

1. Number of pages. 2
2. Date of repair. 19-11-36
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M.R.O. 1-25,000-10-10-36.

MADRAS RECORD OFFICE.

Government of Madras.

public DEPARTMENT.

G.O. No.	900 A	Press Mis.
Dated	25-7-1936	

Not to be folded or roughly handled

dep 27/7

Sr,

to govt.

Public Dept

The Resident at
Hyderabad.

Sir,

I am directed to forward to you the accompanying copy of the Proceedings of the Government, relative to the arrangements proposed by the Government Astronomer for the observation of the total eclipse of the sun which is to occur on the 18th of next month. and, with reference to paragraph 6 of Mr. Pigeon's letter, to request that application may be made to His Highness the Nizam's Minister for such aid as may be necessary to facilitate the operations of E. Pigeon - Natha Chavry, (one of the observers,) in the Nizam's dominions.

For duty done
25 July 1868

Public 1868 Departs

August

To the President at
Washington

Dated 25 July 1868

1. Number of pages. 2-1
2. Date of repair. 19-11-36
3. Initials of Reference.

M.R.O. 1-20,000-16-10-38.

MADRAS RECORD OFFICE.

Government of Madras.

Public DEPARTMENT.

G.O. No.	900	Press Mis.
Dated	25-7-	1918/8

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Department,
25th July 1868.

No. 178. Read the following letter from N. R. POGSON, Esq., Government Astronomer, to the Chief Secretary to Government, Fort Saint George; dated Madras, 21st July 1868.

Herewith I have the honor to submit a brief statement of my final arrangements for the observation of the forthcoming total eclipse of the sun on the 18th of next month, and at the same time to request sanction for an advance of the estimated expenses of six Observers, the number originally proposed, and for which, in compliance with the Proceedings of the Madras Government, Public Department, 4th April 1868, instruments have been specially prepared.

2. I regret to state that two of the scientific gentlemen requested to share in the Observatory eclipse proceedings have declined to do so. Mr. E. B. Powell prefers simply to witness the effects of the grand event untrammelled by official considerations or instrumental appliances. I deeply regret his decision, as there is no one in India better qualified for the task, or whose opinion and records would command greater weight amongst European Astronomers. Colonel W. K. Worster also feels himself conscientiously unable to accept the invitation of Government, owing to an affection of the right eye, which might incapacitate him during the precious moments of totality. He intends, however, to attempt photographs of the eclipse as seen at Madras, and is obligingly willing to look after the Observatory during my absence, upon my responsibility, *i. e.*, without assuming formal charge. With this arrangement, the place may be safely left in the care of the Second Native Assistant, who will be further entrusted with all the special observations to be made at the Observatory in connexion with the up-country records of the eclipse.

3. Failing the valuable aid of Messrs. Powell and Worster, I beg leave to suggest that Messrs. F. Chisholm, of Madras, and G. K. Winter, of Arcunum, may be deputed to aid in securing the various records required on such an occasion.

4. The individual duties or division of labor may be conveniently arranged as follows :—

1st.—Captain Edgcome. The first place suggested was somewhere in the locality of Becjapoor; but, in consequence of Captain Edgcome's absence from Madras on leave, there will certainly not be time left for so long a journey, and he will have to locate himself in some nearer station, as Davercondah or other equally accessible spot. Instruments have been specially prepared for Captain Edgcome's use at the Public Works Workshops, and, although I have not heard from him lately in reference to his intended movements, I trust he will not fail to lend his aid on behalf of science when it will be so truly acceptable. A Sextant, a Chronometer, a portable Equatoreal Telescope, and one on a stand with ordinary motion, will be at his disposal; and he will be requested to note the true local mean times of the various phenomena, and to make such general records as those engaged in other definite pursuits are certain to omit.

2nd.—C. Ragoonatha Chary. The place selected for the observations of the First Native Assistant of the Madras Observatory is Vunpurty, near Ghunapore. The instruments provided for his use are equivalent to those prepared for Captain Edgcome, and his directions will be very similar, with the addition of cusp observations with the Sextant, and micrometrical measurement of any of the red

protuberances and of the width of the corona. He will be particularly desired to pay attention to the visibility and appearance of stars near the eclipsed sun.

