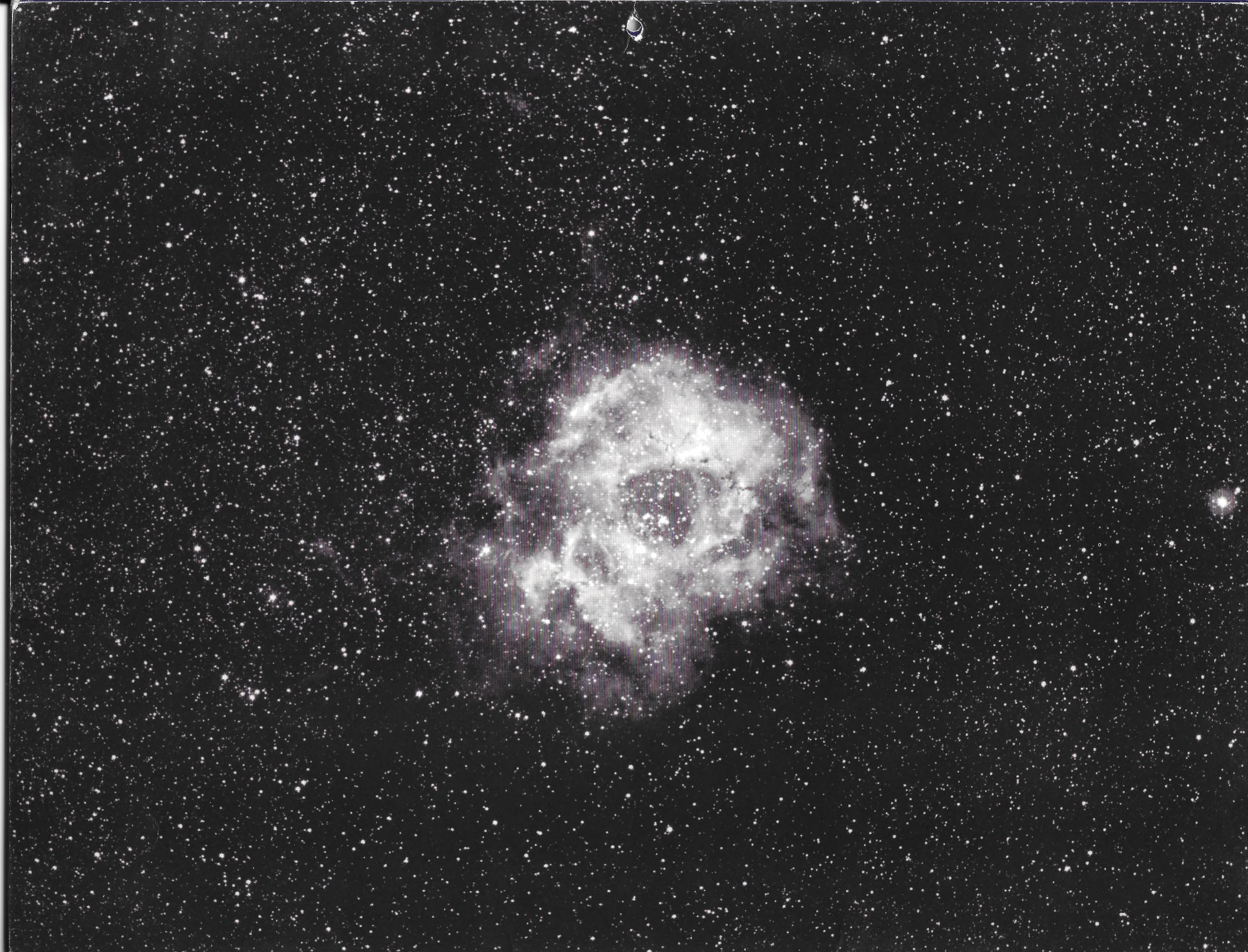
Royal Astronomical Society of Canada

Observer's Calendar 1996



JANUARY

The Rosette Nebula (NGC 2237)

Like M42, featured on the cover, the Rosette Nebula is a stellar nursery. Look for tiny black regions where material is condensing into protostars. From the northern portion of the Rosette there is faint nebulosity stretching in an arc to the northeast; six degrees away resides the Cone Nebula, which may be physically connected to the Rosette by this loop of nebulosity.

Photo by J. C. Mirtle

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*	Set West 4:03 East 3:41 Rise 13:32 13:46 **1** *New Year's Day*	Set 5:01 4:37 Rise 14:10 14:26 **2** *Mercury Greatest Elongation E (19°)*	Set 5:55 5:30 Rise 14:54 15:10 **3** *Quadrantid meteors peak 23h*	Set 6:43 6:18 Rise 15:43 15:59 **4**	Set 7:25 7:02 Rise 16:37 16:51 *Full Moon 15:51* **5**	Set 8:02 7:42 Rise 17:35 17:47 **6** Sunrise 8:02 7:38 Sunset 16:09 16:33
Set West 8:34 East 8:17 Rise 18:36 18:44 **7**	Set 9:02 8:49 Rise 19:38 19:43 **8**	Set 9:28 9:18 Rise 20:42 20:43 **9**	Set 9:52 9:46 Rise 21:47 21:44 **10**	Set 10:16 10:14 Rise 22:53 22:46 **11**	Set 10:40 10:42 Rise -- 23:50 **12**	Rise 0:02 -- Set 11:07 11:12 *3rd Quarter 15:45* **13** Sunrise 7:59 7:36 Sunset 16:19 16:41
Rise West 1:12 East 0:55 Set 11:36 11:46 **14**	Rise 2:23 2:03 Set 12:12 12:24 **15**	Rise 3:35 3:11 Set 12:55 13:10 **16**	Rise 4:45 4:19 Set 13:48 14:03 **17**	Rise 5:48 5:22 Set 14:51 15:06 **18**	Rise 6:44 6:20 Set 16:04 16:16 **19**	Rise 7:30 7:10 Set 17:22 17:31 *New Moon 7:50* **20** Sunrise 7:53 7:32 Sunset 16:30 16:50
Rise West 8:09 East 7:54 Set 18:42 18:46 **21**	Rise 8:42 8:31 Set 20:01 20:01 **22**	Rise 9:11 9:06 Set 21:18 21:13 **23**	Rise 9:38 9:37 Set 22:31 22:22 **24**	Rise 10:05 10:08 Set 23:42 23:28 **25**	Rise 10:32 10:39 Set -- -- **26**	Set 0:49 0:32 Rise 11:02 11:12 *1st Quarter 6:14* **27** Sunrise 7:44 7:26 Sunset 16:42 17:00
Set West 1:53 East 1:33 Rise 11:34 11:47 **28**	Set 2:53 2:30 Rise 12:11 12:26 **29**	Set 3:49 3:25 Rise 12:52 13:09 **30**	Set 4:39 4:15 Rise 13:39 13:55 **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	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

FEBRUARY

IC 405 (AE Aurigae)

This young and unusual diffuse nebula, also known as the Flaming Star, is roughly the size and shape of a gibbous moon. The blue nebulosity is caused by nearby dust reflecting the light of the O-type star AE Aurigae. The red emission is that of glowing hydrogen through which the star is currently passing.

