**PYRACANTHA (ROSACEAE) NATURALIZED IN TEXAS AND THE SOUTHEASTERN UNITED STATES**

**GUY L. NESOM**  
2925 Hartwood Drive  
Fort Worth, TX 76109, USA  
www.guynesom.com

**ABSTRACT**

*Pyracantha coccinea*, *P. fortuneana*, and *P. koidzumii* are recognized to occur outside of cultivation in Texas, and herbarium collections are cited in documentation of their occurrence in Texas and in other states of the southeastern USA. A key includes these and two other species: *P. angustifolia*, a very distinctive species that is cultivated in the southeastern USA, and *P. atalantioides*, a species that has sometimes been mistakenly identified in the same region. The taxonomic distinction between *P. fortuneana* and *P. crenulata* is problematic.

**KEY WORDS:** Pyracantha, naturalized, Texas, southeastern USA

With stimulation by the recent report and clarification by Serviss (2009) for Arkansas and by the need to accurately portray the naturalized non-native flora of Texas (Nesom 2009a, 2009b), an overview of introduced *Pyracantha* M. Roemer in the state is presented here. To broaden the context, taxa are included from other states in the southeastern USA, as represented by collections in BRIT-SMU-VDB, GH, MO, and TEX-LL.

*Pyracantha* was not included in the floristic account for Texas by Correll and Johnston (1970). Johnston’s floristic update (1990) included the genus with the line “732. Add: *Pyracantha coccinea* M.J. Roemer” — without other documentation. Turner et al. (2003) mapped one species of *Pyracantha* for Texas (15 counties), identifying it as *P. coccinea*. For the southeastern USA, Robertson (1974) noted only *P. coccinea* and *P. koidzumii* (Hayata) Rehder as naturalized, the latter only from South Carolina, as reported by Clark et al. (1973). The PLANTS Database (USDA, NRCS 2009) indicates that these two as well as *P. fortuneana* are becoming more widely naturalized in the Southeast.

The key below allows distinction of the three species naturalized in Texas and the southeastern USA (*P. coccinea*, *P. fortuneana*, and *P. koidzumii*) and also includes two other species: *P. angustifolia*, a distinctive species cultivated in the southeastern USA, and *P. atalantioides*, a species sometimes mistakenly identified in the same region. As with other commonly cultivated species, placing a plant in one or another species may be an artificial classification, because hybrids of *Pyracantha* are sold and planted and cultivars often apparently cannot be unequivocally assigned to a single species in its typical expression. Several cultivars are explicitly indicated by Meyer et al. (1994) to be of hybrid origin (*P. koidzumii x P. fortuneana*; *P. koidzumii x P. coccinea*).

There apparently are only about 10 or fewer species of *Pyracantha* in the world, and no critical overview of the genus has been published. Nine species occur in China (Gu & Spongberg 2003). Compilations by Meyer et al. (1994) and Egolf and Andrick (1995) indicate that hundreds of cultivars exist.

1. Leaf blades 4–8 mm wide, abaxially densely and persistently tawny-puberulent to puberulent-villous, margins entire .......................... **Pyracantha angustifolia**
1. Leaf blades 5–25 mm wide, abaxially glabrous or quickly glabrescent, margins entire or crenate to crenulate-serrate or apiculate.
2. Leaf margins entire or occasionally 1–3(5) very shallow teeth per side, apices rounded to truncate, usually retuse ....................................................... **Pyracantha koidzumii**

2. Leaf margins usually crenate to crenulate or crenulate-serrate with numerous teeth or apiculae, apices mostly acute or obtuse to rounded or truncate, rarely retuse.

3. Leaf blades narrowly elliptic to rhombic-elliptic, sometimes narrowly so, apices acute, margins crenate to crenulate .................................................. **Pyracantha coccinea**

3. Leaf blades narrowly obovate to obovate-oblanceolate (widest above the middle) or oblong to elliptic (widest at the middle), apices obtuse to rounded, truncate, or retuse, margins very shallowly to minutely serrulate, crenulate-serrate, or apiculate, less commonly apparently entire in **P. atalantioides**.

