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THE GENUS *TOCANTINIA* (AMARYLLIDACEAE, AMARYLLIDOIDEAE) AND TWO NEW SPECIES FROM BRAZIL[1]

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ABSTRACT
A synopsis of the genus *Tocantinia* is provided, with two new species being described and illustrated: *T. dutilhiana* and *T. stigmovittata*. Descriptions, illustrations and data on etymology, ecology, conservation status, distribution and habitat of the species are provided. The taxonomic placement of the genus in morphological and phylogenetic aspects is discussed.

Keywords: Taxonomy, *Tocantinia mira*, *Tocantinia dutilhiana* sp. nov., *Tocantinia stigmovittata* sp. nov., Cerrado Biome

RESUMO
[O gênero *Tocantinia* (Amaryllidaceae, Amaryllidoideae) e duas novas espécies para o Brasil].
É fornecida uma sinopse de informações sobre o gênero *Tocantinia*, sendo descritas e ilustradas duas novas espécies para este: *T. dutilhiana* e *T. stigmovittata*. São fornecidas descrições, ilustrações e dados sobre etimologia, ecologia, status de conservação, distribuição e habitat das espécies. É discutido o posicionamento taxonômico do gênero sob aspectos morfológicos e filogenéticos.

Palavras-chave: Taxonomia, *Tocantinia mir*a, *Tocantinia dutilhiana* sp. nov., *Tocantinia stigmovittata* sp. nov., Bioma Cerrado

INTRODUCTION

Currently Amaryllidaceae J. Saint-Hilaire (1805: 134) contains about 77 genera (The Plant List, 2013) and is divided into three subfamilies: Agapanthoideae Endlicher (1836: 141), Allioideae Herbert (1837: 48) and Amaryllidoideae Burnett (1835: 446) (Chase et al., 2009). Amaryllidaceae has a worldwide distribution, predominantly tropical (Meerow *et al.*, 1999; 2000) and shows remarkable diversity in the Neotropics, particularly in Brazil and in the Andean sector of Chile, Ecuador and Peru (Meerow, 2004). In Brazil, there are 14 genera and 150 species of Amaryllidaceae, and the subfamily Amaryllidoideae has the highest diversity with 12 genera and 103 species. This subfamily includes important genera, such as *Hippeastrum* Herbert (1821: 31) with about 30 species, *Habranthus* Herbert (1824: t. 2464) with about 19 species, and *Zephyranthes* Herbert (1821: 36) with roughly 17 species (Dutilh & Oliveira, 2015). The genera *Cearanthes* Ravenna (2000: 11), *Eithea* Ravenna (2002: 2), *Griffinia* Ker-Gawler (1820: t. 444), *Tocantinia* Ravenna (2000: 9) and *Worsleya* (W. Watson ex Traub) Traub (1944: 89) are considered rare and endemic in Brazil with few species (Dutilh & Oliveira, 2015; Amaral-Lopes & Cavalcanti 2015).

Fourteen tribes of Amaryllidoideae are currently recognized and five of them are a major American clade divided into two subclades: the extra-Andean (“Hippeastroide”)

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and the Andean clade. The "Hippeastroide" clade includes the tribes Hippeastreae Herbert ex Robert (1829: t. 14) and Griffineae Ravenna (1974: 65) with a large species diversity and endemic to Brazil (Meerow et al., 2000; Meerow, 2010). The original description of *Tocantinia*, Ravenna (2000) proposed the creation of the tribe Tocantinieae Ravenna (2000: 12) to cover the monogeneric and monospecific genus, represented by *Tocantinia mira* (2000: 10). However, phylogenetic studies based on molecular characters place *Tocantinia* in the tribe Hippeastreae, subtribe Hippeastrinae Walpers (1852: 616), representing a distinct lineage from the other genera (Oliveira, 2012; García et al., 2014).

Due to the great diversity of Amaryllidaceae, mainly of the subfamily Amaryllidoideae in Brazil, many studies have recently been undertaken for taxonomic clarification and recantation of the floristic diversity of the group: Alves-Araújo et al., 2009; Amaral, 2007; Amaral-Lopes & Cavalcanti, 2015; Candido et al., 2014; Kirizawa et al., 2005; Monteiro & Oliveira, 2010; Oliveira, 2012, 2006; Oliveira & Sano, 2009 and Oliveira et al., 2008; 2010; 2013. In our study, we propose and describe two new species of *Tocantinia*, contributing to the advancement of floristic-taxonomic studies in Brazilian Amaryllidoideae.

MATERIAL AND METHODS

Specimens were collected for laboratory study, cultivation and herborization. Living specimens were deposited in the live collections of the Botanical Garden of Colégio Politécnico da Universidade Federal de Santa Maria (Rio Grande do Sul, Brazil) and Centro de Reprodução de Espécies Raras do Brasil (Rio Grande do Sul, Brazil). The morphological variations of these new species were observed *in situ*, in spirit collections and in cultivated specimens. The quantitative and qualitative morphometric data were obtained from of randomly selected preserved individuals (25 specimens of *Tocantinia stigmovitatta* and 6 of *Tocantinia dutilhiana*). *Tocantinia mira* was described from the type specimen, photographs, and original description data. The terminology used in the description follows Ravenna (2000) with adaptations. The photographs were taken from plants in their natural habitat. The conservation status criteria were based on the IUCN (2012).

