In the Jordan Valley, a virus isolated from stunted parthenocarpic cucumbers (*Cucumis sativus* L.) showing vein yellowing symptoms was identified as cucumber vein yellowing virus (CVYV). The virus was transmitted by whitefly (*Bemisia tabaci* Genn.) and inefficiently by rub inoculation. The host range was restricted to cucurbitaceous plants, including *C. sativus* var. *marbella*, *C. melo*, and *C. melo* var. *flexousus*; *Cucurbita pepo*, *C. moschata*, and *C. foetidissima*; and *Citrullus lanatus* and *C. colocynthis*. Systemic symptoms produced on these plants ranged from chlorotic or necrotic dots to severe vein yellowing and stunting. Properties in crude sap were DEP =  $10^{-2}$ – $10^{-3}$ , TIP = 50– $55^{\circ}$ , and LIV = 48 hr. Electron-microscopic studies of the virus showed rod-shaped particles 715 nm long. This is the first report of CVYV in Jordan.