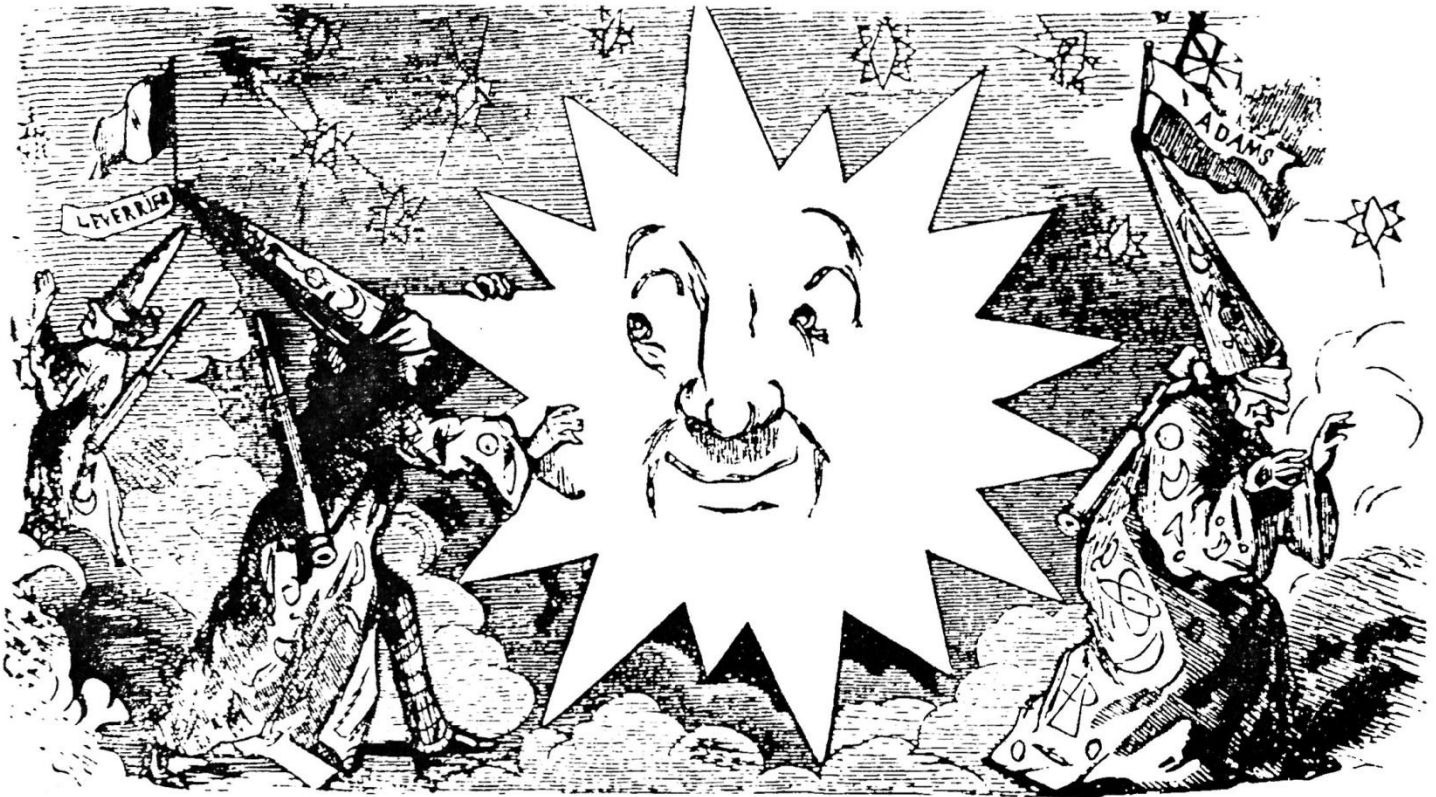


# the WASP

THE MONTHLY JOURNAL OF THE WARREN ASTRONOMICAL SOCIETY



470. THE DISCOVERY OF NEPTUNE, by Cham (*Le Charivari*, January 1, 1847).

*Photo Flammarion*

**April 1974**

1974	MAY	1974
S	W	S
5 22 19 26	1 8 15 22 29	4 11 18 25
M	T	F
6 13 20 27	7 14 21 28	3 10 17 24
		T
		2 9 16 23 30

APRIL  
1974

SECRET

~~Astronomical~~ ~~Calendar~~ Society

# ASSOCIATION OF LUNAR AND PLANETARY OBSERVERS

Comets Section

February 25, 1974

NEW COMET BRADFIELD 1974b. Amateur astronomer William A. Bradfield of Dernancourt, Adelaide, South Australia, found his second comet on February 12.49 UT as a 9th magnitude diffuse object in Sculptor at 23h 37m.6, -33° 42'. He is a member of the Astronomical Society of South Australia. The early ephemeris by Michael p. Candy indicates it will become a good binocular object for United States observers by mid-March. After the first week of April, it will be circumpolar, permitting all-night monitoring for changes. Charles Morris provides these altitudes above the evening horizon, calculated for the standard time zone meridian at latitude +40°: March 15, 19:02 local standard time, 5°; March 31, 19:19, 22°.

