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**Genghua Fan, Baogang Xu, Tianjun Ye and Xingxing Yu\*** (yu@math.gatech.edu).

*Forbidden subgraphs and 3-coloring.*

Motivated by Vizing's theorem, Randerath considered the problem of determining pairs of graphs  $(A, B)$  such that if a graph  $G$  contains neither  $A$  nor  $B$  as an induced subgraph then  $\chi(G) \leq \omega(G) + 1$ . In particular, he conjectured that if  $G$  is fork-free and triangle-free then  $\chi(G) \leq 3$ , where a fork is the graph obtained from  $K_{1,4}$  by subdividing two edges. We prove this conjecture under the additional condition when  $G$  is also  $C_5$ -free. (Received December 04, 2012)