

## CHECKLIST OF BROMELIACEAE OF MINAS GERAIS, BRAZIL, WITH NOTES ON TAXONOMY AND ENDEMISM

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**ABSTRACT.** Bromeliaceae diversity in Minas Gerais state, Brazil, is discussed, and a checklist is provided of the 27 genera, 265 species, and 18 infraspecific taxa found there. The total number of bromeliad genera in Minas Gerais exceeds that of all other Brazilian states and even of all other South American countries. A total of 98 species (37%) are endemic to the state. The exceptional floristic richness observed is attributed to the environmental conditions found solely in Minas Gerais that allow the evolution of different genera and species. The checklist is based on herbarium specimens, the botanical literature, and field observations. Data are presented for type specimens, habitat, elevation range, habit, geographical distribution throughout Brazil and Minas Gerais, phenology, and synonymy and taxonomic commentaries when pertinent.

**Key words:** Brazil, Bromeliaceae, checklist, Minas Gerais

### INTRODUCTION

Brazil is a mega-diverse country and plays a key role in the conservation and maintenance of earth's genetic diversity. Consequently the importance that the state of Minas Gerais (MG) has for biodiversity preservation is notable, since it occupies ca. 7% of Brazilian territory and shelters a diverse flora among complex vegetation that ranges from xerophytic-dry to evergreen forests (Costa et al. 1998, Mittermeier et al. 2000, IBGE 2004). The Bromeliaceae Juss. family is well represented in Brazil. Although an updated count for the country is lacking, the Atlantic Forest, covering part of eastern Brazil and the eastern and southern portion of MG, is said to be the center of diversity for subfamily Bromelioideae (Smith 1934, 1955; Benzing 2000). Some genera are known to be endemic or characteristic of the Atlantic Forest, such as *Canistrum*, *Nidularium*, and *Wittrockia* (Leme 1997a, 2000); and many species of *Aechmea*, *Billbergia*, and *Vriesea* are abundant in this vegetation. Studies of the flora of MG have been concentrated along the *campo rupestre* (rocky field) vegetation of the Espinhaço mountain range. This range and elevated areas of the Mantiqueira mountain range covered by Atlantic Forest or *campo de altitude* (high altitude grassland) are important habitats for endemic Bromeliaceae (see Giulietti et al. 1987, Martinelli 1989, Wanderley & Forzza 2003).

Extensive mining, agriculture, and urban development have reduced the two major biomes of Minas Gerais, mainly Atlantic Forest and *Cerrado* (savanna), to just 4–25% of their former extents. The status of MG as a biodiversity

hotspot is demonstrated by the large number of bromeliads and members of other plant families described for the state during the past few decades. Although Smith and Downs (1974, 1977, 1979) listed 167 species and 11 infraspecific taxa for MG, additions since their monographs are numerous. For example, 22 new species for subfamily Bromelioideae alone have been added, averaging one per year (Luther & Sieff 1994, 1997; Luther 2001). This report lists all Bromeliaceae recorded for MG, updating records of their distribution, habitat, and phenology. The checklist also identifies groups of taxa that remain poorly known.

### METHODS

#### Study Area

Minas Gerais state, located in the southeast region of Brazil, has boundaries with seven other states (Bahia, Espírito Santo, Goiás, Distrito Federal, Rio de Janeiro, São Paulo, and Mato Grosso do Sul). MG, with an area of 586,528 km<sup>2</sup>, is partitioned into 853 municipalities (IBGE 2004; FIGURE 1). Lying completely within the intertropical convergence zone, MG is characterized by a pronounced hilly relief with a topographical variation ranging 79–2890 m. The state has two ranges that serve as major habitat for endemic flora and fauna: the Espinhaço and the Mantiqueira mountain ranges (Costa et al. 1998).

The different geomorphological conditions associated with soil and climate varieties contribute to the existence of several distinct vegetation types. Three biomes are highlighted: the Atlantic Forest that occupies east, southeast, and south portions of MG; savanna that covers the central-west and northwest portions; and low drought-

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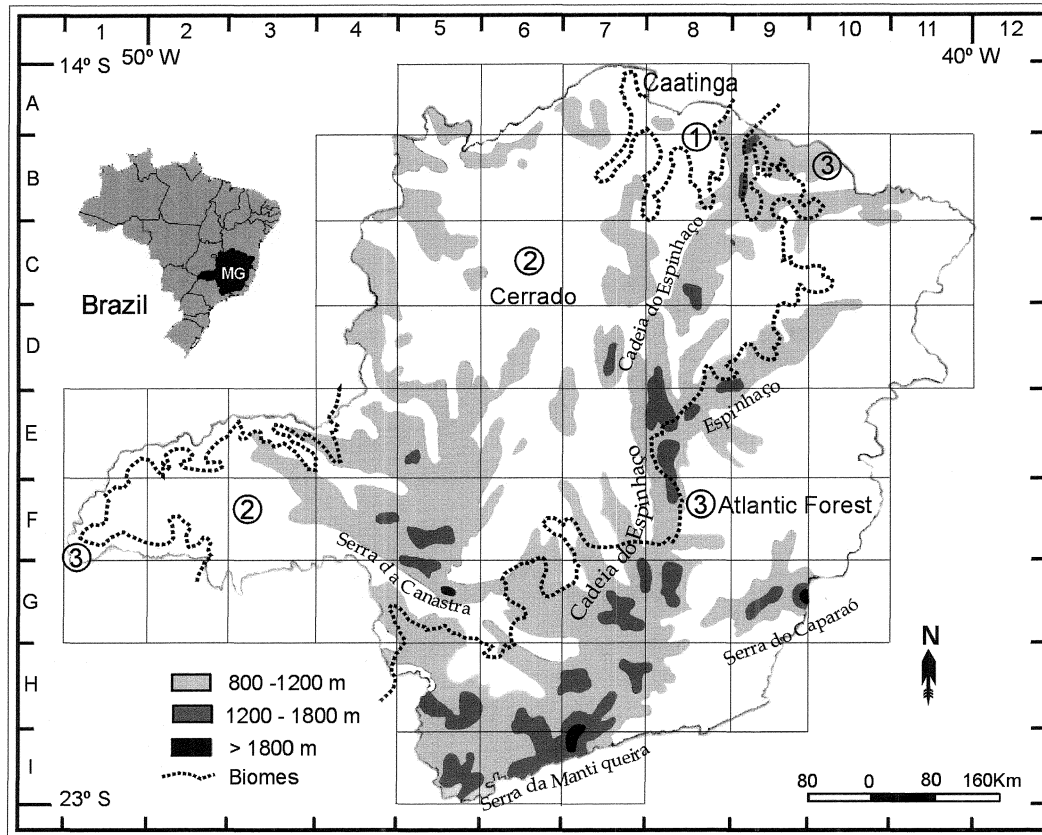


FIGURE 1. Map of Minas Gerais state showing the limits of the biomes, elevations, and main mountain ranges.

deciduous forest (*caatinga*) in the extreme north of the state (Costa et al. 1998).

Included in parts of these biomes are other vegetation types that occur only in restricted conditions, such as the rocky fields (*campos rupestres*) that lie at 800–2000 m. Found mainly along the Espinhaço range, they are characterized by shallow and sandy soils, and by a high degree of plant endemism (Giulietti et al. 1987, Pirani et al. 1994). Also relevant are the high altitude grasslands (*campos de altitude*) that occur above 1100 m in parts of the Mantiqueira range. This open habitat is characterized by thin soils and vegetation adapted to high humidity, wind, solar exposure, and low temperatures (<12°C) during winter (Martinelli 1989, Safford 1999).

#### Data Collection

Prominent treatments of the entire bromeliad family served as primary sources for this checklist (Mez 1894; Smith 1955; Smith & Downs

1974, 1977, 1979; Luther & Sieff 1994, 1997; Luther 2001). Sources also included more recent publications specific to Minas Gerais (Wanderley & Martinelli 1987; Forzza & Wanderley 1998; Leme 1996, 1997a, 1997c, 1998, 1999, 2000; Wendt 1997; Paula 1998; Wanderley & Forzza 2003; Forzza 2005).

Collections at 14 herbaria collections were examined (BHCB, BHZB, CESJ, HB, HBR, MBM, R, RB, RFA, SEL, SP, SPF, US, and VIC). Acronyms for these herbaria are according to Holmgren et al. (1990), except for BHZB (Fundação Zoobotânica de Belo Horizonte Herbarium). Additional type specimens housed at B, NY, P, U, and Z were accessed online. Specimens from MG, confirmed using published sources, were photographed with a digital camera (Nikon Coolpix 885, 3.2 megapixels). Information on labels was transcribed to a database created in Brahm's software (Botanical Research and Herbarium Management System, version 5.55, Oxford University). The database created

in preparing this checklist is being prepared for posting on the Internet.

The Checklist includes specimens from horticultural sources with documented origins within MG, which are identified with the notation "fl. cult." Only the collector of flowering specimens of these plants and the collection number were maintained, to avoid double numbering; although these specimens were included with wild specimens for the original municipality of collection within Minas Gerais. Specimens lacking municipalities, but indicating the following names of mountain ranges or parks "Serra do Cipó," "Serra do Caparaó, MG" or "Parque do Itatiaia, MG" were attributed to the municipalities of Santana do Riacho, Alto Caparaó, and Itamonte, respectively.

The Checklist presents the following data for each taxon: accepted nomenclature (following Luther 2004); author name; publication; basionym (indicated by a —); synonymy (only those published after Smith & Downs 1974, 1977, 1979); type material, geographical distribution including elevation, native habitat (Atlantic Forest, low drought-deciduous forest, high altitude grasslands, rocky fields, and savanna), and habit (epiphytic, saxicolous, terrestrial). TABLE 1 lists the municipality or municipalities in Minas Gerais where bromeliad records can be found, providing a grid cell number and Roman numeral for each municipality. The Checklist also cites other Brazilian states where the taxon occurs and provides data on phenology related to flower and fruiting, as available.

Geographical ranges within Brazil were obtained from the literature and from the RB herbarium. State abbreviations in bold face indicate that at least one voucher specimen for that state is deposited at RB. State names are abbreviated as follows: Acre (AC), Alagoas (AL), Amapá (AP), Amazonas (AM), Bahia (BA), Ceará (CE), Distrito Federal (DF), Espírito Santo (ES), Goiás (GO), Maranhão (MA), Mato Grosso (MT), Mato Grosso do Sul (MS), Minas Gerais (MG), Pará (PA), Paraíba (PB), Paraná (PR), Pernambuco (PE), Piauí (PI), Rio de Janeiro (RJ), Rio Grande do Norte (RN), Rio Grande do Sul (RS), Rondônia (RO), Roraima (RR), Santa Catarina (SC), São Paulo (SP), and Sergipe (SE). A taxon is considered endemic to MG only if it is confined within the political boundaries of the state. Abbreviations for authors follow Brummit and Powell (1992), and the literature citations follow Stafleu and Cowan (1976–1988) for books and Lawrence et al. (1968) for journals.

We selected one representative voucher specimen for each taxon. Type specimens, which were seen, are indicated by an exclamation mark. A complete list of all the material exam-

ined as well as a collector index is available from the authors upon request.

## RESULTS AND DISCUSSION

The state of Minas Gerais supports 27 genera, 265 species, and 18 infra-specific taxa representing all three bromeloid subfamilies (TABLE 2). These numbers are especially relevant considering that of these 283 taxa, 102 (36%) are endemic to the state (TABLES 2, 3). Data on 2686 specimens were recorded, photographed, and databased; and 98% of them were either verified or identified.

Minas Gerais supports more genera than any other Brazilian state and more than any other Central American or South American country (TABLE 3). The total number of species also is high, amounting to ca. 9% of the entire bromeliad family (Luther 2004). Species diversity (spp/1000 km<sup>2</sup>), however, is greater in RJ and SC (TABLE 3).

Richness at the generic rank can be explained partly by the land that MG occupies, where several different climatic types exist, which allow the development of distinct vegetation. *Caatinga*, for instance, and its characteristic species (e.g., *Neoglaziovia variegata*) reach their southern distribution limit in MG. The extreme southern portion of the state, however, has totally distinct habitats, such as high-altitude grasslands where *Fernseea itatiaiae* grows under continuous humid, cool conditions. Another factor is the long boundary that MG has with the Brazilian coastal states (see FIGURE 1). This contour acts as a portal, allowing inland distribution of characteristic Atlantic Forest taxa, many of them from subfamily Bromelioideae. Good examples are *Aechmea alba*, previously known only from the extreme south of BA but now recorded for northeastern MG. Also *Quesnelia strobilispica*, typically an Atlantic Forest species of RJ and ES, now inhabits eastern MG reaching as far as montane forest in the Espinhaço mountain range, its western distribution limit. Noteworthy taxa also occupy presently disjunct distributions. *Vriesea crassa* is an example; this inhabitant of high-altitude grasslands in the Órgãos mountain range (RJ) also can be found in the *campos rupestres* of MG (Martinelli & Vaz 1988).

Subfamily Bromelioideae is the best represented of the three subfamilies within MG, with 19 genera (70% of the total) and 120 species, followed by Tillandsioideae with 4 genera (15%) and 82 species; next is Pitcairnioideae with 4 genera (15%) and 63 species (TABLE 2, FIGURE 2). These numbers distinguish southeastern Brazil as a center of diversification for subfamily Bromelioideae (Smith 1934, Smith &

TABLE 1. Bromeliad records per Minas Gerais' municipalities, with map grid cell and label.

Grid cell	Label	Municipality	Records total No.
A5	i.	Formoso	2
A8	i.	Manga	4
	ii.	Matias Cardoso	1
B7	i.	Januária	12
	ii.	Varzelândia	1
B8	i.	Jafba	11
	ii.	Verdelândia	1
B9	i.	Mato Verde	1
	ii.	Monte Azul	1
	iii.	Montezuma	1
	iv.	Rio Pardo de Minas	4
	v.	Santo Antônio do Retiro	3
	vi.	Taiobeiras	1
B10	i.	Águas Vermelhas	1
C5	i.	Unaí	3
	ii.	Uruana de Minas	1
C6	i.	Uruçuia	1
C8	i.	Botumirim	12
	ii.	Francisco Sá	2
	iii.	Juramento	1
	iv.	Montes Claros	3
C9	i.	Cristália	6
	ii.	Grão-Mogol	62
C10	i.	Comercinho	1
	ii.	Itaobim	13
	iii.	Itinga	7
	iv.	Jequitinhonha	5
	v.	Medina	2
	vi.	Pedra Azul	20
C11	i.	Almenara	2
	ii.	Santa Maria do Salto	5
C12	i.	Salto da Divisa	4
D5	i.	João Pinheiro	2
	ii.	Paracatu	1
D7	i.	Buenópolis	1
	ii.	Francisco Dumont	1
	iii.	Joaquim Felício	15
	iv.	Lassance	1
	v.	Pirapora	2
	vi.	Várzea da Palma	1
D8	i.	Bocaiúva	5
	ii.	Itacambira	6
D9	i.	Itamarandiba	1
	ii.	Turmalina	2
D10	i.	Teófilo Otoni	14
D11	i.	Carlos Chagas	1
	ii.	Nanuque	3
	iii.	Serra dos Aimorés	2
E2	i.	Capinópolis	2
	ii.	Ituiutaba	15
E3	i.	Uberlândia	7
E4	i.	Patrocínio	4
E5	i.	Patos de Minas	2
E6	i.	Morada Nova de Minas	1
	ii.	São Gonçalo do Abaeté	4
	iii.	Varjão de Minas	2

TABLE 1. Continued.

Grid cell	Label	Municipality	Records total No.
E7	i.	Augusto de Lima	1
	ii.	Corinto	4
	iii.	Curvelo	5
	iv.	Felixlândia	1
	v.	Inimutaba	1
	vi.	Presidente Juscelino	4
	vii.	Santo Hipólito	1
E8	i.	Congonhas do Norte	8
	ii.	Couto de Magalhães de Minas	2
	iii.	Datas	27
	iv.	Diamantina	194
	v.	Gouvea	15
	vi.	Presidente Kubitschek	8
	vii.	Rio Vermelho	11
	viii.	Santana de Pirapama	1
	ix.	Santo Antônio do Itambé	12
	x.	São Gonçalo do Rio Preto	19
	xi.	Serro	42
E9	i.	Guanhães	2
	ii.	Peçanha	1
	iii.	Virgolandia	1
E10	i.	Itambacuri	2
F2	i.	Campina Verde	1
F3	i.	Prata	1
F4	i.	Indianópolis	3
	ii.	Iraí de Minas	1
	iii.	Nova Ponte	2
	iv.	Perdizes	11
	v.	Uberaba	3
F5	i.	Araxá	2
	ii.	Rio Paranaíba	1
F7	i.	Cordisburgo	1
	ii.	Matozinhos	3
	iii.	Paraopeba	27
	iv.	Santa Rita de Jacutinga	12
	v.	Sete Lagoas	4
F8	i.	Baldim	1
	ii.	Barão de Cocais	4
	iii.	Belo Horizonte	41
	iv.	Caeté	83
	v.	Conceição do Mato Dentro	58
	vi.	Ferros	2
	vii.	Itabira	7
	viii.	Itambé do Mato Dentro	1
	ix.	Jaboticatubas	41
	x.	João Monlevade	1
	xi.	Lagoa Santa	17
	xii.	Morro do Pilar	1
	xiii.	Nova Era	1
	xiv.	Nova Lima	11
	xv.	Sabará	6
	xvi.	Santa Bárbara	77
	xvii.	Santa Luzia	3
	xviii.	Santana do Riacho	282
	xix.	São Gonçalo do Rio Abaixo	3
	xx.	Taquaraçu de Minas	2
	xxi.	Vespasiano	1

TABLE 1. Continued.

