

## New Mesoamerican Species of *Dichorisandra* and *Tradescantia* sect. *Mandonia* (Commelinaceae)

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**ABSTRACT.** Two new species of Commelinaceae are described from the Neotropics. *Dichorisandra amabilis* J. R. Grant, widespread from southern Mexico to Panama, consists of erect herbs formerly included in *D. hexandra* (Aublet) Standley, which is here restricted to scandent plants. *Tradescantia petricola* J. R. Grant, disjunct from Costa Rica to Venezuela, belongs to *Tradescantia* sect. *Mandonia* D. R. Hunt.

During preparation of the treatment of the Commelinaceae for the *Manual de las Plantas de Costa Rica*, two new species were encountered. In order that they may be included within this flora, they are here described as *Dichorisandra amabilis* J. R. Grant, and *Tradescantia petricola* J. R. Grant.

### DICHORISANDRA

*Dichorisandra* is a taxonomically difficult genus not only at its northernmost extent in Mesoamerica and Mexico, but throughout its primary range in South America. While 25+ species are recognized in South America, the name *Dichorisandra hexandra* (Aublet) Standley has previously been used for an all-encompassing species of two or more distinct elements in Mesoamerica and Mexico, e.g., Hunt (1994) in *Flora Mesoamericana*. The description here of a species that ranges from southern Mexico to Panama attempts to alleviate some of the problems within the genus at the northern extent of its range.

### *Dichorisandra amabilis* J. R. Grant, sp. nov.

**TYPE:** Costa Rica. Puntarenas: Cantón de Esparza, Macacona, 10°01'40"N, 84°36'33"W, 400 m, 26 July 1992, Hammel, Castillo & Herrera 18543 (holotype, US; isotypes, CR, F not seen, INB, MO). Figure 1.

Haec species *Dichorisandrae hexandrae* affinis, sed ea habitu erecto, caule robustiore, foliis secus axem principalem spiraliter dispositis, secus ramos laterales distichis, vagina foliari infra glabra ad apicem subtiliter pubescente atque inflorescentia ex thyrso diffuso late ovato terminali constante distinguitur.

Free-standing, erect, single-stemmed, perennial herb to 1.5 m, upper half branched, arising seasonally from tuber-bearing roots. Roots thin, fibrous, often with distal tubers; tubers 3–5 × 0.5–1.5 cm, thick, succulent, tan. Stems robust, green to glaucous-blue, often with vertical white striations. Branches axillary, 4 to 9 in number. Leaves 6–20 × 1.5–7.5 cm, spirally arranged on the main axis, distichous on the lateral branches, sessile to petiolate, oblique, typically ovate-oblong, but varying from linear-lanceolate, ovate, elliptic, to obovate, basally acute to rounded, apically acuminate, firm but flexible, not leathery; sheaths glabrous, ciliate along the fused edge and toward the sheath summit; blades glabrous to sparsely scabrous, short-ciliate. Inflorescences raceme-like thyrses, terminal on both the main axis and the lateral branches, diffuse, broadly ovate to oblong in outline, (2–)5–8(–13) × (2–)3–5(–7) cm; peduncle 1–4 cm long, glabrous to velutinous; cymes (5) 10 to 15 (33) in number, 2–3.5 cm long, each subtended by a decrescent bract 5–60 × 2–4 mm. Flowers 2–15 per cyme, either bisexual (perfect) or male, both often blooming on a single cyme together on a given day, pedicellate. Pedicels 2–4 × 1 mm. Sepals 3, free, (5–)9–11 × 4–7 mm, unequal, green to white, glabrous, acute to obtuse to rounded at apex. Petals 3, free, 7–15 × 9–11 mm, obovate, pale blue, lilac, lavender, blue, purple, or white, rounded at apex. Stamens 6, equal, 8–11 mm long; filaments glabrous, 3–5 × 1 mm, antepetalous filaments shortly epipetalous at the base; anthers 6, dorsifixed toward the base, ovate in outline, base slightly cordate, 5–6 × 1–2 mm, dehiscent by two terminal pores, blue. Pistil 4–8 mm long; style slender, 2.5–6.0 mm; ovary glabrous, 1.5–2.0 × 1.5 mm. Capsules dehiscent, trilocular, 9–14 × 7–10 mm, oblong to obovate, often tinged purple, with 2 to 6 seeds per locule. Seeds robust, 4- to 6-sided, all sides 3.5–5.0 mm, ribbed to rugose, blackish with whitish indumentum on the sides facing other seeds, tan on the side(s) facing the wall of the locule; aril orange.