Photo by Craig McCaw

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The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*	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		West East Set 5:23 5:00 Rise 14:31 14:46 **1**	Set 6:02 5:41 Rise 15:28 15:40 **2** ***Venus 1.3° N. of Saturn 20h***	Set 6:36 6:18 Rise 16:28 16:37 **3** Sunrise 7:34 7:18 Sunset 16:54 17:10
West East Set 7:06 6:52 Rise 17:30 17:36 *Full Moon 10:58* **4** *Clyde Tombaugh born 90 years ago*	Set 7:33 7:22 Rise 18:34 18:36 **5**	Set 7:58 7:51 Rise 19:39 19:37 **6**	Set 8:23 8:19 Rise 20:45 20:39 **7**	Set 8:47 8:47 Rise 21:52 21:42 **8**	Set 9:12 9:17 Rise 23:01 22:46 **9**	Set 9:40 9:48 Rise -- 23:51 **10** Sunrise 7:23 7:09 Sunset 17:06 17:20
West East Rise 0:10 -- Set 10:13 10:24 **11** ***Mercury 0.1° N. of Neptune 8h*** ***Mercury Greatest Elongation W (26°)*** ***Earth in Saturn's ring plane 20h***	Rise 1:20 0:58 Set 10:51 11:05 *3rd Quarter 3:37* **12**	Rise 2:28 2:03 Set 11:38 11:53 **13**	Rise 3:32 3:06 Set 12:34 12:49 **14** *Valentine's Day*	Rise 4:29 4:04 Set 13:40 13:53 **15**	Rise 5:18 4:57 Set 14:53 15:04 **16** ***Mercury 0.2° N. of Uranus 16h***	Rise 6:01 5:43 Set 16:11 16:17 **17** Sunrise 7:10 6:59 Sunset 17:19 17:30
West East Rise 6:36 6:24 Set 17:31 17:32 *New Moon 18:30* **18**	Rise 7:08 7:00 Set 18:49 18:46 **19**	Rise 7:37 7:34 Set 20:06 19:59 **20**	Rise 8:05 8:06 Set 21:20 21:08 **21** ***Venus 0.1° N. of Moon 23h***	Rise 8:33 8:38 Set 22:31 22:15 **22**	Rise 9:02 9:11 Set 23:38 23:19 **23**	Rise 9:34 9:46 Set -- -- **24** Sunrise 6:56 6:48 Sunset 17:31 17:40
West East Set 0:41 0:19 Rise 10:10 10:24 **25**	Set 1:39 1:16 Rise 10:50 11:06 *1st Quarter 0:52* **26**	Set 2:32 2:08 Rise 11:35 11:51 **27**	Set 3:19 2:55 Rise 12:25 12:40 **28**	Set 4:00 3:38 Rise 13:20 13:33 **29**		

MARCH

M81 (NGC 3031)

Of all the many portraits of M81, few show its full range of features as does this photo. Note in particular the dust lanes and tiny red HII regions in the outer reaches of the spiral arms. M81 is noted for its remarkable symmetry and smooth gradations of light from the nucleus outwards.

Photo by Craig McCaw

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The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*	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			Set 4:36 4:17 Rise 14:18 14:29 **1**	Set 5:08 4:52 Rise 15:19 15:27 **2** Sunrise 6:41 6:36 Sunset 17:44 17:49
West *East* Set 5:36 5:23 Rise 16:23 16:26 **3**	Set 6:02 5:53 Rise 17:28 17:27 **4**	Set 6:27 6:22 Rise 18:35 18:30 *Full Moon* *4:23* **5**	Set 6:52 6:51 Rise 19:42 19:33 **6**	Set 7:17 7:20 Rise 20:51 20:38 **7**	Set 7:45 7:52 Rise 22:01 21:44 **8**	Set 8:16 8:26 Rise 23:11 22:50 **9** Sunrise 6:26 6:23 Sunset 17:56 17:59
West *East* Set 8:53 9:06 Rise -- 23:55 **10**	Rise 0:19 -- Set 9:36 9:51 **11**	Rise 1:23 0:58 Set 10:28 10:43 *3rd Quarter* *12:15* **12**	Rise 2:21 1:56 Set 11:28 11:42 **13**	Rise 3:12 2:49 Set 12:36 12:48 **14**	Rise 3:55 3:36 Set 13:49 13:58 **15**	Rise 4:32 4:17 Set 15:06 15:10 **16** Sunrise 6:11 6:10 Sunset 18:07 18:08
West *East* Rise 5:05 4:55 Set 16:23 16:22 **17**	Rise 5:35 5:29 Set 17:40 17:35 **18**	Rise 6:03 6:02 Set 18:55 18:45 *New Moon* *5:45* **19**	Rise 6:31 6:34 Set 20:08 19:54 **20** ***Spring Equinox*** ***2:03***	Rise 7:00 7:07 Set 21:18 21:00 **21**	Rise 7:32 7:42 Set 22:24 22:04 **22**	Rise 8:06 8:20 Set 23:26 23:03 **23** Sunrise 5:55 5:57 Sunset 18:19 18:17
West *East* Rise 8:45 9:00 Set -- 23:58 **24**	Set 0:22 -- Rise 9:29 9:45 **25**	Set 1:12 0:48 Rise 10:17 10:33 *1st Quarter* *20:31* **26**	Set 1:56 1:33 Rise 11:10 11:24 **27**	Set 2:34 2:14 Rise 12:07 12:19 **28**	Set 3:07 2:50 Rise 13:07 13:16 **29**	Set 3:37 3:23 Rise 14:09 14:14 **30** Sunrise 5:39 5:44 Sunset 18:30 18:26
West *East* Set 4:04 3:53 Rise 15:14 15:15 **31** *Rene Descartes born 400 years ago* ***Venus Greatest Elongation E (46°)***						

APRIL

Circumpolar Trails

In this circumpolar image look for the crown of sixth to eighth magnitude stars just below Polaris. The colour variation of stars is well exhibited in their trails on a time exposure such as this and indicates spectral type. The handle of Ursa Minor extending to the upper right illustrates such a variation.

