NATIONAL NEWSLETTER

Phenomena of Jupiter's Brightest Satellites—1971

Owing to an unfortunate error, an incorrect list of phenomena of Jupiter's brightest satellites was printed in the 1971 OBSERVER'S HANDBOOK. A correct list of these phenomena appears below; the list includes most of those phenomena which can be seen by an observer in North America at moderate latitudes.

Times given are Eastern Standard Time.

FEBRUARY

d	h	m	Sat.	Phen.
1	6	04	II	ED
3	1	12	II	SI
	3	31	II	TI
	3	44	II	Se
	6	03	II	Te
4	5	43	I	SI
	6	53	I	TI
	7	52	I	Se
5	3	02	I	ED
	6	23	I	OR
6	1	22	I	TI
	2	21	I	Se
	2	22	III	Se
	3	31	I	Te
	5	04	III	TI
	7	10	III	Te
10	3	46	II	SI
	6	10	II	TI
	6	17	II	Se
11	7	36	I	SI
12	3	01	II	OR
	4	55	I	ED
13	2	04	I	SI
	3	17	I	TI
	4	10	III	SI
	4	14	I	Se
	5	27	I	Te
	6	19	III	Se
14	2	46	I	OR
17	1	16	III	OR
	6	19	II	SI
19	5	40	II	OR
	6	48	I	ED
20	3	58	I	SI
	5	12	I	TI
	6	07	I	Se
	7	22	I	Te
21	0	34	II	Te
	1	16	I	ED
	4	40	I	OR
22	0	36	I	Se
	1	50	I	Te
24	3	10	III	OD
	5	15	III	OR
26	3	06	II	ED
27	5	51	I	SI
	7	06	I	TI
28	0	37	II	TI
	0	40	II	Se
	3	07	II	Te
	3	09	I	ED
	6	33	I	OR

MARCH

d	h	m	Sat.	Phen.
1	0	19	I	SI
	1	34	I	TI
	2	29	I	Se
	3	43	I	Te
2	1	01	I	OR
3	2	00	III	ED
	4	12	III	ER
	7	06	III	OD
5	5	41	II	ED
6	7	44	I	SI
	23	08	III	Te
7	0	42	II	SI
	3	08	II	TI
	3	13	II	Se
	5	02	I	ED
	5	38	II	Te
8	2	13	I	SI
	3	26	I	TI
	4	23	I	Se
	5	36	I	Te
	23	30	I	ED
9	0	07	II	OR
	2	53	I	OR
	22	51	I	Se
10	0	04	I	Te
	5	56	III	ED
13	22	11	III	Se
14	0	59	III	TI
	2	58	III	Te
	3	15	II	SI
	5	37	II	TI
	5	46	II	Se
	6	55	I	ED
15	4	06	I	SI
	5	18	I	TI
	6	16	I	Se
	7	27	I	Te
16	1	23	I	ED
	2	38	II	OR
	4	43	I	OR
	22	34	I	SI
	23	45	I	TI
17	0	45	I	Se
	1	55	I	Te
	23	11	I	OR
20	23	58	III	SI
21	2	09	III	Se
	4	44	III	TI
	5	48	II	SI
	6	43	III	Te
22	5	59	I	SI
23	0	10	II	ED
	3	16	I	ED
	5	07	II	OR
	6	33	I	OR
24	0	28	I	SI
	1	35	I	TI
	2	38	I	Se
	3	45	I	Te
	23	46	II	Te
25	1	00	I	OR
	22	12	I	Te
28	3	56	III	SI
	6	07	III	Se
30	2	46	II	ED
	5	09	I	ED
31	2	21	I	SI
	3	25	I	TI
	4	32	I	Se
	5	34	I	Te
	21	27	II	SI
	22	08	III	OD
	23	37	I	ED
	23	41	II	TI

