PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION	12. CONCLUSIONS
30 Jun 61	Wisconsin Dells, Wisconsin	☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☒ Probably Astronomical Jupiter ☐ Possibly Astronomical ☐ Other_____ ☐ Insufficient Data for Evaluation ☐ Unknown
3. DATE-TIME GROUP Local 2300 GMT 010500Z JULY 1961	4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar	
5. PHOTOS ☐ Yes ☐ No	6. SOURCE Civilian	
7. LENGTH OF OBSERVATION	8. NUMBER OF OBJECTS 1	9. COURSE SW

10. BRIEF SUMMARY OF SIGHTING Circular, orange and yellow objt heading SW slowly.

11. COMMENTS On night of sighting, Jupiter was low on horizon and quite bright, magnitude -2.3. It is quite possible that planet was distorted and discolored by atmospheric refraction and consequently misidentified. Info provided with this sighting is very limited but there is no evidence which would indicate that this objt was not Jupiter.

ATIC FORM 329 (REV 25 SEP 52)

ASTRONOMY

Arcturus Shines in Southern Sky

Several bright stars can be seen on June evenings. Most prominent is Arcturus in the constellation Bootes. Others are Spica, Deneb, Vega and Capella, James Stokley reports.

➤ LOOK TOWARD the south on a clear evening in June, and you will see several bright stars—bright enough to be ranked by the astronomer as "first magnitude." Perhaps the most prominent is Arcturus, in the constellation of Bootes, the herdsman, which is high in the south.

The accompanying maps show its position, along with other stars of the evening, as it appears about 10 p.m., your own kind of standard time at the first of June. By the middle of the month they will be similarly located about an hour earlier. (Add one hour for daylight saving time.)

Just below Bootes you will see Virgo, the virgin. This is one of the 12 constellations of the zodiac, the belt through which the sun, moon and planets seem to move. The brightest star in Virgo is Spica.

To the right of this group stands another zodiacal constellation, Leo the lion. Denebola, which is indicated on the map, is supposed to mark the animal's tail; it is second magnitude. Farther down, toward the west, is Regulus. This is actually a first magnitude star, but is dimmed on account of its low altitude. It marks the end of the handle of the sickle, a group of six stars shaped like that agricultural implement.

The blade of the sickle is shown on the northern sky map. Close to it is Mars, the only planet shown. This is now quite faint, mainly because of its distance. On June 20 it will be just twice as far as the sun—about 186,000,000 miles away.

Libra Seen in the South

Low in the south you can see Libra, the scales. These stars, none very bright, are arranged in the form of a somewhat distorted pentagon. And just to the left Scorpius, the scorpion, is partly visible, with the first magnitude star Antares. It is noticeably ruddy in color.

Above Scorpius is the large constellation of Ophiuchus the serpent-bearer, along with Serpens, the serpent that he is supposed to be carrying. And in the east, just to the left, you find Aquila, the eagle. In it is the star Altair, also somewhat dimmed because it is so near the horizon.

A little farther to the left and you come to Cygnus the swan, with Deneb as the brightest star. (This is shown on the map of the northern sky.) Above this group is Lyra, the lyre, with Vega, which is similar in brightness to Arcturus. Above it is Hercules, another well-known group, although it has no stars of the first magnitude.

High in the northwest is Ursa Major, the great bear, of which the familiar "great dipper" is part. And in this, in turn, are the two stars—Dubhe and Merak—known as the "pointers." A line through them, extended toward the east, brings you to Polaris, the pole star which stands almost directly over the north pole of the earth. It is at the end of the handle of the little dipper, which is part of Ursa Minor, the lesser bear.

Although Mars is the only planet shown on our maps, three others are visible later in the night. Before midnight at the first of June, and two hours earlier at the end of the month, brilliant Jupiter appears in the southeast. It is preceded by Saturn, about a twelfth as bright, but still ranking as first magnitude. And Venus, about 5.25 times as bright as Jupiter, appears low in the east about an hour before the sun rises.

Although Sirius, the dog-star, which shines so brilliantly on winter evenings and is the most brilliant star we can see at night, is gone from view, two very bright stars are visible in June. These are Vega and Arcturus. In the list of bright stars, the sun, of course, is first and then comes Sirius. Next are Canopus and Alpha Centauri, which are so far south that they cannot be seen from most parts of the United States.

