1067-05-1429 **André Kündgen*** (akundgen@csusm.edu), Department of Mathematics, California State University San Marcos, San Marcos, CA 92096-0001, and **R. Bruce Richter** (brichter@math.uwaterloo.ca), Department of Combinatorics & Optimization, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada. *2-factors with long cycles in cubic graphs.*

Every 2-connected cubic graph G has a 2-factor, and much effort has gone into studying conditions that guarantee G to be Hamiltonian. We show that if G is not Hamiltonian, then G is either the Petersen graph or contains a 2-factor with a cycle of length at least 7. We also give infinite families of 2-connected and 3-connected cubic graphs in which every 2-factor consists of cycles of length at most, respectively, 10 and 16. (Received September 21, 2010)