TAXONOMY

Tocantinia Ravenna, Onira, v. 5, n. 3, p. 9, 2000.

Type: *Tocantinia mira* Ravenna

Herb geophyte, perennial, bulbous. *Leaves*, annual, linear to loriform, thick, flat to caniculate, present during flowering. *Inflorescence* one flowered; *scape* hollow (*T. dutilhiana* and *T. stigmovittata*) or solid (*T. mira*); *Spathe bracts* 1–3. *Flowers* erect to subpatent, subsessile to pedicellate, odoriferous; *hypanthium* subcylindrical 7–9 cm long; *perigone* white at anthesis, actinomorphic to lightly zygomorphic, infundibuliform; *paraperigone* absent; *stamens* tridynamous; *filaments* declinate-ascending, adnate to the tepal of the two whorls; *anthers* versatile; *stylus* declinate-ascending; *ovules* with axillary placentation, biseriate, discoid-suborbicular or clavate-capitate; *stigma* capitate or trifid[6].

Etymology: The genus name refers to Tocantins (Latinized *Tocantinia*), a Brazilian state where the type population of the species of the genus is located.

Distribution and habitat: The genus is found in relatively large populations as geophytes in chemically poor, shallow and sandy soils from the Cerrado Biome. It is an endemic genus of Brazil, with populations known from central Brazil in the southeast of the state of Tocantins; in the central and southern-central part of Espinhaço Mountain Range; in the central region of Minas Gerais state; and in southwestwern Bahia state.

[6] Description based on data compilation of Ravenna (2000) and new species proposed here.

Observations and Discussion: The genus *Tocantinia* consists of rare plants from the Cerrado Biome, which are in gregarious populations, tough composed of relatively large number of individuals. It is difficult to observe flowering in its habitat because it occurs during a short period of time (usually two to three days) only once a year in the months of November to January. Flowering occurs after a rainfall stimulus that marks the beginning of the rainy season in the Cerrado. The flowers are nocturnal, opening only once, at the end of the afternoon, reaching anthesis in the early evening and closing in the middle of the next morning, Thus, there is only a short time, around 14 hours, for pollinators to pollinate. The nocturnal anthesis, white color of the perigone, strong, sweet smell of the flowers and existence of floral nectaries that provide nectar in the inner region of the hypanthium suggest that it is pollinated by nocturnal wildlife, such as bats (chiropterophily) or moths (phalenophily). All these unique characteristics make it difficult to locate the plants *in situ* when fertile, and almost impossible when sterile. These characteristics likely explain the lack of collections in herbaria and living collections. Moreover its original description is a rare publication with limited circulation. Consequently the genus is little known in the worldwide scientific and horticultural community.

When describing *Tocantinia*, Ravenna (2000) originally proposed the creation of a distinct tribe to house this genus, Tocantinieae, monogenetic and monospecific, consisting of *Tocantinia mira*. However phylogenetic studies based placed the genus *Tocantinia* in the tribe Hippeastreae, subtribe Hippeastrinae, being a sister lineage and distinct compared to other genera (Oliveira, 2012; García et al., 2014). According to García et al. (2014), despite the systematic attention Hippeastreae has received due to its horticultural importance, generic relationships within the tribe have been and are still being discussed (e.g. Traub, 1963; Ravenna, 2003; Flagg et al., 2010; Meerow, 2010; García et al., 2014), due to the lack of diacritic morphological diagnostic characters and significant homoplasy, the latter a common feature of Amaryllidoideae (Meerow et al., 1999), probably a reflection of its reticulate evolutionary history.

The great homoplasy makes difficult to establish autapomorphic characters for intergeneric delimitation. This is the case observed in Hippeastrinae, where generic constituencies must be defined by a mutual set of morphological characters. Not different is the case of the genus *Tocantinia*, whose description is provided above and should be interpreted as a unique combination of characters, so that it can be diagnosed among the other accepted genera that constitute Hippeastrinae (*Eithea*, *Habranthus*, *Hippeastrum*, *Rhodophiala* Presl (1845: 545), *Famatina* Ravenna (1972: 56), *Sprekelia* Heister (1755: 19) and *Zephyranthes*).

In a morphological-phylogenetic context, the genus is related to other genera of Hippeastrinae, especially with *Habranthus*, *Hippeastrum* and *Zephyranthes*. These genera and *Tocantinia* share many synapomorphic characters. This is presented and discussed briefly by Oliveira (2012), exposing the basal aspect of *Tocantinia* among the other clades of Hippeastrinae based on a phylogeny with molecular data. However, the morphology of the inflorescence, who features one flowered and especially the appearance of perigone and its white color, with a long hypanthium, is very similar to some species *Pyrolirion* Herbert (1821: 37) that previously were segregated into a distinct genus little known and less accepted by the scientific community, *Leucothauma* Ravenna (2009: 65). Among the three species that make up this genus, *Leucothauma albicans* (Herbert) Ravenna (2009: 66) draws attention, for resembling the morphological characteristics of the *Tocantinia* species. However, this relationship still lacks a more accurate phylogenetic study to check it out because there is high possibility that it might be a case of morphological convergence, as *Leucothauma* is not being accepted and *Pyrolirion* belongs to another tribe.

