The Royal Astronomical Society of Canada
Vancouver Centre
1992 Observer's Calendar

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This calendar was produced with the aim of presenting information on astronomical events to observers in the Vancouver area. Data useful to observers, including Moon rising and setting times and phases, as well as listings of R.A.S.C. events, are given. No attempt has been made to give a complete list of interesting astronomical events, as this information is readily available in the *R.A.S.C. Observer's Handbook*. The data presented here mostly consists of events which require some effort to extract from the *Handbook*, such as local Sun and Moon ephemerides.

A 1993 calendar showing new Moon dates can be found on the back cover.

How to use this Calendar

Astronomical data is given in the bottom portion of the daily boxes. Every day, a pictorial representation of the Moon's phase at about 7:00 p.m. of that day is given, as are Moon rising and setting times for that day. On some days, there is no moonrise or moonset - this means that this event occurs the next day.

The times of the beginning of astronomical twilight before sunrise, sunrise, sunset, and the end of astronomical twilight after sunset are given once a week. These times can be interpolated for other days. A few special events, such as equinoxes, solstices, change between standard and daylight savings time, and eclipses, are also given.

All event times are local Pacific time (PST or PDT).

Please note the following:

1. Rising and setting times are computed for Aldergrove Park (latitude +49° 2', longitude 122° 30' West). For sites with approximately the same latitude, these times can be used with a correction factor. For example, add 2 minutes for Vancouver, and subtract 8 minutes for Manning Park.
2. The given rising and setting times may differ significantly from observed times because of the difference between the observer's horizon and the theoretical horizon.
3. Astronomical twilight is defined as the interval of time before sunrise and following sunset during which the Sun is less than 18° below the horizon (measured from the centre of the sun's disk.) In practice, it is often dark enough to observe before twilight ends after sunset, or after twilight begins before sunrise.

Observing Nights and Events

This calendar also includes the dates of the Aldergrove Observing Nights, the Manning Park Star Parties, and the Mount Kobau Star Party.

Aldergrove Observing Nights are held at the R.A.S.C. Vancouver Centre's regular weekend observing site at Aldergrove Park. The park is located just south of Aldergrove and is about an hour's drive from Vancouver. To get there from Vancouver, take the 264th Street exit to Aldergrove from Highway 1, go past Aldergrove and turn left at 8th Avenue. Continue on 8th Avenue past 272nd Street, and take the first right afterwards. The site is about 100 yards past the gate. The key needed to unlock the gate to the park can be obtained from Lance Olkovick. His phone number is 253-0032.

Manning Park Star Parties are held at the Eastgate site which is just east of the eastern entrance to Manning Park.

The Mount Kobau Star Party is held on top of Mount Kobau, which is near Osoyoos.

The B.C. Space Sciences Society Events

Also included on the calendar are the opening dates of the 1992 H.R. MacMillian Planetarium shows as well as the dates of the B.C. Space Sciences Society's course *Shoot the Moon*.

The B.C. Space Sciences Society (BCSSS) is a non-profit society which administers the H.R. MacMillan Planetarium and Gordon Southam Observatory (GSO) on behalf of the City of Vancouver. Membership in the BCSSS is open to the public. For membership information please call 736-4431 during office hours. For specific show time information and prices please call the BCSSS 24-hour show information line at 736-3656. For more information on courses offered by the BCSSS please call the Observatory at 738-2855.

Photographic Data

All photographs were taken with a 5-inch f/6 Astro-Physics refractor by Rajiv Gupta. Except where indicated, hypered Kodak Technical Pan 2415 film was used.

Cover: M31 with companions M32 and M110, 80 minute exposure.

January: Partial Solar Eclipse, July 21, 1990, 1/60 second exposure on unhypered Kodak Technical Pan, telescope working at f/14.

February: Horsehead Nebula, 72 minute exposure with a Deep Sky Filter.

March: M81 and M82, 28 minute exposure.

April: M65 and M66, 50 minute exposure.

May: Virgo Cluster, 60 minute exposure.

June: First Quarter Moon, 1/60 sec exposure, telescope working at f/11.

July: M9, 60 minute exposure.

August: M8 and M20, 50 minute exposure.

September: Veil Nebula, 80 minute exposure with a red filter.

October: Cocoon Nebula, 70 minute exposure.

November: NGC 253, 30 minute exposure.

December: M42, 25 minute exposure, telescope working at f/11.

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Vancouver Centre

Have you ever sat outside on a clear dark night and just gazed at the thousands and thousands of stars in the sky overhead? Do you remember the feeling of awe you had when you tried to fathom the immense distances between yourself and those tiny pin pricks of light? If you have, and you want to recapture some of that feeling, then consider getting involved in astronomy and joining the ranks of the Royal Astronomical Society of Canada.

The R.A.S.C. is open to anyone interested in astronomy. It doesn't require any special skills, education, or equipment to join. The only thing it does require is your desire to learn more about the stars and other celestial objects.

History

The R.A.S.C. has a long history, going back to the founding of the Toronto Astronomical Club by Andrew Elvins in 1868. The R.A.S.C. itself was established in 1903 in Toronto. Soon after that, the Society began expanding with the creation of new Centres in other cities. Today the R.A.S.C. has over 21 Centres across Canada and has over 3500 members world wide.

Since it was founded, the R.A.S.C. has filled a special role in astronomy. Its amateur and professional astronomers have made significant observational contributions to astronomical research. R.A.S.C. publications such as the Observer's Handbook are recognized as world-class publications. The R.A.S.C. also takes pride in the role it plays in educating the general public about astronomy. Programs that the Society sponsors include public lectures, public "star nights," instructional programs for groups such as Scouts and Guides, and Astronomy Day activities.

Monthly Meetings

The Vancouver Centre holds regular monthly meetings on the second Tuesday of each month usually starting at 7:30 p.m. in the auditorium of the H.R. MacMillan Planetarium. A typical meeting usually consists of a feature presentation given by a guest speaker along with several shorter presentations given by club members. The feature presentations cover a variety of astronomically related topics ranging from the history of astronomy to the latest advances in the space sciences. The shorter presentations also cover a variety of topics and could be an update on a recently discovered comet, the latest astrophotographs right out of the darkroom, or the unveiling of a new member-built telescope.

The Vancouver Centre Council meetings are held on the first Tuesday of the month in the Gordon Southam Observatory starting at 7:30 p.m.

Star Parties

The Vancouver Centre holds several Star Parties each year where both novice and expert astronomers trek off to a dark observing site for a night of star gazing. Even if you don't own a telescope it is well worthwhile attending since those members that do own telescopes are more than willing to share them with other members. It's a very relaxed, comfortable atmosphere where members share their knowledge and practical experience.

Telescope Loaner Program

If you don't have a telescope of your own, you can take advantage of the Centre's Telescope Loaner Program. The Centre owns a number of telescopes ranging from a 3" refractor to a large 14" reflector. All are available for loan to members under the Telescope Loaner Program.

Library

The Vancouver Centre maintains a sizable library of over 500 astronomical books. Many of these books are not available in public libraries since they are of special interest to the amateur astronomer. The National Library of the R.A.S.C. in Toronto has a much larger collection and loans can be arranged through the Vancouver Centre library.

Centre Newsletter

NOVA is the Vancouver Centre's newsletter and is published six times a year. NOVA contains all the regular announcements of upcoming meetings and other special events, and articles by members on their latest observations, useful observing techniques, and other astronomical topics. There is also a for sale/want ad section for telescopes and related equipment.

National Publications

The R.A.S.C. Observer's Handbook has been published since 1908 and is recognized world-wide as the leading handbook of its type. The Observer's Handbook lists the astronomical events of the year, useful astronomical data, star maps, and other information all of which is indispensable to amateur and professional astronomers alike.