Mr. Bradfield found his first comet, 1972f, on March 12, 1972, after logging 260 hours in 1971-72, sweeping with a 6-inch f/5.5 26X refractor with a 20 field. That comet reached 8th magnitude, but was only reported by Southern Hemisphere ALPO observers. After his discovery Mr. Bradfield swept for 306 hours before finding 1974b.

Vic Matchett in North Brisbane, Queensland, Australia, reports that Gregg D. Thompson of the Astronomical Amateurs' Club of Moreton Bay saw Comet Bradfield on Feb. 14.42 at about magnitude 9, diffuse, without a nucleus, using a 105-mm. 40 power telescope.

Please report your observations of Comet 1974b on the standard ALPO forms for visual and photographic sightings. Make your own duplicates or send \$2 for 50 visual report forms.

This ephemeris is reproduced from IAU Circular 2636 for February 20th, through the courtesy of Dr. Brian G. Marsden, Smithsonian Observatory.

## COMET BRADFIELD (1974b)

Hr. M. P. Candy, Perth Observatory, Bickley, cables the following parabolic elements, based on more than three accurate positions (residuals 1"-5") obtained during Feb. 14-16. He suggests that the comet will be of third magnitude at perihelion.

$$\left. \begin{array}{l} T = 1974 \text{ Mar. } 19.204 \text{ ET} \\ q = 0.5072 \text{ AU} \quad i = 61.06 \end{array} \right\} \begin{array}{l} \omega = 333^\circ.30 \\ \eta = 142.36 \end{array} \quad 1950.0$$

Mr. T. B. Tregaskis, Mount Eliza, Victoria, writes that on Feb. 14.46 UT he estimated (using a 15-cm reflector. 64 x) a total visual magnitude of about 8. The coma was 4' in diameter, with some central condensation, but no tail.

The following ephemeris is from Candy's elements, the magnitude having been fitted to the visual observations:

	1974 ET	$\alpha$ 1950	$\delta$ 1950	$\Delta$	r	$m_1$
Feb.	12	23 <sup>h</sup> 3 <sup>m</sup> .81	-33°50'.7	1.599	0.939	8.7
	17	23 52.36	-32 24.4			
	22	0 10.39	-30 32.5	1.388	0.772	7.6
	27	0 29.89	-28 03.3			
Mar.	4	0 50.68	-24 39.4	1.151	0.622	6.2
	9	1 12.19	-19 54.9			
	14	1 33.36	-13 16.6	0.909	0.522	5.0
	19	1 52.64	-4 12.4			
	24	2 08.59	+7 21.4	0.728	0.520	4.5
	29	2 20.64	+20 32.2			
Apr.	3	2 29.23	+33 42.2	0.688	0.617	5.1
	8	2 35.39	+45 27.7			
	13	2 40.26	+55 16.7	0.770	0.766	6.3

$$M_1 = 8.0 + 5 \log \Delta + 10 \log r$$

COMET KOHOUTEK 1973f. Charles Morris at West Lafayette, Indiana, estimated a magnitude of 8.0 on Feb. 20.05, using an 8X52 refractor.

Please send additional postage to add to announcement service envelopes because of the increased postal rates starting March 2nd.

Dennis Milon, 378 Broadway, Cambridge, Mass. 02139

# Comet Bradfield (1974b)

The following altitudes and azimuths were calculated from the ephemeris in IAU Circular 2636. They are for the moment, when the sun is 18° below the horizon. This seems a better time use than that when the sun is 12° below the horizon used for the predictions for Comet Kohoutek when it was expected to be so bright.

The predicted magnitudes in the Circular reproduced here are probably more reliable than in the case of Kohoutek. The comet was discovered when .94 AU from the sun, so the extrapolation to heliocentric distances of .52 to .77 is not excessive. Also, the formula used for the magnitudes is a conservative one.