It is still appropriate to open a discussion on the type material of *Tocantinia* (*T. mira*) and his own morphological constituency according to its prototype, during the review of the *typi* collection (G. *Hatschbach 56087* et al. holotype MBM!; isotype BR!, C!, CTES!, HBG!, MO!, MU!; acronyms according to Thiers (cont. upd.)) turned out to present some apparently abnormal morphological variations, once inflorescences with two much larger flowers where observed in some exsiccates (Fig. 1 A). These spare inflorescences are similar to those of the holotype of *Tocantinia mira* (Fig. 1 B), with a similar form of perigone and a long hypanthium, however also presenting much resemblance to the flowers of *Hippeastrum elegans* (Sprengel) Moore (1963: 16) *sensu* Oliveira (2012: 28), once apparently it has larger pedicels than *Tocantinia* and one of them (deposited at the herbarium MU (Fig. 1 A)) has two flowered inflorescences (as typically in *H. elegans*). The complete, not sectioned exemplars that are deposited in the herbaria CTES and MO are more reliable and consistent with *Tocantinia* and are identical to the holotype. All abnormal inflorescences added to the types should be carefully checked in near future, as the author of the genus possibly not relied on these to describe *Tocantinia*, there might be the possibility of morphological changes in the genus description as data of spare inflorescences are not used for now. Our analysis of the holotype of *T. mira* and the data presented in the original description of these taxa allowed us to assemble the descriptions for *T. mira* and the genus *Tocantinia*. From this we propose two new species, which can be differentiated from *T. mira* by the key shown below.

Key to identify the species of the genus *Tocantinia*

1a. Stigma capitate; ovules clavate-capitate (Tocantins) ..... 1. *Tocantinia mira*
1b. Stigma trifid; ovules suborbicular 2
2a. Hypanthium externally yellowish in the upper portion during anthesis; apex of the tepals of the external whorl acute; stigma lobes suberect during anthesis and completely white (Bahia and Minas Gerais) ..... 2. *Tocantinia dutilhiana*
2b. Hypanthium externally green in the upper portion during anthesis; apex of the tepals of the external whorl rounded-cuspidate; stigma lobes at anthesis patents and ornamented at the margins with pink-vinaceous line (Bahia) ..... 3. *Tocantinia stigmovittata*

1. ***Tocantinia mira*** Ravenna, Onira, v. 5, n. 3, p. 10, 2000, (Fig. 1A-B).

Type: BRAZIL. Tocantins: Paranã, Rio Lajes, 12 November 1991, *G. Hatschbach, M. Hatschbach 56087 & J.M. Silva* (holotype MBM! (Fig. 1B); isotype BR!, C!, CTES!, HBG!, MO! (Fig. 1 B), MU! (Fig. 1 A)).

Herb ca. 41 cm tall when flowering. *Bulb* subglobose 4–5 cm diam.; *pseudocolo* 10–13 cm long, formed by dry membranaceous layers; *Leaves* 3–9 during flowering, thick, linear or linear-loriform, lightly canaliculate, 13–25 × 0.3–0.9 cm, dark green. *Inflorescence* one flowered; *scape* compressed, solid, 15–20.5 × 0.5–0.6 cm; *bract* 1, free, lanceolate, 7–7.8 long, apex bifid for 1.2–1.5 cm. *Flower* erect-patent, sessile or short pedicellate; *pedicel* from inexistent to 0.15 cm long; *hypanthium* 8–8.6 cm long, externally green; *perigone* infundibuliform, 8–10 cm diam.; *tepals* oblanceolate, white, 11–13 cm long; *tepals of the external whorl* 2–2.1 cm wide, abaxial face

FIGURE 1 – Type collection of *Tocantinia mira* Ravenna ***(****Hatschbach 56087 et al.*). A – Isotypus of the species with a spare two flowered inflorescence (Image credits: herbarium MU, Barcode: 000000052). B – Holotypus of the specie (Image credits: herbarium MBM, Barcode: 148469).

conspicuously green-striated, apex flexuose apiculate, apiculus ca. 0.1 cm long; *tepals of the internal whorl* with acute apex, the lateral ones up to 1.5 cm wide, the lower part ca. 11.6 × 0.6–0.7 cm in which the filaments are supported; *paraperigone* absent; *stamens* fasciculate; *filaments* declinate-ascending, narrow-filiform, the adnate to the superior tepal of the external whorl 5.9–6.1 cm long, the adnate to the remaining tepals of the external whorl 6.9–7.2 cm long, the adnate to the lower tepals of the internal whorl 7.2–7.5 cm long, the adnate to the tepal of the superior external whorl 7.7–8.2 cm long; *anthers* versatile, 0.3–0.4 cm long, apex obtuse; *ovary* oblong-ellipsoidal, 1.6–2 × ca. 0.5 cm; *ovules* 13–16 per carpel, axillary placentation, biseriate, clavate-capitate, 0.12–0.16 cm long; *stylus* declined-ascending, 17.7–18.6 cm long; *stigma* simple, capitate; *Fruits* and *seeds* not seen. (Translated and adapted from Ravenna, 2000).

Etymology: The specific epithet of the species, "*mira*" (Latin *mira*=wonderful) possibly refers to morphological uniqueness of the species at the time it was described.

Distribution: Species known only by the type collection, whose specimens are from a collection of a natural population at the locality in Rio Lajes, in the city of Paranã, southeastem of the Tocantins state (Brazil). The original population of the collection was not located, as well as subsequent collections of this species.

