Emergences of Encarsia pergandiella Howard and E. formosa Cahan were compared; and pupal orientation of several Encarsia and Eretmocerus species were examined. The species examined for pupal orientation were E. pergandiella from southwest Florida. E. nr. pergandiella from Brazil. E. transvena (Timberlake) from Florida, E. formosa from California (Davis). E. formosa from Georgia (Griffin). E. formosa from Nile Delta, Egypt, Eretmocerus sp. from Hong Kong, Eretmocerus sp. from Padappai, India, E. mundus (Mercet) from Murcia, Spain, E. nr. califomicus Howard from Arizona (Tucson), parasitoids of Bemisia argentifolii Bellows & Perring [previously B. tabaci (Gennadius)]. The majority (98%) of E. pergandiella pupae from Florida and all other Encarsia species except E. nr. pergandiella from Brezil pupated facing the host venter, regardless of leaf orientation, so that rotation was necessary before emergence. E. nr. pergandiella from Brazil, 2% of E. pergandiella from Florida, and all species of Eretomocerus pupated facing the host dorsum. so that no rotation was necessary. All E. pergandiella pupae and adults from Florida were pigmented similarly regardleess of pupal orientation. Less than 1% of E. pergandiella female pupae were oriented backwards, i. e., with the head toward the host posterior, but again, these were not distinguishable characteristics of color or form. We concluded that a low incidence of unusual pupal orientations represented natural variation in the population of E. pergandiella we studied.