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PLANT PORTRAIT

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1168. *Eupatorium hyssopifolium* L.

Compositae

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Summary

Eupatorium hyssopifolium L. (Compositae: Eupatorieae: Eupatoriinae) is described and illustrated, and the species is provided with an expanded synonymy that includes type citations, known types, and supplementary comments. Notes are provided for the species' cultivation, propagation, likely pests and diseases, and availability. The species' long history of cultivation, from 1699, is noted, although it is apparently not now commercially available in the United Kingdom. Selected illustrations of the species are cited, and statements of the species' distribution, habitat and ecology, phenology, etymology, conservation status and vernacular names provided. Additional commentary is provided concerning the conservation status and varying taxonomic concepts, as well as the presence of hybrids, polyploidy and taxonomic concepts.

INTRODUCTION

The subject of the present plate, *Eupatorium hyssopifolium* L. (Compositae: Eupatorieae: Eupatoriinae) (Plate 1168), is the second species from the genus illustrated in this special issue. It was originally seen, in bud, by the first author some three years ago, together with vouchers for other Compositae in the North American Prairie beds at the Royal Botanic Gardens, Wakehurst, East Sussex. Other than being an almost all-white flowered species, it is somewhat surprising it has never been illustrated before in the *Magazine*, especially since it is one of the oldest species known in cultivation; Sweet (1826: 228) listed the species as having been in cultivation in Great Britain since 1699.

The tribe Eupatorieae, of just over 2200 species in over 185 genera (Hind, 2006a, 2007), is best represented in cultivation by several species of *Eupatorium* L., but includes a moderate range of species in *Ageratina* Spach (see Hind, 2006b), *Ageratum* L., *Liatris* Gaertn. ex Schreb. (see Hind, 2023 [2024]; Hind & Lambkin, 2023[2024]; Hind & King, 2025b[2026b]), etc., as well as several tender or

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half-hardy taxa. One of the most characteristic features of flowering plants in the tribe is the hazy, somewhat fluffy appearance of the capitula and sometimes the whole inflorescences. When taught to students, this is one of the easiest characters to convey, but the cause is perhaps interesting and shown very clearly in the subject of this plate, and is the reason for at least one of the tribe's common names – Mistflower. The fluffiness is the result of the long exserted style arms found in nearly all members of the tribe, enhancing the overall appearance, the style and style arms of the same colour as the corollas. Some of the better-known taxa were covered by Hind (2006a) and Hind & Lambkin (2023)[2024], including five species of *Eupatorium*, suitable for a prairie planting or a large garden border. The Eupatorieae is nominally divided into 17 subtribes of quite varying size (Hind & Robinson, 2006), and the Eupatoriinae, where our plant belongs, is one of the smaller, with four genera and a total of about 87 species – *Eupatorium* L. (48 spp.), *Austroeupatorium* R.M. King & H. Rob. (20 spp.), *Stomatanthes* R.M. King & H. Rob. (17 spp. – see Hind & Goyder, 2014) and *Hatschbachiella* R.M. King & H. Rob. (2 spp. – King & Robinson, 1972).

Eupatorium (Boneset, Joe Pye Weed, Trumpetweed, Thoroughwort, snakeroots) is now considered a moderate sized genus of c. 48 spp. (cf. Hind, 2006a, 2023[2024]), predominantly in North America (23 spp.), Asia (24 spp.) and the widespread Eurasian *E. cannabinum* L. The genus was named after Mithridates VI Eupator [= Mithridates Eupator Dionysus] (Σινώπη, Sinope, Turkey 135 BC – Παντικάπαιον, Panticapaeum (= Kerch), Crimea 63 BC, after attempting to commit suicide and/or combined with assassination, since he was immune to most traditional poisons). He was a polyglot, eminent politician, an opponent of the Roman Republic, and the ruler of the Kingdom of Pontus, in northern Anatolia, taking over from his assassinated father (Mithridates V Euergetes, the seventh King of Pontus, who was poisoned). In cultivating an immunity to poisons (by regularly ingesting sub-lethal doses – a process now called mithridatism), he was one of the first to use *Eupatorium* in medicine. He later became known as Mithridates the Great. The ruins of the city in which he died are in the modern city of Kerch, in Crimea, and can be found on a hill later named Mount Mithridat (or Mithridat Mount). In 2007 the hill was nominated as one of the Seven Wonders of Ukraine, but not, alas, coming anywhere in the internet- or expert- votes, (and even outside of the extended ranking) (7 ЧУДЕС УКРАЇНИ, 2007)! The name *Eupatorium* is a name used by Pliny, and ευπατοριον used by Dioscorides (see Freer, 2003 – a translation of Linnaeus' *Philosophia Botanica*), before being taken up by Linnaeus (1753, 1754), from Tournefort (1694: 361) – who stated '*Eupatorium* porte dit-on le nom du Roi *Eupator*.' *Eupatorium cannabinum* L., the generitype, is probably the plant that Mithridates VI Eupator experimented with, as it is the only species growing in the area that he would have met with, although *Agrimonia eupatoria* L. (Rosaceae) might be another possibility. The somewhat spurious assertions in the results of an 'AI Overview' (of a basic web browser search using Google in Safari vers. 26.0.1) that the North American *Eupatorium perfoliatum* L. was the species he had to hand are dismissed for the nonsense that they are.

