

Dazzling Doubles, Bob King at S&T online, 28-July-2021

- **Eta (η) Cassiopeiae** (magnitudes 3.5, 7.4; separation 13.4" in PA 326°) — What colors! A tangerine primary and purple-rose companion. One of the best unequal-magnitude pairs. Although spectrally not a great distance apart — *F9* (primary) + *K7* (secondary) — the large magnitude difference between the stars and their close proximity exaggerates the stars' color differences, a condition called *simultaneous color contrast*. Real or imagined, you'll want to experience this.
- **Xi (ξ) Boötis** (4.8, 7.0; sep. 5.2"; PA 298°) — Another colorful pair though not quite as striking as Eta Cassiopeiae. The components are yellow and pale red (*G7+K5*), with a separation ranges from 2.5" to 7" during its 151.6-year mutual orbit.
- **Mu (μ) Boötis** (A=4.3, Ba=7.1 and Bb=7.6; sep. AB=109", Ba-Bb=2.3"; PA of AB=172°, Ba-Bb=3°) — The wide pair is a binocular double, but through the telescope the companion is a beautiful close pair, making this a triple system.

- **Σ 1962 Librae** (6.4, 6.5; sep. 11.7"; PA 189°) — Neat, equal pair like cats' eyes in your headlights.
- **Beta (β) Scorpii** (2.6, 4.5; sep. 13.4"; PA 20°) — Love at first sight. Beautiful, bright pair for low magnification. Some observers report yellow and blue, but they're near equals with *B1+B2*.
- **Nu (ν) Scorpii** (AB=4.4, 5.3; CD=6.6, 7.2; sep. AB=1.3", CD=2.4"; PA of AB= 1°; CD= 56°) — Spectacular quadruple star, the Double Double of the southern summer sky. A good test for a 4-inch.
- **Mu (μ) Draconis** (5.7, 5.7; sep. 2.7"; PA 358°) — Pleasingly close (almost cuddly), at medium and high magnifications. One of my favorites.
- **Alpha (α) Herculis** (3.5, 5.4; sep. 4.9"; PA 102°) — Radiant Rasalgethi is a red supergiant 475 times brighter than the Sun and makes for splendid contrast with its yellowish companion (*M5+G5*).
- **Nu (ν) Draconis** (4.9, 4.9; sep. 62.1"; PA 311°) — Beautifully matched pair that's perfect for binoculars!
- **95 Herculis** (4.9, 5.2; sep. 6.4"; PA 257°) — Inexplicably colorful. Nineteenth-century astronomer Admiral Smythe called them "apple-green" and "cherry-red." I see red and white. Given that their spectral classes are *A5+G8*, the pair is a sterling example of color contrast. A beautiful, low-magnification duo.
- **70 Ophiuchi** (4.2, 6.2; sep. 6.6"; PA 122°) — Two colorful *K*-type dwarfs with a separation that varies from 1.5" to 6.8" over a period of 88 years. They were closest in 1989 and will be farthest apart in 2024. If you're young put this star at the top of your list, as you might have the rare privilege of seeing the companion complete much of its orbit around the main star during your lifetime.

- **Beta (β) Cygni** 3.2, 4.7; sep. 34.6"; PA 54°) — Albireo never gets old. I see hues of gold and pale blue ($K_3+B_9.5$), but I've heard everything over the years: yellow, red, green, white . . . proving again how subjective color perception is. Spectacular field!
- **Gamma (γ) Delphini** (4.4, 5.0; sep. 8.9"; PA 265°) — Bright, colorful pair in the nose of the Dolphin comprising a cantaloupe primary and lemon-yellow secondary (K_1+F_7). Shares the low-power field with Σ 2725 (7.5, 8.2; sep. 6.2"; PA 12°), another attractive pair 14' to the southwest.
- **Xi (ξ) Cephei** (4.5, 6.4; sep. 8.1"; PA 274°) — My star party friends are always surprised that Cepheus hides such a bright and pretty pair of stellar gems. They both appear white to me though some observers report them as bluish ($A+F_7$).