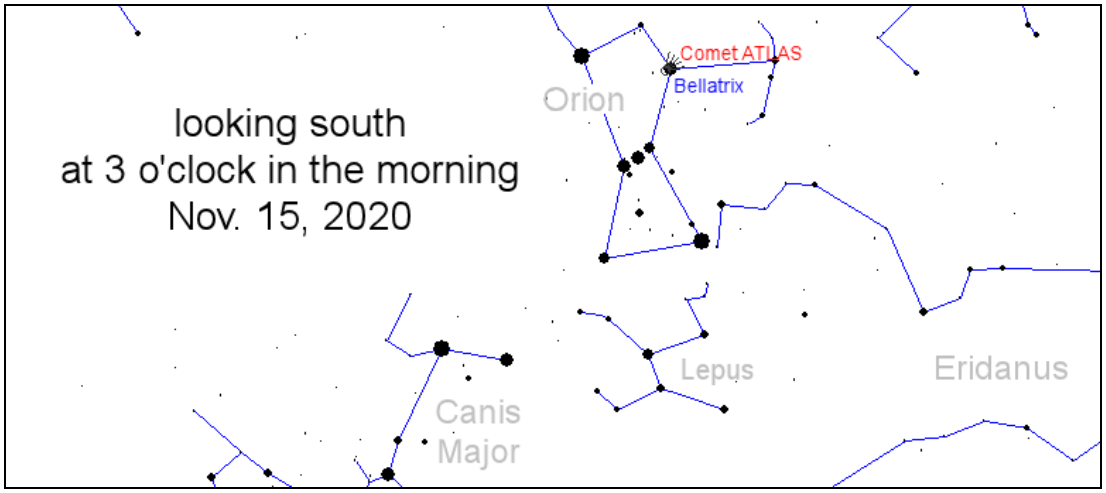
* NOVA *

N. 1852 - 13 NOVEMBRE 2020

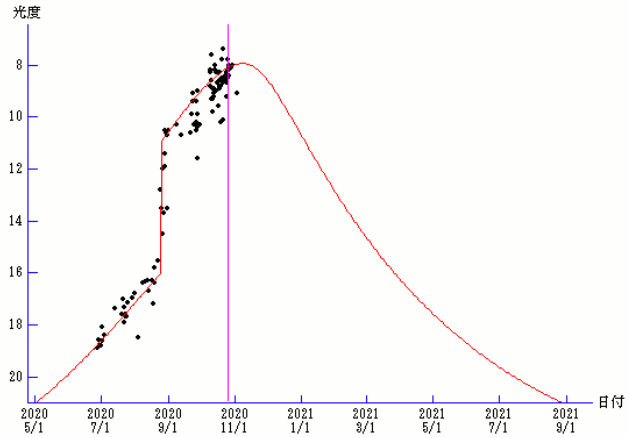
ASSOCIAZIONE ASTROFILI SEGUSINI

COMETA ATLAS (C/2020 M3)

La cometa ATLAS (C/2020 M3), scoperta dal programma di ricerca Asteroid Terrestrial-Impact Last Alert System (ATLAS) il 27 giugno 2020 quando aveva magnitudine 18.8, ha ora magnitudine 8.5 ed è nella costellazione di Orione, visibile con un binocolo o un piccolo telescopio.
La cometa sorge intorno a mezzanotte ed è meglio osservabile verso le 4 del mattino, a sud.
Il 14 novembre 2020 è alla minima distanza dalla Terra, a 0.358 UA (54 milioni di km). Il 15 novembre è a meno di un grado dalla stella Bellatrix, la "spalla sinistra" di Orione.



da https://www.spaceweather.com/images2020/15nov20/skymap_15nov20.png, *modif.*



Curva di luce della cometa ATLAS (C/2020 M3), da Seiichi Yoshida, comet@aerith.net
http://aerith.net/comet/catalog/2020M3/2020M3.html

Nelle prossime pagine riportiamo le effemeridi della cometa calcolate, per le ore 21 CET, dal JPL per il nostro Grange Observatory e una cartina tratta da *Sky & Telescope* di novembre 2020.

