I present a simple extension of the Standard Model that gives rise to baryogenesis a has a dark matter candidate of O(GeV) mass. The minimal version of the model includes O(TeV) colored scalars and a singlet fermion. The fermion becomes a viable dark matter candidate when its is nearly degenerate in mass with the proton. The supersymmetric extension of the model is straightforward and leads to a multicomponent dark matter scenario. I discuss prospects for detection of the dark matter candidates in direct, indirect, and collider searches.