PLANETARY OCCULTATIONS IN 2026

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As major, dwarf, and minor planets, and their moons, move across the sky, they occasionally pass directly between an observer and a distant star, producing an *occultation*. Astronomers have learned much about solar system bodies by carefully monitoring the changing apparent brightness of stars during the immersion and emersion phases of occultations. If the occulting body does not have an atmosphere, the occultation is virtually instantaneous; if there is an atmosphere, it causes the star's disappearance and reappearance to occur gradually. If a planet has rings or other debris in its environs, the extent and degree of transparency of this material can be precisely mapped. The rings of Uranus, the ring arcs of Neptune, and the atmosphere of Pluto were all discovered by occultation observations. If an occultation is observed at several distributed sites, the size and shape of the occulting body can be determined more accurately than by other Earth-based techniques.

Amateur astronomers can make important contributions to occultation observing campaigns. This is particularly true for minor planet occultations, for which the paths across Earth are often very narrow. Data from ESA's Gaia mission have improved the accuracy of path predictions considerably in recent years. By recording the times of the star's disappearance and reappearance as seen from several sites (i.e. by noting the edges of the minor planet's shadow as it sweeps across Earth), the object's profile can be directly determined.

When observing an occultation, it is important that an observer know his or her location to within 100m, but within 50m for occultations by small asteroids. Geographic longitude and latitude as well as the altitude of an observing site can be determined with a GPS receiver, from a high-quality topographic map, from Google Earth, or some map websites. To be useful, the times of immersion and emersion must be determined as accurately as possible—certainly to better than 0.5 s, preferably better than 0.2 s for the shorter events (those less than about 10 s in duration). Although visual timings can sometimes contribute, a recording that can be analyzed after the event is more accurate and is preferred. Attaching a low-light-level video camera to a telescope is a method for accurate timing, Those with imaging systems are encouraged to try these events, especially if they can record a rapid sequence of images. A good primer for video and CCD observation is at **https://occultations.org/documents/OccultationObservingPrimer.pdf**. The primer describes an inexpensive GPS flash timer that allows precise timing of a sequence of CCD images. Also available now is a cheaper "open" version of IOTA's video time inserter that allows observers to equip themselves at lower cost; for details, visit the IOTA store at **https://occultations.org/camera-and-kit-ordering-page/.** Some instead take a long (30-40s) exposure, turning off the telescope clock drive shortly before the predicted time and let the images trail. The occultation will appear as a break in the trail that can be measured to about a tenth of a second if the moment the exposure is started, is accurately timed; see **https://www.asteroidoccultation.com/observations/DriftScan/Index.htm**. **Astrid** is a new astro-camera designed by the RASC Calgary Centre's Mark Simpson, primarily to find (using plate solving), accurately time, and record asteroidal occultations, but it has other capabilities, including telescope control. It is especially suitable for pre-pointing telescopes for multi-station deployments. Details are at **https://occultations.org/astrid-details-and-ordering-page/.**

Occultation observations are coordinated in North America by the International Occultation Timing Association (IOTA) (**www.occultations.org**). IOTA member or not, IOTA wants to inform you, and others in your area, able to locate faint stars of prediction updates; you are encouraged to join our IOTAoccultations group.io list server. IOTA's free Occult Watcher software (see below) is best for finding events over or near your location. Otherwise, you can email the longitude and latitude (or location from the nearest town) of convenient observing sites, telescope size(s), and an indication of whether you are mobile, to IOTAdunham@yahoo.com. Individuals interested in joining IOTA should refer to OCCULTATIONS BY THE MOON, p. 162 in this Handbook, for membership information.

More information is in the *Solar System Photometry Handbook* (Willmann-Bell, Inc., 1983), *Sky & Telescope*, and papers in IOTA's *Journal of Occultation Astronomy (JOA), Icarus, Minor Planet Bulletin,* and other journals.

Observations of occultations by major and minor planets, *including* negative observations, should be sent to reports@asteroidoccultation.com for analysis, archiving, and publication by IOTA. When reporting timings, give your geographic longitude, latitude, and altitude (to the nearest arcsecond and 30 m, respectively), telescope size, timing method, the start and end time of observation, an estimate of the observer's reaction time (if applicable) and the accuracy of the timing, and whether the reaction time correction has been applied. IOTA's main Web site at www.occultations.org, especially the Observing tab, has comprehensive up-to-date information on observing and reporting occultations. The Publications tab includes links to IOTA's free *Journal of Occultation Astronomy (JOA).* In this section, stars are identified by numbers from either the Smithsonian Astrophysical Observatory (SAO) catalog, the Hipparcos (HIP) catalog, the Tycho (TYC) catalogue; the Positions and Proper Motions (PPM) catalog, or the fourth U. S. Naval Observatory CCD Astrographic (UCAC4) catalogue.