La *Nova* è pubblicazione telematica aperiodica dell'A.A.S. - Associazione Astrofili Segusini di Susa (TO) riservata a Soci e Simpatizzanti.
È pubblicata senza alcuna periodicità regolare (v. Legge 7 marzo 2001, n. 62, art. 1, comma 3) e pertanto non è sottoposta agli obblighi previsti della Legge 8 febbraio 1948, n. 47, art. 5.
I dati personali utilizzati per l'invio telematico della *Nova* sono trattati dall'AAS secondo i principi del *Regolamento generale sulla protezione dei dati* (GDPR - Regolamento UE 2016/679).

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*******************************************************************************
Ephemeris / WWW_USER Wed Nov 11 06:41:53 2020 Pasadena, USA      / Horizons
*******************************************************************************
Target body name: ATLAS (C/2020 M3)               {source: JPL#12}
Center body name: Earth (399)                     {source: DE431}
Center-site name: Grange Observatory, Bussoleno
*******************************************************************************
Start time      : A.D. 2020-Nov-11 20:00:00.0000 UT
Stop  time      : A.D. 2020-Dec-31 20:00:00.0000 UT
Step-size       : 1440 minutes
*******************************************************************************
 Date__(UT)__HR:MN     R.A._____(ICRF)_____DEC Azi_(a-appr)_Elev   T-mag   N-mag    S-O-T /r
*******************************************************************************
 2020-Nov-11 20:00     05 25 19.09 +01 06 07.0  94.1531   5.6987  13.120  15.168 142.5677 /L
 2020-Nov-12 20:00     05 25 43.75 +02 24 05.0  93.8615   7.2408  13.129  15.140 143.8839 /L
 2020-Nov-13 20:00     05 26 05.10 +03 42 41.6  93.5685   8.7992  13.139  15.114 145.2178 /L
 2020-Nov-14 20:00     05 26 23.16 +05 01 48.4  93.2742  10.3716  13.153  15.089 146.5663 /L
 2020-Nov-15 20:00     05 26 38.00 +06 21 16.6  92.9786  11.9558  13.168  15.065 147.9262 /L
 2020-Nov-16 20:00     05 26 49.69 +07 40 57.1  92.6818  13.5491  13.186  15.043 149.2942 /L
 2020-Nov-17 20:00     05 26 58.29 +09 00 40.7  92.3838  15.1490  13.206  15.023 150.6666 /L
 2020-Nov-18 20:00     05 27 03.89 +10 20 17.9  92.0847  16.7529  13.228  15.006 152.0394 /L
 2020-Nov-19 20:00  m  05 27 06.58 +11 39 39.2  91.7845  18.3581  13.253  14.990 153.4084 /L
 2020-Nov-20 20:00  m  05 27 06.45 +12 58 35.1  91.4833  19.9620  13.280  14.976 154.7691 /L
 2020-Nov-21 20:00  m  05 27 03.58 +14 16 56.4  91.1811  21.5619  13.310  14.965 156.1168 /L
 2020-Nov-22 20:00  m  05 26 58.10 +15 34 33.9  90.8780  23.1554  13.341  14.956 157.4463 /L
 2020-Nov-23 20:00  m  05 26 50.09 +16 51 19.1  90.5741  24.7401  13.375  14.949 158.7518 /L
 2020-Nov-24 20:00  m  05 26 39.67 +18 07 03.4  90.2694  26.3135  13.411  14.945 160.0270 /L
 2020-Nov-25 20:00  m  05 26 26.95 +19 21 39.2  89.9640  27.8736  13.449  14.944 161.2649 /L
 2020-Nov-26 20:00  m  05 26 12.05 +20 34 59.2  89.6579  29.4182  13.489  14.946 162.4575 /L
 2020-Nov-27 20:00  m  05 25 55.11 +21 46 56.4  89.3512  30.9455  13.531  14.950 163.5958 /L
 2020-Nov-28 20:00  m  05 25 36.24 +22 57 25.0  89.0439  32.4538  13.575  14.958 164.6693 /L
 2020-Nov-29 20:00  m  05 25 15.58 +24 06 19.3  88.7360  33.9414  13.621  14.969 165.6658 /L
