

TILLANDSIA SUESILLIAE ESPEJO, LÓPEZ-FERRARI ET W. TILL,
A NEW SPECIES FROM CENTRAL MEXICO

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ABSTRACT

The nomenclatural statuses of *Tillandsia parryi* Baker and *T. sueae* Ehlers are clarified, and *T. suesilliae* is described as new. Data relative to the distribution, ecology and phenology of the studied taxa are provided.

Key words: Bromeliaceae, Hidalgo, Mexico, San Luis Potosí, *Tillandsia parryi*, *Tillandsia sueae*.

RESUMEN

Se aclara la aplicación correcta de los nombres *Tillandsia parryi* Baker y *T. sueae* Ehlers y se describe como nueva *T. suesilliae*. Se aportan datos relativos a la distribución, ecología y fenología de los taxa estudiados.

Palabras clave: Bromeliaceae, Hidalgo, México, San Luis Potosí, *Tillandsia parryi*, *Tillandsia sueae*.

Tillandsia parryi was described by Baker in 1887, based on material collected by C. Parry and E. Palmer (# 873) in the state of San Luis Potosí, Mexico. The labels of those specimens do not provide data about the precise locality where the plant was found; not even McVaugh (1956), in his contribution about the travels of Parry and Palmer, provides information to determine the exact place where the above mentioned plants came from, although doubtless it is a place near Sierra de Álvarez, in the region east of the city of San Luis Potosí.

Gardner, in her doctoral thesis (1982), pointed out that in San Luis Potosí it is possible to find at least two distinct forms “two types” of plants named *Tillandsia parryi*, one with violet petals and another with green petals. She concluded that “... these types are distinct enough to be recognized as distinct species. The latter [that of green petals] is interpreted as *T. parryi*, but dried specimens are difficult to determine.” However, she did not provide evidence to support her assertion, and did not mention if she had seen type material.

Ehlers (1991), without providing more data, assumed as true Gardner’s interpretation (1982) and described the taxon with violet flowers as *Tillandsia sueae*. However, a careful microscopic revision of the flowers of the type material of *Tillandsia parryi* (Parry & Palmer 873 (GH!, K!, MO!, PH!, US!)) showed that the petals of this taxon are violet and not green as was supposed by Gardner. For the reasons previously stated, we conclude that *Tillandsia sueae* Ehlers is a taxonomic synonym of *T. parryi* Baker, while the species with green petals has no name, so we propose:

Tillandsia suesilliae Espejo, López-Ferrari et W. Till, sp. nov. Figs. 1 and 2.

Herba lithophytica, acaulis, rosulata, florens usque ad 80 cm alta; folia numerosa, vaginae distinctae, triangulares, 10.5-13 cm longae, 4-6.5 cm latae; laminae triangulares 30-50 cm longae, 3.5-4.2 cm latae; pedunculus erectus, teres, 18-40 cm longus; inflorescentia unico-ramulosa; spicae ellipticae usque ad oblongo-ellipticae, 9.5-18 cm longae, 1.7-2.3 cm latae; bracteae florales virides, rarius roseae, imbricatae, oblongo-ellipticae, 3.9-5 cm longae, 1.3-1.8 cm latae, praeter apicem ecarinatae, dense albo-lepidotae; flores distichi, corolla actinomorpha, tubiformis; petala viridia, spathulata, 5.2-6.1 cm longa, 8.8-10 mm lata; stamina et stylus exserta.

Saxicolous, stemless herbs, flowering 60-80 cm tall, with funnellform tank type rosettes 30-50 cm in diameter, solitary. Leaves numerous, sheaths distinct, tinged with purple, especially on the adaxial surface, oblong-elliptic, 10.5-13 cm long, 4-6.5 cm wide, densely lepidote on both surfaces, blades green-greyish, narrowly triangular to linear-triangular, curved, involute at the margins, densely white-lepidote on both surfaces, 30-50 cm long, 3.5-4.2 cm wide, apex long-attenuate, acute. Inflorescence terminal, erect, compound, once branched, with 12 to 15 adpressed to ascendent spikes, peduncle terete, 18-40 cm long, 5-7 mm in diameter, covered by the bract sheaths; peduncle bracts green-greyish, foliaceous, narrowly triangular, 14-23 cm long, reducing their size gradually towards the distal portion of

