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Moritzia DC. (Boraginaceae): A Genus New To North America

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While working through some unidentified collections of Boraginaceae from Central America, I came upon a few specimens with a gross habit somewhat suggestive of *Cynoglossum* and *Hackelia*. However, the specimens lacked the essential features of either one of those genera or of any other known North American Borage. After further investigation, it was determined that the specimens were in *Moritzia*, a genus heretofore endemic to South America. Prior to this recent discovery, the genus was known only from Colombia, Venezuela, Ecuador, Peru, and southern Brazil. *Moritzia* is a small genus, consisting of three to five species, one in northern South America, and the remaining species in southern Brazil. All North American specimens examined have proven to be *M. lindenii* (A. DC.) Bentham ex Gürke, the northern South American representative of the genus. This find is another example of the relationship that exists between the paramo region of Costa Rica and that of the Andean flora of South America.

MORITZIA DC.

Moritzia DC. in Meisner, Genera 1: 280. 1840; 2: 188. 1840.
Meratia A. DC. in DC. Prodr. 10: 104. 1846.

Erect perennial herbs. Leaves alternate, the basal ones large, slightly or gradually reduced upwards. Flowers sessile or pedicellate (in ours), in bractless, usually paired scorpioid cymes. Calyx short-tubular, accrescent in age, armed with stout uncinat hairs, the lobes short. Corolla blue or white, salverform with a short tube, equalling or slightly surpassing the calyx; limb 5-lobed, the lobes spreading, imbricate; throat of the corolla tube with hairy patches (in ours) or with hairy fornicies. Stamens 5, affixed above the middle of corolla tube; anthers

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included to conspicuously exerted. Style simple, slender, surpassing or shorter than (in ours) the body of the mature nutlet; stigma bilobed. Ovules 4. Nutlets solitary by abortion, erect, ovoid, smooth to muricate (in ours), ventrally keeled, abruptly contracted (stipe-like) at the base, attached to the flat gynobase by a small basal areola.

Moritzia lindenii (A. DC.) Bentham ex Gürke in Engler & Prantl, *Pflanzenfam.* IV. 3a, 121. 1893. *Meratia lindenii* A. DC. in DC. *Prodr.* 10: 104. 1846. Figure 1.

Perennial from a tap root; stems erect, several, 2-6.5 dm. tall, retrorsely strigose below, antrorsely strigose above, also with hirsute pustulate-based hairs. Leaves strigose above and below; basal leaves usually persistent, oblanceolate, 4-24 cm. long, .7-2.5 cm. wide, apex narrowly acute, the petiole winged; cauline leaves ascending, reduced upwards, 2-10 cm. long, .7-1.2 cm. wide, the apex narrowly acute, the lower ones narrowly oblanceolate, sessile or on a winged petiole, the upper cauline leaves narrowly lanceolate to narrowly oblong. Inflorescences densely strigose and sparsely hirsute, bracts absent. Pedicels 1-2 mm. long, 3.5 mm. in age, densely strigose. Calyx 2 mm. long, 5-ribbed, densely covered with stout, translucent, uncinata, pustulate-based hairs, also with a few minute strigose hairs mostly between the ribs; lobes triangular or lanceolate, 0.7-1 mm. long, apex narrowly acute. Corolla limb spreading, blue or white or blue with a white center, 5.5-6.5 mm. wide; tube slightly ampliate upward, 2 mm. long, equalling the calyx lobes; lobes 2-2.5 mm. long, rounded, papillate-mealy, sparsely strigose with minute hairs adaxially; throat with 5 densely hairy patches. Stamens attached above the middle of corolla tube; filaments 0.5-0.6 mm. long; anthers 0.8-0.9 mm. long, included. Style 1.5-2 mm. long, included or slightly exerted. Nutlet ovoid, 2-2.2 mm. long, densely muricate, very obscurely angulate, apex acute; fruiting calyx 2.5-3.5 mm. long, tightly enclosing the solitary nutlet; style reaching to about two-thirds height of the nutlet.

The genus is now known from the following collections in North America all from Costa Rica.

Specimens examined. COSTA RICA: Cartago: Cerro de la Muerte, 4.5 miles east of Ojo de Agua, mossy forest, 3,165-3,335 m., July 15-16, 1962, *Webster, et al 12306* (F); San José: Cerro de la Muerte, km. 92. approaching paramo type vegetation, 3,200 m., Sept. 17, 1967, *Whitmore 86* (F, GH, MO, US); Cordillera de Talamanca between Asunción and Cerro las Buvis, open *Chusquea* paramo, 3,260 m., July 14, 1968, *Davidse & Pohl 1140* (F, NY, UC); San José and Cartago: near La Asunción, open paramo, 3,200-3,300 m., Aug. 6, 1971, *Burger 7944* (CR, F, GH, MO, NY, US); Valle de los Conejos, Cerro Chirripó (upper Río Talari), open paramo formation, 3,400-3,820 m., Aug. 22, 1971, *Burger 8273* (F, GH, US).



FIG. 1. *Moritzia lindenii*. A, habit, $\times \frac{1}{2}$; B, inflorescence, $\times 2$; calyx, $\times 10$; uncinuate hair, $\times 15$; C, dissected flower, $\times 5$; D, hairy patch at mouth of corolla tube, $\times 15$; E, stamen, $\times 10$; F, flower and bud, $\times 5$; G, mature nutlet with aborted nutlets, $\times 10$. (A-F from Davidse & Pohl 1140 (F); G from Burger 8273 (F)).

KEY TO THE SUBFAMILY BORAGINOIDEAE IN CENTRAL AMERICA
AND PANAMA

1. Nutlets armed with glochidiate prickles.
 2. Nutlets erect, attached medially or near medially to the gynobase; prickles only on the dorsal side of the nutlets; style shorter than to slightly exceeding the body of the nutlets..... *Hackelia*.
 2. Nutlets widely spreading, attached apically to the gynobase, prickles on the dorsal and ventral side of the nutlets; style greatly exceeding the body of the nutlets..... *Cynoglossum*.
1. Nutlets unarmed.
 3. Calyx lobed not more than one-half way to the base, densely covered with stout, uncinat hairs; mature nutlets solitary, falling away tightly enclosed in the calyx..... *Moritzia*.
 3. Calyx parted to near the base, uncinat hairs absent; mature nutlets mostly 2 or 4, falling away separately, not enclosed in the calyx.
 4. Stamens strongly exerted; corolla lobes acute..... *Macromeria*.
 4. Stamens included; corolla lobes obtuse or rounded..... *Lithospermum*.

There are two other genera of the Boraginoideae that are cultivated in Central America and Panama, *Borago* and *Myosotis*. Standley (1938) reported that *Myosotis arvensis* (L.) Hill is naturalized in the pastures of Volcán de Turrialba, probably imported with grass seed. *Borago* can be distinguished by the adaxially appendaged filaments and *Myosotis* by the corolla lobes being convolute in bud.

REFERENCES

STANDLEY, P.C.

1938. Flora of Costa Rica. Field Mus. Bot. Ser. 18: 978-993.



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