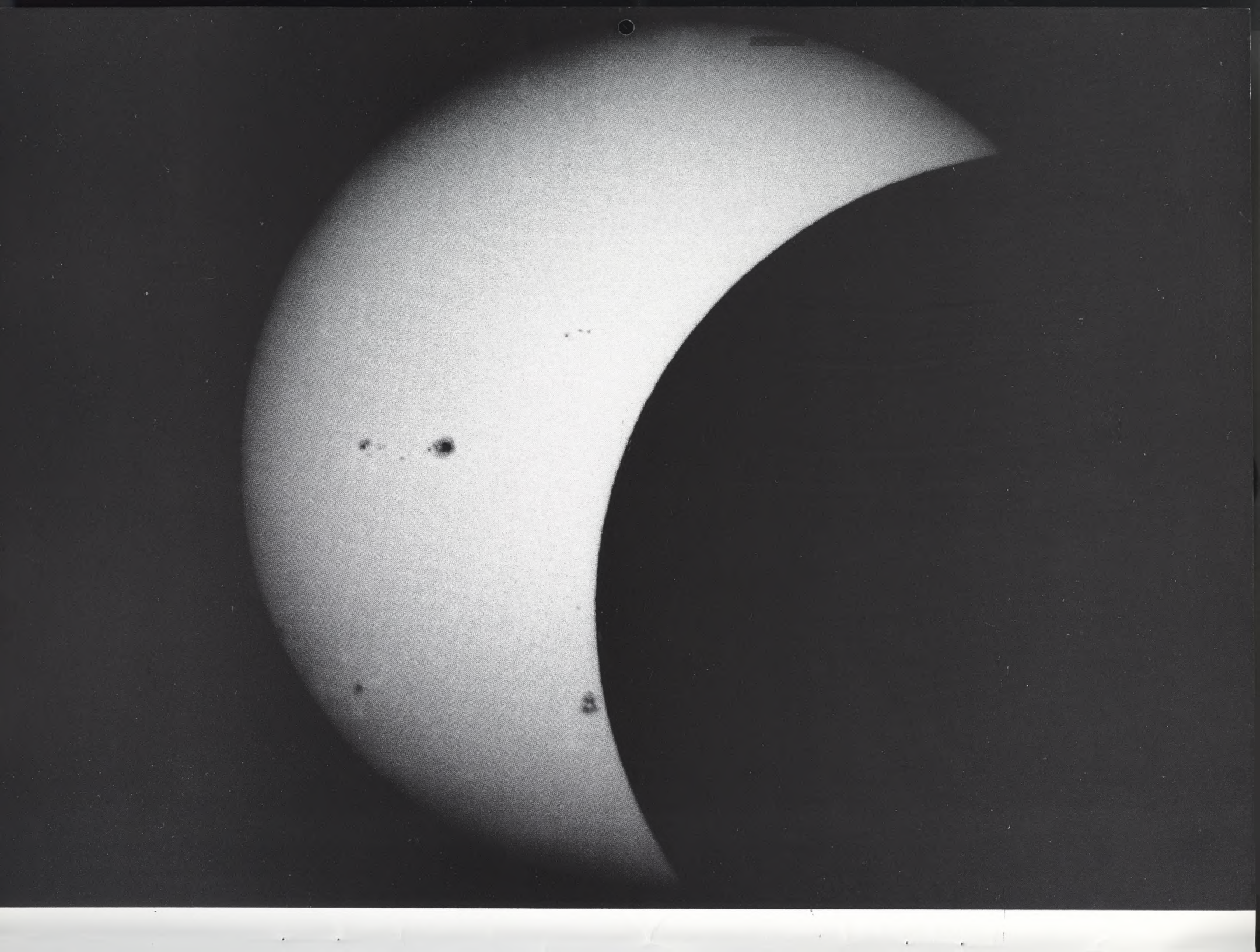
The R.A.S.C. Journal is published six times per year and contains professional papers on astronomy and news from Canadian observatories and planetariums.

The R.A.S.C. National Newsletter is the members' own place to exchange ideas and observations from across Canada.

For More Information

If you would like to find out more about the R.A.S.C. please feel free to attend one of our regular monthly meetings which are held on the second Tuesday of each month usually at 7:30 p.m. in the auditorium of the H.R. MacMillan Planetarium, 1100 Chestnut Street, Vancouver, British Columbia. Visitors and prospective members are welcome, free of charge. Or contact us at

R.A.S.C. Vancouver Centre
Gordon Southam Observatory
1100 Chestnut Street
Vancouver, B.C.
V6J 3J9
(604) 738-2855



JANUARY

A Partial Solar Eclipse

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
DECEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	FEBRUARY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		*New Year's Day* **1** 5:33 am Moon rises 1:40 pm Moon sets	**2** 6:30 am Moon rises 2:27 pm Moon sets	*Aldergrove Observing Night* **3** 7:19 am Moon rises 3:23 pm Moon sets	*Aldergrove Observing Night* **4** 6:08 am Twilight begins 7:58 am Moon rises 8:04 am Sun rises 3:11 pm New Moon 3:26 pm **Partial Solar Eclipse Begins** 4:26 pm Sun sets 4:25 pm Moon sets 6:22 pm Twilight ends
5 8:30 am Moon rises 5:29 pm Moon sets	**6** 8:56 am Moon rises 6:35 pm Moon sets	*RASC Council Meeting* **7** 9:17 am Moon rises 7:41 pm Moon sets	**8** 9:36 am Moon rises 8:46 pm Moon sets	**9** 9:53 am Moon rises 9:52 pm Moon sets	**10** 10:10 am Moon rises 10:59 pm Moon sets	**11** 6:07 am Twilight begins 8:02 am Sun rises 10:27 am Moon rises 4:34 pm Sun sets 6:29 pm Twilight ends
12 12:07 am Moon sets 10:47 am Moon rises 6:32 pm First Quarter	*Shoot the Moon at GSO* **13** 1:19 am Moon sets 11:10 am Moon rises	*RASC Members' Meeting* **14** 2:33 am Moon sets 11:39 am Moon rises	*Shoot the Moon at GSO* **15** 3:49 am Moon sets 12:18 pm Moon rises	**16** 5:01 am Moon sets 1:09 pm Moon rises	**17** 6:06 am Moon sets 2:15 pm Moon rises	**18** 6:04 am Twilight begins 6:59 am Moon sets 7:57 am Sun rises 3:34 pm Moon rises 4:45 pm Sun sets 6:38 pm Twilight ends
19 7:41 am Moon sets 1:23 pm Full Moon 5:00 pm Moon rises	**20** 8:13 am Moon sets 6:28 pm Moon rises	**21** 8:40 am Moon sets 7:54 pm Moon rises	**22** 9:02 am Moon sets 9:16 pm Moon rises	**23** 9:23 am Moon sets 10:35 pm Moon rises	*Aldergrove Observing Night* **24** 9:44 am Moon sets 11:52 pm Moon rises	*Aldergrove Observing Night* **25** 5:59 am Twilight begins 7:50 am Sun rises 10:07 am Moon sets 4:55 pm Sun sets 6:46 pm Twilight ends
26 1:07 am Moon rises 7:29 am Last Quarter 10:32 am Moon sets	**27** 2:18 am Moon rises 11:03 am Moon sets	**28** 3:25 am Moon rises 11:39 am Moon sets	**29** 4:25 am Moon rises 12:24 pm Moon sets	**30** 5:17 am Moon rises 1:17 pm Moon sets	*Aldergrove Observing Night* **31** 5:59 am Moon rises 2:16 pm Moon sets	

