Sent: Saturday, June 30, 2001 9:01 PM Subject: [eclipse] **Off the coast of Africa...**

My wife and I viewed the eclipse from a cruise ship Royal Star, in the Mozambique Channel, near 20 South, 40 East. There were scattered clouds (maybe 20% in the direction of the Sun), but the ship's crew kept us clear of them.

Our ship was all by itself out there. The only sign of humanity I saw for several days, other than our ship, was a single jet trail one morning. This was in dramatic contrast to the Caribbean, where I saw more ships than I could count, among them four four-masted sailing ships lined up in the same direction. Also, we were far from sight of land, while we could see Montserrat (and its erupting volcano) and other islands in the Caribbean.

The eclipse was at a low altitude from our location. My first sight of totality after putting down my solar-filtered binoculars included a fairly compact, symmetrical corona, and a pink arc of chromosphere on one side of the sun. I removed the sun filter from my binoculars and saw the last of the chromosphere, and several good prominences.

After enjoying the view a while, I switched to my camera to try for some photographs. I clicked off about 26 shots, enjoying the eclipse visually in between shots through the camera. I had planned to spend most of the eclipse looking through binoculars, but because of the ship's pitch, roll, and generator vibrations, I liked the view through my image-stabilizing camera lens (a Canon 75 to 300 mm, zoomed to 300) better and didn't switch back to the binoculars.

Too soon, the return of the pink arc of chromosphere on the other side of the sun warned that the end of the eclipse was near. It widened, then the diamond ring appeared. Everyone cheered, and champagne was served in celebration of the success.

It was nice to see that most of the crew was able to take a break from their duties to watch the eclipse too. The ship's photographer had never seen an eclipse before, but took a bunch of nice pictures on her digital camera. I don't know whether that was great preparation or simple good fortune.

The cooling as the eclipse deepened wasn't as dramatic as on the two earlier eclipses I've seen, but it was noticeable. Afterwards, there wasn't a whole lot of warming, because it was close to sunset. Also, the ship had to get moving soon after totality ended to head for our next port, so we felt a lot more air movement, which obscured any more temperature changes we might have felt.

In addition to the eclipse, we had several clear nights to see the southern skies, which I had never seen before. The highlights for me were the Magellenic Clouds, 47 Tucanae, the Tarantula Nebula, and the multitudes of star clusters in Carina. Also, M-7 is visible but not too impressive from the northern hemisphere because of horizon haze, it's magnificent when it's near the zenith. I tried to find Comet LINEAR 2001 A2, but didn't know my way around the southern sky well enough to pick it out, and also it was at a time in the morning when my mind was pretty fuzzy anyway.

Yet another treat was seeing the green flash -- twice! It can be seen during the first sliver of sunrise and the last sliver of sunset; I saw it on the sunsets before and after the eclipse. (Sunlight is refracted by the thick atmosphere near the horizon, producing some chromatic aberration. When all but a sliver of the Sun is hidden by the horizon, the horizon blocks the reddest light, and the bluest light is lost to scattering, leaving a green sliver of light.) The evening before the eclipse, the green flash was quite brilliant, but very brief. I tried to photograph it, but I think I was late. After the eclipse, the green flash wasn't as bright, but lasted a long time, probably around a whole second. I'm almost certain that I got a picture of that, assuming I had the camera set correctly.

Another part of eclipse chasing is the travel experience. We visited some interesting places. Our ship's home port is

Mombasa, Kenya. We visited the main island of Zanzibar (the "zan" in "Tanzania") before the eclipse. Afterwards, we anchored near Nosy Bé, Madagascar. Some of our fellow passengers visited Nosy Bé ("island big" in Malagasy) itself, but my wife and I went to the nearby island of Nosy Komba ("island of black lemurs") to see some of Madagascar's most famous wildlife, the lemurs.

Mayotte, the last French island in the Comoros, had been on our itinerary also, but American Airlines delayed 21 of our 153 passengers by a day (curse them!), so we dropped it from our schedule to wait for the delayed passengers. I doubt that anyone on the ship or the delayed airplane will fly with them any time soon, if they have a choice.

