PISTACIA CHINENSIS (ANACARDIACEAE) NATURALIZED IN NORTH CAROLINA, U.S.A.

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ABSTRACT

Pistacia chinensis is reported as naturalized in North Carolina. Diagnostic characters are discussed and the species is distinguished from *Rhus copallinum* which exhibits similar seedlings.

RESUMEN

Se reporta *Pistacia chinensis* naturalizada en Carolina del Norte. Se discuten los caracteres diagnósticos y se distingue de la especie *Rhus copallinum*, la cual exhibe plantas juveniles similares.

Pistacia chinensis Bunge (Anacardiaceae) is a deciduous, dioecious tree species native to Asia (China, Philippines, Taiwan; Min & Barfod 2008). The species has been reported to be spreading from cultivation and slowly naturalizing in a number of states including Alabama, California, Georgia, and Texas (McWilliams 1991; Texas Non-Native Plants Group 2010; USDA 2011), and now North Carolina. Individuals of the species have been variously planted in city parks and private yards in Raleigh, North Carolina, since at least 1947 (*Fox s.n.*, NCSC). Mature females usually produce copious fruit crops which are dispersed by birds (McWilliams & Arnold 1998; Smith et al. 2008; Krings, pers. obs. [Cedar Waxwings]). In the cities of Raleigh and Cary, seedlings and young trees now appear sporadically in waste places, disturbed margins, and untended beds—similar habitats to those invaded by *Ailanthus altissima* (Mill.) Swingle (Simaroubaceae). Continued promotion as an urban tree through such programs as the City of Raleigh's NeighborWoods, will likely accelerate the spread of *P. chinensis*, much as increased availability has in Texas and Australia (McWilliams 1991; Smith et al. 2008).

In the Carolinas, *Pistacia chinensis* is likely to be most confused at a glance with *Rhus copallinum* L. (Anacardiaceae). When mature, the two can be distinguished vegetatively by (1) the rachis (winged only between the distal 1–2 pairs of leaflets, if at all, in *P. chinensis* vs. distinctly winged between all pairs of leaflets in *R. copallinum*) and (2) the number of leaflets (frequently both imparipinnate and paripinnate leaves present on same individual in *P. chinensis* vs. essentially invariably imparipinnate in *R. copallinum*; Fig. 1a, b, c, i). In addition, the rachis pubescence in *P. chinensis* tends to be limited to the adaxial ridge or at least be more pronounced adaxially, whereas in *R. copallinum* it is ubiquitous.

As young seedlings, *P. chinensis* and *R. copallinum* are exceedingly similar and easy to confuse. Both species exhibit a typical anacardiaceous odor and seedlings of both tend to exhibit imparipinnate leaves that are unwinged or only slightly winged (Fig. 1c, i). Paripinnate leaves are apparently rare in young seedlings of *P. chinensis*. The two species may be distinguished at the seedling stage (as well as later in maturity) by the buds. The terminal buds are well-developed in *P. chinensis*, but absent in *R. copallinum* (Fig. 1d, g). In *P. chinensis*, the axillary buds exhibit outer scales that are obtuse and glabrous or pubescent in lines, and inner scales that are aristate or acute and usually glabrous (Fig. 1e). Scale margins, particularly in mature individuals may be densely short-ciliate. Axillary buds in *R. copallinum*, in contrast, are naked, rounded, and densely pubescent throughout (Fig. 1h). As they mature, individuals of *R. copallinum* will develop more and more pronounced rachis wings, although the leaves will remain decidedly imparipinnate. *Pistacia chinensis* individuals, in contrast, will not develop conspicuous rachis wings between each pair of leaflets, but will bear numerous paripinnate leaves to the point that paripinnate leaves may dominate on any one individual when mature.