*Dichorisandra amabilis* ranges from the southern Mexican states of Veracruz, Oaxaca, and Chiapas



Figure 1. *Dichorisandra amabilis* J. R. Grant. —A. Habit. (A and E, Grant & Rundell 92-02007 in cultivation.) —B. Stem and underground tuber-bearing roots. (Based on Gómez 20749, NY.) —C. Flowering branch. (C and D based on Atwood & Neill AN140, NY.) —D. Detail of leaf sheaths. —E. Inflorescence; the upper opened flower is bisexual, the lower opened flower is male.

through Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica to the Darién of eastern Panama. Future collecting may reveal its presence in both Belize and the Chocó of Colombia. It occurs from sea level to 1650 m in altitude. In contrast, *Dichorisandra hexandra* has a continuous distribution from Peru and French Guiana to Panama and Costa Rica, and is disjunct in Belize. Although *D. amabilis* and *D. hexandra* are known from both Pacific and Atlantic slopes, *D. amabilis* tends to occur (or is at least collected more frequently) on Pacific slopes, and *D. hexandra* more so on Atlantic slopes (at least in Mesoamerica). Furthermore, *D. amabilis* is most commonly found in sunny, disturbed sites often near streams or on alluvial terraces, whereas *D. hexandra* is restricted to shady primary forest.

In morphology, *Dichorisandra amabilis* can generally be distinguished from *D. hexandra* in its erect, non-scandent habit, glabrous sheaths, and broadly ovate to oblong (rather than globose to slightly ovate) inflorescences. *Dichorisandra amabilis* also approaches *D. ulei* J. F. MacBride from northern South America. The latter species, however, is a taller, more robust species with thick stems, densely villous leaf sheaths and peduncles, and generally longer (15–26 × 4–8.5 cm) leaves.

Three published names in *Dichorisandra* from northern South America were considered as potentially applicable to the erect Mesoamerican species. However, examination of their type material from Prague has revealed each to be synonymous with *D. hexandra*. These names are: *Dichorisandra ovalifolia* C. Presl, Reliq. Haenk. 1: 140. 1825; *D. inaequalis* C. Presl, Reliq. Haenk. 1: 140. 1825; and *D. mexicana* C. Presl, Reliq. Haenk. 1: 140. 1825 (likely from South America, not Mexico). These names are mentioned to indicate that each was in fact considered and eliminated, whereby it was definitively decided to name the Mesoamerican entity as a new species.