CULTIVATION

Sweet (1826: 228) listed the species as having been in cultivation since 1699, based upon its appearance in Dillenius's *Hortus Elthamensis* (1732: 141, T. CXV), as *Eupatorium virginianum folio angusto, floribus almis* herm. Cat. Plant. ad Fin. Par. Bat. The plant is apparently not now commercially available in the UK and, in a somewhat confused account, Galloway (2000) did not include the species in his account of an exceptionally broad-concept *Eupatorium* in cultivation. However, the species has historically been grown at RBG, Kew, in the Herbaceous Department in the Living Collections, back in 1942, but neither this, nor any other stock no longer exists. Our plants (Accession number 2020–1271*1 (U. 760 PRAIRIE)), are growing reasonably well in the Atlantic Coastal Plain bed at Wakehurst. The species is widely available in the United States but was not included by Antonio & Masi (2001), although present in the States covered in their book.

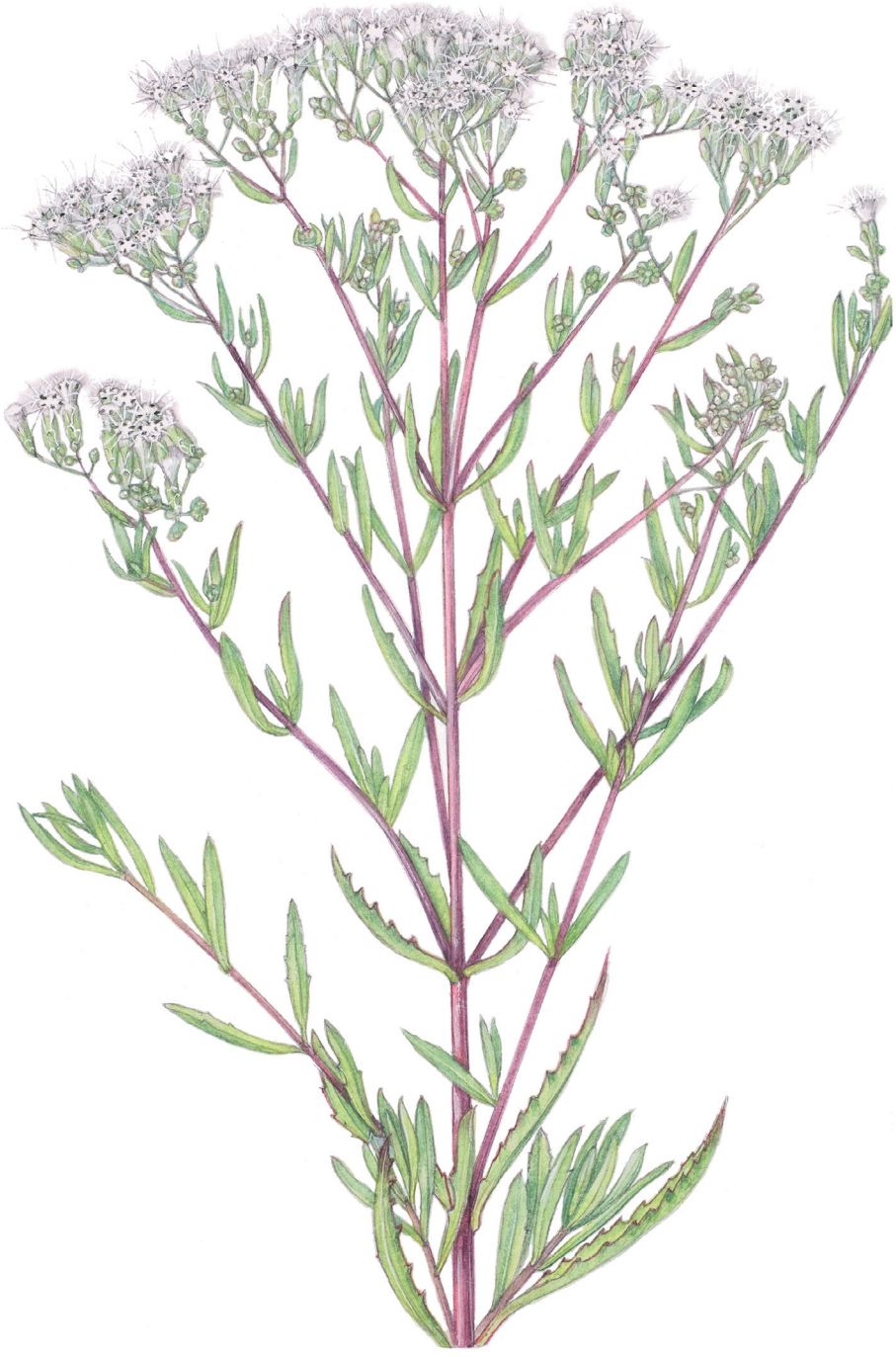


PLATE 1168 *Eupatorium hyssopifolium* JOANNA LANGHORNE

Given the plant's range in the United States, it is not surprising that it is listed with the hardiness rating H4 (−10 to −5°C) and H5 (−15 to −10°C) by the RHS (2025), suggesting it is hardy throughout much of Britain and Ireland in both exposed and sheltered areas. Although it is clearly a plant for drier conditions, it can tolerate some moisture, preferring full sun, and clearly tolerating a wide range of soil types.

