

CAYRATIA JAPONICA (VITACEAE) NEW TO
NORTH CAROLINA AND AN UPDATED KEY TO THE
GENERA OF VITACEAE IN THE CAROLINAS

Alexander Krings

*Herbarium, Department of Botany
North Carolina State University
Raleigh, North Carolina 27695-7612, U.S.A.
Alexander_Krings@ncsu.edu*

Robert J. Richardson

*Department of Crop Science
North Carolina State University
Raleigh, North Carolina 27695-7620, U.S.A.
Rob_Richardson@ncsu.edu*

ABSTRACT

A population of the introduced and expanding *Cayratia japonica* (Thunb.) Gagnep. (Vitaceae) is reported for North Carolina. Voucher specimens are cited and an updated key to the genera of Vitaceae in the Carolinas is presented.

RESUMEN

Se cita de Carolina del Norte una población de la especie introducida y en expansión *Cayratia japonica* (Thunb.) Gagnep. (Vitaceae). Se dan los pliegos testigo y se presenta una clave puesta al día de los géneros de Vitaceae en las Carolinas.

The Asian vine *Cayratia japonica* (Thunb.) Gagnep. var. *japonica* (Vitaceae) is known from Louisiana, Mississippi, and Texas, but has not been previously reported escaped elsewhere in the United States (Shinners 1964; Brown 1992; Alford 2003; USDA, NRCS 2005). The species was not previously reported for North Carolina by Radford et al. (1968), Pittillo et al. (1969), Pittillo et al. (1972), Kral (1981), Pittillo and Brown (1988), or USDA, NRCS (2005). However, an aggressive and persistent population of the plant was recently encountered on private property in a suburban area near Winston-Salem (Forsyth Co., NC). Vines were growing up trees (reaching heights of 9–12 m high), along a fence, and generally throughout the landscape—covering about 0.5 acre. When visited in late August, the vines were in full flower and well-attended by honeybees and wasps. Based on conversations with the landscaper, individual ramets aggressively re-sprouted following handweeding. Apparently, a vine of > 2.5 cm diam at the base had been removed. Remaining roots at the site were ca. 0.6 cm diam. It remains unclear how the species arrived. Both previous and current homeowners, the latter an avid birdwatcher, indicated that the species had not been planted. However, intentional planting or contamination through other ornamental plantings cannot be ruled out. Bird dispersal may be a possibility, although unlikely as additional populations between North Carolina and the Gulf Coast would be expected under this scenario and reproduction is reported to be primarily vegetative in North America—at least in Texas (Brown 1992).

Although the vector of arrival remains unknown, the persistence of the North Carolina population is of concern. Alford (2003) reported a Mississippi population tripling in size within 10 months. Little information is currently available regarding control measures.

Voucher specimens: **U.S.A. NORTH CAROLINA. Forsyth Co.:** Wesleyan Lane, Winston-Salem, 11 Aug 2005, *Jonathan Todd s.n.* (NCSC, USCH). Wesleyan Lane, Winston-Salem, 29 Aug 2005, *Robert J. Richardson s.n.* (FLAS, NCSC, USCH).

Cayratia japonica (Fig. 1) can be distinguished from other Vitaceae taxa in the Carolinas by the pedate quinquefoliate leaves. Tendrils are bifurcating and not disk-tipped. An updated key to the genera of Carolina Vitaceae follows. *Cissus* is included here based on the listing of *C. trifoliata* (L.) L. by Weakley (2005). *Cissus trifoliata* is cultivated in North Carolina, but has not been observed to escape (Krings, pers. obs.).

1. Tendrils, at least some, terminating in adhesive disks _____ **Parthenocissus** Planch.
1. Tendrils lacking adhesive disks
 2. Leaves pedate quinquefoliate _____ **Cayratia** Juss.
 2. Leaves simple, palmately, or pinnately compound, but never pedate quinquefoliate.
 3. Inflorescence a thyrse; petals connate at their apices _____ **Vitis** L.
 3. Inflorescence a dichotomous or umbelliform cyme; petals free at their apices.
 4. Cyme dichotomous; flowers 5-merous _____ **Ampelopsis** Michx.
 4. Cyme umbelliform; flowers 4-merous _____ **Cissus** L.

ACKNOWLEDGMENTS

We thank Jonathan Todd for bringing the Forsyth population to our attention and the curators and staff of DUKE and NCU for access to their collections. Guy Nesom offered helpful review comments.