Observations: *Tocantinia mira* (*sensu* Ravenna 2000, see remarks on the type collection of *Tocantinia* in the item "Observations and Discussion" above) for more than a decade was the only species in the genus *Tocantinia*. This species, as well as the genus, remained little knowned by the scientific and horticultural community. However we features the characterization of *T. mira* and describe two new species for this genus (*T. dutilhiana* and *T. stigmovittata*), which are morphologically similar to *T. mira*. *Tocantinia mira* differs from *T. dutilhiana* by the shorter length of the scape (up to 20.5 *vs.* up to 28 cm), number of inflorescence bracts (1 *vs.* 2), large length of the tepals (11–13 *vs*. 6–7.9 cm), type of stigma (capitate *vs*. trifid) and form of ovules (clavate-capitate *vs*. suborbicular). *Tocantinia mira* differs from *T. stigmovittata* by the shorter length of the scape (up to 20.5 *vs*. up to 28 cm), number of inflorescence bracts (1 *vs.* 2–3), greater length of the tepals (11–13 *vs.* 6–7.9 cm), type of stigma (capitate *vs.* trifid) and form of ovules (clavate-capitate *vs*. suborbicular).

Conservation Status: The species is known only by the type collection and the population was not yet located *in habitat*. Thus there is insufficient data to assess the conservation status of species, being framed by IUCN (2012) in Deficient Data (DD).

2. ***Tocantinia dutilhiana*** Büneker, R. Bastian & C. Costa, *sp. nov.*, (Figs. 2 A–C, 3 A–G).

Species morphologice proxima Tocantinia mira et Tocantinia stigmovittata. A prima differt maiori longitudine scapi (usque ad 28 vs. 20.5 cm), numero bractearum inflorescentiae (2 vs. 1), minori longitudine tepalorum (6–7.9 vs. 11–13 cm), typo stigmae (trifidi vs. capitati) et forma ovulorum (suborbicularium vs. clavato-capitatorum). A secunda differt minori longitudine scapi (17–28 vs. 28.5–70.9 cm), hyphanto coloris externae differentis in superiori portione durans anthesis et attingendo minorem longitudinem (pallescente et usque ad 8.5 cm vs. viridescente et usque ad 12 cm), tepalis attingendo minorem longitudinem (usque ad 7.9 vs. 10.8 cm), forma apicis tepalorum verticilli externi (acuti vel attenuati vs. rotundato-cuspitati), forma apicis tepalorum verticilli interni (acuti ad obtusi vs. rotundato-retusi) et lobis stigmaticis in anthese suberectis et plene albis (vs. lobis stigmaticis in anthese patentes et cum marginibus ornatis lineis roseo-vinaceis).

Type: BRAZIL. Bahia: Caetité, 14°04'54.9"S 42°28'40.3"W, 01 December 2015, *C.M. Costa 10* (holotype HDCF!; isotype MBM!; HUNEB).

Herb geophyte, terrestrial, 28–41 cm tall when flowering. *Bulb* globose 2–3 cm diam., brown; *pseudocolo* 2.6–6 cm long, brown; *Leaves* 4–8, loriform, almost flat, slightly canaliculate at the base, 7.5–34 × 0.3–1.1 cm, green, glabrous, apex rounded. *Inflorescence* one flowered; *scape* subcylindrical, hollow, 17–28 × ca. 0.6 cm, compressed at base, castaneous-yellowish in the basal portion, greenish in the central upper part, glabrous, slightly pruinose; *bracts* 2, free, erect or reflexed, narrow-triangular, slightly keeled, 3.6–5.5 × 0.5–0.8 cm, paleaceous, apex obtuse and slightly cuculate, yellow-pink or greenish. *Flower* erect or suberect, short pedicellate, odoriferous; *pedicel* subcylindrical, 0.2–0.6 × ca. 0.4 cm, greenish; *hypanthium* striated, 5.1–8.5 cm long, externally yellowish on the upper portion and greenish in the basal portion; *perigone* actinomorphic, infundibuliform; *tepals* sub-equal, narrow-elliptic to oblanceolate, at anthesis white with slightly yellowish base, pink post-anthesis, 6–7.9 cm long, connate for ca. 0.5 cm above the hypanthium, 11–16 nerves in the middle region, slightly rolling along; *tepals of the external whorl* 1.0–1.5 cm wide, apex acute or attenuate; *tepals of the internal whorl* 0.9–1.3 cm wide, apex acute to obtuse; *paraperigone* absent; *stamens* tridynamous; *filaments* almost straight to declinate-ascending, white, subcylindrical, adnate to the tepals for ca. 2 cm above the hypanthium ca. 1mm diam., the biggest 4.4–5 cm long, the smallest 3.2–4 cm long; *anthers* versatile, 4–11 mm long; *ovary* trigonous, slightly striated, 0.5–0.8 × ca. 0.6 cm; *ovules* with axillary placentation, biseriate, discoid, elliptic-suborbicular, ca. 1 × 1 mm; *stylus* almost straight to declinate-ascending, 9.2–13.5 × ca. 0.1 cm; *stigma* trifid; *stigma lobes* elliptic-suborbicular, at anthesis suberect, 0.9–1.1 × 0.7–1 mm, white, stigmatic surface provided with inconspicuous trichomes; *Capsules* with three protrusions, castaneous-greenish*; seeds* not observed.

Etymology: The specific epithet honors one of the first collectors of the species specimens that were located, a professor and researcher, expert in Amaryllidaceae, Dr. Julie Henriette Antoinette Dutilh, of the Universidade Estadual de Campinas (São Paulo, Brazil), which has actively contributed to the advancement of knowledge of the Brazilian Amaryllidaceae.