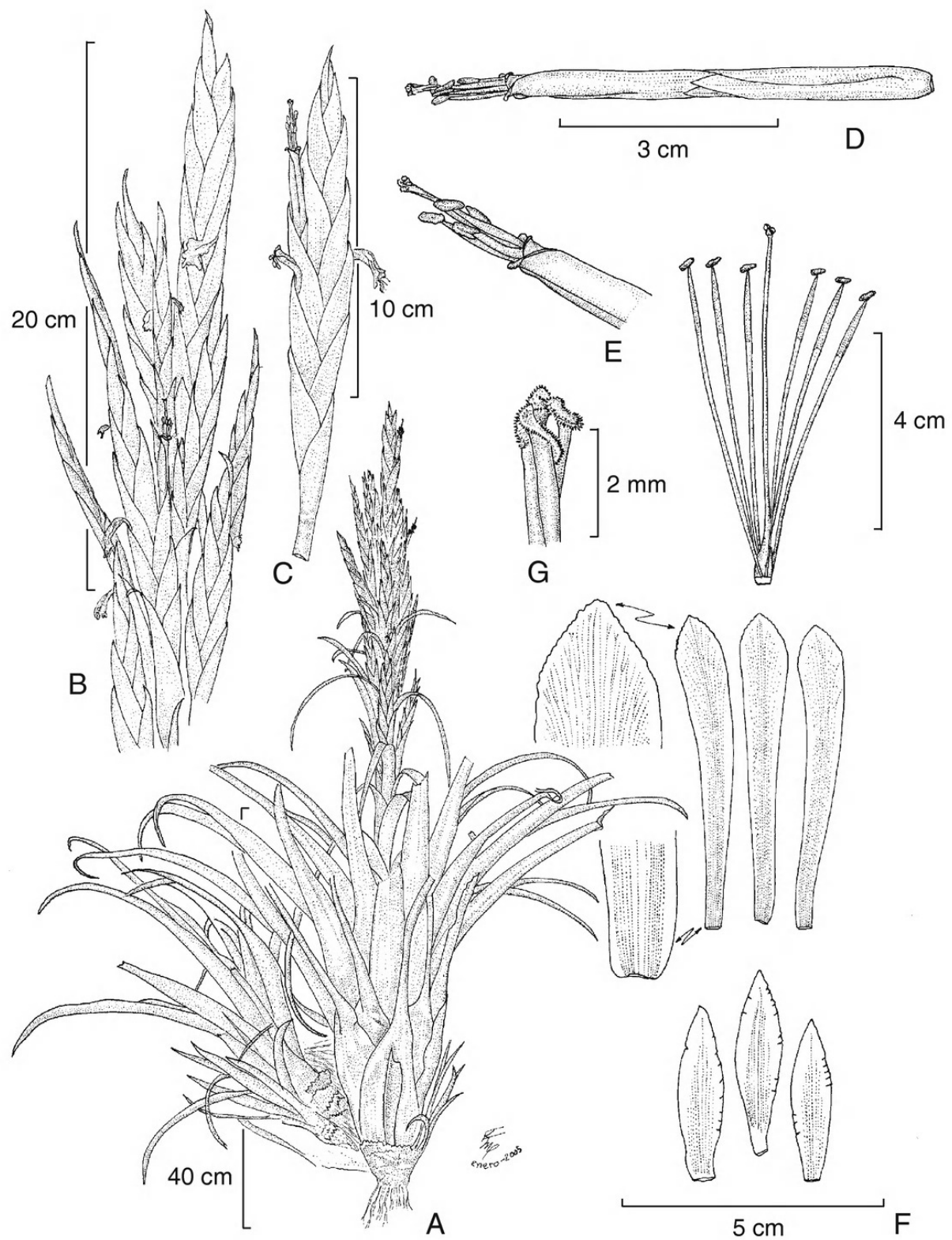


Fig. 1. *Tillandsia suesilliae* Espejo, López-Ferrari & W. Till. A. habit; B. inflorescence detail; C. spike; D. flower; E. flower detail; F. flower dissected; G. stigma. Voucher: *J. Ceja et al. 1745*.

