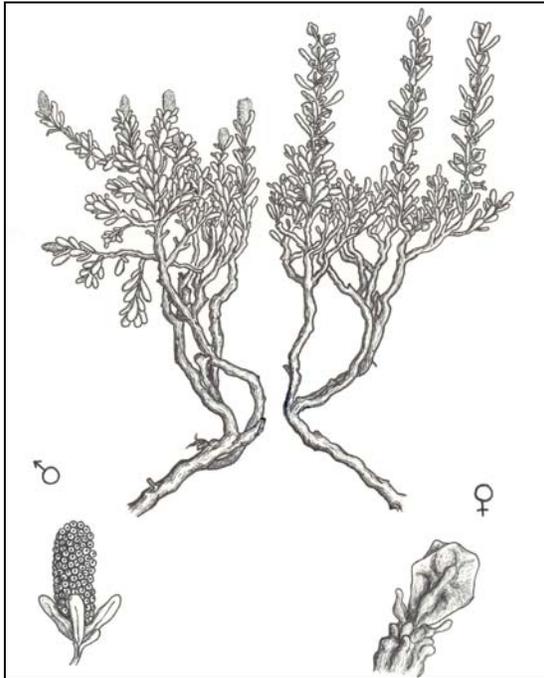


Atriplex corrugata S. Wats.
CHENOPODIACEAE

mat saltbush

Synonyms: *Atriplex nuttallii* var. *corrugata* A. Nelson
Obione corrugata Ulbr.



General Description.—Mat saltbush, also known as matscale, is a low shrub that forms dense, prostrate (15 cm tall) and nearly white mats five to 20 times wider than they are tall. Prostrate branches often form adventitious roots when in contact with the soil. The bark is soft, spongy, and white. Leaves are sessile, evergreen, oblong, linear-oblanclate, or spatulate, rounded at the apex, opposite on the lower portions of stems, and alternate above. Leaf blades are densely scurfy and 7 to 18 mm wide (Blauer and others 1976, McArthur and others 1978, Welsh and others 1993). Individual shrubs are commonly dioecious but may be monoecious. Staminate (male) flowers are yellow to light-brown, 3 to 6 mm wide, and borne in glomerulate spikes. Pistilate (female) flowers are enclosed by sessile or subsessile fruiting bracts. Fruiting bracts are 3 to 5 mm long, 4 to 6 mm wide, and united along two-thirds of their length and densely tuberculate on the lower one-third (Blauer and others 1976, McArthur and others 1978, Welsh and others 1993).

Taxonomy.—This species will hybridize with other saltbushes (Blauer and others 1976, Stutz 1978, 1984). Mat saltbush forms intermediates with *Atriplex confertifolia* Torr. & Fremont and *Atriplex cuneata* A. Nelson (Welsh and others 1993). Plants can be either diploid ($2n = 18$) or tetraploid ($2n = 36$) (Sanderson and Stutz, unpublished data).

Range.—Mat saltbush is an endemic of the Colorado Plateau and Uintah Basin, found mainly on Mancos shale formations in eastern Utah, western Colorado, and northwestern New Mexico between 1,200 and 2,100 m (Hall and Clements 1923; Hanson 1962).

Ecology.—Mat saltbush grows on fine textured, often saline, soils. It tolerates up to 13,000 ppm soluble salts and is often the only perennial plant present in such high-saline environments (Hanson 1962). Although it is probably the most halophytic member of the genus, in less saline habitats, patches of mat saltbush may alternate with patches of winterfat [*Ceratoides lanata* (Pursh) J.T.Howell], cuneate saltbush (*Atriplex cuneata* A. Nelson), shadscale (*Atriplex confertifolia* Torr. & Fremont), black greasewood (*Sarcobatus vermiculatus* Torr.), budsage (*Artemisia spinescens* Eaton), and greenmolly summercypress (*Kochia americana* S. Wats.). It grows in areas with 150 to 280 mm of annual precipitation.

Reproduction.—Blooming occurs between March and May and fruits (utricles) ripen 6 to 10 weeks later. Seed production is usually modest, although some seed is usually produced even during drought.

Because germination is near zero without cold treatment, fall is normally the recommended season for artificial seeding. Where possible, midwinter planting is also successful. Preparatory measures are usually unnecessary if the site previously supported mat saltbush and is not infested with weeds. Recommended seeding rates range between 2.2 and 4.5 kg of pure live seed/ha. Seed should be sown in separate rows and covered with a drag or harrow. Seeds should be planted

near the soil surface and no more than 1.3 cm deep. Seedlings emerge rapidly and grow vigorously during the first year. Growth continues until soil moisture becomes limiting (usually by mid-summer). There are about 220,000 cleaned seed per kg (Blauer and others 1976).

Transplants from bare root stock, wildings, or containers have all established successfully. Wildings and bare root stock tolerate considerable distress. Transplants survive surprisingly well, even when planted on seemingly infertile soils. Young plants have been successfully transplanted into former black greasewood communities in the Great Basin (Blauer and others 1976).

Management.—Mat saltbush is valuable winter forage for wildlife and domestic livestock. It often grows interspersed among other plant communities on shale outcrops at medium elevations. Shrubs often grow on windblown slopes and provide important, accessible winter forage. Big game have been known to congregate on these areas during periods of deep snow accumulation. Shrubs tolerate grazing and trampling and maintain vigor even after serious abuse.

Mat saltbush has been seeded with selected grasses including Russian wildrye (*Elymus junceus* Fisch.), tall wheatgrass [*Agropyron elongatum* (Host) P.Beauv.], and crested wheatgrass [*Agropyron cristatum* (L.) Gaertn.]. Although these species may increase forage production, they do not usually persist in dense stands. Grasses and forbs will suppress shrub establishment, but grasses interseeded into established shrub stands do not reduce shrub density or vigor.

This species is useful in revegetation and restoration projects and can help reclaim disturbed areas with heavy textured soils such as road construction sites or mine disturbances.

Benefits.—Mat saltbush is a native shrub that occupies a specialized niche in Western ecosystems. Its ability to grow on fine textured, often saline soils helps reduce soil erosion on sites that are inhospitable to many shrubs. It also provides important forage for wildlife during winter when other sources of forage may be inaccessible.

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