



EQUIPMENT REVIEW

The Ethos offers an ultrawide field of view at high power. // BY STEPHEN JAMES O'MEARA

Tele Vue's new eyepiece field tested

When I first heard about Tele Vue Optics' 13mm Ethos eyepiece with its 100° apparent field of view, I didn't realize its significance or potential. Not until I placed the eyepiece in my 5-inch Tele Vue NP-127 f/5.2 refractor did I discover that, like Alice, I had gone through

the looking glass and entered a new world of visual wonder. And that's what I'd like to share with you: the awe and beauty of the Ethos experience. I found the view "as different as possible."

A celestial window

My observing experience began with the magnitude 5.6 globular cluster M4 in Scorpius. To find it, I used my 22mm Tele Vue Panoptic eyepiece, which gives a true field of view of 2.2° and a magnification of 30x in the Tele Vue NP-127.

Through the Panoptic, M4 was a softly glowing orb of starlight. A bright but fuzzy "scar" of stars slashed its face from north to

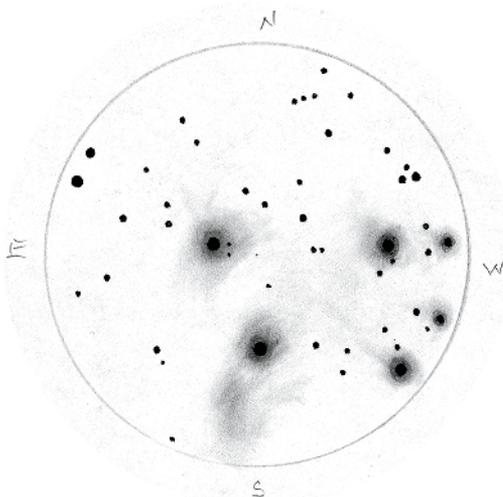
south. Orange Antares sat on the eastern edge of the field, while blue Sigma (σ) Scorpii shone equidistant to the northwest.

All these objects stood out against a backdrop of milky starlight, scrubbed in places by streaks of dim nebulosity. The view was worthy of an artist's brush.

When I switched over to the Ethos, I immediately became disoriented. Here was essentially the same field of view, 1.9°, but the eyepiece magnified M4 by nearly a factor of two! The cluster now appeared as a Moon-sized sphere of blazing starlight ribbed with crisp, dark lanes. The fuzzy central scar morphed into a sharply defined row of 10th- to 12th-magnitude stars set against a glittering sphere of fainter suns.

An outer halo of stars, not immediately noticeable through the 22mm Panoptic, formed a bold parabola with long parallel strands of matted starlight around M4's central sphere. The dark background enhanced the brightness not only of M4 but

WHILE THE OVERALL VIEW of the Pleiades appeared brighter through the author's 22mm Panoptic eyepiece, the Ethos removed the "blur factor" around 23 Tauri. It separated the streaked, gauzelike patch of nebulosity (the Merope Nebula) around that star from the bridal veil of material sweeping off to the south (NGC 1435). SKETCH BY STEPHEN JAMES O'MEARA



TELE VUE ETHOS EYEPIECE

Apparent field of view: 100°

Focal length: 13mm

Eye relief: 15mm

Barrel size: 2" and 1¼"

Weight: 1.2 lbs. (545g)

Accepts: Tele Vue DIOPTRX astigmatism corrector

Price: \$620

also of NGC 6144, which was now transformed into a distinct globe with irregular starlit edges and a slightly condensed core.

The "wow" factor of observing these objects magnified in a wide field of view is something all amateur astronomers who want to see "faint fuzzies" will appreciate. Beyond that, the Ethos is also a time-saver when it comes to hunting down and confirming deep-sky objects, especially those smaller than 10' wide.

Take, for instance, the 27"-wide Blinking Planetary (NGC 6826) in Cygnus. Through the 22mm eyepiece (30x) it appears virtually stellar. The Ethos' increased magnification, however, revealed the nebula as a small glowing disk.

Variable-star observers will find the Ethos helpful in their hunts for comparison stars lying just outside their traditional high-power fields of views. And comet-hunters will be able to cover large areas of sky at high magnification, which will enhance the visibility of dim comets.

Stephen James O'Meara is a contributing editor of Astronomy. Check out his "Secret sky" column each month.

TELE VUE'S ETHOS EYEPIECE features the widest apparent field of view of any eyepiece — 100°. It fits both 2" and 1¼" focusers.

ASTRONOMY: WILLIAM ZUBACK



dimensional, curved quality. Through the Ethos, it looks like you're orbiting high above the Moon's curved horizon. This effect is not immediately apparent at lower powers or with narrow fields of view.