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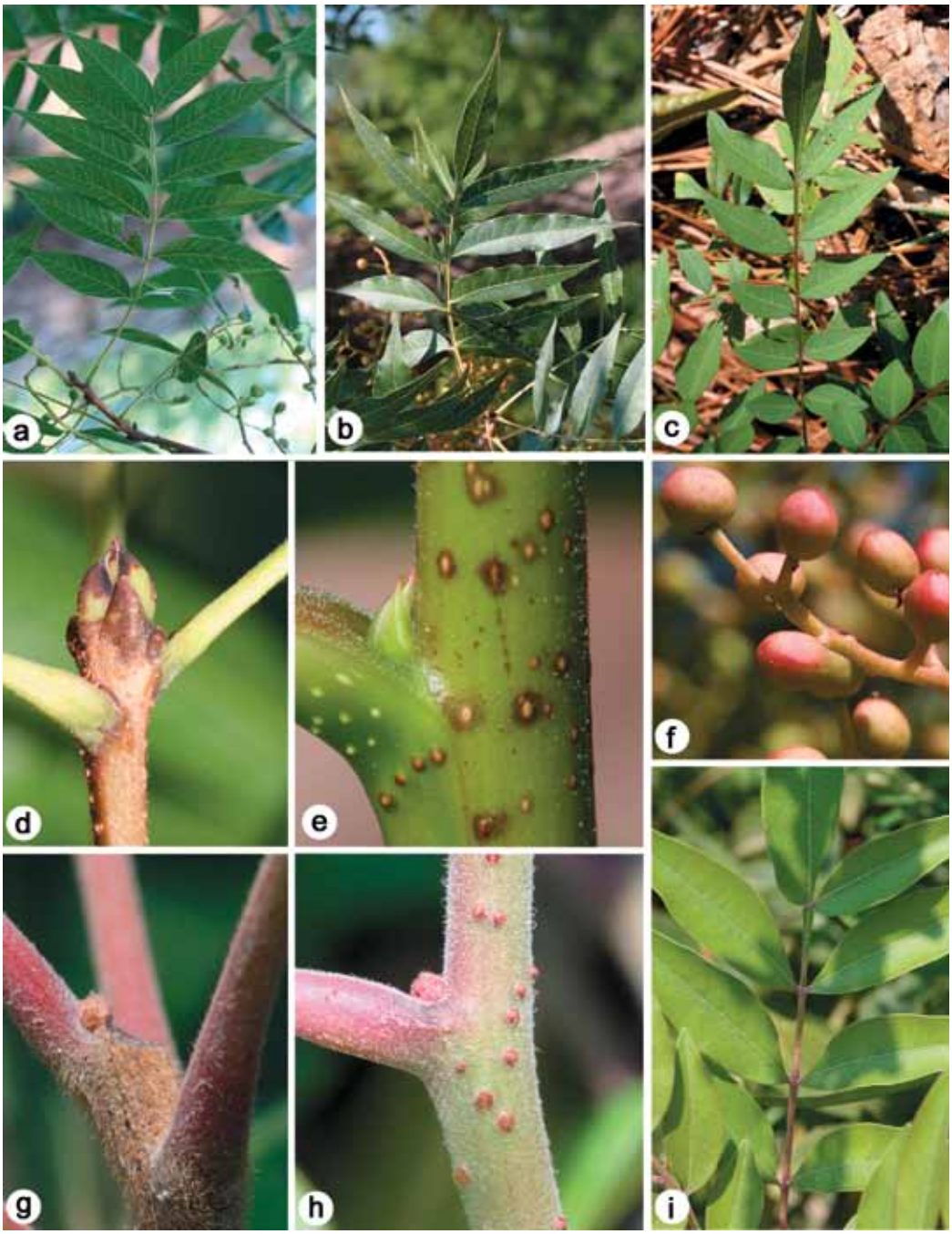

Fig. 1. Morphology of *Pistacia chinensis* (a–f) and *Rhus copallinum* (g–i): **a,** paripinnate leaf of mature tree; **b,** imparipinnate leaf of mature tree; **c,** imparipinnate leaf of seedling; **d,** terminal bud, note aristate tips of inner scales; **e,** axillary bud, note acuminate tips; **f,** drupe; **g,** twig terminus, note absence of terminal bud; **h,** axillary bud (naked and pubescent); **i,** leaf of seedling, note rachis wing developed only between terminal two leaflet pairs. (Photos: A. Krings; a, b, d, e: Green Park and vicinity, Raleigh; c, f: North Cary Park, Cary; g–i: Edge of *Pinus taeda* stand, Schenck Forest, Raleigh)

Pistacia chinensis Bunge, Enum. Pl. China Bor. 15. 1833.

Voucher specimens: **NORTH CAROLINA. Wake Co.:** Raleigh, Johnson St., spontaneous in weedy bed, 35°47.277'N, 78°39.173'W, 29 Aug 2011, *Krings 2459* (NCSC); Raleigh, spontaneous in disturbed edge flanked by two urban parking lots, with *Ailanthus altissima*, *Broussonetia papyrifera*, *Carya illinoensis*, *Hedera helix*, and *Lonicera japonica*, 35°47.284'N, 78°38.396'W, 29 Aug 2011, *Krings 2463* (NCSC).

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