 2020-Nov-30 20:00  m  05 24 53.26 +25 13 34.5  88.4277  35.4070  13.668  14.983 166.5719 /L
 2020-Dec-01 20:00  m  05 24 29.44 +26 19 06.5  88.1189  36.8493  13.717  15.002 167.3724 /L
 2020-Dec-02 20:00  m  05 24 04.26 +27 22 51.6  87.8096  38.2674  13.768  15.024 168.0512 /L
 2020-Dec-03 20:00  m  05 23 37.86 +28 24 47.0  87.4998  39.6603  13.820  15.051 168.5925 /L
 2020-Dec-04 20:00  m  05 23 10.40 +29 24 50.4  87.1896  41.0274  13.874  15.082 168.9828 /L
 2020-Dec-05 20:00     05 22 42.03 +30 23 00.1  86.8790  42.3680  13.928  15.117 169.2127 /L
 2020-Dec-06 20:00     05 22 12.92 +31 19 14.8  86.5678  43.6817  13.984  15.157 169.2790 /L
 2020-Dec-07 20:00     05 21 43.24 +32 13 33.9  86.2561  44.9683  14.041  15.201 169.1861 /L
 2020-Dec-08 20:00     05 21 13.14 +33 05 57.3  85.9438  46.2275  14.100  15.249 168.9452 /L
 2020-Dec-09 20:00     05 20 42.81 +33 56 25.2  85.6308  47.4593  14.159  15.301 168.5725 /L
 2020-Dec-10 20:00     05 20 12.41 +34 44 58.3  85.3170  48.6637  14.219  15.355 168.0869 /L
 2020-Dec-11 20:00     05 19 42.13 +35 31 37.7  85.0022  49.8407  14.280  15.412 167.5076 /L
 2020-Dec-12 20:00     05 19 12.13 +36 16 24.6  84.6863  50.9907  14.341  15.471 166.8527 /T
 2020-Dec-13 20:00     05 18 42.61 +36 59 20.9  84.3692  52.1139  14.404  15.532 166.1380 /T
 2020-Dec-14 20:00     05 18 13.73 +37 40 28.5  84.0504  53.2105  14.467  15.593 165.3770 /T
 2020-Dec-15 20:00     05 17 45.67 +38 19 49.6  83.7299  54.2810  14.530  15.656 164.5808 /T
 2020-Dec-16 20:00     05 17 18.60 +38 57 26.6  83.4073  55.3258  14.594  15.719 163.7586 /T
 2020-Dec-17 20:00     05 16 52.67 +39 33 22.0  83.0824  56.3454  14.659  15.783 162.9175 /T
 2020-Dec-18 20:00  m  05 16 28.02 +40 07 38.6  82.7549  57.3403  14.724  15.848 162.0634 /T
 2020-Dec-19 20:00  m  05 16 04.79 +40 40 19.1  82.4244  58.3111  14.789  15.912 161.2008 /T
 2020-Dec-20 20:00  m  05 15 43.12 +41 11 26.5  82.0907  59.2585  14.855  15.977 160.3335 /T
 2020-Dec-21 20:00  m  05 15 23.11 +41 41 03.6  81.7532  60.1829  14.920  16.041 159.4642 /T
 2020-Dec-22 20:00  m  05 15 04.87 +42 09 13.3  81.4118  61.0852  14.986  16.105 158.5952 /T
 2020-Dec-23 20:00  m  05 14 48.50 +42 35 58.7  81.0658  61.9658  15.053  16.170 157.7283 /T
 2020-Dec-24 20:00  m  05 14 34.08 +43 01 22.6  80.7149  62.8255  15.119  16.234 156.8649 /T
 2020-Dec-25 20:00  m  05 14 21.70 +43 25 28.0  80.3586  63.6650  15.186  16.297 156.0059 /T
 2020-Dec-26 20:00  m  05 14 11.43 +43 48 17.7  79.9963  64.4848  15.252  16.361 155.1521 /T
 2020-Dec-27 20:00  m  05 14 03.32 +44 09 54.6  79.6273  65.2857  15.319  16.424 154.3042 /T
 2020-Dec-28 20:00  m  05 13 57.44 +44 30 21.5  79.2511  66.0683  15.385  16.486 153.4625 /T
 2020-Dec-29 20:00  m  05 13 53.82 +44 49 41.1  78.8670  66.8332  15.452  16.549 152.6273 /T
 2020-Dec-30 20:00  m  05 13 52.51 +45 07 56.0  78.4741  67.5810  15.518  16.611 151.7989 /T
 2020-Dec-31 20:00  m  05 13 53.53 +45 25 08.9  78.0716  68.3123  15.585  16.672 150.9772 /T
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Column meaning:

TIME

Times PRIOR to 1962 are UT1, a mean-solar time closely related to the prior but now-deprecated GMT. Times AFTER 1962 are in UTC, the current civil or "wall-clock" time-scale. UTC is kept within 0.9 seconds of UT1 using integer leap-seconds for 1972 and later years.