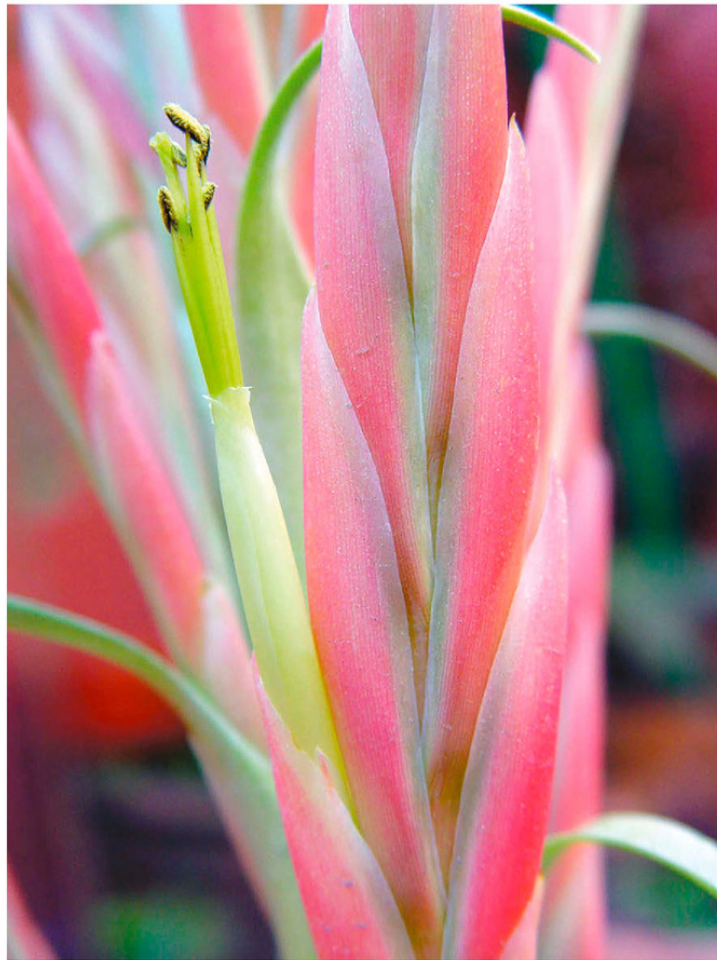


Fig. 2. *Tillandsia suesilliae* Espejo, López-Ferrari & W. Till. Inflorescence detail. Voucher: J. Ceja et al. 1745.

the peduncle; spikes compressed, narrowly elliptic, 9.5-18 cm long, 1.7-2.3 cm wide, stipes 1.2-1.5 cm long, slightly compressed; primary bracts green-greyish, 6-14 cm long, those of the distal portion vaginiform; floral bracts green to rose colored, longer than the internodes, imbricate but the rachis visible after anthesis, elliptic, 3.9-5 cm long, 1.3-1.8 cm wide, ecarinate except at the apex, densely white-lepidote, acuminate; flowers distichous, adpressed, 6-10(-11) per spike, subsessile, corolla actinomorphic, tubiform; sepals green, free, narrowly elliptic, 3.4-3.5 cm long, 9-10 mm wide, nerved, the two adaxial carinate, glabrous; petals free, green in the apical half, white toward the base, spatulate to oblong-spatulate, 5.2-6.1 cm long, 8.8-10 mm wide, obtuse; stamens longer than the petals, in two series of unequal length, filaments green in the apical half, white toward the base, flat (ribbon-like) in the basal part and somewhat thickened distally although also somewhat compressed, 5.8-6.6 cm long, anthers black, oblong, 3.7-4 mm long, dorsifixed; ovary ellipsoid, 7.5-9 mm

long, ca. 3 mm in diameter, style exceeding the petals, filiform, 6.3-6.5 cm long, stigma green, conduplicate-spiral. Capsule fusiform, shortly mucronate, 3-3.3 cm long, 5-6.5 mm in diameter; seeds reddish-brown, fusiform, ca. 3 mm long, with a white coma 1.8-2 cm long.