Planetary Occultations

Occultations by the major planets are difficult to observe due to the brightness of the occulting body; events involving stars bright enough to observe next to a dazzling planet are rare. In 2026, the brightest star occulted by a major planet anywhere in the world is 6.0-mag. 2 Librae = ZC 2060 = SAO 158528 = HIP 70336 by Mercury on November 19th at 11:46 UT, visible only from a narrow area of central Mexico, and eastern Texas to western Tennessee. Mercury at mag. -0.5 is much brighter than the star, so high magnification with a large telescope will be needed to see it; only the dark-side reappearance might be seen. Mercury will be 7″ across and 55% sunlit, so the greatest distance of Mercury' dark edge will be only 3.2″ from its terminator. Since Mercury will be only 20° from the Sun, it will be a very difficult observation; the best hope is to use a GoTo telescope to find the planet shortly after it rises, before the twilight becomes too strong; the sky will need to be very clear with good seeing. The star and Sun altitude trade-offs can be found for many N. American cities at

https://occultations.org/publications/rasc/2026/nam26MBoccs.htm. The occultation will last just over 3 minutes at most, but will be shorter towards the n. limit in Tenn. The next brightest events will be occultations of the 7th-mag. components (about 0.6″ apart) of ZC 1901 = SAO 157815 = HIP 64638, spec. type G0, by Venus on Aug. 30, both visible only from s.w. Australia and Antarctica. Venus' 40% sunlit disk will be 30″ in diameter.

Easier to observe are occultations by moons of the planets, but they are not common. There are several occultations by the small Martian moons, with the brightest being an occultation of 10.3-mag. XZ 94473 = TYC 1894-00537-1 = UCAC4 568-034523 by Phobos on Aug2st 30 around 8:52 UT an a path from central Baja to Cape May, NJ. Since the star will only be 3″ east of 1.3-mag. Mars' east edge (Mars will subtend 5″), good seeing conditions and high magnification with a sizable scope will be needed to observe the event. This and 23 other Martian moon events with stars brighter than mag. 14.0 and occultation mag. drops greater than 0.6 are shown in a map and table on the 2026 N. American Web page given below. More valuable are occultations by the smaller moons of the outer planets, the brightest being an occultation of a 10.7-mag. star by Leda, the 13th moon of Jupiter. The nominal path is over southern Mexico, but with the 1-sigma uncertainty, an event is possible as far north as Idaho and Louisiana, giving a very small chance for an object only 22 km across. Sometimes, special astrometric campaigns improve the predictions for these events a few weeks in advance. More common are occultations by the Galilean satellites, but they are so bright that the occulted stars are rarely bright enough to detect their occultations. On rare occasions, recordings are possible when the moon is in eclipse by Jupiter during the occultation. More on occultations by planets and their moons in 2026 can be found at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm**.

Maps of Asteroidal Occultations

Below is a map of the brightest occultations by main-belt asteroids larger than 8 km of stars to magnitude 8.5 with good astrometric data that allows good path predictions. After it is a table giving event details. The predictions were generated by Edwin Goffin, Scott Donnell, Steve Preston, and David Herald. Preston assisted Dunham in the selection for the map and table. The maps were produced with IOTA's free *Occult* software; see **http://www.lunar-occultations.com/iota/occult4.htm**. The orbital elements are from the NASA JPL Horizons Web site at **https://ssd.jpl.nasa.gov/horizons.cgi** and the stellar data are from the third release (DR3) of the European Space Agency's Gaia mission, as implemented with UCAC4, Tycho, and Hipparcos catalog identifiers with *Occult*.