Photo by David Shuman

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*	West East Set 4:29 4:22 Rise 16:20 16:17 **1**	Set 4:54 4:51 Rise 17:28 17:20 **2**	Set 5:19 5:21 Rise 18:37 18:25 *Full Moon* *19:07* **3** ***Total Lunar Eclipse (visible in E. Canada)***	Set 5:47 5:52 Rise 19:48 19:32 **4**	Set 6:17 6:26 Rise 21:00 20:40 **5** *Good Friday*	Set 6:53 7:05 Rise 22:10 21:47 **6** Sunrise 5:24 5:31 Sunset 18:42 18:35
West East Set 8:34 8:49 Rise -- 23:51 **7** *Easter Sunday* ***Daylight Savings Time Begins*** ***2h***	Rise 0:16 -- Set 9:24 9:40 **8**	Rise 1:17 0:52 Set 10:22 10:37 **9**	Rise 2:09 1:46 Set 11:27 11:40 *3rd Quarter* *19:36* **10**	Rise 2:54 2:34 Set 12:38 12:48 **11**	Rise 3:32 3:16 Set 13:51 13:57 **12** *Yuri Gagarin first man in space 35 years ago*	Rise 4:06 3:54 Set 15:06 15:08 **13** Sunrise 6:09 6:18 Sunset 19:53 19:43
West East Rise 4:35 4:28 Set 16:21 16:18 **14**	Rise 5:03 5:00 Set 17:35 17:27 **15**	Rise 5:31 5:32 Set 18:48 18:36 **16**	Rise 5:59 6:04 Set 19:59 19:43 *New Moon* *18:49* **17**	Rise 6:29 6:38 Set 21:07 20:47 **18**	Rise 7:02 7:14 Set 22:11 21:49 **19**	Rise 7:39 7:54 Set 23:11 22:47 **20** Sunrise 5:54 6:06 Sunset 20:05 19:52 *Astronomy Day*
West East Rise 8:21 8:37 Set -- 23:40 **21** ***Lyrid meteors peak*** ***16h***	Set 0:04 -- Rise 9:08 9:24 **22**	Set 0:51 0:27 Rise 10:00 10:15 **23** ***Mercury Greatest Elongation E (20°)***	Set 1:31 1:10 Rise 10:55 11:08 **24**	Set 2:06 1:48 Rise 11:54 12:04 *1st Quarter* *16:40* **25**	Set 2:37 2:22 Rise 12:55 13:01 **26**	Set 3:05 2:53 Rise 13:58 14:01 **27** Sunrise 5:40 5:55 Sunset 20:16 20:01
West East Set 3:30 3:22 Rise 15:02 15:01 **28**	Set 3:55 3:51 Rise 16:09 16:04 **29**	Set 4:20 4:20 Rise 17:18 17:08 **30**				

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	

MAY

NGC 5985, 5982, 5981 (The Sampler)

These three objects in Draco may be called The Sampler because they exhibit representative poses of galaxies in a mere third of a degree, which easily fits in the field of most amateur telescopes. NGC 5985 is almost a face-on spiral, NGC 5981 is an edge-on spiral, and NGC 5982 is an elliptical placed between them.

Photo by James Thomas Himer

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West East Set 7:17 7:32 Rise 23:09 22:43 **5** *Alan Shepard first US man in space 35 years ago*	Set 8:13 8:28 Rise -- 23:42 **6**	Rise 0:06 -- Set 9:18 9:31 **7**	Rise 0:54 0:33 Set 10:28 10:39 **8**	Rise 1:35 1:17 Set 11:42 11:49 **9**	Rise 2:09 1:56 Set 12:56 12:59 *3rd Quarter* *1:04* **10**	Rise 2:40 2:31 Set 14:10 14:08 **11** Sunrise 5:16 5:35 Sunset 20:38 20:18
West East Rise 3:07 3:03 Set 15:23 15:17 **12** *Mother's Day*	Rise 3:34 3:34 Set 16:34 16:24 **13**	Rise 4:01 4:05 Set 17:45 17:30 **14**	Rise 4:30 4:37 Set 18:53 18:35 **15** ***Mars 1.7° N. of Moon*** ***22h***	Rise 5:01 5:12 Set 19:58 19:37 **16**	Rise 5:36 5:50 Set 21:00 20:36 *New Moon* *7:46* **17**	Rise 6:16 6:31 Set 21:56 21:32 **18** Sunrise 5:05 5:27 Sunset 20:48 20:26
West East Rise 7:01 7:17 Set 22:45 22:22 **19**	Rise 7:50 8:06 Set 23:29 23:06 **20** *Victoria Day*	Rise 8:45 8:58 Set -- 23:46 **21**	Set 0:06 -- Rise 9:42 9:53 **22** ***Pluto at opposition***	Set 0:38 0:22 Rise 10:42 10:50 **23**	Set 1:07 0:54 Rise 11:43 11:48 **24**	Set 1:33 1:23 Rise 12:46 12:47 *1st Quarter* *10:13* **25** Sunrise 4:57 5:21 Sunset 20:58 20:33
West East Set 1:57 1:51 Rise 13:51 13:48 **26**	Set 2:22 2:19 Rise 14:58 14:50 **27**	Set 2:46 2:48 Rise 16:06 15:54 **28**	Set 3:14 3:19 Rise 17:18 17:01 **29**	Set 3:44 3:53 Rise 18:30 18:10 **30**	Set 4:21 4:33 Rise 19:43 19:19 **31**	

JUNE

NGC 4565, NGC 3198, NGC 4631, M 61 (CCD Colour Images)

In this portfolio of CCD colour images, notable springtime spiral galaxies reveal reddening from obscuring dust in spiral arms and the difference between yellower Population II stars in nuclei and bluer Population I stars in the outer arms. Images listed clockwise from top left.

Photos by Jack Newton

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West East Set 5:58 6:14 Rise 21:55 21:30 **2**	Set 7:01 7:16 Rise 22:49 22:26 **3**	Set 8:12 8:24 Rise 23:34 23:15 **4**	Set 9:27 9:35 Rise -- 23:57 **5**	Rise 0:12 -- Set 10:43 10:48 **6**	Rise 0:44 0:34 Set 11:59 11:59 **7**	Rise 1:13 1:07 Set 13:13 13:09 *3rd Quarter 7:05* Sunrise 4:47 5:14 Sunset 21:12 20:45 **8**
West East Rise 1:40 1:38 Set 14:25 14:17 **9**	Rise 2:07 2:09 Set 15:35 15:23 **10** ***Mercury Greatest Elongation W (24°)***	Rise 2:34 2:40 Set 16:44 16:27 **11**	Rise 3:04 3:13 Set 17:49 17:29 **12** ***2 Shadows on Jupiter 23:27***	Rise 3:37 3:49 Set 18:52 18:29 **13** ***Mercury 0.4° N. of Moon 19h***	Rise 4:14 4:29 Set 19:49 19:25 **14**	Rise 4:56 5:12 Set 20:41 20:17 *New Moon 21:36* Sunrise 4:45 5:13 Sunset 21:16 20:49 **15**
West East Rise 5:44 6:00 Set 21:27 21:04 **16** *Father's Day*	Rise 6:36 6:51 Set 22:06 21:45 **17**	Rise 7:33 7:45 Set 22:41 22:22 **18**	Rise 8:32 8:41 Set 23:11 22:56 **19**	Rise 9:32 9:39 Set 23:37 23:26 **20** ***Summer Solstice 21:24***	Rise 10:34 10:37 Set -- 23:54 **21**	Set 0:02 -- Rise 11:37 11:36 **22** Sunrise 4:46 5:14 Sunset 21:18 20:51
West East Set 0:26 0:22 Rise 12:42 12:36 **23** ***Mercury 1.6° N. of Venus 7h***	Set 0:50 0:49 Rise 13:48 13:38 *1st Quarter 1:23* **24** *St.-Jean-Baptiste Day*	Set 1:15 1:18 Rise 14:56 14:42 **25**	Set 1:43 1:50 Rise 16:07 15:48 **26**	Set 2:15 2:26 Rise 17:18 16:56 **27** *RASC General Assembly, Edmonton (through July 1)*	Set 2:54 3:08 Rise 18:29 18:04 **28**	Set 3:42 3:57 Rise 19:36 19:10 **29** Sunrise 4:49 5:16 Sunset 21:18 20:51
West East Set 4:40 4:55 Rise 20:36 20:11 *Full Moon 23:58* **30**						