DATE	ALTITUDE	AZIMUTH	MAG.
March 24	9°	275°	4.5
March 29	15	288	
April 3	20	301	5.1
April 8	24	313	
April 13	27	324	6.3

New Moon March 23

-Courtesy of Dr. Freeman Miller  
University of Michigan

Circular No. 2642  
CENTRAL BUREAU FOR ASTRONOMICAL TELEGRAMS  
INTERNATIONAL ASTRONOMICAL UNION  
POSTAL ADDRESS CENTRAL BUREAU FOR ASTRONOMICAL TELEGRAMS  
SMITHSONIAN ASTROPHYSICAL OBSERVATORY CAMBRIDGE MASS 02138 USA  
CABLE ADDRESS SATELLITES NEWYORK - WESTERN UNION RAPID SATELLITE CAMBRASS

## COMET BRADFIELD (1974b)

Dr. W. Liller provides the following photoelectric magnitudes, measured by him at Cerro Tololo Interamerican Observatory:

1974 UT	V	1974 UT	V	1974 UT	V
Feb. 17.0	10.21	Feb. 21.0	9.03	Feb. 25.0	9.18
18.0	9.31	22.0	8.99	26.0	9.14
19.0	9.38	23.0	9.05	27.0	8.91
20.0	9.18	24.0	9.23	28.0	8.82

The measurements up to and including that of Feb. 23.0 were made using a 41-cm reflector and 95" diaphragm, while the others were with a 91-cm reflector and 42" diaphragm. Sky conditions were excellent every night, and the estimated mean errors average 0.05 magnitude. On Feb. 23.0 visual estimates by Liller, N. Walborn and R. Salmon with a finder telescope averaged V = 8.2. A narrow plasma tail approximately 2° long appears on a blue plate taken by N. Irvine with the Curtis Schmidt telescope on Feb. 25.0; on the previous night a red plate shows the dust tail as poorly defined and no more than 15' long.

The following precise positions were obtained at the Perth Observatory, Bickley, with the 33-cm astrograph:

1974 UT	$\alpha_{1950}$	$\delta_{1950}$	Observer
Feb. 16.52500	23 <sup>h</sup> 50 <sup>m</sup> 44 <sup>s</sup> .27	-32°33'27".2	C. Jekabsons
17.52292	23 54 11.23	-32 13 53.8	G. Lowe
18.51806	23 57 41.21	-31 53 20.7	M. P. Candy
20.50972	0 04 52.18	-31 08 36.1	C. Jekabsons
22.50486	0 12 18.21	-30 18 18.9	M. P. Candy
23.50208	0 16 05.44	-29 50 51.7	D. J. Gans
25.50069	0 23 54.09	-28 50 30.0	M. P. Candy
26.51528	0 27 56.38	-28 16 48.8	D. J. Gans

Mr. Candy also sends the following improved parabolic elements. He notes that the images of the comet are strong and remarkably well condensed on the Perth plates. We have, however, adjusted his predicted magnitudes to conform more to visual observations.

$$\begin{aligned} T &= 1974 \text{ Mar. } 18.3433 \text{ ET} & \mu &= 333^{\circ}11'7'' \\ q &= 0.503166 \text{ AU} & \rho &= 143.0503 \\ & & i &= 61.2935 \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} 1950.0$$

No. 2642

1974 ET	$\alpha_{1950}$	$\delta_{1950}$	$\Delta$	$r$	$m_1$
Mar. 6	0 <sup>h</sup> 59 <sup>m</sup> 11 <sup>s</sup>	-22°44'?	1.076	0.583	6.8
8	1 07.63	-20 42.3			
10	1 16.11	-18 22.0	0.976	0.542	6.3
12	1 24.44	-15 41.0			
14	1 32.51	-12 36.7	0.881	0.514	5.8
16	1 40.20	-9 07.2			
18	1 47.41	-5 11.4	0.797	0.503	5.5
20	1 54.05	-0 49.5			
22	2 00.03	+3 56.5	0.730	0.511	5.4
24	2 05.34	+9 02.9			
26	2 09.97	+14 24.0	0.687	0.535	5.5
28	2 13.93	+19 52.7			
30	2 17.29	+25 21.6	0.671	0.575	5.7
Apr. 1	2 20.09	+30 43.6			
3	2 22.41	+35 53.1	0.679	0.626	6.1
5	2 24.32	+40 45.7			
7	2 25.83	+45 19.0	0.706	0.683	6.6
9	2 27.17	+49 32.2			
11	2 28.25	+53 25.5	0.747	0.746	7.1
13	2 29.12	+56 59.7			
15	2 30.00	+60 16.4	0.796	0.811	7.6
17	2 30.78	+63 17.2			
19	2 31.54	+66 03.9	0.851	0.879	8.1
21	2 32.35	+68 38.0			
23	2 33.2	+71 01.1	0.909	0.947	8.6