Type: San Luis Potosí, municipio de Zaragoza, 1.5 km después de Las Ru-sias, rumbo al Valle de los Fantasma, 22°03'12" N, 100°34'01" W, 1964 m s.n.m., saxícola, 12.IX.2005, *J. Ceja, A. Espejo, A. R. López-Ferrari, A. Mendoza R. & I. Ramírez M. 1745* (holotype UAMIZ; isotypes: IEB, MEXU, WU).

Paratypes: Hidalgo: municipio indefinite, on canyon walls on road from Ja-cala to Tamazunchale, *J. Anderson s. n.* (SEL); San Luis Potosí: municipio de Zara-goza, in Valley of the Phantoms, about 40 km east of San Luis Potosí, saxicolous, *C. S. Gardner 306* (US); municipio de Zaragoza, Valle de los Fantasma, saxícola, *C. S. Gardner 807* (SEL, US); municipio de Zaragoza, Sierra de Álvarez, 22-25 (37.4-42.5 km) road miles east-southeast of San Luis Potosí, *R. McVaugh 12282* (MICH(x2)).

Other records: Line drawing in Gardner's thesis (1982, p. 150) and in Sill (2002, p. 209 and 212).

Tillandsia suesilliae is known only from the states of San Luis Potosí and Hidalgo, Mexico (Fig. 3), growing as a saxicole on calcareous cliffs surrounded by *Quercus* forests, between 1800 and 2350 m.

The new species shares some similarities with *Tillandsia parryi* but is easily distinguished by the characters shown in table 1.

Tillandsia parryi Baker, J. Bot. 25: 277. 1887. Type: San Luis Potosí, chiefly in the region of San Luis Potosí, 22° N, *C. C. Parry & E. Palmer 873* (holotype: K!; isotypes: GH!, MO!, PH!, US!). Fig. 4.

Tillandsia sueae Ehlers, J. Bromeliad Soc. 41: 208-213, fig. 6, 9-11. 1991, syn. nov. Type: Tlaxcala "Puebla", circa urbem Tlaxcala, III-1982, *R. & K. Ehlers EM 82134* (holotype: WU 3760!; isotypes: WU 3761!, 3762!).

Saxicolous or epiphytic, stemless herb, flowering 60-80 cm tall, with funnel-form, tank type rosettes to 65 cm in diameter, solitary or forming groups of two or