In the medium height range, and with white corollas in many-headed corymbiform inflorescences, the species contrasts well with many Compositae in the late summer and autumnal flowering colour ranges. It would mix well with the yellow-flowered *Solidago* spp., *Coreopsis* spp., and certainly amongst the more open *Helianthus* spp. (e.g. *H. mollis* Buc'hoz and *H. occidentalis* Riddell – see Hind & King, 2025a[2026a], and around the pinks and purples of *Echinacea* spp. (e.g. *E. purpurea* (L.) Moench – see Hind et al., 2025[2026]; *E. angustifolia* DC. – see Hind & Lambkin, 2025b[2026b]), the architectural *Liatris* spp. (certainly the taller species, such as *L. pycnostachya* Michx. – see Hind & King, 2025b[2026b]), *Vernonia* spp. (e.g. *V. missurica* Raf. – see Hind & Langhorne, 2023[2024]), and the autumnal flowering symphyotrichums (e.g. *Symphyotrichum laeve* (L.) Á. Löve & D. Löve – see Hind & Lambkin, 2023[2024] – and *S. oolentangiense* (Riddell) G.L. Nesom, see Hind & Lambkin, 2025a[2026a]).

Propagation. Two fairly straightforward methods for propagating our species are available, by seed (= achene) and division of mature plants. Seed propagation is by what is commonly called cold-moist stratification:

Cold-moist stratification. Seed should be collected as it matures on the plants, and to guarantee it doesn't blow away, muslin bags can usefully be used to cover the maturing inflorescences. If seed has been obtained, it can be sown indoors or under cover in early spring (early February through to late May); autumn sowings indoors can be from August to end November. Direct sowings may be made from early March to end of May. Indoor sowings should be made onto moist, well-drained seed compost just covered with soil or Vermiculite. Put into a polythene bag and cold stratify (−4 to +4°C for 12 weeks). Seed should germinate within 3 to 6 weeks, but germination rates can be improved after a pre-treatment of 4–6 weeks of cold moist stratification (when they should germinate in 2 to 3 weeks) or if planted outside in the autumn or early winter, as well as in the spring. However, remember not to chill the seeds in a freezer, as that gets too cold – a fridge should suffice. Pots or trays should be removed to a propagator or glasshouse at 14–24°C, keeping moist, with basal watering only, and transplanted when large enough to handle into small pots and grow on. Acclimatize and plant out when conditions are suitable. Transplanted autumn sown seeds should be over-wintered under cover and planted out the following spring. Direct sowings should be made onto prepared soil (to a very fine tilth), and watered, thinning seedlings as required.

Division. Division is best done when the plants are dormant so as to avoid stressing the plants during their active growing season, thus during the early spring or late autumn is best. If done during the late autumn it is recommended to reduce the aerial growth. If seed collection has been completed then plants can be suitably trimmed and the mature plants can then be divided and the divided portions moved to their final growing positions, or alternatively the divisions can be potted up if a decision is made to have pot-grown plants.

Pests & Diseases. The species is generally considered disease-free, although the RHS 'Find a plant' web site (RHS, 2025) suggests that it may be susceptible to aphids and slugs. There are widely available adequate control methods that can be used, if this is felt necessary.

Availability. There appears to be no current supplier in the UK, as it is not listed in Cubey et al. (2023, 2024), nor on the RHS Find-a-plant 2023/2024 website, although the latter lists *Eupatorium hyssopifolium* 'Bubba' but no supplier; another website lists 'Bubba' as trademarked.

However, a standard web search suggests the species is available from two sources. Unfortunately, the first supplier listed only supplied the cultivar, and the second supplier is based in the Netherlands! Seeds and potted plants of the species are widely available in the United States.

NOMENCLATURE AND DESCRIPTION

Eupatorium hyssopifolium (as *hyssopifolia*) L., Sp. Pl.: 836 (1753). Type: 'Habitat in Virginia.' Lectotype (selected by Reveal et al. 1987: 220): 'Eupatorium Virgin. folio angusto, floribus albis Herm.' in Dillenius, Hort. Eltham., 1: 141, t. 115, f. 140 (1732).

Eupatorium crassifolium Raf., Fl. Ludov.: 62 (1817). Type: 'Eupat. 1. Rob. p. 433. Is it a variety of *E. linearifolium* Wild? Stems two or three feet high, round, flowers white, very small blossoming in August; vulgar name *Herbe à chevreuil*, reckoned good for wounds.'

**Eupatorium torreyanum* Short, Transylvania J. Med. Assoc. Sci. 8(4): 579 (1836). Type: 'Found on dry sandstone knobs in the barrens of Kentucky, near the Mammoth Cave; flowering September 20th.' Note: the IK/IPNI record indicated '8(32): 5(-6) (1836)', but within the journal's original pagination this is not possible. This suggests there was a separately paginated reprint/preprint of the 'Art. IX. A second supplementary Catalogue of the plants of Kentucky', and the reprint/preprint numbered 'XXXII'. Authorship in the Catalogue indicates only Short after the binomial in the original listing; the whole article appears unauthored but, like the first Catalogue (from 1833) may have been authored by Short & Peter, especially as there are references to 'we', 'our', 'ourselves'. See also Note on the probable hybrid origin of this entity.

Eupatorium hyssopifolium L. var. *angustissimum* C. Mohr, Bull. Torrey Bot. Club 24 (1): 27 (1897). Type: [United States of America: Alabama.] 'Upper division of the coast pine belt. Dale Co. *Dr. Eugene A. Smith*. August, 1890.'

**Eupatorium hyssopifolium* L. var. *calcaratum* Fernald & B. G. Schub., Rhodora 50 (No. 597): 227 (1948). Type: 'Type from dry sands back of beach near Bass River Light, Dennis, Massachusetts, September 2, 1918, *Fernald & Long*, no. 17,448 in Herb. Gray.; isotype in Herb. Phil. Acad.' Holotype: GH(00007061); isotype: PH.