JULY

Cygnus and Lyra

This photo, whose field approximates that of the human eye, displays the richness of the northern summer sky. At the extreme right edge, Vega stands above Lyra's parallelogram which contains tiny M57 (the Ring Nebula). At the top left lie the glowing red clouds of the North America and Pelican Nebulas, and in the centre is the heart of the Cygnus Milky Way.

Photo by Giovanni Andreis

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West East Rise 0:12 0:13 Set 13:25 13:14 *3rd Quarter 14:55* **7**	Rise 0:39 0:44 Set 14:35 14:19 **8**	Rise 1:08 1:17 Set 15:41 15:23 **9**	Rise 1:40 1:52 Set 16:45 16:23 **10**	Rise 2:15 2:30 Set 17:44 17:20 **11**	Rise 2:55 3:11 Set 18:37 18:13 **12** ***Venus 0.4° S. of Moon*** ***4h***	Rise 3:41 3:57 Set 19:25 19:01 **13** Sunrise 5:01 5:26 Sunset 21:10 20:45
West East Rise 4:31 4:46 Set 20:07 19:45 **14**	Rise 5:26 5:39 Set 20:43 20:24 *New Moon 12:15* **15**	Rise 6:24 6:35 Set 21:14 20:58 **16**	Rise 7:24 7:32 Set 21:42 21:30 **17**	Rise 8:25 8:29 Set 22:08 21:59 **18** ***Neptune at opposition***	Rise 9:28 9:28 Set 22:32 22:26 **19**	Rise 10:31 10:27 Set 22:55 22:54 **20** Sunrise 5:10 5:33 Sunset 21:02 20:39
West East Rise 11:36 11:28 Set 23:19 23:21 **21**	Rise 12:42 12:30 Set 23:45 23:51 **22**	Rise 13:49 13:33 Set -- -- *1st Quarter 13:49* **23**	Set 0:15 0:24 Rise 14:58 14:38 **24**	Set 0:49 1:02 Rise 16:07 15:44 **25** ***Uranus at opposition***	Set 1:31 1:46 Rise 17:15 16:50 **26**	Set 2:22 2:38 Rise 18:17 17:52 **27** Sunrise 5:19 5:40 Sunset 20:53 20:32
West East Set 3:24 3:39 Rise 19:13 18:49 **28** ***S. δ-Aquarid meteors peak*** ***6h***	Set 4:35 4:47 Rise 20:00 19:40 **29** ***α-Capricornid meteors peak*** ***7h***	Set 5:53 6:01 Rise 20:40 20:25 *Full Moon 6:35* **30**	Set 7:13 7:17 Rise 21:15 21:04 **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						

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

AUGUST

Pelican Nebula (IC 5067)

Adjacent to the relatively bright North America Nebula, in the dark nebula of the 'Atlantic,' the Pelican reveals its complex interplay of glowing and obscuring matter. The neck and the heart in particular display intricate structure, as do the subtly detailed clouds under the beak.

Photo by Rajiv Gupta

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West East Set 12:21 12:07 Rise 23:12 23:19 **4**	Set 13:30 13:13 Rise 23:43 23:54 **5** *Civic Holiday*	Set 14:36 14:15 Rise -- -- **6** *3rd Quarter 1:25*	Rise 0:17 0:31 Set 15:37 15:14 **7**	Rise 0:56 1:11 Set 16:33 16:09 **8** ***Occultation Aldebaran 1.0° S of Moon (visible in N. Canada)*** ***2h***	Rise 1:40 1:55 Set 17:22 16:59 **9** *Starfest, Mount Forest, Ont. (through August 11)* ***Venus 1.2° N. of Moon*** ***23h***	Rise 2:28 2:43 Set 18:06 17:44 **10** Sunrise 5:40 5:56 Sunset 20:30 20:14
West East Rise 3:21 3:35 Set 18:44 18:24 **11** ***N. δ-Aquarid meteors peak*** ***21h***	Rise 4:18 4:29 Set 19:17 19:00 **12** ***Perseid meteors peak*** ***7h***	Rise 5:17 5:26 Set 19:47 19:33 **13**	Rise 6:18 6:23 Set 20:13 20:03 *New Moon 3:34* **14** *Mount Kobau Star Party, B.C. (through August 18)*	Rise 7:20 7:22 Set 20:38 20:31 **15**	Rise 8:23 8:21 Set 21:01 20:58 **16** *Nova East, Fundy Ntl. Park (through August 19)* ***Mercury 0.3° N. of Moon*** ***13h***	Rise 9:27 9:21 Set 21:25 21:26 **17** Sunrise 5:51 6:04 Sunset 20:16 20:03
West East Rise 10:32 10:22 Set 21:51 21:55 **18**	Rise 11:39 11:24 Set 22:18 22:26 **19** *John Flamsteed, first Astronomer Royal, born 350 years ago* ***Venus Greatest Elongation W (46°)***	Rise 12:46 12:27 Set 22:50 23:01 **20**	Rise 13:53 13:31 Set 23:28 23:41 *1st Quarter 23:36* **21** ***Mercury Greatest Elongation E (27°)***	Rise 14:59 14:35 Set -- -- **22**	Set 0:13 0:28 Rise 16:02 15:37 **23**	Set 1:08 1:23 Rise 16:59 16:34 **24** Sunrise 6:02 6:13 Sunset 20:02 19:51
West East Set 2:12 2:26 Rise 17:49 17:27 **25**	Set 3:25 3:35 Rise 18:32 18:14 **26**	Set 4:43 4:49 Rise 19:09 18:56 **27**	Set 6:03 6:05 Rise 19:42 19:34 *Full Moon 13:52* **28**	Set 7:24 7:21 Rise 20:13 20:09 **29**	Set 8:43 8:35 Rise 20:42 20:43 **30** ***α-Aurigid meteors peak*** ***23h***	Set 9:59 9:47 Rise 21:12 21:17 **31** Sunrise 6:13 6:21 Sunset 19:47 19:38

SEPTEMBER

NGC 281

Near alpha and eta Cassiopeia and roughly the size of the full moon, this emission nebula is listed in the RASC Observer's Handbook as one of the finest NGC objects. Like many such objects, it benefits greatly from the use of filters. In appearance, it has been said to resemble a celestial Pac-Man.