KEY TO THE NATIVE AND CULTIVATED SPECIES OF *DICHORISANDRA* IN MESOAMERICA

- 1a. Climbing, clambering, or trailing vines; stems slender to wiry; inflorescences terminal only on short, often remote, axillary branches, compact, globose to slightly ovate in outline; leaves always distichously arranged; leaf sheaths pilose throughout, or only along the fused edge; Belize, Costa Rica, and Panama to French Guiana and Peru . . . *Dichorisandra hexandra* (Aublet) Standley
- 1b. Free-standing, erect herbs; stems robust; inflorescences terminal on the main stem, also at the ends of axillary branches, diffuse, broadly ovate in outline; leaves spirally arranged at least on main axis; leaf sheaths glabrous throughout to ciliate on the fused edge.
- 2a. Plants with multiple stems; sepals and petals both purple; anthers yellow; leaves spirally arranged on terminal as well as axillary branches; plants of cultivation, native to southeastern Brazil . . . . . *Dichorisandra thyrsoflora* J. C. Mikan
- 2b. Plants with a single stem; sepals green to white, petals pale blue, lilac, lavender, blue, purple, or white; anthers blue; leaves spirally arranged on the main axis, while those on the axillary branches distichously arranged; plants native to Mexico (Veracruz, Oaxaca, and Chiapas), Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica to the Darién of eastern Panama . . . . . *Dichorisandra amabilis* J. R. Grant
- Paratypes.* MEXICO. **Chiapas:** Estación Biológica Chajul, Domínguez 160 (US). **Oaxaca:** Arroyo Hamaca, Wendt et al. 4161 (US); Sta. María, Hernández 1204 (MO, US). **Veracruz:** Poblado 6 (La Laguna), Wendt et al. 2674 (US); Poblado 2, Wendt et al. 5306 (US). GUATEMALA. **Alta Verapaz:** Cubilquitz, Tuerckheim 8325 (US). **Jutiapa:** Atescatempa, Heyde & Lux 6393 (MO, NY, US); San Jerónimo, Harmon & Dwyer 3331 (MO); Monson on Hwy. CA-8, Harmon & Fuentes 5918 (MO); San Cristobol along CA-2, Dunn et al. 23211 (MO, NY). **Petén:** San Luis, Ortíz 2185 (US). **Sololá:** Santa Bárbara, Shannon 245 (US). **Zacapa:** 41 mi. S of turnoff to Petén (near Morales), Croat 41875 (MO). EL SALVADOR. **Ahuachapán:** 23 mi. NW of San Francisco Menéndez, Croat 42088 (US); P.N. El Impossible, Toledo 6 (MO). **La Libertad:** Los Chorros, Sta. Tecla, Rohweder 628 (MO). **San Salvador:** San Salvador, Renson 181 (NY, US), Calderón 840 (US); Conchagua, Rohweder 633 (MO). **San Vicente:** Laguna de Apastepeque, Rohweder 624 (MO). **Santa Ana:** Río Amayo near Hacienda Agua Caliente, Rohweder 626 (MO); Santa Ana Metapán, Rohweder 629 (MO). **Sonsonate:** San Salvador-Sonsonate, Rohweder 625 (MO); Salvador, 9 km E of La Libertad, Horton 8648 (US). HONDURAS. Without exact locality, "eastern Honduras," Townsend s.n. (US). **Atlántida:** Tela, Standley 52700 (US); Lancetilla, Chickering 213 (MO), Yuncker 4743 (MO, NY); Lancetilla Botanical Gardens, Croat & Hannon 64592 (MO). **El Paraiso:** drainage of the Río Yeguaré, Molina R. 4041 (MO, US), Molina R. 4124 (US); km 73 entre Ojo de Agua y Río California, Molina R. 14489 (NY); Las Manos, Cordillera Dipilto, Molina R. 30575 (MO). **Gracias a Dios:** Río Patuca, Wampusirpi, Clewett 4539 (MO). **Morazán:** Barrosas, Nolasco 130 (NY). **Olancho:** Pinares, Nelson & Romero 4656 (MO). NICARAGUA. Without province: Segovia District, Sangsangta, Schramm 55 (US). **Boaco:** El Portón, Stevens 9268 (MO, US); Cerro Mombachito, Stevens et al. 14710 (MO, US); Río Fonseca, "Los García," Moreno 10187 (MO, US); 4 km al Oeste de Boaco, Moreno 10201 (MO, US); Camoapa, Stevens 22986 (MO, US). **Carazo:** La Paz de Oriente, Moreno 10699 (MO, US). **Chinandega:** Ameya, Maxon et al. 7114 (US), Maxon et al. 7201 (US); Volcán Chonco, Sandino 1377 (MO); Santo Tomás del Nance, Moreno 11846 (MO, US); Volcán Casita, Montañas El Uval, Grijalva & Grijalva 1458 (MO, US). **Chontales:** Cuapa, Neill 7457 (CR, US), Stevens 3637 (MO, US), Nee & Sebastian 28471 (MO, US); 6 km E of Santo Tomás, Hernández & Stevens 618 (MO, US). **Estelí:** Salto de Estanzuela, Atwood & Neill AN140 (MO, NY,