Grid cell	Label	Municipality	Records total No.
F9	i.	Antônio Dias	1
	ii.	Braúnas	3
	iii.	Caratinga	12
	iv.	Coronel Fabriciano	4
	v.	Dionísio	2
	vi.	Ipatinga	2
	vii.	Joanésia	5
	viii.	Marliéria	31
	ix.	Timóteo	1
F10	i.	Aimorés	1
	ii.	Conselheiro Pena	1
	iii.	Itueta	1
G5	i.	Alpinópolis	1
	ii.	Capitólio	1
	iii.	Carmo do Rio Claro	8
	iv.	São José de Barra	3
	v.	São Roque de Minas	23
G6	i.	Arcos	1
	ii.	Iguatama	1
	iii.	Pains	2
G7	i.	Belo Vale	1
	ii.	Betim	2
	iii.	Brumadinho	21
	iv.	Entre Rios de Minas	2
	v.	Moeda	10
	vi.	São Tiago	1
G8	i.	Barra Longa	1
	ii.	Catas Altas	84
	iii.	Congonhas	3
	iv.	Conselheiro Lafaiete	1
	v.	Diogo de Vasconcelos	1
	vi.	Guaraciaba	3
	vii.	Itabirito	25
	viii.	Mariana	20
	ix.	Ouro Branco	116
	x.	Ouro Preto	124
	xi.	Porto Firme	3
	xii.	Rio Acima	3
G9	i.	Abre Campo	1
	ii.	Amparo da Serra	2
	iii.	Araponga	78
	iv.	Carangola	20
	v.	Coimbra	3
	vi.	Ervália	7
	vii.	Fervedouro	47
	viii.	Jequeri	5
	ix.	Manhuaçu	6
	x.	Oratórios	1
	xi.	Ponte Nova	7
	xii.	Rio Doce	3
	xiii.	Rosário da Limeira	3
	xiv.	São Geraldo	5
	xv.	São Miguel do Anta	1
	xvi.	Sericita	5
	xvii.	Tombos	12
	xviii.	Viçosa	28

TABLE 1. Continued.

Grid cell	Label	Municipality	Records total No.
G10	i.	Alto Caparaó	25
	ii.	Caparaó	5
	iii.	Espera Feliz	1
	iv.	Manhumirim	3
H5	i.	Caldas	14
	ii.	Guaxupé	1
	iii.	Poços de Caldas	6
H6	i.	Cambuquira	1
	ii.	Conceição do Rio Verde	1
	iii.	Lambari	1
	iv.	Lavras	4
H7	i.	Aiuruoca	13
	ii.	Baependi	1
	iii.	Bom Jardim de Minas	5
	iv.	Bom Sucesso	5
	v.	Carrancas	2
	vi.	Caxambú	8
	vii.	Ibituruna	1
	viii.	Itumirim	1
	ix.	Itutinga	3
	x.	Santana do Garambeu	2
	xi.	São João del Rei	20
	xii.	São Tomé das Letras	14
	xiii.	Tiradentes	48
H8	i.	Antônio Carlos	1
	ii.	Barbacena	10
	iii.	Barroso	16
	iv.	Belmiro Braga	1
	v.	Chácara	1
	vi.	Coronel Pacheco	30
	vii.	Ewbank da Câmara	2
	viii.	Guarani	1
	ix.	Juiz de Fora	40
	x.	Lima Duarte	81
	xi.	Matias Barbosa	1
	xii.	Olaria	2
	xiii.	Piau	1
	xiv.	Rio Novo	14
	xv.	Rio Pomba	2
	xvi.	Santos Dumont	1
H9	i.	Além Paraíba	5
	ii.	Descoberto	34
	iii.	Dona Euzébia	1
	iv.	Laranjal	3
	v.	Leopoldina	4
	vi.	Muriaé	8
	vii.	Pirapetinga	1
15	i.	Camanducaia	11
	ii.	Itapeva	1
	iii.	Ouro Fino	1
	iv.	Toledo	1
16	i.	Delfim Moreira	4
	ii.	Paraisópolis	5
	iii.	Pedralva	2
	iv.	Pouso Alegre	3
	v.	Sapucaá-Mirim	3

TABLE 1. Continued.

Grid cell	Label	Municipality	Records total No.
17	i.	Bocaina de Minas	1
	ii.	Itamonte	5
	iii.	Passa Quatro	8
	iv.	Passa Vinte	1
	v.	Santa Rita de Jacutinga	12
18	i.	Rio Preto	14
—	—	Collections without municipality	49

Downs 1974). Habitat and climate diversity and ancient substrates (derived from crystalline bedrock and known as the Brazilian shield) are suited for saxicolous habits. Together they have favored substantial divergence and frequent high insularity for Bromelioideae in southeastern

Brazil, often involving localized populations (Benzing 2000).

*Vriesea*, the most diverse bromeliad genus within MG, accounts for 19% of the species followed by *Dyckia* 16%, *Tillandsia* 9%, *Billbergia* 8%, *Orthophytum* 7%, *Aechmea* 7%, *Encholirium* 6%, *Neoregelia* 5%, *Nidularium* 4%, and *Alcantarea* 3% (TABLE 2). Several floristics inventories for MG cite *Tillandsioideae* (including *Vriesea*) as one of the largest groups (Paula 1998, Marques 2002). According to Costa (2002) and Coffani-Nunes (1997), *Vriesea* and *Tillandsia* exhibit a coastal type distribution consistent with the Atlantic Forest domain. This is reflected in *Vriesea* distribution within MG, where the eastern, southeastern, and southern portions show a concentration of taxa with vegetation similarities to many of the species in the adjacent coastal states. *Billbergia*, *Orthophytum*, and *Aechmea* are the three most species-rich

TABLE 2. Bromeliaceae subfamilies and genera of Minas Gerais (MG), followed by species richness, endemism, and total number of taxa (no. of spp. plus varieties and subspecies).

Subfamily and genera	Species		Endemic species		Taxa	Endemic taxa
	No. in MG	% in genus	No. in MG	% in MG	No.	No.
<b>BROMELIOIDEAE</b>						
<i>Billbergia</i>	20	7.55	1	5	22	2
<i>Orthophytum</i>	19	7.17	13	68	22	16
<i>Aechmea</i>	18	6.79	2	11	23	2
<i>Neoregelia</i>	12	4.53	5	42	12	5
<i>Nidularium</i>	10	3.77	2	20	10	2
<i>Bromelia</i>	7	2.64	0	0	7	0
<i>Quesnelia</i>	7	2.64	0	0	7	0
<i>Cryptanthus</i>	6	2.26	6	100	6	6
<i>Ananas</i>	4	1.51	0	0	4	0
<i>Hohenbergia</i>	4	1.51	0	0	4	0
<i>Wittrockia</i>	4	1.51	1	25	4	1
<i>Portea</i>	2	0.75	0	0	3	0
<i>Acanthostachys</i>	1	0.38	0	0	1	0
<i>Andrea</i>	1	0.38	1	100	1	1
<i>Canistrum</i>	1	0.38	0	0	1	0
<i>Edmundoa</i>	1	0.38	0	0	1	0
<i>Fernseea</i>	1	0.38	0	0	1	0
<i>Neoglaziovia</i>	1	0.38	0	0	1	0
<i>Pseudoananas</i>	1	0.38	0	0	1	0
<b>TILLANDSIOIDEAE</b>						
<i>Vriesea</i>	50	18.87	17	34	52	17
<i>Tillandsia</i>	23	8.68	1	4	25	1
<i>Alcantarea</i>	8	3.02	5	62	8	5
<i>Racinaea</i>	1	0.38	0	0	1	0
<b>PITCAIRNIOIDEAE</b>						
<i>Dyckia</i>	42	15.85	32	76	42	32
<i>Encholirium</i>	15	5.66	11	73	15	11
<i>Pitcairnia</i>	5	1.89	1	20	8	1
<i>Pepinia</i>	1	0.38	0	0	1	0
Total = 27	265	100%	98	—	283	102

TABLE 3. Number of genera and species found in different countries and Brazilian states.

Country—state	Genera No.	Species No.	Area km <sup>2</sup>	Species per 1000 km <sup>2</sup>
Brazil—Minas Gerais	27	265	586,528	0.45
Venezuela <sup>1</sup>	24	364	912,050	0.40
Bolivia <sup>2</sup>	21	281	1,098,581	0.26
Brazil <sup>3</sup> —Rio de Janeiro	20	245	43,909	5.60
Mexico <sup>4</sup>	18	342	1,972,544	0.17
Peru <sup>1</sup>	17	410	1,285,215	0.32
Ecuador <sup>1</sup>	15	368	283,561	1.30
Brazil <sup>5</sup> —Santa Catarina	15	101	95,443	1.10
Brazil <sup>6</sup> —Mato Grosso	14	47	906,807	0.05

Sources: <sup>1</sup> Holst 1994, <sup>2</sup> Krömer et al. 1999, <sup>3</sup> Fontoura et al. 1991, <sup>4</sup> Espejo-Serna et al. 2004, <sup>5</sup> Reitz 1983, and <sup>6</sup> Dubs 1998.

genera within Bromelioideae. In MG, *Orthophytum* has its two main diversity centers in the Espinhaço mountain range and northeastern MG, especially the Jequitinhonha river basin. In contrast, *Billbergia* and *Aechmea*, more characteristic of the Atlantic Forest, are best represented in eastern and southern MG, though some species of these genera are more frequent in the savanna domain (e.g., *A. bromeliifolia*, *B. meyerii*, *B. zebrina*).

Endemism is particularly pronounced in several genera, including *Cryptanthus*—six of its species are MG endemics (TABLE 2). *Dyckia* (76% of its species endemic) and *Encholirium* (73%) occur mainly along the rocky fields of the Espinhaço range. *Orthophytum* (68%) is restricted to the rocky fields and to the inselbergs in northeastern MG. Pitcairnioideae exhibits the greatest endemism with 45% (44 species) followed by Bromelioideae with 32% (31 species),

and by Tillandsioideae, with 23% (22 species) (FIGURE 2).

High levels of interfertility within *Dyckia* and *Encholirium* suggest recent speciation perhaps encouraged by conditions peculiar to certain elevated habitats, such as the rocky fields and fluctuating Plio-Pleistocene climates that displaced and fragmented life zones (Benzing 2000). Similarly elevated endemism for Pitcairnioideae in Venezuela was observed by Holst (1994) and may reflect the scarcely appendaged seeds with poor dispersal abilities via wind. This region also is located over Precambrian crystalline rock, which is the other ancient shield (Guyanan) in South America. Vicariance may also explain why MG *Dyckia* and *Encholirium* include so many endemic and insular species and have very narrow distribution areas, mainly across the rocky fields. Two genera having appendaged seeds presumably are capable of long-distance

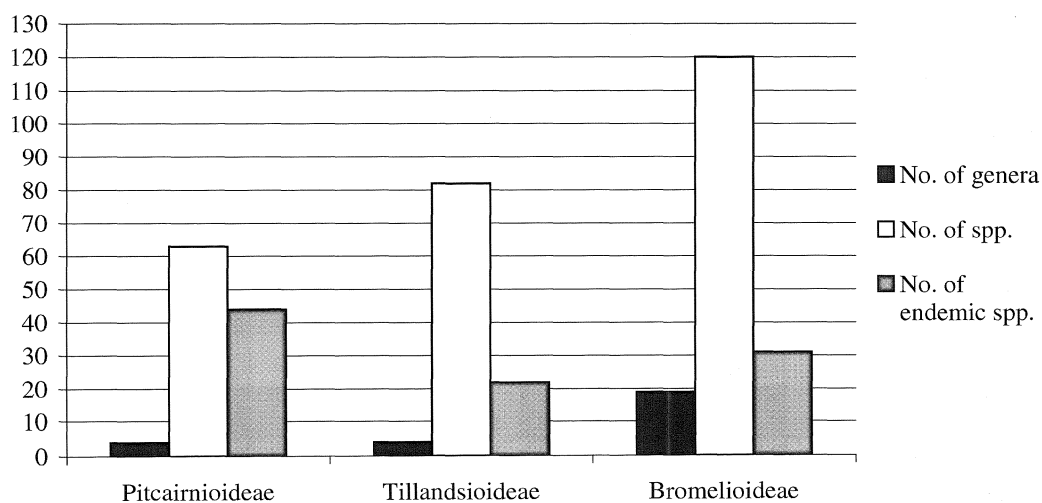


FIGURE 2. Number of genera, species, and endemic species for the three subfamilies of Bromeliaceae within the state of Minas Gerais, Brazil.

wind dispersion (*Alcantarea* and *Vriesea*), but they too exhibit high endemism particularly in upland habitats, suggesting that other factors have contributed to the pattern of endemism. The availability of the appropriate substrate is essential for the establishment of isolated populations. All of these processes together may be responsible for the high level of endemism and large number of species observed in the Bromeliaceae flora of MG. Answers will require extensive study of the relationships, ecology, and reproductive biology of these plants, along with more complete records of their distribution. Studies on the reproductive biology and dispersal strategies of many genera, such as *Cryptanthus*, *Orthophytum*, and *Neoregelia*, need to be encouraged to compile new data on the Bromeliaceae speciation process in MG.

#### New Records for Minas Gerais

The following 23 taxa represent new records for MG: *Aechmea alba*, *A. alopecurus*, *A. purpleorosea*, *A. weilbachii*, *Alcantarea odorata*, *Billbergia nutans*, *Hohenbergia augusta*, *H. catingae*, *H. pabstii*, *Neoregelia chlorosticta*, *N. farinosa*, *Nidularium longiflorum*, *Quesnelia arvensis*, *Tillandsia chapeuensis*, *T. globosa*, *T. pruinosa*, *T. aff. sprengeliana*, *Vriesea aff. hieroglyphica*, *V. hoehneana*, *V. itatiaiae*, *V. racinae*, *V. sazimae*, and *Wittrockia* sp. 1. The first record of *Aechmea alopecurus* is especially relevant, as it answers an old question about the origin of this species, which was first collected by J.E. Pohl during the nineteenth century in Brazil (holotype W) without any further information about its origin. Botanists have attempted to locate natural populations, since Leme (1990) found blooming plants in the Burle Marx collection (with a doubtful origin to Mato Grosso state). The record presented here for MG, however, indicates that the range of this taxon may be within forests of the Atlantic domain.

#### Poorly Known Species

The following taxa, which lack reliable distribution records and taxonomic information, merit further field study and systematic work: *Aechmea alba*, *A. alopecurus*, *A. burle-marxii*; *Alcantarea hatschbachii*, *A. sp. 1*; *Billbergia leptopoda*, *B. macrocalyx*, *B. minarum*, *B. pohliana*; *Bromelia glaziovii*, *B. villosa*; *Cryptanthus minarum*, *C. warasii*; *Dyckia argentea*, *D. elata*, *D. glandulosa*, *D. goehringii*, *D. granmogulensis*, *D. macropoda*, *D. orobanchoides*, *D. princeps*, *D. sp. 1*, *D. sp. 2*, *D. sp. 3*, *D. sp. 4*, *D. sp. 5*, *D. spinulosa*, *D. warmingii*, *D. weddelliana*; *Neoregelia cyanea*, *N. leprosa*, *N. oli-*

*gantha*; *Orthophytum duartei*, *O. foliosum*, *O. gurkenii*; *Tillandsia chapeuensis*; *Vriesea densiflora*, *V. modesta*, *V. regnellii*, *V. segadas-viannae*, and *V. sp. 1*.

#### Doubtful Occurrences

Taxa with only one voucher attesting to their collection in MG, and taxa cultivated for many years and then published as new species attributed to MG (but with imprecise localities) are listed but require confirmation: *Aechmea gamosepala*; *Billbergia macrocalyx*; *Dyckia brevifolia*, *D. monticola*; *Encholirium belemii*, *E. bradeanum*; *Orthophytum disjunctum* var. *angustobracteatum*, *O. disjunctum* var. *variegatum*, *O. disjunctum* var. *viridiflorum*; *Tillandsia horstii*, *T. leomaniana*, and *Wittrockia tenuisepala*.

#### Species Complexes

Several groups of species are particularly difficult to differentiate using dried material and frequently are misidentified in herbaria. Additional fieldwork and study are needed to better define species limits of these groups: *Aechmea alba* vs. *A. cholorophylla*; *A. burle-marxii* vs. *A. ligulata*; *A. organensis* vs. *A. coelestis*; the *Alcantarea extensa* complex including several specimens with different characteristics of coloration, size, and shape of the inflorescence; *Billbergia amoena* var. *carnea* vs. *B. elegans*; *B. distachia* vs. *B. minarum*; *B. pohliana* vs. *B. reichardtii*; *B. porteanae* vs. *B. zebrina*; the *B. saundersii* complex (the synonymy proposed by Read and Philcox in 1985 needs revision); *B. tweedieana* and its varieties separated by sepal length (a variable character even within the same individual); *Dyckia cinerea* vs. *D. bracteata* vs. *D. trichostachya*; *D. consimilis* vs. *D. saxatilis*; *D. lagoensis* vs. *D. minarum* vs. *D. eminens*; *D. linearifolia* vs. *D. tuberosa*; *D. macedoi* vs. *D. brachyphylla*; *D. rariflora* vs. *D. sp. 1*; *D. schwackeana* vs. *D. simulans*; *Orthophytum compactum* vs. *O. mello-barretoii*; *O. disjunctum* vs. its heterotypic varieties; *O. glabrum* vs. *O. maracasense*; *O. mello-barretoii* (appearing to encompass a complex of different species, exhibiting distinct plant sizes, with variable density of trichomes, and petal colors); *Pitcairnia flammaea* and its varieties; *Tillandsia archiza* vs. *T. graomogolensis* vs. *T. streptocarpa*; *Vriesea atropurpurea* vs. *V. sp. 1*; *V. crassa* vs. *V. hoehneana* vs. *V. saxicola*; *V. gradata* vs. *V. ensiformis*; *V. gutatta* vs. *V. pardalina*; *V. jongheii* vs. *V. minor*; *V. monacorum* vs. *V. schwackeana*; and *V. neoglutinosa* vs. *V. procer* and its varieties vs. *V. segadas-viannae* vs. *V. vagans*.



### Typification Problems

Some of the species that occur in MG present typification problems and are listed here to call attention to the need for additional study. *Ananas comosus* and *Quesnelia liboniana* need lectotypes. *Billbergia macrocalyx*, *B. vittata*, *B. zebrina*, and *Vriesea scalaris* are typified by "clonotypes" that do not accord with the ICBN (Greuter et al. 2000).

