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1003-05-654 J. R. Faudree and R. J. Faudree* (rfaudree@memphis.edu), Office of Provost, Administration Building 360, University of Memphis, Memphis, TN 38152, and Z. Ryjáček. Forbidden Subgraphs that Imply 2-Factors.

The connected forbidden subgraphs and pairs of connected forbidden subgraphs that imply a 2-connected graph is hamiltonian have been characterized by Bedrossian, and extensions of these excluding graphs for general graphs of order at least 10 were proved by Faudree and Gould. In this paper a complete characterization of connected forbidden subgraphs and pairs of connected forbidden subgraphs that imply a 2-connected graph of order at least 10 has a 2-factor will be proved. In particular it will be shown that the characterization for 2-factors is very similar to that for hamiltonian cycles, except there are seven additional pairs. In the case of graphs of all possible orders, there are four additional forbidden pairs not in the hamiltonian characterization, but a claw is part of each pair. (Received September 26, 2004)