1077-92-1257 **Lih-Ing Wu Roeger*** (lih-ing.roeger@ttu.edu), Department of Mathematics and Statistics, Texas Tech University, MS 41042, Lubbock, TX 79409, and **Sze-Bi Hsu** (sbhsu@math.nthu.edu.tw), Department of Mathematics, Hsinchu, Taiwan. *A Refuge-mediated Apparent Competition Model.*

We analyze a competition model of two plant species for a single-limited resource while the competition is apparent: an indirect interaction where the invading plants provide a refuge for a shared consumer, subsequently increasing the consumer pressure on the resident plant species. When there is no refuge effect, the resident species is a superior species. As the refuge effect increases, the coexistence state appears as a saddle point with a two-dimensional stable manifold while the two extinction equilibria are locally stable. Thus the refuge-mediated apparent competition creates an Allee effect for both the invading and the resident species. A Lyapunov function is found to show the global stability of the equilibrium in which only the resident species survives. (Received September 18, 2011)