US), *Stevens et al.* 14398 (MO, US), *Castro et al.* 1176 (MO, US), *Soza et al.* 146 (MO, US), *Moreno* 24390 (MO, US), *Hernández et al.* 637 (MO, US). **Granada:** Grenada de Nicaragua, *P. Lévy* 1060 (P); Volcán Mombacho, *Atwood & Neill* AN186 (MO, US), *Moreno* 1458 (MO, US), *Moreno* 1506 (MO), *Moreno* 2614 (MO, US), *Sandino* 1306 (MO, US), *Sandino et al.* 2906 (MO, US), *Moreno* 16465 (MO, US), *Marín & Cisneros* 137 (MO), *Grijalva et al.* 2902 (MO, US), *Soza & Moreno* 74 (MO, US); Comarca La Fuente, *Guzmán et al.* 604 (MO, US). **Jinotega:** El Cedro, *Moreno* 810 (MO, US). **Madriz:** San Juan de Río, *Stevens et al.* 17669 (MO). **Managua:** Casa Colorada, *Maxon et al.* 7375 (US); Las Nubes, *Maxon et al.* 7492 (US); El Crucero, *Stevens* 3511 (MO); along Hwy. 8 ca. 2.4 km SW of intersection with Hwy. 2, km 28, *Stevens* 3993 (MO, US); Río Los Mangos, Hwy. 12 bridge, *Stevens* 9788 (MO); carretera entre Las Conchitas y Masachapa, km 27–30, *Guzmán & Castro* 1956 (MO, US). **Masaya:** Laguna de Masaya, *Neill* 1034 (MO); Parque Nacional Volcán Masaya, *Neill* 4647 (MO); Jardín Botánico UCA, *Sandino* 3491 (MO, US). **Matagalpa:** Cerro Apante, *Sandino* 1517 (MO, US); Cerro El Apante Grande, *Soza et al.* 124 (MO, US); Ranchería, 11 km al NE de Muy Muy, *Moreno* 24454 (MO, US). **Nueva Segovia:** Ocotal, Quebrada El Nancital, *Stevens* 3086 (MO, US); San Fernando, *Stevens* 3219 (MO, US). **Río San Juan:** San Bartolo, *Seymour* 6212 (MO, US), *Robbins* 6222 (NY); Río Indio, *Rivière* 297 (MO). **Rivas:** Isla Ometepe, Volcán Concepción, La Concepción "El Floral," *Robledo* 1049 (MO, US); Isla Ometepe, Volcán Maderas, "La Palma," *Robledo* 1215 (MO, US). **Zelaya:** Río Punta Gorda, Atlanta, *Moreno & Sandino* 12842 (MO, US); Nueva Guinea, *Araquistain* 3023 (MO); Wany, *Ortiz* 44 (MO, US); Santa Rosa, *Ortiz* 66 (MO, US); Waspado, *Ortiz* 245 (MO, US); road between Nueva Guinea and Verdún, *Miller & Sandino* 1119 (MO, US); El Zapote, 6 km S of Colonia Verdún, *Nee & Vega* 27888 (MO); Sector Mina Nueva América, *Ortiz* 2148 (MO, US). COSTA RICA. **Alajuela:** San Ramón, *Brenes* 14430 (US); San Pedro de San Ramón, *Brenes* 4321 (NY), *Brenes* 11 (NY); Tapasco de Zarcero, *Austin Smith* 780 (NY); Zapote, *Austin Smith* 914 (NY); La Peña de Zarcero, *Austin Smith* 996 (NY); Quebrada Azul (San Carlos), *Brenes* 23069 (NY); San Rafael de Guatuso, Grecia, *A. Jiménez* 1084 (CR); Quebrada Lajas, Buena Vista de San Carlos, *A. Jiménez* 2318 (CR); N of San Ramón, *Lellinger & White* 1252 (CR, MO, US); 3 km NNE of Bijagua, *Burger & Baker* 9836 (MO). **Cartago:** Río Aguacaliente, *Pittier* 2634 (US); forêt de Tuis, Cartago, *Tonduz* 11360 (US); El Muñeco, *Standley & Torres* R. 51719 (US); Turrialba, *Croat* 588 (MO), *Croat* 590 (MO); Alto Velo de Novia, *Lent* 1013 (CR); 10 km S of Tapaní, *Burger & Stolze* 5626 (CR, MO, NY), *Burger & Burger* 7575 (CR); Tapaní Hydroelectric Reserve, *Croat* 36165 (US); Quebrada Cangreja, *Liesner & Judziewicz* 14482 (MO, US). **Guanacaste:** Tilarán, *Standley & Valerio* 44544 (US); Comelco Property near Bagaces, *Opler* 317 (CR); Parque Nacional Santa Rosa, *Barringer et al.* 4008A (CR); Parque Nacional Rincón de la Vieja, *Rivera* 664 (MO); 10 km S of Santa Cruz near Vista al Mar, *Grant & Rundell* 92–02007 (CR, US). **Heredia:** El Roble, *F. L. Stevens* 626 (US); Zona Protectora Q. Canta Rana Magsasay, *I. Chacón* 865 (CR). **Limón:** Forêts de Tsáki, Talamanca, *Tonduz* 9515 (CR); Río Rentavazón below Cairo, *Standley & Valerio* 49008 (US); Toro Amarillo, *Solís* 23904 (CR); La Lola, *Carlson* 3274 (US); 10 mi. SW of Guápiles, *Walker* 181 (US); between Siquirres and the Río Pacuare, *Burger & Liesner* 6972 (US); Cahuita National Park, *Hammit* 145 (CR); Lago Da-  