4. Leaf blades narrowly obovate to obovate-oblanceolate (widest above the middle) ........................................... **Pyracantha fortuneana**

4. Leaf blades oblong to elliptic (widest at the middle) ........................................ **Pyracantha atalantioides**


Leaf blades narrowly elliptic to rhombic-elliptic, sometimes narrowly so, 16–40 mm x 6–14 mm, glabrous adaxially, glabrous or quickly glabrescent abaxially, apices acute, margins crenate to crenulate

**ALABAMA.** Hale Co.: 4.2 mi W of Faunsdale, shrub in chalk glade, 9 Sep 1968, *Kral 33085* (VDB).

**LOUISIANA.** St. Landry Par.: Opelousas, spontaneous in some places, Aug 1883, *Letterman s.n. (GH).*

**OKLAHOMA.** Payne Co.: ca. 0.5 mi NW of Stillwater, 10 Oct 1947, *Harn 93 (SMU)._**

**SOUTH CAROLINA.** Anderson Co.: Murray[?], 1 Oct 1919, *Davis s.n. (MO).*

**TENNESSEE.** Davidson Co.: vicinity of Nashville, no date, *Gattinger s.n. (GH);* vicinity of an old Federal fort near Nashville, low swampy meadow near New Lake, Jul 1884, *Gattinger s.n. (GH).*


**TEXAS.** Angelina Co.: 10 mi SE of Zavalla, 4 Apr 1980, *Fritz s.n. (BRIT)._**

**Scurry Co.:** Dunn, sandy loam, 23 Oct 1965, *Fuller 20 (SMU)._**

Most records identified by the Invaders of Texas database (2009) as *P. coccinea* are *P. koidzumii* and *P. fortuneana*. Records 7673 and 7744 from Bexar Co. are *Forestiera pubescens* Nutt.; record 7672 from Bexar Co. is *Condalia hookeri* M.C. Johnston. At least 23 cultivars in the southeastern USA are derived from *P. koidzumii* (Meyer et al. 1994).

Also naturalized in British Columbia; California, District of Columbia, Georgia, Mississippi, North Carolina, New Mexico, New York, Ohio, Oregon, Pennsylvania, South Carolina, Utah, and Virginia (fide PLANTS Database). Naturalized in Missouri: Madison Co.: St. Francis River, Silver Mine Rec. Area, USFS/MDC, glade next to river, 6 Aug 1996, *Erickson 96A (MO)._**

A report of *P. coccinea* from Arkansas appears to represent a plant persisting from cultivation (Serviss 2009). The PLANTS Database record for Florida stems from Robertson (1974), but a voucher is not known and *P. coccinea* is regarded an “excluded species” for that state (Bruce Hansen pers. comm., 2009). Native to from southern Europe to western Asia; naturalized in Europe, South Africa, Australia, Japan.

**PYRACANTHA FORTUNEANA** (Maxim.) H.L. Li, J. Arnold Arbor. 25: 420. 1944.


Leaf blades narrowly obovate to obovate-oblanceolate (widest above the middle), 15–60 mm x 5–20(–25) mm, glabrous to glabrescent on both surfaces, apices usually obtuse to rounded or truncate, margins very shallowly to minutely serrulate, crenulate-serrate, apiculate with 6–15 teeth, smaller leaves on a branch or plant with fewer teeth, very rarely a few leaves subentire.


**SOUTH CAROLINA.** Oconee Co.: W of the city of
Walhalla, Chauga River at SC Rte 290, dense thicket along the river, 22 May 1988, *Spongberg & Boufford 17111* (GH). **Texas. Wood Co.:** residential area with oak, pine, elm, etc., 0.9 mi S of jct Hwy 37 and Coke Road, 10 Oct 1971, *White 10* (SMU). The Invaders of Texas database (2009) has records of *P. fortuneana* from Bexar Co. (7625, 7931, 7489, 7084?, 6471?, 6466?, 5596?), Burnet Co. (5796), and Travis Co. (1462, 8162).

Also naturalized in California (fide PLANTS Database). An image of a collection of *P. fortuneana* collection from Florida is available on the Atlas of Florida Vascular Plants (Wunderlin & Hansen 2008): Okaloosa Co. *(Wilhelm 11939, USF)—* this plant, which has regrown from the very base after being mowed along a roadside, has obovate, atypically small leaves coarsely toothed distally and it might be a growth form of *P. koidzumii*, which is more commonly naturalized in Florida. Native to China; naturalized in Australia, New Zealand, Hawaii. At least 7 cultivars in the southeastern USA are derived from *P. koidzumii* (Meyer et al. 1994).