3rd.—Regarding Masulipatam as my own head-quarters, I propose to avail myself thereof of the assistance of the other three gentlemen suggested as members of the expedition. The duration of the eclipse, though actually unusually long, is so brief, that, except by a well preconcerted subdivision of labor, there will be little hope of securing a reliable account of all the general phenomena. A fine Spectroscope has been duly received, constructed by Messrs. Troughton and Simms, under the immediate direction of Mr. Huggins, F. R. S., of Tulse Hill, London; and the attempt to make use of this difficult instrument will demand every moment of my time during the total phase of the eclipse. The Spectroscope was received on the 6th instant, and Mr. Doderet will only be able to complete its attachment to the Telescope upon which it is to be used, and all the arrangements requisite, by the end of the month, leaving me only about 12 days at Masulipatam in which to acquire the practice of the first I have ever seen, its invention bearing date long after my arrival at Madras. Messrs. Janssen, Tennant, and Herschel, all enjoy the advantage of long previous familiarity with their instruments, but I do not despair of contributing my share towards the desired results should the weather prove sufficiently favorable. Cusp observations, contacts, micrometrical measurements, &c., will find me ample employment throughout the partial phases of the eclipse before and after totality.

To Mr. C. G. Walker will be allotted the record of all the general features of the eclipse visible at the station; of Bailey's Beads; of the number, description, and positions of the red protuberances; the nature of the corona and intensity of shadows of objects cast by its light; terrestrial and meteorological observations, as well as of chronometric records of the times of all the phenomena he may be able to note. Mr. G. K. Winter will be requested to devote his attention chiefly to an analysis of the light of the corona and red protuberances, by means of a set of Polarization Prisms, also sent out by Mr. Huggins of London, prepared expressly for the occasion by the same maker who supplied those furnished to Lieutenant Herschel by the Royal Society. The object of these investigations is to determine whether the corona and red protuberances shine by intrinsic or by reflected light, or, in other words, whether polarization can be detected, and, if so, to determine the position of the plane in which the light is polarized. The instructions issued by the Royal Society distinctly state that "*a distinct observer is required for these observations*;" but Mr. Winter will probably find time for other records than those to which his attention is most particularly desired. Mr. Chisholm's artistic skill would be best employed in securing sketch notes, and by particular attention to the tints and chromatic effects of the eclipse, and these it is proposed that he shall embody in two oil paintings: one showing the appearance of the eclipsed sun and his marvellous surroundings; the other of the terrestrial appearances, and the lights, shades, and tints peculiar to the extraordinary circumstances of a total eclipse. I am not aware of such an attempt having been made at any previous eclipse, and such paintings, carefully and conscientiously executed, would, I believe, be highly acceptable to the Royal Astronomical Society of London, as well as valuable supplementary evidence of the impressions and records of the observers occupied in noting the exact instrumental phenomena.

5. It is not my intention to attempt any photographic records, as the elaborately equipped expedition under Major Tennant, at Guntoor, is chiefly charged with this duty; and it is one in which, without considerable previous training, there is little chance of success. Terrestrial and celestial photography are two widely different pursuits, and a person fairly experienced in the former (which I am not) would soon find that the use of an ordinary camera was very inadequate preparation for that of a large reflecting telescope, and such perfect, yet hurried, operations as the short duration of a total eclipse necessarily requires. Special instruction, only obtainable in Europe, several well qualified assistants, and costly and peculiar apparatus are indispensable requisites before any reasonable hope of success in this line can be indulged in; and Major Tennant is doubtless so well prepared in every way, that, except through cloudy weather, there is little doubt of his realizing all that photography can accomplish. Besides the extensive preparations made in India by numerous English Observers, it may not be amiss to mention that expeditions have been sent out from France, Austria, Prussia, and Rome for the observation of the great eclipse. The French Observer, Monsr. Janssen, now in Madras, will, it is understood, join Major Tennant at Guntoor, and devote his attention chiefly to spectrum analysis; and, indeed, so absorbing is the interest of this vast newly discovered field of physical research, that there seems little chance of the more ordinary, yet highly important, older class of records receiving due attention, except from the five members of the Madras Expedition unprovided with spectroscopic apparatus.