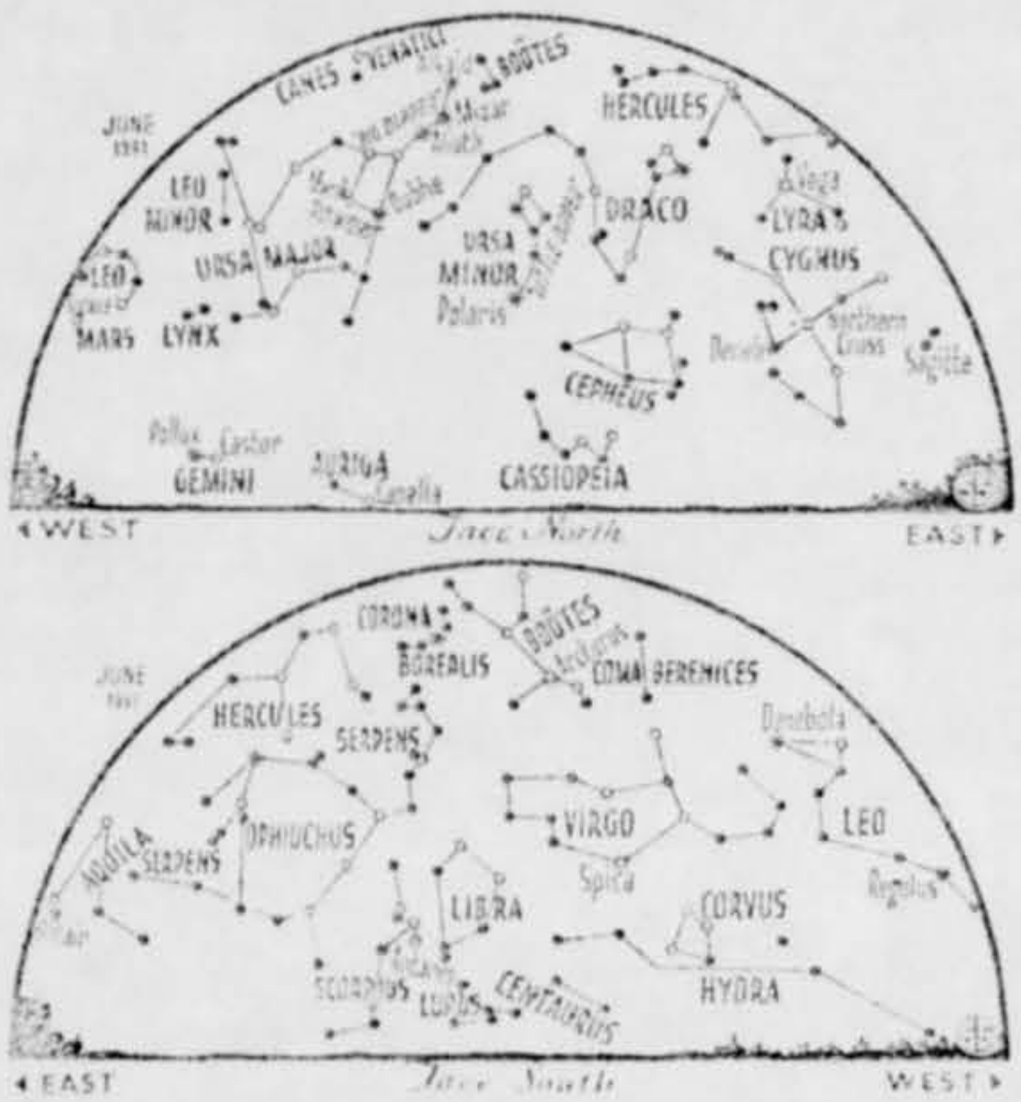
These are followed by Arcturus, Vega and Capella. The latter shines high overhead on winter evenings, in Auriga, the charioteer. It is still visible, just above the northern horizon where its normal brilliance is greatly dimmed by the great amount of air through which its light has to travel.

Actually, Arcturus, Vega and Capella are so nearly alike in brightness that some find one and some another to be the brightest of the three. The fact that they are of different color makes them difficult to compare. Vega is bluish, Capella yellowish, and Arcturus has a ruddy tinge. However, one recent and authoritative listing puts Arcturus first and Vega second.

This, of course, refers to their apparent brightnesses, which depend both on their actual brightnesses or candlepowers and their distances. The same law that determines the relative brilliance of two lights at different distances on earth applies equally in the sky. If two stars are of equal brightness and one is twice as far as the other, the more distant will appear a quarter as bright as the nearer one. Or, if the distant one is four times as bright as the other, they will appear the same.

Arcturus Brighter Than Vega

Arcturus is so distant that its light (which travels 186,000 miles per second) takes 36 years to reach us; we say that its distance is 36 light years. Vega is 26.5 light years away, so evidently it is not as bright intrinsically as Arcturus, which is 100 times as bright as the sun. Vega is equal to 50 suns. But Capella is still farther, 47 light years, and exceeds the sun's brightness 130 times. Now look below Vega at Deneb, in



• • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

Cygnus the swan. As they appear in the sky, Vega is about 3.3 times as bright as Deneb, yet Deneb's distance is 1,500 light years or about 56.6 times as far. This means that it must actually be exceedingly brilliant, in order to shine so brightly across such a gap. And so it is. Deneb is about 50,000 times as luminous as the sun.