Eupatorium lecheifolium (as lecheaefolium) Greene, Pittonia 3 (16): 177 (1897). Type: 'Northern Florida, Sept., 1895, *Geo. V. Nash* (n. 2566).' Type material: GH(00007064), NCU(00000259), NDG(53165 – ex E. L. Greene collection), NY(00168768), US(00147670).

Eupatorium linearifolium Michx., Fl. Bor.-Amer. 2: 97 (1803), nom. illeg., non Walter (1788: 199). Type: 'Hab. In inundatis aestate exsiccabilibus Carolinae.'

Uncasia hyssopifolia (L.) Greene, Leafl. Bot. Observ. Crit. 1: 13 (1903).

Uncasia lecheifolia (Greene) Greene, Leafl. Bot. Observ. Crit. 1: 13 (1903).

**Uncasia torreyana* (Short & R. Peter), Greene, Leafl. Bot. Observ. Crit. 1: 13 (1903).

Illustrations (selected): Dillenius, Hort. Eltham.: T. CXV (=115) (1732) (b&w); Britton & Brown, Ill. Fl. N. States & Canada, 3: 309 (1898) (b&w); Britton & Brown, Ill. Fl. N. States & Canada, Ed. 2, 3: 358 (1913) (b&w); House, Wild Fl. New York (Mem. No. 15 New York State Mus.) 2: Pl. 229B (1918) (col); Fisher, Dicot. Ohio 2(3 – Asteraceae): 24 (1988) (b&w); Yatskievych, Steyermark's Fl. Missouri 2: Pl. 266 g & h (2006) (b&w); Weakley et al., Fl. Virginia: 323 (2012) (b&w).

Perennial herb, 50–100+ cm tall. *Stems* (from short caudices or rhizomes) single, sparsely branched distally, usually within inflorescence, often reddish purple throughout, pubescent throughout. *Leaves* usually opposite (in our material) or whorled (rarely in our material, otherwise in 3 s or 4 s), often with brachyblasts in axils, these rarely developing, distal leaves sometimes alternate, especially within inflorescence branches, spreading or horizontal, simple, sessile, lamina 3-veined from base (laterals sometimes weak), linear-lanceolate, oblong-lanceolate, or linear, 20–60 × 2–15 mm, base cuneate, margins entire, laciniate-serrate, or serrate (most notable in our material), apices acute, faces sparsely and

regularly scabrous (at least abaxial), and moderately and regularly glandular-punctate, glandular exudate very pale amber-coloured on both surfaces. *Inflorescence* corymbiform, capitula subsessile or distinctly pedicellate. *Capitula* homogamous and discoid; involucre essentially cylindrical, at least twice as long as wide; *phyllaries* 8–10, 2–3-seriate, elliptic to oblong, 1.5–5 × 1–1.5 mm, margins whiteish, hyaline, glabrous and eglandular, remotely long-ciliate (sometimes appearing almost laciniate lower down), apices obtuse to acute (not mucronate), abaxial faces pubescent throughout (more densely distally), conspicuously moderately glandular-punctate, exudate pale amber-coloured; receptacle small, flat, glabrous and epaleaceous. *Florets* all hermaphrodite, 5 per capitulum; corollas 3–3.5 mm long, white, corolla lobes short-triangular, spreading, apices acute; anther cylinder blackish in fresh material, anther filaments glabrous, apical anther appendages white longer than wide; style whitish throughout into style arms, style arms very long, linear, finely short-papillose, white, at first erect to ascending then tending to spread with maturity, style base slightly enlarged. *Achenes* 2–3 mm long, body 5-angled or ribbed, black, base short-stipitate; carpopodium indistinct; *pappus setae* 20–30, 3.5–4 mm long, spreading, off-white. $n = 10$, $2n = 20$, 30 or (as var. *laciniatum* $2n = 30$, 40 (see Discussion below as to ploidy levels and the presence of hybrids) (Figure 1).

Distribution. United States of America (Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, Missouri,

