

REPORTS OF SECTIONS

MARS SECTION

MARS IN 1960-61

Mars was in opposition on 1960 December 30 and nearest to the Earth on December 25 when its diameter was $15''.4$. This was the first of a series of unfavourable apparitions due to the increasing distance of the planet at opposition. Its high northern declination, $+26^\circ$ in December, was, to observers in the northern hemisphere, some compensation for the small diameter of the planet. The advantage of a large telescope at these aphelic oppositions is considerable but unfortunately most of the large telescopes in use by our members are located in the southern hemisphere where, of course, the altitude of the planet was low. Thus the Director received few observations from Boggis and Edwards in W. Australia, Brickett and Botham in S. Africa, Mourao in S. America and Sykes in Malaya. Fortunately, however, through the kindness of Professor C. W. Allen, Atchison had the use of the 8-inch and 18-inch refractors at the Mill Hill Observatory of London University where he made some very useful observations.

Observations were contributed by 42 members of the Section whose names, together with their place of observation and telescope used are given in Table I.

TABLE I

<i>Observer</i>	<i>Locality</i>	<i>Instrument</i>
M. Atchison	Hampstead	{6-inch, 8-inch O.G. 18-inch O.G.
E. Atchison	Hampstead	6-inch O.G.
V. W. Attwool	Esher	11½-inch spec.
A. Binder	Dekalb, U.S.A.	4-inch spec.
K. Bisphane	Manchester	4-inch spec.
M. Blossfelds	Doncaster	8-inch spec.
R. W. Boggis	Como, W. Australia	12-inch spec.
J. H. Botham	Johannesburg	9-inch O.G.
I. R. H. Brickett	Johannesburg	9-inch O.G.
W. B. Caunter	Billinghurst	6-inch O.G.
E. H. Collinson	Ipswich	10-inch spec.
A. C. Curtis	Winchester	12-inch spec.
H. E. Dall	Luton	15½-inch spec.
D. G. Daniels	London	4½-inch O.G.
P. Devadas	Madras	6-inch spec.
R. M. Doveton	Tonbridge	6-inch O.G.
C. R. Edwards	Como, W. Australia	12-in. spec.
J. D. Eddenfield	Manchester	8-inch O.G.
J. C. Farrer	Manchester	8-inch O.G.
V. A. Firsoff	Glastonbury	{6½-inch spec. 12-inch spec.

<i>Observer</i>	<i>Locality</i>	<i>Instrument</i>
G. Fryer	Willenhall	9-inch spec.
D. A. Harding	Hampstead	6-inch O.G.
M. Jarman	Cambridge	8-inch O.G.
H. Joy	Reading	10-inch spec.
R. Kiralfy	London	4-inch spec.
R. J. Livesey	Glasgow	6-inch spec.
E. C. Melville	Kingston, Jamaica	10-inch spec.
F. Parncott	Maidstone	4-inch O.G.
T. P. Pearce	Chingford	8-inch O.G.
M. V. Penston	Tonbridge	6-inch O.G.
D. H. Perks	Walsall	8-inch spec.
W. J. Rippengale	Dunstable	10-inch spec.
J. H. Robinson	Teignmouth	8½-inch spec.
D. Saunderson	Chesterfield	18-inch spec.
J. Scatcliff	Winnipeg	6-inch spec.
J. R. Smith	Sevenoaks	8-inch spec.
G. A. Steigman	Cottingham	7-inch spec.
H. Sykes	Kuala Lumpur, Malaya	12-inch spec.
P. F. Waldron	Exeter	9½-inch spec.
W. J. Westbrooke	San Francisco	4-inch spec.
J. A. Whittet	Weybridge	8½-inch spec.

Photographs were obtained by Botham, Dall and Rippengale. Dall's photographs taken with his 15½-inch Cassegrain reflector, considering the small diameter of the planet, were particularly successful, showing the principal features of the Syrtis Major region and the N. Polar cap very well.

Estimates of the relative darkness of the principal features of the planet were made by several observers, the most comprehensive of which, by Botham, are given in Table II.

The I.A.U. Map of Mars has been used by the Section and for convenience of reference is reproduced in Plate 1.

Region I: ω 250° to 10°—Syrtis Major to Furca

Hellas was bright and conspicuous to all observers. The northern part of Syrtis Major was particularly dark. Atchison noted that its northern end was tapered in November but appeared blunted on December 30. Deltoton Sinus was dark and separated from the rest of Syrtis Major by a narrow pale area. Thoth-Nepenthes was broad and very conspicuous. On December 28 and 29, in excellent seeing, Atchison, observing with the 18-inch refractor at Mill Hill Observatory noted that it was double 'like a railway track', in its following half where it joins Syrtis Major. The appearance of Sinus Sabaeus was normal but Pandora Fretum was faint. Atchison observed much detail in Casius. The desert region of Arabia was almost devoid of shading. Ismenius Lacus, Euphrates and Gehon were faintly shown on drawings made by Atchison, Boggis and Melville.