bagri hasta Río Llei, *Gómez et al.* 23180 (MO, US); Parque Nacional Tortuguero, Estación Agua Fría, *Robles* 1215 (CR), *Robles & Flores* 1625 (CR), *Solano* 55 (MO, US); 12.5 km S of the San José–Limón Hwy. between Germania and Siquirres, *Grant & Rundell* 92–01948 (CR, US). **Puntarenas:** forêts du Río Naranjo, *Tonduz* 7657 (CR); Río Sándalo, Osa Peninsula, *Dodge & Goerger* 10080 (CR, MO, NY, US); Palmar Norte, along Río Grande de Térraba, *Allen* 5313 (NY, US); 8 km al SE de Golfito, *A. Jiménez* 2264 (CR, NY); entre Lagarto y Boruca, *A. Jiménez* 3472 (CR); Cabo Blanco Nature Reserve, *Burger & Liesner* 6669 (CR, NY); Miramar turnoff, *Gentry* 1330 (CR, NY); between Golfito and Río Claro, *Maas & McAlpin* 1438 (CR); Barón de Esparta, *Ocampo* 1307 (CR); Boruca, Buenos Aires, *Ocampo* 1396 (CR); Barranca Site, about 15 mi. N of Puntarenas, *Janzen* 10743 (MO); sendero entre Boca de Barranca y Cabezas, *Gómez-Laurito* 6865 (CR); Esparza, Macacona, *Gómez* 20749 (MO, NY, US); Corcovado National Park, *Acevedo* 515 (US); Santa Elena, S of Agua Caliente, *Davidse et al.* 28232 (US); Finca El Edén, km 193, R 2, *Gómez* 22949 (MO, US); 7 km SE of Quepos, *Grayum & Sleeper* 5925 (MO, US); Santa Elena to Coyolar de Guacimal, near Lomas Ángeles, *Hammel* 17105 (CR, MO); Parque Nacional Corcovado, Sirena, Ollas Trail, *Kernan* 1262 (CR, MO, US); Parque Nacional Guanacaste, Estación Maritza, *Chavarría* 170 (CR, MO, US); Parque Nacional Corcovado, Estación Sirena, *Saborío* 88 (INB, US); Reserva Absoluta Cabo Blanco, *Chavarría* 277 (INB, MO, US); Monteverde Cloud Forest Reserve area, *Burger & Baker* 9778 (CR), *Dryer* 885 (CR), *Pounds* 181 (MO), *Haber & Zuchowski* 10759 (CR, US); Las Cruces Biological Station (Wilson Botanical Garden) area, *Raven* 21803 (CR), *Raven* 21896 (CR, MO), *Webster* 21973 (CR), *Burch* 4545 (MO), *Meerow et al.* 2001 (CR), *Grayum* 3361 (US), *Grayum* 5599 (CR, MO, US), *Kress & Di Süllo* 94–4109 (US), *Kress & Calderón* 94–5207 (US). **San José:** bords du Tilirí, *Tonduz* 6952 (CR), *Tonduz* 8834 (US); La Palma, *Stork* 438 (US), *Stork* 430 (US); San Luis de Turrubales, *Valerio* 653 (CR); La Palma, trail to Guápiles, *Burger* 4139 (CR); Río Honduras, below Bajo La Honduras, *Taylor & Taylor* 11895 (NY); Río Claro Valley below La Palma, *Burger et al.* 9420 (CR); Parque Nacional Braulio Carrillo, *Gómez-Laurito* 6445 (CR); Montañas Jamaica, Carara Reserve, 9°45.5'N, 84°33'W, *Grayum et al.* 5867 (MO); Zona Protectora La Cangreja, *Grayum* 8626 (CR); Zona Protectora El Rodeo Ciudad, Colón, *Q. Jiménez et al.* 855 (CR, MO, US); Santa Rosa de Puriscal, *Morales* 313 (MO); Cantón de Santa Ana, Brazil de Santa Ana, *Hammel et al.* 19045 (INB, MO, US). PANAMA. **Bocas del Toro:** Water Valley, *von Wedel* 970 (MO, US), *von Wedel* 1431 (MO), *von Wedel* 1498 (MO), *von Wedel* 1542 (MO); Isla Colón, vicinity of Chiriquí Lagoon, *von Wedel* 2798 (MO, US), *von Wedel* 2798 (MO); Quebrada Huron on Cerro Bonyik, *Kirkbride & Duke* 608 (NY); La Zorra, *Kirkbride & Duke* 827 (MO, NY); 12 mi. from Río San Félix, *D'Arcy* 16318 (MO, US); Fortuna Dam area, *D'Arcy* 16401 (MO, US). **Chiriquí:** Puerto Armuelles, *Woodson & Schery* 824 (MO, US); San Bartolomé, Península de Burica, *Woodson & Schery* 883 (MO, NY); E of Gualaca, *Allen* 5029 (MO); Boquete, 6 mi. N of Concepción, *Ebinger* 750 (MO, US); N of San Félix, *Mori & Kallunki* 6007 (MO); Cerro Colorado, Bocas Road, *Folsom & Collins* 1736 (MO); Haras San Miguel, near Río Mula, *Folsom* 3950 (MO, US); Volcán to Río Serano, *Folsom* 4058 (MO, US); Cerro Colorado, *Folsom et al.* 4793 (US); "km 85," *Him* 567 (MO, NY, US); road to Río Sereno from Volcán, *Murphy* 1104 (MO); Fortuna Dam area, *Churchill* 5387 (MO, US). **Co-**

