

## Transfer of Texas Species of *Houstonia* to *Hedyotis* (Rubiaceae)

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The accepted species of *Houstonia* in Texas are a diverse lot, ranging from stiffly branched small shrubs of desert mountains to delicate spring annuals of humid pine and hardwood forests. The East-Texas species are obviously to be associated with those long familiar to eastern and northern botanists as *Houstonia*; the West-Texas plants are a link with dissimilar Mexican species, some of them of questionable generic reference (e.g., those in subgenus *Macrohoustonia* Gray, Proc. Amer. Acad. 4: 314-316, 1859). The large Old-World genus *Hedyotis* is similarly varied, and includes some species (e.g., *H. Parryi* Hance) whose resemblance to perennial southeastern United States species of *Houstonia* is startling to one not familiar with *Hedyotis*. This diversity in both genera, and the fluctuating opinions of Bentham and Gray regarding their separation or union, lead me to accept Dr. Fosberg's conclusion (1937) that *Houstonia* should be merged with *Oldenlandia* and *Hedyotis*, under the last name. The names of the Texas species under *Hedyotis* are listed below in alphabetical order. No attempt is made here to discuss taxonomic status or relationships. All the United States species, particularly those in the *H. nigricans* complex, are in need of further study.

**HEDYOTIS ACEROSA** Gray, Pl. Wright. 1 (Smithsonian Contrib. 3 art. 5) : 81. 1852. TYPE: "High prairies, from Live Oak Creek to the Las Moras, Western Texas; June," Wright 237, 1849<sup>2</sup>. *Houstonia acerosa* Gray, Proc. Amer. Acad. 17: 203. 1882.

**HEDYOTIS angulata** Fosberg, nom. nov. ined. *Hedyotis stenophylla* var. *parviflora* Gray, Pl. Wright. 1 (Smithsonian Contrib. 3 art. 5) : 81. 1852. TYPE: "Crevices of rocks on

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<sup>2</sup>The types are listed simply for the convenience of later students of the Texas species. I have not attempted to check them all, although I have seen most of the types of species named by T. & G. and Gray. I am grateful to Dr. F. R. Fosberg for pointing out several nomenclatorial errors in the manuscript, and for permission to include his unpublished new combinations.

the San Pedro River [Arizona]; July," *Wright 238*, 1849. Not *Hedyotis parviflora* Walpers, 1852. *Houstonia rupicola* Greenman, Proc. Amer. Acad. 32 (Contrib. Gray Herb. 11) : 286. 1897. Based on *Hedyotis stenophylla* var. *parviflora* Gray. Not *Hedyotis rupicola* Sonder ex Harvey & Sonder, Fl. Cap. 3: 12. 1865.

**HEDYOTIS BOSCHII** DC., Prodr. 4: 420. 1830. TYPE: "In Carolina legit cl. Bosc." *Oldenlandia Boschii* (DC.) Chapman, Fl. S. U.S. 181. 1860.

**HEDYOTIS CRASSIFOLIA** Raf., Fl. Ludov. 77. 1817. Based on "Anonyme" of Robin, Fl. Louisianaise 454. *Houstonia pusilla* Schoepf, Reise durch Einige der Mittleren und Südlichen Vereinigten Nordamerikanischen Staaten 306. 1788. Not *Hedyotis pusilla* Hochst. ex A. Rich., 1847. *Houstonia patens* Ell., Sk. Bt. S.C. & Ga. 1: 191. 1817. Not *Hedyotis patens* Ridley, 1908.

**HEDYOTIS Croftiae** (Britton & Rusby) Shinnery, comb. nov. *Houstonia Croftiae* Britton & Rusby, Trans. N.Y. Acad. Sci. 7: 10. 1887. TYPE: San Diego, Duval Co., Texas, *Mary B. Croft*, in 1884 or 1885.

**HEDYOTIS Greenmanii** Fosberg, nom. nov. ined. *Houstonia parviflora* Holzinger ex Greenman, Proc. Amer. Acad. 32: 284-285. 1897. TYPE: Round Rock, Williamson Co., Texas, *J. E. Bodin* 24, March 10, 1890. Not *Hedyotis parviflora* Walpers, 1852.

**HEDYOTIS HALEI** T.&G., Fl. N.A. 2: 42. 1841. TYPE: Red River, near Alexandria, Louisiana, *Dr. J. Hale*. *Oldenlandia Halei* (T. & G.) Gray, Syn. Fl. N.A. 1 pt. 2: 28. 1884.

**HEDYOTIS HUMIFUSA** Gray, Pl. Lindh. 2 (Boston Journ. Nat. Hist. 6) : 216. 1850. TYPE: Open gravelly banks of streamlets, near Fredericksburg, Gillespie Co., Texas, *Lindheimer exs.* 621, May, 1848. *Houstonia humifusa* Gray, Proc. Amer. Acad. 4: 314. 1859.

**HEDYOTIS INTRICATA** Fosberg, Lloydia 4: 290. 1941. *Houstonia fasciculata* Gray, Proc. Amer. Acad. 17: 203. 1882. TYPE: Southwestern border of Texas, at Presidio, *Bigelow, Mex. Bound. Survey*. Not *Hedyotis fasciculata* Bertoloni, 1850.

**HEDYOTIS MINIMA** (Beck) T.&G., Fl. N.A. 2: 38. 1841. *Houstonia minima* Beck, Amer. Journ. Sci. 10: 262. 1826. TYPE: "Fields about a half mile west of St. Louis. March."

