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Perspectives on Biological Control Theory from Skeletonweed Rust (*Puccinia chondrillina*) on Rush Skeletonweed (*Chondrilla juncea*) in California

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Classical biological control theory is derived almost exclusively from insect parasitoid systems. The present controversy concerning density-dependent parasitism in biological control has considered insect but not pathogen systems. Over a 10-yr period in California, beginning in 1979, incidence of skeletonweed rust was consistently related to the density of its host, rush skeletonweed. Skeletonweed rust, but not the skeletonweed gall midge (*Cystiphora schmidti*) or gall mite (*Aceria chondrillae*), was associated with decrease in host population density. The pattern of density-dependent parasitism is similar to that reported for some insect parasitoids, although the mechanism cannot be active searching behaviour as has often been assumed for parasitoids. The study of plant pathogens as biological control agents can give a unique perspective on mechanisms which drive biological control systems.