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COMET 222P/2009 MB$_9$ = 2004 X1 (LINEAR)

R. H. McNaught, Siding Spring Survey, writes that 2009 MB$_9$ (cf. *MPEC* 2009-M56; *MPS* 289318, 289477, 289905) appeared cometary on Aug. 2. H. Sato, Tokyo, suggested identity with comet P/2004 X1, the indicated correction to the prediction on *MPC* 56804 (erroneously cited as *MPEC* 56804 on *CBET* 1893) being $\Delta T = -2.2$ days. The rediscovery observation is given below; further details are on *MPEC* 2009-P09. The comet has been assigned the permanent number 222P (*MPC* 66631).

2009 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
June 29.47208	$15^h03^m58^s.15$	$-38°51'13''.4$	18.3	McNaught

COMET C/2009 P1 (GARRADD)

R. H. McNaught, Siding Spring Observatory, reports the discovery by G. J. Garradd (discovery observation below) of a tailless object with an approximately circular coma 15″ across on 40-s CCD exposures with the 0.5-m Uppsala Schmidt telescope. Further observations were obtained by Garradd on the following night and at two other observatories in response to placement of the discovery on the NEO Confirmation Page.

2009 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Aug. 13.76794	$0^h16^m01^s.27$	$-44°33'23''.1$	17.5	Garradd

The available astrometry, the following very uncertain preliminary parabolic orbital elements, and an ephemeris appear on *MPEC* 2009-P54.

$$\begin{array}{lll} T = 2011 \text{ Aug. } 10.229 \text{ TT} & \omega = 95°.562 & \\ & \Omega = 344.087 & \Big\} 2000.0 \\ q = 1.25329 \text{ AU} & i = 82.646 & \end{array}$$

COMET P/2009 O3 (HILL)

Additional astrometry of this comet (cf. *IAUC* 9058) shows it to be of short period; orbital elements from *MPEC* 2009-Q05:

$$\begin{array}{lll} T = 2009 \text{ May } 17.986 \text{ TT} & \omega = 154°.293 & \\ e = 0.68496 & \Omega = 183.729 & \Big\} 2000.0 \\ q = 2.44452 \text{ AU} & i = 16.189 & \end{array}$$

$$a = 7.75933 \text{ AU} \quad n° = 0.045600 \quad P = 21.61 \text{ years}$$

2009 August 17 *Daniel W. E. Green*