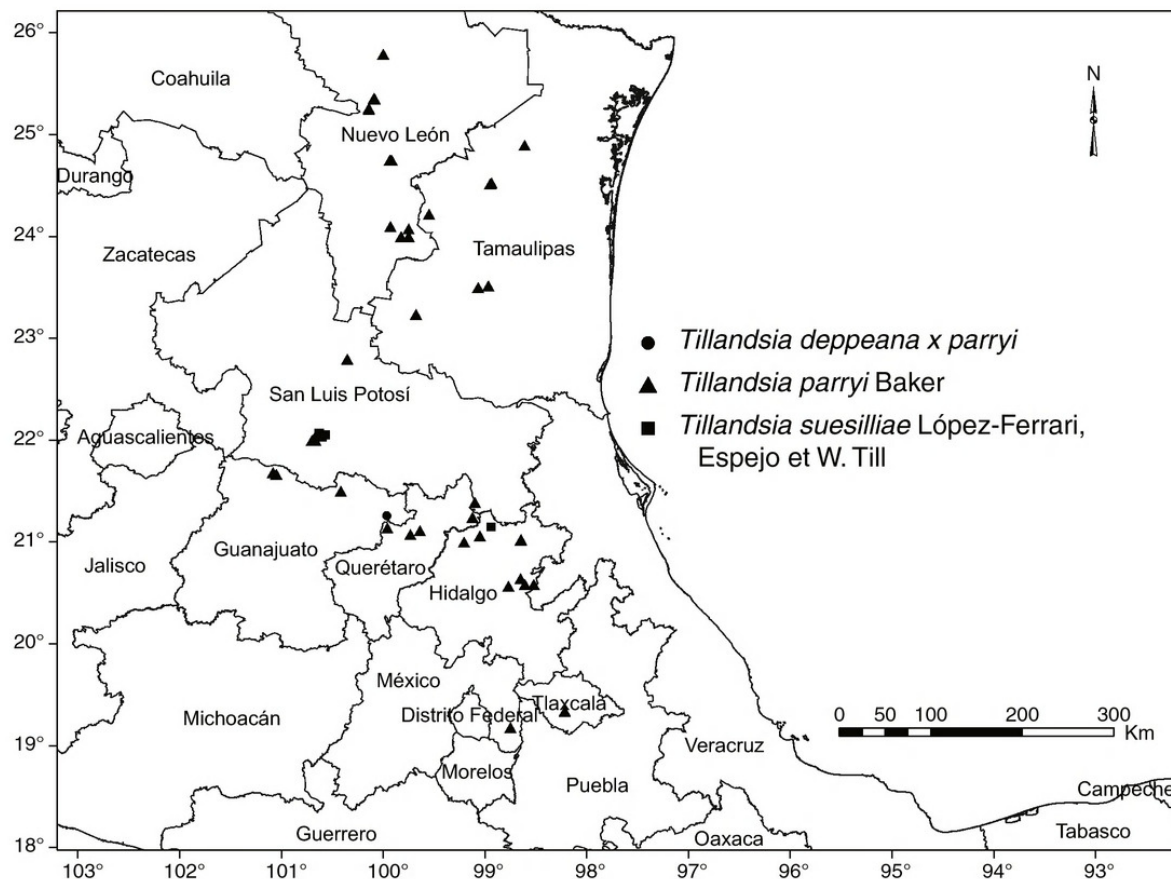


Fig. 3. Distributions of *Tillandsia deppeana x parryi*, *T. parryi* and *T. suesilliae*.

three rosettes. Leaves numerous, sheaths distinct, pale brown abaxially, dark brown on the adaxial surface, oblong-elliptic, 10-18 cm long, 5.5-10 cm wide, densely lepidote on both surfaces, blades green-greyish, narrowly triangular to linear-triangular, curved, involute at the margins, densely white-lepidote on both surfaces, 44-70 cm long, 3.5-3.7 cm wide, apex long-attenuate, acute. Inflorescence terminal, erect, compound, once-branched or occasionally twice-branched at the base, with 12 to 22(-30) adpressed to ascending spikes, peduncle terete, 24-35 cm long, ca. 7 mm in diameter, covered by the bract sheaths; peduncle bracts green-greyish, foliaceous, narrowly triangular, 29-40 cm long, the apex long-attenuate, reducing their size gradually towards the distal portion of the peduncle; spikes compressed, narrowly elliptic, 9-24 cm long, 1.5-2.7 cm wide, stipes 1.5-1.7 cm long, slightly compressed; primary bracts green-greyish, (5.5-)6.5-31 cm long, those of the distal portion vaginiform; floral bracts red to orange colored, longer than the internodes, imbricate but with the rachis visible after anthesis, elliptic, 2.7-3.6 cm long, 1.2-1.6 cm wide, ecarinate except at the apex, densely to sparsely white-lepidote, glabrescent with

Table 1. Comparative characters of *T. parryi* Baker and *T. suesilliae* Espejo, López-Ferrari et W. Till.

	<i>Tillandsia parryi</i>	<i>Tillandsia suesilliae</i>
Habit	epiphytic or saxicolous	saxicolous
Inflorescence	once branched to twice branched	once branched
Scape bracts	29-40 cm long	14-23 cm long
Floral bracts	2.7-3.6 cm long, red to orange colored	3.9-5 cm long, green to rose colored
Sepals	2.3-3 cm long	3.4-3.5 cm long
Petals	4.6-5.2 cm long, violet	5.2-6.1 cm long, green
Stamens	5-5.8 cm long, violet	5.8-6.6 cm long, green
Anthers	3-3.5 mm long	3.7-4 mm long
Capsule	4.6-5 cm long	3-3.3 cm long
Seeds	3.5-4 mm long, dark brown	3 mm long, reddish-brown