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FEBRUARY

The Horsehead Nebula in Orion

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JANUARY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	MARCH S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			*Planetarium Show* ***"It Came From Outer Space"*** *The "science?" in science fiction* *Opens Fri. Feb. 7*		*Aldergrove Observing Night* **1** 5:51 am Twilight begins 6:33 am Moon rises 7:41 am Sun rises 3:20 pm Moon sets 5:06 pm Sun sets 6:56 pm Twilight ends
2 7:00 am Moon rises 4:25 pm Moon sets	**3** 7:23 am Moon rises 11:01 am New Moon 5:31 pm Moon sets	*RASC Council Meeting* **4** 7:43 am Moon rises 6:37 pm Moon sets	**5** 8:01 am Moon rises 7:43 pm Moon sets	**6** 8:17 am Moon rises 8:50 pm Moon sets	*Aldergrove Observing Night* **7** 8:35 am Moon rises 9:57 pm Moon sets	*Aldergrove Observing Night* **8** 5:43 am Twilight begins 7:31 am Sun rises 8:53 am Moon rises 5:18 pm Sun sets 7:06 pm Twilight ends 11:07 pm Moon sets
9 9:15 am Moon rises	**10** 12:18 am Moon sets 9:41 am Moon rises	*RASC Members' Meeting* **11** 1:31 am Moon sets 8:15 am First Quarter 10:14 am Moon rises	*Shoot the Moon at GSO* **12** 2:42 am Moon sets 10:58 am Moon rises	*Shoot the Moon at GSO* **13** 3:49 am Moon sets 11:55 am Moon rises	*Valentine's Day* **14** 4:46 am Moon sets 1:05 pm Moon rises	**15** 5:33 am Twilight begins 5:32 am Moon sets 7:19 am Sun rises 2:26 pm Moon rises 5:30 pm Sun sets 7:16 pm Twilight ends
16 6:08 am Moon sets 3:51 pm Moon rises	**17** 6:37 am Moon sets 5:17 pm Moon rises	**18** 12:04 am Full Moon 7:02 am Moon sets 6:43 pm Moon rises	**19** 7:24 am Moon sets 8:07 pm Moon rises	**20** 7:46 am Moon sets 9:27 pm Moon rises	**21** 8:09 am Moon sets 10:45 pm Moon rises	*Aldergrove Observing Night* **22** 5:21 am Twilight begins 7:07 am Sun rises 8:34 am Moon sets 5:41 pm Sun sets 7:27 pm Twilight ends
23 12:01 am Moon rises 9:03 am Moon sets	**24** 1:12 am Moon rises 9:39 am Moon sets 11:57 pm Last Quarter	**25** 2:16 am Moon rises 10:21 am Moon sets	**26** 3:11 am Moon rises 11:11 am Moon sets	**27** 3:57 am Moon rises 12:09 pm Moon sets	*Aldergrove Observing Night* **28** 4:34 am Moon rises 1:11 pm Moon sets	*Aldergrove Observing Night* **29** 5:03 am Moon rises 5:08 am Twilight begins 6:53 am Sun rises 2:15 pm Moon sets 5:52 pm Sun sets 7:37 pm Twilight ends

MARCH

The Galaxies M81, M82, and NGC 3077 in Ursa Major

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 5:28 am Moon rises 3:21 pm Moon sets	**2** 5:49 am Moon rises 4:27 pm Moon sets	**3** *RASC Council Meeting* 6:07 am Moon rises 5:34 pm Moon sets	**4** 5:24 am New Moon 6:25 am Moon rises 6:40 pm Moon sets	**5** 6:42 am Moon rises 7:48 pm Moon sets	**6** *Aldergrove Observing Night* 7:01 am Moon rises 8:57 pm Moon sets	**7** *Aldergrove Observing Night* 4:54 am Twilight begins 7:22 am Moon rises 6:39 am Sun rises 6:04 pm Sun sets 7:49 pm Twilight ends 10:08 pm Moon sets
8 7:46 am Moon rises 11:21 pm Moon sets	**9** 8:17 am Moon rises	**10** *RASC Members' Meeting* 12:32 am Moon sets 8:57 am Moon rises	**11** *Shoot the Moon at GSO* 1:38 am Moon sets 9:47 am Moon rises 6:36 pm First Quarter	**12** *Shoot the Moon at GSO* 2:37 am Moon sets 10:50 am Moon rises	**13** 3:25 am Moon sets 12:04 pm Moon rises	**14** 4:04 am Moon sets 4:39 am Twilight begins 6:25 am Sun rises 1:25 pm Moon rises 6:15 pm Sun sets 8:01 pm Twilight ends
15 4:35 am Moon sets 2:48 pm Moon rises	**16** 5:02 am Moon sets 4:11 pm Moon rises	**17** 5:25 am Moon sets 5:35 pm Moon rises	**18** 5:47 am Moon sets 10:18 am Full Moon 6:56 pm Moon rises	**19** 6:09 am Moon sets 8:17 pm Moon rises	**20** 12:46 am **Spring Equinox** 6:34 am Moon sets 9:36 pm Moon rises	**21** 4:22 am Twilight begins 7:02 am Moon sets 6:10 am Sun rises 6:24 pm Sun sets 8:12 pm Twilight ends 10:51 pm Moon rises
22 7:35 am Moon sets	**23** 12:01 am Moon rises 8:16 am Moon sets	**24** 1:00 am Moon rises 9:04 am Moon sets	**25** 1:51 am Moon rises 9:59 am Moon sets 6:31 pm Last Quarter	**26** 2:31 am Moon rises 11:00 am Moon sets	**27** *Aldergrove Observing Night* 3:04 am Moon rises 12:04 pm Moon sets	**28** *Aldergrove Observing Night* 3:30 am Moon rises 4:05 am Twilight begins 5:55 am Sun rises 1:10 pm Moon sets 6:36 pm Sun sets 8:26 pm Twilight ends
29 3:53 am Moon rises 2:15 pm Moon sets	**30** 4:12 am Moon rises 3:21 pm Moon sets	**31** 4:30 am Moon rises 4:28 pm Moon sets				