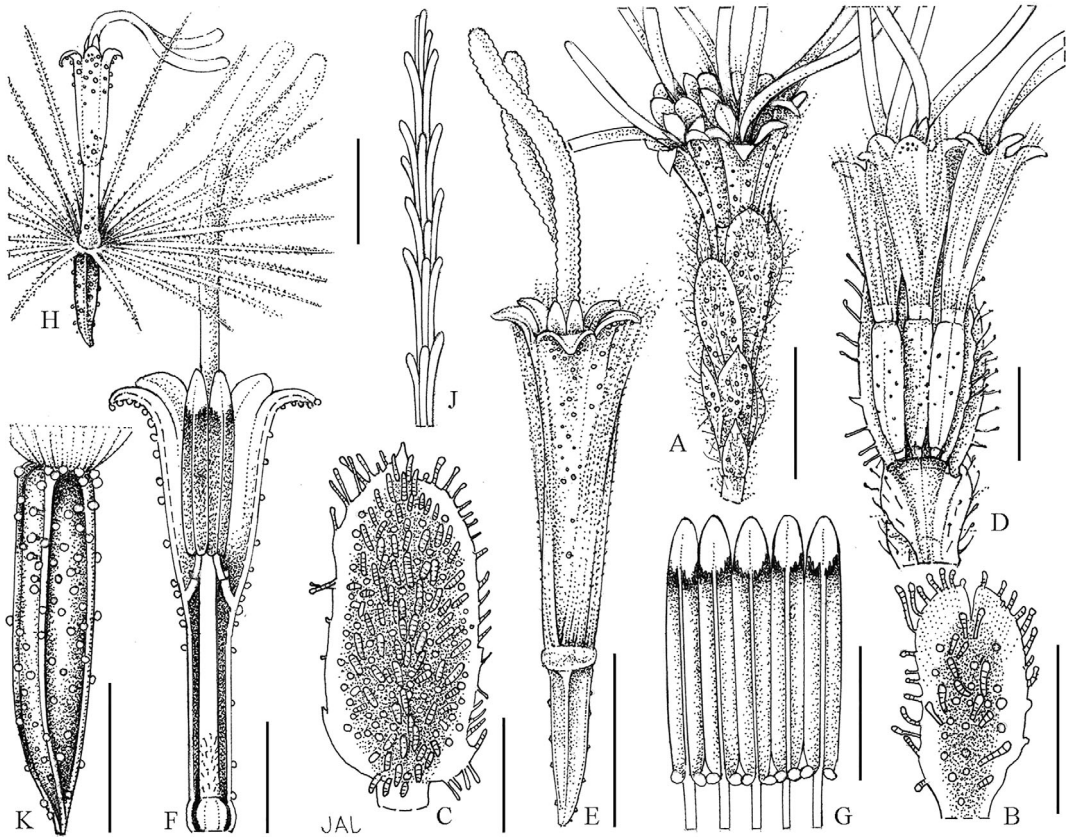


FIGURE 1 *Eupatorium hyssopifolium*. A, flowering capitulum at apex of inflorescence branch; B, outer phyllary; C, inner phyllary; D, l.s. capitulum; E, floret; F, l.s. corolla showing attachment point of anther filaments and style with swollen base and basal indumentum; G, anther cylinder opened out; H, mature achene and pappus at dispersal stage; J, details of apex of pappus seta; K, mature achene, with base of pappus. Scale bars: B, F, H, J, K = 1 mm; A, D, E = 2 mm; C = 4 mm. Drawn by Joanna Langhorne from material (Accession No. 2020–1271*1) growing in the North American Prairie plantings at Royal Botanic Gardens, Kew at Wakehurst Place.

New Jersey, New York, North Carolina, Ohio, Philadelphia, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin).

Habitat & Ecology. Savannas, upland prairies, pond margins, ditches, fields, roadsides, open disturbed habitats; dune grassland, interdune swales, bogs, barrens, riverside prairies, old fields, roadsides (Weakley et al., 2012: 323). 10–200+ m.

Flowering time. August – October.

Etymology. The derivation of the generic name is covered in the Introduction to this article. The specific name, *hyssopifolium* is a Latin compound from the Latin for Hyssop, *Hyssopus officinalis* L. (= *Dracocephalum officinale* (L.) Y.P.Chen & B.T.Drew) (Lamiaceae), meaning 'Hyssop-leaved', or 'with leaves like *Hyssopus*'.

Conservation status. Whilst NatureServe Explorer (2025) gives the species and the type variety as 'G5 Secure' this is considered to equate to LC (Least Concern), throughout the species range. The NatureServe Explorer site does, however, suggest that the species is 'Critically Imperiled [sic!] (S1)' in Illinois and West Virginia and 'Vulnerable (S3)' in Arkansas and Florida. – see also Discussions below.

Vernacular names. Herbe à chevreuil (Rafinesque, 1817: 62); Hyssop-leaved Hemp Agrimony (Green, 1824: 531); Hyssopleaf Thoroughwort (House, 1918: 289; NatureServe Explorer, 2025); Hyssopleaf Eupatorium (Jones, 2005: 233) Hyssop-leaved Boneset (Mohlenbrock, 2017: 19); Hyssop-leaved Thoroughwort, Hyssop-leaved Boneset (RHS, 2025).

Uses. There is a widespread belief that many of the Bonesets are useful in helping with recovery from broken bones, but there are also reports of the whole plant poultices being useful against insect and animal bites (see Coffey, 1993).

DISCUSSIONS

Conservation status and taxonomic concepts

NatureServe Explorer (2025) stressed that Weakley et al. (2024) used a species concept that for var. *laciniatum* included *E. torreyanum* (treated as a separate species in Siripun & Schilling, 2006). The global conservation status of NatureServe *is 'G5T4T5' for var. laciniatum, but overall as 'T4 – Apparently Secure' – although there is also wide variation between states, some indicating that the variety is Critically Imperilled, Imperilled or Vulnerable, though in the majority of states where it occurs it has no status rank*.

NatureServe Explorer (2025) indicated that their record excludes var. *calcaratum* as distinct (something recognized in Kartesz, 1994, 1999). This compares with Siripun & Schilling's (2006) and Weakley et al.'s (2024) accounts that consider var. *calcaratum* is synonymous with var. *hyssopifolium*. Also noted was that Kartesz (1994, 1999) included *E. torreyanum* in the synonymy of var. *hyssopifolium* rather than var. laciniatum. The global conservation status of NatureServe is 'G5T5' for var. *hyssopifolium*, although there is wide variation between States, some indicating the variety is Critically Imperilled, or Vulnerable, the majority of States where it occurs with no status rank.

As a species, NatureSecure Explorer (2025) ranks the Conservation Status as G5 – Secure. Threats are still seen in some states, and these include woody plant encroachment and shading of open habitats due to the absence of fires and mowing and maintenance of rights of way. These are considered negligible over the wide range of the species and its common occurrence.