6. I am indebted to G. Thornhill, Esq., late Collector of the Kistnā District, for enabling me to make arrangements for our reception at Masulipatam, which will greatly facilitate the success and comfort of the party at that station. It will probably be advisable to request permission and perhaps assistance of the Nizam's Minister, to facilitate the safe and speedy transit of C. Ragoonatha Chary and his instruments from Gooty to his destination in the Nizam's dominions. Two bandies and three coolies will be requisite in his case, and the special permission of the Railway authorities for him to proceed so far as Gooty, which is, I believe, beyond the actual working limit of the line at present completed for general traffic.

7. Captain Edgcome's arrangements must still stand over until his return, but it is necessary to make adequate provision for his movements in whichever direction he may go.

8. If, upon arrival at Masulipatam, I should find other observers similarly equipped, and at the same time easy prospects of transit, I shall endeavour to push on to Narsapore, in the Godavery District, in company with Mr. Winter, leaving Messrs. Walker and Chisholm at the former place. The wider the distribution of the observers, of course the better the chance of some experiencing fine weather, though I fear the prospects of all are far from encouraging throughout the shadow line. My idea of going to Mergui, where the duration is greatest, had to be abandoned, equally from the greater probability of cloudy weather on the Tennasserim Coast, and the long time it would have taken me away from my Observatory duties. I must have started early in July, could not have returned until the end of September, and should most likely have seen nothing of the eclipse after all.

*Proceedings of the Madras Government, Public Department,
25th July 1868.*

9. An advance of Rupees 1500, at the rate of Rupees 250 for each Observer, is herewith requested; and as Ragoonatha Chary must start about the 1st, and the Masulipatam party on the 3rd proximo, early sanction of the same is especially desirable.

No. 179. ORDER THEREON, 25th July 1868, No. 900.

In the above letter the Government Astronomer explains the final arrangements he proposes to make for the observation of the total eclipse of the sun on the 18th of August.

2. It appears that two of the gentlemen who were requested in the Proceedings of the 4th April 1868, No. 433, to give their aid in rendering complete the series of observations to be taken, have, for various reasons, declined to do so; and Mr. Pogson requests that Messrs. F. Chisholm, the Architect, and G. K. Winter, Telegraphic Engineer of the Madras Railway, may supply their place. It has been ascertained that Mr. Chisholm cannot be spared from his duties in the Public Works Department. The Government will be glad that Mr. Pogson should have Mr. Winter's aid, if it can be procured, but he must apply for his services to the Agent to the Madras Railway, who alone can determine whether Mr. Winter's services can be made available in the manner proposed.

3. The arrangements made for Captain Edgecome and Ragoonatha Chary are approved, and application will be made to the Government of the Nizam and the Railway Company to render such aid as may be called for to facilitate the operations of the latter, who, it is recommended, shall station himself within the Nizam's dominions, and whose journey may be rendered materially easier by the aid of the Railway Officers employed in construction of the line. This is the more necessary as he has delicate instruments to take with him, which require the best possible mode of transit.

4. The general arrangements which Mr. Pogson proposes are approved by the Government, and they sanction the advance he asks of Rupees 1500, to be accounted for on the completion of the operations.

(True Extract).

Chief Secretary.

To the Government Astronomer.

- „ Public Works Department.
- „ Collector of the Kistna District.
- „ Agent to the Madras Railway Company.
- „ Accountant General.
- „ Examiner of Claims.

Madras Observatory 1868, July 21st

From

*N. R. Pogson Esq^r
Government Astronomer*

To

*The Honorable R. J. Ellis Esq. B.
Chief Secretary to Government
Fort St. George.*

Sir,

Herewith I have the honor to submit a brief statement of my final arrangements for the observation of the forthcoming total eclipse of the sun on the 18th of next month, and at the same time to request sanction for an advance of the estimated expenses of six observers, the number originally proposed, and for which, in compliance with the Proceedings of the Madras Government, Public Department, 4th April, 1868, instruments have been specially prepared.

