1035-92-337 **Ruijun Zhao*** (`rzhao@math.purdue.edu`), 150 North University Street, West Lafayette, IN 47907-2067, and **Fabio A Milner** (`milner@math.purdue.edu`), 150 North University Street, West Lafayette, IN 47907-2067. *A New Mathematical Model of Schistosomiasis.*

Anderson and May (1978) studied the regulation and stability of host-parasite population interactions through a series of mathematical models in which the only host grows exponentially in the absence of parasites and no strategies to control parasites are incorporated. We extend the model to multi-hosts, feature the logistic growth of hosts and introduce a parameter to regulate the treatment effect. We determine a reproduction number for the disease directly related to its persistence and extinction. Finally, we obtain a critical value for the treatment rate that indicates the minimum effort the government should make in order to clear out the disease from the population. (Received September 03, 2007)