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

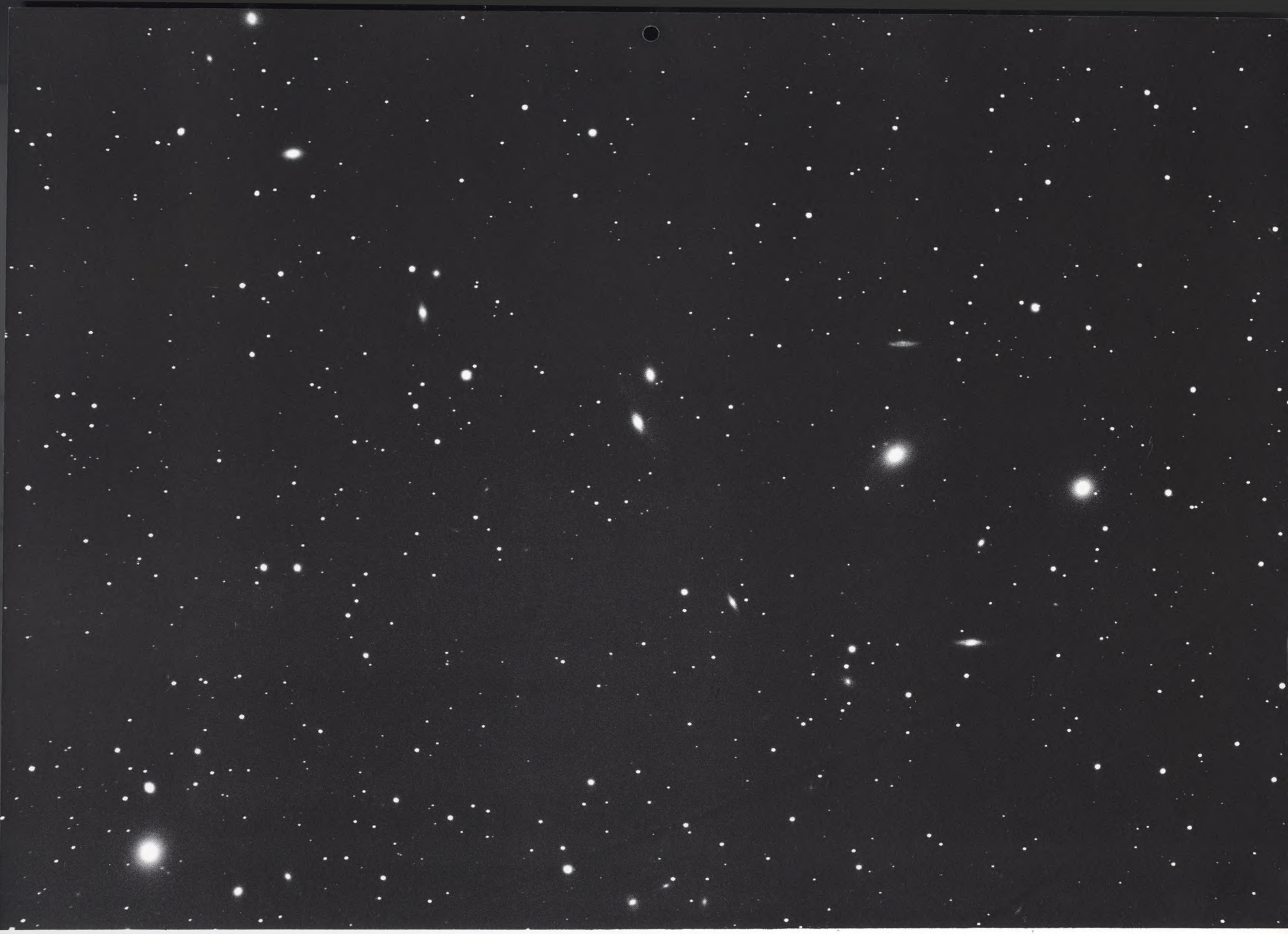
APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

APRIL

The Galaxies M65, M66, and NGC 3628 in Leo

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
MARCH S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	MAY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31		**1** 4:48 am Moon rises 5:35 pm Moon sets	**2** 9:03 pm New Moon 5:06 am Moon rises 6:45 pm Moon sets	*Aldergrove Observing Night* **3** 5:27 am Moon rises 7:56 pm Moon sets	*Aldergrove Observing Night* **4** 3:47 am Twilight begins 5:51 am Moon rises 5:40 am Sun rises 6:46 pm Sun sets 8:39 pm Twilight ends 9:09 pm Moon sets
5 2:00 am **Switch to PDT** 7:20 am Moon rises 11:21 pm Moon sets	**6** 7:58 am Moon rises	*RASC Council Meeting* **7** 12:30 am Moon sets 8:45 am Moon rises	*Shoot the Moon at GSO* **8** 1:31 am Moon sets 9:45 am Moon rises	*Shoot the Moon at GSO* **9** 2:22 am Moon sets 10:54 am Moon rises	**10** 3:03 am Moon sets 3:06 am First Quarter 12:11 pm Moon rises	**11** 3:36 am Moon sets 4:29 am Twilight begins 6:26 am Sun rises 1:31 pm Moon rises 7:57 pm Sun sets 9:54 pm Twilight ends
12 4:03 am Moon sets 2:51 pm Moon rises	**13** 4:27 am Moon sets 4:12 pm Moon rises	*RASC Members' Meeting* **14** 4:49 am Moon sets 5:32 pm Moon rises	**15** 5:11 am Moon sets 6:51 pm Moon rises	**16** 5:34 am Moon sets 8:10 pm Moon rises 9:43 pm Full Moon	*Good Friday* **17** 6:00 am Moon sets 9:27 pm Moon rises	**18** 4:10 am Twilight begins 6:12 am Sun rises 6:31 am Moon sets 8:07 pm Sun sets 10:09 pm Twilight ends 10:39 pm Moon rises
Easter Sunday **19** 7:09 am Moon sets 11:45 pm Moon rises	**20** 7:55 am Moon sets	**21** 12:40 am Moon rises 8:48 am Moon sets	**22** 1:26 am Moon rises 9:48 am Moon sets	**23** 2:02 am Moon rises 10:52 am Moon sets	*Aldergrove Observing Night* **24** 2:31 am Moon rises 11:57 am Moon sets 2:41 pm Last Quarter	*Aldergrove Observing Night* **25** 2:55 am Moon rises 3:51 am Twilight begins 5:59 am Sun rises 1:02 pm Moon sets 8:18 pm Sun sets 10:26 pm Twilight ends
26 3:15 am Moon rises 2:07 pm Moon sets	**27** 3:34 am Moon rises 3:13 pm Moon sets	**28** 3:52 am Moon rises 4:20 pm Moon sets	**29** 4:10 am Moon rises 5:28 pm Moon sets	**30** 4:30 am Moon rises 6:39 pm Moon sets	*Planetarium Show* ***"Through Time and Space"*** *A new family show* *Opens Fri. April 17*	



MAY

The Virgo Cluster of Galaxies, including M87

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
APRIL S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	JUNE S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		*Planetarium Show* ***"Sky Tales"*** *A Children's Festival special* *May 25 to 31 inclusive*		*Aldergrove Observing Night* **1** 4:53 am Moon rises 7:52 pm Moon sets	*Aldergrove Observing Night* **2** 3:31 am Twilight begins 5:21 am Moon rises 5:47 am Sun rises 10:46 am New Moon 8:28 pm Sun sets 9:06 pm Moon sets 10:44 pm Twilight ends
3 5:56 am Moon rises 10:18 pm Moon sets	**4** 6:41 am Moon rises 11:24 pm Moon sets	*RASC Council Meeting* **5** 7:38 am Moon rises	**6** 12:19 am Moon sets 8:45 am Moon rises	*Shoot the Moon at GSO* **7** 1:03 am Moon sets 10:01 am Moon rises	**8** 1:38 am Moon sets 11:20 am Moon rises	*Astronomy Day* **9** 2:07 am Moon sets 3:11 am Twilight begins 5:36 am Sun rises 8:44 am First Quarter 12:40 pm Moon rises 8:38 pm Sun sets 11:03 pm Twilight ends
Mother's Day **10** 2:31 am Moon sets 1:59 pm Moon rises	*Shoot the Moon at GSO* **11** 2:53 am Moon sets 3:16 pm Moon rises	*RASC Members' Meeting* **12** 3:14 am Moon sets 4:34 pm Moon rises	**13** 3:36 am Moon sets 5:51 pm Moon rises	**14** 4:01 am Moon sets 7:07 pm Moon rises	**15** 4:29 am Moon sets 8:20 pm Moon rises	**16** 2:50 am Twilight begins 5:04 am Moon sets 5:26 am Sun rises 9:03 am Full Moon 8:48 pm Sun sets 9:29 pm Moon rises 11:24 pm Twilight ends
17 5:46 am Moon sets 10:29 pm Moon rises	*Victoria Day* **18** 6:37 am Moon sets 11:19 pm Moon rises	**19** 7:35 am Moon sets 11:59 pm Moon rises	**20** 8:38 am Moon sets	**21** 12:31 am Moon rises 9:43 am Moon sets	*Aldergrove Observing Night* **22** 12:57 am Moon rises 10:48 am Moon sets	*Aldergrove Observing Night* **23** 1:18 am Moon rises 2:28 am Twilight begins 5:18 am Sun rises 11:54 am Moon sets 8:57 pm Sun sets 11:47 pm Twilight ends
24 1:38 am Moon rises 8:55 am Last Quarter 12:58 pm Moon sets	**25** 1:56 am Moon rises 2:04 pm Moon sets	**26** 2:13 am Moon rises 3:11 pm Moon sets	**27** 2:32 am Moon rises 4:19 pm Moon sets	**28** 2:53 am Moon rises 5:32 pm Moon sets	*Aldergrove Observing Night* **29** 3:19 am Moon rises 6:45 pm Moon sets	*Aldergrove Observing Night* **30** 12:11 am Twilight ends 2:04 am Twilight begins 3:51 am Moon rises 5:11 am Sun rises 7:59 pm Moon sets 9:04 pm Sun sets
31 4:32 am Moon rises 8:57 pm New Moon 9:08 pm Moon sets						

