

MARS

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OBSERVATIONS

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Based on the submitted data to the CMO we deal this time with the observations made during the period from **16 April 2010 ($\lambda=078^\circ$ Ls) to 15 May 2010 ($\lambda=091^\circ$ Ls)**

in which the apparent diameter δ went down from $\delta=8.2''$ to $6.6''$. The central latitude of the disc ϕ went up from 16° N to 20° N; this implies it will further go up (northwards) hereafter. The phase angle ι was from 36° to a maximal 38° . The apparent declination D went down from 21° N to 16.75° N.

..... 今回は報告されたものの内16Aprilから15Mayまでの一ヶ月間の観測を扱う。この間火星の季節は $\lambda=078^\circ$ Lsから $\lambda=091^\circ$ Lsまで推移し、視直径 δ は $\delta=8.2''$ から $6.6''$ まで縮小した。眼視ではもう限界に近くなっている。中央緯度 ϕ は 16° Nから 20° Nに上がった。今後更に北を向く。位相角 ι は 36° から(四捨五入して) 38° になったが、五月の中旬が最大であった。以後欠けは少なくなって行く。視赤緯 D は 21° Nから 16.75° Nまで落ちてきた。

..... We received the following observations this period: 今回挙げた報告は次の通りである。

ABEL, Paul G ポール・エーベル (PAb) 英国 Leicester, UK

2 Colour Drawings (20, 26 April 2010) 310×20cm speculum

AKUTSU, Tomio 阿久津 富夫 (Ak) セブ・フィリピン Cebu, the Philippines

5 Sets of RGB + 5 IR Images (24, 30 April; 1, 3, 9 May 2010)

36cm SCT @f/36, 55 with a DMK21AU04

AMADORI, Vittorio ヴィットリオ・アマドリ (VAm) イタリア Soiano del Lago, Italia

2 Sets of RGB Images (18 April 2010) 27cm speculum with a Vesta Pro

DELACROIX, Marc マルク・デルクロア (MDc) フランス Tournefeuille, France

2 Sets of RGB Images (16, 24 April 2010) 25cm SCT @f/46, 58 with SKYnyx 2-0M

GERSTHEIMER, Ralf ラルフ・ゲルシュトハイマー(RGh) ドイツ Habichtswald, Deutschland

4 Sets of RGB +1 Int + 3 IR Images (17, 22, 24 April 2010)

32cm speculum @f/43, 45 with a DMK21AF04

GHOMIZADEH, Sadegh サデグ・ゴミザデ (SGh) テヘラン Tehran, Iran

11 Colour Images (16, 19, 21, 22, 26, 30 April; 1, 4, 9, 11, 15 May 2010)

28cm SCT @f/37 with a DMK21AU04.AS

HERNANDEZ, Carlos E カーロス・ヘルナンデス (CHr) フロリダ Miami, FL, USA

1 Set of Colour Drawings (4 May 2010) 290, 390×23cm Maksutov-Cassegrain

HILL, Richard リチャード・ヒル (RHi) アリゾナ Tucson, AZ, USA

1 Colour Image (28 April 2010) 36cm SCT with an SPC900NC

MAKSYMOWICZ, Stanislas
スタンislask・マクシモヴィツ (SMk) フランス Ecquevilly, France

6 Sets of Drawings (17, 23, 24 April; 6^{\$1}, 9^{\$2} 15 May 2010)
 235~315×15cm Refractor, 257×20cm Catadioptric^{\$1}, 285×20cm Cassegrain^{\$2}

MELILLO, Frank J フランク・メリッロ (FMI) ニューヨーク Holtsville, NY, USA

2 Colour Images (20, 21 April 2010) 25cm SCT with a ToUcam pro II

MINAMI, Masatsugu 南 政次 (Mn) 福井 Fukui*, Fukui, Japan

36 Drawings (17, 24, 25 April; 2, 7, 9, 14 May 2010) 400, 600×20cm Goto ED refractor*

MORALES RIVERA, Efrain

エフライン・モラレス=リベラ (EMr) プエルトリコ Aguadilla, Puerto Rico

5 Sets of RGB Images (19, 27 April; 2, 6, 11 May 2010) 31cm SCT with a DMK21AF04

MORITA, Yukio 森田 行雄 (Mo) 廿日市 Hatsuka-ichi, Hiroshima, Japan

12 Sets of RGB + 12 LRGB Colour +12 L Images (17, 25, 30 April; 4, 8, 14, 15 May 2010)
 25cm speculum @f/85~90 with a Lu-075M

MURAKAMI, Masami 村上 昌己 (Mk) 藤澤 Fujisawa, Kanagawa, Japan

6 Drawings (1, 12 May 2010) 400×20cm F/8 speculum

NAKAJIMA, Takashi 中島 孝 (Nj) 福井 Fukui*, Fukui, Japan

18 Drawings (17, 24, 25 April; 2, 7, 9, 14 May 2010) 400×20cm Goto ED refractor*

PARKER, Donald C ドン・パークー (DPk) フロリダ Miami, FL, USA

3 Sets of RGB + 1 UV Images (22, 28 April; 5 May 2010)
 41cm speculum @f/47 with a SKYnyx 2-0M

PEACH, Damian A デミアン・ピーチ (DPc) 英国 Maidenhead, Berkshire, UK

16 Sets of RGB Colour Images (16, 17, 20, 26, 27 April; 3, 4, 11, 12, 15 May 2010)
 36cm SCT with a SKYnyx 2-0M

SMET, Kris ク里斯・スマート (KSm) ベルギー Bornem, Belgium

3 Colour Drawings (16, 23 April 2010) 375, 416×30cm Dobsonian

(*Fukui City Observatory 福井市自然史博物館屋上天文台)