Another distinction of Arcturus is its rapid motion across the sky—rapid, that is, compared with other stars. While the planets change their positions from year to year—even from week to week—the stars seem to stay in the same place. A hundred years ago—a thousand years ago—the stars were arranged about as they are now. The constellations looked to William the Conqueror in 1066 about the same as they do to us. But the stars are moving across the sky. Fifty thousand years ago the seven stars that now form the great dipper were arranged very differently; and 50,000 years in the future they will have a still different arrangement.

It was in 1718 that the English astronomer Edmond Halley (of comet fame) announced that Sirius, Arcturus and some other stars were in a little different position in the sky from where they had been charted in ancient times. Among the stars bright enough to be conspicuous in our skies, none that is visible from these latitudes changes its direction as rapidly as Arcturus. But even this is slow compared to a human lifetime. It will take more than 700 years for its direction to change as much as the apparent diameter of the full moon.

Celestial Time Table for June*

June	EST	
1	10:00 p.m.	Moon nearest, distance 227,000 miles
2	1:00 p.m.	Moon passes Saturn
3	1:00 a.m.	Moon passes Jupiter
5	4:19 p.m.	Moon in last quarter
9	4:00 a.m.	Moon passes Venus
13	12:17 a.m.	New moon
17	5:00 p.m.	Moon farthest, distance 251,800 miles
18	5:00 a.m.	Moon passes Mars
19	9:06 p.m.	Venus farthest west of sun
21	4:02 a.m.	Moon in first quarter
	10:30 a.m.	Sun farthest north: summer commences in Northern Hemisphere
28	7:38 a.m.	Full moon
29	7:00 p.m.	Moon passes Saturn
	8:00 p.m.	Moon nearest; distance 224,000 miles
30	7:00 a.m.	Moon passes Jupiter

Subtract one hour for CST, two hours for MST, and three hours for PST

* Science News Letter 79:330 May 27, 1961

RECO2

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RR RJEDSQ 1961 JUL 18 23 52

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FM CHADS TRUAX FLD WIS

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RJEDSQ/ATIC WAFB OHIO

RJEZHQ/HQ USAF WASH DC

RJEZHQ/SAFIS WASH DC

BT

UNCLAS CHOIN 7028. ATTN:AFCIN. FOR INTELLIGENCE. SUBJECT: UFO.

REF PAR 15, AFR 200-2. A.(1) CIRCULAR. (2) NOT GIVEN. (3) ORANGE AND YELLOW. (4) ONE. (5) THRU (9) NOT REPORTED. B. (1) THRU (3) NOT GIVEN. (4) HEADING SOUTHWEST - SLOWLY. (5) & (6) NOT REPORTED. C. NOT REPORTED. D. (1) 01/0500Z JULY 1961. (2) NIGHT. E. NOT REPORTED. F. (1) MR [redacted], [redacted], WISCONSIN DELLS WISCONSIN. PHONE: [redacted]. G. (1) NOT REPORTED. (2) A. 150/03; B. 210/05; C. 260/10; D. 310/10; E. 320/10; F. 070/20; G. 360/10; H. NOT AVAILABLE. (3) NONE (4) 12 (5) NONE (6) NONE. H. NOT REPORTED. I. NONE. J. B-52 TRACK NBR V-451

SPD 242, HDG SW, ALT 17,500 FT. K. (1) G A PACKARD, TSGT, INTELLIGENCE TECH, CHADS. (2) THIS VERY SKETCHY REPORT WAS RECEIVED BY THIS HEADQUARTERS AFTER PASSING THRU A NUMBER OF AGENCIES. A MORE DETAILED REPORT WILL BE SENT AS SOON AS THE INFORMATION IS RECEIVED FROM MR. HAMM. (3) UNKNOWN. L. NONE M. NONE.

BT

18/1929Z JUL RJEDAH

No Case (Information Only)

19 Jun 1961
Exeter, England

June 19: Exeter, England -- A mysterious "flying object" was reported to have hovered stationary over Exeter today for more than an hour.

Officials at the local airport said, "We do not know what it is."

"It was seen on the radar screen and we have had it under observation for some time. We think it is pretty big. It appears to be shining brightly and is about 50,000 feet up."

June 19: Washington, D.C. area. In a confidential statement, a radio technician at a Government agency reported sighting a brilliant UFO which either divided into, or launched several smaller objects. Observed with 7-power binoculars, the small objects appeared round, less bright than the larger UFO first sored.

