1067-51-699   **Tara D Taylor*** (`ttaylor@stfx.ca`), Department of Mathematics, Statistics and CS, St. Francis Xavier University, Antigonish, NS B2G 2W5, Canada. *Using Cantor Sets to Study the Connectivity of Sierpiński Relatives.*

This paper presents an exploration of the connectivity of the class of fractals known as the Sierpiński relatives. The Sierpiński gasket (or triangle) is the most well-known relative. The relatives are attractors of iterated function systems that involve the same contractive mappings as for the gasket, combined with symmetries of the square. These relatives all have the same fractal dimension, but different topologies. Some are completely disconnected, some are simply-connected, and some are multiply-connected. For some of the relatives, one can determine the connectivity by considering certain Cantor sets that are subsets. These Cantor sets are variations of the usual middle thirds Cantor set, and can be viewed in binary or quaternary instead of ternary. (Received September 13, 2010)