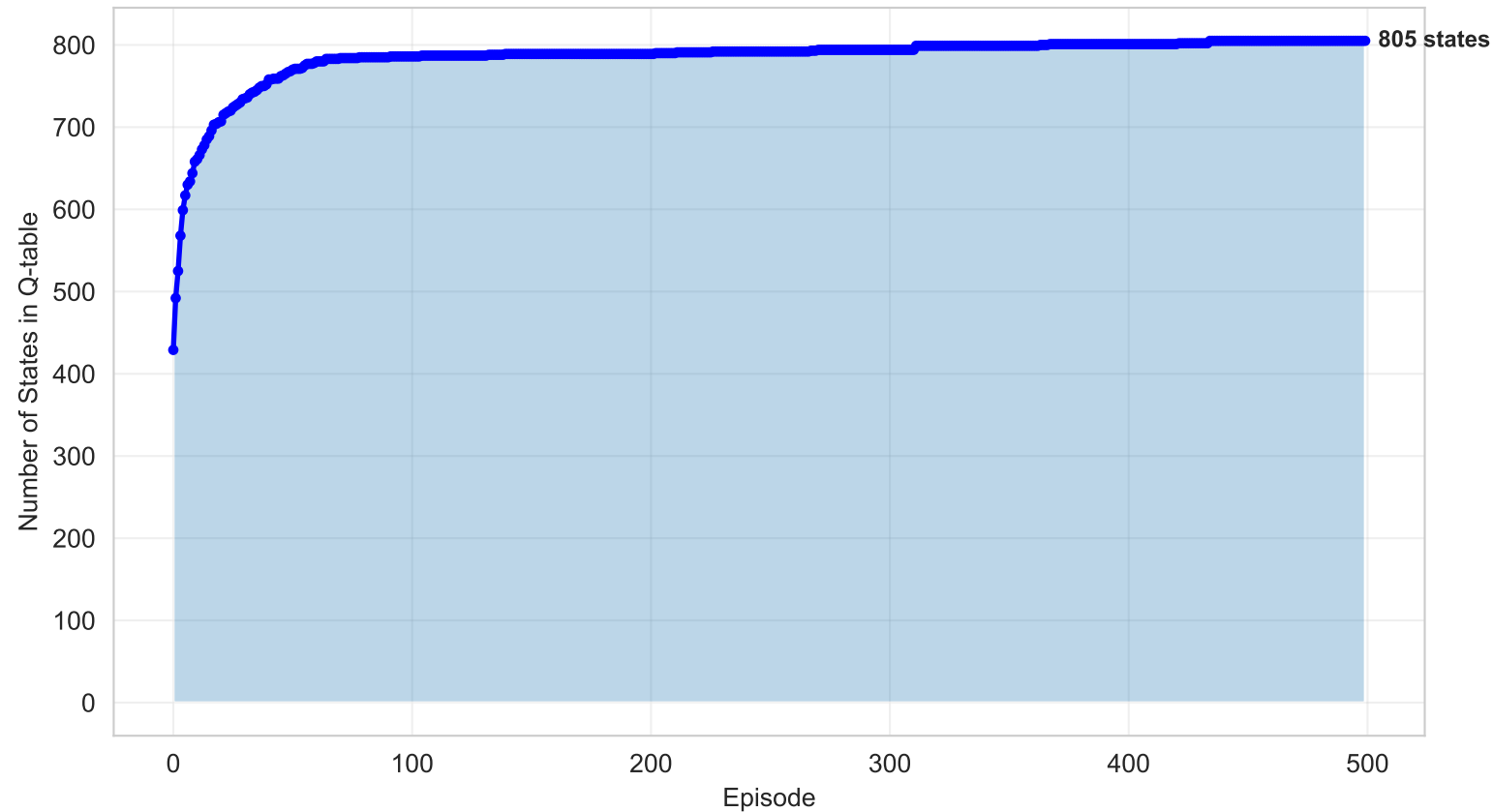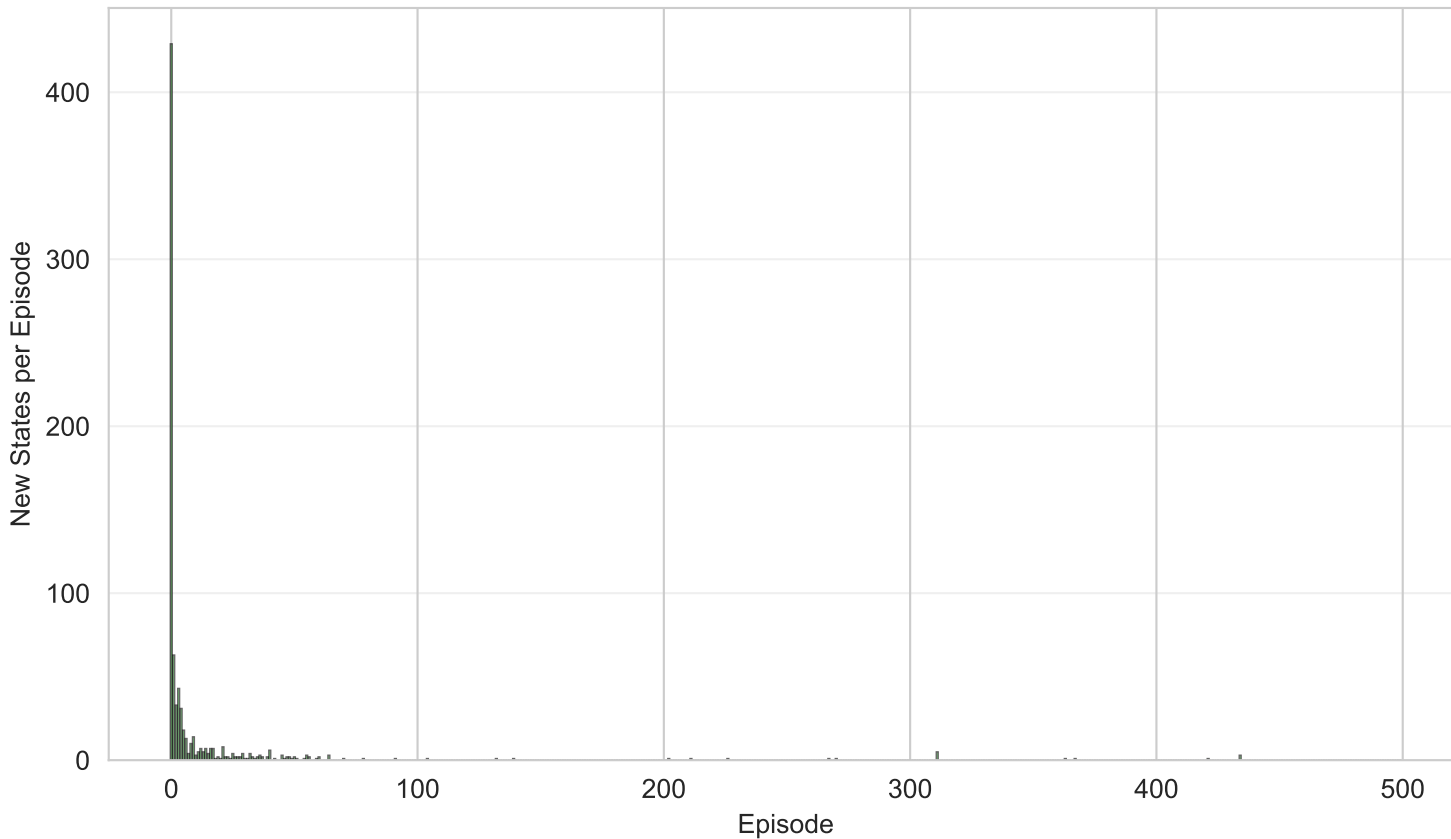# Q-Table Growth & Convergence Analysis
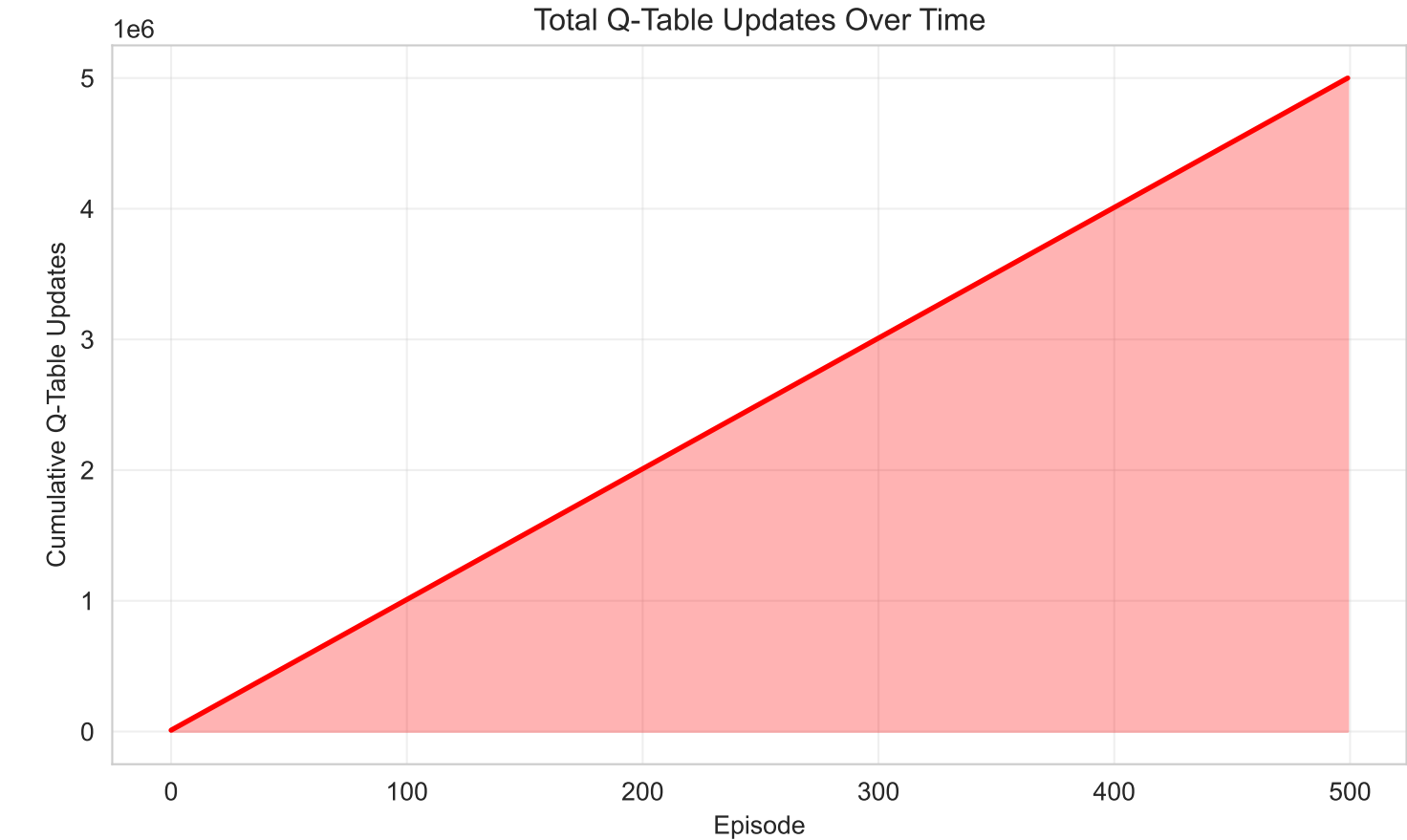

Q-Table Growth (New States Discovery)

805 states

Q-Table Growth Rate (State Discovery)

Total Q-Table Updates Over Time

```
Q-TABLE CONVERGENCE ANALYSIS
================================================

Q-Table Size:
   Initial states:      429
   Final states:        805
   Total new states:    376

Growth Rate:
   Early avg (1-20):     13.90 states/episode
   Recent avg (last 20): 0.00 states/episode
   Episodes w/ 0 growth: 20/20

Updates:
   Total updates:        5,000,000
   Avg per state:        6211.2
   Updates per episode:  10,000

Convergence Indicators:
   State discovery:      Converged ✓
   Q-table stability:    High ✓
   Update frequency:     6211.2x per state
```