Distribution: Occurs in the Espinhaço Mountain Range, in the central region of Minas Gerais state (where one population is known in the city of Várzea da Palma) and in southwestern of Bahia state. (where one population is known in the city of Caetité).

Observations: *Tocantinia dutilhiana* is morphologically similar to *T. mira* and *T. stigmovittata*. It differs from *T. mira* by its greater length of the scape (up to 28 *vs.* up to 20.5 cm), number of inflorescence bracts (2 *vs.* 1), shorter tepal length (6–7.9 *vs.* 11–13 cm), type of stigma (trifid *vs.* capitate) and form of the ovules (suborbicular *vs*. clavate-capitate). It differs from *T. stigmovittata* by the shorter scape (17–28 *vs*. 28.5–70.9 cm), hypanthium with different external coloration on the upper portion during blooming and achieving shorter length (yellow and up to 8.5 cm *vs.* greenish and up to 12 cm), shorter tepals (up to 7.9 *vs.* up 10.8 cm), the apex form of the tepals of the outer whorl (acute or attenuated *vs.* rounded-cuspidate), apex of the tepals of the inner whorl (acute to obtuse *vs.* rounded-retuse) and stigma lobes at anthesis suberect and completely white (*vs*. stigma lobes patent at anthesis and with margins ornamented with pink-vinaceous lines).

Conservation Status: The species occurs discontinuously with an extension (EOO) of ca. 480 km in the region of Espinhaço Mountain Range. According to criterion B1 a(i, iii, iv) of IUCN (2012), it is considered an Endangered species (EN).

Additional specimens examined (paratype): BRAZIL. Minas Gerais: Várzea da Palma, a 17.7 km da cidade, no caminho para Serra do Cabral, 28 November 2006, *J.H.A. Dutilh & R.S. Oliveira s.n.* (UEC 174131).

3. ***Tocantinia stigmovittata*** Büneker, R. Bastian & C. Costa, *sp. nov.*, (Figs. 2 D–F, 4 A–F, 5).

Species morphologice proxima Tocantinia mira et Tocantinia dutilhiana. A prima differt foliis largioribus (1–2.1 vs. 0.3–0.9 cm), scapo longiori (28.5–70.9 vs. 15–20.5 cm), numero bractearum inflorescentiae (2–3 vs. 1), hypantho attingendo maiorem longitudinem (usque ad 12 vs. 8.6 cm), minori longitudine tepalorum (7–10.8 vs. 11–13 cm), forma apicis tepalorum verticilli interni (rotundato-retusi vs. acuti), typo stigmae (trifidi vs. capitati) et forma ovulorum (suborbicularium vs. clavato-capitatorum). A secunda differt maiori longitudine scapi (28.5–70.9 vs. 17–28 cm), hypanto coloris externae differentis in parte superiori durante anthesis et attingendo maiorem longitudinem (viridescente et ad 12 cm vs. pallescente et usque ad 8.5 cm), tepala attingendo maiorem longitudinem (ad 10.8 vs. 7.9 cm), forma apicis tepalorum verticilli externi (rotundato-cuspidati vs. acuti vel attenuati), forma apicis tepalorum verticilli interni (rotundato-retusi vs. acuti ad obtusi) et lobis stigmaticis in anthese patentes et cum marginibus ornatis lineis roseo-vinaceis (vs. lobis stigmaticis in anthese suberectis et plene albis).

Type: BRAZIL. Bahia: Lagoa Real, 13°56'44.0"S 42°18'53.1"W, 3 November 2015, *C.M. Costa 05* (holotype HDCF!; HUNEB).

Herb geophyte, terrestrial or saxicolous, 31–74 cm tall during flowering. *Bulb* globose 3.4–6 cm diam., brown; *pseudocolo* 2.5–7.8 cm long, brown; *Leaves* 3–8, loriform-canaliculate, 19–46 × 1–2.1 cm, absent or up to 14 cm during flowering, green, slightly pruinose, apex obtuse-rounded. *Inflorescence* one flowered; *scape* subcylindrical, hollow, 28.5–70.9 × 0.7–1.5 cm, compressed at the base, brown-yellowish in the basal portion, greenish in the middle-upper part, glabrous, slightly pruinose; *bracts* 2–3, free, erect, oblanceolate-elliptic, slightly keeled, 6–8 × 1.1–1.5 cm, papiraceous, apex attenuate-rounded and slightly cuculate, yellow-pink or greenish. *Flower* suberect, short pedicellate, odoriferous; *pedicel* subcylindrical, 0.2–0.5 × 0.4–0.6 cm, greenish; *hypanthium* striated, 7–12 cm long, externally greenish; *perigone* actinomorphic, infundibuliform; *tepals* subequal, oblanceolate, slightly keeled, at anthesis white with greenish base, post anthesis pink, 7–10.8 cm long, connate for ca. 2.5 cm above the hypanthium, 17–23 nerves in middle region; *tepals of the external whorl* 1.7–3.2 cm wide, apex rounded-cuspidate; *tepals of the internal whorl* 1.6–2.5 cm wide, apex rounded-retuse; *paraperigone* absent; *stamens* tridynamous; *filaments* declinate-ascending white, subcylindrical, adnate to the tepals for ca. 2 cm above the hypanthium, ca. 1mm diam., the bigger 6.1–8.6 cm long, the smaller 5.6–7.1 cm long; *anthers* versatile, 0.5–1.4 cm long; *ovary* trigonous, slightly striated, 0.9–1.2 × 0.5–0.8 cm; *ovules* with axillary placentation, biseriate, discoid, elliptic-suborbicular, ca. 0.1 × 0.1 cm; *stylus* declinate-ascending, 14–19 × ca. 0.1 cm; *stigma* trifid; *stigma lobes* elliptic-suborbicular, patent at anthesis, 0.17–0.3 × 0.15–0.31 cm, provided with a center-longitudinal rib, margin ornamented with a pink-vinaceous line, stigmatic surface provided with inconspicuous trichomes; *Capsules* with three protrusions, greenish*; seeds* not observed.

