

18. [*Ephedra* sp. - *Parthenium incanum* - *Larrea tridentata*] Shrubland Association (P)

[Rough jointfir - Mariola - Creosote] Shrubland Association (P)

This shrubland association is characterized by a very open (<5% cover) canopy (>2 m), a subcanopy (0.5–2 m) dominated by creosote (*Larrea tridentata*), and a field stratum (<0.5 m) dominated by rough jointfir (*Ephedra aspera*) and mariola (*Parthenium incanum*). The vegetation is very open and sparse, forming a relatively stunted shrubland with the majority of shrubs growing ≤1 meter tall. When present, yellow paloverde (*Parkinsonia microphylla*) is a short tree (2–3 m) that provides cover of 1–3%. Creosote (*L. tridentata*) provides consistent (1.0) cover of 5–15%, often recorded as a medium-sized (1–1.5 m) shrub. Other documented subcanopy species include Wright’s beebrush (*Aloysia wrightii*), wolfberry (*Lycium* spp.), and buckhorn cholla (*Cylindropuntia acanthocarpa*). Rough jointfir (*E. aspera*) and mariola (*P. incanum*) present as co-dominants or with one becoming the sole dominant and the other a subdominant. Both species provide consistent (1.0), low cover (1–3%) throughout this community. Districtwide, these species are uncommon and their combined appearance in this community, albeit with low cover, is indicative of this association. Other documented field species include large-petal onion (*Allium macropetalum*), Arizona spikemoss (*Selaginella arizonica*), spiny cliffbrake fern (*Pellaea truncata*), slender janusia (*Cottisia gracilis*), and shrubby thoroughwort (*Koanophyllon solidaginifolium*).

Common species

- *Larrea tridentata*
- *Ephedra aspera*
- *Parthenium incanum*

This community is contained within a two-association map class that covers 3% (295 ha/729 ac) of the Tucson Mountain District, exclusively in the vicinity of Safford Peak, in the northern portion of the district. It occurs on the northeast-facing, rocky backslopes at approximately 884–975 meters (2,900–3,200 ft). These slopes are moderate to steep (20–50+%). The surface is dominated by rock and gravel, with a parent material that is predominantly on extrusive igneous bedrock.



Tucson Mountain District, Saguaro National Park