Hybrids, Polyploids and Taxonomic concepts

It is clear that amongst the North American eupatoriums several intriguing complexes exist surrounding a few of the species. Siripun & Schilling (2006) reported that our species included both diploid and polyploid cytotypes which have clearly led to a broader taxonomic problem. If we follow their approach, the typical variety includes the diploids, but also some polyploids and is best recognized by the plants' narrow leaves. Material that is assignable to var. *laciniatum* has broader leaves, and is most probably of hybrid origin (between var. *hyssopifolium* and *E. serotinum* Michx.). Siripun & Schilling also stated that the name *E. torreyanum* applies to morphologically similar plants but that these are hybrids of *E. serotinum* and *E. mohrii* Greene. Without offering any evidence to the contrary, it is impossible to tell the entities apart morphologically, hence our extended synonymy above with asterisked names added (based on *E. torreyanum*).

The presence of other hybrids was expanded upon by Schilling (2011) in studying the *Eupatorium album* L. complex using ITS sequence data. Unfortunately, in the cladograms provided it is a poorly resolved complex, but Schilling asserted that *E. hyssopifolium* hybridizes with *E. album* – even though *E. hyssopifolium* is not part of the *E. album* species complex. In mapping the ploidy level of *E. hyssopifolium* (Schilling, 2011: 1094, Fig. 2D), Schilling based his map on the results reported in Sullivan's unpublished thesis (Sullivan, 1972). Sullivan's mapping indicated that the diploid *E. hyssopifolium* (under the name *E.* '*lecheaefolium*' [= *lecheifolium*] – occurring as diploids, n = 10, and triploids) was effectively restricted to northern Florida and neighbouring Alabama and Georgia, with polyploids throughout the rest of the species' range. In comparison, the maps provided in Siripun & Schilling (2006) suggest that for much of the range of the two varieties, they are effectively sympatric, and don't correspond to the ploidy level distribution proposed by Schilling (2011) based on Sullivan (1972). Putative hybrids of *Eupatorium album* × *E.* '*lecheaefolium*' have been described as *E. saltuense* Fernald.

Siripun & Schilling (2006) and Schilling (2011) may have provided discrete enough morphological and palynological characters to be able to tell apart some of the species, and the presence of hybrids, but ploidy level proves somewhat difficult.

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REFERENCES

7 ЕС УКРАЇНИ [= 7 Wonders of Ukraine]. (2007). Сім чудес України визначено! The seven wonders of Ukraine are defined! https://web.archive.org/web/20071111150520/http://7chudes.in.ua/info/177.htm Accessed 11th July 2024.

Antonio, T.M. & Masi, S. (2001). *The Sunflower Family in the Upper Midwest. A photographic guide to the Asteraceae in Illinois, Indiana, Iowa, Michigan, Minnesota and Wisconsin*. The Indiana Academy of Science, Indianapolis in collaboration with Chicago Botanic Garden.

Britton, N.L. & Brown, A. (1898). *An Illustrated Flora of the Northern United States, Canada and the British Possessions from Newfoundland to the parallel of the southern boundary of Virginia, and from the Atlantic Ocean westward to the 102D meridian*. Vol. III. Apocynaceae to Compositae: Dogbane to Thistle. Charles Scribner's Sons, New York.

Britton, N.L. & Brown, A. (1913). *An Illustrated Flora of the Northern United States, Canada and the British Possessions from Newfoundland to the parallel of the southern boundary of Virginia, and from the Atlantic Ocean westward to the 102D meridian*. Ed. 2 – Revised and enlarged. Vol. III. Gentianaceae to Compositae – Gentian to Thistle. Charles Scribner's Sons, New York.

Coffey, T. (1993). *The History and Folklore of North American Wild Flowers*. Facts on File Inc., New York. [Later reproduced by Houghton Mifflin, Boston & New York.]

Cubey, J. (Ed.-in-Chief), Bilsborrow, J., Dee, R., Edwards, D., Gregson, J., Könyves, K., Lancaster, N. (eds), & Durrant, L. (Compiler). (2024). *RHS Plant Finder 2025*. 37th Edition. Royal Horticultural Society, London.

Cubey, J. (Ed.-in-Chief), Dee, R., Edwards, D., Könyves, K., Lancaster, N. (eds), Durrant, L. (Compiler). (2023). *RHS Plant Finder 2023*. 36th Edition. Royal Horticultural Society, London.

Dillenius, J.J. (1732). *Hortus Elthamensis seu plantarum rariorum quas in horto suo Elthami in Cantio coluit vir ornatissimus et praestantissimis Jacobus Sherard … Guilielmi P.M. Frater, deliniationes et descriptiones quarum historia vel plane non, vel imperfecte a rei herbariae scriptoribus tradita fuit*. Vol. 1. Sumptibus Auctoris, Londini.

Fernald, M.L. & Schubert, B.G. (1948). Studies of American types in British herbaria (concluded). Part. IV. *Rhodora* 50 (No. 597): 217–229.

Fisher, T.R. (1988). *Eupatorium* L. Boneset. *The Dicotyedoneae of Ohio*. Vol. 2. Part 3: Asteraceae. Ohio State University Press, Columbus. pp. 21–33.

Freer, S. (2003). *Linnaeus' Philosophia Botanica*. Oxford University Press, Oxford, New York.

Galloway, A.A. (2000). *Eupatorium* Linnaeus. In: J. Cullen, J.C.M. Alexander, C.D. Brickell, J.R. Edmondson, P.S. Green, V.H. Heywood, P.-M. Jorgensen, S.L Jury, S.G. Knees, H.S. Maxwell, D.M. Miller, N.K.B. Robson, S.M. Walters, & P.F. Yeo (eds). *The European Garden Flora. A manual for the identification of plants cultivated in Europe, both out-of-doors and under glass*. Vol. VI. Dicotyledons (Part IV). Loganiaceae to Compositae. Cambridge University Press, Cambridge, New York, Oakleigh, Madrid, Cape Town. pp. 663–666.