HEDYOTIS NIGRICANS (Lam.) Fosberg, *Lloydia* 4: 287. 1941. *Gentiana nigricans* Lam., *Encycl. Meth. Bot.* 2: 645. 1786. TYPE: "Cette plante est dans l'Herbier de M. de Jussieu; nous en ignorons le lieu natal." *Houstonia nigricans* (Lam.) Fernald, *Rhodora* 42: 299. 1940. *Houstonia angustifolia Michx.*, *Fl. Bor. Am.* 1: 85-86. 1803. TYPE: "In sub-maritimis Floridae."

HEDYOTIS NIGRICANS var. *filifolia* (Chapm.) Shinners, comb. nov. *Oldenlandia angustifolia* var. *filifolia* Chapman, *Fl. S. U.S.* TYPE: "South Florida." *Houstonia angustifolia* var. *filifolia* (Chapm.) Gray, *Syn. Fl. N.A.* 1 pt. 2: 27. 1884. *Houstonia filifolia* (Chapm.) Small, *Fl. S.E. U.S.* 1109 and 1338. 1903. *Houstonia tenuis* Small, *Fl. S.E. U.S.* 1109 and 1338. 1903. TYPE: San Saba, Texas, *Thurber* 67. The unusual distribution of this variety parallels that of the two closely related species *Lygodesmia aphylla* of Florida and *L. texana* of central and west Texas.

HEDYOTIS NIGRICANS var. *rigidiuscula* (Gray) Shinners, comb. nov. *Houstonia angustifolia* var. *rigidiuscula* Gray, *Syn. Fl. N.A.* 1 pt. 2: 27. 1884. "S. and W. Texas, *Palmer, Havard, &c.* Coast of E. Florida, *Rugel.* (Mex.);" *Houstonia rigidiuscula* (Gray) Woot. & Standl., *Contrib. U.S. Nat. Herb.* 16: 175. 1913.

HEDYOTIS NUTTALLIANA Fosberg, *Va. Journ. Sci.* 2: 111. 1941. *Houstonia tenuifolia* Nutt., *Gen.* 1: 95. 1818. TYPE: "Near the confluence of Pidgeon River and the French Broad, Tennessee, on dry gravelly hills." Not *Hedyotis tenuifolia* J. E. Smith, 1819. This species is credited to Texas by Standley (1918, p. 34), but I have seen no specimens from the state.

HEDYOTIS **polypremoides** (Gray) Shinners, comb. nov. *Houstonia polypremoides* Gray, *Proc. Amer. Acad.* 21: 379. 1886. "Santa Eulalia Mountains, near Chihuahua, on gravelly limestone slopes, *Pringle* 16 and 356, in 1885."

HEDYOTIS PURPUREA (L.) T.&G., *Fl. N.A.* 2: 40. 1841. *Houstonia purpurea* L., *Sp. Pl.* 1: 105. 1753. "*Habitat in Virginia.*" Only the following Texas collection has been seen: 4 $\frac{2}{3}$  miles south of Newton, Newton Co., *Cory* 52636, April 6, 1947 (Herb. Southern Methodist University). *H. purpurea* and *H. Nuttalliana* belong to a group of perennial species having a rather fine fibrous root system, unlike the stout

almost woody taproot characteristic of the *H. nigricans* complex.

**HEDYOTIS RUBRA** (Cav.) Gray, Pl. Fendl. (Mem. Amer. Acad. n.s. 4) : 61. 1849. *Houstonia rubra* Cav., Icones 5 : 48, pl. 474. 1799. "Habitat prope oppidum Mexicanum Ismiquilpan, floretque Septembri," *Nee*.

**HEDYOTIS salina** (Heller) Shinnery, comb. nov. *Houstonia salina* Heller, Bot. Expl. S. Texas (Contrib. Herb. Franklin & Marshall College 1) : 96. 1895. TYPE: "Found only in the shell deposit along the beach at Corpus Christi," Nueces Co., *Heller 1812*, May 31, 1894.

**HEDYOTIS subviscosa** (Wright) Shinnery, comb. nov. *Oldenlandia subviscosa* Wright ex Gray, Pl. Wright. 2 (Smithsonian Contrib. 5 art. 6) : 68. 1853. TYPE: "Between La Grange and Lockhart Springs, Fayette County, Texas, in sandy post-oakwoods," *Wright in May*, 1849. *Houstonia subviscosa* (Wright) Gray, Proc. Amer. Acad. 4 : 314. 1859.

**HEDYOTIS Taylorae** Fosberg, nom. nov. ined. *Houstonia pygmaea* Mueller & Mueller, Bull. Torr. Bot. Club 63 : 33-34. 1936. "TYPES": DeWitt Co., Texas, without definite locality, *Mueller 3*, Feb. 16, 1934, and *Mueller 4*, March 6, 1934. Not *Hedyotis pygmaea* R.&S., 1818.

**HEDYOTIS UNIFLORA** (L.) Lam., Tabl. Encycl. Trois Règnes —Bot. 1 : 271. 1791. *Oldenlandia uniflora* L., Sp. Pl. 1 : 119. 1753. "Habitat in Virginia." In *Index Kewensis* this is improperly listed as a synonym of the later *Oldenlandia glomerata* Michx., 1803 (*Hedyotis glomerata* Michx. Ell., 1817), to make way for the also later Chilean *Oldenlandia uniflora* Ruiz & Pavon, 1798 (*Hedyotis uniflora* [R.&P.] DC., 1830, not Lam., 1791).

**HEDYOTIS WRIGHTII** (Gray) Fosberg, *Lloydia* 4 : 290. 1941. *Houstonia Wrightii* Gray, Proc. Amer. Acad. 17 : 202. 1882. TYPE: "On the Limpio, western Texas, *Wright*."

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