APRIL

d	h	m	Sat.	Phen.
1	0	08	III	OR
	0	09	II	Se
	2	10	II	Te
	2	48	I	OR
	21	52	I	TI
	23	00	I	Se
2	0	01	I	Te
6	5	22	II	ED
7	4	15	I	SI
	5	13	I	TI
	6	26	I	Se
	21	46	III	ED
8	0	00	III	ER
	0	10	II	SI
	1	30	I	ED
	1	43	III	OD
	2	02	II	TI
	2	42	II	Se
	3	42	III	OR
	4	31	II	Te
	4	36	I	OR
	22	43	I	SI
	23	39	I	TI
9	0	54	I	Se
	1	49	I	Te
	23	02	I	OR
	23	09	II	OR
14	6	08	I	SI
15	1	43	III	ED
	2	43	II	SI
	3	24	I	ED
	3	58	III	ER
	4	22	II	TI
	5	13	III	OD
	5	15	II	Se
	6	22	I	OR
	6	51	II	Te
16	0	37	I	SI
	1	26	I	TI
	2	48	I	Se
	3	36	I	Te
	21	15	II	ED
	21	52	I	ED
17	0	48	I	OR
	1	31	II	OR
	21	16	I	Se
	22	03	I	Te
22	5	16	II	SI
	5	17	I	ED
	5	41	III	ED
23	2	31	I	SI
	3	12	I	TI
	4	42	I	Se
	5	22	I	Te
	23	45	I	ED
	23	52	II	ED
24	2	34	I	OR
	3	50	II	OR
	20	59	I	SI
	21	38	I	TI
	23	10	I	Se
	23	48	I	Te
25	21	00	I	OR
	21	05	II	Se
	22	00	III	Se
	22	17	II	Te
	22	27	III	TI
26	0	23	III	Te
30	4	24	I	SI
	4	57	I	TI

MAY

d	h	m	Sat.	Phen.
1	1	38	I	ED
	2	28	II	ED
	4	18	I	OR
	22	53	I	SI
	23	23	I	TI
2	1	04	I	Se
	1	34	I	Te
	20	07	I	ED
	21	05	II	SI
	22	03	II	TI
	22	44	I	OR
	23	38	II	Se
	23	45	III	SI
3	0	32	II	Te
	1	49	III	TI
	1	59	III	Se
	3	45	III	Te
	19	33	I	Se
	20	00	I	Te
4	19	17	II	OR
8	3	32	I	ED
	5	04	II	ED
9	0	47	I	SI
	1	08	I	TI
	2	58	I	Se
	3	18	I	Te

d	h	m	Sat.	Phen.
	22	00	I	ED
	23	39	II	SI
10	0	17	II	TI
	0	28	I	OR
	2	11	II	Se
	2	47	II	Te
	3	43	III	SI
	5	07	III	TI
	5	58	III	Se
	19	15	I	SI
	19	34	I	TI
	21	27	I	Se
	21	44	I	Te
11	21	34	II	OR
13	20	36	III	OR
15	5	25	I	ED
16	2	41	I	SI
	2	52	I	TI
	4	53	I	Se
	5	02	I	Te
	23	54	I	ED
17	2	12	I	OR
	2	12	II	SI
	2	31	II	TI
	4	45	II	Se
	5	01	II	Te
	21	10	I	SI
	21	18	I	TI
	23	21	I	Se
	23	28	I	Te
18	20	38	I	OR
	20	59	II	ED
	23	49	II	OR
20	21	32	III	ED
	23	54	III	OR
23	4	36	I	TI
	4	36	I	SI
24	1	47	I	OD
	3	57	I	ER
	4	44	II	TI
	4	46	II	S1
	23	02	I	TI
	23	04	I	SI
25	1	12	I	Te
	1	16	I	Se
	20	13	I	OD
	22	26	I	ER
	23	29	II	OD
26	2	15	II	ER
	19	38	I	Te
	19	44	I	Se
27	20	21	II	Te
	20	36	II	Se
28	1	09	III	OD
	3	48	III	ER
31	3	30	I	OD

