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**North American Species of Epilobium South of the United States**

Philip A. Munz

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The genus Epilobium is largely one from the colder parts of the earth. Hence it is not surprising that in the area indicated for this paper there are only a few species. These, however, are rather interesting in extending range from other areas or in being quite local. The present study is partly the result of an opportunity to see various types in European herbaria in connection with other investigations in the family Onagraceae. Acknowledgment is gratefully given to the National Science Foundation Grant 4316 from which a portion of the expense involved was covered. Herbarium specimens cited in this paper are according to the standard abbreviations. To the curators of both American and foreign herbaria I express appreciation of the opportunity to examine material in their care, especially to Dr. A. Pilat of Prague for notes on the type of E. brachycarpum.

### Key to Species

A. Floral tube not prolonged beyond the ovary; flowers slightly irregular, the petals entire, 10-20 mm. long.  
1. *E. angustifolium*

AA. Floral tube prolonged slightly beyond the ovary; flowers quite regular, the petals notched, mostly smaller.

B. Plants glaucous throughout, 0.5-2 dm. tall; petals 3-4 mm. long.  
Chihuahua.  
2. *E. madrense*

BB. Plants not glaucous, mostly taller.

C. Petals 5-8 mm. long.

D. Leaves glabrous on margins; stems with more or less strigulate decurrent ridges and some scattering appressed pubescence between. Durango.  
3. *E. maysillesii*

DD. Leaves strigose on margins; stems quite closely strigulose.  
Costa Rica.  
4. *E. meridense*

CC. Petals smaller.

D. Stems with broad strongly marked pubescent ridges decurrent from the leaf-bases.

E. Mature coma cinnamon-colored; seeds about 1.5 mm. long.  
Santo Domingo.  
5. *E. coloratum*

EE. Mature coma white; seeds about 1 mm. long. Central Mexico.  
6. *E. mexicanum*

DD. Stems not usually as above.

E. Pubescence generally distributed on the upper stems; inflorescence with some gland-tipped hairs. Central Mexico.  
7. *E. brachycarpum*

EE. Pubescence mostly lacking on middle and upper stems; inflorescence with nonglandular appressed hairs. Northern Mexico.

F. Leaves lanceolate, mostly about 1/4-1/6 as wide as long.  
Baja California and Sonora.  
8. *E. adenocaulon parishii*

FF. Leaves narrowly lanceolate, about 1/6-1/10 as wide as long. Sonora to Chihuahua.  
9. *E. fendleri*

1. *Epilobium angustifolium* L.,  

*Chamaenerion angustifolium* Scop., Carn. ed. 2, 271, 1772.  
*E. spicatum* Lam., Fl. Fr. 3: 482, 1778.
Perennial from underground rootstocks, the stems mostly simple, few, commonly puberulent above, rather densely leafy above, 6-25 dm. tall; lvs. alternate, lanceolate, subentire, paler beneath, 7-20 cm. long; flowers many in long terminal racemes with small almost linear bracts; pedicels 5-12 mm. long; sepals lance-linear, 8-12 mm. long, commonly canescent-puberulent, tinged lavender; petals lilac-purple to rose, clawed, obovate, 8-18 mm. long; stamens 8, in a single series, often unequal, shorter than petals; style hairy at base, exceeding stamens; capsule 5-8 cm. long, canescent; seeds oblong, 1-1.4 mm. long, with long dingy coma.

Known to me from a single collection in Mexico, NUEVO LEÓN, Municipio de Galeana, Cerro Potosí, on east face of peak at about 3150 m., July 20, 1938, R. A. Schneider 1040 (F). Common of course from New Mexico and California northward; circumpolar.


Perennial with slender branching rooting rhizomes; plant glabrous and glaucous; stems slender, ascending, 5-20 cm. high, simple, arising from leafy rosettes; leaves crowded, all except the upper opposite, lanceolate, subpetiolate, acutish, entire or somewhat denticulate, 12-25 mm. long; flowers few to several, on slender pedicels to about 6 or 8 mm. long; floral tube 1.5-2 mm. long; sepals 1.5-2 mm. long; petals 3-4 mm. long, "purplish"; capsule 2-4 cm. long, glabrous or very minutely and sparingly strigulose under magnification; seeds markedly papillose, about 0.6 mm. long, the coma whitish.


The species seems nearest to *E. glaberrimum* Barb. in its glaucousness, branching rootstocks, etc., but is a smaller plant and removed from that species, which ranges from southern California and Utah northward, by many hundred miles.