"Look Ma, no drive!"

I do not have a motor-driven mount, so when I observe planets at high power I continually have to recenter the rapidly drifting target in the otherwise small field of view. The Ethos' wide field of view prolonged my observing experience.

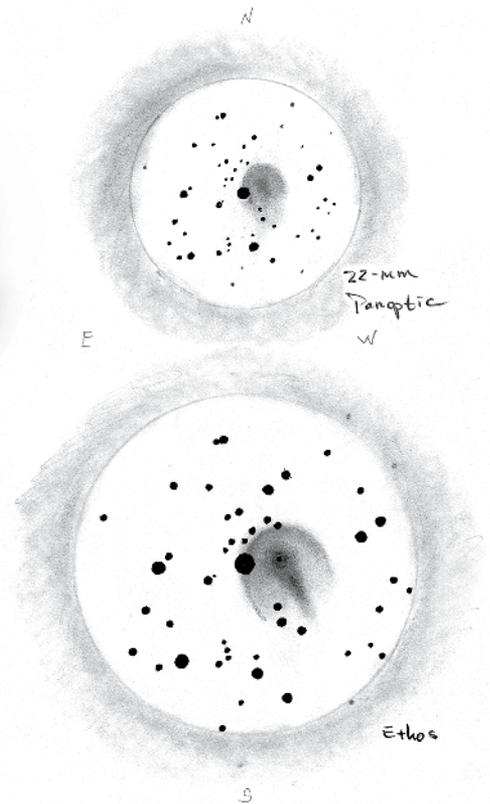
Last December, for instance, Mars reached opposition. Traditionally, magnifications between 150x and 250x reveal useful detail on the Red Planet through a 5-inch telescope. So I combined the Ethos with a 3x Barlow lens and comfortably observed Mars at 166x in a field of view bigger than the Full Moon.

Moon-lovers get an extra bonus because the Ethos brings out sharp details across the Moon's face. This gives the disk a three-

The one and only?

Should I throw away my other eyepieces? Absolutely not! Sometimes the planets and certain deep-sky objects require powers greater than 166x for study. On evenings of excellent seeing, I may push the magnification limit to 75x per inch of aperture. The usual upper limit is 50x per inch. In fact, some bright planetary nebulae can take as much as 100x per inch.

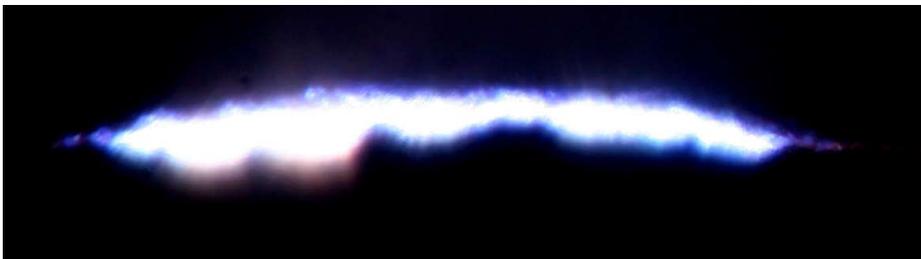
Finally, consider again my view of M4 and its field. While the Ethos delivered unparalleled views of the two globulars, the eyepiece had its limitations. For instance, the astounding Milky Way surrounding M4 through the 22mm Panoptics eyepiece has an inherent majesty that deteriorates at higher magnifications.



COMET 17P/HOLMES appeared larger than the Full Moon last November and December. The view through the author's 22mm eyepiece was nice, but he needed to change eyepieces to study the comet's inner structure. Through the Ethos, however, the comet's details were well-defined in a field of view 2½ times wider than the comet. SKETCHES BY STEPHEN JAMES O'MEARA

And, although the Ethos' performance is unprecedented on bright, highly detailed objects like the Orion Nebula (M42), the dim nebulosity frosting M4's field is not as easy to see through the Ethos as it is through the 22mm. That's because delicate sweeps of amorphous glows — like the vast nebula veiling the 2°-wide Pleiades star cluster (M45) — look best at low power, which concentrates the light.

What Tele Vue's Ethos eyepiece does, however, it does superbly. Its combination of high power and wide field will put your old friends in a new light and offer you endless possibilities to explore. ■



ONLY YOUR IMAGINATION limits the Ethos experience. One project the author has been working on is trying to capture the Sun's blue flash at sunset. He succeeded May 24, 2007. For this photograph, the author held his Canon 20D digital SLR with a 30mm lens up to the Ethos eyepiece just as the last segment of the Sun's disk began to set behind the slopes of Hawaii's Mauna Loa volcano. STEPHEN JAMES O'MEARA

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