JUNE

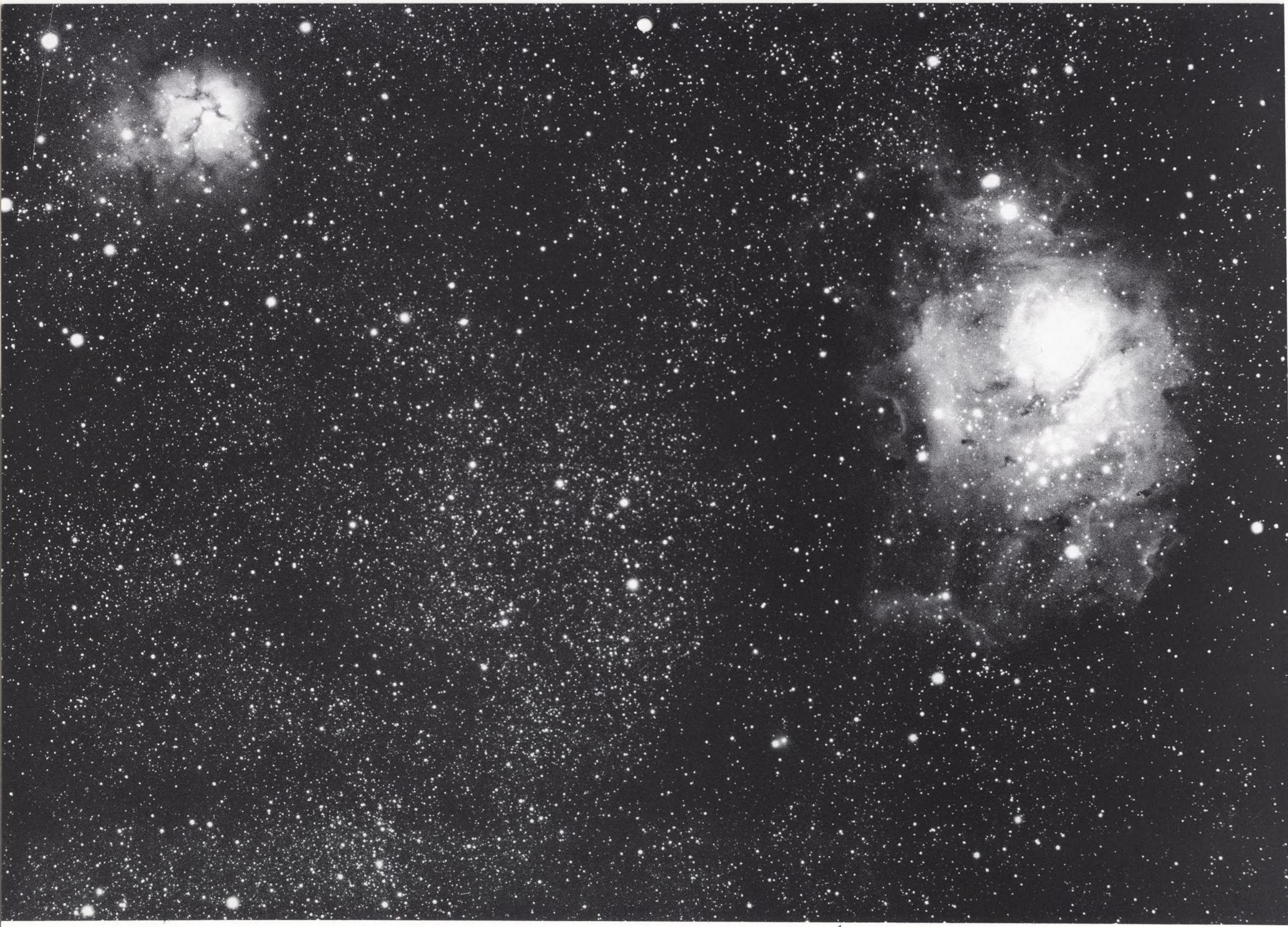
A First Quarter Moon

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 5:25 am Moon rises 10:09 pm Moon sets	*RASC Council Meeting* **2** 6:30 am Moon rises 10:59 pm Moon sets	**3** 7:46 am Moon rises 11:39 pm Moon sets	**4** 9:06 am Moon rises	**5** 12:10 am Moon sets 10:28 am Moon rises	**6** 12:41 am Twilight ends 12:36 am Moon sets 1:37 am Twilight begins 5:07 am Sun rises 11:48 am Moon rises 9:11 pm Sun sets
Fraser River Days (Deas Island Park) **7** 12:58 am Moon sets 1:06 pm Moon rises 1:48 pm First Quarter	*Shoot the Moon at GSO* **8** 1:20 am Moon sets 2:23 pm Moon rises	*RASC Members' Meeting* **9** 1:41 am Moon sets 3:39 pm Moon rises	*Shoot the Moon at GSO* **10** 2:05 am Moon sets 4:55 pm Moon rises	**11** 2:31 am Moon sets 6:08 pm Moon rises	**12** 3:03 am Moon sets 7:17 pm Moon rises	**13** 3:42 am Moon sets 5:05 am Sun rises 8:19 pm Moon rises 9:16 pm Sun sets *No Astronomical Darkness*
14 4:29 am Moon sets 9:12 pm Moon rises 9:51 pm Full Moon 9:58 pm **Partial Lunar Eclipse Maximum**	**15** 5:24 am Moon sets 9:56 pm Moon rises	**16** 6:25 am Moon sets 10:31 pm Moon rises	**17** 7:30 am Moon sets 10:59 pm Moon rises	**18** 8:35 am Moon sets 11:22 pm Moon rises	**19** 9:41 am Moon sets 11:42 pm Moon rises	**20** 5:05 am Sun rises 10:46 am Moon sets 8:06 pm **Summer Solstice** 9:18 pm Sun sets *No Astronomical Darkness*
Father's Day **21** 12:01 am Moon rises 11:50 am Moon sets	**22** 12:18 am Moon rises 12:55 pm Moon sets	**23** 12:36 am Moon rises 1:13 am Last Quarter 2:02 pm Moon sets	**24** 1:38 am Moon rises 8:55 am Last Quarter 3:11 pm Moon sets	**25** 1:18 am Moon rises 4:22 pm Moon sets	**26** 1:46 am Moon rises 5:35 pm Moon sets	**27** 2:22 am Moon rises 5:08 am Sun rises 6:47 pm Moon sets 9:18 pm Sun sets *No Astronomical Darkness*
28 3:09 am Moon rises 7:53 pm Moon sets	**29** 4:09 am Moon rises 8:49 pm Moon sets	**30** 5:19 am New Moon 5:21 am Moon rises 9:34 pm Moon sets	*Planetarium Shows* ***"Heavens Above"*** ***"Laser Light Fantastic"*** ***"Journey Thru the Galaxy"*** *A special trilogy of summer shows running daily* *All open Sat. June 27*		MAY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	JULY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

