Planets at dusk: Venus, near mag. -4, is in WSW to SW at dusk and sets 1½ to 1¾ hours after sunset. Venus overtakes Jupiter Sept. 1 and Spica Sept. 5. On evening of Sept. 6. Moon, Venus, Jupiter, and Spica all fit within a field 6° across. Through a telescope Venus' gibbous disk grows to 0.3 arcminute across at month's end, when it's 64 percent illuminated; watch for dramatic changes in coming months. Jupiter, of mag. -1.7, appears just 1.2° to Venus' upper right on Sept. 1. By Sept. 4, Jupiter is 3.3° to Venus' right, and by Sept. 11, 10° to Venus' lower right. Thereafter gap widens by nearly 1° per day as Jupiter sinks deep into twilight glow. Follow changing configuration of Venus-Jupiter-Spica using calendar diagrams, which track Spica until Sept. 20 and Jupiter until Sept. 27. On latter date Jupiter passes 3.1° N of Spica, a pairing visible to unaided eye from Hawaii and in binoculars from southern parts of FL and TX. Northerners will have to wait until Sept. 11, 2017 to observe Jupiter-Spica in conjunction.

Rising after nightfall: Mars rises in ENE within 3 hours after sunset on Sept. 1, backing to just over 2 hours after sunset by Sept. 30.

Planets at dawn: Mars as twilight brightens is found high in SSW to WSW, while nearly doubling in brightness from mag. -1.0 to -1.7. Mars' eastward motion slows, but not before it crosses from Aries into Taurus: see Oct. 1. At midmonth the Martian disk is 16 arcseconds across, 90 percent illuminated, with the South Pole and greatly shrunken summer polar cap tipped 11° toward Earth. Saturn, ascending eastern sky, is predicted to be of mag. +0.4 in late September, its faintest of the year. Procyon, a comparison star of the same magnitude, is handy nearby. In Cancer, Saturn passes about a degree S of the Beehive cluster around midmonth (see text box for Sept. 12-16) and ½ degree N of 4th-mag. star Delta on Sept. 29, when rings are 18° from edge-on. Mercury is visible very low N of E first few days as it brightens but sinks deeply into bright morning twilight; see Sept. 1-5.

Moon near planets (see calendar): Mornings of Sept. 1 & 2, evenings of Sept. 5-7, night of Sept. 21-22, and mornings of Sept. 27 & 28.

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SKY CALENDAR SEPTEMBER 2005

Skywatcher's Diary on World Wide Web: An aid to enjoying the changing sky http://www.pa.msu.edu/abrams/diary.html **MONDAY SUNDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY** Thurs Sept 1 Thurs Sept 1, Fri Sept 2. Friday Sept 2, one hour Sat Sept 3, Sat Sept 3 Sat Sept 3. one hour one hour after sunset after sunset: Jupiter 1.7° UR, 1¼ hours before sunrise one hour after sunset New Moon Saturn Planets appear closest as before Spica 4.4° left, of Venus. Saturn * ⁷ 2:45 p.m. EDT. Ve passes 1.2° S of Ju. Ve-Ju-Sp fit within 6° field sunrise ∴ Pleiades Sept 2-6. One hour Early evening: before U Moon Venus passes between sunrise Venus Venus Jupiter and Spica. Mars in S Venus Old Moon Jupiter Spica Spica Three in straight line, Mercurv Spica Hyades 5.8° long; see next box. ENE wsw[†] ENE WSW **WSW** Mercury Aldebaran in SE Tues Sept 6, Wed Sept 7, Fri Sept 9. Sunday Sunday Sept 4, 25 minutes Mon Sept 5, Mon Sept 5, 30 min after One hour after sunset after sunset, 45 min before sunrise 45 min after sunset 45 min after sunset Sept 4, Saturn * sunset Ve-Ju 4.2° apart. 45 min **Antares** 45 min S states Regulus now 1.8° UR Venus passes 1.7° N of Spectacular after sunset Venus Sat of Mercury. Each day, before Spica, which appears as gathering of four Ve-Ju Regulus Sept \star Jupiter Regulus gets nearly 1 bodies within 6°. sky darkens. 8° apart. sunrise within 10 higher, while Mercury Moon)) Fri 1.2° S (LR) Venus gets nearly 1° lower Spica of Mercury; Venus Venus and soon disappears. Moon covers Antares Ve **Jupiter** binoculars. Moon Young Jupiter Sat afternoon from Spica Mercury Moon Spica-SE U.S., while Spica WSW • Sp Moon is rising. Regulus WSW WSW WSW WSW SSW SW Me ★ • Re Moon ENE Sunday Sept 11, Sunday Sept 12-16, 1½ hours Wed Sept 14, Fri Sept 16, Sat Sept 17 45 min after sunset 45 minutes 45 min after sunset Sept 11 before sunrise: Saturn, Mercury at superior conjunction. Sunday Sept 11 Ve-Ju 10° apart; after sunset: This month's southernmost creeping east 0.1° Monday 12 Full Moon 10:01 p.m. EDT. Ve-Ju 15° apart. Ju-Sp 4.5° apart. Moon passes low in S per day, passes about 1° Moon in Spica still easy to S'most Moor This evening from 48 contiguous around sunset from N S of Beehive cluster. **TEAPOT** see from S states. states, Moon rises 5°-6° S of E, states, a few minutes Scorpion's Use binoculars, Saturn after sunset from S states. very near time of sunset or tail will pass this cluster Venus Venus 1½ hours Moon sets far S of W within a few minutes later. For after sunset again in early Feb and Jupiter 🗰 Ve (close to SW!) within next few nights from northern U.S., Spica Jupiter

