

Vickery, Barbara (1983). "Life History and Population Biology of *Cypripedium acaule* Ait. (Orchidaceae)". Honors Theses.

The purpose of this study was to first describe the life history of *Cypripedium acaule* in relation to other forest herbs and orchid species of North America. This aspect was accomplished using a literature review that chronicled current knowledge and expectations of population dynamics. Part two utilized these expectations to form an investigation regarding demographic patterns of Maine's *C. acaule* population in an effort to determine major factors in size and stability of such populations. *C. acaule* was found to be similar to other forest herbs in its extended juvenile period, long reproductive life, and low adult mortality. However, it differed significantly in low rates of vegetative reproduction and pollination as well as large amounts of tiny seeds that depend on fungi for development—differences that are likely related to the scarcity of the species. Although a decrease in pollinators would leave the *C. acaule* population vulnerable, inadequate seed production was not deemed the most important liability for the species. Because of irregular seedling establishment and subsequent stable and long living populations, *C. acaule* is likely to be more vulnerable to habitat disturbance and destruction. This study suggests further work on the topics of resource limitation, dormancy triggers, physiology, seedling establishment, environmental disturbance, and less common genus' in relation to *C. acaule*.

(summary)