

NEW COMBINATIONS IN *EUPLOCA* NUTT. (HELIOTROPIACEAE) FROM MEXICO AND CENTRAL AMERICA

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Abstract. Nine new combinations in *Euploca* (Heliotropiaceae) from Mexico and Central America are proposed in this paper: *Euploca calcicola*, *Euploca cremnogenena*, *Euploca fallax*, *Euploca foliosissima*, *Euploca karwinskyi*, *Euploca limbata*, *Euploca michoacana*, *Euploca queretaroana*, and *Euploca sessei*.

Resumen. En este trabajo se proponen nueve nuevas combinaciones en *Euploca* (Heliotropiaceae) de México y Centroamérica: *Euploca calcicola*, *Euploca cremnogenena*, *Euploca fallax*, *Euploca foliosissima*, *Euploca karwinskyi*, *Euploca limbata*, *Euploca michoacana*, *Euploca queretaroana* y *Euploca sessei*.

Keywords: Boraginaceae s. l., flora, Neotropics, nomenclature

The genus *Euploca* (Heliotropiaceae) was proposed by Nuttall (1836) and reinstated by Hilger and Diane (2003) based on morphological and molecular data to accommodate the species belonging to *Heliotropium* L. sect. *Orthostachys* R. Br. as well as the species of the genera *Hilgeria* Förther and *Schleidenia* Endl.

According to Diane (2003) species of *Euploca* are distributed in tropical, subtropical and temperate regions, although Melo and Semir (2010) and Melo and Fernández-Alonso (2015) have emphasized that most species of this genus grows in South America and Mexico.

Plants of *Euploca* are herbs or small shrubs, often decumbent. The inflorescences are bracteate or not, leafy or reduced to solitary flowers; the flowers bear anthers with hairy apex, apically coherent, inserted into the corolla tube. The fruit is dry, separated in four mericarps (schizocarp), each with one seed, presenting two cavities in the abaxial face, and a curved embryo (Hilger and Diane, 2003). Based on The Plant List (2017) and recent works published by Feuillet (2016), Luebert and Frohlich (2016), Feuillet and Hasle (2016, 2017), and Melo (2017), *Euploca* currently encompasses 55 names.

Based on the bracteate inflorescences associated to coherent anthers at the apex and schizocarps separating into four mericarps with a seed in each one, here nine species of *Heliotropium* from Mexico and Central America (including Guatemala), most of them endemics to Mexico (seven spp.), are transfer to *Euploca*.

Euploca calcicola (Fernald) J.I.M. Melo, *comb. nov.*

Basionym: *Heliotropium calcicola* Fernald, Proc. Amer. Acad. Arts 43: 62. 1907. TYPE: MEXICO. Guerrero, Iguala Canon, Limestone cliffs, 28 September 1905, 2500 feet, C.G. Pringle 10062 (Holotype: GH).

Distribution: Mexico.

Euploca cremnogenena (I.M. Johnst.) J.I.M. Melo, *comb. nov.*
Basionym: *Heliotropium cremnogenum* I.M. Johnst., J. Arnold Arbor. 20(3): 376–377. 1939. TYPE: MEXICO. Michoacán, Huetamo, Mal Paso, Cliffs, G.B. Hinton 8514 (Holotype: K; Isotypes: ARIZ, BM, MO, NY, US).

Distribution: Mexico.

Euploca fallax (I.M. Johnst.) J.I.M. Melo, *comb. nov.*

Basionym: *Heliotropium fallax* I.M. Johnst., J. Arnold Arbor. 18(1): 14–15. 1937. TYPE: GUATEMALA. Departamento de Huehuetenango, 6500 ft. 1950 m alt., 13 December 1934, A.F. Skutch 1922 (Holotype: GH).

Distribution: Mexico and Guatemala.

Euploca foliosissima (J.Fr. Macbr.) J.I.M. Melo, *comb. nov.*

Basionym: *Heliotropium foliosissimum* J.F. Macbr., Proc. Amer. Acad. Arts 51(10): 541–542. 1916. TYPE: MEXICO. Oaxaca, Hacienda Blanca, alt. 5300 ft., 25 July 1895, L.C. Smith 627 (Holotype: GH).

Distribution: Mexico and Guatemala.

Euploca karwinskyi (I.M. Johnst.) J.I.M. Melo, *comb. nov.*

Basionym: *Heliotropium karwinskyi* I.M. Johnst., J. Arnold Arbor. 20: 377. 1939. TYPE: MEXICO. Tamaulipas, Cumbre de Santiaguillo, December 1842, W.F. Karwinsky 646 (Holotype: LE [not seen]; Isotype: Fragment GH).

Distribution: Mexico.

Euploca limbata (Benth.) J.I.M. Melo, *comb. nov.*

Basionym: *Heliotropium limbatum* Benth., Pl. Hartw.: 20. 1839. TYPE: MEXICO. Aguascalientes, Aguascalientes, In rupestribus, June 1839, K.T. Hartweg 154 (Holotype: K [not seen]; Isotype: GH).

Distribution: Mexico.

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Euploca michoacana (I.M. Johnst.) J.I.M. Melo, *comb. nov.*
 Basionym: *Heliotropium michoacanum* I.M. Johnst., J.
 Arnold Arbor. 21: 49–50. 1940. TYPE: MEXICO.
 Michoacán, Coalcoman, Barroloso, 1300 m, 7 August
 1839, *G.B. Hinton 15069* (Holotype: GH; Isotype:
 GH).

Distribution: Mexico.

Euploca queretaroana (I.M. Johnst.) J.I.M. Melo, *comb. nov.*
 Basionym: *Heliotropium queretaroanum* I.M. Johnst., J.
 Arnold Arbor. 29: 230. 1948. TYPE: MEXICO.

Queretaro, near Higuerillas, 23 August 1905, *G.P.
 Rose, L.S. Painter & L.C. Rose 9800* (Holotype [not
 seen]; US; Fragment + Photo: AA).

Distribution: Mexico.

Euploca sessei (I.M. Johnst.) J.I.M. Melo, *comb. nov.*
 Basionym: *Heliotropium sessei* I.M. Johnst., J. Arnold
 Arbor. 18: 13. 1937. TYPE: MEXICO. Hidalgo,
 Ixmiquilpan, Sierra de La Mesa, July 1905, *C.A.
 Purpus 1402* (Holotype: GH).

Distribution: Mexico.

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