### Erroneously Reported and Excluded Taxa

**Alcantarea geniculata** (Wawra) J.R. Grant, Trop. Subtrop. Pflanzenwelt 91: 13. 1995.—*Platystachys geniculata* Wawra, Oesterr. Bot. Z. 11: 345. 1862. Synonym: *Vriesea geniculata* (Wawra) Wawra, Bot. Ergebn. 156. 1866. TYPE: Brazil—Rio de Janeiro, Petrópolis, Wawra & Maly 419 (Holotype: W lost). Lectotype: Bot. Ergebn. 156, t. 25, 1866 designated by Smith & Downs (1977).

DISTRIBUTION: Rio de Janeiro state (RJ).

NOTE: According to Leme (1997b), *Alcantarea geniculata* is endemic to the Órgãos mountain range and adjacent areas in Rio de Janeiro state. The material cited by Smith and Downs (1977) for Minas Gerais state (MG) is identified here as *Alcantarea turgida*.

**Dyckia reitzii** L.B.Sm., Anais Bot. Herb. "Barbosa Rodrigues" 2: 14. 1950. TYPE: Brazil—Santa Catarina, Reitz 2690 (Holotype: US!, Isotype: HBR).

DISTRIBUTION: PR, RS, SC.

NOTE: The specimens cited by Smith & Downs (1974) for the Caparaó range are identified here as *Dyckia bracteata*.

**Dyckia sellowiana** Mez, in C. DC., Monogr.

phan. 9: 520. 1896. TYPE: Brazil—Sellow Brom. Paris 52 (Holotype: P).

DISTRIBUTION: DF.

NOTE: The type material lacks provenance, except Brazil. No material was found to certify its occurrence at MG.

**Hohenbergia vestita** L.B.Sm., Phytologia 24: 446. 1972. TYPE: Brazil—Bahia, H.S. Irwin 32287 (Holotype: NY, US photo!).

DISTRIBUTION: BA.

NOTE: Wrongly reported for MG because of an error in the type collector's numeration. The species is native to Bahia, where it occurs in Jacobina and Mucugê municipalities.

**Pitcairnia flammea** var. **spinulosa** E.Pereira, Bradea 2(25): 174. 1977. TYPE: Brazil—Minas Gerais, serra do Cipó, G. Hatschbach et al. 28816 (Holotype: MBM!).

DISTRIBUTION: MG.

NOTE: New synonym of *Pitcairnia curvidens* (Versieux & Wendt unpubl. data).

**Vriesea ouroensis** W.Weber, Feddes Repert. 97: 106. 1986. TYPE: Brazil—Minas Gerais, Ouro Preto, A. Seidel 929 (Holotype: WEB 623 lost).

DISTRIBUTION: MG.

NOTE: New synonym of *Vriesea minarum* (Versieux & Wendt unpubl. data).

**Vriesea platynema** Gaudich., Voy. Bonite, Bot. 3: t. 66. 1843. TYPE: Brazil—Rio de Janeiro, Gaudichaud s.n. (Holotype: P!).

DISTRIBUTION: CE?, PR, RJ, RS, SC, SP.

NOTE: The only material cited by Smith & Downs (1977) is identified here as *Vriesea minor*.

**BROMELIAD CHECKLIST FOR MINAS  
GERAIS, BRAZIL**

Note: — = basionym; fl. cult. = flowered in cultivation. Grid cell letter, number, and Roman numeral (see TABLE 1); two-letter state abbreviations (see page 109). Bold state abbreviations = at least one voucher specimen for that state deposited at herbarium RB; herbaria abbreviations in parentheses.

**Acanthostachys strobilacea** (Schult. & Schult. f.) Klotzsch in Link, Klotzsch & Otto, Icon. pl. rar. hort. berol. 1: 21. 1840.—*Hohenbergia strobilacea* Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1252. 1830. TYPE: Brazil—Minas Gerais, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 190–800 m; epiphytic, saxicolous. C8i; E7iii; E9ii; F7i, iii, iv; F8iii, v, vi, viii, xi, xviii, xxi; F9ii, v, viii; G6iii; G8i, vi, xi; G9v, viii, xi, xii; H8vi, xiv; H9v, vi, I8. **ES, MA?, MG, PR, RJ, SP.**

BLOOMING: September to February peaking November.

VOUCHER: Nova Lima, *Versieux 94* (SP).

**Aechmea alba** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 375. 1892. Synonym: *Machrochordion alba* (Mez) L.B.Sm. & Kress, Phytologia 66(1): 77. 1989. TYPE: Brazil—Bahia, *Blanchet 2276* (Holotype: G).

DISTRIBUTION: Atlantic Forest; 170–250 m; epiphytic, terrestrial. C11ii, C12. BA, MG, RJ.

BLOOMING: June. Fruit August to February.

VOUCHER: Salto da Divisa, *Lombardi 5094* (BHCB).

NOTE: This species often is confused with *Aechmea lamarchei* Mez.

**Aechmea alopecurus** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 367. 1892. Synonym: *Pothuava alopecurus* (Mez) L.B.Sm. & Kress, Phytologia 66(1): 75. 1989. TYPE: Brazil—*Pohl 5230* (Holotype: W).

DISTRIBUTION: Atlantic Forest; 100–200 m; epiphytic. C12. BA, MG.

BLOOMING: August.

VOUCHER: Salto da Divisa, *Lombardi 5285* (BHCB).

NOTE: The specimen cited here also presents the curved scape as seen by Till (1987) on the holotype.

**Aechmea bambusoides** L.B.Sm. & Reitz, Bull. Bromeliad Soc. 14: 31. 1964. TYPE: Brazil—Minas Gerais, between Muriaé and

Ponte Nova, *A. Seidel 526* (Holotype: US!, Isotype: HBR!).

DISTRIBUTION: Atlantic Forest; 140–210 m; epiphytic. H9i, iv. **MG, RJ.**

BLOOMING: July to October.

VOUCHER: Além Paraíba, *Martinelli 1551* (RB, US).

**Aechmea bromeliifolia** (Rudge) Baker var. **bromeliifolia** in Benth. & Hook. f., Gen. pl. 3: 664. 1883.—*Tillandsia bromeliaefolia* Rudge, Pl. Guian. 4: 32. 1807. Synonym: *Machrochordion bromeliifolia* (Rudge) Beer, Phytologia 66(1): 77. 1989. TYPE: French Guiana—*Martin s.n.* (Holotype: BM).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 600–1700 m; epiphytic, terrestrial, saxicolous. A8ii; C9i, ii; D7iii; E2ii; E5; E7iii; E8iv, v, x, xi; F4i, iv; F7iii, iv; F8iii, v, ix, xi, xvi, xviii; G5iii; G7iii, iv, v; G8ii, iii, vii, viii, ix, x; H6iii; H7xiii; H8iii, x. **AM, AP, BA, CE, DF, GO, MA, MG, MT, PA, PB, PR, RJ, RO, SC, SP.**

BLOOMING: May to September peaking August. Fruit from June to December.

VOUCHER: Diamantina, *Pereira 1675* (HB, RB).

**Aechmea bromeliifolia** var. **albobracteata** Philcox, Ashingtonia 1(8): 92. 1974. TYPE: Brazil—Mato Grosso, km 264, Xavantina highway—Cachimbo, *Philcox 4605* (Holotype: K).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 800–1200 m; terrestrial, epiphytic. E8ix, H6iii. **MG, MT.**

BLOOMING: August.

NOTE: This taxon differs from the typical variety by white scape bracts and olive-green corolla. Although rare in collections, several populations were observed in the Parque Estadual do Pico do Itambé growing in the understory of a semideciduous forest.

VOUCHER: Lambari, *Pereira 10615* (HB, MBM).

**Aechmea brueggeri** Leme, Bromélia 3(3): 22. 1996. TYPE: Brazil—Minas Gerais, Rio Preto, *E.M.C. Leme 3404* fl. cult. (Holotype: HB!, Isotype: CESJ!).

DISTRIBUTION: Atlantic Forest; 400–450 m; terrestrial. I8. Endemic.

BLOOMING: June to September.

VOUCHER: Rio Preto, *Pires s.n.* (CESJ 30665).

**Aechmea burle-marxii** E.Pereira, Bradea 2: 307. 1979. Synonym: *Ortgiesia burle-marxii* (E.Pereira) L.B.Sm. & Kress, Phytologia 66(1): 72. 1989. TYPE: Brazil—Mi-

nas Gerais, Teófilo Otoni, *Burle Marx s.n.* fl. cult. (Holotype: HB!).

DISTRIBUTION: Atlantic Forest; terrestrial? D10. BA, MG.

BLOOMING: September.

NOTE: For MG, the species is only known from the type collection.

**Aechmea distichantha** Lem. var. **distichantha**, Jard. Fleur. 3: t. 269. 1853. Synonym: *Platyaechmea distichantha* (Lem.) L.B.Sm. & Kress, Phytologia 69(4): 272. 1990. TYPE: Brazil—São Paulo, serra d'Ypanema, *De Jonghe Hortus s.n.* (Holotype: BR?).

DISTRIBUTION: Rocky fields, Atlantic Forest; 700–2200 m; epiphytic, saxicolous, terrestrial. F8xviii; G5v; H5iii; H7i, vi, vii, xi, xiii; I5i, iv; I6ii, iii; I7ii. **MG, PR, RJ, RS, SC, SP.**

BLOOMING: June to October peaking July to August.

VOUCHER: Toledo, *Stehmann 2445* (BHCB, SEL).

**Aechmea distichantha** var. **glaziovii** (Baker) L.B.Sm., Arq. Bot. Estado São Paulo 1: 102. 1943.—*Aechmea glaziovii* Baker, J. Bot. 17: 133. 1879. Synonym: *Platyaechmea distichantha* var. *glaziovii* (Baker) L.B.Sm. & Kress, Phytologia 69(4): 272. 1990. TYPE: Brazil—Rio de Janeiro, pico do Itatiaia, *Glaziou 8986* (Holotype: K).

DISTRIBUTION: Atlantic Forest; 800–1200 m; epiphytic. H5iii; I6i, v. **MG, PR, RJ, SP.**

BLOOMING: September to October.

VOUCHER: Delfim Moreira, *Kuhlmann 2431* (SP).

**Aechmea distichantha** var. **schlumbergeri** E.Morren ex Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 343. 1892. Synonym: *Platyaechmea distichantha* var. *schlumbergeri* (E.Morren ex Mez) L.B.Sm. & Kress, Phytologia 69(4): 273. 1990. TYPE: *Morren Hortus s.n.* (Holotype: LG, Isotype: B!).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 800–1500 m; epiphytic, saxicolous. G5v; H5i, iii; H7ix, xiii. **MG.**

BLOOMING: June to August.

VOUCHER: Poços de Caldas, *Viégas 6653* (SP).

**Aechmea gamosepala** Wittm., Bot. Jahrb. Syst. 13(29): 3. 1891. Synonym: *Ortgiesia gamosepala* (Wittm.) L.B.Sm. & Kress, Phytologia 66(1): 72. 1989. TYPE: Brazil—Santa Catarina, *Schimper 231* (Holotype: LG).

DISTRIBUTION: Atlantic Forest; 635 m?; epiphytic. G9ix. **MG, PR, RS, SC, SP.**

BLOOMING: unknown.

VOUCHER: Manhuaçu, *Seidel 897* (SEL).

NOTE: Doubtful occurrence for MG. The only specimen is from cultivated material. This taxon is frequent in the southern regions of Brazil.

**Aechmea lamarchei** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 370. 1892. Synonym: *Machrochordion lamarchei* (Mez) L.B.Sm. & Kress, Phytologia 66(1): 77. 1989. TYPE: *Lamarque Hortus in Morren Hortus s.n.* (Holotype: LG).

DISTRIBUTION: Rocky fields, Atlantic Forest; 300–1500 m; terrestrial, saxicolous, rarely epiphytic. E8vii; F8iii, iv, v, ix, xvi, xviii; F9iii, iv, v, viii; G8ii, ix, xi; G9iii, iv, vii, viii, xviii; H8vi, xv; H9ii, v. BA, **ES, MG, RJ.**

BLOOMING: May to August.

VOUCHER: Jequeri, *Salino 3763* (BHCB).

**Aechmea maculata** L.B.Sm., Smithsonian Misc. Collect. 126: 15. 1955. Synonym: *Machrochordion maculata* (L.B.Sm.) L.B.Sm. & Kress, Phytologia 66(1): 77. 1989. TYPE: Brazil—Minas Gerais, Caeté, serra da Piedade, *M.B. Foster 561* (Holotype: GH, Isotypes: US!, BHCB!).

DISTRIBUTION: Rocky fields; 1200–1350 m; saxicolous. F8iv, xvi. Endemic.

BLOOMING: July. Fruit in February.

VOUCHER: Caeté, *Foster 561* (BHCB, SP, US).

**Aechmea nudicaulis** (L.) Griseb. var. **nudicaulis**, Fl. Brit. W. I. 593. 1864.—*Bromelia nudicaulis* L., Sp. pl. 1: 286. 1753. TYPE: West Indies—*Plumier s.n.* (Holotype: P).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 200–1700 m; epiphytic, saxicolous. E8i, x, xi; F8iv, xvi, xviii; F9vii, viii; G8ii, viii, ix, x. **BA, ES, MG, PR, RJ, SC, SP.**

BLOOMING: Peaking September to November. Fruit from February to March.

VOUCHER: Caeté, *Siqueira 25* (BHCB).

NOTE: Most material identified under this name in Brazil may correspond to the variety *cuspidata*.

**Aechmea nudicaulis** var. **aureorosea** (Antoine) L.B.Sm., Smithsonian Misc. Collect. 126: 17. 1955.—*Hoplophytum aureo-roseum* Antoine, Wiener Ill. Gart.-Zeitung 6: 97. 1881. Synonym: *Pothuava nudicaulis* var. *aureorosea* (Antoine) L.B.Sm. & Kress, Phytologia 66(1): 76. 1989. TYPE: Original description and plate.

DISTRIBUTION: Rocky fields, Atlantic Forest; 500–2000 m; epiphytic, saxicolous. E8iii, iv; F8iv; G8ix; G9viii, xii; H7xiii; H8vi, x; I6iv. **ES, MG, RJ, SP.**

BLOOMING: December to January.

VOUCHER: Diamantina, *Hatschbach 29048* (MBM).

**Aechmea nudicaulis** var. **cuspidata** Baker, J. Bot. 17: 234. 1879. Synonym: *Pothuava nudicaulis* var. *cuspidata* (Baker) L.B.Sm. & Kress, Phytologia 66(1): 76. 1989. TYPE: Brazil—São Paulo, *Burchell 3150* (Holotype: K).

DISTRIBUTION: Rocky fields, Atlantic Forest; 500–1200 m; epiphytic, saxicolous. E8ix, xi; F8ix; F9viii; G8vii, x; H5i; H7xiii; I6v. **BA, ES, MG, PR, RJ, RS, SC, SP.**

BLOOMING: February.

VOUCHER: Ouro Preto, *Ule 341* (R).

**Aechmea organensis** Wawra, Oesterr. Bot. Z. 30: 116. 1880. Synonym: *Orgiesia organensis* (Wawra) Smith & Kress, Phytologia 66(1): 73. 1989. TYPE: Brazil—Rio de Janeiro, Teresópolis, serra dos Órgãos, *Wawra 317*. (Lectotype and Isolectotypes: W) designated by Till (1994).

DISTRIBUTION: High altitude grassland, Atlantic Forest; 1500–1600 m; epiphytic, saxicolous. G9iii, xvi. **MG, RJ, RS, SC, SP.**

BLOOMING: October to February.

VOUCHER: Araponga, *Paula 1004* (VIC).

**Aechmea phanerophlebia** Baker, Handb. Bromel. 47: 1889. TYPE: Brazil—Rio de Janeiro, *Glaziou 16412* (Holotype: K).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 200–2100 m; epiphytic, saxicolous terrestrial. D7ii, iii; E8iii, iv, v, x, xi; F9vii, viii; G9iv, xi, xiv, xviii; H7i; H8x, xiv. **ES, MG, RJ, SP.**

BLOOMING: Peaking January to April. Fruit from April to September.

VOUCHER: Serro, *Mota 1852* (BHCB).

NOTE: Some specimens from areas of rocky fields presented an anomalous dilatation in the inflorescence base.

**Aechmea pineliana** (Brongn. ex Planch.) Baker, J. Bot. 17: 232. 1879.—*Echinostachys pineliana* Brongn. ex Planch., Hort. donat. 25. 1858. Synonyms: *Aechmea triticina* var. *capensis* L.B.Sm., Smithsonian Misc. Collect. 126: 19. 1955. *Pothuava triticina* var. *capensis* (L.B.Sm.) L.B.Sm. & Kress, Phytologia 66(1): 77. 1989. *Pothuava pineliana* (Brongn. ex Planch.) L.B. Sm. & Kress, Phytologia 66(1): 77. 1989. TYPE: Brazil—Rio de Janeiro, Guanabara, *Pinel s.n.* (Holotype: P).

DISTRIBUTION: Atlantic Forest; 500–1000 m;

epiphytic, terrestrial. G9iii, xiii; H8vi. **ES, MG, RJ.**

BLOOMING: May to September.

VOUCHER: Rosário da Limeira, *Paula 1345* (VIC).

NOTE: The only specimen cited for MG by Smith and Downs (1979) as *Aechmea triticina* var. *capensis*, *Mello Barreto 2106* (BHM), could not be found; however, we adopt the synonymy proposed by Wendt (1997).

**Aechmea purpureorosea** (Hook. f.) Wawra, Oesterr. Bot. Z. 30: 148. 1880. TYPE: Original description and plate.

DISTRIBUTION: Atlantic Forest; 400 m; epiphytic. G9viii. **MG, RJ, ES.**

BLOOMING: March.

VOUCHER: Jequeri, *Salino 4193* (BHCB).

NOTE: First record for MG since the specimen previously reported by Smith and Downs (1979), *Schwacke 11969* (RB), is identified here as *Aechmea phanerophlebia*. Known from a single locality and threatened by the construction of a dam.

**Aechmea ramosa** Mart. ex Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1272. 1830. TYPE: Brazil—Minas Gerais, *Martius 1036* (Holotype: M).

DISTRIBUTION: Atlantic Forest; 200–1200 m; epiphytic, saxicolous, terrestrial. D10; E9i; F9i, ii, iii, viii; G9vii, xviii; H8vi, vii, ix, xiv; H9ii. **ES, MG, RJ.**

BLOOMING: Peaking March. Fruit in September.