## COMET HECK-SAUSE (1972 VIII)

Dr. A. Heck, Institut d'Astrophysique, Liège, provides the following precise position, which he has measured from a plate taken by J. Manfroid, G. Sause, A. M. Rousseau, M. Degeldre and himself with the 60-cm Liège Schmidt telescope at the Haute Provence Observatory:

1974 UT	$\alpha_{1950}$	$\delta_{1950}$	$m_2$
Jan. 21.94722	6 <sup>h</sup> 21 <sup>m</sup> 26 <sup>s</sup> .3	+71°00'52".5	19

## R CORONAE BOREALIS

M. Seeds and J. Michael, Joseph R. Grundy Observatory, Franklin and Marshall College, communicate the following photoelectric observations, made on Feb. 22.3 UT with a 40-cm telescope:  $V = 11.22 \pm 0.01$ ,  $B - V = +0.99 \pm 0.02$ ,  $U - B = -0.09 \pm 0.02$ .

1974 March 6

Brian G. Marsden

## CONSUMER'S CORNER

By

Kenneth Wilson

This month the WASP inaugurates "Consumer's Corner", a feature that we hope will be in every issue. This feature is designed to inform the amateur astronomer on the various commercially made products that are on the market today. But, only YOU know whether or not they are any good. So, we want YOU to contribute! In fact, the only way that we can continue the "Consumer's Corner" is if you tell us what you bought. Is it good, is it bad? Did Edmund rip you off for that eyepiece? Did you find a great bargain at the Army-Navy store? Well, for Newton's sake, tell us about it!

\*\*\*\*\*

### CRITERION RV-6 DYNASCOPE

Specifications. The Criterion RV-6 Dynascope is a six inch, equatorially mounted, clock-driven, Newtonian reflecting telescope. It comes equipped with: a 6x30 adjustable finder; outrigger supported pedestal; 3" engraved aluminum setting circles; slip ring saddle; and, three 1 1/4" eyepieces (17, 12.7, and 7mm A.R.) (p.s. since I've bought , they've cut it down to two eyepieces of the same type). Price: \$219.95 f.o.b. +\$15 crating charge.

In my opinion, the RV-6 is one of the few bargains left in telescopes. The only telescopes near it in price and features is the Edmund six inch that costs \$40 more and lacks many of the features of the RV-6. For example, the RV-6 mirror is better than a 1/10th wave and the Edmund is only done to a 1/4 wave.\*

Optically, the RV-6 has satisfied or exceeded my expectations. I've not bench tested the mirror, but a star+rocchi strip test shows quite straight bands. The diagonal is quite well mounted for precise adjustment.

The RV-6 mounting is more than adequate. The 1" stainless steel axes rotate very smoothly. There is a lock only on the dec. axis, but the friction clutch of the clock drive eliminates the need for one on R.A. The equatorial head and stand are firm and steady, even with the higher powers, and good looking in appearance. But, don't be misled by the Criterion ad that shows a picture of the RV-6 with leveling screws on the outriggers. They do not come with the telescope (Criterion will, however, install them for \$15 extra).

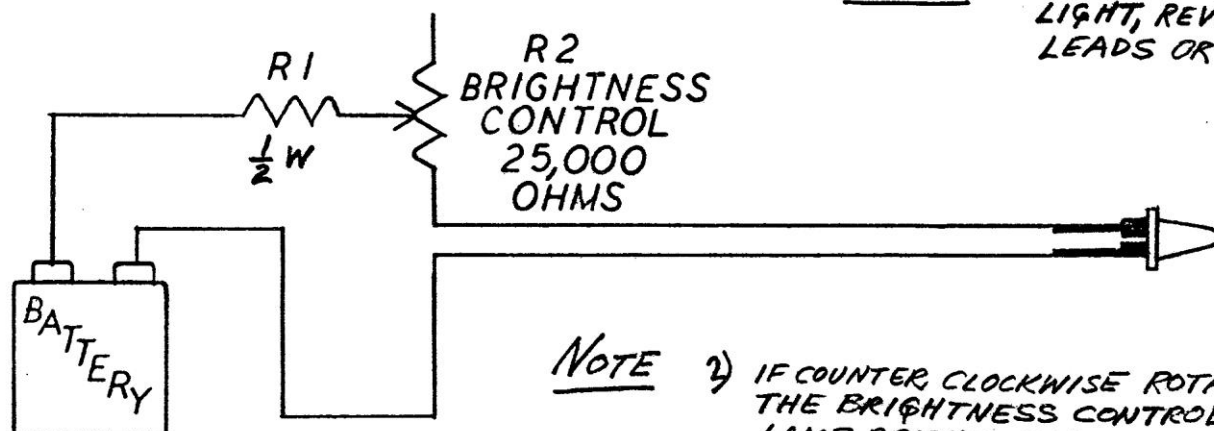
Basically, the only complaint that I have against the RV-6 is the clock drive. From the time that I received it, I had problems getting it to track properly. It seems that others have had this problem with Criterion drives, though it doesn't appear to be common to all. I may just have gotten lemon drive.