♂.....A) **Hellas**: At Fukui, NAKAJIMA (Nj) and one of us (Mn) chased Hellas on 17 Apr ($\lambda=079^{\circ}$ Ls) from around $\omega=254^{\circ}$ W to $\omega=288^{\circ}$ W: At the morning side it was rather shadowy but at around $\omega=283^{\circ}$ W its southern part was really bright. PEACH (DPc)'s images on 20 Apr ($\lambda=080^{\circ}$ Ls) at $\omega=315^{\circ}$ W was taken after the CM and $\phi=17^{\circ}$ N: Hellas did not show the whole aspect, but looks interesting because the east end shows a bright spot; the image showing a large haze. The bright spot is also shown in DELCROIX (MDc)'s images on 24 Apr ($\lambda=082^{\circ}$ Ls) at $\omega=293^{\circ}$ W. As Hellas comes to the evening limb the bright part looks elongated or large perhaps because it is joined with a limb haze. DPc's images on 16 Apr ($\lambda=078^{\circ}$ Ls) at $\omega=345^{\circ}$ W, 351°W, 357°W and on 17 Apr ($\lambda=079^{\circ}$ Ls) at $\omega=341^{\circ}$ W(345°W), 351°W show well this phenomenon, and on GERSTHEIMER (RGh)'s images on 17 Apr ($\lambda=079^{\circ}$ Ls) at $\omega=334^{\circ}$ W (see especially B) the evening Hellas goes well down northwards. AMADORI (VAm)'s images on 18 Apr ($\lambda=079^{\circ}$ Ls) at $\omega=336^{\circ}$ W, 341°W also show the fact. PARKER (DPk)'s images on 28 Apr ($\lambda=083^{\circ}$ Ls) at $\omega=330^{\circ}$ W whose angle is similar to that of RGh and VAm also show a brighter part at the northern part. Incidentally HILL (RHI)'s image later of the day at $\omega=353^{\circ}$ W further shows the downward Hellas joined with the evening haze. However MORALES (EMr)'s images on 27 Apr ($\lambda=083^{\circ}$ Ls) at $\omega=333^{\circ}$ W do not show explicitly, and his images on 2 May ($\lambda=085^{\circ}$ Ls) at $\omega=304^{\circ}$ W, though quite inside, show more hazy Hellas strongly to the southward. Hellas was observed frequently by visual observers (other than Nj and Mn). MAKSYMOWICZ (SMk) depicted Hellas light on 17 Apr ($\lambda=079^{\circ}$ Ls) at $\omega=359^{\circ}$ W, ABEL (PAb) wrote it white in the evening on 20 Apr ($\lambda=080^{\circ}$ Ls) at $\omega=334^{\circ}$ W, SMET (KSm) also described it whitish on 23 Apr ($\lambda=082^{\circ}$ Ls) at $\omega=324^{\circ}$ W. PAb showed it on 26 Apr ($\lambda=083^{\circ}$ Ls) at $\omega=302^{\circ}$ W near the CM largely whitish. One round after,

another of us (*Mk*) observed on 12 May ($\lambda=090^\circ$ Ls) at $\omega=340^\circ$ W, 349° W, 359° W that the bright Hellas gradually approached the evening limb but separated it from the limb haze. On 14 May ($\lambda=091^\circ$ Ls) at $\omega=303^\circ$ W, *Mn* at Fukui saw a bright Hellas near the CM, and subsequently *Mo* shot the bright Hellas at $\omega=318^\circ$ W, 324° W near the evening side. On 15 May ($\lambda=091^\circ$ Ls) also *Mo* caught the bright Hellas at $\omega=313^\circ$ W. Already Hellas must have been near the VA state. **B) Argyre:** *Dpk* put forward an excellent image set on 22 Apr ($\lambda=081^\circ$ Ls) at $\omega=045^\circ$ W but Argyre is no more seen. $\phi=17^\circ$ N. **C) EBM:** On 24 Apr ($\lambda=082^\circ$ Ls) at $\omega=293^\circ$ W, *MDc*'s B image shows a rather whitish mist at the equatorial band and it rather concealed Syrtis Mj though it is near the CM so that Syrtis Mj looks rather bluish in the colour composite (while we note his B image on 16 Apr ($\lambda=078^\circ$ Ls) at $\omega=018^\circ$ W shows a whitish disc so that its colour composite is queer: the B should be generally shadowy because the Martian surface does not emit the blue light). *Dpc*'s image set on 20 Apr ($\lambda=080^\circ$ Ls) at $\omega=315^\circ$ W shows also the ebm which conceals Syrtis Mj but the morning Syrtis Mj was not so conspicuously bluish (natural). *Dpk*'s B image on 5 May ($\lambda=086^\circ$ Ls) at $\omega=256^\circ$ W describes a strong ebm especially at the morning side so that the morning Syrtis Mj is very unknown. On B the southern part of the southern hemisphere and the northern part of the northern hemisphere are shadowy (once upon a time, it was called that a "blue haze" covered). Since some part was whitish on B (once upon a time, it was called the "blue haze" was cleared) so that such a marking as Syrtis Mj is concealed in B, and hence such a marking becomes quite bluish in the enhanced colour composite. So some are mistaken that the "blue clearing" occurred if the white mist masks or "blue cloud" appeared if Syrtis Mj is bluish. One should furthermore understand that the limb or the terminator is naturally thicker in white in B when the white masking appears. On the other hand *Dpc*'s image set on 26 Apr ($\lambda=083^\circ$ Ls) at $\omega=252^\circ$ W shows the morning Syrtis Mj beneath the moderate ebm: Syrtis Mj is bluish in the colour composite but not so enhanced. On 24 Apr ($\lambda=082^\circ$ Ls) *Rgh* took images at $\omega=261^\circ$ W perhaps before sunset where Syrtis Mj is slightly bluish: there is no trace of Syrtis Mj in B though the ebm is unknown. *VAm*'s second image set on 18 Apr ($\lambda=079^\circ$ Ls) at $\omega=341^\circ$ W is a good example when Syrtis Mj is near the evening limb though it is concealed in B. A weak ebm is also felt on *Mo*'s image sets on 14 May ($\lambda=091^\circ$ Ls) at $\omega=318^\circ$ W, 324° W (see B). There are other images where Syrtis Mj is erroneously called "covered by the Syrtis Blue Cloud", but we do not treat here the cases if the blue image is not accompanied. Intrinsically, the whitish ebm must appear also on the colour composites because it is a white mist visible in Int. Amateurs are not very concerned with this fact as far as we know or they try to process to erase the white mist in colour. The relation between the ebm and the concealed Syrtis Mj was hitherto proved several times by the HST: See for example: <http://www.hida.kyoto-u.ac.jp/~cmo/cmomn0/97Note02.htm>