WSW • Sp* SSW WSW later each night. Watch Moon rise from northern U.S. farther N each night through Sept. 24. Tues Sept 20, Sept 21-29, before dawn: Sept 21-23, 1½ hours before sunrise Thurs Sept 22: Equinox 6:23 p.m. EDT. Autumn begins. Wed Beta **45 minutes** Mars-Saturn 75° apart four hours \bigcirc 21 Jupiter 20° lower right of Venus at dusk. Sat 24 Pleiades after sunset (min dist). Mars will soon after sunset Sat Sept 24, Ve-Antares LIBRA Spica, 3.4° LL of begin retrograde and these Pleiades Fri 23 **Antares** 45 min after sunset Jupiter, is still two planets won't appear Mars apart. Thurs vis in S states. Ithis close again until end **○ Thurs 22** Alpha **22** of Jan 2006. On evening Remember to Alpha Lib Bull's of Sept 21, Mars rises watch for N'most Venus -N horn Fri 23 **Jupiter** ~2½ hours after sunset, noonrise tonight, Hyades Aldebaran 5° to Moon's lower right. 4 hours after sunset Jupiter 0 high in S • orthern U.S. **WSW** See next box. ENE SW **WSW** Mars `Aldebaran Hyades > Mon Tues Sept 27, 40 minutes after sunset

in early June 2006.

Castor

1½ hours

before

sunrise:

Face E.

Wed 28 **△**

Pollux •

26

◯ Tues 27

* Saturn

On Sunday Sept 25, around sunrise, Moon is unusually high in sky. This morning's Moon, just past Last Quarter, passes overhead about 15 min after sunrise in FL and south TX, near lat 28.6° N. Farther N in U.S., Moon passes S of overhead, but not by much! There'll be an unusually high Moon every 27 or 28 days for next two years, but time of day when Moon is highest backs through predawn and nighttime hours next 6 months. Each time, phase is earlier in lunar cycle. Examples: On night of Dec 15-16, Moon near Full is close to overhead around midnight. On March 7, 2006, Moon near First Quarter phase is close to overhead in evening twilight.

Look early **Antares** Beta for Ju 25° from Ve LIBRA **SCORPIUS** Stars appear **Jupiter** as sky darkens. **WSW**

1½ hours SICKLE Sat Sept 30, before Regulus 1½ hours sunrise: Wed 28 before Eastern sky. sunrise: ✓ Moon **◯** Thurs 29 Denebola (Lion's tail)

• Regulus

Moon rises less than half an hour

Use this scale to measure

angular distances between

objects on diagrams below.

Robert C. Victor, Patti Toivonen ISSN 0733-6314

4½ hours after sunset

Planetarium business office:

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SICKLE