REFERENCES

- ALFORD, M.H. 2003. Noteworthy collections: Mississippi. *Castanea* 68:93.
- BROWN, L.E. 1992. *Cayratia japonica* (Vitaceae) and *Paederia foetida* (Rubiaceae) adventive in Texas. *Phytologia* 72(1):45-47.
- KRAL, R. 1981. Some distributional reports of weedy or naturalized foreign species of vascular plants for the southern states, particularly Alabama and middle Tennessee. *Castanea* 46:334-339.
- PITILLO, J.D., J.H. HORTON, and K.W. GREENLEE. 1969. Additions to the vascular flora of the Carolinas. I. *J. Elisha Mitchell Sci. Soc.* 85:18-22.
- PITILLO, J.D., J.H. HORTON, and K.E. HERMAN. 1972. Additions to the vascular flora of the Carolinas. II. *J. Elisha Mitchell Sci. Soc.* 88:144-152.
- PITILLO, J.D. and A.E. BROWN. 1988. Additions to the vascular flora of the Carolinas. III. *J. Elisha Mitchell Sci. Soc.* 104:1-18.
- RADFORD, A.E., H.E. AHLES, and C.R. BELL. 1968. *Manual of the vascular flora of the Carolinas.* The University of North Carolina Press, Chapel Hill.

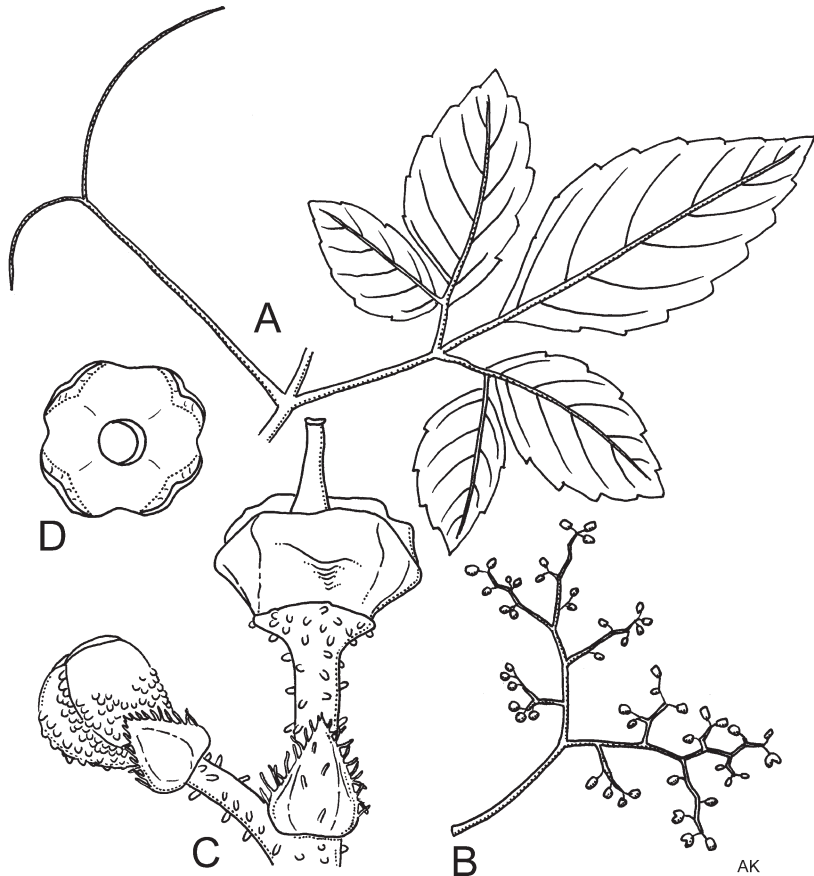


FIG. 1. *Cayratia japonica* (Thunb.) Gagnep.: **A.** Pedate quinquefoliate leaf and bifurcate tendril; **B.** inflorescence; **C.** detail of flower (petals removed) and flower bud; **D.** disk (style removed). Leaf, flower bud, and disk based on Darwin & Sundell 903 (NCU); tendril and inflorescence based on Sundell 1580 (NCU).

SHINNERS, L.H. 1964. *Cayratia japonica* (Vitaceae) in southeastern Louisiana: new to the United States. *Sida* 1:384.

USDA, NRCS. 2005. *The PLANTS Database*, Version 3.5 (<http://plants.usda.gov>). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge.

WEAKLEY, A.S. 2005. *Flora of the Carolinas, Virginia, and Georgia*: Working draft, 10 June 2005. North Carolina Botanical Garden, Chapel Hill.