VOUCHER: Marliéria, *Stehmann 2946* (BHCB).

NOTE: Very frequent in the Rio Doce drainage basin valley. According to specimen annotations, the corolla can have three colors: yellow (ES, MG, RJ), pinkish (ES, RJ), and white (RJ).

**Aechmea vanhoutteana** (Van Houtte) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3) 366. 1892.—*Echinostachys vanhoutteana* Van Houtte, Catal. 1878. Synonym: *Pothuava vanhoutteana* (Van Houtte) L.B.Sm. & Kress, Phytologia 66(1): 77. 1989. TYPE: Description and plate of Edouard Morren, Belgique Hort. 31: 163 t. 18. 1881 (Smith & Downs 1979).

DISTRIBUTION: Atlantic Forest; 800–1300 m; epiphytic, saxicolous, terrestrial. G9iii, G10i. **MG, RJ, SP.**

BLOOMING: Peaking August to October.

VOUCHER: Alto Caparaó, *Brügger FPNC 361* (CESJ, RB).

**Aechmea weilbachii** Didr., Ann. Sci. Nat. Bot. 2: 375. 1854. Synonym: *Lamprococcus wei-*

*bachii* (Didr.) E.Morren, *Phytologia* 66(1): 71. 1989. TYPE: Brazil—Rio de Janeiro, Corcovado, *Didrichsen s.n.* (Holotype: C).

DISTRIBUTION: Atlantic Forest; > 730 m?; epiphytic. H8x. ES, MG, RJ.

BLOOMING: June.

VOUCHER: Lima Duarte, *Silva 6* (VIC).

***Alcantarea burle-marxii*** (Leme) J.R.Grant, *Bromélia* 2(3): 24. 1996.—*Vriesea burle-marxii* Leme, *Pabstia* 4(3): 4. 1993. TYPE: Brazil—Minas Gerais, Pedra Azul, *R. Burle Marx s.n.* (Holotype: HB!).

DISTRIBUTION: Granitic inselbergs in transitional area between Atlantic Forest and low drought-deciduous forest; 620–1000 m; saxicolous. C10vi. Endemic.

BLOOMING: December to January.

VOUCHER: Pedra Azul, *Burle Marx s.n.* fl. cult. (HB 77777).

***Alcantarea duarteana*** (L.B.Sm.) J.R.Grant, *Trop. Subtrop. Pflanzenwelt* 91: 13. 1995.—*Vriesea duarteana* L.B.Sm., *Phytologia* 18: 80. 1968. TYPE: Brazil—Minas Gerais, Diamantina, *A.P. Duarte 9017* (Holotype: HB!, Isotypes: RB!, US!).

DISTRIBUTION: Rocky fields; 1000–1450 m; saxicolous. E8iv. Endemic.

BLOOMING: Peaking December to January.

VOUCHER: Diamantina, *Hatschbach 28977* (HB, MBM, US).

***Alcantarea extensa*** (L.B.Sm.) J.R.Grant, *Trop. Subtrop. Pflanzenwelt* 91: 13. 1995.—*Vriesea extensa* L.B.Sm., *Arq. Bot. Estado São Paulo*. 1: 116. 1943. TYPE: Brazil—Espírito Santo, Cachoeiro do Itapemirim, *M.B. Foster 163* (Holotype: GH).

DISTRIBUTION: High altitude grassland, Atlantic Forest; 450–1600 m; saxicolous. G9iii, iv, vii, ix, xvi; D11iii. ES, MG, RJ.

BLOOMING: December to February. Fruit from April to September.

VOUCHER: Manhuaçu, *Hatschbach 48595* (MBM).

***Alcantarea hatschbachii*** (L.B.Sm. & Read) Leme, *Bromélia* 2(3): 22. 1995.—*Vriesea hatschbachii* L.B.Sm. & Read, *Phytologia* 30: 292. 1975. TYPE: Brazil—Minas Gerais, Gouvea, *G. Hatschbach 29085* (Holotype: US!, Isotypes: MBM!, SPF!, Z!).

DISTRIBUTION: Rocky fields; 1100 m; saxicolous. E8v. Endemic.

BLOOMING: January.

VOUCHER: Gouvea, *Hatschbach 29085* (MBM, SPF, US, Z).

***Alcantarea imperialis*** (Carrière) Harms in Engl. & Prantl., *Nat. Pflanzenfan.* 15a: 126. 1930.—*Vriesea imperialis* Carrière, *Rev. Hort.* 60: 58. 1888. TYPE: *Hortus Paris Museum s.n.* (Holotype: P?).

DISTRIBUTION: Atlantic Forest; 600 m; saxicolous, terrestrial?. H8ix. MG, RJ.

BLOOMING: September to March peaking October.

VOUCHER: Juiz de Fora, *Caiafa s.n.* (CESJ 30424).

***Alcantarea odorata*** (Leme) J.R.Grant, *Trop. Subtrop. Pflanzenwelt* 91: 13. 1995.—*Vriesea odorata* Leme, *Bradea* 5(16): 166. 1989. TYPE: Brazil—Rio de Janeiro, próximo a Raposo, *E.M.C. Leme 262*. (Holotype: HB!).

DISTRIBUTION: Atlantic Forest; 210 m; saxicolous. H9v. MG, RJ.

BLOOMING: December to January.

VOUCHER: Leopoldina, *Hatschbach 61610* (BHCB, MBM).

***Alcantarea* sp. 1.**

DISTRIBUTION: Atlantic Forest, saxicolous. H9i, ii, iii, v. Endemic.

BLOOMING: December to February.

VOUCHER: Leopoldina, *Duarte 14058* (RB).

***Alcantarea turgida*** Versieux & Wand., Unpublished. TYPE: Brazil—Minas Gerais, Conceição do Mato Dentro, *L.M. Versieux 260* (Holotype: SP, Isotypes: BHCB, MBM, RB, SPF, VIC).

DISTRIBUTION: Rocky fields, Atlantic Forest; 700–1300 m; saxicolous, terrestrial. F8v, vii, xviii, xix. Endemic.

BLOOMING: December to February. Fruit in April.

VOUCHER: Santana do Riacho, *Wanderley 2488* (SP).

***Ananas ananassoides*** (Baker) L.B.Sm., *Bot. Mus. Leaflet* 7: 70. 1939.—*Acanthostachys ananassoides* Baker, *Handb. Bromel.* 25. 1889. TYPE: Brazil—Minas Gerais, Uberaba, *Regnell III-1261* in part (Holotype: P!, Isotype: US!).

DISTRIBUTION: Rocky fields, savanna, rare in the Atlantic Forest; 500–1000 m; terrestrial, rarely saxicolous. A5; B9vi; C5i; C8iii; C9ii; D7v; E3; E6ii; E7iii; E8iv, x; F4iv, v; F7iii; F8i, iii, v, ix, xi, xvi, xviii; G8vii, x, xii; G9xviii; H7xi; H8ix; I8. AM, AP, DF, GO, MG, MS, MT, PA, PB, RJ, RO, SP, TO.

BLOOMING: September to February peaking November. Fruit from March to May.

VOUCHER: Lagoa Santa, *Lombardi 207* (BHCB, US).

**Ananas bracteatus** (Lindl.) Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1286. 1830.—*Ananassa bracteata* Lindl. Bot. Reg. 13: t. 1081. 1827. TYPE: *Lindley s.n.* (Holotype: CGE?).

DISTRIBUTION: Atlantic Forest; 300–750 m; terrestrial. G9vi, vii, ix; H8ix; H9ii. ES, MG, PR, RJ, RS, SC, SP.

BLOOMING: August to February.

VOUCHER: Manhuaçu, *Wendt 318* (RB).

**Ananas comosus** (L.) Merr., Interpr. Rumph. Herb. Amboin. 133. 1917.—*Bromelia comosa* L. in Stickman, Herb. Amboin. 21. 1754. TYPE: Not yet selected.

DISTRIBUTION: Savanna, Atlantic Forest; 500–1000 m; terrestrial. F9viii. Cultivated at several localities.

BLOOMING: All year.

VOUCHER: Marliéria, *Heringer 15058* (US).

**Ananas nanus** (L.B.Sm.) L.B.Sm., Bull. Bromeliad Soc. 12: 54. 1962.—*Ananas ananassoides* var. *nanus* L.B.Sm., Bot. Mus. Leaflet 7: 79. 1939. TYPE: Brazil—Parafba, *Baker s.n.* (Holotype: GH).

DISTRIBUTION: Rocky fields, Atlantic Forest; 800–1000 m; terrestrial. E8ix. BA, MG, PA, PI.

BLOOMING: August to September.

VOUCHER: Santo Antônio do Itambé, *Versieux 153* (RFA).

**Andrea selloana** (Baker) Mez in C. DC., Monogr. phan. 9: 114. 1896.—*Quesnelia selloana* Baker, Handb. Bromel. 87. 1889. Synonyms: *Nidularium selloanum* (Baker) E.Pereira & Leme, Bradea 4: 235. 1986. *Canistropsis selloana* (Baker) Leme, Canistropsis Brom. Mata Atl. 55. 1998. TYPE: *Sellow 1414* (Holotype: B).

DISTRIBUTION: Rocky fields (gallery forest); 770–1700 m; saxicolous, terrestrial. F8ix, xvi, xviii; G8ii, x, xii. Endemic.

BLOOMING: August to February peaking January. Fruit in July.

VOUCHER: Conceição do Mato Dentro, *Versieux 264* (SP).

**Billbergia amoena** (G.Lodd.) Lindl. var. *amoena*, Bot. Reg. 13: t. 1068. 1827.—*Tillandsia amoena* G.Lodd., Bot. Cab. 1: 76. 1818. TYPE: *Loddiges Hortus in Lindley s.n.* (Holotype: CGE).

DISTRIBUTION: Rocky fields, Atlantic Forest; 300–1650 m; saxicolous, epiphytic, terrestrial. E8ii, iv, x, xi; F8v, xvi, xviii, xix; G7ii; G8ii;

G9iii, xii, xvii, xviii; G10i; H8iii. BA, ES, MG, GO, RJ, SP, PR, SC.

BLOOMING: July to November.

VOUCHER: Diamantina, *Anderson 8972* (HB, US).

**Billbergia amoena** var. *carnea* E.Pereira, Bradea 2: 32. 1975. TYPE: Brazil—Minas Gerais, Botumirim, A. *Seidel 707* (Holotype: HB!).

DISTRIBUTION: Rocky fields; 1300 m; epiphytic, saxicolous. C8i, H7xii. Endemic.

BLOOMING: Between January to February.

VOUCHER: Botumirim, *Seidel 707* (HB).

**Billbergia amoena** var. *minor* (Antoine & Beer) L.B.Sm., Arq. Bot. Estado São Paulo. 1: 104. 1943.—*Billbergia pyramidalis* var. *minor* Antoine & Beer ex Beer, Fam. Bromel. 108. 1857. TYPE: *Berlin Hortus s.n.* (Holotype: B?).

DISTRIBUTION: Rocky fields, Atlantic Forest; 1300–1720 m; saxicolous, terrestrial. F8iv. MG, RJ?.

BLOOMING: April to July.

VOUCHER: Caeté, *Mota 339* (BHCB).

**Billbergia distachia** (Vell.) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 417. 1892.—*Tillandsia distachia* Vell., Fl. Flum. 136. 1825. TYPE: Plate of Vellozo, Icon. 3: t. 141. 1831 (Smith & Downs 1979).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 700–1900 m; epiphytic, terrestrial. F7ii; F8iii, v, xi; G5iii; H7i, v, vi; H8vii, x; H9vii; I5i; I6i, ii; I7iii. MG, PR, RJ, SC, SP.

BLOOMING: Peaking September to October.

VOUCHER: Aiuruoca, *Tameirão-Neto 2957* (BHCB, SEL).

**Billbergia elegans** Mart. ex Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1265. 1830. TYPE: Brazil—Minas Gerais, Ouro Preto, *Martius s.n.* (Holotype: M, SEL photo!, Isotype: B).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 900–1700 m; epiphytic, saxicolous, terrestrial. F7iii; F8iii, xi, xiv, xviii; G7i, iii, v; G8vii, viii, x; H7xi, xiii; H8iii. ES, MG.

BLOOMING: July to December peaking October.

VOUCHER: Belo Vale, *Versieux 92* (RFA).

NOTE: The species can appear erroneously determined as *Billbergia minarum* or *B. sanderiana*.

**Billbergia euphemiae** E.Morren, Belgique Hort. 22: 11. 1872. TYPE: *Liège Hortus s.n.* (Holotype: LG).

DISTRIBUTION: Atlantic Forest, one occurrence for rocky fields; 340–1400 m; epiphytic, saxicolous. G7iii; G9iii, vi, xviii; Gg10i; H8ix, vi; H9ii, iv. **BA, ES, MG, RJ.**

BLOOMING: May to October peaking September.

VOUCHER: Araponga, *Paula 1099* (VIC).

**Billbergia horrida** Regel, Ind. Sem. Hort. Petrop. 1856: 17. 1857. TYPE: *St. Petersburg Hortus s.n.* (Holotype: LE?).

DISTRIBUTION: Atlantic Forest; 300–1300 m; epiphytic. F9iii, iv; G8viii; G9vii, xviii; H8ix. **BA, ES, MG, RJ.**

BLOOMING: September to October.

VOUCHER: Caratinga, *Lombardi 2354* (BHCB).

**Billbergia iridifolia** (Nees & Mart.) Lindl., Bot. Reg. 13: t. 1068. 1827.—*Bromelia iridifolia* Nees & Mart., Nova Acta. Acad. Phys.-Med. Caes. Leop.-Carol. German. Nat. Cur. 11: 16. 1823. TYPE: Brazil—Bahia, *Wied-Neuwied s.n.* (Holotype: BR).

DISTRIBUTION: Rocky fields, Atlantic Forest; 200–810 m; epiphytic, saxicolous. C9ii; C11ii; D10; E9i; F9viii; G8vi; G9x, xviii. **BA, ES, MG, RJ.**

BLOOMING: Mainly August.

VOUCHER: Marliéria, *Borba 27* (BHCB).

**Billbergia leptopoda** L.B.Sm., Contr. Gray Herb. 154: 33. 1945. TYPE: Brazil—Minas Gerais, Governador Valadares, *M.B. Foster 765*. (Holotype: GH).

DISTRIBUTION: Atlantic Forest; 150–650 m; epiphytic, terrestrial. F9iii. **ES, MG.**

BLOOMING: March to May.

VOUCHER: Caratinga, *Paula s.n.* (BHCB 17821, US).

**Billbergia lymanii** E.Pereira & Leme, Bradea 4: 72. 1984. TYPE: Brazil—Espírito Santo, Domingos Martins, *R. Kautsky 670* (Holotype: HB, Isotype: RB!).

DISTRIBUTION: Atlantic Forest; 1000–1600 m; epiphytic. G9ii, iii, xiii, xiv. **ES, MG, RJ.**

BLOOMING: March to July.

VOUCHER: Fervedouro, *Leme 2760* fl. cult. (HB).

**Billbergia macrocalyx** Hook. f., Bot. Mag. 85: t. 5114. 1859. TYPE: Brazil—Bahia, *Wetherel, Kew Hortus s.n.* (“Clonotype”: LG, NY).

DISTRIBUTION: habitat, elevation, and habit unknown. F8iii?. **BA, MG?**

BLOOMING: Unknown.

VOUCHER: Belo Horizonte, *Foster 542* fl. cult. (US).

NOTE: Doubtful occurrence for MG.

**Billbergia meyeri** Mez, Bot. Jahrb. 30: 148. 1902. TYPE: Brazil—Mato Grosso, *Pilger 705* (Holotype: B).

DISTRIBUTION: Savanna; 300–770 m; epiphytic. D5i, E2ii, F4i. **MG, MT, RO, SP.**

BLOOMING: March to August.

VOUCHER: Ituiutaba, *Macedo 3223* (US).

**Billbergia minarum** L.B.Sm., Smithsonian Misc. Collect. 126: 22. 1955. TYPE: Brazil—Minas Gerais, Governador Valadares, *M.B. Foster 766* (Holotype: GH).

DISTRIBUTION: Atlantic Forest; 600–730 m; epiphytic, terrestrial. H8ix, x. **ES, MG.**

BLOOMING: July to September.

VOUCHER: Juiz de Fora, *Krieger 9143* (RB, CESJ).

**Billbergia nutans** H.Wendl. ex Regel, Gartenflora 18: 162, t. 617. 1869. TYPE: *Herrenhaunsen hortus s.n.* LE?.

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 640–1000 m; epiphytic. F8xviii, G5iii, G9xviii. **MG, PR, SC.**

BLOOMING: August.

VOUCHER: Santana do Riacho, *Vidal s.n.* (R 190241).

**Billbergia pohliana** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 403. 1892. TYPE: Brazil—Minas Gerais, *Pohl 5508* (Holotype: W lost).

DISTRIBUTION: Atlantic Forest; ca. 480 m; habit unknown. H8vi. Endemic.

BLOOMING: June.

VOUCHER: Coronel Pacheco, *Heringer 1919* (SP).

**Billbergia porteaana** Brongn. ex Beer, Fam. Bromel. 115. 1857. TYPE: Brazil—Bahia, *Morel in Paris Hortus s.n.* (Holotype: P?).

DISTRIBUTION: Rocky fields, savanna; 550–1200 m; epiphytic, saxicolous. C8iv; E7ii; E8iv; F7iii; F8iii, v. **BA, CE, DF, ES, MG, MT, PB, PI, SP.**

BLOOMING: August to April peaking September.

VOUCHER: Belo Horizonte, *Magalhães s.n.* (HB 33835).

**Billbergia reichardtii** Wawra, Oesterr. Bot. Z., 30: 115. 1880. TYPE: Brazil—Minas Gerais, Juiz de Fora, *Wawra II-197* (Holotype: W lost). Brazil, Minas Gerais, de Juiz de Fora para a serra da Mantiqueira, *Warming 2172* (Neotype: C).

DISTRIBUTION: Atlantic Forest; 480–700 m; epiphytic. H8iv, ix. ES, MG.

BLOOMING: June to July.

VOUCHER: Coronel Pacheco, *Gomes 62* (HB, RFA).