D) Orography of Olympus Mons: At present the orography of Olympus Mons and other Montes is in season, whilst since the phase angle is so large that the afternoon region is smaller, it is not timely to check the orographic clouds over Tharsis Montes. *Mn* vaguely observed the cloudy Olympus Mons on 24 Apr ($\lambda=082^\circ$ Ls) at around $\omega=183^\circ$ W~ 202° W, and on 25 Apr ($\lambda=082^\circ$ Ls) at $\omega=164^\circ$ W, 173° W, but not satisfied. On the other hand *Dpc* clearly shot it on 3 May ($\lambda=086^\circ$ Ls) at $\omega=190^\circ$ W, 196° W, and on 4 May ($\lambda=086^\circ$ Ls) at $\omega=180^\circ$ W, 185° W. **E) Tharsis Montes in the Morning:** Conversely the morning region has become wider, while the angular diameter has become smaller so that it is not so easier to check the tumours of Tharsis Montes above the morning mist. *Mn* however barely saw Olympus Mons over the morning mist on 25 Apr ($\lambda=082^\circ$ Ls) at $\omega=115^\circ$ W (before sunset) and at $\omega=125^\circ$ W, but afterward he lost sight of it: However quite later checked it covered by a cloud as mentioned before. MORITA (*Mo*) looked to shoot them on 30 Apr ($\lambda=084^\circ$ Ls) at $\omega=108^\circ$ W and AKUTSU (*Ak*) more clearly described them on the following day 1 May ($\lambda=085^\circ$ Ls) at $\omega=083^\circ$ W. Especially on *Dpc*'s image sets on 11 May ($\lambda=089^\circ$ Ls) at $\omega=118^\circ$ W(122° W), on

12 May ($\lambda=090^\circ$ Ls) at $\omega=110^\circ$ W(114° W), and on 15 May ($\lambda=091^\circ$ Ls) at $\omega=082^\circ$ W, 088° W, the dark Tharsis Montes and Olympus Mons are caught impressively. Next apparition it will be urgent to chase the transition from morning bare aspect to the afternoon cloudy one. **F) Olympia:** The thawing north polar cap (npc) continues enough to be smaller, and begins to show us around it several fragments. The first generated fragment is Olympia. We defer the details of the fragments to a following column while Olympia is already apparent for example on the images of DPc on 16 Apr ($\lambda=078^\circ$ Ls) at $\omega=345^\circ$ W, 351° W, 357° W, on 17 Apr ($\lambda=079^\circ$ Ls) at $\omega=341^\circ$ W(345° W), 351° W or on 20 Apr ($\lambda=080^\circ$ Ls) at $\omega=315^\circ$ W and so on. DPk also showed it definitely on 5 May ($\lambda=086^\circ$ Ls) at $\omega=257^\circ$ W. Note here that DPc's image sets on 11 May ($\lambda=089^\circ$ Ls) at $\omega=118^\circ$ W (122° W), and on 12 May ($\lambda=090^\circ$ Ls) at $\omega=110^\circ$ W(114° W) show the rear side of Olympia as well as Chasma Boreale just like a rift (Chasma Boreale was shot by the HST in March 1997 at $\omega=105^\circ$ W. See for example <http://photojournal.jpl.nasa.gov/catalog/PIA01246>). There are also other images that suggest Olympia. **G) Hyperboreus L:** This apparition a broad Iaxartes was once seen (on 21 Feb ($\lambda=055^\circ$ Ls) at $\omega=017^\circ$ W detected by KUMAMORI (Km), et al), but afterward a local disturbance made this area obscure. However this period Hyperboreus L (which originally connected with Iaxartes) was very conspicuous, and eg on the image set by EMr on 19 Apr ($\lambda=079^\circ$ Ls) at $\omega=050^\circ$ W it is very dark adjacent to the white npc. DPk's image set on 22 Apr ($\lambda=081^\circ$ Ls) at $\omega=045^\circ$ W also shows its peculiar darkness. DPk's image set on 28 Apr ($\lambda=083^\circ$ Ls) at $\omega=330^\circ$ W shows it as well as its eastern side and it looks like a dark fringe of the npc. Mo's sets of images on 8 May ($\lambda=088^\circ$ Ls) at $\omega=015^\circ$ W~ 024° W also show vaguely the dark marking and maybe also the remnant of Iaxartes. **H) Elysium:** Mo's image set on 17 Apr ($\lambda=079^\circ$ Ls) at $\omega=230^\circ$ W showed us the areas of Elysium and Cebrenia as a shape of a heart which reminded us of the aspect we saw frequently in the 1980s. At that time we regarded the dark band to the east of Utopia as Gyndes. Mo's image set shows the morning mist and the evening one clearly because of the B image (the morning one enters into Elysium). **I) Mo's Image Sets on 25 April:** Mo produced elaborately some sets of images on 25 Apr ($\lambda=082^\circ$ Ls) at $\omega=146^\circ$ W, 154° W, 164° W, and at 174° W: the first few caught the Alba swell, but there seem to exist a lot of ghosts and it is difficult to compare them. However these angles must include the transition moments when the summits of Olympus Mons became cloudy and hence these must be very important. In a coming Note we will measure the positions of some unknown spots, and this time we just report the existence of the sets. The Alba swell seems to be not far from the noon line and vague in B. The broad light slit between Gyndes (looking to be split into two) and the band made of Propontis I and others is quite reminiscence of the aspect we saw in the 1980s. This light band was seen visually also by Mn on the day.

