The title compounds were synthesized from the elements and characterized via single crystal x-ray studies and Raman spectroscopy. In the Zintl phases $A_3\text{As}_7$ ($A = \text{K, Rb, Cs}$) the As atoms form nortricyclene-analogous anions $\text{As}_3^{7-}$ with As-As distances ranging from 230 to 254 pm. The three compounds crystallize with different new structure types containing different packings of the $\text{As}_7$ anions: $\text{K}_3\text{As}_7$ (orthorhombic, $Pbca; a = 1291.9(8), b = 2544.1(9), c = 1537.7(16)$ pm) shows a double hexagonal close packing (ABAC stacking of planes of hexagonal close packed anions), $\text{Rb}_3\text{As}_7$ (monoclinic, $P2_1/c; a = 757.3(5), b = 1310.2(8), c = 2692.7(18)$ pm, $\beta = 91.972(12)^\circ$) shows a hexagonal close packing (AB) and the Cs compound (orthorhombic, $Pbca, a = 1022.8(5), b = 1317.6(7), c = 2195.2(11)$ pm) a cubic close packing (ABC) (also present in the HT-forms of the three compounds) respectively. The alkaline metal monoarsenides $\text{AAs}$ ($A = \text{K, Rb}$) crystallize with the NaP structure type ($A = \text{K/Rb: orthorhombic, } P2_12_12_1; a = 661.7(5)/658.1(8), b = 688.8(6)/691.6(8), c = 1197.3(10)/1204.7(10)$ pm, $Z = 8$) with approximate fourfold screw axes 41 of $\text{As}^-$ chains, whereas the crystal structure of CsAs (hexagonal, $P\bar{6}2m, a = 1219.7(3), c = 1046.3(2)$ pm, $Z = 18$) contains three crystallographically independent three membered rings $\text{As}_3^{3-}$ with As-As distances of 243.0 to 247.5 pm.