Let $\Gamma$ be the generalized random bipartite graph that has two sides $R_l$ and $R_r$ with edges for every pair of vertices between $R_l$ and $R_r$ but no edges within each side, where all the edges are randomly colored by three colors $P_1$, $P_2$, and $P_3$. In this talk, we investigate the reducts of $\Gamma$ that preserve $R_l$ and $R_r$, and classify the closed permutation subgroups in $\text{Sym}(R_l) \times \text{Sym}(R_r)$ containing the group $\text{Aut}(\Gamma)$. Our results rely on a combinatorial theorem of Nešetřil-Röd and the strong finite submodel property of the generalized random bipartite graph. (Received September 24, 2012)