

THREE SPECIES OF GREENHOUSE OR CONTAINER NURSERY WEEDS VERIFIED OR NEW TO KENTUCKY

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ABSTRACT

Recent collections of greenhouse and container nursery weeds have resulted in three species verified or new to Kentucky: *Acalypha arvensis*, *Amaranthus blitum*, and *Parietaria floridana*.

ACALYPHA ARVENSIS Poep. & Endl. [Euphorbiaceae]

Voucher specimen. KENTUCKY. Madison Co. Richmond, Eastern Kentucky University greenhouses, several plants in pots with tropical foliage or under benches, 4 Oct 2019, *Adanick 586* (EKY).

This is the first report of *Acalypha arvensis* from Kentucky (Figure 1) and the first outside of Florida (Levin 2016) and Mobile Co., Alabama (Keener et al. 2019), where it was found near a commercial plant nursery and florist (*Horne 3288*, UWAL). Field copperleaf is a neotropical plant native to Central America, Mexico, and the West Indies. It was first documented in the 1980s at the Mission Road greenhouse of Florida State University (*Anderson 13476*, FSU) and became established through the disposal of growing media (G.A. Levin, pers. comm.). Although it is scattered in eight Florida counties (Wunderlin et al. 2020), there is no evidence that field copperleaf has escaped to establish itself outside of greenhouses in Kentucky.

AMARANTHUS BLITUM L. [Amaranthaceae]

Voucher specimens. KENTUCKY. Barren Co. Glasgow, Shipley's Greenleaf Nursery, 2918 Scottsville Road, large plant under bench in large greenhouse nearest to Hwy 31E, 26 Sep 2019, *Adanick 587* (APSC). **Boone Co.** Burlington, Ammon Nursery, Camp Ernst Road, in back of storage building near mulch bins, 3 Oct 2019, *Adanick 588* (APSC). **Fayette Co.** Lexington, Michler's Florist and Greenhouse, in walkway near receiving area for tropical foliage shipments, 17 Jun 2019, *Adanick 577* (EKY); Lexington Sunshine Grow Shop, Southland Drive, few plants under outdoor display benches, 17 Jun 2019, *Adanick 578* (EKY). **Madison Co.** Richmond, Eastern Kentucky University greenhouses, many growing in walkways and under benches, high rate of germination, 21 Sep 2018, *Adanick 425* (EKY), *Adanick 585* (APSC). **Nelson Co.** Bardstown, MVP Garden Center, 5729 New Haven Road, many in walkways and under benches, [employees verified import of this weed by tropical plants from Florida], 16 Jul 2020, *Adanick 20.115* (APSC). **Rowan Co.** Morehead, Morehead State University (MSU) Greenhouses, Greenhouse #4, many growing in walkways and under benches, 24 Jun 2019, *Adanick 564* (EKY); MSU Greenhouse #2, many growing in walkways and under benches, 24 Jun 2019, *Adanick 540* (EKY); MSU Greenhouse #1, many growing in walkways and under benches, 24 Jun 2019, *Adanick 510* (APSC); MSU Greenhouse #5, many growing in walkways and under benches, 24 Jun 2019, *Adanick 548* (APSC). **Warren Co.** Bowling Green, Hillview Garden and Florist, 2209 Nashville Road, 7-8 plants in walkways in container nursery/display gardens, 16 Jul 2020, *Adanick 20.116* (APSC).

This is the first report of *Amaranthus blitum* from Kentucky (Figure 2). Purple amaranth is a pantropical weed sporadically found in greenhouses, nurseries, ornamental gardens, horticultural plantings, and ruderal habitats in Africa, Eurasia, Central America, South America, and the USA (Mosyakin & Robertson 2003). In the southern and northeastern USA, its distribution range is New Hampshire southward through the Atlantic coastal states to Florida and the Midwest in Arkansas, Louisiana, Missouri, Ohio, Tennessee, and Texas, and to the west in California, Utah, and Washington (USDA, NRCS 2020). In Kentucky, it has been verified in nine counties (Barren, Boone, Campbell, Fayette, Jessamine, Madison, Nelson, Rowan and Warren) to date. It has also been confirmed by the first author that populations are becoming established outdoors (Jessamine and Madison counties).

Purple amaranth was first found in the northeastern USA from a collection in New York's Central Park in 1861 (Costea et al. 2001; Costea & Tardiff 2003) and was collected in 1877 from ship's ballast in Philadelphia, Pennsylvania (Burk 1877), and at Camden, New Jersey, in 1879 (*Parker s.n.*, CHRB). It has since spread widely, presumably through the horticultural trade. Nursery workers in Nelson County and a greenhouse owner in Jessamine County suggest this weed is being introduced from tropical plants purchased from Florida (P. Cooper, pers. comm.).

If infraspecies are warranted, our specimens are probably referable to *Amaranthus blitum* subsp. *emarginatus* (Moq. ex Uline & Bray) Carretero, Muñoz, Garmendia, & Pedrol, from Costea and Tardiff (2003).

PARIETARIA FLORIDANA Nutt. [Urticaceae]

Voucher specimen. KENTUCKY. Madison Co: Richmond, Eastern Kentucky University greenhouse ('Poly-house') in aisleways to moist area near ground beds, basal divergence of main lateral leaf veins; achenes measure 0.74 mm long with flanged stipe, 29 Feb 2020, *Adanick 20.100* (EKY).

This is the first verified report from Kentucky (Figure 3). Although first found only inside greenhouses, several plants were found in July of 2020 established outdoors at a greenhouse facility in Jessamine County by the first author (*Adanick 20.118*, APSC).