Etymology: The specific epithet "*stigmo-vittata*" (Latin *stigma*=stigma and *vitta-tus*=marked or ornamented with ribbons or bows) refers to the morphological uniqueness of the stigma of the species that has stigmatic lobes ornamented with lines (ribbons) pink-vinaceous on its margins.

Distribution: There is only one known wild population, in the central region of Espinhaço Mountain Range in the city of Lagoa Real, in

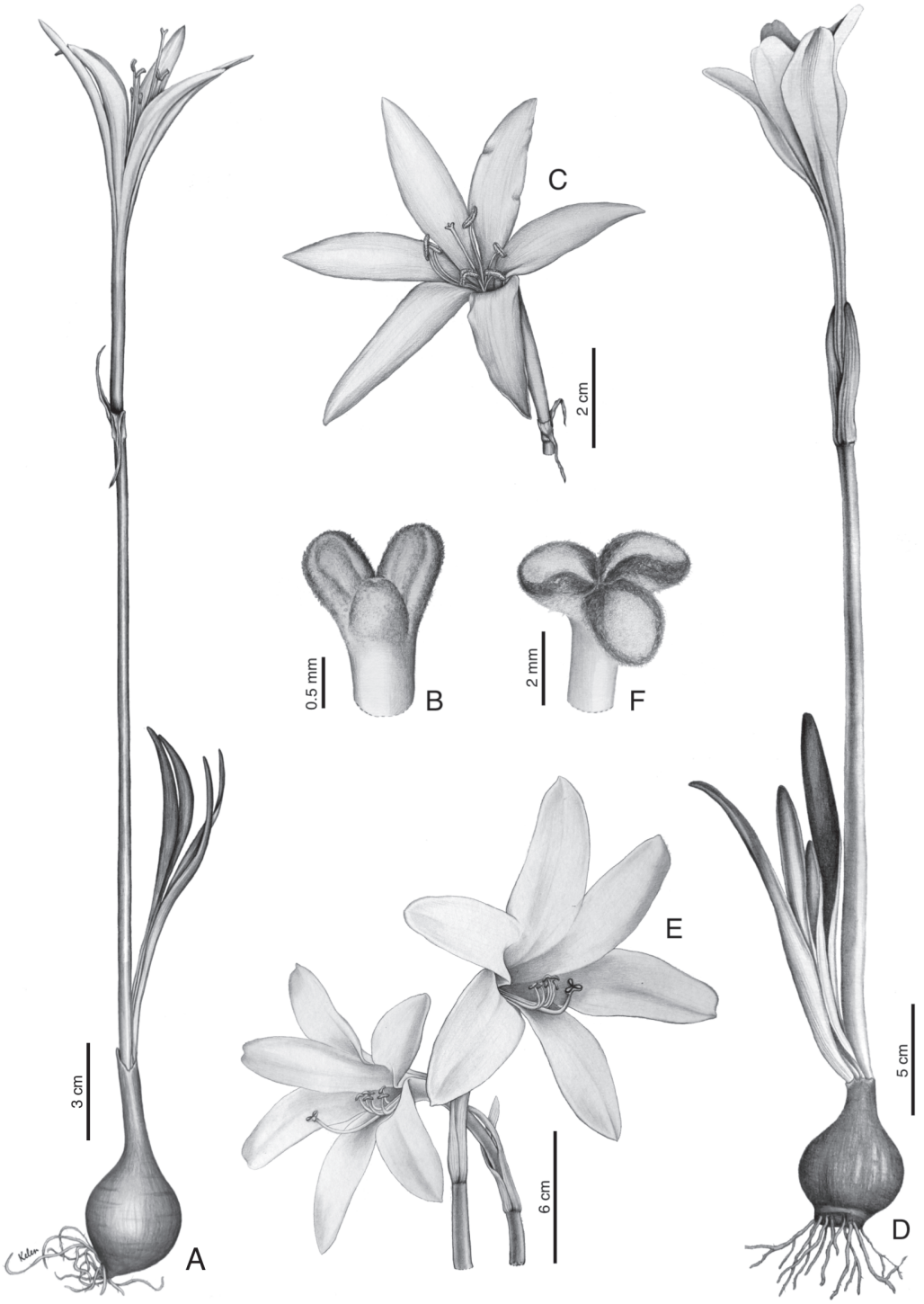

FIGURE 2 – *Tocantinia dutilhiana* Büneker, R. Bastian & C. Costa **(***C. Costa 10*). A – Habitus. B – Stigma detail. C – Inflorescence. D-F – *Tocantinia stigmovittata* Büneker, R. Bastian & C. Costa **(**D. *C. Costa 06.* E-F. *C. Costa 05*). D – Habitus. E – Inflorescences. F – Stigma detail.