June 19: Edinburgh, Scotland -- A star-studded luminous object flashed overhead at terrific speed, visible for about 30 seconds about 2:00 a.m. Witnesses told the Evening Dispatch (June 19) the UFO angled downward at about 45 degrees toward the northern horizon. An R.A.F. spokesman told the paper: "We know of this but we can make no comment on it whatsoever." Earlier in the evening, about 10:30 p.m., dozens of people over a wide area around Edinburgh sighted a fast-moving fireball travelling NW to SE trailing sparks.

June 22: Altus AFB Oklahoma. In another confidential report, an AF member at Altus AFB described sighting of a UFO flying at the speed of a B-52, or faster, and an apparent chase by an F-89 jet just after the UFO disappeared from the observer's view.

June 24: Seattle, Wash. A cylindrical UFO which emitted an orange-colored exhaust was reported rising from a low altitude about sunrise. The object was described as tilting to a horizontal position, then disappearing behind trees. A few hours earlier, an oval or egg-shaped UFO, glowing an orange color, was reported settling toward the ground in the same area. (Report under investigation by APRA-NICAP Subcommittee in Seattle.)

(do not use the above lines)

Westward orbit?

OFFICIAL MOONWATCH REPORT

(For confirmations, and for observations not reported previously)

OBJECT OBSERVED UNKNOWN
(spell out Greek letter)

REGISTERED TEAM NAME Van Nuys, Calif.

TEAM NUMBER 0113

In "Site Number" column below indicate the number of the site at which each observation was made.

DO NOT USE	Tele-graph Yes	Tele-graph No	Site No.	Date (UT)	Time (UT) H M S	R.A. or Az. (A)	±Dec. or Alt. (A)	Dir. of Travel	Ang.Vel. Deg/Sec	Max. Mag. +or-	Var. in Seconds Max-Max	Instrument Height
		X	0113	June 25	41:18.0	18° A	47.5° A	~~W-E~~ E-W	≈.5	+8	1	3

Received July 1961

EPOCH OF STAR CHARTS USED: —

REMARKS: I would have identified this as Rocket No 1 except for the observation that it was traveling backward (E-W) & the time and position match my prediction for No 1 so. Since mirror flip pitches were not the direction could have been mistaken.

(Continue remarks on reverse side)

REGISTERED TEAM LEADER'S NAME Orlando Tedesco (Jr.) DATE OF REPORT 1961 July 6

Do not send observations made at a site for which no Smithsonian Astrophysical Observatory site number is assigned.

WISCONSIN FIREBALL OF 1961 JUNE 26/27
A.M.S. No. 1371

On this date at 9:46 p.m. C.S.T., a fine fireball appeared over Wisconsin. Our regional director, Dr. Wm. F. Read, Lawrence College, Appleton, Wis., secured four observations. This solution is wholly due to his cooperation. The observers were: #1 St., Dr. W. S. Schultz, St. Paul, Minn.; #2, Miss Pamela [illegible], Kewaunee, 3½ miles W of Washington City, Wis.; #3 C. [illegible]Einbecher, Rice Lake, Wis.; #4, Mrs. A. D. Reynolds, 1 mile W of Sheldon, Wis. The observations are in order giving first the azimuth and altitude of the beginning, then of the end point, followed by other data. #1., S.E., 45°, 25°5', 355°, angle of fall 33°, 20°, path, 3 sec., white train. [illegible] blue with red halo, 15' in diam., in Aquila and Delphinus, S2. W, 50°, NW, 5°, three times brightness of Venus, train of sparks, greenish white color, 13, 290°, 23°, 310°, 18°, seen 2.3 seconds, red-orange color, less bright than Moon but 25 times that of a star, below and NW of Great Major. S4. W, (75°) and W of N, compared to daylight for one second. The usual diagram was prepared and the sub-end point determined with moderate certainty. The choice of sub-beginning point was more difficult and the point selected was the result of approximations, considerin[illegible] also the observed altitudes which as usual were multiplied by 2/3 for any > =35°. The derived data follow:

Date	1961 June 26.66 C.S.T.
Sidereal time at end point	8h0
Began over	λ =90°43', Ø =43°13' at 143 ±16 km
Length of path	272 km
Projected length of path	247 km
Observed velocity	34 km/sec. (very uncertain)
Radiant uncorrected	α =345°, h =25°.5
Curvature correction	+6.2'
Zenith correction	−4°58'
[illegible]ected	α =3[illegible]8°, h =21[illegible]
[illegible]	α =352°, [illegible]
[illegible]	λ −251°, [illegible]
[illegible]	[illegible], Ω =95°, π =330°, i =0.90 A.U.

In spite of the uncertainty of #1 and the small number of reports, the solution must be considered only fair. The fireball had a zenith magnitude of probably −9, there is total disagreement as to its color. An examination of the Harvard-Von Niessl Catalogue shows an excellent agreement with its number 552 and a possible agreement with number 204, if we allow considerable error in right ascension.