JUNE

d	h	m	Sat.	Phen.
1	0	46	I	TI
	0	59	I	SI
	2	57	I	Te
	3	10	I	Se
	21	56	I	OD
2	0	20	I	ER
	1	45	II	OD
	4	52	II	ER
	19	12	I	TI
	19	27	I	SI
	21	23	I	Te
	21	39	I	Se
3	20	05	II	TI
	20	37	II	SI
	22	35	II	Te
	23	10	II	Se
4	4	25	III	OD
7	19	36	III	SI
	20	15	III	Te
	21	53	III	Se
8	2	31	I	TI
	2	53	I	SI
	23	41	I	OD
9	2	14	I	ER
	4	01	II	OD
	20	57	I	TI
	21	22	I	SI
	23	08	I	Te
	23	33	I	Se
10	20	43	I	ER
	22	19	II	TI
	23	11	II	SI
11	0	50	II	Te
	1	45	II	Se
12	20	46	II	ER
14	21	32	III	TI
	23	35	III	SI
	23	37	III	Te
15	1	53	III	Se
	4	16	I	TI
16	1	25	I	OD
	3	08	I	ER
	22	42	I	TI
	23	17	I	SI
17	0	53	I	Te
	1	28	I	Se
	19	52	I	OD
	22	37	I	ER
18	0	35	II	TI
	1	45	II	SI
	3	07	II	Te
	19	19	I	Te
	19	57	I	Se
19	19	27	II	OD
	23	23	II	ER
22	0	54	III	TI
	3	01	III	Te
	3	35	III	S
23	3	11	I	OD
24	0	29	I	TI
	1	12	I	SI
	2	39	I	Te
	3	23	I	Se
	21	37	I	OD
25	0	31	I	ER
	2	53	II	TI
	18	55	I	TI
	19	40	I	SI
	19	44	III	ER
	21	06	I	Te
	21	51	I	Se
26	19	00	I	ER
	21	47	II	OD
27	2	00	II	ER
28	20	12	II	Se

JULY

d	h	m	Sat.	Phen.
1	2	16	I	TI
	23	24	I	OD
2	2	26	I	ER
	20	06	III	OR
	20	43	I	TI
	21	23	III	ED
	21	35	I	SI
	22	53	I	Te
	23	43	III	ER
	23	46	I	Se
3	20	55	I	ER
4	0	08	II	OD
5	20	12	II	SI
	20	55	II	Te
	22	47	II	Se
9	1	12	I	OD
	21	23	III	OD
	22	31	I	TI
	23	30	I	SI
	23	39	III	OR
10	0	41	I	Te
	1	22	III	ED
	1	41	I	Se
	19	39	I	OD
	22	50	I	ER
11	2	32	II	OD
	19	09	I	Te
	20	10	I	Se
12	20	45	II	TI
	22	47	II	SI
	23	18	II	Te
13	1	22	II	Se
14	20	31	II	ER
17	0	21	I	TI
	0	59	III	OD
	1	25	I	SI
	21	28	I	OD
18	0	44	I	ER
	18	48	I	TI
	19	54	I	SI
	20	58	I	Te
	22	04	I	Se
19	19	13	I	ER
	23	10	II	TI
20	1	22	II	SI
	1	44	II	Te
	19	30	III	SI
	21	50	III	Se
21	23	08	II	ER
24	23	18	I	OD
25	20	39	I	TI
	21	49	I	SI
	22	49	I	Te
	23	59	I	Se
26	21	08	I	ER
27	18	28	I	Se
	18	41	III	TI
	20	59	III	Te
	23	30	III	SI
28	20	40	II	OD
30	19	51	II	Se

AUGUST

d	h	m	Sat.	Phen.
1	22	31	I	TI
	23	44	I	SI
2	19	38	I	OD
	23	03	I	ER
3	18	13	I	SI
	19	09	I	Te
	20	23	I	Se
4	23	11	II	OD
6	19	52	II	SI
	19	57	II	Te
	22	28	II	Se
7	19	42	III	ER
9	21	31	I	OD
10	18	52	I	TI
	20	08	I	SI
	21	03	I	Te
	22	18	I	Se
11	19	27	I	ER
13	19	55	II	TI
	22	28	II	SI
	22	31	II	Te
14	18	31	III	OR
	21	17	III	ED
	23	42	III	ER
15	20	14	II	ER
16	23	25	I	OD
17	20	47	I	TI
	22	03	I	SI
	22	57	I	Te
18	21	22	I	ER
19	18	42	I	Se
20	22	30	II	TI
21	20	02	III	OD
	22	30	III	OR
22	22	50	II	ER
24	22	42	I	TI
25	17	50	III	Se
	19	49	I	OD
	23	18	I	ER
26	18	27	I	SI
	19	21	I	Te
	20	37	I	Se
29	20	15	II	OD
31	19	36	II	Se