FIGURE 1-2026 OCCULTATIONS OF BRIGHT STARS BY MAIN-BELT ASTEROIDS
[Insert here, the map, nam26MBoccsMap.tif]

TABLE 1-2026 OCCULTATIONS OF RIGHT STARS BY MAIN-BELT ASTEROIDS
[insert here, a table generated from nam26MB-SPtoMag8p5.xlsx]

The successive columns in the table list: (1) the date and central Universal Time of the event (the time at other locations along the path can be a few minutes different); (2) the number and name of the occulting asteroid; (3) the catalogue and number of the occulted star; (4) the star's apparent visual magnitude; (5) the star's J2000 right ascension and (6) declination; (7) the expected magnitude change (ΔMag.) from the combined brightness; (8) the predicted maximum duration of the occultation in seconds; and (9) the path location specified by the lands crossed by the ends of the path shown on the map. The two-letter abbreviations for the US States and Canadian Provinces are given, with the order indicating the direction of motion of the shadow. "Baja" is Baja California, either Norte or Sur, while "Mex" denotes the rest of Mexico. LI is Long Island (NY), BS is Bahamas, CU is Cuba, and "Nic" is Nicaragua (not on map). The motion is very slow for the events on **Feb. 10 and 18,** so the UT is given at 2 or 3 places along their paths. One star has a Flamsteed number. **[while no stars in our list are given there with ZC#, so remove this sentence]** are specified by their numbers in Robertson's Zodiacal Catalog (ZC). Due to uncertainties mainly in the ephemerides of the minor planets from which these predictions are derived (most star positions are now accurately determined from the European Space Agency's Gaia mission), the region of visibility of an occultation is uncertain, but now by only a few tenths of a path-width for most of these events. Errors remain, so those near but outside the paths should try to observe. It's also useful, especially for the brighter stars that produce high signal-to-noise recordings, to observe even if you are located up to about 10 path-widths from the predicted path, to check for the possibility of an occultation by a previously-unknown satellite of the asteroid.

We can only portray the brightest events here. Our searches have found many other occultations, including many thousands visible from North America of stars brighter than 14th mag., with details available via Occult Watcher (OW), described more below. With improvements resulting from ESA's Gaia mission, we can now predict occultations by many thousands of small asteroids that we could not predict well enough previously. The maps and tables of the brighter events shown above are available at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm.** Also available via OW and Occult will be occultations of some stars even brighter than 6th mag. by asteroids smaller than those we considered for our map above; some of them will be posted on the Web page.

The first occultation on our list, of 88 Piscium (= HIP 5824 = ZC 184 = SAO 109753) on Jan. 7, is also the brightest, crossing no land over the southeast corner of our map. However, it crosses the Colombian island of Providencia, a popular winter resort area in the western Caribbean, and there's a small chance for an occultation from some islands near Puerto Rico and the Virgin Islands Although the Gaia mag. of PPM 174499 occulted by (19898) on Aug. 16 is 7.2, other catalogs (PPM, Tycho, and AAVSO APASS) say it's 10th mag.; it's not a known variable, but we plan to post more about it before the event, to give an estimate based on current observations. SAO 139559 occulted on May 10 is also HIP 67355 or ZC 1978. SAO numbers are given for many stars in our list since those are long-standing and often used by telescope control systems, but HIP and TYC numbers are usually used by Occult, OW, and in IOTA observation reports. These other useful designations are given in a table on our Web page above.

Steve Preston's asteroidal occultation website: **www.asteroidoccultation.com** gives access to many more events, but will no longer be updated biweekly as before 2024. The best updates, including interactive path maps and finder charts, will be available only from Occult Watcher (OW) and OW Cloud (see below). The best way to use those is given at **https://occultations.org/observing/software/ow/**. Occult Watcher is highly recommended as it will list all of the asteroidal occultations, filtered to a magnitude limit that you specify, visible from your site or region during the next two months; it is a free download from **http://www.hristopavlov.net/OccultWatcher/publish.htm**. Since OW, and its companion OW Cloud, works from an interactive Web site, IOTA uses it to coordinate minor planet occultation observation plans. It is a valuable tool that all serious observers of these events should use. You don't need the software to find OW maps, star charts, and event details for individual events by using **https://cloud.occultwatcher.net/events** for past events, and those for the next 60 days.

Now that the prediction accuracy is improved for most asteroids, thanks to the Gaia mission, we give maps and tables in the next subsections for selected fainter but more scientifically valuable occultations observable by many amateurs.