♂……A)ヘッラス: ヘッラスは17Apr($\lambda=079^\circ$ Ls)に福井で中島(Nj)氏と筆者の一人(Mn)が $\omega=254^\circ$ Wあたりから $\omega=288^\circ$ W辺りまで追った。朝方ではほんのり明るい程度であったが、 $\omega=283^\circ$ W辺りでは南部は充分明るかった。ピーチ(DPc)氏の20Apr($\lambda=080^\circ$ Ls) $\omega=315^\circ$ Wは、少しヘッラスが必ずしも中央ではない上、中が 17° Nと深いから全貌は判らないが、ヘッラス南部が少しだけ見え、その東側に輝点を示していて興味深い。Bには明らかに靄が強く写っている。実はデルクロア(MDc)氏の24Apr($\lambda=082^\circ$ Ls) $\omega=293^\circ$ Wでもこの輝点は見える。ところで、ヘッラスが夕端に来ると、リムヘーズと合体するのか、明部が伸びるというか、細長く見える。DPc氏の16Apr($\lambda=078^\circ$ Ls) $\omega=345^\circ$ W、 351° W、 357° Wや17Apr($\lambda=079^\circ$ Ls) $\omega=341^\circ$ W(345° W)、 351° Wを見れば明白だが、ゲルシュトハイマー(RGh)氏の17Apr($\lambda=079^\circ$ Ls) $\omega=334^\circ$ W(Bに注目)でも夕方の靄がやや北に伸びているのが判る。アマドリ(VAm)氏の18Apr($\lambda=079^\circ$ Ls) $\omega=336^\circ$ W、 341° Wでもそのように見える。パークー(DPk)氏の28Apr($\lambda=083^\circ$ Ls) $\omega=330^\circ$ Wでは少し角度が早いが、北部に輝点を持っていると同時にやや下がって見えると思う。序でに同日後刻のヒル(RHI)氏の $\omega=353^\circ$ Wでは夕靄と混じって更に北に伸びているように見える。ただ、

モラレス(EMr)氏の27Apr($\lambda=083^{\circ}$ Ls) $\omega=333^{\circ}$ Wはさほどそのように見えない。彼の2May($\lambda=085^{\circ}$ Ls) $\omega=304^{\circ}$ Wでは中央寄りの所為もあるが、南部の靄が強く見える。尚ヘッラスは福井の他、眼視観測者にもよく観測されている：マクシモヴィツ(SMk)氏は17Apr($\lambda=079^{\circ}$ Ls) $\omega=359^{\circ}$ Wで明るく描いているし、エーベル(PAb)氏の20Apr($\lambda=080^{\circ}$ Ls) $\omega=334^{\circ}$ Wで夕方に白く描き、スマット(KSm)氏も23Apr($\lambda=082^{\circ}$ Ls) $\omega=324^{\circ}$ Wで白く描いている。PAb氏は26Apr($\lambda=083^{\circ}$ Ls) $\omega=302^{\circ}$ Wで中央寄りに白く描いている。尚、一回りして、12May($\lambda=090^{\circ}$ Ls) $\omega=340^{\circ}$ W、 349° W、 359° Wで、われわれのもう一人(Mk)が明るいヘッラスの夕端に近付く様子を追い、リムヘーズと分離している。14May($\lambda=091^{\circ}$ Ls) $\omega=303^{\circ}$ WではMnが福井で殆ど中央寄りで、明るいヘッラスを捉え、続く $\omega=318^{\circ}$ W、 324° Wでは夕方寄りにMo氏がccdで撮像した。続く15May($\lambda=091^{\circ}$ Ls)にもMo氏が $\omega=313^{\circ}$ Wで明るいヘッラスを写し出した。既にVAの状態に近いと思われる。

B)アルギュレ： DPk氏の22Apr($\lambda=081^{\circ}$ Ls) $\omega=045^{\circ}$ Wは良像ながら、 $\phi=17^{\circ}$ Nまで上がっている所為か、アルギュレが全く見えない。

