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COMET P/2008 U1 (McMILLAN)

Robert S. McMillan, Lunar and Planetary Laboratory, University of Arizona, reports his discovery of a comet with a 15″ tail (spanning 20°) toward the west-southwest and a coma of diameter $\sim$ 5″ on CCD images taken with the Spacewatch 1.8-m $f/2.7$ reflector at Kitt Peak (discovery observation tabulated below). Four co-added 25-s unfiltered CCD images taken by A. R. Gibbs at the Mt. Lemmon 1.5-m reflector on Oct. 20.4 UT show a condensed coma of size 6″ × 8″, elongated in p.a. 250°, with an additional "fuzziness" of diameter 10″.

2008 UT	α_{2000}	δ_{2000}	Mag.
Oct. 19.19689	$2^h03^m22^s.46$	$+11^\circ44'54''.6$	18.9

The available astrometry (including prediscovery observations with the Spacewatch 0.9-m $f/3$ reflector back to Sept. 20), the following elliptical orbital elements, and an ephemeris appear on *MPEC* 2008-U29.

$$
\begin{array}{llll}
T = 2008 \text{ May } 12.8317 \text{ TT} & \omega = 310^\circ.3471 & & \\
e = 0.375714 & \Omega = 36.4170 & \Big\} 2000.0 & \\
q = 2.523942 \text{ AU} & i = 4.4150 & & \\
a = 4.042929 \text{ AU} & n^\circ = 0.1212439 & P = 8.13 \text{ years} &
\end{array}
$$

V1309 SCORPII

R. J. Rudy, D. K. Lynch, and R. W. Russell, Aerospace Corporation; M. Sitko, Space Science Institute; C. E. Woodward, University of Minnesota; and C. Aspin, University of Hawaii, report that 0.8–5.5-μm spectroscopy and K-band imagery of the nova V1309 Sco (cf. *IAUC* 8972, 8976) on Oct. 4 and 16 UT using the Infrared Telescope Facility (+ Spex) shows very narrow emission lines of H I, He I, and Ca II sitting atop a strong continuum that closely matches that of a late M giant star. The spectrum includes strong molecular absorptions of CO, H_2O, and weaker features of TiO and VO, while the overall continuum shape is that of a cool star. Magnitudes derived from the spectroscopic observations are $J = 6.7$, $H = 5.7$, and $K = 5.2$. All of the observations would be consistent with V1309 Sco being a symbiotic nova (a nova consisting of a white dwarf and a late giant) except that the 2MASS images show no object close to the location of V1309 Sco with $K < 11$. If V1309 Sco has shed a massive envelope, such as V838 Mon or V4332 Sgr, its appearance at this epoch is very different. Additional observations of this interesting object are strongly encouraged.

2008 October 21 *Daniel W. E. Green*