Rotationally resolved autoionization spectra of the HCO radical in high-Rydberg states \((n = 12 - 50)\) built on core vibrational states, \((010), (020), (030),\) and \((001)\) have been obtained from rovibrational selected levels of the \(3p\eta^2\Pi\) Rydberg state. Autoionization dynamics for bending and stretching modes are analyzed and compared.