This brings me to the Criterion guarantee. They claim satisfaction guaranteed and they mean it. Four years after I purchased my RV-6 I wrote them about me defective drive. They told me to return it to them for repairs. I did and they fixed it free of charge and shipped it back to me free of charge. All of this four years after I bought the telescope!

This honest guarantee plus the overall excellence of the telescope, plus the low price, plus - the wide array of accessories offered by Criterion for RV-6, all add up to a best buy. One of the few left with inflation and devaluation.

\*For a very thorough comparison of low priced telescopes including the RV-6 and the Edmund six-inch, consult the November 1967 issue of "Consumer Reports" and the follow up article in the November 1973 "Consumer Reports". These excellent articles are available in most local libraries. I recommend them to anyone contemplating the purchase of a telescope of six-inch aperture or less.

# CROSSHAIR ILLUMINATION WITH THE MV 5024 L.E.D.\*



NOTE 1) IF L.E.D. DOESN'T  
LIGHT, REVERSE BATTERY  
LEADS OR L.E.D. LEADS.

NOTE 2) IF COUNTER CLOCKWISE ROTATION OF  
THE BRIGHTNESS CONTROL INCREASES  
LAMP BRIGHTNESS, MOVE THE END  
LEAD TO THE OTHER SIDE OF THE  
CONTROL.

BATT. VOLTS	R1 (OHMS)	BATT. VOLTS	R1 (OHMS)	BATT. VOLTS	R1 (OHMS)
2	N.R.**	6	68	10	150
2.5	10	6.5	82	10.5	150
3	18	7	100	11	180
3.5	27	7.5	100	11.5	180
4	33	8	100	12	180
4.5	47	8.5	120	12.5	180
5	56	9	120	13	220
5.5	68	9.5	150		

\* LIGHT EMITTING DIODE \*\* NOT REQUIRED



# ASTRO-ALMANAC

By  
Kenneth Wilson

APRIL /

EVENT

- 1  
2 Lunar Perigee (228,840 mi.) at 11:00.  
3 Venus at greatest W. elong. (46°) at 23:00.  
4  
5  
6 Full Moon at 16:00.  
7 Moon 5° S. of Uranus at 12:00.  
8  
9  
10 Moon 3° S. of Neptune at 17:00, Twilight begins: 3:42-ends: 20:23 LMT  
11  
12  
13  
14 Last Quarter Moon at 9:57, Lunar apogee (251,150 mi.) at 17:00, Venus 1.1° N. of  
Jupiter at 21:00.  
15 Mercury at 002400 02, Venus at 224108 14 (mag. -3.9), Mars at 054624 57 (mag.  
+1.6), Jupiter at 224109 17 (mag. -1.7), Uranus at 133709 24, (opposit: 22<sup>h</sup>) Neptune  
at 163220 15.  
16 Mercury at greatest hel. lat. S., Venus at descending node.  
17  
18 Moon 6° N. of Jupiter at 8:00 and 6° N. of Venus at 14:00, Warren Astronomical Society  
General Meeting at 8:00 E.D.T. at M.C.C.C.  
19  
20 Mars 2° N. of Saturn at 9:00, Twilight begins: 3:19-ends: 20:41 LMT.  
21  
22 New Moon 5:17, Maximum of Lyrid meteor shower at 10:00.  
23  
24  
25  
26 Moon 0.2° S. of Saturn at 10:00 and 3° S. of Mars at 16:00.  
27 Lunar Perigee (229,490 mi.) at 11:00.  
28  
29 First Quarter Moon at 2:39.  
30 Twilight begins: 2:57-ends: 21:01 LMT  
NOTE: All times, unless otherwise noted, are in 24-hour E.S.T.