Occultations by Near-Earth Asteroids

Occultations by Near-Earth Asteroids (NEAs) is an exciting endeavor that contributes to planetary defense by refining the orbits of these small but possibly dangerous objects. IOTA's first success with NEA events was with (3200) Phaethon in 2019, but more spectacularly with (99942) Apophis in 2021. The occultation data were accurate enough to determine small Yarkovsky non-gravitational accelerations for the orbits of both objects, information crucial for quantifying the future threats by these potentially hazardous asteroids (PHA's). Much information about the occultations, their value, how they helped retire the threat of Apophis for at least a century, and updated information about other important NEAs, is in papers (see especially IOTA's presentation at the top of the page) given at the 2023 Asteroids, Comets, and Meteors Conference that you can obtain at **https://occultations.org/publications/rasc/2023/ACM2023.htm**.

A good example of a well-observed PHA occultation occurred the early morning of 2025 June 22 when 4-km (16960) 1998 QS52 occulted 9.9-mag. UCAC4 425-114048 = PPM 203111 in Aquila in a path across the southern USA. This is one of the larger PHA's whose impact would result in worldwide devastation, although there's no risk of that in the next 1000 years. However, the longer-term risk is unknown. For this event, David and Joan Dunham used Astrid cameras to pre-point three telescopes with apertures 12cm to 25cm, to the occultation's local altitude and azimuth with auto-recording around the predicted time at unattended sites spread across the predicted path and its possible error range, in the southern suburbs of Tucson, AZ. They also recorded at a 4th attended site with a ZWO CCD camera with a GPS flash timer on a 20cm scope. They were joined by three others who recorded the event at other locations across the path, coordinated with Occult Watcher, to obtain four positive chords across 1998 QS52 and constraining miss chords to the north and south. The chords are shown on the sky-plane plot at the asteroid in Figure 2 which shows that the actual event occurred 0.22s early but with the path center only about 0.3 km south of the prediction. The maximum observed duration was 0.17s, less than the 0.22s predicted, so 1998 QS52's diameter was about 3.5 km rather than the predicted 4.3 km. This gave a precise astrometric point that will improve the PHA's orbit, but one or two more occultations can measure any non-gravitational forces that will allow an even longer gauging of 1998 QS52's risk. Similarly, in recent years, IOTA observers have recorded occultations by the relatively large NEA's (1866) Sisyphus and the PHA (2102) Tantalus. More observations are also sought for these objects.

FIGURE 2-Sky Plane Plot of 2025 June 22 Observations of Occultation by (16960) 1998 QS52
[insert here, Chords20250622NC2.jpg]
Credit: Norm Carlson for IOTA

There are several opportunities in 2026 shown on the map and table below, similar to those described for bright main-belt occultations in the previous subsection. Since NEA occultations are so short, their expected durations are given to 0.01s. Since the paths for NEA events are all very narrow, one must travel to them with mobile equipment to observe them, rather like grazing occultations of stars by the Moon. And like lunar grazes, it is necessary to adjust the location for elevation above sea level, done now with IOTA's free Occult program and also with Occult Watcher.

FIGURE 3-2026 OCCULTATIONS BY NEAR-EARTH ASTEROIDS
[insert here, nam26NEAoccsMap.tif]

TABLE 2-2026 OCCULTATIONS BY NEAR-EARTH ASTEROIDS
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The map shows the paths of occultations of stars to magnitude 12.5 by our selected NEA's. When an NEA occultation is first observed, it generally must be done by a large team of observers to cover the relatively large uncertainty zone. But after one occultation is observed, that data can refine the orbit to allow more accurate predictions of future events that can then be covered by only a few observers. More about the 2026 NEA occultations, including campaign plans, will be available at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm.**

We are focusing our efforts on spacecraft mission targets, and on a list of 20 NEAs 1 km or larger whose current orbit uncertainties are large enough that an impact with Earth is possible (but with low probability) during the period from 100 to 1000 years from now. This list of the most hazardous NEAs can be found at

https://occultations.org/publications/rasc/2023/2312PHAsNext1000years.pdf. During 2026, occultations by three of these objects will occur in North America: (4183) Cuno, (29075) 1950 DA, and (90075) 2002 VU94. The Gaia magnitude of the star (known also as HD 315110) occulted on May 31 is 8.3, the brightest in our list, but other catalogs, including AAVSO's APASS, say it's 10th mag.; we will post an update based on observations during April. SAO 55996 occulted on Nov. 3 is an equal double only 1.3″ apart; the path for the occultation of the southern component is shown on our map. The 9.8-mag. northern component will be occulted in a path 1300 km to the south, not on our map passing over Guatemala, Belize, and eastern Cuba. Since the two stars are too close to resolve with portable telescopes, the northern star will remain visible while the southern one is occulted. Hence, the apparent mag. drop will be 0.7, rather than the 10 magnitudes that would occur if the star were single. The star occulted on Dec. 23 is SAO 144850, spectral type F5. (3200) Phaethon is the source of the Geminids meteors and is a target of Japan's DESTINY+ spacecraft. Information about other occulting NEAs is given in our Web page at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm.**

