The properties of thermal monopoles, identified as monopole currents with a non-trivial wrapping in the euclidean temporal direction, have shown to be a useful probe of the confinement/deconfinement dynamics in the case of pure gauge theories, leading to a determination of the critical temperature in agreement with that obtained by other standard means, like the analysis of the order parameter for center symmetry breaking. In this talk I will show and discuss preliminary results regarding an extension of the analysis to QCD with $N_f=2+1$ dynamical fermions and physical quark masses, aimed at understanding which temperature is identified in this case.