**clé:** Cerro Valle Chiquito, *Seibert 511* (MO, NY); between Las Margaritas and El Valle, *Woodson et al. 1235* (MO, NY); El Valle, La Mesa, *Gentry 5653* (MO); El Valle de Antón, *Allen 1978* (MO, NY, US); Penonomé to Coclecito, 9 km N of Llano Grande, *D'Arcy & Hammel 12297* (MO); between Río Blanco and Caña Susio, *Sytzma et al. 2468* (MO). **Colón:** Gatún, *Hayes 177* (NY); 8 km NW of Gamboa, *Nee 7598* (MO); Pipeline Road near Gamboa, *Schmalzel et al. 775* (MO). **Darién:** road from El Real to Pinogano, *Duke 5142* (MO, US). **Herrera:** road between Las Minas and Pesé, *Duke 12306(3)* (MO, NY); Alto de Las Minas, *Carrasquilla 253* (MO). **Los Santos:** 17.8 mi. S of Macaracas, *Lewis et al. 1602* (MO, NY); Loma Prieta, *Duke 11865(3)* (MO), *Lewis et al. 2209* (MO, NY); Río Pedregal, 25 mi. SW of Tonosí, *Lewis et al. 2912* (MO); Guaniquito, about 10 mi. N of Tonosí, *Luteyn & Foster 1371* (CR, MO, US). **Panamá:** Cerro Gordo, near Culebra, *Pittier 3740* (NY, US); Arraiján, *Woodson et al. 1395* (MO, NY); Salamanca Hydrographic Station, Río Pequén, *Woodson et al. 1593* (MO, NY); Río Pacora, *Bartlett & Lasser 16959* (NY); Chilibre, *Dwyer 1029* (US); Las Cruces Trail, E of Summit Gardens, *Welch 19645* (MO, NY); halfway between El Llano and Río Mamoni, *Duke 5539* (MO); Howard Air Force Base, *Tyson 1862* (MO); 2 mi. SW of Guabala, *Lewis 4345* (MO); Nuevo Emperador, *Rivera E. 10* (MO); Cerro Azul, *Croat 11517* (MO); Armour Trail, *Croat 11666* (MO); Fort Kobbe, near Indo Beach, *Sullivan 233* (MO); Farfan Beach, *D'Arcy & D'Arcy 6061* (MO), *Sullivan 576* (MO); Trocha C, Isla Bayana, Altos de Majé, *Garibaldi 197* (MO); Curundu, 9°00'N, 79°35'W, 50 m, *Hamilton 575* (MO, US); Barro Colorado Island, *Standley 31354* (US), *Standley 41139* (US), *Ebinger 547* (MO, US), *Croat 4323* (MO), *Croat 6315* (MO); Madden Dam and Forest area (Parque Nacional Soberanía), Boy Scout Camp Road, *Dwyer & Elias 7490* (MO), *Kirkbride 46* (NY), *Kirkbride & Elias 259* (MO, NY), *Hamilton & Stockwell 1150* (MO, US), *Nee 6546* (NY), *Croat 11876* (MO), *Croat & Zhu 77055* (MO). **Veraguas:** Río Dos Bocas between Escuela Agrícola Alto Piedra and Calovebora, 15.6 km NW of Santa Fé, *Croat 27751* (MO); Cerro Tute, *Witherspoon et al. 8853* (MO), *McPherson 10651* (MO).