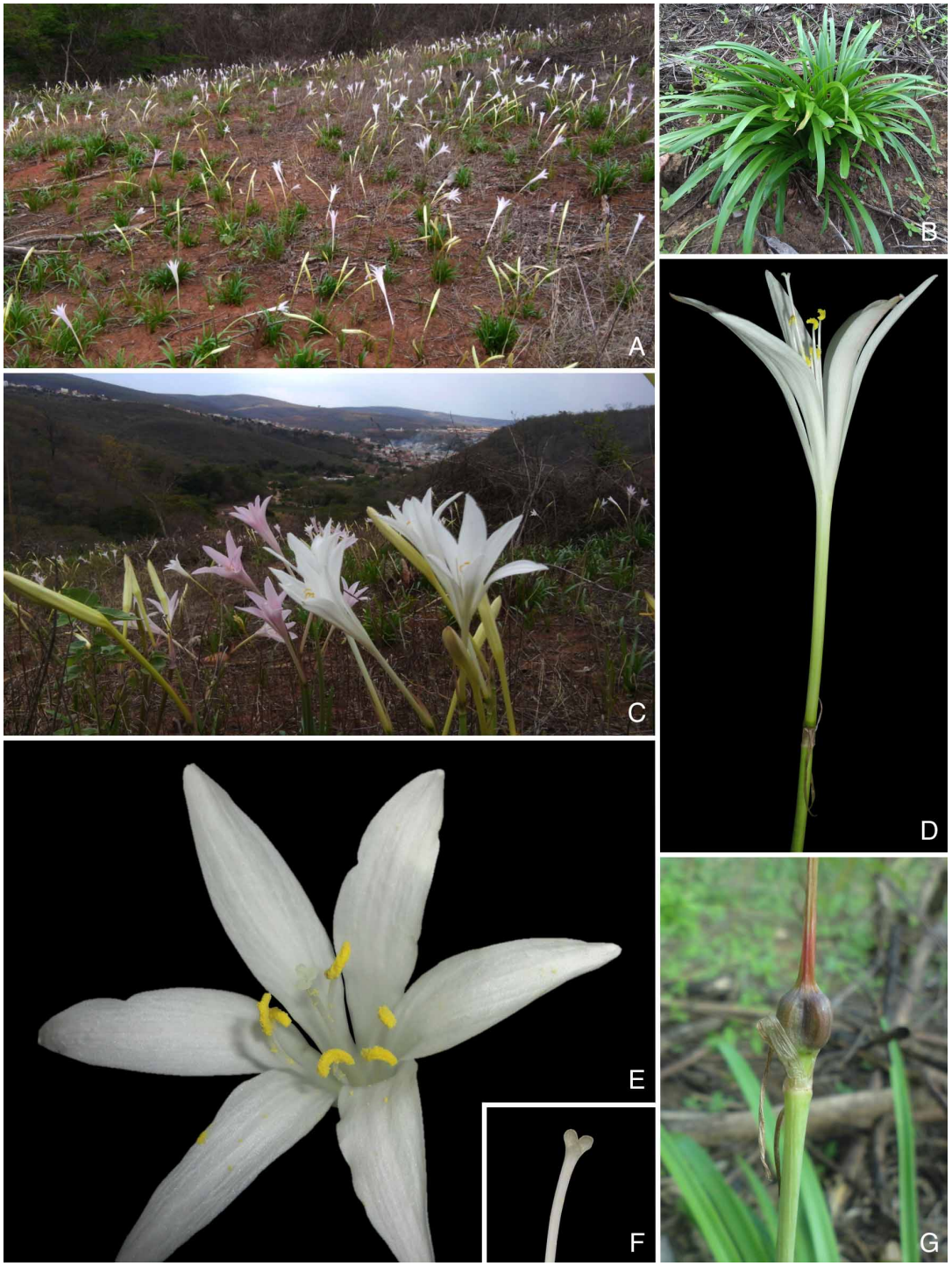

FIGURE 3 – *Tocantinia dutilhiana* Büneker, R. Bastian & C. Costa **(***C. Costa 10*). A – Population *in habitat* (Photo by Exupério Ledo Silva). B – Growing habit. C – Population *in habitat* with urban area of Caetité (Bahia) behind (Photo by Exupério Ledo Silva). D – Side view of the inflorescence. E – Flower viewed from above. F – Side view of the stigma. G – Immature fruit.