Green, T. (1824). *Eupatorium*. In: *The Universal Herbal*; or, botanical, medical, and agricultural dictionary. Containing an account of all the known plants in the World, arranged according to the Linnean system. Specifying the uses to which they are or may be applied, whether as food, as medicine, or in the arts and manufactures. With the best methods of propagation, and the most recent agricultural improvements. Collected from indisputable authorities. Adapted to the use of the farmer – the gardener – the husbandman – the botanist – the florist – and country housekeepers in general. The Second Edition, Revised and Improved. Vol. 1. Caxton Press, London. pp. 530–535.

Greene, E.L. (1897). Studies in the Compositae. –V. 2. Some Atlantic species of *Eupatorium*. *Pittonia. A series of botanical papers by Edward L. Greene*. 3(16): 177–180.

Greene, E.L. (1903). Neglected Eupatoriaceous genera. *Leaflets of botanical observation and criticism*. By Edward L. Greene. 1: 7–13.

Hind, D.J.N. (2006a). *Splitting Eupatorium*. *The Plantsman*, n.s. 5(3): 185–189.

Hind, D.J. N. (2006b Plate 567. *Ageratina ligustrina* (Compositae). *Curtis's Botanical Magazine* 23(4): 289–296.

Hind, [D.J.] N. (2023)[2024]. Introduction to the Compositae of the North American Prairies. *Curtis's Botanical Magazine* 40(4): 369–395.

Hind, D.J.N. & Goyder, D.J. (2014). *Stomatanthes tundavalaensis* (Compositae: Eupatorieae: Eupatoriinae), a new species from Huíla Province, Angola, and a synopsis of the African species of *Stomatanthes*. *Kew Bulletin* 69(4)-9545: 1–9.

Hind, [D.J.] N. & King, C. (2025a)[2026a]. Plate 1166. *Helianthus occidentalis* Riddell (Compositae). *Curtis's Botanical Magazine* 42(4): 521–534.

Hind, [D.J.] N. & King, C. (2025b)[2026b]. Plate 1169. *Liatris pycnostachya* Michx. (Compositae). *Curtis's Botanical Magazine* 42(4): 563–575.

Hind, [D.J.] N. & Lambkin, D. (2023)[2024]. Plate 1079. *Symphyotrichum laeve* (L.) Á. Löve & D. Löve (Compositae). *Curtis's Botanical Magazine* 40(4): 441–459.

Hind, [D.J.] N. & Lambkin, D. (2025a)[2026a]. Plate 1162. *Symphyotrichum oolentangiense* (Riddell) G.L. Nesom (Compositae). *Curtiss Botanical Magazine* 42(4): 461–473.

Hind, [D.J.] N. & Lambkin, D. (2025b)[2026b]. Plate 1164. *Echinacea angustifolia* DC. (Compositae). *Curtis's Botanical Magazine* 42(4): 491–498.

Hind, [D.J.] N. & Langhorne, J. (2023)[2024]. Plate 1076. *Vernonia missurica* Raf. (Compositae). *Curtis's Botanical Magazine* 40(4): 397–415.

Hind, D.J.N. & Robinson, H. [2006](2007). Tribe Eupatorieae Cass. In: Asterales (J.W. Kadereit & C. Jeffrey (vol. eds)) of K. Kubitzki (ser. ed.), The Families and Genera of Vascular Plants. Vol. 8. Springer-Verlag, Berlin, Heidelberg, New York. pp. 510 – 574. [Eupatorium: 528 – 529.]

Hind, [D.J.] N., Yamanaka, M. & Yasue, N. (2025)[2026]. Plate 1165. *Echinacea purpurea* (L.) Moench (Compositae). *Curtis's Botanical Magazine* 42(4): 499–520.

House, H.D. (1918). *Wild Flowers of New York in two parts*. [State Museum, The University of the State of New York, Memoir 15]. Part 2. The University of the State of New York, Albany, New York.

Jeffrey, C. (1992). *Eupatorium* L. In: A. Huxley (ed.-in-chief), M. Griffiths (ed.) & M. Levy (manag. ed.). *The New Royal Horticultural Society Dictionary of Gardening*. Vol. 2. D to K. Macmillan Press Ltd, London & Basingstoke; Stockton Press, New York. pp. 244–245.

Jones, R.L. (2005). Asteraceae. *Plant Life of Kentucky. An illustrated guide to the vascular flora*. The University Press of Kentucky, Lexington. Asteraceae: 205–272. [*Eupatorium*: 233.]

Kartesz, J.T. (1994). *A synonymized checklist of the vascular flora of the United States, Canada and Greenland*. 2nd Edition. 2 vols. Timber Press, Portland, Oregon.

Kartesz, J.T. (1999). A synonymized checklist and atlas with biological attributes for the vascular flora of the United States, Canada, and Greenland. In: J.T. Cartesz & C.A. Meacham. *Synthesis of the North American Flora, Vers. 1.0*. North Carolina Botanical Garden, Chapel Hill, North Carolina.

King, R.M. & Robinson, H. (1972). Studies in the Eupatorieae (Asteraceae). LXXI. *A new genus, Hatschbachiella. Phytologia* 23(4): 393–394.

Linnaeus, C. (1753). *Species Plantarum, exhibentes plantas rite cognitas, ad genera relates, cum differentiis specificis, nominibus trivialibus, synonymis selectis, locis natalibus, secundum systema sexuale digestas*. Tomus II. Laurentii Salvii, Holmiae.