C)赤道帶霧： MDc氏の16Apr($\lambda=078^{\circ}$ Ls) $\omega=018^{\circ}$ Wの像は本来暗いはずのB像全体が白く拙くカラー像も頂けない像になっているが、24Apr($\lambda=082^{\circ}$ Ls) $\omega=293^{\circ}$ Wの像では先に引用したヘッラスを除き南半球は暗く出て、赤道帶には白霧が写り、シュルティス・マイヨルが中央にあるに拘わらず、白霧がマスキングの働きをして、赤道帶霧を構成しシュルティス・マイヨルを蒼くしている。DPc氏の20Apr($\lambda=080^{\circ}$ Ls) $\omega=315^{\circ}$ WにもB光でシュルティス・マイヨルを隠すほどの赤道帶霧が出ているが、シュルティス・マイヨルはさほど蒼くない。一方、DPk氏の5May($\lambda=086^{\circ}$ Ls) $\omega=256^{\circ}$ Wでは明らかに赤道帶、特に朝方に強い白霧が出ていて、朝方のシュルティス・マイヨルは全く見えない。南半球南部と北半球北部が極を除いて暗くなっているだけである(昔、暗い部分はブルーへーズがあると称された)。B光でシュルティス・マイヨルが出ないため(昔、ブルーへーズがクルラーされたと称された)に、コンポジットではシュルティス・マイヨルは蒼くなっている。斜光によるスカイブルーのところもあると思う。他方、DPc氏の26Apr($\lambda=083^{\circ}$ Ls) $\omega=252^{\circ}$ Wでもシュルティス・マイヨルが朝方にあるが、B光で赤道帶霧をDPk氏の様に強く処理していない為にシュルティス・マイヨルはさほど蒼くなっていない。24Apr($\lambda=082^{\circ}$ Ls) $\omega=261^{\circ}$ WのRGh氏の像は日没前と思われるが、シュルティス・マイヨルはやや蒼くなっている。Bには出ないからである。またVAm氏の18Apr($\lambda=079^{\circ}$ Ls) $\omega=341^{\circ}$ Wもシュルティス・マイヨルが夕方に来たときのよい例であろう。Mo氏の14May($\lambda=091^{\circ}$ Ls) $\omega=318^{\circ}$ W、 324° Wにも感じられる(B参照)。但し、蒼くなったシュルティス・マイヨルを描写した像は他にもあるが、B光を伴わなかったりしているものなどはレビューしない。尚、本来はカラー像にも赤道帶霧がやや白く顯れなければならない(が通常度外視されて処理されているように思える)。こうした赤道帶霧並びにB光で隠れたシュルティス・マイヨルとの関係は、カラーのこれまでのHST像でよく証明されており、<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note02j.htm> を参照されたい。

D)オリュムプス・モンスの山岳雲： 現在は山岳雲のシーズンなのであるが、 n 線(正午の線)が西側に傾いて、夕方の領域が狭くなってしまい機会が少ない。Mnは24Apr($\lambda=082^{\circ}$ Ls) $\omega=183^{\circ}$ W~ 202° W辺り、25Apr($\lambda=082^{\circ}$ Ls)には $\omega=164^{\circ}$ W、 173° W辺りで艶気に見ているが、感心してはいない。一方DPc氏は3May($\lambda=086^{\circ}$ Ls) $\omega=190^{\circ}$ W、 196° W、また4May($\lambda=086^{\circ}$ Ls) $\omega=180^{\circ}$ W、 185° Wで明白に白雲を被ったオリュムプス・モンスを描写した。

E)朝霧の中のタルシス・モンテス： 逆に朝方は位相角の所為で広くなつたが、何せ δ が小さくなつて、凸型の暗点を明確に検出するのはやや困難になつて来ている。来期、再来期の課題である。しかし、Mnは25Apr($\lambda=082^{\circ}$ Ls)の日没前 $\omega=115^{\circ}$ Wとそれに続く $\omega=125^{\circ}$ Wで朝霧に中にオリュムプス・モンスの暗点を見ている。但し、その後失い、先述の夕方のオリュムプス・モンスとなる。森田(Mo)氏の30Apr($\lambda=084^{\circ}$ Ls) $\omega=108^{\circ}$ Wにはスッキリしないがオリュムプス・モンスなどが出ているようであるし、翌日の阿久津(Ak)氏の1May($\lambda=085^{\circ}$ Ls) $\omega=083^{\circ}$ Wでは朝霧に中に比較的明確である。特にDPc氏の11May($\lambda=089^{\circ}$ Ls) $\omega=118^{\circ}$ W(122° W)、12May($\lambda=090^{\circ}$ Ls) $\omega=110^{\circ}$ W(114° W)、15May($\lambda=091^{\circ}$ Ls) $\omega=082^{\circ}$ W、 088° Wには鮮やかに捉えられており、白眉である。尚、来期は暗点から山岳雲を被る過程を追いたいもので

ある。なお、他の朝霧の報告は沢山あるが省略する。**F)オリュムピア：**北極冠は縮小状態に近く、周りに破片を残し始めている。今後(2012年、2014年も含めて)予想される北極冠の周辺の様子は別項に譲るが、既にオリュムピアが見えてきている。特に既にDPc氏が16Apr($\lambda=078^{\circ}\text{Ls}$) $\omega=345^{\circ}\text{W}$ 、 351°W 、 357°W 、17Apr($\lambda=079^{\circ}\text{Ls}$) $\omega=341^{\circ}\text{W}$ (345°W)、 351°W や20Apr($\lambda=080^{\circ}\text{Ls}$) $\omega=315^{\circ}\text{W}$ 等で示しているが、DPk氏の5May($\lambda=086^{\circ}\text{Ls}$) $\omega=257^{\circ}\text{W}$ にも明確である。他にも仄かに捉えられているものがあるが省略する。尚、DPc氏の11May($\lambda=089^{\circ}\text{Ls}$) $\omega=118^{\circ}\text{W}$ (122°W)、12May($\lambda=090^{\circ}\text{Ls}$) $\omega=110^{\circ}\text{W}$ (114°W)にはオリュムピアのバックと、カスマ・ボレアレの切れ目が明確に出ている。カスマ・ボレアレはMar1997のHST像に出ている。例えば<http://photojournal.jpl.nasa.gov/catalog/PIA01246> を参照されたい。**G)ヒュペルボレウス・ラクス：**今期の接近中、一旦はイアクサルテスが出現したが(熊森(Km)氏の二月など他)、その後局所的な擾乱がこの辺りに発生して、イアクサルテスは曖昧になっている。今期は北極冠に接してヒュペルボレウス・ラクスが顕著で、EMr氏の19Apr($\lambda=079^{\circ}\text{Ls}$) $\omega=050^{\circ}\text{W}$ では最も濃くなっている。DPk氏の22Apr ($\lambda=081^{\circ}\text{Ls}$) $\omega=045^{\circ}\text{W}$ にも非常に濃い。明らかに北極冠の縁との作用が働いて居るはずである。DPk氏の28Apr($\lambda=083^{\circ}\text{Ls}$) $\omega=330^{\circ}\text{W}$ ではダークフリンジの強いもののように見える。Mo氏の8May($\lambda=088^{\circ}\text{Ls}$) $\omega=015^{\circ}\text{W}$ ~ 024°W にも残っている様であるが、イアクサルテスの痕跡も認められないことはない。**H)エリュシウム：**Mo氏の17Apr($\lambda=079^{\circ}\text{Ls}$) $\omega=230^{\circ}\text{W}$ の像に久し振りにエリュシウムとケブレニアが明るくアエテリアの暗斑を挟んでハート型に顕れた。1980年代に好く見られた形である。当時ギュンデスと呼んでいたのがウトピアの東側の暗帯である。朝霧夕霧も写っている。**I) Mo氏の25Aprの像：**Mo氏はこの日 $\omega=146^{\circ}\text{W}$ 、 154°W 、 164°W 、 174°W と撮り、何れも労作だが、アルバの変化を捉えているほかは、ゴーストが混じり、俄には比較できない。二十分で代わってしまうようなものはゴーストに近いが、但しこれらの角度はオリュムプス・モンスが白雲を被る頃に当たっており、たいへん重要な角度・時刻である。今後Noteで位置を確定して、どれだけ表現できているか見るが、今回は報告だけに留める。アルバも未だ正午から然程離れていないらしく、Bでは不鮮明である。ただ、ギュンデス(二本に別れているのは優れた描写)とその南のプロポンティスIのラインとの間が明るく透いて居るのは懐かしい風景で、1980年代に屢々見たものであるし、今回もMnは肉眼で観ている。