age, acuminate; flowers distichous, adpressed, (6-)9-11 per spike, subsessile, corolla actinomorphic, tubiform; sepals green, free, elliptic, 2.3-3 cm long, 7.5-10 mm wide, nerved, the two adaxial ones carinate, glabrous, acuminate; petals free, violet in the apical half, white toward the base, oblong to oblong-spathulate, 4.6-5.2 cm long, 6.5-7 mm wide, acute, stamens longer than the petals, in two series of unequal length, filaments violet in the apical half, white toward the base, flat (ribbon-like) in the basal part and somewhat thickened distally although also somewhat compressed, 5-5.8 cm long, anthers black, oblong, 3-3.5 mm long, dorsifixed; ovary ellipsoid, 7-10 mm long, 1.5-2 mm diameter, style exceeding the petals, violet in the apical half, white toward the base, filiform, 5.5-6 cm long, stigma violet, conduplicate-spiral, papillate. Capsule green to brownish, fusiform, rostrate, 4.6-5 cm long, 5-7 mm in diameter; seeds dark-brown, fusiform, 3.5-4 mm long, with a white coma ca. 1.8 cm long.

Examined specimens: **Guanajuato:** Guanajuato, *A. Dugès s. n.* (GH); municipio de Jaral del Progreso, Jaral, *W. Schumann 1514* (P, US, WU); municipio de San