The Asteroid Collaborative Research via Occultation Systematic Survey **(ACROSS)** project home page is at **https://lagrange.oca.eu/fr/home-across**, and predictions are at **https://lagrange.oca.eu/fr/prediction** . The effort is funded by the European Space Agency (ESA) and is focused on Didymos and other Hera mission NEA possibilities.

Occultations by Special Main-Belt Asteroids

In 2021, observers in Australia discovered a large satellite of the 24km asteroid (4377) Arecibo, and three weeks later, confirmed it with another occultation recorded by other observers in California, as described in a diagram and text at the bottom of p. 249 of the 2022 edition of the *Observer's Handbook*. In 2024, astronomers at the Jet Propulsion Laboratory used Gaia observations to greatly improve the orbits of over 100,000 of the smaller asteroids, allowing us to predict their occultation paths much better than was possible previously. Starting that year, occultation observers around the world began finding more satellites of these smaller asteroids; such discoveries are now being made about twice each month, and we are trying to obtain confirming occultation observations of these new moons. Consequently, the number of special asteroids we want to consider has skyrocketed; we invite you to join our moon discovery and confirmation efforts.

The map, and the corresponding table, like those of the previous subsections, shows the paths for the best occultations of our selected group of Main-Belt asteroids that will be occulted in 2026 in North America. More about these events will be available at **https://occultations.org/publications/rasc/2026/nam26MBspecialoccs.htm.** The Web site lists 133 asteroids that we consider special. They are mainly in five groups: Targets of spacecraft missions (planned and past); asteroids proven or suspected of having moons from past occultations; the better asteroids that may have moons based on Gaia observations (the Gaiamoons program, described in a 2024 Earth and Planetary Astrophysics paper at **https://doi.org/10.48550/arXiv.2406.07195**); asteroids that likely have satellites from light-curve observations; and several others with unusual occultation shapes or other unique characteristics.

FIGURE 4-2026 OCCULTATIONS BY SPECIAL MAIN-BELT ASTEROIDS
[Insert here, the image file nam26MBmostSpecialMap.tif]

TABLE 3-2026 OCCULTATIONS BY SPECIAL MAIN-BELT ASTEROIDS
[insert here, a table generated from nam26MBmostSpecialTable.xlsx]

With this larger selection than in the past, over 43,000 occultations by our 133 objects were found worldwide of stars to mag. 16 during 2026. We encourage observers to try any of these events visible from, or within 10-20 km, their home, to catch an occultation by a known or possible moon of the asteroid that could occur some distance from the predicted path. Many of these special asteroids have better odds for catching an occultation by a close moon, or have shapes that need to be refined due to suspected binary nature, or they are targets for upcoming space missions. We have formed a smaller group of 57 of them, calling them "most" special, since observations of occultations by them are more likely to confirm moons or obtain other important information about their size and shape. We encourage those with mobile equipment to travel to the paths that pass close-enough, so these objects are emphasized on our Web page about them. Our map and table of twelve occultations are limited to these objects occulting stars brighter than mag. 11.5.

Worldwide, there are 10,661 events by these "most" special objects to mag. 16, and 204 of them involving stars of mag. 14.0 and brighter will occur in or near North America, providing many more opportunities than we can show here. Our Web page describes how you can compute local predictions, or you can get them using Occult Watcher for events during the next 60 days. We list a few of the most special objects below; the names of those with paths on our map are underlined. Information about why all 133 of our objects are special is given on our Web page about them.

(16) Psyche: The largest M-class (metallic) asteroid and target of a NASA mission now enroute to Psyche. We recommend concentrating efforts on stars brighter than Psyche, where more stations can be deployed with small telescopes. Psyche's shape is well-known from VLT observations and 3 past occultations that had 10 or more well-spaced chords; similar dense observations are needed to improve our knowledge of Psyche, not more single-chord observations of faint stars.
(319) Leona: We want to improve knowledge of the size and shape of this object, to better analyze observations of the 2023 Dec. 12th occultation of Betelgeuse by Leona.
(216) Kleopatra: This is the "Dog-bone" asteroid, the 2nd-largest M-class (metallic) asteroid, and has two small moons.