**Billbergia sanderiana** E.Morren, Belgique Hort. 34: 17. 1884. TYPE: Brazil—Rio de Janeiro, *Sander 1* (Holotype: LG).

DISTRIBUTION: Atlantic Forest; ca. 270 m; epiphytic. G9xvii. ES, MG, RJ.

BLOOMING: Unknown. Fruit in July.

VOUCHER: Tombos, *Leitman 181* (RB).

NOTE: Two specimens, *Duarte 9025* (RB), and *Irwin 19808* (MBM, R), cited under this name by Smith & Downs (1979) are identified here as *Billbergia elegans*.

**Billbergia saundersii** W.Bull, Gard. Chron. n.s. 1: 78. 1874. Synonyms: *Billbergia chlorosticta* Saunders, Gard. Chron. 1425. 1871. *Billbergia fosteriana* L.B.Sm., Smithsonian Misc. Collect. 126(1): 21. 1955. *Billbergia debilis* E.Pereira, Bradea 1(25): 279. 1972. NEOTYPE: Plate 106 Floral Magazine n.s. 1874, designated by Read & Philcox (1985).

DISTRIBUTION: Atlantic Forest; ca. 270 m; saxicolous. G9xvii. BA, MG.

BLOOMING: July.

VOUCHER: Tombos, *Leitman 166* (RB).

**Billbergia tweedieana** Baker, Handb. Bromel. 73. 1889. TYPE: Brazil—Rio de Janeiro, *Tweedie 1313* (Holotype: K).

DISTRIBUTION: Atlantic Forest; 400–650 m; epiphytic. G9iv, xviii; H8vi. ES, MG, RJ.

BLOOMING: October.

VOUCHER: Carangola, *Leoni 464* (RB).

**Billbergia vittata** Brongn., Portef. Hort. 2: 353. 1848. TYPE: *Morel Hortus s.n.* (“Clonotype”: P!).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 520–2000 m; epiphytic, saxicolous, terrestrial. E8iii, iv, vii, ix, xi; F8iii, v, ix, xiii, xvi, xviii; G8ii, viii; G9iii, vi; G10i; H8ii. ES, MG, RJ.

BLOOMING: Peaking March to May.

VOUCHER: Catas Altas, *Vasconcelos s.n.* (BHCB 32042, 53705).

**Billbergia zebrina** (Herb.) Lindl., Bot. Reg. 13: t. 1068.—*Bromelia zebrina* Herb., Bot. Mag. 53: t. 2686. 1826. TYPE: *Lindley Hortus s.n.* (“Clonotype”: K).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 200–1100 m; epiphytic. C9ii; D10; E8iv;

F7iii; F8ix, xviii; G8vi, xi; G9iv, xi; H8iii, vi; H9ii, vi. MG, PR, RJ, RS, SC, SP.

BLOOMING: September to February.

VOUCHER: Diamantina, *Forzza 659* (SPF).

**Bromelia antiacantha** Bertol., Virid. Bonon. Veg. 4. 1824. TYPE: Original description and plate.

DISTRIBUTION: Atlantic Forest; 400–1040 m; terrestrial. F8vi; G9iii, iv, ix. MG, PR, RJ, RS, SC, SP.

BLOOMING: December.

VOUCHER: Manhuaçu, *Wendt 319* (RB).

**Bromelia balansae** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 191. 1891. TYPE: Paraguay, *Balansa 608* (Holotype: G).

DISTRIBUTION: Rocky fields, savanna; 480–1100 m; terrestrial. B7i; B9iii; C10iv; D7v; D8i, ii; E6ii; E7ii; E8vii, x; F7iii; F8ix, xi, xiv, xviii; G5ii. AM, DF, GO, MG, MT, PA, PR, SC, SP, RS.

BLOOMING: August to February peaking October. Fruit from March to May.

VOUCHER: Bocaiúva, *Azevedo s.n.* (BHCB 49485).

**Bromelia glaziovii** Mez, Bot. Jahrb. Syst. 30(67): 1. 1901. TYPE: Brazil—Goiás, Campos do Rio Gama, *Glaziou 22189* (Holotype: B!).

DISTRIBUTION: Savanna; 640–820 m; terrestrial. C8iv, G5v. DF, GO, MG.

BLOOMING: September.

VOUCHER: Montes Claros, *Castellanos 24425* (US).

**Bromelia interior** L.B.Sm., Smithsonian Misc. Collect. 126: 23. 1955. TYPE: Brazil—Goiás, Goiás, Quintas, *A. Macedo 3260* (Holotype: US!).

DISTRIBUTION: Savanna; 540–830 m; terrestrial. B7i, E2ii, G5iii. AM, GO, MG, MT.

BLOOMING: October.

VOUCHER: Januária, *Lombardi 2055, 2065* (BHCB).

**Bromelia regnellii** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 194. 1891. TYPE: Brazil—Minas Gerais, Caldas, *Regnell II-285* (Holotype: B!, Isotypes: S, US!).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 700–1100 m; terrestrial. E8iv, F8iii, H5i. BA, DF, GO, MA, MG, MT, PA, RO, SP.

BLOOMING: November.

VOUCHER: Caldas, *Regnell II-285* (US).

**Bromelia serra** Griseb., Symb. Argent. in



- Goett. Abh. 24: 328. 1879. TYPE: Argentina, *Lorentz s.n.* (Lectotype: GOET).
- DISTRIBUTION: Rocky fields, savanna; 700–1250 m; terrestrial. C9ii, E7vi, F4iv, G7iii. DF, GO, MG.
- BLOOMING: November.
- VOUCHER: Brumadinho, *Hatschbach 27744* (MBM, US).
- Bromelia villosa** Mez, Bot. Jahrb. Syst. 30(67): 3. 1901. TYPE: Brazil—Goiás, *Glaziou 22191* (Holotype: B).
- DISTRIBUTION: Savanna; ca. 560 m; terrestrial. E2i. GO, MG, MT.
- BLOOMING: July.
- VOUCHER: Capinópolis, *Macedo 4957* (US).
- Canistrum auratum** Leme, Pabstia 4(3): 2. 1993. TYPE: Brazil—Minas Gerais, Manhuaçu, *E.M.C. Leme 1679* fl. cult. (Holotype: HB!, Isotypes: RB!, SEL!).
- DISTRIBUTION: Atlantic Forest, 700–900 m, epiphytic. C11ii, G9ix. BA, MG.
- BLOOMING: August to October.
- VOUCHER: Santa Maria do Salto, *Salino 9214* (BHCB).
- Cryptanthus caracensis** Leme & E. Gross, J. Bromeliad Soc. 7(4): 12. 1992. TYPE: Brazil—Minas Gerais, Santa Bárbara, *E.M.C. Leme 1853* (Holotype: HB!). *Ibidem*, *E.M.C. Leme 1544* (Paratypes: HB!, HEID).
- DISTRIBUTION: Rocky fields; 1200–1600 m; saxicolous. F8ii, xvi, G8ii. Endemic.
- BLOOMING: February to March. Fruit in July.
- VOUCHER: Catas Altas, *Mota 1870* (BHCB).
- Cryptanthus glaziovii** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 202. 1891. TYPE: Brazil—Minas Gerais, Caraça, *Glaziou 15672a* (Holotype: B!, Isotype: P).
- DISTRIBUTION: Rocky fields; 1000–1600 m; saxicolous. F8xvi. Endemic.
- BLOOMING: February to March.
- VOUCHER: Santa Bárbara, *Magalhães 2693* (BHCB).
- NOTE: The spelling “*glazioui*” is not concordant with article 60.7 of the ICBN (Greuter et al. 2000).
- Cryptanthus leopoldo-horstii** Rauh, Trop. Subtrop. Pflanzenwelt 65: 68. 1988. TYPE: Brazil—Minas Gerais, Diamantina, *W. Rauh 67221* (Holotype: HEID).
- DISTRIBUTION: Rocky fields; 1000–1250 m; saxicolous, terrestrial. E8iv, v. Endemic.
- BLOOMING: November to January.
- VOUCHER: Gouvea, *Hatschbach 29079* (MBM, US).
- NOTE: It can appear erroneously determined as *C. schwackeanus*.
- Cryptanthus minarum** L.B.Sm., Smithsonian Misc. Collect. 126: 24. 1955. TYPE: Brazil—Minas Gerais, pico de Itabira, *A.M. Matos s.n.* (Holotype: R!, Isotype: US!).
- DISTRIBUTION: Rocky fields, Atlantic Forest?; 100–1500 m?; terrestrial. F8vii, F10iii?. Endemic.
- BLOOMING: June to July.
- VOUCHERS: Itabira, *Matos s.n.* (R 46186, US). Itueta, *Tameirão-Neto 2430* (BHCB) “aff.”.
- NOTE: *Cryptanthus minarum* until recently was known only from the type collection. The type locality (pico de Itabira) has been totally altered by iron ore mining. The second collection presented above, which closely resembles the type specimen, is identified here as *Cryptanthus* aff. *minarum*, because it presents smaller flowers, and sepals connate for ca. 7 mm (vs. 4 mm).
- Cryptanthus schwackeanus** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 203. 1891. TYPE: Brazil—Minas Gerais, Itabira, pico de Itabira do Campo, *Glaziou 17823* (Lectotype: B!, Isolectotype: P!).
- DISTRIBUTION: Rocky fields; 600–2000 m; saxicolous. F8iii, iv, v, vii; G8ii, vii, viii, x; H7xi, xiii. Endemic.
- BLOOMING: December to February. Fruit between April to July.
- VOUCHER: Itabirito, *Krieger 21106* (BHCB, CESJ, SPF).
- Cryptanthus warasii** E.Pereira, Bradea 2(36): 252. 1978. TYPE: Brazil—Minas Gerais, Diamantina, *E. Waras s.n.* (Holotype: HB!, Isotypes: US!, K, MBM).
- DISTRIBUTION: Rocky fields; ca. 1100 m; saxicolous. E8iv. Endemic.
- BLOOMING: August.
- VOUCHER: Diamantina, *Waras s.n.* (HB 66022, US).
- Dyckia argentea** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 492. 1894. TYPE: Brazil—Minas Gerais, *Glaziou 17280a* (Holotype: B).
- DISTRIBUTION: Rocky fields; 1300–1400 m; saxicolous. H7xiii. Endemic.
- BLOOMING: February.
- VOUCHER: Tiradentes, *Brina s.n.* (BHCB 39550).
- Dyckia brachyphylla** L.B.Sm., Phytologia 19: 282. 1970. TYPE: Brazil—Minas Gerais, Diamantina, *H.S. Irwin 22383* (Holotype: US!, Isotypes: NY!, SP!, Z!).

DISTRIBUTION: Rocky fields; 800–1300 m; saxicolous, terrestrial. D8ii; E8i, iii, iv, vi, xi. Endemic.

BLOOMING: February.

VOUCHER: Diamantina, *Hatschbach 31702* (MBM, US).

NOTE: This species is usually confused with *Dyckia macedoi*.

***Dyckia bracteata*** (Wittm.) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 470. 1894.—*Dyckia dissitiflora* var. *bracteata* Wittm., Bot. Jahrb. Syst. 13 (29): 16. 1891. TYPE: Brazil—Minas Gerais, serra do Ouro Branco, *Schenck 3510* (Lectotype: B!).

DISTRIBUTION: High altitude grassland, rocky fields; 1000–2500 m; saxicolous, terrestrial. E8iv; G8ii, ix, x; G10i, ii. Endemic.

BLOOMING: August to November.

VOUCHER: Catas Altas, *Vasconcelos s.n.* (BHCB 49224, 52688).

NOTE: This species can be misidentified as *Dyckia reitzii* or *D. minarum*.

***Dyckia brevifolia*** Baker in Saunders, Refug. bot. 4: t. 236. 1871. TYPE: Original description and plate.

DISTRIBUTION: Rocky fields, savanna; ca. 1300 m; saxicolous. H7xii. MG, RJ, SC, SP.

BLOOMING: October to November.

VOUCHER: São Tomé das Letras, *Mello-Silva s.n.* (SPF 37843).

NOTE: *Dyckia brevifolia* usually grows close to rivers or watercourses in southern Brazil (Reitz 1983). The two specimens found for MG may be an undescribed or overlooked species.

***Dyckia cinerea*** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 469. 1894. TYPE: Brazil—*Glaziou 18570* (Holotype: B!, Isotype: K).

DISTRIBUTION: High altitude grassland, rocky fields; 900–1700 m; saxicolous. F8xvi, xix; G8viii, x; G9i, iii, vii; G10ii. Endemic.

BLOOMING: April to May.

VOUCHER: Mariana, *Goldschmidt 42* (SPF, VIC).

***Dyckia consimilis*** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 479. 1894. TYPE: Brazil—Minas Gerais, *Weddel 1407* (Lectotype: P!).

DISTRIBUTION: Rocky fields; 900–1600 m; saxicolous, terrestrial. F8iii, xiv; G7iii, v; G8viii. Endemic.

BLOOMING: August to January.

VOUCHER: Moeda, *Grandi s.n.* (BHCB 16908, BHZB 1081).

NOTE: It can be misdetermined as *Dyckia macedoi*, *D. saxatilis*, and *D. schwackeana* in herbaria. Mez (1894) cited two syntypes. Smith and Downs (1974) chose *Weddel 1407* as lectotype.

***Dyckia densiflora*** Schult. & Schult. f. in Roem. & Schult., Syst. veg. 7(2): 1194. 1830. TYPE: Brazil—Minas Gerais, Ouro Preto, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Rocky fields; 1000–1800 m; saxicolous. F8iii, iv, xvi; G8x. Endemic.

BLOOMING: October to April.

VOUCHER: Ouro Preto, *Vasconcelos s.n.* (BHCB 52435).

***Dyckia dissitiflora*** Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1194. 1830. TYPE: Brazil—Bahia, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Rocky fields, savanna; 550–1300 m; saxicolous, terrestrial. C8iv, E7vi, E8v, F8iii, I7v. BA, MG, PI.

BLOOMING: September to November.

VOUCHER: Montes Claros, *Castellanos 24294* (HB, US).

***Dyckia elata*** Mez in C. DC., Monogr. phan. 9: 508. 1896. TYPE: Brazil—Minas Gerais, Ouro Preto, serra de Antônio Pereira, *Schawcke 8739* (Holotype: B!).

DISTRIBUTION: Rocky fields; ca. 1200 m; terrestrial. G8x. Endemic.

BLOOMING: October to December.

VOUCHER: Ouro Preto, *Silveira 2275* (R).

***Dyckia glandulosa*** L.B.Sm. & Reitz, Phytologia 14: 484. 1967. TYPE: Brazil—Minas Gerais, Itambé, *G.M. Magalhães 18959* (Holotype: HBR!, Isotypes: US!, NY!).

DISTRIBUTION: Rocky fields; ca. 1500 m; saxicolous. E8ix. Endemic.

BLOOMING: March.

NOTE: Only known from the type collection.

***Dyckia goehringii*** Rauh, Trop. Subtrop. Pflanzenwelt. 75: 12. 1991. TYPE: Brazil—Minas Gerais, Diamantina, *W. Rauh 67622* fl. cult. (Holotype: HB!).

DISTRIBUTION: Rocky fields; ca. 1300 m; saxicolous, terrestrial. E8iv. Endemic.

BLOOMING: Unknown.

NOTE: Only known from the type collection.

***Dyckia granmogulensis*** Rauh, Trop. Subtrop. Pflanzenwelt 65: 11. 1988. TYPE: Brazil—Minas Gerais, Grão Mogol, Milagro, *W. Rauh 56484* (Holotype: HEID).

DISTRIBUTION: Rocky fields; ca. 1000 m; saxicolous. C8i, C9ii. Endemic.