JULY

Globular Cluster M9 and Dark Nebulosity in Ophiuchus

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JUNE S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	AUGUST S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31		*Canada Day* **1** 6:42 am Moon rises 10:09 pm Moon sets	*RASC General Assembly (Calgary)* **2** 8:07 am Moon rises 10:38 pm Moon sets	*RASC G. A.* **3** *Aldergrove Observing Night* 9:30 am Moon rises 11:03 pm Moon sets	*RASC G. A.* **4** *Aldergrove Observing Night* 12:55 am Twilight ends 1:33 am Twilight begins 5:12 am Sun rises 10:52 am Moon rises 11:25 pm Moon sets 9:16 pm Sun sets
RASC G. A. *National A. G. M.* **5** 12:11 pm Moon rises 11:47 pm Moon sets	**6** 1:29 pm Moon rises 7:45 pm First Quarter	*RASC Council Meeting* **7** 12:10 am Moon sets 2:45 pm Moon rises	**8** 12:35 am Moon sets 3:58 pm Moon rises	**9** 1:05 am Moon sets 5:08 pm Moon rises	**10** 1:42 am Moon sets 6:12 pm Moon rises	**11** 12:23 am Twilight ends 2:07 am Twilight begins 2:25 am Moon sets 5:18 am Sun rises 7:08 pm Moon rises 9:12 pm Sun sets
12 3:17 am Moon sets 7:55 pm Moon rises	**13** 4:16 am Moon sets 8:32 pm Moon rises	*RASC Members' Meeting* **14** 5:19 am Moon sets 9:02 pm Moon rises 12:08 pm Full Moon	**15** 6:24 am Moon sets 9:27 pm Moon rises	**16** 7:30 am Moon sets 9:48 pm Moon rises	**17** 8:35 am Moon sets 10:07 pm Moon rises	**18** 12:03 am Twilight ends 2:29 am Twilight begins 5:26 am Sun rises 9:39 am Moon sets 8:06 pm Summer Solstice 9:06 pm Sun sets 10:25 pm Moon rises
19 10:44 am Moon sets 10:42 pm Moon rises	**20** 11:49 am Moon sets 11:01 pm Moon rises	**21** 12:56 pm Moon sets 11:22 pm Moon rises	**22** 2:05 pm Moon sets 3:15 pm Last Quarter 11:46 pm Moon rises	**23** 3:15 pm Moon sets	*Aldergrove Observing Night* **24** 12:18 am Moon rises 4:26 pm Moon sets	*Aldergrove Observing Night* **25** 12:58 am Moon rises 2:51 am Twilight begins 5:34 am Sun rises 5:32 pm Moon sets 8:58 pm Sun sets 11:41 pm Twilight ends
26 1:50 am Moon rises 6:33 pm Moon sets	**27** 2:55 am Moon rises 7:24 pm Moon sets	**28** 4:11 am Moon rises 8:04 pm Moon sets	**29** 5:35 am Moon rises 12:36 pm New Moon 8:37 pm Moon sets	**30** 7:01 am Moon rises 9:04 pm Moon sets	*Manning Park Star Party #1* **31** *(continues on Aug. 1)* 8:27 am Moon rises 9:28 pm Moon sets	



AUGUST

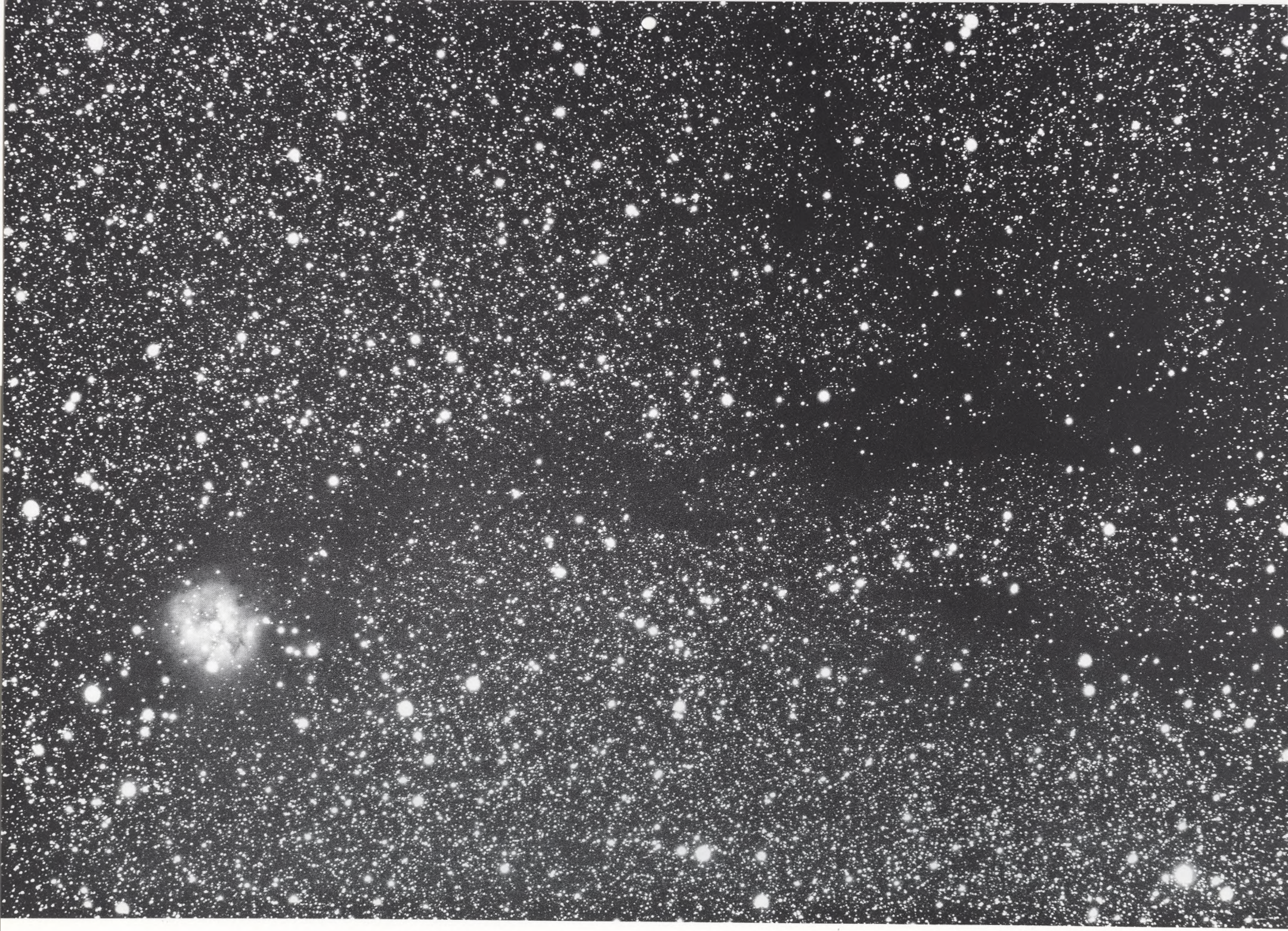
The Lagoon and Trifid Nebulas (M8 and M20) in Sagittarius

