

Riparian Scrublands

Although riparian scrublands cover many kilometers of floodplain and stream channels within the Mohavian, Chihuahuan, Madrean, and Californian provinces, there has been a tendency to ignore these biotic communities in favor of the richer biota of more structurally diverse assemblages. These communities may also constitute a riparian understory or prelude for the riparian forests just discussed, grade into marshlands or, in the more xeric places where salts accumulate, form alkali-loving communities of Saltgrass (*Distichlis spicata*) and chenopods (Gary, 1965; Bloss and Brotherson, 1979). There is ample evidence for vast increases in this formation type in past years, largely at the expense of cottonwood forests and woodland (see e.g. Turner, 1974).

Riparian scrub may range from simple disclimax consociations of introduced Saltcedar to complex and diversified associations containing dozens of species (Fig. 169). Some of the most extensive warm-temperate riparian scrublands in the Southwest are along the Río Grande from Belen, Texas, to Big Bend National Park, along portions of the Pecos River, and along the Colorado River where it traverses the Mohave desert.

Common and Giant Reeds (*Phragmites australis* and *Arundo donax*) form tall stands of "cane" along the immediate banks of the Río Grande, often extending into the stream and forming floating mats (Fig. 170). The large Goodding Willow (*S. gooddingii*) and smaller Black (*S. nigra*) and Sandbar willows (*S. interior*) also are present, along with Seepwillow (*Baccharis salicifolia*), Saltcedar, and other scrub. Other species present in riparian scrublands here (and elsewhere) include:

<i>Aster spinosus</i>	Aster
<i>Baccharis sarothroides</i>	Desert Broom
<i>Equisetum</i> spp.	horsetails
<i>Heliotropium curassavicum</i>	Heliotrope
<i>Hymenoclea</i> spp.	burrobrushes
<i>Pluchea camphorata</i>	Camphor-weed
<i>Verbesina encelioides</i>	Cowpen Daisy

Protected aquatic habitats such as cut-off ponds may support cattail, sedges, and other emergent marshland plants in addition to scrub. Pondweeds and submergent aquatic plants occur intermittently, but such communities have scarcely been described. Terraces near the Río Grande support a diverse scrubland community of Honey and Screwbean Mesquite (*Prosopis glandulosa* and *P. pubescens*), Catclaw (*Acacia greggii*), Black-brush (*A. rigidula*), Huisache (*A. farnesiana*), Desert-willow (*Chilopsis linearis*), Tree Tobacco (*Nicotiana glauca*), Common Buttonbush (*Cephalanthus occidentalis*), and Texas Paloverde (*Cercidium texanum*). Bermuda Grass (*Cynodon dactylon*) has become a major stabilizing ground cover at places where rivers scour rocky shorelines, forming extensive, lush sods (Wauer, 1973, 1977).

Canyon segments of large rivers in this climatic zone, now subjected to upstream controls, were too heavily scoured during flooding to support other than the most rudimentary riparian scrublands. This classically occurred in the Grand Canyon of the Colorado River prior to the closure of Glen Canyon Dam, wherein most riparian vegetation was a shrubby border of mesquite above the level of most annual floods (Turner and Karpisak, 1980; Fig. 148). Similar conditions may still be found in "box" canyons of the Salt and Gila rivers in Arizona (Minckley and Clark, 1979), and of course in the central gorges of the Río Grande within Big Bend National