- BLOOMING: Unknown.  
VOUCHER: Botumirim, *Rapini* 762 (SPF) "cf."
- Dyckia lagoensis** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 483. 1894. TYPE: Brazil—Minas Gerais, Lagoa Santa, *Warming* 2171 (Holotype: C).  
DISTRIBUTION: Savanna; 730–1200 m; terrestrial, saxicolous, epiphytic?. E6ii, F4iv, F7iii, G5v, H7ix, H8ii. Endemic.  
BLOOMING: August to April.  
VOUCHER: Paraopeba, *Heringer s.n.* (HB 32882, 32887).
- Dyckia leptostachya** Baker, Gard. Chron. 1884(2): 198. 1884. TYPE: Brazil—Paraná, *Kew Hortus s.n.* (Holotype: K).  
DISTRIBUTION: Savanna; 440–560 m; terrestrial. E2ii, B9iv. MG, MT, PR, SC, RS.  
BLOOMING: September to October.  
VOUCHER: Ituiutaba, *Macedo* 11, 1242 (US).  
NOTE: Without any new record during the last 50 years.
- Dyckia linearifolia** Baker, Handb. Bromel. 131. 1889. TYPE: Brazil—Minas Gerais, *Saint-Hilaire* 1010 (Holotype: P!).  
DISTRIBUTION: Savanna; 500–900 m; terrestrial. F3, I5iii. MG, SP.  
BLOOMING: September to October.  
VOUCHER: Ouro Fino, *Forzza* 114 (SPF).
- Dyckia macedoi** L.B.Sm., Arq. Bot. Estado São Paulo 2: 195. 1952. TYPE: Brazil—Minas Gerais, serra do Cipó, *A. Macedo* 2974 (Holotype: US!).  
DISTRIBUTION: Rocky fields; 800–1100 m; saxicolous, terrestrial. E8iv; F8v, ix, xi, xviii. Endemic.  
BLOOMING: October to April. Fruit from August to October.  
VOUCHER: Santana do Riacho, *Arrais CFSC* 9170 (RB, SPF).
- Dyckia macropoda** L.B.Sm., Phytologia 14: 485. 1967. TYPE: Brazil—Minas Gerais, Diamantina, rio das Pedras, *E. Pereira* 1622 in part (Holotype: RB!, Isotype: US!).  
DISTRIBUTION: Rocky fields; ca. 1100 m; terrestrial. E8iv. Endemic.  
BLOOMING: May to June.  
NOTE: Only known from the type collection.
- Dyckia marnier-lapostollei** L.B.Sm., Bull. Bromeliad Soc. 16: 102. 1966. TYPE: Brazil—Minas Gerais?, *Marnier-Lapostolle s.n.* (Holotype: US!).  
DISTRIBUTION: Savanna; 965 m; saxicolous. E4. GO, MG.  
BLOOMING: Unknown.  
VOUCHER: Patrocínio, *Irwin* 25819 (US).
- Dyckia mello-barretoii** L.B.Sm., Phytologia 7: 109. 1960. TYPE: Brazil—Minas Gerais, estrada de Conceição do Mato Dentro, ponte Santo Antônio, *H.L. Mello-Barreto* 2122 (Holotype: BHCb!, Isotype: US!).  
DISTRIBUTION: Rocky fields; 800–1300 m; saxicolous, terrestrial. E7v; F8v, xviii. Endemic.  
BLOOMING: August to February.  
VOUCHER: Conceição do Mato Dentro, *Mello-Barreto* 2122 (BHCb, US).
- Dyckia minarum** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 483. 1894. TYPE: Brazil—Minas Gerais, Caldas, *Regnell II-283*. (Lectotype: S, Isolectotypes: NY!, R!, US!).  
DISTRIBUTION: Rocky fields, savanna; 630–1400 m; saxicolous, terrestrial. E4; E7ii, iii, vi; E8iv, v; F4ii, iv, v; F8iii, iv; G5v; G7iii; G8viii; H5i, iii; H6iv; H7v. GO, MG, SC, SP.  
BLOOMING: Peaking October to November.  
VOUCHER: Iraí de Minas, *Teixeira s.n.* (BHCb 27780).
- Dyckia monticola** L.B.Sm. & Reitz, Sellowia 14: 104. 1962. TYPE: Brazil—Santa Catarina, Campo Alegre, morro do Iquererim, *R. Reitz* 4789 (Holotype: US!, Isotype: HBR).  
DISTRIBUTION: Savanna; ca. 1250 m; saxicolous. MG, SC.  
BLOOMING: June.  
VOUCHER: São Tomé das Letras, *Pabst* 4258 (HB).
- Dyckia orobanchoides** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 475. 1894. TYPE: Brazil—Minas Gerais, *Tamberlick s.n.* (Lectotype: B!).  
DISTRIBUTION: Habitat, elevation, and habit unknown. Endemic.  
BLOOMING: Unknown.  
NOTE: Only known from a fragmented isotype collection.
- Dyckia pectinata** L.B.Sm. & Reitz, Phytologia 14: 486. 1967. TYPE: Brazil—Minas Gerais, between Conceição do Rio Verde e Cambuquira, *G.F.J. Pabst* 4129. (Holotype: HBR!, Isotype: US!).  
DISTRIBUTION: Savanna; 850–950 m; saxicolous. H6i, ii. Endemic.  
BLOOMING: June, February.  
VOUCHER: Cambuquira, *Davidae* 10658a (SP, US).

- Dyckia princeps** Lem., Jard. Fleur. 3: t. 224, 225. 1853. TYPE: Original description and plate.  
DISTRIBUTION: Habitat, elevation, and habit unknown. Endemic.  
BLOOMING: Unknown.  
VOUCHER: Rio Preto, *Grandi* 2682 (BHCB). "cf."
- Dyckia rariflora** Schult. & Schult. f. in Roem. & Schult., Syst. Veg. 7(2): 1195. 1830. TYPE: Brazil—Minas Gerais, Ouro Preto, *Martius s.n.* (Holotype: M).  
DISTRIBUTION: Rocky fields, savanna; 800–1200 m; saxicolous, terrestrial. E8iv; F8iii, xviii, G8vii. Endemic.  
VOUCHER: Itabirito, *Teixeira s.n.* (BHCB 26146).
- Dyckia remotiflora** Otto & A. Dietr., Allg. Gartenzeitug 1: 129. 1833. TYPE: Brazil—*Sellow s.n. in Berlin Hortus* (Holotype: B!, Isotype: K).  
DISTRIBUTION: Rocky fields, savanna; 540–1400 m; saxicolous, terrestrial. E2ii, G5iv, G7iii. MG, PR, RS, SP.  
BLOOMING: July to October.  
VOUCHER: Brumadinho, *Martsen* 104 (BHCB).
- Dyckia saxatilis** Mez in C. DC., Monogr. phan. 9: 518. 1896. Synonyms: *Dyckia hilaireana* Mez in C. DC., Monogr. phan. 9: 530. 1896. *Dyckia oligantha* L.B.Sm., Arq. Jard. Bot. Rio de Janeiro. 15: 329. 1958. *Dyckia oligantha* var. *crystallina* Rauh, Trop. Subtrop. Pflanzenwelt 65: 17. 1988. TYPE: Brazil—Minas Gerais, Ouro Preto, serra de Cachoeira do Campo, *W. Schwacke* 8948 (Holotype: B!).  
DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 330–1500 m; saxicolous, terrestrial. D10; D7iii; D8ii; E7vi; E8i, iv, v, vi, xi; F7iii, iv; F8iii, iv, v, ix, xiv, xviii; G7iii; G8ii, x; H7xii. BA, MG, MT, GO.  
BLOOMING: October to January.  
VOUCHER: Santana do Riacho, *Duarte* 2674 (RB, US).
- Dyckia schwackeana** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 478. 1894. TYPE: Brazil—Minas Gerais, Itabira, pico de Itabira do Campo, *W. Schwacke* 5857 (Holotype: B, Isotype: P!).  
DISTRIBUTION: Rocky fields, 1100–1500 m, saxicolous. F8iii, vii, xiv. Endemic.  
BLOOMING: July to December.  
VOUCHER: Nova Lima, *Tameirão-Neto* 3399 (BHCB).
- Dyckia simulans** L.B.Sm., Arq. Bot. Estado São Paulo 1: 108. 1943. TYPE: Brazil—Minas Gerais, Caeté, serra da Piedade, *M.B. Foster* 570 (Holotype: GH, Isotype: SP!).  
DISTRIBUTION: Rocky fields; 1100–1650 m; saxicolous, terrestrial. F8iv, G7v, G8xii. Endemic.  
BLOOMING: November to May.  
VOUCHER: Moeda, *Grandi s.n.* (BHCB 192).
- Dyckia sordida** Baker, Handb. Bromel. 132. 1889. Synonym: *Dyckia duarteana* L.B. Sm., Phytologia 14: 480. 1967. TYPE: Brazil—Minas Gerais, *Saint-Hilaire* 402 (Holotype: P!).  
DISTRIBUTION: Rocky fields; 1050–2200 m; saxicolous, terrestrial. E8ix; F8v, ix, xvi, xviii; G8ii, viii. Endemic.  
BLOOMING: Peaking October to February.  
VOUCHER: Santana do Riacho, *Duarte* 2106 (RB, US).
- Dyckia sp. 1.**  
DISTRIBUTION: Rocky fields; 800–1300 m; saxicolous, terrestrial. F8ii, xvi; G8ii, viii, x. Endemic.  
BLOOMING: Peaking September. Fruit collected all year long.  
VOUCHER: Barão de Cocais, *Marques-Leitão s.n.* (BHCB 45741, SPF).
- Dyckia sp. 2.**  
DISTRIBUTION: Rocky fields; ca. 1400–2250 m; saxicolous. E8vii, ix. Endemic.  
BLOOMING: August to February.  
VOUCHER: Rio Vermelho, *Fiaschi* 418 (SPF).
- Dyckia sp. 3.**  
DISTRIBUTION: Rocky fields; ca. 720 m; saxicolous, terrestrial. H8x. Endemic.  
BLOOMING: August and October.  
VOUCHER: Lima Duarte, *Sousa s.n.* (BHCB 13728).
- Dyckia sp. 4.**  
DISTRIBUTION: Rocky fields; 1100 m; terrestrial. E8iv. Endemic.  
BLOOMING: November.  
VOUCHER: Diamantina, *Stehmann s.n.* (BHCB 20778).
- Dyckia sp. 5.**  
DISTRIBUTION: Rocky fields; > 1000 m?; saxicolous, terrestrial. G8ix. Endemic.  
BLOOMING: March to April.  
VOUCHER: Ouro Branco, *Paula s.n.* (VIC 27394).  
NOTE: This taxon has often been identified as

*Dyckia tenebrosa*, but appears to be a microendemic undescribed species of the Ouro Branco mountain range.

***Dyckia spinulosa*** L.B.Sm. & Reitz, *Phytologia* 14: 486. 1967. TYPE: Brazil—Minas Gerais, Várzea da Palma, fazenda Mãe d'Água, A.P. Duarte 7409 (Holotype: HBR!, Isotypes: RB!, US!).

DISTRIBUTION: Savanna; ca. 515 m; saxicolous. D7vi. Endemic.

BLOOMING: November.

NOTE: Only known from the type collection.

***Dyckia tenebrosa*** Leme & H.Luther, *Selbyana* 19(2): 183. 1999. TYPE: Brazil—Minas Gerais, estrada de Tombador para Andrequicé, serra de Andrequicé, E.M.C. Leme 2895 (Holotype: HB!). Próximo à Diamantina, H.E.Luther s.n. fl. cult. (Paratype: SEL 76701!).

DISTRIBUTION: Rocky fields; 1000–1300 m; terrestrial. E8iv. Endemic.

BLOOMING: January.

NOTE: Only known from the type collections.

***Dyckia trichostachya*** Baker, *Handb. Bromel.* 133. 1889. TYPE: Brazil—Minas Gerais, *Sellow Brom. Paris* 59. (Holotype: P!).

DISTRIBUTION: Rocky fields; 900–1850 m; saxicolous, terrestrial. F8xvi, G7iii, G8x. Endemic.

BLOOMING: February to June. Fruit from May to September.

VOUCHER: Santa Bárbara, *Kawasaki* 988 (SPF).

***Dyckia tuberosa*** (Vell.) Beer, *Fam. Bromel.* 157. 1857.—*Tillandsia tuberosa* Vell., *Fl. Flum.* 135. 1825. TYPE: Original illustration of Vellozo, *Icon. 3. t.* 136. 1835. (Smith & Downs 1974).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 330–1300 m; terrestrial. D10, G5iii, H7xii. MG, PR, SC, SP.

BLOOMING: June to November.

VOUCHER: Carmo do Rio Claro, *Mello-Filho* 628 (R).

***Dyckia ursina*** L.B.Sm., *Arq. Bot. Estado São Paulo* 1: 109. 1943. TYPE: Brazil—Minas Gerais, Jaboticatubas, serra do Cipó, M.B. Foster 636 (Holotype: GH, Isotype: SP!).

DISTRIBUTION: Rocky fields; 800–1300 m; saxicolous, terrestrial. F8ix, xviii. Endemic.

BLOOMING: April to July. Fruit from September to March.

VOUCHER: Santana do Riacho, *Mello-Silva* 1086 (SPF).

***Dyckia warmingii*** Mez in Mart., Eichler & Urban, *Fl. Bras. (Martius)* 3(3): 481. 1894. TYPE: Brazil—Minas Gerais, Lagoa Santa, *Warming s.n.* (Holotype: C).

DISTRIBUTION: Savanna; ca. 760 m; terrestrial. F8xi. Endemic.

BLOOMING: Unknown. Fruit in November.

VOUCHER: Lagoa Santa, *Hoehne* 6363 (R). “cf.”

***Dyckia weddelliana*** Baker, *Handb. Bromel.* 132. 1889. TYPE: Brazil—*Weddell* 2584 (Holotype: P!).

DISTRIBUTION: Savanna; 540–1600 m; saxicolous. E2ii. Endemic.

BLOOMING: January to June. Fruit in July.

VOUCHER: Ituiutaba, *Macedo* 1673 (SPF, US).

NOTE: This name has been applied erroneously to specimens of *Dyckia cinerea*.

***Edmundoa lindenii*** var. *rosea* (E.Morren) Leme, *Canistrum Bromel. Mata Atl.* 50. 1997.—*Canistrum roseum* E.Morren, *Belgique Hort.* 29: 301. 1879. Synonyms: *Canistrum blockii* hortus ex Chevalier, *Bull. Mens. Soc. Nat. Hort. France* 4: 692. 1931. *Canistrum lindenii* var. *roseum* (E.Morren) L.B.Sm., *Anais Bot. Herb. “Barbosa Rodrigues”* 2: 14. 1950. *Canistrum lindenii* var. *roseum* f. *exiguum* Reitz, *Anais Bot. Herb. “Barbosa Rodrigues”* 2: 38. 1950. *Canistrum lindenii* var. *roseum* f. *humile* Reitz, *Anais Bot. Herb. “Barbosa Rodrigues”* 4: 19. 1952. *Canistrum lindenii* var. *roseum* f. *procerum* Reitz, *Anais Bot. Herb. “Barbosa Rodrigues”* 4: 19. 1952. TYPE: *Comte de Germiny s.n.* (Lectotype: LG).

DISTRIBUTION: Atlantic Forest; ca. 1200 m; saxicolous. G9vii. ES, MG, PR, RJ, RS, SC, SP.

BLOOMING: March.

VOUCHER: Fervedouro, *Paula* 1023 (VIC).

***Encholirium belemii*** L.B.Sm. & Read, *Bradea* 5(27): 229. 1989. TYPE: Brazil—Minas Gerais, próximo à BR 4, R.P. Belém 3797 (Holotype: US!, Isotype: NY!).

DISTRIBUTION: Atlantic Forest; elevation unknown; saxicolous, D10?. Endemic.

BLOOMING: June.

NOTE: Doubtful species only known from the type collection.

***Encholirium biflorum*** (Mez) Forzza, *Bol. Bot. Univ. São Paulo* 23(1): 16. 2005.—*Dyckia biflora* Mez in Mart., Eichler & Urban, *Fl. Bras. (Martius)* 3(3): 486. 1894. TYPE: Brazil—Minas Gerais, without locality, *Glaziou* 19919 (Holotype: B!).

DISTRIBUTION: Rocky fields; ca. 1100 m; saxicolous, terrestrial. E8iv. Endemic.

BLOOMING: October to January. Fruit in January.

VOUCHER: Diamantina, *Forzza 1466* (BHCB, MBM, SPF).

**Encholirium bradeanum** L.B.Sm., Smithsonian. Misc. Collect. 126: 26. 1955. TYPE: Brazil—Minas Gerais, região de Diamantina, *L.B. Smith 5652* fl. cult. (Holotype: US!, Isotype: RB not found).

DISTRIBUTION: Habitat, elevation, and habit unknown. E8iv. Endemic.

BLOOMING: Unknown.

NOTE: Only known from the type collection.

**Encholirium gracile** L.B.Sm., Phytologia 16(2): 69. 1968. TYPE: Brazil—Minas Gerais, rodovia Nanuque—Teófilo Otoni, *R.P. Belém 1620* (Holotype: US!, Isotypes: CE-PEC, NY!, UB).

DISTRIBUTION: Atlantic Forest; saxicolous. ES, MG.

BLOOMING: July to August.

NOTE: It is only known for MG from the type collection.

**Encholirium heloisae** (L.B.Sm.) Forzza & Wand., Bol. Bot. Univ. São Paulo 17: 264. 1998.—*Dyckia heloisae* L.B.Sm., Smithsonian. Misc. Collect. 126: 26. 1955. Synonym: *Encholirium sazimae* Rauh, Trop. Subtrop. Pflanzenwelt 60: 99. 1987. TYPE: Brazil—Minas Gerais, Jaboticatubas, serra do Cipó, *L.B. Smith 6698*. (Holotype: US!, Isotypes: R!, NY!).

DISTRIBUTION: Rocky fields; 1000–1300 m; saxicolous, terrestrial. F8ix, xviii. Endemic.

BLOOMING: January to February.

VOUCHER: Jaboticatubas, *Hatschbach 28785* (HB, MBM, US).

**Encholirium horridum** L.B.Sm., Contr. Gray Herb. 129: 32. 1940. TYPE: Brazil—Espírito Santo, *M.B. Foster 193* (Holotype: GH).

DISTRIBUTION: Atlantic Forest; ca. 160 m; saxicolous. D11i. ES, MG, RJ?.

BLOOMING: July.

VOUCHER: Carlos Chagas, *Forzza 923* (BHCB, SPF).

**Encholirium irwinii** L.B.Sm., Phytologia 19: 284. 1970. TYPE: Brazil—Minas Gerais, ca. 10 km oeste de Grão Mogol, rio Itacambiruçu, *H.S. Irwin 23573* (Holotype: US!, Isotype: NY!).

DISTRIBUTION: Rocky fields; 650–900 m; saxicolous. C9ii. Endemic.

BLOOMING: September to February. Fruit from November to May.

VOUCHER: Grão-Mogol, *Pirani CFCR 13263* (MBM, SPF).

**Encholirium longiflorum** Leme, Selbyana 16(1): 110. 1995. TYPE: Brazil—Minas Gerais, Jaíba, serra Azul, *M.C.B. Teixeira 380* (Holotype: MBM!, Isotype: HB!, HXBH?).

DISTRIBUTION: Caatinga, savanna; 450–500 m; saxicolous. B7ii, B8i. BA, MG.

BLOOMING: October. Fruit in February.

VOUCHER: Varzelândia, *Silva 1076* (R).

**Encholirium luxor** L.B.Sm. & Read, Bradea 5(27): 299. 1989. Synonym: *Encholirium piresianum* L.B.Sm. & Read, Bradea 5(27): 301. 1989. TYPE: Brazil—Minas Gerais, 15 km oeste de Januária, estrada para serra das Araras, *W.R. Anderson 9259* (Holotype: US!, Isotypes: HB!, IAN, MO, NY!).

DISTRIBUTION: Caatinga, savanna; 500–700 m; saxicolous. B7i, D8i, E7vii. DF, GO, MG.

BLOOMING: May to August.

VOUCHER: Santo Hipólito, *Forzza 940* (BHCB, SPF).

**Encholirium magalhaesii** L.B.Sm., Phytologia 13: 152. 1966. Synonyms: *Encholirium suzannae* Rauh, Trop. Subtrop. Pflanzenwelt 65: 19. 1988. *Encholirium crassiscapum* E. Gross, Trop. Subtrop. Pflanzenwelt 95: 7. 1997. TYPE: Brazil—Minas Gerais, Diamantina, *G.M. Magalhães 18056* (Holotype: IAN, Isotype: US!).