Photo by J. C. Mirtle

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
West East Set 11:12 10:56 Rise 21:43 21:52 **1**	Set 12:21 12:02 Rise 22:17 22:29 **2** *Labour Day*	Set 13:26 13:04 Rise 22:55 23:09 **3**	Set 14:25 14:01 Rise 23:37 23:52 *3rd Quarter 15:06* **4** ***Occultation Aldebaran 0.9° S of Moon (visible in N. Canada) 9h***	Set 15:17 14:53 Rise -- -- **5**	Rise 0:24 0:40 Set 16:03 15:40 **6**	Rise 1:16 1:30 Set 16:43 16:22 **7** Sunrise 6:23 6:30 Sunset 19:31 19:25
West East Rise 2:11 2:23 Set 17:18 17:00 **8**	Rise 3:09 3:19 Set 17:49 17:34 **9**	Rise 4:10 4:16 Set 18:17 18:05 **10**	Rise 5:12 5:14 Set 18:42 18:34 **11**	Rise 6:15 6:14 Set 19:06 19:02 *New Moon 19:07* **12**	Rise 7:19 7:14 Set 19:31 19:30 **13**	Rise 8:24 8:15 Set 19:56 19:59 **14** Sunrise 6:34 6:38 Sunset 19:15 19:12
West East Rise 9:31 9:17 Set 20:23 20:30 **15**	Rise 10:38 10:21 Set 20:53 21:03 **16**	Rise 11:45 11:24 Set 21:29 21:42 **17**	Rise 12:50 12:27 Set 22:11 22:26 **18**	Rise 13:53 13:28 Set 23:01 23:16 **19** *Charles Carpmael, first President of RASC, born 150 years ago*	Rise 14:50 14:26 Set -- -- *1st Quarter 7:23* **20**	Set 0:00 0:14 Rise 15:41 15:19 **21** Sunrise 6:45 6:46 Sunset 18:59 18:59
West East Set 1:07 1:19 Rise 16:25 16:06 **22** ***Fall Equinox 13:00***	Set 2:20 2:28 Rise 17:04 16:49 **23** *Johann Galle discovers Neptune 150 years ago*	Set 3:37 3:41 Rise 17:38 17:27 **24**	Set 4:56 4:55 Rise 18:09 18:03 **25**	Set 6:14 6:09 Rise 18:39 18:37 *Full Moon 22:51* **26** ***Total Lunar Eclipse (visible throughout Canada) Saturn at opposition***	Set 7:32 7:22 Rise 19:09 19:11 **27**	Set 8:48 8:34 Rise 19:40 19:46 **28** Sunrise 6:56 6:55 Sunset 18:44 18:45
West East Set 10:00 9:42 Rise 20:13 20:23 **29**	Set 11:09 10:48 Rise 20:50 21:03 **30**			*The given times must be adjusted for location. Instructions are given in the back of the calendar.* *Please see back pages for additional information on the photos and this calendar.*		

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
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

OCTOBER

M27, vdB 142, M16 (CCD Nebulas)

A gallery of diverse nebulosities: the planetary M27 (the Dumbbell), the snake-like complex region vdB 142, and the core of M16 (the Eagle Nebula). The image of M27 discloses both the central hour-glass and extended football shapes of this showpiece object. The elusive vdB 142 reappears, on a smaller scale, in the November photo. Images listed clockwise from top left.

Photos by Paul Boltwood (M27, vdB 142) and Jack Newton (M16)

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*		West East Set 12:12 11:49 Rise 21:31 21:46 **1** ***Aldebaran 0.8° S. of Moon 17h***	Set 13:08 12:44 Rise 22:17 22:33 **2**	Set 13:58 13:34 Rise 23:08 23:23 **3** ***Venus 0.2° S. of Regulus 19h*** ***Mercury Greatest Elongation W (18°)***	Set 14:41 14:19 Rise -- -- **4** *3rd Quarter 8:04*	Rise 0:02 0:15 Set 15:18 14:58 **5** Sunrise 7:08 7:03 Sunset 18:28 18:32
West East Rise 0:59 1:10 Set 15:50 15:34 **6**	Rise 1:59 2:07 Set 16:19 16:06 **7**	Rise 3:00 3:05 Set 16:45 16:35 **8**	Rise 4:03 4:04 Set 17:09 17:04 **9**	Rise 5:07 5:04 Set 17:34 17:32 **10**	Rise 6:13 6:05 Set 17:59 18:01 **11**	Rise 7:19 7:08 Set 18:25 18:31 **12** *New Moon 10:14* Sunrise 7:19 7:12 Sunset 18:13 18:20 ***Partial Solar Eclipse (visible in extreme N.E. Canada)***
West East Rise 8:27 8:11 Set 18:55 19:04 **13**	Rise 9:36 9:16 Set 19:30 19:42 **14** *Thanksgiving Day*	Rise 10:43 10:20 Set 20:10 20:24 **15**	Rise 11:47 11:23 Set 20:58 21:13 **16**	Rise 12:46 12:22 Set 21:54 22:09 **17**	Rise 13:39 13:16 Set 22:57 23:10 **18**	Rise 14:24 14:04 Set -- -- **19** *1st Quarter 14:09* Sunrise 7:31 7:21 Sunset 17:58 18:08
West East Set 0:07 0:17 Rise 15:03 14:47 **20**	Set 1:20 1:26 Rise 15:38 15:25 **21** ***Orionid meteors peak 13h***	Set 2:36 2:38 Rise 16:09 16:01 **22**	Set 3:52 3:49 Rise 16:38 16:34 **23**	Set 5:09 5:01 Rise 17:07 17:08 **24**	Set 6:24 6:12 Rise 17:36 17:41 **25**	Set 7:38 7:21 Rise 18:08 18:17 **26** *Full Moon 10:11* Sunrise 7:43 7:31 Sunset 17:44 17:56
West East Set 7:48 7:29 Rise 17:43 17:55 **27** ***Daylight Savings Time Ends 2h***	Set 8:55 8:33 Rise 18:23 18:37 **28** ***Mars 1.2° N. of Regulus 22h***	Set 9:56 9:32 Rise 19:08 19:23 **29** ***Occultation Aldebaran 0.9° S of Moon (visible in N.W. Canada) 2h***	Set 10:49 10:25 Rise 19:57 20:12 **30**	Set 11:36 11:13 Rise 20:50 21:05 **31** *Halloween*	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

NOVEMBER

IC 1396

At over three degrees in width, this obscure HII region is a challenge for visual observers. The bright star at the top is μ–Cephei, and the central star within the nebula is a hot O-type double (Struve 2816). Note the assortment of dark nebulosity embedded in the large irregular sections of swirling hydrogen, both of which are especially prominent in the vicinity of vdB 142.