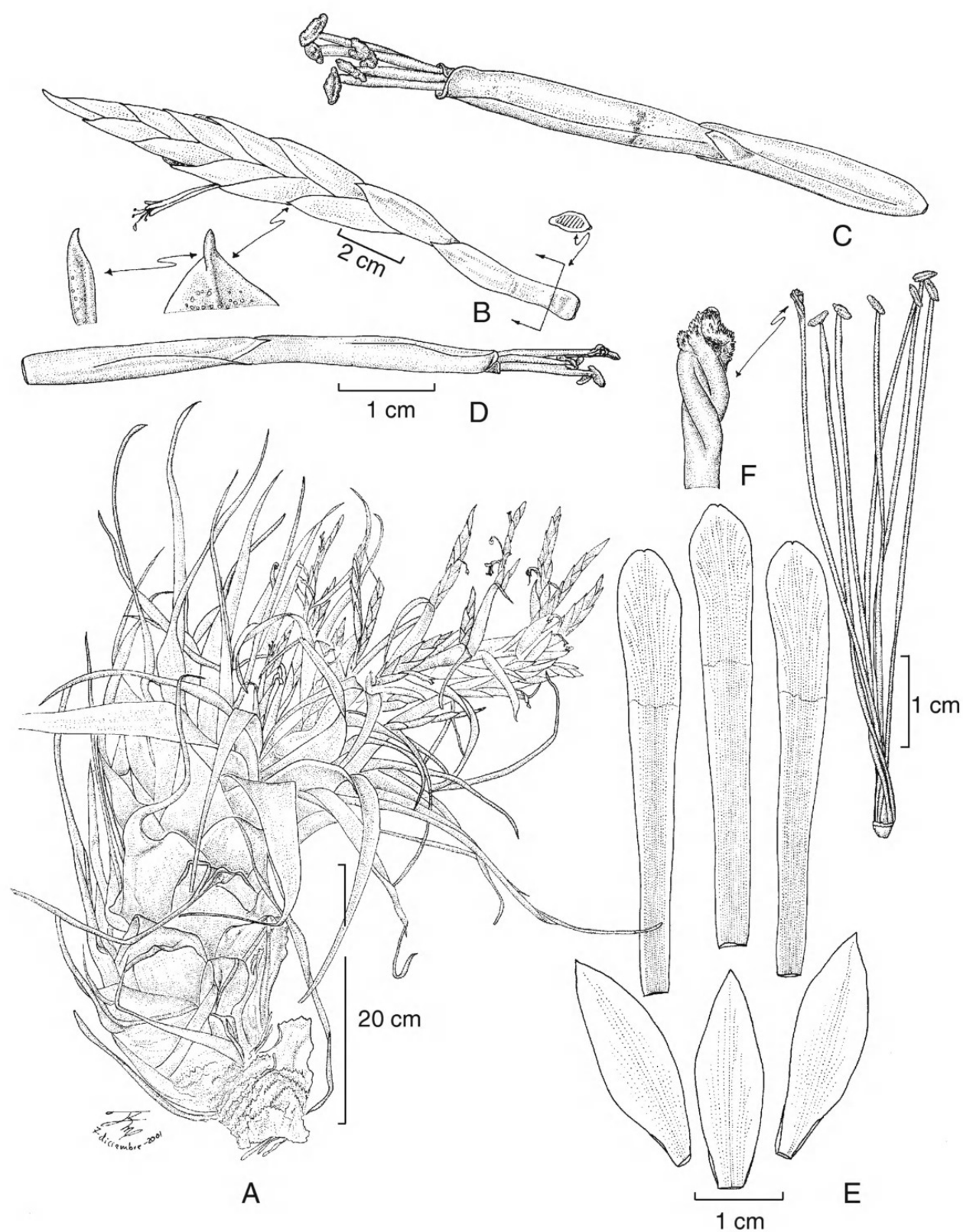


Fig. 4. *Tillandsia parryi* Baker. A. habit; B. spike; C, D. flower; E. flower dissected; F. stigma.

Luis de la Paz, cerro El Chapín, por Mesas de Jesús, *E. Ventura V. & E. López* 9837 (IEB(x2), UAMIZ(x2)). **Hidalgo:** municipio de Jacala, cerca de Jacala, *E. Matuda* 38659 (MEXU(x4)); municipio de Zimapán, 28.1 miles S of Huejutla along hwy to Pachuca, *J. Utley & K. Burt-Utley* 7325 (MEXU); municipio de La Misión, 20 miles N of Jacala, *O. van Hynning* 594 (US(x2)); municipio de Metztlán, Metztlán, *R. Ehlers* 942403 (M(x2)); municipio de San Agustín Mezquititlán, ca. 4 km después de Carpinteros, rumbo a Huayacocotla, *J. Ceja, A. Espejo & A. R. López-Ferrari* 1298 (UAMIZ(x3)); municipio de San Agustín Mezquititlán, ca. 6 km después de Carpinteros, rumbo a Huayacocotla, ca. 600 m después del ejido forestal La Selva, *J. Ceja, A. Espejo & A. R. López-Ferrari* 1300 (CICY(x2), UAMIZ(x2)); municipio de San Agustín Mezquititlán, 3 km al E del poblado El Rodeo, *J. L. López G.* 411 (IEB, MEXU, UAMIZ); municipio de Tenango de Doria, 20 miles N of Jacala, *O. van Hynning* 594 (US); municipio de Tlanchinol, 4 km al NE de Tlanchinol, sobre la carretera a Huejutla, *J. Rzedowski* 32687 (ENCB); municipio de Zacualtipán de Ángeles, alrededores de Zacualtipán, *L. González Q.* 342 (ENCB). **México:** municipio de Tlalmalco, cañadas 3 km al S de San Rafael, *J. Rzedowski* 32714 (ENCB). **Nuevo León:** municipio de Santiago, Potrero Redondo, *A. Contreras s. n.* (MEXU); municipio de Galeana, Sierra Madre Oriental, San Francisco canyon, about 15 miles SW of pueblo Galeana, *C. H. Muller & M. T. Muller* 324 (GH, MICH, P, TEX); municipio de General Zaragoza, Sierra Madre Oriental, Dulces Nombres, and just east of border into Tamaulipas, 24° N, 99.5°-100.5° W, *F. G. Meyer & D. J. Rogers* 2709 (BR); municipio de Santiago, mountain 20 miles south of Monterrey, *J. D. Staub & E. L. McWilliams s. n.* (US(x2)); municipio de Monterrey, second canyon south of Monterrey toward Tampico, *R. Ford Smith* M30 (TEX); municipio de Aramberri, Kreuzung vor Aramberri, *Schindhelm* 2/93 (M(x2)); municipio de Aramberri, cerro El Viejo, *G. B. Hinton et al.* 25169 (IEB, TEX); municipio de Galeana, Agua Blanca a La Purísima, *G. B. Hinton et al.* 21831 (IEB, MICH, TEX); municipio de Galeana, Sierra Madre Oriental, cañón de San Francisco, *C. H. Müller s. n.* (MEXU(x3)); municipio de General Zaragoza, cerro El Viejo, *G. B. Hinton et al.* 22691 (TEX); municipio de Santiago, trail from La Trinidad to Potrero Redondo, *C. H. Müller* 2954 (GH, LL, MICH, UC). **Querétaro:** municipio de Landa de Matamoros, Llano Chiquito, *S. Zamudio R. & E. Carranza G.* 10233 (IEB, UAMIZ); municipio de Landa de Matamoros, Joya del Hielo y alrededores, *S. Zamudio R. & E. Pérez C.* 9918 (IEB); municipio de Peñamiller, cerro de San Nicolás Molinitos, *S. Zamudio R.* 5951 (IEB, UAMIZ(x2)); municipio de Peñamiller, ladera NE del cerro La Tembladera, 10.5 km al NE de Peña Blanca, *S. Zamudio R.* 9108 (IEB, UAMIZ); municipio de Pinal de Amoles, al SW de 4 Palos, *E. Carranza G.* 2976 (IEB(x2)). **San Luis Potosí:** municipio indefinido. Prov. de San