Conversion from the internal Barycentric Dynamical Time (TDB) of solar system dynamics to the non-uniform civil UT time-scale requested for output has not been determined for UTC times after the next July or January 1st. Therefore, the last known leap-second is used as a constant over future intervals.

Time tags refer to the UT time-scale conversion from TDB on Earth regardless of observer location within the solar system, although clock rates may differ due to the local gravity field and no analog to "UT" may be defined for that location.

Any 'b' symbol in the 1st-column denotes a B.C. date. First-column blank (" ") denotes an A.D. date. Calendar dates prior to 1582-Oct-15 are in the Julian calendar system. Later calendar dates are in the Gregorian system.

NOTE: "n.a." in output means quantity "not available" at the print-time.

SOLAR PRESENCE (OBSERVING SITE)

Time tag is followed by a blank, then a solar-presence symbol:

'*' Daylight (refracted solar upper-limb on or above apparent horizon)
'C' Civil twilight/dawn
'N' Nautical twilight/dawn
'A' Astronomical twilight/dawn
' ' Night OR geocentric ephemeris

LUNAR PRESENCE (OBSERVING SITE)

The solar-presence symbol is immediately followed by a lunar-presence symbol:

'm' Refracted upper-limb of Moon on or above apparent horizon
' ' Refracted upper-limb of Moon below apparent horizon OR geocentric ephemeris

'R.A._____(ICRF)_____DEC' =

Astrometric right ascension and declination of the target center with respect to the observing site (coordinate origin) in the reference frame of the planetary ephemeris (ICRF). Compensated for down-leg light-time delay aberration.

Units: RA in hours-minutes-seconds of time, HH MM SS.ff{ffff}
DEC in degrees-minutes-seconds of arc, sDD MN SC.f{ffff}

'Azi_(a-appr)_Elev' =

Airless apparent azimuth and elevation of target center. Compensated for light-time, the gravitational deflection of light, stellar aberration, precession and nutation. Azimuth is measured clockwise from north: North(0) -> East(90) -> South(180) -> West(270) -> North (360)
Elevation angle is with respect to a plane perpendicular to the reference surface local zenith direction. TOPOCENTRIC ONLY. Units: DEGREES

'T-mag N-mag' =

Comets' apparent visual total magnitude ("T-mag") and nuclear magnitude ("N-mag") using the standard IAU model:

T-mag= M1 + 5*log10(delta) + k1*log10(r)
N-mag= M2 + 5*log10(delta) + k2*log10(r) + phcof*beta
Units: MAGNITUDES

'S-O-T /r' =

Sun-Observer-Target apparent SOLAR ELONGATION ANGLE seen from the observers' location at print-time.

The '/r' column provides a code indicating the targets' apparent position relative to the Sun in the observers' sky, as described below:

Case A: For an observing location on the surface of a rotating body, that body rotational sense is considered:

/T indicates target TRAILS Sun (evening sky: rises and sets AFTER Sun)
/L indicates target LEADS Sun (morning sky: rises and sets BEFORE Sun)

Case B: For an observing point that does not have a rotational model (such as a spacecraft), the "leading" and "trailing" condition is defined by the observers' heliocentric ORBITAL motion:

* If continuing in the observers' current direction of heliocentric motion would encounter the targets' apparent longitude first, followed by the Sun's, the target LEADS the Sun as seen by the observer.
* If the Sun's apparent longitude would be encountered first, followed by the targets', the target TRAILS the Sun.

Two other codes can be output:

/* indicates observer is Sun-centered (undefined)
/? Target is aligned with Sun center (no lead or trail)

The S-O-T solar elongation angle is numerically the minimum separation angle of the Sun and target in the sky in any direction. It does NOT indicate the amount of separation in the leading or trailing directions, which would be defined along the equator of a spherical coordinate system.