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JULY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	SEPTEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30					*Manning Park Star Party #1 (continued)* **1** 3:12 am Twilight begins 5:43 am Sun rises 9:50 am Moon rises 8:48 pm Sun sets 9:51 pm Moon sets 11:19 pm Twilight ends
2 11:11 am Moon rises 10:14 pm Moon sets	*BC Day* **3** 12:30 pm Moon rises 10:39 pm Moon sets	*RASC Council Meeting* **4** 1:46 pm Moon rises 11:08 pm Moon sets	**5** 3:59 am First Quarter 2:59 pm Moon rises 11:43 pm Moon sets	**6** 4:05 pm Moon rises	**7** 12:24 am Moon sets 5:02 pm Moon rises	**8** 1:13 am Moon sets 3:31 am Twilight begins 5:53 am Sun rises 5:53 pm Moon rises 8:37 pm Sun sets 10:59 pm Twilight ends
9 2:10 am Moon sets 6:33 pm Moon rises	**10** 3:11 am Moon sets 7:06 pm Moon rises	*RASC Members' Meeting* **11** 4:15 am Moon sets 7:32 pm Moon rises	**12** 5:21 am Moon sets 7:54 pm Moon rises	**13** 3:29 am Full Moon 6:26 am Moon sets 8:14 pm Moon rises	**14** 7:31 am Moon sets 8:32 pm Moon rises	**15** 3:53 am Twilight begins 6:03 am Sun rises 8:35 am Moon sets 8:25 pm Sun sets 8:50 pm Moon rises 10:35 pm Twilight ends
16 9:40 am Moon sets 9:08 pm Moon rises	**17** 10:46 am Moon sets 9:28 pm Moon rises	**18** 11:53 am Moon sets 9:51 pm Moon rises	**19** 1:01 pm Moon sets 10:19 pm Moon rises	**20** 2:10 pm Moon sets 10:54 pm Moon rises	**21** 3:03 am Last Quarter 3:17 pm Moon sets 11:39 pm Moon rises	*Aldergrove Observing Night* **22** 4:09 am Twilight begins 6:13 am Sun rises 4:19 pm Moon sets 8:12 pm Sun sets 10:16 pm Twilight ends
23 12:37 am Moon rises 5:10 pm Moon sets	**24** 1:46 am Moon rises 5:56 pm Moon sets	**25** 3:04 am Moon rises 6:32 pm Moon sets	*Mount Kobau Star Party* **26** 4:28 am Moon rises 7:02 pm Moon sets	*Mount Kobau Star Party* **27** 5:54 am Moon rises 7:28 pm Moon sets 7:43 pm New Moon	*Mount Kobau Star Party* **28** 7:19 am Moon rises 7:52 pm Moon sets	*Mount Kobau Star Party* **29** 4:25 am Twilight begins 6:23 am Sun rises 8:43 am Moon rises 7:58 pm Sun sets 8:16 pm Moon sets 9:56 pm Twilight ends
Mount Kobau Star Party **30** 10:05 am Moon rises 8:41 pm Moon sets	**31** 11:25 am Moon rises 9:09 pm Moon sets					

SEPTEMBER

The eastern portion of the Veil Nebula in Cygnus

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
AUGUST S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	OCTOBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	*RASC Council Meeting* **1** 12:42 pm Moon rises 9:43 pm Moon sets	**2** 1:53 pm Moon rises 10:23 pm Moon sets	**3** 3:39 pm First Quarter 2:56 pm Moon rises 11:10 pm Moon sets	**4** 3:49 pm Moon rises	**5** 12:04 am Moon sets 4:39 am Twilight begins 6:33 am Sun rises 4:33 pm Moon rises 7:43 pm Sun sets 9:37 pm Twilight ends
6 1:04 am Moon sets 5:08 pm Moon rises	*Labour Day* **7** 2:08 am Moon sets 5:36 pm Moon rises	*RASC Members' Meeting* **8** 3:13 am Moon sets 5:59 pm Moon rises	*Shoot the Moon at GSO* **9** 4:18 am Moon sets 6:20 pm Moon rises	*Shoot the Moon at GSO* **10** 5:22 am Moon sets 6:39 pm Moon rises	**11** 6:27 am Moon sets 7:19 pm Full Moon 6:57 pm Moon rises	**12** 4:52 am Twilight begins 6:43 am Sun rises 7:31 am Moon sets 7:15 pm Moon rises 7:28 pm Sun sets 9:19 pm Twilight ends
13 8:37 am Moon sets 7:35 pm Moon rises	**14** 9:44 am Moon sets 7:57 pm Moon rises	**15** 10:52 am Moon sets 8:23 pm Moon rises	**16** 12:00 pm Moon sets 8:56 pm Moon rises	**17** 1:07 pm Moon sets 9:37 pm Moon rises	**18** 2:09 pm Moon sets 10:29 pm Moon rises	*Aldergrove Observing Night* **19** *Celebration of Nature (Campbell Valley Park)* 5:04 am Twilight begins 6:53 am Sun rises 12:54 pm Last Quarter 3:04 pm Moon sets 7:13 pm Sun sets 9:02 pm Twilight ends 11:31 pm Moon rises
Celebration of Nature (Campbell Valley Park) **20** 3:50 pm Moon sets	**21** 12:44 am Moon rises 4:28 pm Moon sets	**22** 2:02 am Moon rises 11:37 am **Fall Equinox** 5:00 pm Moon sets	**23** 3:24 am Moon rises 5:27 pm Moon sets	**24** 4:48 am Moon rises 5:51 pm Moon sets	*Manning Park Star Party #2* **25** 6:11 am Moon rises 6:15 pm Moon sets	*Manning Park Star Party #2* **26** 3:41 am New Moon 5:16 am Twilight begins 7:03 am Sun rises 7:34 am Moon rises 6:40 pm Moon sets 6:58 pm Sun sets 8:45 pm Twilight ends
27 8:57 am Moon rises 7:08 pm Moon sets	**28** 10:17 am Moon rises 7:40 pm Moon sets	**29** 11:33 am Moon rises 8:18 pm Moon sets	**30** 12:41 pm Moon rises 9:03 pm Moon sets			



OCTOBER

The Cocoon Nebula in Cygnus

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SEPTEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	NOVEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		*Planetarium Show* ***"The New Solar System"*** *Exploring the planets* *Opens Fri. Oct. 2*	**1** 1:40 pm Moon rises 9:56 pm Moon sets	*Aldergrove Observing Night* **2** 2:28 pm Moon rises 10:56 pm Moon sets	**3** 5:27 am Twilight begins 7:11 am First Quarter 7:13 am Sun rises 3:06 pm Moon rises 6:44 pm Sun sets 8:30 pm Twilight ends 11:58 pm Moon sets
4 3:37 pm Moon rises	**5** 1:03 am Moon sets 4:03 pm Moon rises	*RASC Council Meeting* **6** 2:08 am Moon sets 4:25 pm Moon rises	**7** 3:12 am Moon sets 4:44 pm Moon rises	*Shoot the Moon at GSO* **8** 4:17 am Moon sets 5:03 pm Moon rises	**9** 5:21 am Moon sets 5:21 pm Moon rises	**10** 5:38 am Twilight begins 6:27 am Moon sets 7:24 am Sun rises 5:40 pm Moon rises 6:29 pm Sun sets 8:14 pm Twilight ends
11 7:33 am Moon sets 11:05 am Full Moon 6:02 pm Moon rises	*Thanksgiving Day* **12** 8:42 am Moon sets 6:28 pm Moon rises	*RASC Members' Meeting* **13** 9:51 am Moon sets 6:59 pm Moon rises	*Shoot the Moon at GSO* **14** 10:59 am Moon sets 7:38 pm Moon rises	**15** 12:02 pm Moon sets 8:26 pm Moon rises	**16** 12:59 pm Moon sets 9:25 pm Moon rises	**17** 5:48 am Twilight begins 7:34 am Sun rises 1:47 pm Moon sets 6:15 pm Sun sets 8:01 pm Twilight ends 10:33 pm Moon rises
18 2:27 pm Moon sets 9:13 pm Last Quarter 11:48 pm Moon rises	**19** 2:59 pm Moon sets	**20** 1:06 am Moon rises 3:27 pm Moon sets	**21** 2:26 am Moon rises 3:52 pm Moon sets	**22** 3:46 am Moon rises 4:15 pm Moon sets	*Aldergrove Observing Night* **23** 5:07 am Moon rises 4:39 pm Moon sets	*Aldergrove Observing Night* **24** 5:59 am Twilight begins 6:28 am Moon rises 7:45 am Sun rises 5:06 pm Moon sets 6:03 pm Sun sets 7:49 pm Twilight ends
25 2:00 am **Switch to PST** 6:49 am Moon rises 12:34 pm New Moon 4:35 pm Moon sets	**26** 8:07 am Moon rises 5:10 pm Moon sets	**27** 9:20 am Moon rises 5:53 pm Moon sets	**28** 10:24 am Moon rises 6:44 pm Moon sets	**29** 11:18 am Moon rises 7:42 pm Moon sets	*Aldergrove Observing Night* **30** 12:02 pm Moon rises 8:45 pm Moon sets	*Halloween* *Aldergrove Observing Night* **31** 5:09 am Twilight begins 6:56 am Sun rises 12:36 pm Moon rises 4:50 pm Sun sets 6:37 pm Twilight ends 9:50 pm Moon sets

