ON CERTAIN SERIES INVOLVING
RECIPIROCALS OF BINOMIAL COEFFICIENTS

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Abstract. We evaluate the following family of series involving reciprocals of binomial coefficients in terms of elementary functions for \( m = 3, 4 \).

\[
\sum_{k=0}^{\infty} \frac{x^k}{(mk + 1) \binom{mk}{k}}
\]

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Keywords and phrases: binomial sum, series, binomial coefficients, catalan constant, Apéry constant, integral representations.

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