I regret to state that two of the scientific gentlemen requested to share in the Observatory Eclipse Proceedings have declined to do so. - Mr E. B. Powell prefers simply to witness the effects of the grand event untrammelled by official considerations or instrumental appliances. I deeply regret his decision as there is no one in India better qualified for the task or

whose opinion and records would command greater weight amongst European astronomers. — Col. W. K. Wroster also feels himself conscientiously unable to accept the invitation of Government, owing to an affection of the right eye, which might incapacitate him during the precious moments of totality. He intends however to attempt photographs of the eclipse as seen at Madras, and is accordingly willing to look after the observatory during my absence, upon my responsibility, i.e. without assuming formal charge. With this arrangement the place may be safely left in the care of the second native assistant, who will be further intrusted with all the special observations to be made at the Observatory in connexion with the up country records of the eclipse. —

Having the valuable aid of Messrs Powell and Wroster, I beg leave to suggest that Messrs H. Schischolm of Madras and P. K. Winter of Arcotum may be deputed to aid in securing the various records required on such an occasion. —

The individual duties or division of labor may be conveniently arranged as follows. —

1st. Captain Edgcomb. — The first place suggested was somewhere in the locality of Bangalore, but in consequence of Captain Edgcomb's absence from Madras on leave, there will certainly not be time left for so long a journey, and he will have to locate.

himself in some nearer station, as Dauracoodah or other equally accessible spot. Instruments have been specially prepared for Captain Edgcomb's use at the Public Works Workshops, and although I have not heard from him lately in reference to his intended movements, I trust he will not fail to lend his aid on behalf of Science when it will be so truly acceptable. — I desire, a chronometer, a portable equatorial telescope, and one on a stand with ordinary motion, will be at his disposal, and he will be requested to note the true local mean times of the various phenomena and to make such general records as these engaged in other definite pursuits are certain to omit. —

2nd. C. Ragoonatha Chary. — The place selected for the observations of the first native assistant of the Madras Observatory, is Vunpurty, near Bangalore. The instruments provided for his use are equivalent to those prepared for Captain Edgcomb, and his directions will be very similar, with the addition of cusp observations with the sextant, and micrometrical measurement of any of the red protuberances and of the width of the Corona. He will be particularly desired to pay attention to the visibility and appearance of stars near the eclipsed sun. —

3rd. Regarding Masulipatam as my own head

quarters I propose to avail myself thereof of
the assistance of the other three ^{suggested} gentlemen as
members of the expedition. The duration of
the eclipse, though actually unusually long, is
so brief, that except by a well preconcerted
subdivision of labor there will be little hope of
securing a reliable account of all the phe-
nomena. - A fine Spectroscope has been duly
received, constructed by Mess^{rs} Throughton & Simms,
under the immediate direction of Mr Huggins & R.G.
of Juxta Hill, London, and the attempt to make use
of this difficult instrument will demand every
moment of my time during the total phase of
the eclipse. - The Spectroscope was received on the
1st instant, and Mr Boker will only be able to
complete its attachment to the telescope upon
which it is to be used and all the arrangements
requisite for ~~the same and difficult an instrument~~
by the end of the month, leaving me only about
12 days at Mesopotamia in which to acquire
the practice of the first I have ever seen; its
invention bearing date long after my arrival at
Bagdad. - Mess^{rs} Janssen, Gannaut, and Herschel,
all enjoy the advantage of long previous fami-
liarity with their instruments, but I do not de-
spair of contributing my share towards the
desired results, should the weather prove
sufficiently favorable. - Eup observations -

3
contacts, micrometrical measurements, &c., will
find me ample employment throughout the
partial phases of the eclipse before and after
totality. -

