

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDROS0H4F0
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Crataegus rivularis*
COMMON NAME: River Hawthorn, Mountain River Hawthorn, Dotted Hawthorn
SYNONYMS: *Crataegus douglasii* var. *rivularis*
FAMILY: Rosaceae

AUTHOR, PLACE OF PUBLICATION: Nuttall, Thomas. In: A Flora of North America 1(3): 464. 1840.

TYPE LOCALITY: Rocky Mountains.

TYPE SPECIMEN: GH 23489 (syntype). T. Nuttall, #s.n. No date.

TAXONOMIC UNIQUENESS: The *Crataegus* genus are the hawthorns, and by some accounts includes well over 100-200 species. Arizona has two species: *C. erythropoda* and *C. rivularis*.

DESCRIPTION: Shrubs or trees, 30–50 dm. Stems: twigs: new growth greenish, sparsely pubescent, early glabrescent, 1–2-years old often red-purple; bark on younger 2–5 cm thick branches dark gray-brown, sometimes copper-colored; thorns on twigs straight or ± recurved, 2-years old black or purple-black, glossy, fine, 1.5–4 cm. Leaves: petiole 1–2.5 cm, <glabrous>; blade elliptic to narrowly elliptic, 3–8 cm, <length 2+ times width>, thin, base cuneate, lobes 0 or small apiculi at ends of some vein tips, margins serrate, teeth numerous, usually acute, fine to coarse, venation semicamptodromous, veins 4 or 5 per side, <larger often branched proximal to ends>, apex acute, abaxial surface glabrous, adaxial appressed-strigose young. Inflorescences 6–12-flowered; branches glandular-punctate; bracteoles early caducous, usually present, margins sessile-glandular. Flowers 14–17 mm diam.; sepals broadly deltate, 6–8 mm, margins entire, apex narrow, glabrous; stamens 10, anthers pink, sometimes ivory; styles 3–5. Pomes deep red (mid Aug), black or blackish purple mature, suborbicular, 10 mm diam.; sepals ± erect to strongly outcurved or ± patent, 2–3 mm; pyrenes 3 or 4, sides eroded (Flora of North America 2016).

AIDS TO IDENTIFICATION: *Crataegus rivularis* is superficially similar to the more or less sympatric, less common, *C. saligna* (not found in Arizona); it has larger leaves with fewer veins, larger flowers with ten stamens, and larger pomes. It differs from *C. erythropoda* little other than in leaf shape (see below) and ripe fruit color: *C. erythropoda* ripe fruit is red; *C. rivularis* fruit is black (Flora of North America 2016).

From Kearney and Peebles (1951):

Spines few, not more than 2.5 cm long; leaves elliptic, about twice as long as wide, not or scarcely lobed, tapering at base.....*C. rivularis*

Spines numerous, 3 to 5 cm long; leaves ovate, less than twice as long as wide, often distinctly lobed, rather abruptly contracted at base.....*C. erythropoda*

ILLUSTRATIONS:

Photos and Herbarium Mounts:

<http://swbiodiversity.org/seinet/taxa/index.php?taxon=Crataegus%20rivularis>.

Photos: <http://eol.org/pages/231475/media>.

<http://www.swcoloradowildflowers.com/Tree%20Enlarged%20Photo%20Pages/crataegus.htm>.

TOTAL RANGE: Idaho, Wyoming, Colorado, Utah, Nevada, Arizona and New Mexico.

RANGE WITHIN ARIZONA: Central Arizona mountains: NE of Payson in Gila and Coconino Counties, and NW of Prescott in Yavapai County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial shrub or small tree.

PHENOLOGY: Flowering mid May–early Jun; fruiting Aug–Sep.

BIOLOGY: The flowers are hermaphrodite (have both male and female organs) and are pollinated by Midges (Plants for a Future, 2016).

HABITAT: Intermontane streamsides, ditches, flood plains.

ELEVATION: Range-wide, according to Flora of North America: 4265 – 7545 feet (1300-2300m). Arizona collections range from 4880 – 6280 feet (1490-1915m).

EXPOSURE: Can grow in semi-shade (light woodland) or no shade.

SUBSTRATE: Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and can grow in heavy clay soil. Suitable pH: acid, neutral and basic (alkaline) soils and can grow in very alkaline soils (Plants for a Future, 2016). .

PLANT COMMUNITY: Probably riparian as two of three collections were “at the edge of the stream” or “near creek.” One within a ponderosa pine forest, the other within a juniper-oak woodland. Associated species include: *Platanus wrightii*, *Juniperus osteosperma*, *Quercus emoryi*, *Opuntia engelmannii*, *Cercocarpus montanus*.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. There are three known collection sites, dating from the 1930's and 1940's, with the newest found in 1993. There is no other data available for population size and/or trend. NatureServe ranks the species secure globally, but critically impaired in Arizona.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None.

SUGGESTED PROJECTS: None.

LAND MANAGEMENT/OWNERSHIP: USDA Forest Service: Coconino, Tonto and Prescott National Forests, and a private land holding.

SOURCES OF FURTHER INFORMATION

REFERENCES:

JStor| Global Plants, accessed 6/28/2016,

<http://plants.jstor.org/stable/10.5555/al.ap.specimen.gh00023489?searchUri=plantName%3D%2522Crataegus%2Brivularis%2522%26syn%3D1>.

Flora of North America (eFloras.org), accessed 6/29/2016,

http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250100156.

Kearney, Thomas H. and Robery H. Peebles. 1951, with supplement 1960. Arizona Flora. University of California Press, Berkeley, CA. p. 378.

NatureServe Explorer, accessed 6/29/2016, www.natureserve.org.

Plants for a Future, accessed 6/29/2016,

<http://www.pfaf.org/user/Plant.aspx?LatinName=Crataegus+rivularis>.

Tropicos, accessed 6/28/2016, <http://www.tropicos.org/Name/27803489>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: Hawthorns often grow in tangled masses in stream bottoms, and birds choose these protected places them for nesting sites. The fruit is eaten by birds, foxes, rabbits, and deer.

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