♂……追加報告：We further received as follows:

ABEL, Paul G ポール・エーベル (PAb) 英国 Leicester, UK

1 Colour Drawing (8 March 2010) 312×20cm speculum

GARBETT, Peter J ピーター・ガーベット (PGb) 英国 Sharnbrook, Bfd, UK

6 RGB Colour Images (26, 31 January; 1, 4, 7 March 2010) 36cm SCT with a SKYnyx 2-0 M

♂……ABEL (PAb)'s colour drawing was made on 8 Mar ($\lambda=061^{\circ}\text{Ls}$) at $\omega=082^{\circ}\text{W}$ showing the disc where the area of Solis L and an evening M Acidalium are explicit. GARBETT (PGb)'s delayed images are as follows: The image on 26 Jan ($\lambda=043^{\circ}\text{Ls}$) at $\omega=045^{\circ}\text{W}$ was made when $\delta=14.1''$ and good: M Erythraeum and the NW part of M Acidalium are particularly dark. The image on 31 Jan ($\lambda=046^{\circ}\text{Ls}$) was also made when $\delta=14.1''$ and shows the scene at $\omega=000^{\circ}\text{W}$: Syrtis Mj is at the evening limb, and the npc shows inside the residual cap. The one on 1 Mar ($\lambda=058^{\circ}\text{Ls}$) was made when $\delta=12.0''$ and at $\omega=099^{\circ}\text{W}$: The evening M Acidalium was no longer so dark. The images on 4 Mar ($\lambda=060^{\circ}\text{Ls}$) were made at $\omega=062^{\circ}\text{W}$ and 074°W : They show some of Tharsis dark dots inside the morning mist when $\delta=11.7''$. Argyre looks a bit hazy. The last one on 7 Mar ($\lambda=061^{\circ}\text{Ls}$) was made at $\omega=012^{\circ}\text{W}$ when $\delta=11.4''$: The npc is now smaller.

♂…… PAb氏のカラースケッチは8Mar($\lambda=061^{\circ}\text{Ls}$) $\omega=082^{\circ}\text{W}$ はソリス・ラクス周辺と夕方のマレ・アキダリウムを描いている。PGb氏のは数点残っており、26Jan($\lambda=043^{\circ}\text{Ls}$) $\omega=045^{\circ}\text{W}$ の像は $\delta=14.1''$ の時のもので良像、マレ・エリュトゥラエウムとマレ・アキダリウムの北西部が濃い。31Jan($\lambda=046^{\circ}\text{Ls}$)も $\delta=14.1''$ で、 $\omega=000^{\circ}\text{W}$ 。シュルティス・マイヨルが夕端、北極冠内にresidual capが見える。1Mar($\lambda=058^{\circ}\text{Ls}$)は

$\delta=12.0''$ 、 $\omega=099^\circ\text{W}$ 、夕方のマレ・アキダリウムは然程濃くなっているのが判る。4Mar($\lambda=060^\circ\text{Ls}$)は $\omega=062^\circ\text{W}$ 、 074°W ：タルシス山の一部が朝霧に見えている。 $\delta=11.7''$ 。アルギュレは靄っている。7Mar($\lambda=061^\circ\text{Ls}$)は $\omega=012^\circ\text{W}$ 、北極冠も小さくなつて来た。 $\delta=11.4''$ 。

♂……In the next issue we shall review the observations made during the one-month period from 16 May ($\lambda=091^\circ\text{Ls}$, $\delta=6.6''$) to 15 June 2010 ($\lambda=105^\circ\text{Ls}$, $\delta=5.6''$).

南 政 次・村上 昌己 M MINAMI & M MURAKAMI

Forthcoming 2009/2010 Mars (18)

Fragments near the NPC Hereafter 今後の北極冠周邊

Masatsugu MINAMI 南 政 次(Mn)

THIS apparition in 2009/2010 (at opposition on 29 Jan 2010) has been similar to the one in 1992/1993 (at opposition on 7 Jan 1993), but in 1993 the ccd imaging was not popular, and so minute observations were not so obtained as in the present case. Therefore the situation of the local area around the npc was not so obvious in 1993. As another example the Tharsis dark spots in the morning were not so obviously detected in 1993 while they became more evident however in 1995 and 1997 (or further in 1999).