*TRADESCANTIA* SECT. *MANDONIA* D. R. HUNT

***Tradescantia petricola*** J. R. Grant, sp. nov.

TYPE: Costa Rica. Guanacaste: Cantón de Bagaces, Parque Nacional Palo Verde, Valle del Tempisque, Sendero Guayacán, 10°21'00"N, 85°21'00"W, 10 m, 6 Sep. 1994, *Chavarría 1035* (holotype, US; isotypes, CR not seen, INB, MO not seen). Figure 2.

Haec species *Tradescantiae velutinae* Kunth & C. D. Bouché et *T. ambiguae* Martius affinis, sed ab ambabus caulibus pedicellis et sepalis glabris ab illa sepalis longioribus atque seminibus majoribus, robuste costatis, nigrescentibus, 2–3.3 × 1.2–1.5 mm metientibus distinguitur.

Robust perennials, rather clumsily erect to somewhat decumbent, arising seasonally from tuber-bearing roots, not rooting at the nodes. Stems green, suffused with reddish purple between vertical white striations, from a distance appearing checkered

from the green of the stem and whitish green of the sheaths. Leaves spirally arranged, succulent; sheaths 0.5–1.5 cm long, markedly different in color from the blade, whitish or with green tinge with vertical veins standing out in light green, just shorter in length than the leaf internodes, glabrous, blades sessile, (5–)13–23 × (1–)3–5 cm, lanceolate-oblong with a strong-impressed false midrib, acuminate to acute at apex, rounded to cordate at base, glabrous and lustrous above, the stomates so large as to give a pocked appearance to the blade; abaxial surface puberulous; leaf margins maroon, entire, undulate to crispate, ciliate; leaves strongly decrescent on the flowering shoot. Inflorescences terminal and axillary, sessile to subsessile. Bracts strongly unequal when paired, acuminate, 8–60 × 3–15 mm, with vestiture as in the leaves. Pedicels glabrous, green, erect, white below, 11–13 mm long, recurved after flowering. Flowers bisexual, without any noticeable scent, 15–20 mm wide. Sepals 3, not reflexed, navicular, 5–8 × 2–3.5 mm, lanceolate-elliptic, green or tinged with reddish purple, becoming mostly reddish purple post anthesis, abaxial acute and glabrous, adaxial pair cucullate with a small apical tuft of eglandular hairs. Petals 3, pale lavender, white medio-basally, 8–11 × 7.5–9(–11) mm, broadly ovate, apically obtuse, free to the base. Stamens 6, equal, fertile, spreading; filaments white proximally, lavender and densely bearded with long, white moniliform hairs, 2–3 mm, distally; anthers basifixed, reniform; connective deltate; anther sacs small and distal, dehiscent downward; pollen bright yellow. Ovary ovoid, white, densely puberulous apically; style irregularly bent distally, lavender but white in proximal third and just below the stigma; stigma white, capitate. Capsule ca. 5 mm, oblong-ellipsoid, dehiscent. Seeds dark gray to black, coarsely 12-ribbed radially, whitish gray in depressions, narrowly trigonal, 2–3.3 mm long, 1.2–1.5 mm wide, 1 mm thick; hilum linear; embryotege dorsal.

*Tradescantia petricola* is known best from the tropical dry forest of Parque Nacional Palo Verde, Guanacaste, Costa Rica, where it is locally abundant in the forest understory on low limestone hills. It grows in tight crevices on vertical rock ledges and large boulders, hence the epithet. It is to be expected in adjacent areas with similar vegetation and geology, such as Parque Nacional Barra Honda. Three collections from Venezuela are also tentatively placed here.

*Tradescantia petricola* (Costa Rica, Venezuela) is notable in its essentially glabrous stem, pedicels, and sepals, though the sepals (5–8 × 2–3.5 mm)