Photo by Rajiv Gupta

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
The given times must be adjusted for location. Instructions are given in the back of the calendar. *Please see back pages for additional information on the photos and this calendar.*	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			Set 12:16 11:55 Rise 21:47 21:59 **1**	Set 12:50 12:32 Rise 22:46 22:55 **2** Sunrise 6:55 6:40 Sunset 16:32 16:46 ***S. Taurid meteors peak*** ***12h***
West East Set 13:20 13:06 Rise 23:47 23:53 *3rd Quarter 2:50* **3**	Set 13:47 13:36 Rise -- -- **4**	Rise 0:49 0:51 Set 14:12 14:05 **5**	Rise 1:52 1:50 Set 14:36 14:32 **6**	Rise 2:56 2:51 Set 15:00 15:01 **7**	Rise 4:03 3:53 Set 15:26 15:30 **8** ***Venus 1.4° N. of Moon*** ***4h***	Rise 5:11 4:57 Set 15:55 16:02 **9** Sunrise 7:07 6:50 Sunset 16:20 16:37
West East Rise 6:20 6:02 Set 16:27 16:38 *New Moon 23:16* **10**	Rise 7:30 7:08 Set 17:06 17:19 **11** *Remembrance Day*	Rise 8:37 8:13 Set 17:52 18:07 **12** *Canadarm first used in space 15 years ago* ***N. Taurid meteors peak*** ***12h***	Rise 9:40 9:15 Set 18:46 19:01 **13**	Rise 10:36 10:12 Set 19:49 20:02 **14**	Rise 11:25 11:03 Set 20:57 21:09 **15**	Rise 12:06 11:48 Set 22:10 22:18 **16** Sunrise 7:19 7:00 Sunset 16:11 16:30
West East Rise 12:41 12:28 Set 23:25 23:28 *1st Quarter 20:09* **17** ***Leonid meteors peak*** ***8h***	Rise 13:12 13:03 Set -- -- **18**	Set 0:40 0:38 Rise 13:41 13:36 **19**	Set 1:54 1:48 Rise 14:09 14:08 **20**	Set 3:08 2:58 Rise 14:37 14:41 **21**	Set 4:20 4:06 Rise 15:07 15:14 **22**	Set 5:31 5:13 Rise 15:40 15:51 **23** Sunrise 7:30 7:09 Sunset 16:03 16:24
West East Set 6:39 6:17 Rise 16:17 16:30 *Full Moon 23:10* **24**	Set 7:42 7:19 Rise 16:59 17:14 **25** ***Occultation Aldebaran 0.9° S of Moon (visible in extreme N.W. Canada) 11h***	Set 8:39 8:15 Rise 17:46 18:02 **26**	Set 9:30 9:06 Rise 18:38 18:53 **27**	Set 10:13 9:51 Rise 19:34 19:47 **28**	Set 10:50 10:31 Rise 20:33 20:43 **29**	Set 11:22 11:06 Rise 21:33 21:40 **30** Sunrise 7:40 7:17 Sunset 15:57 16:20

DECEMBER

M42 (The Orion Nebula)

Most colour films have difficulty recording the range of hues this most photographed of deep-sky objects encompasses. In exceptional circumstances, experienced observers have reported seeing up to half a dozen distinct tints and exquisite mottling which are displayed in this remarkable photograph.

Photo by J C Mirtle

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
West East Set 11:50 11:37 Rise 22:34 22:38 **1**	Set 12:15 12:06 Rise 23:36 23:36 **2**	Set 12:39 12:34 Rise -- -- *3rd Quarter 0:05* **3**	Rise 0:39 0:35 Set 13:03 13:01 **4**	Rise 1:44 1:36 Set 13:27 13:29 **5**	Rise 2:50 2:38 Set 13:53 13:59 **6**	Rise 3:59 3:42 Set 14:23 14:33 **7** Sunrise 7:49 7:25 Sunset 15:54 16:18
West East Rise 5:08 4:48 Set 14:59 15:11 **8** ***Venus 2° S. of Moon 7h***	Rise 6:18 5:55 Set 15:41 15:56 **9**	Rise 7:25 7:00 Set 16:33 16:48 *New Moon 11:56* **10**	Rise 8:26 8:01 Set 17:33 17:48 **11**	Rise 9:20 8:57 Set 18:42 18:54 **12**	Rise 10:06 9:46 Set 19:56 20:05 **13**	Rise 10:44 10:29 Set 21:12 21:17 **14** Sunrise 7:56 7:31 Sunset 15:54 16:19 *Tycho Brahe born 450 years ago* ***Geminid meteors peak 17h***
West East Rise 11:17 11:06 Set 22:29 22:29 **15** ***Mercury Greatest Elongation E (20°)***	Rise 11:47 11:41 Set 23:44 23:40 **16**	Rise 12:15 12:13 Set -- -- *1st Quarter 4:31* **17**	Set 0:58 0:49 Rise 12:42 12:45 **18**	Set 2:10 1:57 Rise 13:11 13:17 **19**	Set 3:20 3:03 Rise 13:42 13:51 **20**	Set 4:27 4:07 Rise 14:16 14:29 **21** Sunrise 8:01 7:35 Sunset 15:56 16:21 ***Winter Solstice 8:06***
West East Set 5:31 5:09 Rise 14:55 15:10 **22** ***Occultation Aldebaran 0.9° S of Moon (visible in Canada except coasts) 18h*** ***Ursid meteors peak 9h***	Set 6:30 6:06 Rise 15:39 15:55 **23**	Set 7:23 6:59 Rise 16:29 16:44 *Full Moon 15:41* **24**	Set 8:10 7:47 Rise 17:23 17:37 **25** *Christmas Day*	Set 8:49 8:29 Rise 18:21 18:33 **26**	Set 9:23 9:06 Rise 19:21 19:30 **27** *Johannes Kepler born 425 years ago*	Set 9:53 9:39 Rise 20:22 20:27 **28** Sunrise 8:03 7:38 Sunset 16:01 16:26
West East Set 10:19 10:09 Rise 21:23 21:25 **29**	Set 10:44 10:37 Rise 22:25 22:23 **30**	Set 11:07 11:04 Rise 23:28 23:22 **31**		*The given times must be adjusted for location. Instructions are given in the back of the calendar.* *Please see back pages for additional information on the photos and this calendar.*		

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
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The Royal Astronomical Society of Canada Observer's Calendar

How to Use this Calendar

A pictorial representation of the Moon's phase at midday is given in each daily box. The size of the Moon in the Calendar varies from day to day reflecting the change in the apparent size of the Moon in the sky as it moves closer to or further from the Earth. The distance between the left edge of the Moon and the left border of the box can be used as an aid in discerning the size of the Moon.