3. Epilobium maysillesii Munz, sp. nov. (Fig. 1)

Perennial, from creeping, simple or branched rhizomes; stems erect, simple or few-branched in inflorescence, 2.5-4 dm. high, purplish, with more or less strigulose decurrent ridges and some scattering appressed pubescence between; leaves mostly opposite, except the uppermost, lanceolate to lance-oblong, sessile, blunt, slightly denticulate, 15-30 mm. long, 4-7 mm. wide; inflorescence with some appressed nonglandular and some spreading gland-tipped rather minute hairs; pedicels to about 2.5 cm. long in fruit; floral tube 1.5-2 mm. long, purplish; sepal is subpetiolate, 4-5 mm. long; petals mostly various shades of pink, 5-8 mm. long; capsule 3.5-5 cm. long; seeds smooth, about 1 mm. long. (Perennis; rhizomis simplicis vel ramosis; caulibus erectis, 2.5-4 dm. altis, subpurpureis, in lineis decurrentibus strigulosis; foliis suboppositis, lanceolatis vel lanceo-oblongis, sessilibus, subdenticulatis, 15-30 mm. longis, 4-7 mm. latis; inflorescentia cum pilis adpressis, glandulosis aut non-glandulosis; pedicellis in fructu ad 2.5 cm. longis; tubo floris 1.5-2 mm. longo, subpurpureo; sepalis subpurpureis, 4-5 mm. longis; petalis subroseis, 5-8 mm. longis; capsulo 3.5-5 cm. longo; seminibus laevibus, ca. 1 mm. longis.)

Type.—"large patches in upper meadow," 12 miles west of El Salto, just east of Las Adjuntas, 2300-2400 m., Aug. 31, 1951, DURANGO, Mexico, J. H. Maysilles 7604, RSA no. 117503, isotype MICH.


It is a pleasure to name this large-flowered purplish-stemmed strigose-ridged species for
Mr. Maysilles whose two collections first called it to my attention. It suggests *E. mexicanum* but is much showier and considerably farther north in its distribution.

**Fig. 1.** *Epilobium maysillesii*, habit sketch drawn from Maysilles 8241-A, showing basal leafy innovations, simple erect stems, nodding inflorescence, sessile leaves.
4. Epilobium meridense Hausskn.,
Mon. Epil., 266-267, 1884.
Perennial with leafy innovations bearing opposite oblong sessile leaves; stems simple or branched, slender, more or less woody at base, purplish, strigulose above, largely 1.5-3 dm. long, with leaf bases decurrent as strigose lines; leaves crowded, oblong, the lower opposite, the main cauline 1-2 cm. long, 3-6 mm. wide, somewhat denticulate, strigulose on margins, the uppermost alternate; flowers sparsely strigulose; sepals 3-3.5 mm. long; petals pinkish to pale lavender, 4-5 mm. long; capsules pedicelled, 3.5-5 cm. long, slender; seeds 1-1.2 mm. long, papillose.
Type locality, province Mérida in Venezuela. Distributed from Ecuador to Colombia. The following collections from COSTA RICA seem referable here: San José Province, Cerro de la Muerte, 3600 m., Sept. 17, 1950, C. W. Dodge & P. H. Allen 5680 (US); Prov. of Cartago, shrub-páramo, Pan-American Highway 5 km. above Millsvale, Cordillera de Talamancas, 3400-3500 m., July 22, 1949, Holm & Illis 469 (BM).
It is not surprising to find a species of Epilobium from high elevations in northwestern South America in the higher places in Costa Rica. Another example of the same kind of distribution is found in the case of Fuchsia boliviana var. luxurians Johnston.

5. Epilobium coloratum Bieler,
Perennial with sessile leafy basal rosettes; stems ascending to erect, about 5-10 dm. high, mostly much branched in upper parts, glabrous below, strigulose upward in lines from the decurrent leaf-bases and in upper parts also finely glandular pubescent and generally strigulose; leaves well distributed, narrow-lanceolate, long-acuminate, 4-15 cm. long, 0.5-2.5 cm. wide, closely serrulate with many fine teeth, short-petioled, uppermost leaves passing into reduced leafy bracts; inflorescence more or less canescent; sepals 1.5-3 mm. long; petals pink, 3-5 mm. long; capsules slender, pedicelled, 3-5 cm. long; seeds about 1.5 mm. long, the mature coma cinnamon-colored.
Type locality, Pennsylvania. Found in moist places, low grounds, etc. over much of the eastern United States, it is rather surprising to be collected in the island of Santo Domingo. The following specimens seem to me definitely to be assigned to this species: SANTO DOMINGO: Prov. de La Vega, wet places along banks of Río Grande, April 21, 1957, J. Jimínuez 3539 (US); Río Grande on new road to Valle Nuevo, 1400 m., July 16, 1935, Jimínuez 3002 (US); Cordillera Central, Prov. de Agua, San Juan, Lomas de la Mediana, Sabana Nueva, 1950 m., Sept. 17, 1929, Ekman (S, US); Valle Nuevo, Canela 383, in 1937 (P). HAITI: near Purcy, 1300 m., in 1920, E. C. Leonard 4817 (US); Massif de la Selle, Marigot near M. Pabaio, 2200 m., Aug. 24, 1924, Ekman H 1617 (S, US), Pétionville, Fourcy, at 1500 m., Ekman H 1749 (S, US); headwaters of Rivière Pënaud, Ekman H 1750 (S).