Luis, *Virlet D'Aoust* 682 (P(x3)); municipio de Guadalcázar, aproximadamente 5 km de San José de las Flores por camino a Los Amoles a la mitad del camino entre ambos poblados, *H. Hernández M., C. Gómez & R. Bárcenas* 3273 (MEXU, UAMIZ); municipio de Zaragoza, 3 km al NE de Calera, *A. Rivera* 29 (ENCB). **Tamaulipas:** municipio de Cruillas, Cerro Zamora, vicinity of El Milagro, *H. H. Bartlett* 11154 (GH(x2), MICH(x2)); municipio de Jaumave, Santa Rita Ranch, 40 miles south Victoria, *R. Runyon* 1033 (GH, US); municipio de Bustamante, ejido Ricardo García o La Presita, km 66 carretera Victoria - Tula, *M. Martínez, M. Martínez & L. Hernández S.* 345 (MEXU); municipio de Hidalgo, near La Caballada, *G. B. Hinton et al.* 25188 (IEB, TEX); municipio de San Carlos, Sierra de San Carlos, ca. 5 m of San Carlos, N side of bufa El Diente, *G. Nesom, M. Martínez & J. Jiménez* 6299 (TEX); municipio de San Carlos, Sierra de San Carlos en el cerro del Diente, 7 km (en línea recta) al W de San Carlos, *M. Martínez & J. Martínez* 2042 (MEXU); 2046 (MEXU); municipio de San Carlos, cerro Bufo del Diente, *S. Zamudio R.* 11891 (UAMIZ). **Tlaxcala:** Sin localidad indicada, *Schnée s. n.* (P(x2)).

Sill (Gardner) (2002) pointed out a possible relationship between the substrate and the flower color, suggesting that plants with green petals are saxicolous while those with violet petals are epiphytic. Neither the information from our database nor our personal observations confirm this possibility, since we have reports of plants of *Tillandsia parryi* growing as epiphytes (*Ceja et al.* 1298, 1300) or as saxicoles (*Anderson s. n., Zamudio* 9108, *Carranza* 2976, *Martínez & Martínez* 2042, 2046).

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LITERATURE CITED

- Baker, J. G. 1887. A synopsis of Tillandsieae. J. Bot. 25: 277-281.
- Ehlers, R. 1991. A new *Tillandsia* species: *Tillandsia sueae*. J. Bromeliad Soc. 41(5): 208-213.
- Gardner, C. S. 1982. A systematic study of *Tillandsia* subgenus *Tillandsia*. PhD. Thesis. University of Texas. Corpus Christi. 305 pp.
- McVaugh, R. 1956. Edward Palmer, plant explorer of the American west. University of Oklahoma Press. Norman, Oklahoma. 430 pp.
- Sill (Gardner), S. 2002. *Tillandsia parryi* and *Tillandsia sueae*, sister species of central Mexico. J. Bromeliad Soc. 52(4): 147-152.

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