In this paper, we consider the situation of two species of predator competing one prey, where the growth kinetics of both species are identical but their diffusion rates are different. To focus solely on the effect of the diffusion, we assume that both competing species have the same consumption rate of the prey. The model is

\[
\frac{\partial u}{\partial t} = d_0 \Delta u - f(u)(v_1 + v_2), \quad \text{on } \Omega \times \mathbb{R}_+,
\]

\[
\frac{\partial v_1}{\partial t} = d_1 \Delta v_1 + v_1(f(u) - v_1 - v_2), \quad \text{on } \Omega \times \mathbb{R}_+,
\]

\[
\frac{\partial v_2}{\partial t} = d_2 \Delta v_2 + v_2(f(u) - v_1 - v_2), \quad \text{on } \Omega \times \mathbb{R}_+,
\]

\[
\frac{\partial u}{\partial \nu}(x, t) + r_0(x)u(x, t) = u_0(x), \quad x \in \partial \Omega, \ t > 0,
\]

\[
\frac{\partial v_i}{\partial \nu}(x, t) + r_i(x)v_i(x, t) = 0, \quad x \in \partial \Omega, \ t > 0,
\]

where \(u\) is the population density of the prey, and \(v_1, v_2\) are the population densities of two competing predator species. Under some assumptions, we prove the following results: (i) Global existence; (ii) Coexistence of steady states; (iii) Stability analysis. (Received September 30, 2004)