A previous report of this species from Carter, Pulaski, and Wayne counties (Braun 1943) was based on misidentified specimens (*Braun 2269, 3098, 4371*, US) of *Parietaria pennsylvanica* Muhl. ex Willd. A diminutive Kentucky specimen from a sandstone rock house in Menifee County (*Taylor, s.n.*, BERA), annotated as *P. floridana* is so completely glued to the herbarium sheet that fruit and achene morphology cannot be observed. A similar specimen from a comparable sandstone cliff habitat in Powell County was collected during the summer of 2020 (*Adanick 20.121*, APSC) and grown to maturity by the first author.

Subsequent comparisons of seed morphology and venation and examination of related herbarium specimens (*Medley 7142-82*, APSC; *Leonard 7178*, NCU; *Fields 820*, EKY; *Stuart Lassiter 2977*, TENN) suggest the Taylor specimen and the Powell County specimen may be ecological variants of *Parietaria pennsylvanica*, as neither specimen exhibits basal divergence of the leaf veins or the flanged stipe of the achene (Hinton 1968). Further study is warranted.

Parietaria floridana is otherwise known from New Hampshire and Maryland, south to Florida and west to Arkansas and Texas (USDA, NRCS, 2020). Florida pellitory is native to North America and occurs mostly on the outer Coastal Plain (Weakley 2015).



Figure 1. *Acalypha arvensis* from a greenhouse in Madison Co., Kentucky (Adanick 586, EKY).

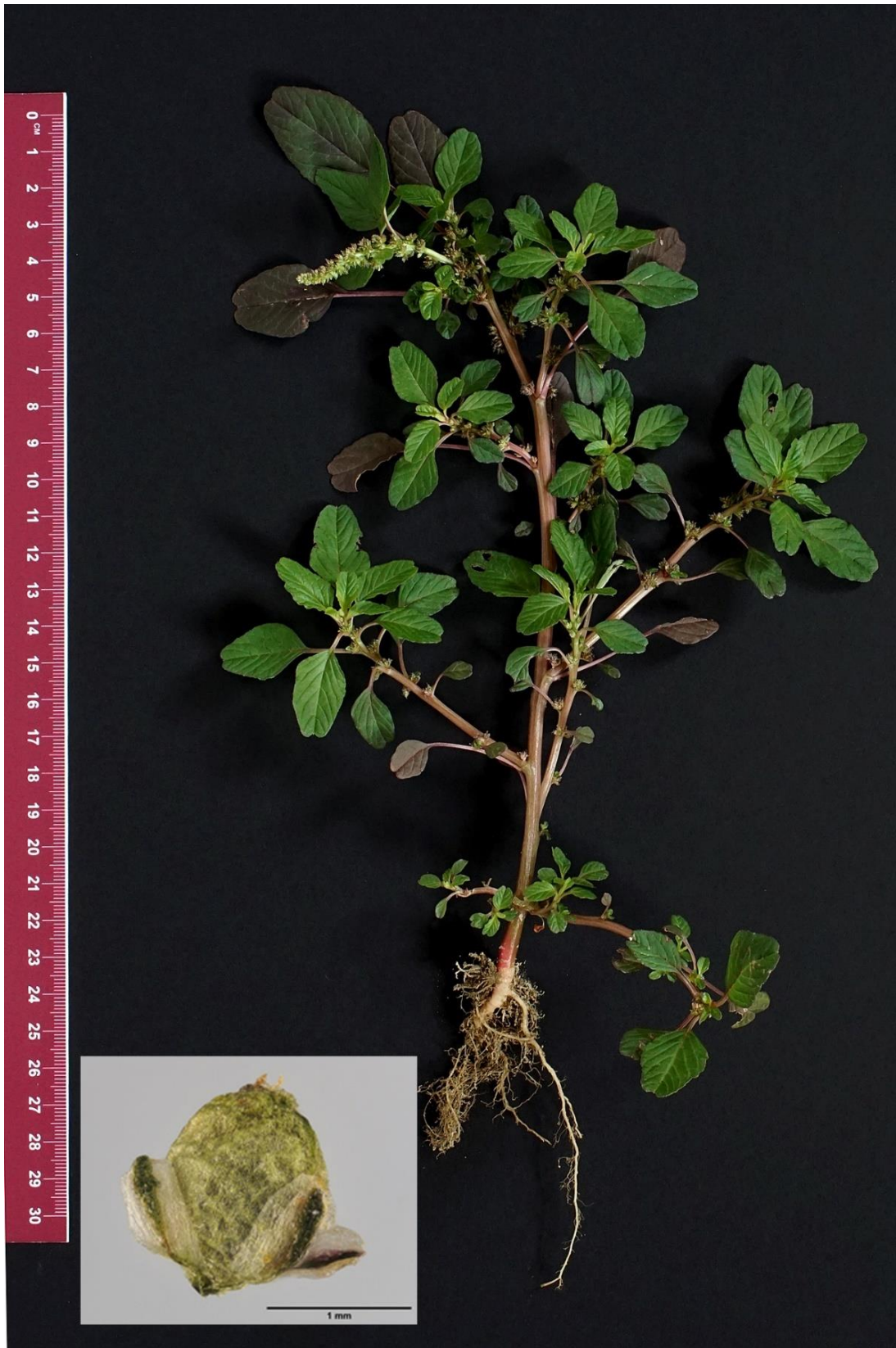


Figure 2. *Amaranthus blitum* from a greenhouse in Jessamine Co., Kentucky (Adanick 576, EKY). Inset: fruit with 3 tepals.



Figure 3. *Parietaria floridana* from a greenhouse in Madison Co., Kentucky (Adanick 20.100, EKY). Inset: achene with flanged stipe.

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