Separate predictions are given for the paths of the larger one, **Alexhelios**
(269) Justitia: This very red object may have originated in the Kuiper belt. It is a target of the UAE's Main Belt asteroids mission planned to launch in 2028 and will orbit Justitia and land on it in 2034.
(885) Ulrike: Possible contact binary from a 2020Jul12 European occultation.
(61784) 2000 QL178: is 5km across with a 2km moon 5km away, from a 2024Apr29 occultation by N. Carlson in Arizona.
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The star occulted by Ulrike on July 22 is also known as SAO 109850, spectral type G0. The star occulted by 2000 QL178 on Oct. 29 is also known as SAO 93008, spectral type K5. The European Section of IOTA has their own priority list of "neglected asteroids", especially 46 slow rotators that may have slowed down due to interaction with a satellite; see **https://www.iota-es.de/neglected_asteroids.html** .

Occultations by Trojan Asteroids

The Trojan asteroids formed, or were captured into, stable orbits about Jupiter's L4 and L5 triangular libration points. We know less about the Trojans than the main-belt objects due to their greater distance. NASA is sending its Lucy spacecraft to fly by five of them, from 2027 to 2033. To add context, RECON (see **https://tnorecon.net/)** has a campaign to observe Trojan occultations. The European Lucky Star Project and IOTA are collaborating, and you are invited to help. We have added dozens of the "RECON' Trojans so now we are following 108 of these objects, finding in 2026, 3488 occultations by them worldwide to mag. 16 with solar elongation >15° and 382 in North America, with 98 of them involving stars brighter than mag. 14. A map and table of the 15 best possibilities for 2026 in North America, mainly for stars brighter than magnitude 12.6, are presented below, similar to those for other asteroids given in previous sections. More information, about Trojan occultations, including a list of all 108 of our considered objects, is at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm**,

FIGURE 4-2026 OCCULTATIONS BY TROJAN ASTEROIDS
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TABLE 4-2026 OCCULTATIONS BY TROJAN ASTEROIDS
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A good article about past occultation campaigns for Lucy mission objects by the Southwest Research Institute is on pages 34-40 of the 2023 September issue of *Sky and Telescope*. Predictions by many Trojan asteroids can also be found at the RECON link above and at the Lucky Star occultations prediction Web site at: **https://lesia.obspm.fr/lucky-star/predictions.php.** Notes about a few of the Trojan asteroids are below; the names of the ones on our map are underlined..
(617) Patroclus is paired with Menoetius orbiting ~690 km away; the duo is the Lucy spacecraft's prime target. On Nov. 15, the paths overlap, with the Menoetius event occurring ½ minute after Patroclus. Better paths from the Southwest Research Inst. will be posted a few months before.
(4709) Ennomos: The path for the Nov. 28th event crosses our map's southeast corner, but to the south, it crosses Puerto Rico. There may be an Ennomos family of Trojan asteroids.
(9142) Rhesus: The star (= SAO 112407, spectral type A0) occulted Dec. 3 is the brightest in our list,
1143 Odysseus has very slow motion so we've added event UT's along the path.
(17365) Thymbraeus is a 45km contact binary Trojan. Not shown, on Dec. 6 at 1:34 UT, Thymbraeus will occult a 13.5-mag. star from NC to Louisiana and Mexico. Another one on Oct. 31 around 7:24 UT involves a 14.0-mag. star with path from w. Ontario to central Calif. with duration 5s.

Occultations by Distant Objects

Of special interest are occultations by distant trans-Neptunian objects (TNO's) and Centaurs, many of which have moons and some have rings. We don't have room to discuss them here, but you can find information about their 2026 occultations at **https://occultations.org/publications/rasc/2026/nam26MBoccs.htm** and at the Lucky Star site at **lesia.obspm.fr/lucky-star/predictions.php.** On 2025 Jan. 30, we obtained the first recordings of an occultation of the 2434-year-period TNO (468861) 2013 LU28, as described in an article with an elliptical sky-plane fit on p. 6 of the 2025 March issue of *Stardust*, publication of the National Capital Astronomers in Washington, DC, obtainable at their archive page at **https://capitalastronomers.org/StarDust_Archive.html**.