Daily Moon and weekly Sun rise and set times, and the times of Moon phases, are shown in the top portion of the boxes. If no Moon rise or set time is given, this event occurs the next day. Special astronomical events, such as eclipses, meteor showers, occultations, interesting planetary events, and equinoxes and solstices, are given at the bottom of the boxes.

The Calendar lists events observable in some part of Canada. Days on which particularly interesting phenomena occur are highlighted with a coloured date. Detailed information on all events, including their visibility from particular locations, may be determined by consulting the *RASC Observer's Handbook*.

Adjusting Times for Actual Location

All times are given in the 24-hour clock and are adjusted for Daylight Savings Time. Moon phases are given in Eastern time, and special events in Central time. The user's local time for events *other than* Moon and Sun rise and set may be determined by converting the given time to the user's time zone (eg. Pacific time is Central time minus 2 hours).

Two sets of rise and set times are given to accommodate observers across Canada. The *West* times displayed are computed for location 51° N latitude and 105° W longitude. The *East* times are for 45° N, 75° W. The actual times for a given location must be calculated using the following table.

In the table is given, for each RASC Centre, a correction in minutes to the tabulated rise and set times. In the column labelled **Correction**, an entry such as *East* + 25 means add 25 minutes to the displayed *East* time. This computed time is an approximation. In the column labelled **Accuracy** the maximum error in minutes for Moon rise and set using this method is indicated. The error for Sun rise and set is less.

Note that the rise and set times calculated using the above method *will be local times*. It is not necessary to adjust them for time zone.

Location	Correction	Accuracy	Latitude
Victoria	*West* + 13	19	47.8
Vancouver	*West* + 12	13	49.2
Calgary	*West* + 36	2	51.1
Edmonton	*West* + 34	15	53.6
Saskatoon	*West* + 67 [1]	5	52.1
Regina	*West* + 58 [1]	3	50.5
Winnipeg	*West* + 29	7	49.9
Thunder Bay	*West* + 57	16	48.4
Windsor	*East* + 32	15	42.3
Sarnia	*East* + 30	12	42.9
London	*East* + 25	12	43.0
Kitchener	*East* + 22	10	43.4
Hamilton	*East* + 20	11	43.2
Toronto	*East* + 18	7	43.7
Niagara	*East* + 16	11	43.1
Kingston	*East* + 6	4	44.2
Ottawa	*East* + 3	3	45.4
Montreal	*East* - 6	3	45.5
Quebec	*East* - 15	9	46.8
Halifax	*East* + 14	6	44.6
St John's	*East* + 1	17	47.5

[1] Subtract 60 minutes from these computed times in the summer.

For other locations, the user should calculate a correction factor. This amount is +4 minutes for each degree that the user's location is west of the central meridian of the user's time zone or -4 minutes for each degree that it is east. A table with values for various locations can be found in the *RASC Observer's Handbook*. This correction factor should be added to the displayed *West* or *East* time corresponding to the closest of these two locations to the user's site. The accuracy in minutes for Moon rise and set can be calculated by multiplying the difference in latitude between the user's location and that of the *West* or *East* site used by 5 and adding .2 times the difference in longitude.

Further improvement in accuracy may be obtained for some sites by interpolating or extrapolating the *West* and *East* times depending on the user's latitude. Latitudes of all RASC Centres are given in the table. For example, the latitude of Thunder Bay is approximately midway between those of the *West* and *East* sites. An observer in Thunder Bay can improve accuracy to 3 minutes by averaging the given *West* and *East* times and then adding the correction factor for Thunder Bay, which is 57 minutes.

The Royal Astronomical Society of Canada

Since it was founded in 1890, the RASC has filled a special role in astronomy. Its amateur and professional astronomers have made significant observational contributions to astronomical research. The RASC also takes pride in the role it plays in educating the general public about astronomy. Today the RASC consists of over 3000 members, most of whom are attached to one of its 22 Centres across Canada.

National Publications

The *RASC Observer's Handbook* has been published since 1908 and is recognized world-wide as the leading handbook of its type. It lists the astronomical events of the year and other astronomical data, and is indispensable to amateur and professional astronomers alike. The *Beginner's Observing Guide* is an introduction to the night sky for the novice observer.

The *RASC Journal* is published six times per year and contains original research papers and items of an historical, biographical or educational nature of interest to the international astronomical community. The *RASC Bulletin* is the members' own place to exchange ideas and observations from across Canada.

An Invitation for Membership in the Royal Astronomical Society of Canada

Any serious user of this calendar would benefit from membership in the Society. An applicant may affiliate with one of the 22 Centres across Canada, located in the cities in the table to the left. For the addresses of any of the Centres, information on joining the Society, or to order an RASC publication, please contact the National Office at:

136 Dupont Street
Toronto, Ontario, M5R 1V2
(416)-924-7973.

About this Calendar

Production of the Calendar was computer assisted. The monthly grids with data were automatically generated using a Fortran computer program. Photos were scanned using a flatbed scanner and in some cases enhanced using commercial software.

The Calendar was designed by Louie Bernstein in Montreal and Rajiv Gupta in Vancouver. The internet was used extensively as a means of communication.

Nine contributors from five RASC Centres provided photographs: Jack Newton (Victoria); Giovanni Andreis, Rajiv Gupta, Craig McCaw, John Nemy (Vancouver); Jim Himer, John Mirtle (Calgary); Paul Boltwood (Ottawa); David Shuman (Montreal).

Also contributing were: Lee Johnson (captions); Peter Broughton and David Chapman (historical anniversaries); Patrick Kelly (Jupiter double shadow transits);

Valuable assistance and support was also received from Anu Nayar and Antoine van Dijck.

The Calendar was edited and produced by Rajiv Gupta. Photo submissions for future editions and any comments should be sent marked to his attention to:

RASC Vancouver Centre
1100 Chestnut Street
Vancouver, BC, V6J 3J9

There is a single general space, a single vast immensity. . . in it are innumerable globes like this on which we live and grow.

Giordano Bruno (1548 - 1600)

Exposure Details

A variety of equipment was used for the photos in this Calendar, with details given below. The CCD photos are relatively small since the image area of CCD cameras is smaller than that of film cameras.

Front Cover: *The Orion Nebula*. 50-minute exposure on chilled Kodak Gold 400 using Deep Sky Filter on an 8-inch f/6 Newtonian reflector, photo by John Mirtle

January: *The Rosette Nebula*. 30-minute exposure on gas-hypered Kodak Technical Pan film using a Wratten 92 filter on an 8-inch f/1.5 Schmidt camera, printed using pre-flash contrast reduction

February: *IC 405*. 35-minute exposure on 120-format Ektachrome EL400 dried in nitrogen and exposed in a cold camera on a 16-inch Cassegrain at f/7.6, shot at Mount Kobau, B.C., Nov. 2 1978.