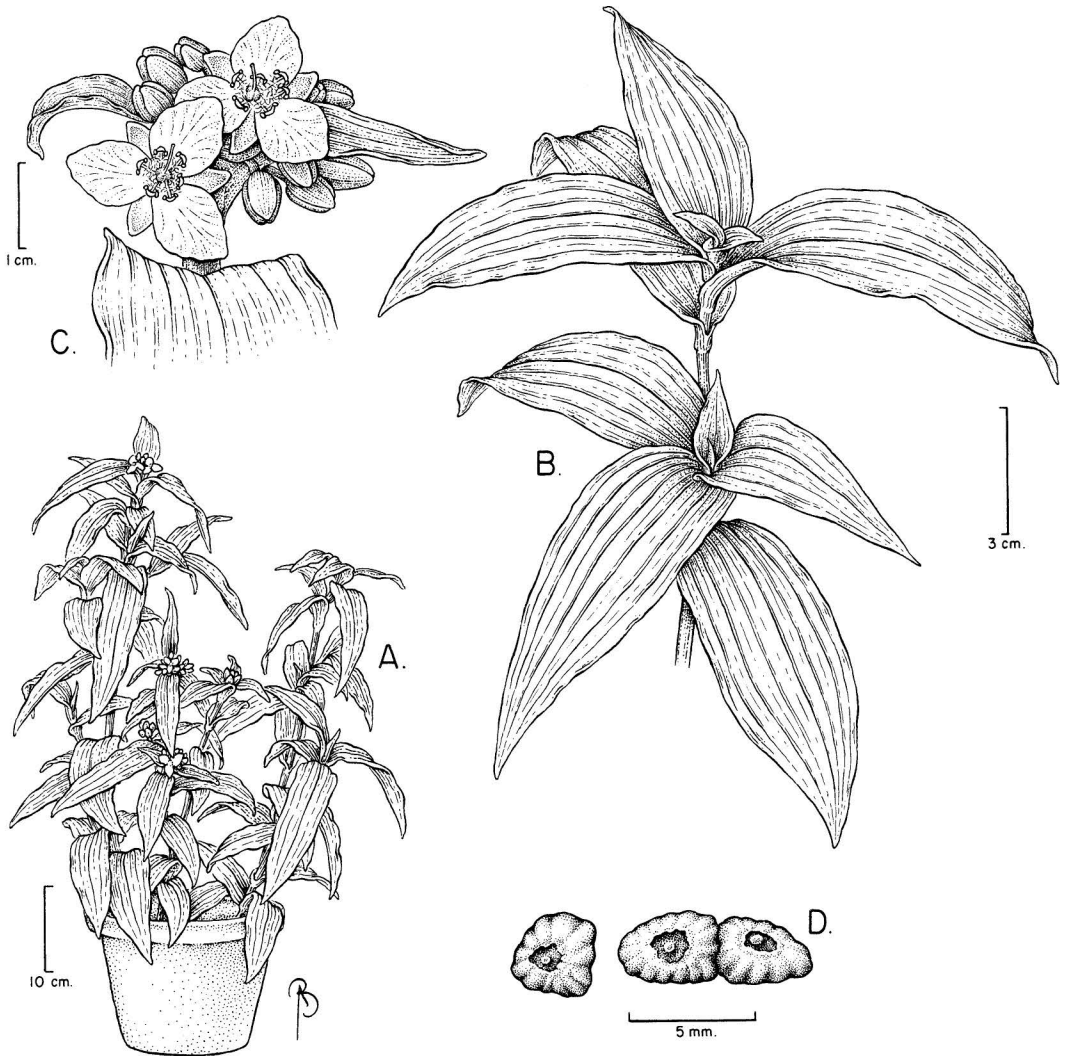


Figure 2. *Tradescantia petricola* J. R. Grant. —A. Habit. —B. Upper stems before flowering. —C. Inflorescence. —D. Seeds. (A–D Grant & Rundell 95-02347 in cultivation.)

often have an apical tuft of eglandular hairs. Its seeds are robustly ribbed,  $2\text{--}3.3 \times 1.2\text{--}1.5$  mm, and are dark gray to blackish. Both *T. velutina* (Guatemala, Honduras, Nicaragua) and *T. ambigua* (northeastern Brazil) have pilose inflorescences. *T. velutina* has shorter sepals (2.5–4.5 mm long) that are velutinous to short tomentose, and tan,  $1\text{--}2 \times 1$  mm seeds. *T. ambigua* has pilose sepals, 8(–9) mm long.

In Costa Rica, *Tradescantia petricola* flowers in the rainy season from late September to November. Flowering begins with the appearance of a cincinnus in the axis of each of the upper 5 to 6 leaves; however, no paired bracts are yet visible. As the inflorescences grow, they become increasingly more

complex. While most inflorescences are subtended by a pair of bracts typical of the genus, some have only a single bract, or rarely, none at all. In maturity, each inflorescence may consist of complex clusters of up to 5 or more inflorescences with single or paired bracts on short axillary shoots.

*Paratypes.* COSTA RICA. **Guanacaste:** Parque Nacional Palo Verde, Area Conservación Tempisque, Estación Palo Verde, Sendero Cactus,  $10^{\circ}20'00''\text{N}$ ,  $85^{\circ}21'10''\text{W}$ , 10–100 m, 12 Dec. 1990, *Chavarría 195* (INB), 27 May 1995, *Grant & Rundell 95-02347* (CR, US). VENEZUELA. **Falcón:** 4 km SSW of Mene de Mauroa (ca. 4 km from border with Zulia State), Distrito Mauroa, 100 m, 1/9 1984, *Wingfield 13005* (US). **Lara:** Agua Blanca, cerca de Barquisimeto, 1930, *H. C. 126* (VEN);

Largo de Valencia, Isla el Horno, 18 Sep. 1952, *Var.* & *Gessner 1875* (VEN).

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