NOVEMBER

The Galaxy NGC 253 in Sculptor

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 1:04 pm Moon rises 10:55 pm Moon sets 	**2** 1:10 am First Quarter 1:27 pm Moon rises 	*RASC Council Meeting* **3** 12:01 am Moon sets 1:48 pm Moon rises 	**4** 1:04 am Moon sets 2:07 pm Moon rises 	**5** 2:08 am Moon sets 2:25 pm Moon rises 	**6** 3:13 am Moon sets 2:44 pm Moon rises 	**7** 4:19 am Moon sets 5:19 am Twilight begins 7:08 am Sun rises 3:05 pm Moon rises 4:39 pm Sun sets 6:28 pm Twilight ends 
8 5:27 am Moon sets 3:30 pm Moon rises 	*Shoot the Moon at GSO* **9** 6:37 am Moon sets 4:00 pm Moon rises 	*RASC Members' Meeting* **10** 1:22 am Full Moon 7:46 am Moon sets 4:37 pm Moon rises 	*Remembrance Day* **11** 8:53 am Moon sets 5:22 pm Moon rises 	*Shoot the Moon at GSO* **12** 9:53 am Moon sets 6:19 pm Moon rises 	**13** 10:45 am Moon sets 7:25 pm Moon rises 	**14** 5:29 am Twilight begins 7:19 am Sun rises 11:27 am Moon sets 4:30 pm Sun sets 6:20 pm Twilight ends 8:39 pm Moon rises 
Astro Swap at GSO **15** 12:02 pm Moon sets 9:56 pm Moon rises 	**16** 12:31 pm Moon sets 11:14 pm Moon rises 	**17** 3:40 am Last Quarter 12:56 pm Moon sets 	**18** 12:32 am Moon rises 1:19 pm Moon sets 	**19** 1:50 am Moon rises 1:42 pm Moon sets 	*Aldergrove Observing Night* **20** 3:08 am Moon rises 2:06 pm Moon sets 	*Aldergrove Observing Night* **21** 4:27 am Moon rises 5:38 am Twilight begins 7:30 am Sun rises 2:33 pm Moon sets 4:22 pm Sun sets 6:14 pm Twilight ends 
22 5:44 am Moon rises 3:05 pm Moon sets 	**23** 6:59 am Moon rises 3:44 pm Moon sets 	**24** 1:12 am New Moon 8:07 am Moon rises 4:33 pm Moon sets 	**25** 9:06 am Moon rises 5:27 pm Moon sets 	**26** 9:54 am Moon rises 6:29 pm Moon sets 	*Aldergrove Observing Night* **27** 10:33 am Moon rises 7:34 pm Moon sets 	*Aldergrove Observing Night* **28** 5:46 am Twilight begins 7:40 am Sun rises 11:04 am Moon rises 4:16 pm Sun sets 6:10 pm Twilight ends 8:40 pm Moon sets 
29 11:29 am Moon rises 9:46 pm Moon sets 	**30** 11:51 am Moon rises 10:50 pm Moon sets 				OCTOBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	DECEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Vancouver Telescope Centre 102-2220 West Broadway, Vancouver, B.C. 738-5717 "Astronomy Spoken Here"

DECEMBER

The Orion Nebula (M42)

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOVEMBER S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	JANUARY S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	*RASC Council Meeting* **1** 12:10 pm Moon rises 10:17 pm First Quarter 11:54 pm Moon sets	**2** 12:29 pm Moon rises	**3** 12:58 am Moon sets 12:47 pm Moon rises	**4** 2:03 am Moon sets 1:07 pm Moon rises	**5** 3:09 am Moon sets 5:53 am Twilight begins 7:48 am Sun rises 1:30 pm Moon rises 4:13 pm Sun sets 6:08 pm Twilight ends
6 4:18 am Moon sets 1:57 pm Moon rises	*Shoot the Moon at GSO* **7** 5:28 am Moon sets 2:30 pm Moon rises	*RASC Members' Meeting (A. G. M.)* **8** 6:36 am Moon sets 3:13 pm Moon rises	*Shoot the Moon at GSO* **9** 7:41 am Moon sets 3:42 pm Full Moon 4:06 pm Moon rises 4:22 pm **Total Lunar Eclipse - Total Phase Ends**	**10** 8:37 am Moon sets 5:11 pm Moon rises	**11** 9:25 am Moon sets 6:24 pm Moon rises	**12** 5:59 am Twilight begins 7:56 am Sun rises 10:03 am Moon sets 4:12 pm Sun sets 6:09 pm Twilight ends 7:42 pm Moon rises
13 10:34 am Moon sets 9:02 pm Moon rises	**14** 11:01 am Moon sets 10:21 pm Moon rises	**15** 11:24 am Moon sets 11:39 pm Moon rises	**16** 11:14 am Last Quarter 11:47 am Moon sets	**17** 12:57 am Moon rises 12:11 pm Moon sets	*Aldergrove Observing Night* **18** 2:14 am Moon rises 12:36 pm Moon sets	*Aldergrove Observing Night* **19** 3:30 am Moon rises 6:04 am Twilight begins 8:01 am Sun rises 1:06 pm Moon sets 4:14 pm Sun sets 6:11 pm Twilight ends
20 4:44 am Moon rises 1:41 pm Moon sets	**21** 5:53 am Moon rises 6:41 am **Winter Solstice** 2:24 pm Moon sets	**22** 6:55 am Moon rises 3:15 pm Moon sets	**23** 4:44 pm New Moon 7:47 am Moon rises 4:14 pm Moon sets	**24** 8:30 am Moon rises 5:18 pm Moon sets	*Christmas Day* **25** 9:04 am Moon rises 6:24 pm Moon sets	*Aldergrove Observing Night* **26** 6:07 am Twilight begins 8:04 am Sun rises 9:31 am Moon rises 4:18 pm Sun sets 6:15 pm Twilight ends 7:31 pm Moon sets
27 9:55 am Moon rises 8:36 pm Moon sets	**28** 10:15 am Moon rises 9:40 pm Moon sets	**29** 10:34 am Moon rises 10:44 pm Moon sets	**30** 10:52 am Moon rises 11:47 pm Moon sets	**31** 7:40 pm First Quarter 11:11 am Moon rises	*Planetarium Show* ***"A Christmas Fantasy"*** *A seasonal special for one and all* *Opens Tues. Dec. 15*	

1993

January

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	***22***	23
24	25	26	27	28	29	30
31						

February

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	***22***	23	24	25	26	27
28	29	30	31			

April

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	***21***	22	23	24
25	26	27	28	29	30	

May

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	***21***	22
23	24	25	26	27	28	29
30	31					

June

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	***19***
20	21	22	23	24	25	26
27	28	29	30			

July

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	***19***	20	21	22	23	24
25	26	27	28	29	30	31

August

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	***17***	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	***15***	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	***15***	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	***13***
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	***13***	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

New Moon dates are displayed in bold-italic.