Monopyle is a genus of herbaceous plants in the family Gesneriaceae. The genus is distributed from Central into northern South America. Recent studies for a revision of the genus have revealed many species complexes that require more in-depth study. *Monopyle bilsaensis* ined. a new species discovered in northern Ecuador near the Bilsa Biological Station is part of a species complex that has been difficult to delimit. It appears that the species is hybridizing with two other nearby species *Monopyle ecuadorensis* and *Monopyle communis* ined. The extensive hybridization between the species has made morphological separation very tedious. In order to separate these species, I am currently using a molecular phylogenetic approach that utilizes both nuclear and chloroplast gene regions to compare the species. The objectives of this research are to study the morphological and molecular characteristics of *Monopyle* found in Ecuador with special emphasis given to the species complex. A comparison of all the taxa will provide insight into the overall evolution of the group in the area. Future studies of this complex will include a phenetic analysis of taxonomically useful characters to confirm morphological differences in the group.