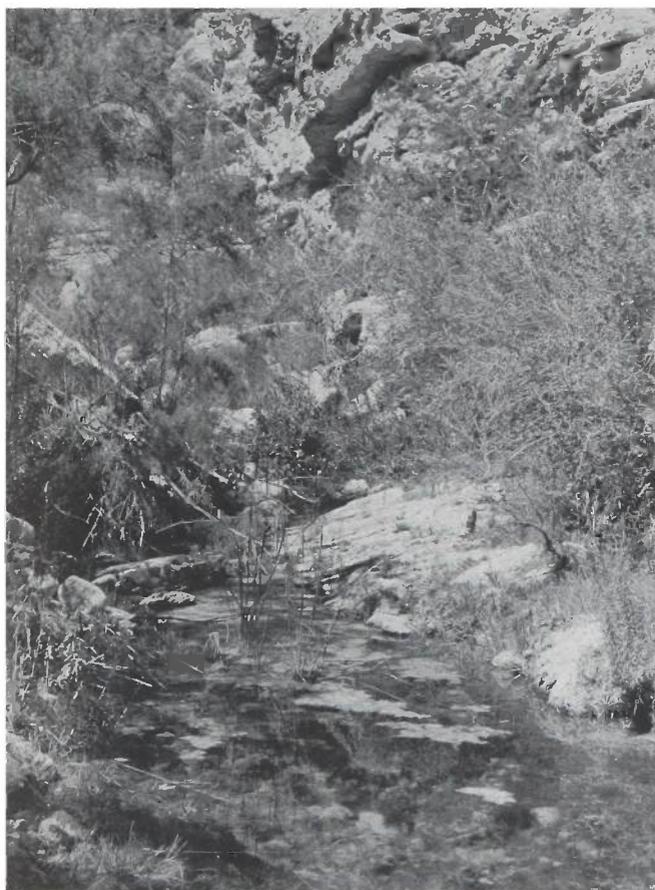


Figure 169. Diverse riparian scrubland in Grapevine Springs Canyon, within the Mohave Desert, Mohave County, Arizona. A few of the riparian plants present are *Tamarix chinensis*, *Phragmites australis*, *Prosopis glandulosa* var. *torreyana*, *Acacia greggii*, *Equisetum* spp. and *Baccharis salicifolia*. Elevation ca. 1,220 m.



Figure 170. Riparian scrubland of reeds (*Phragmites australis*), Saltcedar (*Tamarix chinensis*), Screwbean (*Prosopis pubescens*), Buttonbush (*Cephalanthus occidentalis*) and Texas Honey Mesquite (*Prosopis glandulosa*) along the Rio Grande, in Big Bend National Park, Brewster County, Texas. Elevation ca. 750 m.

Park (Denyes, 1956). Some of these segments have as yet resisted incursions by the aggressive Saltcedar [see Robinson 1965].

No mammals appear particularly restricted to this vegetation, although a number of bats (Easterla, 1973) as well as Cotton Rat (*Sigmodon hispidus*), White-footed Mouse (*Peromyscus leucopus*), Desert Pocket Mouse (*Perognathus penicillatus*), Beaver, and Raccoon are often well represented there (Boerr and Schmidly, 1977). A few of the nesting birds strongly associated with riparian scrub in their appropriate biotic provinces are Crissal Thrasher (*Toxostoma dorsale*), Verdin (*Auriparus flaviceps*), Black-tailed Gnatcatcher (*Polioptila melanura*), Phainopepla (*Phainopepla nitens*), Black Phoebe (*Sayornis nigricans*), and Lucy's Warbler (*Vermivora luciae*).

The Western Spadefoot and Red-spotted Toad (*Bufo punctatus*) are, if not characteristic, two widespread and common amphibians, and Woodhouse's Toad enters the Chihuahuan Desert region only along the rivers (Conant, 1978). In the more open scrub, the Side-blotched Lizard (*Uta stansburiana*) is perhaps the most commonly encountered reptile. Aquatic species include Spiny Softshelled Turtle (*Trionyx spiniferus*

emoryi), Pond Slider (*Chrysemys scripta*), and in the Big Bend Region, the Plain-bellied Water Snake (*Natrix erythrogaster*) (Conant, 1963, 1969, 1978).

From the mouth of the Río Conchos downstream in the Rio Grande, and in the lowermost Pecos River, the Mississippi River fish fauna dominates. Hubbs et al. (1977) termed this the Río Conchos-Río Grande faunal assemblage, characterized by species such as Speckled Chub (*Hybopsis aestivalis*), Blue Sucker (*Cycleptus elongatus*), River Carpsucker (*Carpionodes carpio*), buffalofishes (*Ictiobus* spp.), Channel and Blue Catfishes (*Ictalurus punctatus* and *I. furcatus*), Red Shiner (*Notropis lutrensis*), and others. Interestingly, a tributary faunal assemblage in the same region consists of mostly species of Mexican derivation, e.g., Conchos Pupfish (*Cyprinodon eximius*), Mexican Stoneroller, Chihuahua Shiner, Mexican Tetra (*Astyanax mexicanus*), Mosquitofish (*Gambusia affinis*), Roundnose Minnow (*Dionda episcopa*), and Tamaulipas Shiner (*Notropis braytoni*), along with sunfishes (*Lepomis* spp.) and the more ubiquitous Fathead Minnow and Red Shiner.