Linnaeus, C. (1754). *Genera Plantarum eorumque characteres naturales secundum numerum, figuram, situm, et proportionem omnium fructificationis partium. Editio quinta ab auctore reformata et aucta.* L. Salvii, Holmiae.

Michaux, A. (1803). *Flora Borali-Americana, sistens caracteres plantarum quas in America seprentrionali collegit et detexit Andreas Michaux …* Tomus secundus. Crapelet, Parisiis & Argentorati.

Mohlenbrock, R.H. (2017). *The Illustrated Flora of Illinois*. Flowering Plants. Asteraceae, Part 3. Southern Illinois University Press, Carbondale. [*Eupatorium*: 18–22; *Eutrochium*: 22–25.]

Mohr, C. (1897). Notes on some undescribed and little known plants of the Alabama flora. *Bulletin of the Torrey Botanical Club* 24(1): 19–28 & Plates 289–291.

NatureServe Explorer (2025). *Eupatorium hyssopifolium*. Hyssopleaf Thoroughwort. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.131085/Eupatorium_hyssopifolium] NatureServe Network. NatureServe, Arlington, Virginia. Available https://explorer.natureserve.org/. (Accessed: 19th September 2025). [Note: the varieties can be accessed using the main search field.]

Rafinesque [-Schmaltz], C.S. (1817). *Florula Ludoviciana, or, a flora of the State of Louisiana*. Translated, revised, and improved, from the French of C.C.Robin, by C.S.Rafinesque. C. Wiley, New York.

Reveal, J.L., Broome, C.R., Brown, M.L. & Frick, G.F. (1987). On the identities of Maryland plants mentioned in the first two editions of Linnaeus' *Species Plantarum*. *Huntia* 7: 209–246.

RHS Find-a-Plant (2025). *Eupatorium hyssopifolium*. hyssop-leaved thoroughwort. https://www.rhs.org.uk/plants/130177/eupatorium-hyssopifolium/details Accessed 1st October 2025.

Schilling, E.E. (2011). Systematics of the *Eupatorium album* complex (Asteraceae) from eastern North America. *Systematic Botany* 36(4): 1088–1100.

Short, C.W. [& Peter, R.] (1836). Art. IX. A second supplementary Catalogue of the plants of Kentucky. *Transylvania Journal of Medicine and the Associate Sciences* 8(4): 575–578 [Note: following the Catalogue, the new species were described in 'Notes to the preceding Catalogue.', on pp. 579–582. Note: authorship of this article is not provided in the work, but both authors were those of the original Catalogue, and reference in the text is to 'we'.]

Siripun, J.C. & Schilling, E.E. (2006). *Eupatorium* Linnaeus. In: Flora of North America Editorial Committee (eds), *Flora of North America, north of Mexico*. Vol 21. Magnoliophyta; Asteridae, part 8: Asteraceae, part 3. Oxford University Press, New York & Oxford.

Sullivan, V.E. (1972). *Investigations of the breeding systems, formation of auto- and alloploids and the reticulate pattern of hybridization in North American* Eupatorium (Compositae). PhD Dissertation. Tallahassee, Florida State University.

Sullivan, V.E. (1978). Putative hybridization in the genus *Eupatorium* (Compositae). *Rhodora* 80(No. 824): 513–527.

Sweet, R. (1826). *Sweet's Hortus Britannicus: or, a catalogue of plants cultivated in the gardens of Great Britain; arranged in natural orders: with the addition of the Linnean clases and orders to which they belong, reference to the books where they are described, their native places of growth, when introduced, time of flowering, duration, & reference to figures; with numerous synonyms*. Part 1. James Ridgway, London. [Note: 'Ordo CI. Compositae Adanson' appeared between pp. 206–240. The continuation of the Compositae appeared in Part. II, published a few weeks later: 241–246.]

Tournefort, J.P. de (1694). *Élémens de Botanique, ou methode pour connoître les plantes*. Tome 1. L'Imprimerie Royale, Paris.

Walter, T. (1788). *Flora Caroliniana, secundum systema vegetabilium perillustris Linnei digesta; characters essentials naturalesve et differentias veras exhibens; cum emendationibus numerosis: descriptionum antea evulgatarum: adumbrations stirpium plus mille continens: necnon, generibus novis non paucis, speciebus plurimis novisq. Ornate*. J. Fraser, Londini.

Weakley, A.S. & Southeastern Flora Team. (2024). *Flora of the southeastern United States*. Ed. March 4, 2024. University of North Carolina Herbarium (NCU), North Carolina Botanical Garden, University of North Carolina, Chapel Hill.

Weakley, A.S., Ludwig, J.C. & Townsend, J.F. (2012). Asteraceae Dumortier 1822 or Compositae Giseke 1792. In: B. Crowder (ed.), *Flora of Virginia*. BRIT Press, Fort Worth. pp. 275–409. [*Eupatorium*: 319–326.]

Wunderlin, R.P., Hansen, B.F. & Franck, A.R. (2020). Asteraceae. In: *Flora of Florida*. Vol. VII. Dicotyledons, Orobanchaceae through Asteraceae. University Press of Florida, Gainsville. pp. 115–424. [*Eupatorium*: 230–239.]

Yatskievych, G. (2006). Asteraceae (Compositae) (Sunflower Family). In: *Steyermark's Flora of Missouri*. Volume 2, Revised Ed. The Missouri Botanical Garden Press, St. Louis, Missouri & The Missouri Department of Conservation, Jefferson City, Missouri. pp. 164–598. [*Eupatorium*: 400–412.]

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