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Sara Anne Krueger*, 700 Luther Drive, Mankato, MN 56001, and **May Boggess** and **Jay Walton**. *A Reservoir Model of Chagas Disease*.

More than 1 billion people all over the world are infected with neglected tropical diseases, such as Chagas disease in Latin and South America. Like malaria, this disease is passed between infected animals and people by an insect, the reduviid bug. In this paper, an ordinary differential equations model was developed that accounts for the existence of a disease reservoir in mammals, such as domestic livestock. Our results show that the disease free state is not a stable equilibrium, meaning that the introduction of even a small number of insects will lead to an epidemic. (Received August 25, 2011)