The dark Tharsis spots in 1997 in the morning was for example caught on 27 Mar 1997 when $\lambda=096^\circ\text{Ls}$ (maybe too late though $\delta=14.1''$). See also:
<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note04.htm>
<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note12.htm> as well as the following as an example in 1999:
<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9907/07.html>

Similarly, such a fragment of Olympia was first trapped in 1995 in a previous case while this year it has already been done, and so it is quite possible for the ccd images this year to reveal such a part of Chasma Boreale as well as such a charming crater of Korolev. Ierne is also interesting. Previously the introduction of Ierne by HST was made in CMO #177 (July 1996):

<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9412/note12.html>

Actual observations of some fragments by Hiroshi ISHADODH (Id) and the present writer (Mn) were made on 6 Mar 1997 ($\lambda=087^\circ\text{Ls}$) at $\omega=300^\circ\text{W}$ and 20 Mar 1997 ($\lambda=093^\circ\text{Ls}$) at $\omega=137^\circ\text{W}$ respectively as

shown in CMO #202 (April 1998) and see also below

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note04.htm> where some pictures of the minimal npc taken by the HST are shown and so they are helpful.

The fragments including Ierne were also described by Nicolas BIVER (NBv) and Professor A DOLLFUS and also by HST, and hence the description in CMO #231 (May 2000) or the following Web Site will be instructive this year also in 2012 and 2014:

<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9908/08.html>

◆2009/2010年の接近は1992/1993年の接近に似ているのだが、当時はまだccd撮像が始まったばかりで、例えば北極冠周邊の様子など今回ほど精緻には得られていない。◆但し1995年、1997年になると季節に對して丁度頃合いの視直徑になり、眼視でも詳しい觀察が出来るようになっている。朝方のタルシスの暗點なども1997年に得られている(27Mar97等が相當しているが、季節は $\lambda=096^\circ\text{Ls}$ と今回に比べて遅い)。例えば、

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note04j.htm>

<http://www.hida.kyoto-u.ac.jp/~cmo/cmomin0/97Note12j.htm>

◆また1999年の例としては次を見られたい：

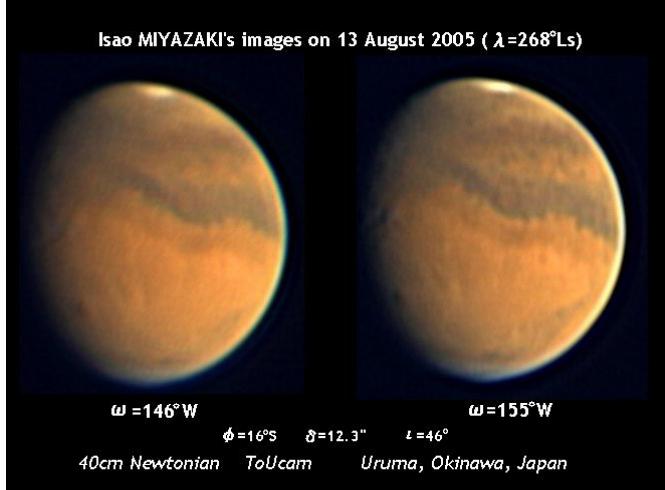
<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9907/07j.html>

◆今年は既にオリュムピアの検出などなされているが、これら北極冠周邊の破片のオリュムピアやイエルネ等、HST像の紹介も含めて前回は1995年になつており(CMO#177)、相當速まって來ている：

http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9412/note12_2.html

1997年にも實際の觀測は伊倉堂(Id)氏の6Mar97

or a report in the IWCMO by *Mn*) of the 1894 apparition corresponds to the 2005 year apparition, we so at that moment asked Isao MIYAZAKI (*My*) to take pictures of the evening Tharsis volcanoes and the result was the image set made on 13 Aug 2006 ($\lambda=268^\circ$ Ls) as cited here. Of course



they are in the CMO Mars Gallery. As to the results we alluded in the report in CMO #308 (25 Aug 2005 issue) under the subtitle “BARNARD’s Observation in 1894”. In reality, such volcanoes are shot several times by other imagers before and after in 2005, and in fact *DPC* already took it on 22 July 2005 (see also his LtE in CMO #307). And Ed GRAFTON (*EG*)’s images on 1 and 2 Aug 2005 are also very appealing:

<http://www.hida.kyoto-u.ac.jp/~cmo/cmmons/2005/050801/EGf01Aug05.jpg>
<http://www.hida.kyoto-u.ac.jp/~cmo/cmmons/2005/050802/EGf02Aug05.jpg>

Clearly the evening shadowy spots are not due to the evening mist, but they show the shadows of the mountains at the preceding flanks. And so they are completely different from the cases where the summits are poking out from the underneath morning mists.
(Mn)

● ···· **Subject: Visual Planetary Observations!**
Received: Sat 08 May 2010 23:57 JST

Dear Dr. Minami, My name is Paul G. Abel and I am an astronomer here in England, UK. I have a 203mm (8-inch) Newtonian Reflector permanently set up in my observatory here in Leicester, England. I am a visual observer, and record all my observations by drawing at the eyepiece and copying them up in colour afterwards. I am a member of the BAA and send my planetary observations (Venus, Mars, Jupiter and Saturn) to both the US ALPO and Japan ALPO along with the BAA. I was wondering if my observations of Mars and the other planets would be of any interest to you. I attach a few recent observations as an example for your perusal. At the end of each planetary apparition I produce an end of apparition report which I would be happy to send you.