Units: DEGREES

Computations by ...
Solar System Dynamics Group, Horizons On-Line Ephemeris System
4800 Oak Grove Drive, Jet Propulsion Laboratory - Pasadena, CA 91109 USA
Information : https://ssd.jpl.nasa.gov/
Documentation: https://ssd.jpl.nasa.gov/?horizons_doc
Connect : https://ssd.jpl.nasa.gov/?horizons (browser)
telnet ssd.jpl.nasa.gov 6775 (command-line)
e-mail command interface available - Script and CGI interfaces available
Author : Jon.D.Giorgini@jpl.nasa.gov

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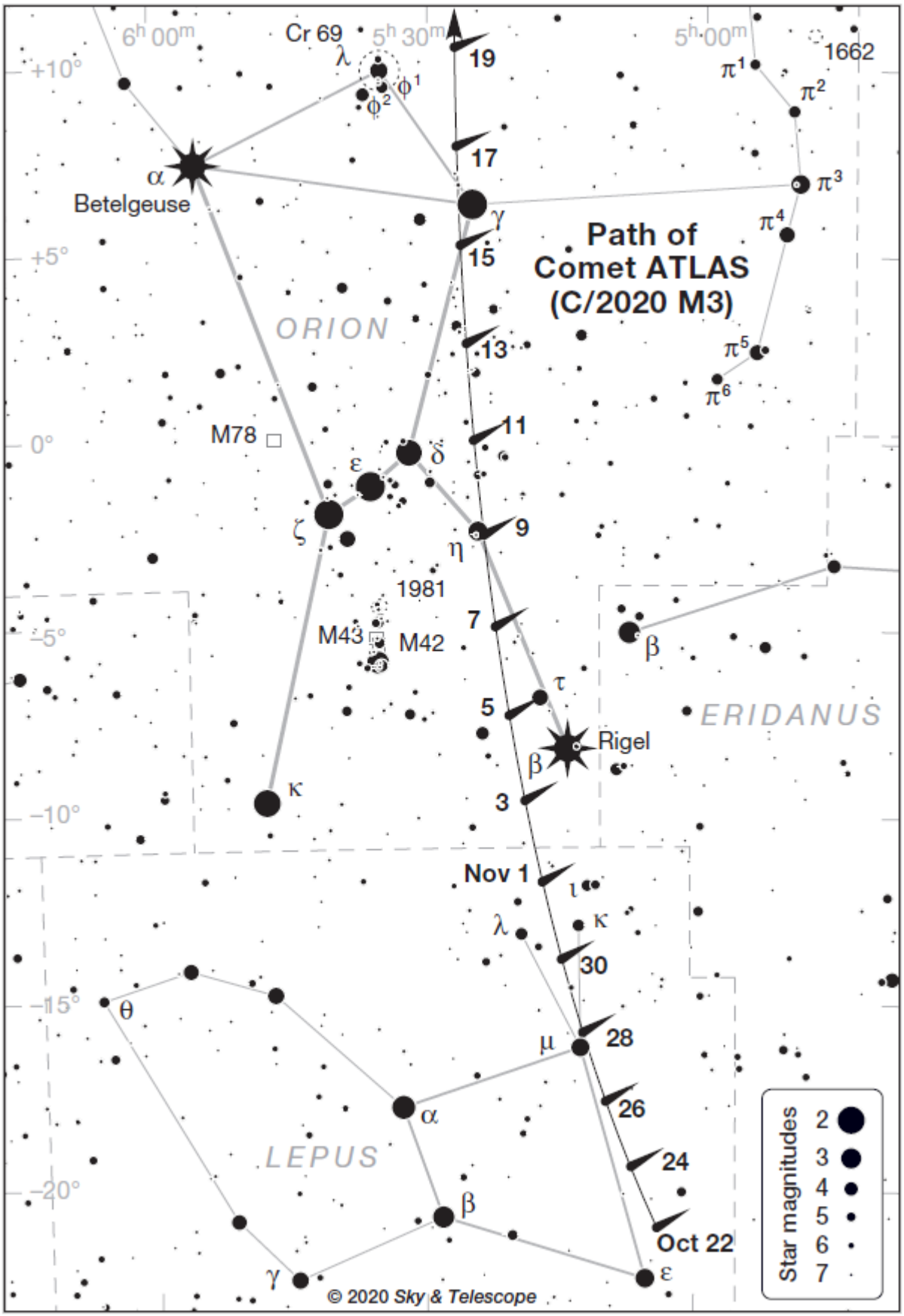

Nel mese di novembre 2020 la cometa ATLAS (C/2020 M3) sale costantemente verso nord dalla costellazione della Lepre ad Orione, raggiungendo l'ottava magnitudine; le posizioni sono mostrate per 0h UTC (da *Sky & Telescope*).

https://skyandtelescope.org/astronomy-blogs/explore-night-bob-king/comets-crawl-through-the-skies-at-dawn-and-dusk/