Abstract. Let M be a compact, connected, orientable, hyperbolic 3-manifold whose boundary is a torus. We show that there are at most five slopes on ∂M whose associated Dehn fillings have either a finite or an infinite cyclic fundamental group. Furthermore, the distance between two slopes yielding such manifolds is no more than three, and there is at most one pair of slopes which realize the distance three. Each of these bounds is realized when M is taken to be the exterior of the figure-8 sister knot.