To Mr C. F. Walker will be allotted
the record of all the general features of the eclipse
visible at the station; of Bailey's beads; of the
number description and positions of the red pro-
tuberances; the nature of the corona and intensity
of shadows of objects cast by its light; terrestrial
and meteorological observations, as well as of
chronometric records of the times of all the phe-
nomena he may be able to note. - Mr G. K. Manter
will be requested to devote his attention chiefly to
an analysis of the light of the corona and red
prouberances, by means of a set of Polarization
prisms, also sent out by Mr Huggins of London,
prepared expressly for the occasion, by the same
maker who supplied those furnished to Lord Herschel
by the Royal Society. - The object of these invest-
gations is, to determine whether the corona and
red protuberances shine by intrinsic or by
reflected light, or in other words, whether polar-
ization can be detected, and if so to determine
the position of the plane in which the light
is polarized. - The instructions issued by the
Royal Society distinctly state, that "A distinct
observer is required for these observations", but

Mr Winter will probably find time for other records than those to which his attention is most particularly directed. - Mr Whistler's artistic skill would be best employed in securing sketch notes, and by particular attention to the tints and chromatic effects of the eclipse and those it is proposed that he shall embody in two oil paintings, one showing the appearance of the eclipsed sun and his markings, surrounding the other of the terrestrial appearances and the light shades and tints peculiar to the extraordinary circumstances of a total eclipse. I am not aware of such an attempt having been made at any previous eclipse, and such paintings carefully and conscientiously executed, would I believe be highly acceptable to the Royal Astronomical Society of London, as well as valuable supplementary evidence of the impressions and records of the observers occupied in noting the exact instrumental phenomena. -

It is not my intention to attempt any photographic records, as the elaborately equipped expedition under Major Tennant, at Singapore, is chiefly charged with this duty, and it is one in which, without considerable

previous training there is little chance of success. - Terrestrial and celestial photography are two widely different pursuits, and a person fairly experienced in the former (which I am not) would soon find that the use of an ordinary camera was very inadequate preparation for that of a large reflecting telescope, and such perfect yet hurried operations as the short duration of a total eclipse necessarily requires. - Special instruction, only obtainable in Europe; several well qualified assistants, and costly and peculiar apparatus are indispensable requisites before any reasonable hope of success in this line can be indulged in; and Major Tennant is doubtless so well prepared in every way, that except through cloudy weather there is little doubt of his realizing all that photography can accomplish. Besides the extensive preparations made in India by numerous English observers it may not be amiss to mention that expeditions have been sent out from France Austria Prussia and Rome for the observation of the great eclipse. - The French observer M^{ons} Janssen, now in Madras, will it is understood join Major Tennant at Guntur, and devote his attention chiefly to Spectrum Analysis, and indeed, so absorbing is the interest of this vast newly discovered field of physical

research that there seems little chance of the more ordinary yet highly important older class of records receiving due attention, except from the five members of the Madras expedition unprovided with spectroscopic apparatus. —

I am indebted to G. Thornhill Esq^r, late Collector of the Ristna District, for enabling me to make arrangements for our reception at Masulipatam which will greatly facilitate the success and comfort of the party at that Station. — It will probably be advisable to request permission and perhaps assistance of the Nizam's Minister, to facilitate the safe and speedy transit of G. Ragoonatha Chay and his instruments from Gooty to his destination in the Nizam's dominions. Two bandies and three coolies will be requisite in his case, and the special permission of the Railway authorities, for him to proceed so far as Gooty, which is I believe beyond the actual working limit of the line at present completed for general traffic. —

Captain Edgcombes arrangements must still stand over until his return, but it is necessary to make adequate provision for his movements in whichever direction he may go

If upon arrival at Masulipatam I should find other observers similarly equipped, and at the same time easy prospects of transit I shall endeavor to push on to Narsapore in the Godavary District in company with Mr Winter, leaving Mess^{rs} Walker^{and} Lohishelm at the former place. — The wider the distribution of the observers of course the better the chance of some experiencing fine weather, though I fear the prospects of all are far from encouraging throughout the shadow line. My idea of going to Nergui, where the duration is greatest, had to be abandoned, equally from the greater probability of cloudy weather on the Ponnasree Coast and the long time it would have taken me away from my Observatory duties. I must have started early in July, could not have returned until the end of September, and should most likely have seen nothing of the Eclipse after all. —