DISTRIBUTION: Rocky fields; 700–1400 m; saxicolous, terrestrial. C8i, C9i, E8ii, iii, iv, v, x. Endemic.

BLOOMING: December to March. Fruit from January to March.

VOUCHER: Diamantina, *Forzza 1509* (MBM, SPF).

NOTE: Highly variable in size.

**Encholirium pedicellatum** (Mez) Rauh, Trop. Subtrop. Pflanzenwelt 60: 15. 1987.—*Dyckia pedicellata* Mez in C. DC., Monograph. phan. 9: 515. 1896. TYPE: Brazil—Minas Gerais, Diamantina, serra dos Cristais, *W. Schwacke 8413* (Lectotype: B!, Isolectotype: RB!).

DISTRIBUTION: Rocky fields; ca. 1100 m; terrestrial. E8iv. Endemic.

BLOOMING: November to February. Fruit in March.

VOUCHER: Diamantina, *Forzza 1504* (SPF).

**Encholirium reflexum** Forzza & Wand., Novon 11: 40. 2001. TYPE: Brazil—Minas Gerais,

- Rio Pardo de Minas, serra do Deus-Me-Livre, R.C. Forzza 800. (Holotype: SPF, Isotypes: BHCb!, US!).
- DISTRIBUTION: Rocky fields; 800–1200 m; saxicolous. B9iv, C8i, E8iv. Endemic.
- BLOOMING: May. Fruit from December to February.
- VOUCHER: Diamantina, *Arbo 5145* (SPF, US).
- Encholirium scrutor** (L.B.Sm.) Rauh., Trop. Subtrop. Pflanzenwelt 60: 94. 1987.—*Dyckia scrutor* L.B.Sm., J. Bromeliad Soc. 37: 151. 1987. Synonym: *Encholirium carminiviridiflorum* Rauh, Trop. Subtrop. Pflanzenwelt 60: 9. 1987. *Encholirium inerme* Rauh, Trop. Subtrop. Pflanzenwelt 60: 11. 1987. TYPE: Brazil—Minas Gerais, Datas, *I. Cordeiro CFCR 4048*. (Holotype: SPF, Isotypes: RB!, U!).
- DISTRIBUTION: Rocky fields; 1000–1300 m; saxicolous, terrestrial. E8iii, iv, xi; F8xviii. Endemic.
- BLOOMING: Peaking February.
- VOUCHER: Serro, *Salino 5084* (BHCb).
- Encholirium subsecundum** (Baker) Mez in C. DC., Monogr. phan. 9: 540. 1896.—*Dyckia subsecunda* Baker, Handb. Bromel. 135. 1889. Synonym: *Encholirium glaziovii* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 505. 1894. TYPE: Brazil—Minas Gerais, Serro, Milho Verde, *Saint-Hilaire E-496* (Holotype: P!).
- DISTRIBUTION: Rocky fields, savanna; 550–1400 m; saxicolous, terrestrial. D7i, iii, iv; D8ii; E8i, iii, iv, vi, vii, ix, xi; F8v, ix, xviii. Endemic.
- BLOOMING: December to March. Fruit throughout the year.
- VOUCHER: Congonhas do Norte, *Forzza 700* (BHCb, SPF).
- Encholirium vogelii** Rauh, Trop. Subtrop. Pflanzenwelt 60: 95. 1987. TYPE: Brazil—Minas Gerais, Santana do Riacho, serra do Cipó, km 132, *S. Vogel 209*. (Holotype: HEID, Isotype: UEC).
- DISTRIBUTION: Rocky fields; 1100–1480 m; saxicolous, terrestrial. F8xviii. Endemic.
- BLOOMING: October to March. Fruit in May.
- VOUCHER: Santana do Riacho, *Pereira 1051* (BHCb).
- Fernseea itatiaiae** (Wawra) Baker, Handb. Bromel. 20. 1889.—*Bromelia itatiaiae* Wawra, Oesterr. Bot. Z. 30: 114. 1880. TYPE: Brazil—Rio de Janeiro, pico de Itatiaia, *Wawra II-442*. (Holotype: W lost).
- DISTRIBUTION: High altitude grassland; 1900–2400 m; saxicolous. I7ii. **MG, RJ, SP**.
- BLOOMING: May to September.
- VOUCHER: Itamonte, *Pereira 5781* (HB, RB).
- Hohenbergia augusta** (Vell.) E.Morren, Catal. 9. 1873. LECTOYPE: Illustration of Vellozo, Icon. 3, t. 135. 1831 (Smith & Downs 1979).
- DISTRIBUTION: Atlantic Forest; ca. 330 m; saxicolous. D10. **ES, MG, PR, RJ, SC, SP**.
- BLOOMING: December.
- VOUCHER: Teófilo Otoni, *Matos 10959* (SP).
- Hohenbergia catingae** Ule, Bot. Jahrb. Syst. 42: 195. 1908. TYPE: Brazil—Bahia, Calderão, *E. Ule 7042* (Holotype: B).
- DISTRIBUTION: Atlantic Forest; 550–780 m; epiphytic, saxicolous, terrestrial. C10ii. **BA, MG**.
- BLOOMING: August to September.
- VOUCHER: Itaobim, *Martinelli 9227* (RB).
- Hohenbergia pabstii** L.B.Sm. & Read, Phytologia. 33: 439. 1976. TYPE: Brazil—Bahia, a 16 km de Santa Cruz da Vitória, *A. Castellanos 27049* (Holotype: HB!).
- DISTRIBUTION: Atlantic Forest; ca. 330 m; epiphytic. D10. **BA, MG**.
- BLOOMING: January.
- VOUCHER: Teófilo Otoni, *Baker 7313* (HB).
- Hohenbergia ramageana** Mez in C. DC., Monogr. phan. 9: 127. 1896. TYPE: Brazil—Pernambuco, Recife, Dois Irmãos, *Ridley s.n.* (Holotype: BM).
- DISTRIBUTION: Caatinga, Atlantic Forest; 610–770 m; epiphytic, saxicolous. C10vi, C11ii. **BA, MG, PB, PE, RN, SP**.
- BLOOMING: August to September.
- VOUCHER: Santa Maria do Salto, *Lombardi 5507* (BHCb).
- Neoglaziovia variegata** (Arruda) Mez, in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 427. 1894.—*Bromelia variegata* Arruda, Diss. pl. brazil. 7. 1810. TYPE: Original description and plate.
- DISTRIBUTION: Caatinga; 270–755 m; terrestrial. A8i, B7i, B8i, B9iv, C10ii, iii. **BA, CE, MG, PB, PI, RN, SP**.
- BLOOMING: September to November. Fruit from November to February.
- VOUCHER: Manga, *Costa s.n.* (BHCb 21736, US).
- Neoregelia bahiana** (Ule) L.B.Sm., Proc. Amer. Acad. Arts 70: 152. 1935.—*Nidularium bahianum* Ule, Bot. Jahrb. Syst. 42: 195. 1908. Synonyms: *Neoregelia bahiana* forma *viridis* L.B.Sm., Smithsonian. Misc.

- Collect. 126: 27. 1955. *Neoregelia bahiana* forma *bahiana* (Ule) L.B.Sm., Phytologia 15: 190. 1967. *Neoregelia hatschbachii* L.B.Sm., Phytologia 24: 447. 1972. *Neoregelia pabstiana* E.Pereira, Bradea 1(18): 162. 1972. *Neoregelia diamantinensis* E.Pereira, Bradea 2(7): 25. 1975. *Neoregelia intermedia* E.Pereira, Bradea 2(7): 29. 1975. TYPE: Brazil—Bahia, *E. Ule 7105* (Holotype: B).
- DISTRIBUTION: Rocky fields; 1100–1700 m; saxicolous, terrestrial. C9ii; D7iii; E8iii, iv, ix, xi; F8ii, iii, iv, ix, xviii; G8ii, x. **BA, MG.**
- BLOOMING: October to December. Fruit from January to April.
- VOUCHER: Serro, *Mota 1849* (BHCB).
- Neoregelia brigadeirensis** Paula & Leme, Pabstia 8(1): 2. 1997. TYPE: Brazil—Minas Gerais, Araponga, Parque Estadual da Serra do Brigadeiro, *E.M.C. Leme 3567* fl. cult. (Holotype: VIC!, Isotype: HB, GFJP).
- DISTRIBUTION: Atlantic Forest; 1200–1500 m; saxicolous, terrestrial. G9iii. Endemic.
- BLOOMING: September to February.
- VOUCHER: Araponga, *Paula 1268* (VIC).
- Neoregelia brownii** Leme, Pabstia 8(1): 3. 1997. TYPE: Brazil—Minas Gerais, Fervedouro, Parque Estadual da Serra do Brigadeiro, Pedra do Pato, *E.M.C. Leme 2174* (Holotype: GFJP, Isotype: HB!).
- DISTRIBUTION: Atlantic Forest; 1140–1800 m; epiphytic, saxicolous. G9iii, iv. Endemic.
- BLOOMING: February to May.
- VOUCHER: Araponga, *Goldschmidt 37* (VIC).
- Neoregelia chlorosticta** (Baker) L.B.Sm., Phytologia 10: 486. 1964.—*Karatas chlorosticta* Baker, Hand. Bromel. 7. 1889. TYPE: Edouard Morren's icon (Lectotype: K) (Smith & Downs 1979).
- DISTRIBUTION: Atlantic Forest; ca. 800 m; epiphytic. G9vii. MG, PR, RJ, SP.
- BLOOMING: Unknown.
- VOUCHER: Fervedouro, *Leme 1945* fl. cult. (HB).
- Neoregelia cyanea** (Beer) L.B.Sm., Contr. Gray Herb. 124: 9. 1939.—*Hoplophytum cyaneum* Beer, Fam. Bromel. 131. 1857. TYPE: *Berlin Hortus s.n.* (Holotype: B!).
- DISTRIBUTION: Atlantic Forest; ca. 400 m; epiphytic. F9iv, H8xv. Endemic.
- BLOOMING: July to October.
- VOUCHER: Coronel Fabriciano, *Foster 732* (US).
- Neoregelia farinosa** (Ule) L.B.Sm., Contr. Gray Herb. 124: 9. 1939. TYPE: Brazil—Rio de Janeiro, serra de Macaé, *E. Ule 4961* (Holotype: B).
- DISTRIBUTION: Atlantic Forest, ca. 340 m, epiphytic. H9ii. **ES, MG, RJ.**
- BLOOMING: November.
- VOUCHER: Descoberto, *Almeida 22* (CESJ).
- Neoregelia ibitipocensis** (Leme) Leme, Canistropsis Bromel. Mata Atl. 67. 1998.—*Witrockia ibitipocensis* Leme, Bradea 5(42): 393. 1991. TYPE: Brazil—Minas Gerais, Lima Duarte, Parque Estadual do Ibitipoca, *E.M.C. Leme 1485* (Holotype: HB!).
- DISTRIBUTION: Atlantic Forest, 1500–1600 m, epiphytic, saxicolous, terrestrial. H8x. MG, RJ.
- BLOOMING: September to December.
- VOUCHER: Lima Duarte, *Leme 1790* (HB).
- Neoregelia leprosa** L.B.Sm., Smithsonian Misc. Collect. 126: 29. 1955. TYPE: Brazil—Minas Gerais, Conceição do Mato Dentro, *M.B. Foster 656* (Holotype: GH, Isotype: US!).
- DISTRIBUTION: Habitat, elevation, and habit unknown. F8v. Endemic.
- BLOOMING: July.
- NOTE: Only known from the type collection.
- Neoregelia lymaniana** R.Braga & Sucre, Rev. Brazil. Bio. 34(4): 491. 1974. TYPE: Brazil—Rio de Janeiro, Itaipava-Petrópolis, *R. Braga 32* fl. cult. (Holotype: RB).
- DISTRIBUTION: Atlantic Forest; 700–1500 m; epiphytic, terrestrial, saxicolous. G9iii, vii; H8x. **MG, RJ.**
- BLOOMING: October, March.
- VOUCHER: Fervedouro, *Leme 2167* fl. cult. (HB, SEL).
- Neoregelia oligantha** L.B.Sm., Smithsonian Misc. Collect. 126: 30. 1955. TYPE: Brazil—Minas Gerais, Parque Nacional, próximo à Ipatinga, *M.B. Foster 742* (Holotype: GH, Isotype: US!).
- DISTRIBUTION: Atlantic Forest; ca. 240 m; epiphytic?. F9vi?. Endemic.
- BLOOMING: July.
- NOTE: Only known from the type collection.
- Neoregelia sarmentosa** (Regel) L.B.Sm., Contr. Gray Herb. 104: 79. 1934.—*Nidularium sarmentosum* Regel, Gartenflora 19: 268. 1870. TYPE: Brazil—*Petrograd Hortus ex Berlin Hortus s.n.* (Holotype: LE).
- DISTRIBUTION: Atlantic Forest; 140–1600 m; epiphytic. H8v, x, xvi; H9i; I7v. **ES, MG, RJ, SP.**



- BLOOMING: Peaking November to December.  
VOUCHER: Rio Novo, *Schwacke 11966* (RB).
- Neoregelia simulans** L.B.Sm., *Phytologia* 15: 187. 1967. TYPE: Brazil—Espírito Santo, entre Castelo e Fruteira, Morro Pinga-Fogo, A. Seidel 62–8. (Holotype: HBR).
- DISTRIBUTION: Atlantic Forest; 1000–1500 m; epiphytic, saxicolous, terrestrial. G9vii. ES, MG.  
BLOOMING: February to April.  
VOUCHER: Fervedouro, *Paula 1033* (VIC).
- Nidularium antoineanum** Wawra, *Oesterr. Bot. Z.* 30(4): 113. 1880. Synonyms: *Nidularium antoineanum* var. *angustifolium* Wawra, *Oesterr. Bot. Z.* 30(4): 113. 1880. *Nidularium pedicellatum* E.Pereira & Leme, *Bradea* 4(11): 70. 1984. LECTOTYPE: Plate 35-C, Wawra, Itin. princ. S. Coburgi. 1883, selected by Leme (2000).
- DISTRIBUTION: Atlantic Forest; 1200–1600 m; epiphytic, saxicolous. G9iii, iv, vii. MG, **RJ, SP**.  
BLOOMING: January to April.  
VOUCHER: Fervedouro, *Paula 1034* (VIC).
- Nidularium azureum** (L.B.Sm.) Leme, *Nidularium Bromel. Mata Atl.* 94. 2000.—*Witrockia azurea* L.B.Sm., *Smithsonian Misc. Collect.* 126: 36. 1955. TYPE: Brazil—Minas Gerais, Coronel Pacheco, fazenda da Companhia, *E.P. Heringer 1536* (Holotype: SP!, Isotype: US!).
- DISTRIBUTION: Atlantic Forest; ca. 480 m; epiphytic. H8vi. Endemic.  
BLOOMING: July to August.  
VOUCHER: Coronel Pacheco, *Pereira 10596* (HB).
- Nidularium bicolor** (E.Pereira) Leme, *Nidularium Bromel. Mata Atl.* 49. 2000.—*Nidularium innocentii* var. *bicolor* E.Pereira, *Bradea* 1(29): 316. 1973. TYPE: Brazil—Espírito Santo, Castelo, Pedra Azul, A. Seidel 644 (Holotype: HB).
- DISTRIBUTION: Atlantic Forest; 1100–2030 m; epiphytic, terrestrial. F8xvi, G8ii. ES, **MG, RJ**.  
BLOOMING: Peaking November to February.  
VOUCHER: Catas Altas, *Vasconcelos s.n.* (BHCb 52544, CESJ).  
NOTE: This species can appear identified erroneously as *Nidularium rosulatum* Ule.
- Nidularium ferdinando-coburgii** Wawra, *Oesterr. Bot. Z.* 30: 112. 1880. LECTOTYPE: Plate 36-C, Wawra, Itin. princ. S. Coburgi. 1883, selected by Leme (2000).
- DISTRIBUTION: Atlantic Forest; 610?–1000–1600 m; epiphytic. G10iv?, H8x. MG, **RJ**.  
BLOOMING: June to December.
- VOUCHER: Lima Duarte, *Leme 1466* (R).
- Nidularium linehamii** Leme, *J. Bromeliad Soc.* 43(5): 199. 1993. TYPE: Brazil—Minas Gerais, Santa Bárbara, serra do Caraça, *E.M.C. Leme 1540* (Holotype: HB!, “Clonotype”: RB!).
- DISTRIBUTION: Rocky fields; ca. 1100 m; saxicolous. F8xvi. Endemic.  
BLOOMING: January to February. Fruit in April (Leme 2000).  
NOTE: Only known from the type collection.
- Nidularium longiflorum** Ule, *Ber. Deutschsch. Bot. Ges.* 14: 408. 1896. TYPE: Brazil—Rio de Janeiro, Floresta da Tijuca, *E. Ule 4036* (Holotype: B, Isotype: R!).
- DISTRIBUTION: Atlantic Forest; ca. 400 m; epiphytic. G9xviii, H9ii. ES, MG, **RJ, SP**.  
BLOOMING: November to April.  
VOUCHER: Rosário da Limeira, *Palhais 150* (VIC).
- Nidularium marigoii** Leme, *J. Bromeliad Soc.* 41(3): 112. 1991. TYPE: Brazil—Rio de Janeiro, próximo à divisa com Minas Gerais, Parque Nacional do Itatiaia, *E.M.C. Leme 937* (Holotype: HB, Isotype: RB).
- DISTRIBUTION: Rocky fields, Atlantic Forest; 1100–2000 m; saxicolous, terrestrial. G8x, H7i, H8x, I7iii. ES, **MG, RJ, SP**.  
BLOOMING: December to March.  
VOUCHER: Ouro Preto, *Grandi 2366* (BHCb).
- Nidularium purpureum** Beer, *Fam. Bromel.* 75. 1856. TYPE: Neotypified by plate 25, Antoine *Phyto-Iconogr. Bromel.* 1884, designated by Leme (2000).
- DISTRIBUTION: Atlantic Forest; ca. 700; epiphytic, saxicolous, terrestrial. H8ix. MG, **RJ**.  
BLOOMING: January to April (Leme 2000).  
NOTE: Cited for Juiz de Fora municipality by Leme (2000: 123).
- Nidularium meeanum** Leme, *Wand. & Mollo, Fl. Fan. I. Cardoso* 3: 108. 1992. TYPE: Brazil—Rio de Janeiro, Parati, próximo à divisa com São Paulo, *E.M.C. Leme 751* fl. cult. (Holotype: HB, Isotype: RB).
- DISTRIBUTION: Atlantic Forest; ca. 1200 m; epiphytic. I7i. MG, **RJ, SP**.  
BLOOMING: November to March (Leme 2000).  
VOUCHER: Bocaina de Minas, *Leme. 1110* fl. cult. (HB).
- Nidularium rutilans** E.Morren, *Belgique Horticole.* 35: 81. 1885. TYPE: Edouard Morren’s icon (Lectotype: K), designated by Leme (2000).