March: *M81*. 35-minute exposure, Jan. 25, 1979, other details as for February.

April: *Circumpolar Trails*. 10-minute exposure on medium-format Ektachrome 400X, fixed-tripod with 80-mm lens at f/2.8.

May: *NGC 5981, 5982, 5985*. 79-minute exposure on gas-hypered Kodak Technical Pan film on a C-14 at f/7.

June: *CCD Colour Images*. NGC 4565 and 4631, 5, 20, and 40 minute red, green, blue exposures combined to give colour image using ST-8 CCD camera binned to give 768 x 512 pixels on a 25-inch f/5 reflector. M61 and NGC 3198: 6-10 minute exposures using an 375 x 242 pixel ST-6 CCD camera, other details as above.

July: *Cygnus and Lyra*. 4-minute exposure on Ektachrome EPH P1600 set at 1600 ASA, piggyback with 50-mm lens at f/2.8.

August: *The Pelican Nebula*. 150-minute exposure on gas-hypered medium-format Kodak Technical Pan film using an H-α filter on a 5-inch f/6 refractor.

September: *NGC 281*. 55-minute exposure on chilled Royal Gold 400 using 8-inch f/6 Newtonian reflector.

October: *CCD Nebulas*. vdB 142: 232 2-minute exposures digitally combined, using home-made 576 x 384 pixel CCD camera on 7-inch refractor at f/18. M27: 82-minute red, 77-minute green, and 776-minute blue exposures, other details as above. M16: see M61 and NGC 3198 exposure details under June.

November: *IC 1396*. 165-min. exposure, other details as for August.

December: *The Orion Nebula*, see Front Cover photo details.

Back Cover: *The Sagittarius and Scutum Milky Way*. 5-minute exposure on Ektar 1000, piggyback with 28-mm lens at f/2.8, photo by John Nemy

1996

January

S	M	T	W	T	F	S
		1	2	3	4	5	6
7	8	9	10	11	12	13
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21	22	23	24	25	26	27
28	29	30	31			

February

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				1	2	3
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18	19	20	21	22	23	24
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March

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17	18	***19***	20	21	22	23
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31						

April

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28	29	30				

May

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June

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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	***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				

1997

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***				

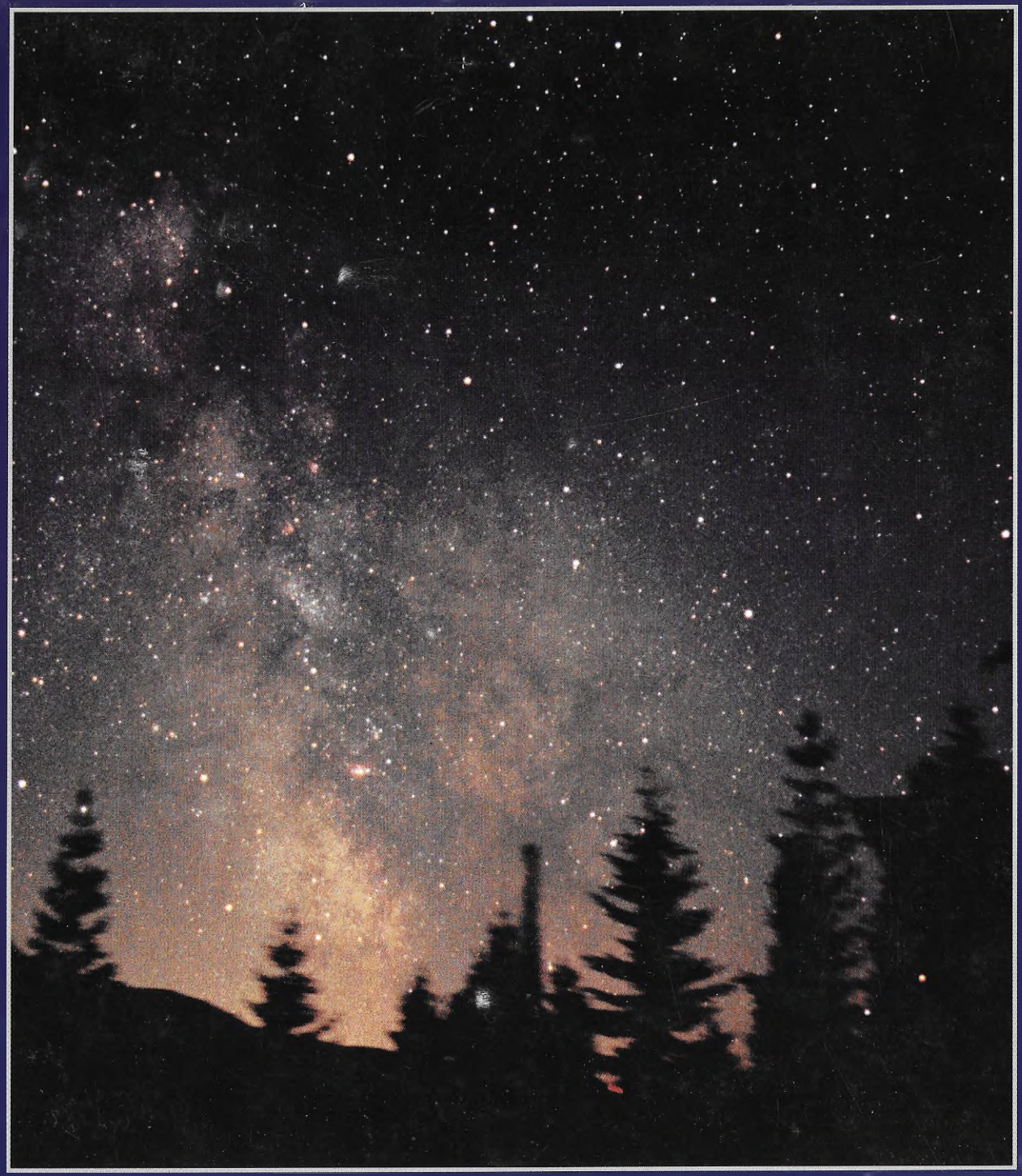
November

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***.



This unique calendar was created by members of the Royal Astronomical Society of Canada. All photographs were taken by amateur astronomers using ordinary camera lenses and small telescopes.

The annotated photos are representative of the wide spectrum of deep-sky objects currently being observed and photographed by Canadian amateurs. They vary from the bright Great Orion Nebula to exotic challenge objects.

This calendar is designed with the amateur observer in mind. It incorporates comprehensive astronomical data including daily Moon rise and set times, useful for planning observing sessions.

Detailed information on the Calendar and the RASC may be found inside.