6. Epilobium mexicanum Moc. & Sessé ex DC.,
Prod. 3: 41, 1828.
E. repens Schlcht., Linnaea 12: 267, 1838, from the description. Based on a Schiede collection from Mt. Orizaba, which I have not seen.
E. doriphylum Hausskn., Mon. Epil., 257, pl. 16, fig. 74, 1884, from description. Based on Schmitz 433 from near Mexico, which I have not seen.
E. ostenfeldii Lév., Fedde Repert. 9: 523, 1911. Based on Liebman 92, in herb. Copenhagen and described as having 4-lineate stems. I have seen Liebman 3292 (C).
Perennial with procumbent sprawling leafy vegetative shoots; stems mostly 3-7 dm. long, erect, glabrous below, with prominent strigose lines above from the decurrent leaf-bases, freely branched; leaves numerous, lance-ovate to lanceolate, sessile or very short-petioled, mostly ½-⅓ as wide as long, minutely and rather evenly serrulate, subacuminate, subglabrous, 2-5 cm. long; inflorescence mostly freely branched, leafy-bracteate; sepals sparsely strigulose, 2-3 mm. long; petals pink, 5-6 mm. long; capsules subglabrous or more
or less strigulose, pedicelled, very slender, mostly 4-5 cm. long; seeds about 1 mm. long, brown, papillose.

Type locality, Mexico. Original description based on a Sessé and Moçoíno drawing and very meager, the drawing quite stylized. In the Sessé and Moçoíno material of Onagraceae loaned me some years ago by the Chicago Museum I found no Epilobium under this name or that would help definitely to identify the name. However, because of the rather broad leaves and branching habit shown in the drawing used by De Candolle I am following Samuelsson in his interpretation of the species (Svensk Bot. Tidskr. 17: 292, 1923). Representative herbarium material, MEXICO: HIDALGO, Real del Monte, Galeotti 3018 (C, F); Zimapán, Galeotti 3018 (G, P), JALAPA, Pico de Orizaba, Liebmann 3290 (GH), Galeotti 3026 (G, P, W), Scartezzina 843 (F, GH, US), ZACATECAS, Sierra Madre, Rose 2384 (US). MEXICO, Sierra de las Cruces, Hershberger 38 (GH, PH), Pringle 4182 (BM, E, F, G, GH, K, MO, P, PH, S, W); Nevada de Toluca, Balls 4988 (MO, US). FEDERAL DISTRICT, Desierto de los Leones, Munz 15063 (GH, POM, US), Lyonnet 505 (US); below Ojos de Agua, Balls 4988 (BM, E, K). MICROACAN, Tancitaro, Hinton 15649 (GH, PH, US); Morelia, Arízene in 1909 (F). MORELOS, Lakes of Zempoala, Langman 2691 (PH), Lyonnet & Chavez 3402 (US). PUEBLA, Tamalquila, Balls 4474 (BM, K, US); Chiatanta, Liebmann 3292 in part (C), 3293 (US). JALISCO, Nevada de Colima, McVaugh 12901 (RSA, US). OAXACA, Sierra de San Felice, C. L. Smith 847 (US), E. W. Nelson 1079 (US); 18 miles sw. of Oaxaca, E. W. Nelson 1404 (US). GUATEMALA: Dept. SAN MARCOS, Volcán Tumaculco, Steyermark 35724 (POM). Dept. HUEHUETENANGO, Sierra Cucumatan, Sketch 1259 (GH). Dept. CHIMALTENAGO, Sketch 638 (US).

The species grows in moist places, at about 2000 to 3700 meters elevation.


Type locality, Mexico. If I am correct in my interpretation of Presl’s name it will refer to the plant currently being identified as E. montezumae over which it has many years priority. The original description states clearly that the leaves were narrow, the upper stems terete and pubescent above (the hairs generally distributed, not in lines); leaves well distributed, lanceolate, subsessile, mostly about 1/8-1/12 as wide as long, evenly denticulate, subacuminate, subglabrous, mostly 3-7 cm. long, gradually reduced upward into leafy bracts; sepals strigose, 2.5-3 mm. long; petals pinkish, about 4 mm. long; capsules pedicelled, slender, strigulose, 3.5-6 cm. long; seeds brown, papillose, about 1 mm. long.