An advance of Rs 1500, at the rate of Rs 250 for each observer, is herewith requested; and as Ragoonatha Chay must start about the 1st, and the Masulipatam party on the 3rd proximo, early

Sanction of the same is especially desirable

I have the honor to be
Sir

Your most obedient servant

A R Pogson
Government Astronomer

Public from 25th July 1888
No. 204 L

From

Principal Civil Eng. College,
Chepauk, Madras,

To

The Chief Secretary
to Government
Fort Saint George

Dated 3rd

Received

3rd August 1888.

Requests the favor of
being furnished with a
copy of Proceedings of
Government Public Depart-
ment dated 25th July last,
as such has not yet been
supplied to me and the
instructions contained in
the letter from the
Government Astronomer
therein

Very respectfully,
[Signature]

Public 1888 (204)

from the Government Astronomer

Chief Secretary to Government
Fort St George

S. C. [Signature]

Madras Observatory, July 20th 1888.

No. 1861

Memorandum for the observation of
the Solar Eclipse of the Sun on Aug
1888 at Madras and elsewhere,
with application for special sanction
of Rs 1500 in salaries for the
expenses of the men shown employed.

138

24 July

Therein entered will be of very great service
to me in my observation of the forthcoming
Solar Eclipse.

W. R. M. Captain R. E.
Principal C. E. College

Public Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Read the following letter from the

Government Astronomer.

Received 21 July 1868

Order thereon 25 July 1868. No. 902

In the above letter
the Government Astronomer
^{explains the}
~~gives~~ ^{he proposes to make} his final arrange-
ments for the observation
of the total eclipse of
the Sun, ~~to be~~ on the
10th of August.

2. It appears that
two of the gentlemen
who were requested in
the Proceedings of the 4th
April 1868 No. 133, to give their
aid in rendering complete
the series of observations

to be taken have for various reasons declined to do so, and Mr. Poyson requests that Messrs. T. Chisholm, the Architect, and G. H. Winter, Telegraphic Engineer of the Madras Railway, may supply their place. The services of the former being at the disposal of the Public Works Dept., these Proceedings will be communicated to that Department for decision whether Mr. Poyson's services can be spared. The Government will be glad that Mr. Poyson should have the honor and, if it can be procured, but he was not in possession of the Agent to the Madras Railway, who alone can

I would say
It has been ascertained
that the ~~services~~ of Mr. Chisholm
cannot be spared from
his duties in the
P. W. Dept.

1/11/18

determine Mr. Poyson's services
can ~~be~~ ^{say} whether they
can be made available in the manner
~~can be spared~~
proposed.
3. The arrangements
made for Captain
Edgemoor and Nagasada
Chang are approved, and
application will be made
to the Government of the
Nizam and the Railway
Company to render such
aid as may be called
for to facilitate the
operations of the latter,
who, it is ^{recommended} ~~proposed~~ shall
station himself within
the Nizam's dominions,
and whose journey may
be rendered materially
easier by the aid of the
Railway officers em-
ployed in construction
of the line, and ^{the} ~~the~~ more
^{responsible} ~~as~~ he has delicate
instruments to take

with him, which requires
the best possible mode
of transit.

4. The general
arrangements which
Mr. Pogson proposes,
~~the Government~~^{are} approve,
~~by the Govt~~^{and they} sanction the
advance he asks of
Rs 1500, to be accounted
for on the completion
of the operations. ~~to~~
~~be submitted~~ *AM*

to the Govt Astronomer - Sept 25
P.W. Departe
Collection of the Hesperia D.C.
Agent to the Govt. by C
Sept 27/74 Acct General - Sept 25
Examiner of Claims
High Court of Justice - a
Letter to the Secretary to the Admiralty

W. L. 1868. Department

No. 900.

PROCEEDINGS OF GOVERNMENT.

Dated 25th July 1868.

170.179.