The cruise was wonderful. If we decide to go to the next eclipse, we might try to see it from land, but if we go by sea we'd be happy to return to that ship. The crew worked very hard to satisfy us. For example, they turned off the lights on the south-facing decks at night to improve southern sky astronomy conditions. Also, since it's a fairly small ship, there was a lot of opportunity to get to know fellow passengers. On a large tour, one might meet nice people and then not see them again, but I like the smaller group better. Steve Schonberger -- steve.schonberger@mailcity.com

From: Stig Linander <linander@worldonline.dk> To: Solar Eclipses <solareclipses@aula.com> Sent: Saturday, June 30, 2001 9:24 PM Subject: [SE] **TSE from the Horombe Plateau, Madagascar**

Hi, Just returned from Madagascar. I saw totality from a hill top on the Horombe Plateau some 23 km NE of Ranohira. But people in Ranohira, Ihosy, and southern parts of Isalo N.P. were clouded out. During the days after E-day I met people that saw totality from northern parts of Isalo N.P. and also people that saw it from Morombe on the west coast.

I hope to be able to find the time to make a more detailed description later, right now I have two questions:

1. The sky during totality was MUCH brighter than in Hungary '99. Despite the fact that the width of the umbral shadow was a little larger in 2001 (about 130 km) than in 1999 (110 km). Darkness may depend on other factors than just the width of the umbral shadow, but the sky was MUCH brighter. Any explanations?
2. I've read that the duration of the diamond ring mainly depends on the geometry of the "last/first" moon valley. In Hungary '99 BOTH diamonds lasted 1-2 seconds and they had constant (or nearly constant) brightness. In '01 BOTH diamonds lasted much longer (my guess: 5-10 seconds), the first one with slowly decreasing brightness, the second one with slowly increasing brightness. Just

coincidence? Thanks in advance. Stig.

From: Stig Linander <linander@worldonline.dk>

Hi, I've made a description of my experience in Madagascar: http://www.linander.dk/stig/se2001_e.htm

It's VERY preliminary - text only - but I hope to add more interesting stuff during the coming weeks. Best regards, Stig.

From: Peter Tiedt <rigel@stars.co.za> To: Solar Eclipse Mailing List <SOLARECLIPSES@AULA.COM> Sent: Sunday, July 01, 2001 11:54 AM Subject: [SE] **2001 Photographs Report**

My first photographs of the partial phases, diamond ring and totality have been placed on the updated Africlipse Website see www.eclipse.za.net the 2001 Report on Eclipse Day (with photographs) is at www.eclipse.za.net/html/2001_report.html

A full report of the 8 day trip is on www.eclipse.za.net/html/2001_full_report.html

Group Photographs (mainly social pix) can be found at www.eclipse.za.net/html/2001_group_photos.html Peter Tiedt

From: Greg Babcock <gregb@iccom.com>

Hello Peter, I saw your DC-3 sitting on the ground at Victoria Falls Airport and remember thinking what a nicely restored airplane. How did it feel in the air? Greg

From: Glenn Schneider @ Home <gschneider@mac.com>

Greg, Peter, et al., The "story" of this DC-3, and its attempted use by eclipse chasers last week is quite "interesting". Our 'group' chartered the DebonAir "Delaney" DC-3 for use the day AFTER the eclipse to fly from Kariba (where we went overland) to Victoria Falls. About 2/3 the way to Vic Falls the left engine started to backfire, and a few minutes later the pilot shut it down in flight. For reasons a bit too lengthy to go into here only five of us were on the aircraft. Craig Small, an eclipse veteran of about twenty totals, was sitting on that side of the aircraft looking out the window as the propeller first feathered then came to a stop. Craig had turned to me, sitting on the other side of the airplane and started excitedly and nervously shouting "THE ENGINE STOPPED!!!...{etc.}". Now, Craig had suffered a heart problem several months back and was still recuperating from a triple bypass operation. I sensed the need to keep him calm, as we had all been helping him along wherever we could during this trip**. I calmly turned to Craig and completely deadpan said: "Craig, you know there is a severe fuel shortage in Zimbabwe, Hilton (our pilot) just shut down the engine to conserve fuel. There are only five of us, we have a light load, and he wants to be sure we have enough fuel on-board for our return trip." Well, he bought it. I hated to tell this little white lie, but I really did want Craig to be with us for future eclipses!

** Digression. What makes a "die-hard" eclipse chaser? I have to take my hat off to Craig. I retell this second hand, and apologize and ask Joel Moskowitz to correct details or elaborate. When Craig came out of surgery and awoke groggily and weakly in recovery Joel Moskowitz (another eclipse chaser, and a physician) was there. His first words were not uttered in thanks about surviving, nor gratitude for seeing his wife, family, and friends again. No, he looked at Joel and said "I'm going to make it to the eclipse...".