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The species grows in moist places at elevations of 1500 to 2500 meters.


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with some hair on decurrent lines below the nodes, with a whitish more or less appressed nonglandular pubescence in the inflorescence; mostly weakly branched above; leaves ovate to elliptic-lanceolate, 3-6 cm. long, acute to obtuse, serrulate, rounded into very short flat petals, about ¼-½ as wide as long, more or less pubescent; upper leaves gradually reduced; sepals about 2 mm. long; petals white or pink, 2-4 mm. long; capsules slender, pedicelled, 4-6 cm. long, strigulose; seeds obovoid, abruptly short-beaked, about 1 mm. long, papillose.

Type locality, San Bernardino, California. Material seen, MEXICO: BAJA CALIFORNIA, Rancho San Jacinto, 45 miles s. of Ensenada, Wiggins & Demaree 4730 (F, POM, US); 5 miles nw. of La Grulla, Sierra San Pedro Martir, Wiggins & Demaree 4850 (POM, US); valley of Mission de San Pedro Martir, Wiggins 9044 (US); Sierra de Laguna, near Todos Santos, Brandegee in 1890 (MO); Sierra de San Franciscoquito, Brandegee 215 (PH, US); La Chuparosa, Brandegee in 1893 (POM). SONORA, San José Mts., E. A. Mearns 1678 (US), C. B. Wolf 2511 (RSA).

Growing in moist places below 2200 meters, from Sonora and Lower California to British Columbia.


Much like E. adenocaulon var. parishii in aspect, perhaps lower, 2-4 dm. high, often more compactly branched, subglabrous below, strigulose above in the usually branched inflorescence, especially on the lines decurrent from the leaf-bases; leaves rather crowded, mostly 1-2 (-5) cm. long, obovate-lanceolate, subglabrous, with rather few shallow teeth, mostly acutish, subsessile; sepals strigulose, 2-2.5 mm. long; petals pale, 3.5-4 mm. long; capsules pedicelled, canescent-strigulose, slender, 3-5 cm. long; seeds brown, papillose, not beaked.

Type locality, northern New Mexico. Material seen, MEXICO: CHIHUAHUA, Sierra Madre near Colonia García, Townsend & Barber 167 (BM, E, F, G, K, MO, P, POM, US), 225 (BM, E, F, MO, P, POM, US); Rio Chico, Le Sueur 1406 (F, MO, US); Marsh Lake, Sierra Madre, M. E. Jones in 1903 (POM); San Diego Canyon, Sierra Madre, Jones in 1903 (POM); Meadow Valley, Sierra Madre, Jones in 1903 (POM). COAHUILA, Del Carmen Mts., E. G. Marsh Jr. 742 (F).

Growing in moist places, at about 2000 to 2600 meters elevation.

A NEW SPECIES OF OENOTHERA FROM MEXICO

PHILIP A. MUNZ

Oenothera maysillesii Munz, sp. nov.

(Fig. 1)

Perennial from an elongate woody taproot, the crown simple or few-branched; basal leaves few to several, rhombic-ovate, grayish-strigose above and beneath with rather stiff hairs, evenly serrulate, acute, the blades 2.5-5 cm. long, 1-3 cm. broad, with about 5-7 main veins on each side of the midrib, gradually narrowed basally into broad petioles 0.5-1.5 cm. long; stems arising from basal axils, one to few, prostrate, slender, rather coarsely and unequally strigose, mostly 1-2.5 dm. long, rather equably leafy with subsessile ascending lance-elliptic to ovate-elliptic serrulate strigose leaves 1-2 cm. long; flowers apparently solitary on the runnerlike stems, borne in one of the lower axils, yellow, day-blooming; ovary sessile, grayish-strigose, elongate, about 1 cm. long, 4-loculed; floral tube very slender, erect, about 7-9 cm. long, with more or less appressed, rather coarse but not stiff, hairs without, glabrous within; sepals lance-linear, 3-3.5 cm. long, more or less loosely strigose, the tips free, subulate, 3-5 mm. long; petals obovate, 2.5-3 cm. long; stamens 8, somewhat unequal, 1.6-2.2 cm. long; anthers linear, 7-8 mm. long; pistil extended to about the tips of the petals, the linear stigma-lobes 4-5 mm. long; capsule and seeds not seen.

Perennis; caudice suffruticoso, simplicie vel ramoso; foliis basaliis pauciis vel multis,