Leaf blades usually oblong or narrowly elliptic to elliptic-obovate, obovate, or narrowly obovate, 11–38 mm x 5–15 mm, glabrous on both surfaces, apices rounded to truncate, usually retuse, margins entire or occasionally 1–3(–5) very shallow teeth per side.


1 mi W of Loop 1/MoPac), trail from pool-recreation area, riparian assoc. and adjacent mixed oak-juniper woodland, 23 Apr 1999, Siedo 836 (TEX). Specimens at TEX from Bell, Brown, Galveston, Hays, and McCulloch counties are from cultivated plants. The Invaders of Texas database (2009) has records of *P. koidzumii* from Bexar Co. (7685, 7627, 7493, 7959, 7953, 7343, 5598), Burnet Co. (5793), Kerr Co. (510, 497, 606, 5931, 5928), Liberty Co. (588), Tarrant Co. (25300), Travis Co. (1462, 1589, 4544), and Williamson Co. (5834).

Also naturalized in Arizona and Florida (fide PLANTS Database). Images of *P. koidzumii* collections from Florida are available on the Atlas of Florida Vascular Plants (Wunderlin & Hansen 2008): Citrus Co. (Lakela 25802), Hernando Co. (Correll 52541), Hillsborough Co. (King 66), Okaloosa Co. (Wilhelm 11495), Pasco Co. (Wise 249), Suwannee Co. (Whetstone 14335), and Walton Co. (Wilhelm 8091). Naturalized in California: Ventura Co., Oak View, escape from cultivation in brushy strip under Ventura River bluff’N of and near Santa Ana Blvd crossing, 23 Oct 1963, Pollard s.n. (TEX). Native to Taiwan; naturalized in Australia, Hawaii.

Many of the collections of *Pyracantha koidzumii* from Alabama were originally identified as *P. atalantioides*. The plant from Cleveland Co., Oklahoma, has persistently tomentose adaxial leaf surfaces (glabrous abaxially) and persistently rusty-tomentose branchlets — it perhaps is a hybrid, as typical *P. koidzumii* is glabrous on both leaf surfaces and has quickly glabrrescent branchlets. Leaves with entire to subentire margins and retuse apices are characteristic of *P. koidzumii*. At least 11 cultivars in the southeastern USA are derived from *P. koidzumii* (Meyer et al. 1994).


Leaf blades narrowly oblong, 10–40 mm x 4–8 mm, abaxially densely and persistently tawny-puberulent to puberulent-villous, apex obtuse to rounded, margins entire.

Naturalized in California (fide PLANTS Database). Native to China; naturalized in Australia, Hawaii, New Zealand, South Africa.

**PYRACANTHA ATALANTIIOIDES** (Hance) Stapf, Bot. Mag. 151: t. 9099. 1926.

*Sportella atalantioides* Hance, J. Bot. 15(175): 207. 1877.


Leaf blades oblong to elliptic (widest at the middle), 15–50 mm x (5–)7–20(–25) mm, glabrous to glabrescent on both surfaces, apices usually obtuse to rounded or truncate, margins shallowly to minutely crenulate-serrate or apiculate.

Not reported as naturalized in North America (fide PLANTS Database). Native to China.

Naturalized in California (fide PLANTS). Native to China, Bhutan, India, Kashmir, Myanmar, Nepal; naturalized in South Africa, Australia, New Zealand, Japan, Europe.

_Pyracantha crenulata_ is included in this account because as represented by Asian collections at GH, it appears to be indistinguishable from _P. fortuneana_. Collections identified as one or the other species have glabrous, obovate to oblanceolate leaves with margins crenate to crenulate and apices obtuse to rounded or truncate and often apiculate. In the Flora of China (Gu & Spongberg 2003), the two taxa are separated by leaf shape (_P. crenulata_, blades “oblong or oblanceolate, rarely ovate-lanceolate, 2–7 × 0.8–1.8 cm”; vs. _P. fortuneana_, blades “usually obovate to obovate-oblong, 1.5–6 × 0.5–2 cm”). Folders as currently identified at GH do not reflect even this subtle difference, nor was I able to sort the collections in a meaningful way. If indeed there is no difference, the name _P. crenulata_ would have priority, and it is a taxon generally recognized as having a wider native distribution. Until a more authoritative assessment is available, continued use here of _P. fortuneana_ is arbitrary.

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**LITERATURE CITED**

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