All best wishes,

http://www.hida.kyoto-u.ac.jp/~cmo/cmmons/2009/index_PAb.html
Paul ABEL (ポール・エーベル Leicester 英)

● ···· **Subject: Re: Mars Images (May 11th, 2010.)**
Received: Sun 16 May 2010 19:20:58 JST

Way back over a decade ago it occurred to me that the Rima Tenuis could be a dust streak. Only after technology caught up with our observing and I realized that those dusty trails across the caps, as revealed in CCD images, were topographically controlled winds blowing dust across the NPC. Rima Tenuis must be a dust streak, but I have forgotten why it is obvious. It seems to be the only rational answer.

Jeff BEISH (ジエフ・ビーシュ Lake Placid FL 美)

● ···· **Subject: Mars Observation (May 4, 2010)**
Received: Mon 17 May 2010 03:43 JST

Dear Mr. Murakami, I hope that you, Dr. Minami, and the CMO staff have been doing well. I was fortunate to have had a break in my hectic schedule and made an observation of Mars on May 4, 2010 under very to extremely good seeing conditions (8-9/10; I was even noting diffraction rings around Mars!). I could not believe the amount of detail that I detecting over the surface of Mars at such a relatively small angular diameter but my wife, an experienced observer herself, was observing with me at the time and was seeing the same features. The Syrtis Major region appeared to be mottled and complex with alternating light and dark features. I have not enjoyed such a steady night in a long time. My Brandon oculars (8 mm and 12 mm) provided very sharp and high contrast views of Mars. ····

<http://www.hida.kyoto-u.ac.jp/~cmo/cmmons/2009/100504/CHr04May10.jpg>

I have also attached a sectional sketch of the Syrtis Major region which displayed mottling, especially during the best moments of seeing. The best of luck and may you have clear and steady skies. Regards,

http://www.hida.kyoto-u.ac.jp/~cmo/cmmons/2009/100504/CHr04May10_n.jpg

Carlos HERNANDEZ (カラス・ヘルナンデス FL 美)

● ···· **Subject: Mars Albedo Map 2010**
Received: Wed 19 May 2010 08:52:39 JST

Hi, I have spent some time over the last few weeks combining my Mars images from this apparition to generate an albedo map of the planet, based on observations from 17th Jan to 5th March. Quite some work to match the segments together but hope you like the results.

All the best,
(See the next page. Ed)

○ ···· **Subject : Re: Mars Albedo Map 2010**
Received : Thu 20 May 2010 07:50:22 JST

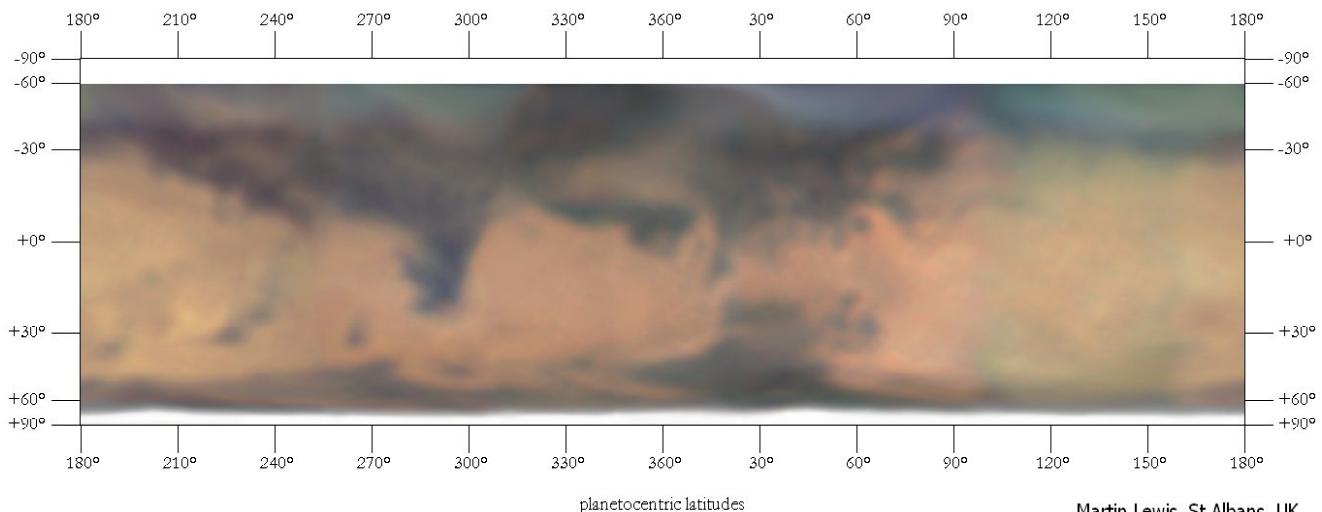
Hi Richard (HILL), You need to make all the images as uniform as possible in terms of colour and rotation then import into Winjupos and use Map Computation to unwrap the individual globe images and create the separate longitude sections of the rectangular map. The really hard part is removing the joins!

>*Sent: Wednesday, May 19, 2010 1:24 AM*
>*Subject: Re: Mars Albedo Map 2010*
>*Great job! I've always wanted to do that with my observations. How did you do the projection? -Rik*

Martin LEWIS (マーチン・ルイス St Albans Hts 英)



Mars 2010 Albedo Map. Based on images taken between 17th Jan and 5th March 2010. 222mm Dobsonian + tracking platform + DMK21AF04AS.



● ···· Subject: 金星食
Date: Tue, 18 May 2010 17:01:33 +0900 (JST)

金星食画像、

5月16日夕方、セブでは金星食が見えました。
透明度が良く、すばらしい光景を堪能できました。低空ですので気流は悪かったですですが、フラ
フラの金星が月に隠れました。

阿久津 富夫(Tomio AKUTSU セブThe Philippines)

**Lunar Occultation of Venus Taken by
Tomio AKUTSU on 16 May 2010**