Region II: ω 10° to 130°—Margaritifer Sinus to Solis Lacus

Margaritifer Sinus and Aurorae Sinus were normal in shape and extent and to Atchison showed considerable detail and variation in tone. Oxia

Palus was conspicuous and elongated in the direction of Oxus to Atchison on December 16. On the same date he saw Oxus and Jamuna as well defined dusky streaks and Nilokeras was broad and conspicuous. On January 18, Pearce, observing with the 8-inch refractor at Mill Hill, noted that Jamuna Sinus was unusually prominent. Solis Lacus was observed by Atchison to consist of three dark spots of equal darkness but unequal size, the area between them being shaded. A broad shading linked Solis Lacus with Tithonius Lacus. Claritas appeared very bright to Atchison in the 18-inch refractor. It was surrounded by dusky shadings, a broad shading, Bathys, along the south preceding side and a narrow shading around the north to Phoenicis Lacus, which was seen as a small elongated dusky spot merging with Araxes. Tractus Albus was well seen by Atchison on January 11. These features are well shown on Atchison's drawing made on that date with the 18-inch refractor. Ganges, as in 1958 was broad and diffuse. Juventae Fons was not seen.

Region III: ω 130° to 250°—Mare Sirenum to Mare Tyrrhenum

Mare Sirenum was rather faint in December but regained its usual darkness in January. Gorgonum Sinus was conspicuous with a light area on each side of it. Atchison observing with the 18-inch refractor on January 11, in excellent seeing, described the large desert region of Amazonis as one of extremely complex detail, mainly granular in structure but in places the minute spots of shading were clumped together to form isolated streaks and irregular patches. This structure was particularly apparent in the region near Ascracus Lacus and towards Sirenum Sinus. Symplegades Insulae were dark and conspicuous. Eumenides-Orus formed the edge of a conspicuous shading extending from Titanum Sinus to Trivium Charontis and was well seen by Atchison. Trivium Charontis, Phlegra and Elysium were normal in appearance. The region south-preceding Haydes contained a mass of granulated detail.

As in 1958, Aethiopsis again appeared shaded, merging into the shading round Nubius Lacus. Atchison observing with the 18-inch refractor noted that Aethiopsis consisted of a mass of small spots and streaks.

North Polar Regions

A prominent white area was observed immediately following and merging into the North Polar cap in the region of Tempe on December 10 and 12 by Curtis and on December 28 by Atchison and Harding.

TABLE II

A list of all the Martian features as observed by J. H. Botham on the central meridian, with their intensities, on a scale where the North Polar Cap equals zero and the night sky equals 10

<i>Date, 1961</i>	<i>Feature</i>	<i>Mean estimated Intensity value</i>	<i>Number of Estimates</i>
15	Acidaliium	4	2
24	Aeria	1.5	2
5	Amazonis	1.2	4
31	Amnethes	1.0	1
19	Arabia	1.5	3
12	Arcadia	1.0	1
6	Araxes	2.0	2
13	Aurorae S.	3.0	2
31	Ausonia	1.5	1
11	Boreum M.	1.7	3
31	Casius	2.0	1
11	Coprates	2.0	1
13	Erythraeum M.	2.5	4
19	Gehon	2.0	1
24	Hadriacum M.	2.0	1
19	Hiddekel	2.3	2
31	Hellas	1.0	1
31	Iapigia	4.0	1
31	Isidis R.	1.5	1
15	Juventae F.	2.0	1
15	Lunae Lacus	2.0	1
15	Margeritifer S.	2.0	2
15	Meridianii S.	4.25	3
24	Moab	1.5	1
31	Moeris L.	2.0	1
13	Nectar	2.0	2
31	Nepenthes	2.0	1
12	Niliacus L.	3.0	2
9	Nilokeras	2.0	3
31	Nilosyrtis	3.0	1
19	Noachis	2.0	1
19	Ortigia	2.0	2
15	Sabacus S.	3.0	3
20	Scrpentis M.	2.5	2
5	Sirenum M.	2.75	3
9	Solis L.	3.75	3
24	Syrtis Maj.	4.2	2
31	Thoth	2.0	1
20	Thymiamata	1.5	1
9	Thithonius L.	2.0	3
12	Tractus Albus	1.0	1
31	Tyrrhenum M.	3.0	1
13	Xanthe	2.0	1
5	South Polar Region	0.75	6