SEPTEMBER

d	h	m	Sat.	Phen.
1	19	26	III	SI
	21	45	I	OD
	21	50	III	Se
2	19	07	I	TI
	20	22	I	SI
	21	17	I	Te
3	19	42	I	ER
7	19	35	II	SI
		44	II	Te
	22	13	II	Se
8	18	24	III	TI
	20	53	III	Te
9	21	04	I	TI
	22	17	I	SI
10	18	11	I	OD
	21	37	I	ER
11	17	44	I	Te
	18	55	I	Se
14	19	48	II	TI
16	19	55	I	ER
17	20	09	I	OD
18	17	31	I	TI
	18	41	I	SI
	19	42	I	Te
	20	50	I	Se
19	18	01	I	ER
	19	43	III	ER
23	17	38	II	OD
25	19	30	I	TI
	20	35	I	SI
26	19	19	III	OR
	19	56	I	ER
	21	14	III	ED
27	17	14	I	Se
30	20	22	II	OD

OCTOBER

d	h	m	Sat.	Phen.
2	17	19	II	Te
	19	24	II	Se
3	18	37	I	OD
	21	02	III	OD
4	18	09	I	Te
	19	09	I	Se
7	17	51	III	Se
9	17	25	II	TI
	19	21	II	SI
	20	06	II	Te
11	17	58	I	TI
	18	54	I	SI
	20	09	I	Te
12	18	15	I	ER
14	18	17	III	Te
	19	21	III	SI
18	19	32	II	ER
	19	58	I	TI
19	17	08	I	OD
20	16	39	I	Te
	17	27	I	Se
25	18	02	II	OD
26	19	09	I	OD
27	16	29	I	TI
	16	36	II	Se
	17	11	I	SI
	18	40	I	Te
	19	21	I	Se

I Never Count Sheep

"When I go to sleep, I never count sheep" .... I count constellations.

There are 89 of them altogether, and I have never succeeded in toting them all up—not without cheating, that is. For a start, a sort of warming-up period, I run through the constellations of the zodiac. These are Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Sagittarius, Scorpius, Capricornus, Aquarius, Pisces.

Next, I dispose briefly of the polar groups. There are only six. They are Ursa Major, Ursa Minor, Draco, Cassiopeia, Cepheus, Lynx, Camelopardalis. Oops, that's seven! I daren't complain that I'm getting too sleepy to count already, for I have a heck of a lot of constellations to review before sleep comes.

Bunching up my pillow more comfortably so as to accomplish the task ahead, I start with the constellations of spring. I have Virgo, Bootes, Leo, Coma Berenices, Canes Venatici, Corona Borealis, Hydra and Corvus.

Summer groups come next, and I have Cygnus, Aquila, Lyra, Scorpius or Scorpio (here I sternly repress the desire to count these as two), Hercules, Sagittarius, Ophiuchus, Sagitta, Scuturn, Delphinus, Equuleus and Capricornus.

In the fall, there is the square of Pegasus, Andromeda, Piscis Australis (or the bit of it that you can see from this latitude), Aries, Aquarius, Perseus, Pisces and Cetus.

Winter brings Auriga, Gemini, Taurus, Orion, Canis Major, Canis Minor, Aries and Triangulum.

Partly to check, but mostly because I have not yet gone to sleep, I begin all over again, this time alphabetically, cheating whenever possible. The A's are easy. There are only five of them.

B's are even better. There's just Bootes. The C's are enough to keep a night watchman awake—17 of them. I carry on valiantly, but by the time I get to Vulpecula, I am beginning to wish I had settled for counting stars instead of constellations.

I now turn my attention to the southern skies, of which I know little and care less, never having seen them anyway. I get as far as Argo and Antlia and maybe Crux, and then I begin to wonder why I waste time and energy counting constellations when I could be getting in some good, solid shut-eye.

