# What's Up, Doc? †

Dr. Aaron B. Clevenson, Director, Insperity Observatory in Humble ISD

This document tells you what objects are visible this next month for many of the Astronomical League Clubs. If you are working on one of the more advanced clubs, then I assume that you are tracking where your objects are all the time. I have concentrated on the common and starter level clubs. This information is based on 9 PM PT for Seattle WA (PDT).

## **Naked-Eve Clubs**

**Meteors** – any night, any time, anywhere, the darker the sky the better.

Shower	<b>Duration</b>	<u>Maximum</u>	<b>Type</b>
June Lyrids	6/10 to $6/21$	6/15 & 6/16	Moderate
June Aquilids	6/2 to 7/2	6/16 & 6/17	minor
June Bootids	6/22 to 7/2	6/27	minor
Corvids	6/25 to 7/3	6/27 & 6/28	minor
Tau Herculids	5/19 to 6/19	6/9 & 6/10	minor
Ophiuchids	5/19 to 7/2	6/20 & 6/21	minor
Theta Ophiuchids	5/21 to 6/16	6/10 & 6/11	minor
Sagittarids	6/10 to 6/16	6/10 & 6/11	minor
Phi Sagittarids	6/1 to 7/15	6/18 & 6/19	minor
Chi Scorpiids	5/6 to 7/2	5/28 & 6/5	minor
Omega Scorpiids	5/19 to 7/11	6/3 to 6/6	minor
June Scutids	6/2 to 7/29	6/27 & 6/28	minor
Arietids	4/14 to 6/24	6/7	DAYLIGHT
Zeta Perseids	5/20 to 7/5	6/13 & 6/24	DAYLIGHT
Veta Taurids	6/5 to 7/18	6/29 & 6/30	DAYLIGHT

Constellations, Northern Skies – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Lynx, Canis Minor, Cancer, Hydra, Antlia.

Transit Ursa Major, Canes Venatici, Coma Berenices, Virgo, Corvus.

New arrivals: Draco, Lyra, Hercules, Ophiuchus, Serpens, :upus.

## **Binocular Clubs**

**Binocular Messier** – Monthly highlights include:

Easy – 3, 4, 5, 10, 12, 13, 44, 67, 92.

Medium – 15, 19, 40, 49, 53, 63, 64, 80, 81, 82, 83, 94.

Hard – 9, 51, 56, 65, 66, 68, 97, 101, 104, 106.

Big Binoculars – 58, 59, 60, 61, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 107, 108, 109.

**Deep Sky Binocular** – Monthly highlights include (by Astronomical League numbers):

5, 34, 38, 42, 43, 45, 46, 47, 50, 56.

### Other Clubs

## Messier

In addition to those listed under Binocular Messier, check out: 57, 91, 98.

#### Caldwell

1, 2, 3, 4, 5, 6, 7, 12, 15, 21, 25, 26, 29, 32, 35, 36, 38, 39, 40, 45, 48, 52, 53, 59, 60, 61, 66, 77, 80, 83.

## **Double Star** (by Astronomical League numbers):

1, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 22, 23, 25, 26, 29, 31, 32, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 48, 50, 51, 52, 54, 56, 57, 58, 59, 65, 66, 67, 68, 69, 70, 71, 74, 86, 87, 91, 92, 93, 94, 96, 100.

## Other Clubs (of the Solar System)

**Solar System** – These are the tasks that can be done this month:

Sunset is 2109 mid-month. The Sun is in Taurus. Any clear day is a good time to see sunspots.

Venus, Saturn, Uranus, Neptune, and Pluto will not be visible during the evening hours.

Moon:

The Maria requirement can be done any time the moon is visible. Look before 6/18 and after 6/2 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 6/1 or 6/2.

The Scarps requirement is best done on 6/3.

Occultations occur all the time, the bright ones can be found on the internet. Objects disappear on the East side of the moon.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid. See above to identify the bright ones this month.

Mercury is in Taurus and set at 2131 mid-month.

Mars is in Cancer Leo and is up all evening mid-month.

Ceres is in Pegasus and rises at 2232 mid-month.

Jupiter is in Taurus and sets at 2128 mid-month.

#### Lunar

Key timings are indicated below:

New, 6/25 4 days, 6/29 7 days, 6/2 10 days, 6/5 14 days, 6/9

Old moon in new moon's arms – before 0331 on 6/9, ~10 % illuminated. (72 hr > New)

New moon in old moon's arms – after 0331 on 6/3, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before 0331 on 6/8,  $\sim 4\%$  illuminated. (40 hr > New)

Waning Crescent – after 0331 on 6/4, ~4 % illuminated. (48 hr < New)

# **Major Events in June:**

- 6/1 Venus at Dichotomy
- 6/7 Lunar Apogee
- 6/10 Daytime Arietid Meteor Shower
- 6/21 June Solstice
- 6/22 Lunar Perigee
- 6/24 Jupiter at Solar Conjunction
- 6/27 Mercury at Highest Morning Altitude
- 6/27 June Bootid Meteor Shower
- 6/28 Mercury at Dichotomy
- 6/29 Moon/Mars Conjunction (12')
- 6/29 Saturn/Neptune Conjunction (59')
- \* Although these clubs are not detailed in this "What's Up Doc?" handout, you can get information on many of their objects by using the "What's Up Tonight, Doc?" spreadsheet (version 4.1). To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to aaron@clevenson.org. It is also available on the club website.
- † "What's Up Doc?" is used with permission from Warner Bros. Entertainment Inc.

Observing Programs with the astronomical League: https://www.astroleague.org/al/obsclubs/AlphabeticObservingClubs.html

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Insperity Observatory, 2505 S. Houston Avenue, Humble, TX: www.humbleisd.net/observatory