Now back to the DC-3. After a BEAUTIFUL one-engine-out landing in Zimbabwe the flight engineer ascertained that the engine could not be fixed and the pilot told us they would send to South Africa for a replacement part to come up first thing in the morning (the next day, we were SUPPOSED to have returned back later that day). So we over-nighted, unplanned, in Vic Falls. The part did come up the next morning, BUT my fib to Craig had been a premonition (if you believe in such things {which I actually don't}), and Hilton informed us that he did not have enough fuel to go back to Kariba and none could be found at Vic Falls. So, he was taking the DC-3 to Botswana to refuel then would very shortly be back to pick us up. Many hours went by and he did not return. We did not know why as communication was horrid. When he finally did come back, about 4 hours later he told us he did not like the way the plane was flying and would NOT be taking us back to Kariba. This had a further ripple effect. This would strand another group at Kariba (which I *think* may have been Peter's, but I am not sure) as they were to use the DC-3 after us. So, Air Zimbabwe was dead-heading a HS 748 44-passenger turboprop to Kariba from Vic Falls to get them. We hopped on that (now 5 of us on a 44 passenger plane!) and a day late and many Kwacha's short, but we made it back.

One other note about the DC-3. Months prior to the eclipse we had been looking for a "standby" aircraft to fly/flee from bad weather if needed. We inquired about the DC-3's availability for that and were told it was in use on the day of the eclipse. Well, it turns out it was, but not FOR the eclipse. In fact, Hilton (the pilot) informed us he arranged in preparing to us the plan for another group had it circling over Lake Kariba during totality where he, the copilot, flight engineer, and cabin attendant watched totality from 10,000 feet in an otherwise empty aircraft. Glenn Schneider

From: Gerard M Foley <gfoley@columbus.rr.com>

As a veteran passenger in DC3's when they were the only way to go, I can assure you that they are ok with single engine failure at any stage of flight, including takeoff. Of course we prefer the remaining engine to be in good shape. Very good story. Thanks, Gerry K8EF

From: Marc Weihrauch <marc.weihrauch@student.uni-halle.de> To: Finsternisliste <solareclipses@aula.com> Sent: Monday, July 02, 2001 8:09 PM Subject: [SE] **My TSE01**

Dear shadow-chasers, I can't report all of my journey through a poor but very friendly and fascinating land, but let me tell you my impressions of totality itself. (Our group of 22 Austrians, Dutch and Germans plus three guides observed the eclipse North of Lusaka at 14.980° S, 28.118° E - in the vicinity of Landless Corner.)

I was strictly a visual observer, equipped only with binos and a straw hat. Already the first partial phase was exciting for me, watching the large sunspots disappear, playing around with projection and looking for changes in the landscape and ambient light.

Oh well, in the very last minutes before totality a drunk appeared from out of nowhere. The sun was just a blazing white, shrinking crescent in a very blue sky, the wind had abated, the light was getting more and more dim, and that guy was heading for our group: "God is coming! Remember my name!". I realized that a drunk lunatic can spoil totality as well as a bank of clouds, so I didn't recognize my voice as I shouted "SHUT UP!!". Luckily, one of our guides (Thank you, Sacky!) led him away.

Seconds later I had forgotten about that incident. I covered the remaining crescent with my hand and saw the inner corona. And then there was the black sun. For the first time I saw it myself, and you were so right about it: Even the most sophisticated images don't get near the impression for the naked eye. The disk was so very black, and the inner corona so incredibly bright! It looked very round and symmetric to me, it seemed to have streamers all over. My intention of looking for the chromosphere right after second contact was forgotten; I spent the first seconds of totality staring at the sun, screaming.

It wasn't even very dark. But the colours! The sky above us had a very deep blue, while the horizon had shades of orange; almost to red. Against the all-around-sunset columns of smoke were evident.

To the lower left of the sun Jupiter was easily visible. I looked up to see some fixed stars. Sirius, Procyon, Canopus were high in the sky and easy to see, Rigel and Beteigeuze were a bit lower, but not a problem either. Thanks to the "Schneiderian eyepatch" I even recognized one of the belt stars of Orion.

Then another look at that large prominence. A pink patch, embedded in the brilliant corona, easy to see even for the naked eye. I looked through my binos, and already saw the lunar limb brighten. Thick and pink (or hydrogen-red) the chromosphere appeared. Another beautiful sight, but also a warning. Just one more second, please... I took off my binos. For a few seconds there was a diamond ring, while the light around us turned brighter and brighter; the shadow was racing on towards the east.

After third contact there was suddenly a lot of traffic on the road, with every car honking. Where did they all come from? It took a while until I felt the full psychological impact - but I wasn't the only one sobbing. As far as it depends on me, this was not my last total! Marc



Alex and her T shirt