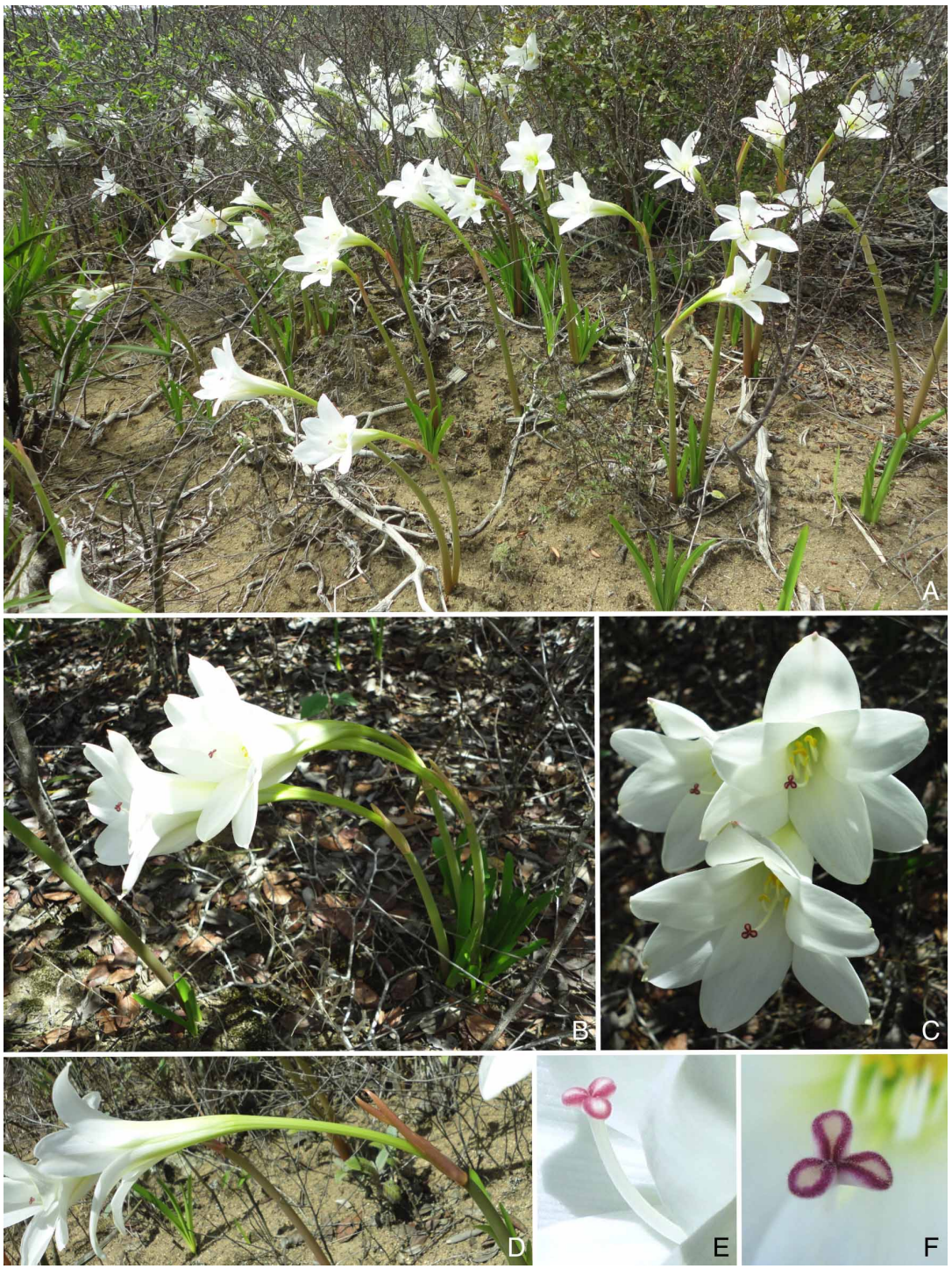

FIGURE 4 – *Tocantinia stigmovittata* Büneker, R. Bastian & C. Costa **(***C. Costa 05*). A – Population *in habitat*. B – Habit. C – Flowers viewed from above. D – Side view of the inflorescence. E – Side view of the stigma. F – Upper view of the stigma.

FIGURE 5 – *Tocantinia stigmovittata* Büneker, R. Bastian & C. Costa *in habitat* **(***C. Costa 05*).

southwestern Bahia state (Brazil). Is also found growing in public gardens in the city of Caetité (Bahia), municipality that borders Lagoa Real.

Observations: *Tocantinia stigmovittata* is morphologically close to *T. mira* and *T. dutilhiana*. It differs from *T. mira* by wider leaves (1–2.1 *vs.* 0.3–0.9 cm), longer scape (28.5–70.9 *vs*. 15–20.5 cm), number of inflorescence bracts (2–3 *vs.* 1), hypanthium reaching a longer length (up to 12 *vs.* up to 8.6 cm), shorter tepal length (7–10.8 *vs.* 11–13 cm), apex of the tepals of the inner whorl, (rounded-retuse *vs*. acute), type of stigma (trifid *vs*. capitate) and form of the ovules (suborbicular *vs.* clavate-capitate). It differs from *T. dutilhiana* by the longer scape (28.5–70.9 *vs.* 17–28 cm), hypanthium with different external coloration on the upper portion during blooming and achieving bigger length (greenish and up to 12 cm *vs.* yellowish and with up to 8.5 cm), longer tepals (up to 10.8 *vs.* up to 7.9 cm), form of the apex of the tepals of the external whorl (rounded-cuspidate *vs.* acute or attenuate), apex of the tepals of the inner whorl (rounded-retuse *vs.* acute to obtuse) and stigmatic lobes patent at anthesis with margins ornamented with pink-vinaceous lines (*vs*. stigmatic lobes during anthesis suberect and completely white).

Conservation Status: This species is only known from the type locality, where its population occupies an area (AOO) of ca. 1.5 km². According to the criterion B2 ac(ii, iv) and D (IUCN 2012), it is considered a Critically Endangered species (CR).

Additional specimens examined (paratype): BRAZIL. Bahia: Caetité, 14°03’27.7"S 42°29’14.0"W, cultivada em praça pública, 13 November 2015, *C.M. Costa 06* (HDCF; MBM; HUNEB).

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