Blithely ignoring the fact that I have counted some of these twice over, I bunch up my pillow some more and begin to check these too, alphabetically, continuing my comfortable policy of cheating whenever possible. My aim is to get to 89 by whatever means I can. At this juncture, I usually count, and find I have 88—a heaven-sent chance to sneak in the Pleiades, which, strictly speaking, is not a constellation at all, but a star cluster.

I suppose I should be truthful, and admit that I have never yet got as far as 89. Next morning, it irks me considerably not to have been able to recall a few dozen constellations. Before I can consider doing any household chores I have to get out my star maps and see what I had forgotten.

This I do while cooking breakfast. I prop the map up against the sugar basin, peeking at it from time to time as I go about my work.

Invariably, someone misses the sugar basin from the table, comes out to the kitchen (where I am cheerfully engaged in frying teabags in golden melted butter and gently breaking eggs into the teapot), "tut-tuts" at me in an unwarranted burst of irritation, and grabs the sugar bowl, which probably holds my Hertzsprung-Russell diagram instead of sugar. My star map has frequently become spotted as a result of such incomprehensible activity on the part of my family.

I don't mind too much. I am very patient with my family. Just so long as I don't mistake a blob of bacon grease for a far distant galaxy!

ST. JOHN'S — MRS. DORA RUSSELL

RASC Variable Star Observing Program

If you can find the constellations Hercules and Orion, own a pair of binoculars, and have a few minutes free time a week, then this observing program is for YOU. The program consists of two sets of "binocular variables": g Herculis, X Herculis and RR Corona Borealis; W Orionis, CK Orionis and RX Leporis. Each set of variables is on a single AAVSO (American Association of Variable Star Observers) chart. The complete observing kit (including instruction and report form) is available for 30 cents (the cost of the charts) from me (1227 Morrison Drive, Ottawa).

For a number of years, the Ottawa Centre has had an active Variable Star section. However, even though variable star observing is one of the only fields left where the amateur can make a contribution to the science of astronomy, many RASC Centres have no active variable star observers. This prompted me to present a paper at the 1970 General Assembly in Edmonton on the success of the Ottawa Centre's program and on the possibility of applying it nationally. There was an enthusiastic response from the members present at the Assembly, and with the approval of COCOCA, I am presenting it as a national program.

It is hoped that the many unattached members, as well as Centre members of the RASC will take advantage of this program. I will assume (hope) that our Canadian AAVSO members will support this program by providing estimates of these variables, and by providing encouragement and assistance to beginners.

OTTAWA — RICK LAVERY

The 1972 Total Solar Eclipse

A committee of the National Council of the RASC has been established to co-ordinate the plans of the many Centres and individual members of the Society who are planning to observe the eclipse. All such persons are urged to contact the chairman of the commitee, Ken Chilton (93 Currie St., Hamilton 57), as soon as possible.

In the January 1971 issue of *Sky and Telescope*, an excellent article describes the geographical circumstances of the eclipse. Included are roadmaps of the parts of Quebec and the Maritimes through which the path of totality passes. A future issue of *Sky and Telescope* will contain an article dealing with weather conditions to be expected at various locations along the path of totality.

The RASC has ordered a large number of reprints of the article describing the geographical circumstances. Centres and individual members may obtain single reprints free of charge by writing to RASC Eclipse Reprint, 252 College St., Toronto.

1971 General Assembly—Call for Papers

Plans for the 1971 General Assembly of the RASC in Hamilton include a session for the presentation of scientific papers as in other years. Papers on all aspects of observational, theoretical or instrumental astronomy will be welcomed and considered by the Papers Committee for the session. A particular effort is being made this year to have contributions from as many different Centres and unattached members as possible.

Abstracts of about 150 words in length should be prepared and sent before April 1, 1971 to: RASC, 252 College St., Toronto. Members of Centres should first submit their abstracts to the Executive of their Centre, for approval.

The length of time available for the presentation of each paper will depend on the number of papers on the final program but it is suggested that authors should aim at about 10 minutes for the presentation in order to allow some time for discussion.