Abstract: The soil properties of the annual *Gypsophila* L. taxa of Turkey and their effects on plant morphology were investigated.

The taxa studied were *Gypsophila heteropoda* Freyn & Sint., *G. parva* Barkoudah, *G. elegans* M.Bieb., *G. bitlisensis* Barkoudah, *G. viscosa* Murray, *G. antari* Post & Beauverd, *G. muralis* L., *G. tubulosa* (Jaub. & Spach) Boiss., *G. confertifolia* Hub.-Mor., and *G. pilosa* Hudson. The soils of the plant taxa were medium textured, sand or sandy-loam, saltless or a little salty, neutral, limy, rich in potassium and with very little phosphorous, and with medium levels of nitrogen and organic matter. *G. antari*, which had the greatest lime content, had the lowest number of leaves. *G. muralis* and *G. tubulosa* had the lowest saturation values and lime content but the greatest number of leaves. If the lime content increased, the development of roots decreased, and when the rate of sand increased, the development of roots increased. For *G. muralis*, phosphorus concentration, seed size, and salt content were negatively related to number of leaves. For *G. tubulosa* and *G. antari*, potassium and organic matter concentrations were negatively related to number of leaves. In *G. muralis*, salt content was positively related to calyx diameter and seed size. In *G. confertifolia*, organic matter content was positively correlated with height of the calyx, petal, and bract. It was observed that *G. pilosa*, *G. bitlisensis*, and *G. viscosa* species are also distributed in limeless steppe areas. The most important distribution areas of the species in Turkey are Sivas, Erzincan, ?ankırı, Eskişehir, and Ankara.

Key words: *Gypsophila*, **ecology**, **habitats**, **biodiversity**, **Türkiye**