DISTRIBUTION: Atlantic Forest; ca. 1300 m; epiphytic, terrestrial. G9iii, vii. MG, **RJ, SP**.

BLOOMING: November to January (Paula 1998).

VOUCHER: Fervedouro, *Paula 1037* (VIC).

**Orthophytum benzingii** Leme & H.Luther, J. Bromeliad Soc. 48(4): 150. 1998. TYPE: Brazil—Minas Gerais, Almenara, *E.M.C. Leme 3661* (Holotype: HB, Isotype: SEL!, "Clonotype": SEL!).

DISTRIBUTION: Atlantic Forest; 450 m; saxicolous. C11i. Endemic.

BLOOMING: December.

VOUCHER: Almenara, *Luther s.n.* (SEL 78705).

**Orthophytum compactum** L.B.Sm., Phytologia 13: 462. 1966. TYPE: Brazil—Minas Gerais, margem da rodovia Nanuque-Teófilo Otoni, *R.P. Belém 1626* (Holotype: US!, Isotype: CEPEC!, NY!, UB).

DISTRIBUTION: Rocky fields, Atlantic Forest; 820–1000 m; saxicolous, terrestrial. C9ii. Endemic.

BLOOMING: August to September. Fruit in May.

VOUCHER: Grão-Mogol, *Mello-Silva CFCR 10139* (MBM, SP, SPF).

**Orthophytum disjunctum** L.B.Sm. var. **disjunctum**, Bromeliad Soc. Bull. 12: 32. 1962. TYPE: Brazil—Paraíba, Queimadas, estrada de Campina Grande para Caruaru, *M.B. Foster 2419* (Holotype: US!).

DISTRIBUTION: Atlantic Forest; 590–650 m; saxicolous. C10v, vi. MG, PB, PE.

BLOOMING: January to March.

VOUCHER: Pedra Azul, *Duarte 10614* (HB).

**Orthophytum disjunctum** var. **angustobraceatum** Rauh, Trop. Subtrop. Pflanzenwelt 58: 56. 1986. TYPE: Brazil—Minas Gerais, Iacuariti, *W. Rauh 55328* (Holotype: HEID).

DISTRIBUTION: Habitat unknown; 500 m; saxicolous, terrestrial. Endemic.

BLOOMING: Unknown.

NOTE: Only known from the type collection. Cited for MG in the original description. Doubtful origin and doubtfully conspecific with type variety. Possibly collected in Bahia.

**Orthophytum disjunctum** var. **variegatum** Rauh, Trop. Subtrop. Pflanzenwelt 58: 58. 1986. TYPE: Brazil—Minas Gerais, Urundi, *W. Rauh 56432* (Holotype: HEID).

DISTRIBUTION: Habitat unknown; 800 m; saxicolous. Endemic.

BLOOMING: Unknown.

NOTE: Only known from the type collection. Cited for MG in the original description. Doubtful origin and doubtfully conspecific with type variety.

**Orthophytum disjunctum** var. **viridiflorum** Rauh, Trop. Subtrop. Pflanzenwelt 58: 60. 1986. TYPE: Brazil—Minas Gerais?, *Botanical Garden Heidelberg 33052* (Holotype: HEID).

DISTRIBUTION AND BLOOMING: Unknown.

NOTE: Only known from the type collection. Cited for MG in the original description. Doubtful origin and doubtfully conspecific with type variety. Possibly collected in Bahia.

**Orthophytum duartei** L.B.Sm., Phytologia 13: 462. 1966. TYPE: Brazil—entre o norte do Espírito Santo e Nanuque no Estado de Minas Gerais, *A.P. Duarte 3910* (Holotype: US!, Isotype: RB!).

DISTRIBUTION: Atlantic Forest; >330 m?; saxicolous. D11ii. **ES, MG**.

BLOOMING: December.

NOTE: Only known from the type collection.

**Orthophytum eddie-estevesii** Leme, J. Bromeliad Soc. 50(2): 55. 2000. TYPE: Brazil—Minas Gerais, Monte Azul, *E.M.C. Leme 4693* fl. cult. (Holotype: HB!, Isotype: UFG).

DISTRIBUTION: Rocky fields; ca. 1300 m; saxicolous. B9ii. Endemic.

BLOOMING: September?.

NOTE: Only known from the type collection.

**Orthophytum estevesii** (Rauh) Leme, J. Bromeliad Soc. 54(1): 37. 2004.—*Orthophytum fosterianum* var. *estevesii* Rauh, Trop. Subtrop. Pflanzenwelt 79: 27. 1991. TYPE: Brazil—Minas Gerais, entre Mantena e Palmeira, *E. Esteves Pereira s.n.* (Holotype: HB, "Clonotype": *E.M.C. Leme 1906* fl. cult. HB).

DISTRIBUTION: Atlantic Forest; elevation unknown; saxicolous. E10. **ES, MG**.

BLOOMING: April.

NOTE: Only known from the type collection. Cited for MG by Leme (2004).

**Orthophytum foliosum** L.B.Sm., Arq. Bot. Estado São Paulo 1: 58. 1941. TYPE: Brazil—Espírito Santo, Santa Tereza, *M.B. Foster 288* (Holotype: GH, Isotypes: R, US).

DISTRIBUTION: Atlantic Forest; ca. 360 m; saxicolous. E10. **ES, MG**.

BLOOMING: August.

VOUCHER: Itambacuri, *Magalhães 18001* (HB).

- Orthophytum glabrum** (Mez) Mez in C. DC., Monogr. phan. 9: 117. 1896.—*Prantleia glabra* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 258. 1891. TYPE: Brazil—Minas Gerais, fazenda Inhumas, São Miguel, *Pohl 3436* (Lectotype: BR, Isolectotype: W) designated by Smith & Downs (1979), also cf. Till (1994).  
BLOOMING: August.  
VOUCHER: Santo Antônio do Itambé, *Louzada 6* (SP).
- DISTRIBUTION: Caatinga, Atlantic Forest; 220–610 m; saxicolous. C10ii, iv, vi. Endemic.  
BLOOMING: December to January.  
VOUCHER: Itaobim, *Pereira 9810* (HB, RFA).
- Orthophytum grossiorum** Leme & Paula, *Vidalia* 1(1): 2. 2003. TYPE: Brazil—Minas Gerais, Teófilo Otoni, estrada Teófilo Otoni a Nanuque, Carlos Chagas, Caladão, *E.M.C. Leme 5584* (Holotype: HB, Isotype: VIC).  
DISTRIBUTION: Atlantic Forest; ca. 254 m; saxicolous. D10. Endemic.  
BLOOMING: September.  
NOTE: Only known from the type collection. Cited for MG in the original description.
- Orthophytum gurkenii** Hutchison, *Phytologia* 52: 373. 1983. TYPE: Brazil—Minas Gerais, Teófilo Otoni, próximo à cidade, *L.C. Gurken 1002* (Holotype: UC, Isotype: US!).  
DISTRIBUTION: Atlantic Forest; ca. 330 m; saxicolous. D10. Endemic.  
BLOOMING: November?.  
NOTE: Only known from the type collection.
- Orthophytum horridum** Leme, *J. Bromeliad Soc.* 54(1): 39. 2004. TYPE: Brazil—Minas Gerais, Pedra Azul, *E.M.C. Leme 2051* fl. cult. (Holotype: HB, Isotype: SEL).  
DISTRIBUTION: Atlantic Forest, caatinga; 700–1000 m; saxicolous. C10vi. Endemic.  
BLOOMING: October.  
VOUCHER: Pedra Azul, *Harley 25202* (RB).
- Orthophytum humile** L.B.Sm., *Phytologia* 16: 75. 1968. TYPE: Brazil—Minas Gerais, Grão Mogol, *B. Maguire 49288* (Holotype: US!, Isotype: NY!).  
DISTRIBUTION: Rocky fields; 900–1200 m; saxicolous. C9ii. Endemic.  
BLOOMING: August to February.  
VOUCHER: Grão-Mogol, *Semir CFCR 9659* (SPF).
- Orthophytum itambense** Versieux & Leme, Unpublished. TYPE: Brazil—Minas Gerais, Santo Antônio do Itambé, Parque Estadual do Pico do Itambé, *L.M. Versieux 149* (Holotype: HB, Isotypes: BHCB, RFA).  
DISTRIBUTION: Rocky fields; 850 m; saxicolous. E8ix. Endemic.
- Orthophytum leprosum** (Mez) Mez in C. DC., Monogr. phan. 9: 117. 1896. Emend. L.B.Sm., *Phytologia* 13: 153. 1966.—*Prantleia leprosa* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 259. 1891. TYPE: Brazil—Minas Gerais, cachoeira do Inferno, rio Jequitinhonha, *Pohl 5229* (Lectotype: W) designated by Smith (1955), also cf. Till (1994).  
DISTRIBUTION: Caatinga, Atlantic Forest; 250–720 m; saxicolous, terrestrial. C10i, ii, iii, vi; C11i; D11ii. BA, MG.  
BLOOMING: February to May.  
VOUCHER: Itinga, *Thomas 5975* (RB, SPF).
- Orthophytum lucidum** Leme & H.Luther, *Selbyana* 19(2): 189. 1999. TYPE: Brazil—Minas Gerais, estrada de Itaobim para Jequitinhonha, *E.M.C. Leme 3659* (Holotype: HB!, Isotype: SEL, “Clonotype”: *H.E. Luther s.n.* fl. cult. SEL 78849!).  
DISTRIBUTION: Caatinga, Atlantic Forest; 300 m; saxicolous. C10ii. Endemic.  
BLOOMING: December?.  
NOTE: Only known from the type collection.
- Orthophytum magalhaesii** L.B.Sm., *Phytologia* 13: 464. 1966. TYPE: Brazil—Minas Gerais, Itambacuri, Ouro Verde, *G.M. Magalhães 19187* (Holotype: RB, US photo!).  
DISTRIBUTION: Atlantic Forest; 330–620 m; saxicolous. C10vi, D10. Endemic.  
BLOOMING: April to July.  
VOUCHER: Teófilo Otoni, *Hatschbach 52276* (MBM).
- Orthophytum maracasense** L.B.Sm., *Smithsonian Misc. Collect.* 126: 33. 1955. TYPE: Brazil—Bahia, Maracás, *M.B. Foster 2471* (Holotype: US!).  
DISTRIBUTION: Atlantic Forest; 270–300 m; saxicolous. C10ii, iii. BA, MG.  
BLOOMING: February to March.  
VOUCHER: Itaobim, *Leme 3386* fl. cult. (HB).
- Orthophytum mello-barretoii** L.B.Sm., *Bol. Mus. Nac. Rio de Janeiro* 15: 2. 1952. TYPE: Brazil—Minas Gerais, Jaboticatubas, serra do Cipó, km 131, Palácio, *H.L. Mello Barreto 2121* (Holotype: R, Isotype: US!).  
DISTRIBUTION: Rocky fields; 950–1400 m; saxicolous, terrestrial. C9i, ii; E8iii, iv, v, vi, vii, xi; F8xvii, xviii. Endemic.  
BLOOMING: July to February with peak in September. Fruit January to May.

VOUCHER: Diamantina, *Nogueira s.n.* (BHCB 48597).

**Orthophytum supthutii** E.Gross & Barthlott, *Trop. Subtrop. Pflanzenwelt* 75: 46. 1990. Synonym: *Cryptanthus duartei* L.B.Sm., *Smithsonian Misc. Collect.* 126: 23. 1955. TYPE: Brazil—Minas Gerais, Serra do Cipó, 50 km ao norte do Chapéu do Sol, W. *Barthlott 10315* (Holotype: HB, Isotype: HEID).

DISTRIBUTION: Rocky fields, Atlantic Forest; 850–1100 m; saxicolous, terrestrial. F8v, xviii. Endemic.

BLOOMING: November.

VOUCHER: Conceição do Mato Dentro, *Hatschbach 35400* (MBM, US).

**Pepinia bradei** (Markgr.) G.S.Varad. & Gilmarin, *Syst. Bot.* 13: 297. 1988.—*Pitcairnia bradei*, *Notizbl. Bot. Gart. Berlin—Dahlen.* 15: 215. 1940. TYPE: Brazil—Minas Gerais, Montes Claros, córrego das Mortes, sul de Grão Mogol, *Markgraf 3918* (Holotype: B!, Isotype: RB).

DISTRIBUTION: Rocky fields, savanna; 700–1175 m; saxicolous, terrestrial. C9i, ii, E10. DF, MG.

BLOOMING: September to November. Fruit in May.

VOUCHER: Cristália, *Carvalho 576* (BHCB, US).

**Pitcairnia carinata** Mez in Mart., Eichler & Urban, *Fl. Bras. (Martius)* 3(3): 448. 1894. TYPE: Brazil—Rio de Janeiro, Nova Friburgo, *Glaziou 13256* (Holotype: B).

DISTRIBUTION: High altitude grassland, Atlantic Forest; 1040–1800 m; saxicolous. G9iii, vii, xviii, G10i. MG, RJ.

BLOOMING: Peaking January to March.

VOUCHER: Alto Caparaó, *Lutz 1194* (R).

**Pitcairnia curvidens** L.B.Sm. & Read, *Phytologia* 41(5): 331. 1979. TYPE: Brazil—Minas Gerais, Serra do Cipó, *H.S. Irwin 20338* (Holotype: UB).

DISTRIBUTION: Rocky fields, Atlantic Forest; 750–1500 m; saxicolous, terrestrial. E8i, ix; F8ix, xviii; H7i; H8x. Endemic.

BLOOMING: December to March. Fruit February.

VOUCHER: Santana do Riacho, *Coffani-Nunes CFSC 14003* (SPF).

**Pitcairnia decidua** L.B.Sm., Arq. Bot. Estado São Paulo 1: 110. 1943. TYPE: Brazil—Espírito Santo, Cuiubiçá, *M.B. Foster 893* (Holotype: GH).

DISTRIBUTION: High altitude grassland, Atlantic Forest; 1040–1800 m; saxicolous, terrestrial. G9iii, vii, xvii; G10i. ES, MG.

BLOOMING: February to June.

VOUCHER: Alto Caparaó, *Krieger 23559* (CESJ, RB, SPF).

**Pitcairnia flammea** Lindl. var. *flammea*, Bot. Reg. 13: t. 1092. 1827. TYPE: Brazil—Rio de Janeiro, Guanabara, *Harrison s.n.* (Holotype: CGE).

DISTRIBUTION: Rocky fields, Atlantic Forest; 340–1600 m; saxicolous, terrestrial. E8iv, xi, F8iv, v, x; G8ii, x; G9vii; H7xi; H8ix, x; H9ii; I6iii; I8. ES, MG, RJ, SP.

BLOOMING: Peaking January to April.

VOUCHER: Juiz de Fora, *Caiafa s.n.* (CESJ, SPF 148728).

**Pitcairnia flammea** var. *floccosa* L.B.Sm., Arq. Bot. Estado São Paulo 1: 112. 1943. TYPE: Brazil—São Paulo, Atibaia, *R. Ostermeyer s.n.* (Holotype: SP 24498!).

DISTRIBUTION: Rocky fields, Atlantic Forest; 460–1550 m; saxicolous. E8iv, ix; G8x; H8x?, xiii. BA, CE, MG, PB, PR, RJ, SC, SP.

BLOOMING: January to February.

VOUCHER: Piau, *Heringer 1732* (SP, US).

**Pitcairnia flammea** var. *glabrior* L.B.Sm., Arq. Bot. Estado São Paulo 1: 112. 1943. TYPE: Brazil—São Paulo, Alto da Serra, estrada do Vergueiro, *F.C. Hoehne s.n.* (Holotype: SP 4711!, Isotype: GH).

DISTRIBUTION: Rocky fields, Atlantic Forest; 1200–1300; saxicolous, terrestrial. D7iii, G8x, H8x. MG, PR, RJ, SP.

BLOOMING: September to March.

VOUCHER: Joaquim Felício, *Irwin 27096* (US, RB).

**Pitcairnia flammea** var. *macropoda* L.B.Sm. & Reitz, *Phytologia* 15: 194. 1967. TYPE: Brazil—Minas Gerais, Tombos, *G.M. Magalhães, s.n.* (Holotype: HB 33834!, Isotype: NY!).

DISTRIBUTION: Atlantic Forest, >270 m?; saxicolous. G9xvii. ES, MG, RJ.

BLOOMING: April to May.

VOUCHER: Tombos, *Magalhães s.n.* (HB 17948, 38105).

NOTE: Two herbarium sheets (HB 17948, 38105) also may be type material, as they have the same collector, collection date, and origin.

**Pitcairnia lanuginosa** Ruiz & Pav., *Fl. Peruv.* 3: 35. 1802. TYPE: Peru—Huanuco, Pozuzo, *Ruiz s.n.* (Holotype: MA).

DISTRIBUTION: Rocky fields, savanna, Atlantic

Forest; 540–1200 m; saxicolous, terrestrial. E2ii; F8iii, vii, xv; G8x; H5i; H7xiii. AM, DF, **GO, MG, MT, PA.**

BLOOMING: December to March.

VOUCHER: Sabará, *Versieux 156* fl. cult. (RFA).

NOTE: This species also can be found determined as *Pitcairnia caldasiana* Baker.

**Portea petropolitana** (Wawra) Mez var. **petropolitana** in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 296. 1892.—*Aechmea petropolitana* Wawra, Oesterr. Bot. Zeitschr. 30: 116. 1880. TYPE: Brazil—Rio de Janeiro, Petrópolis, *Wawra II-63* (Holotype: W lost, Lectotype and Isolectotype: W) designated by Till (1994).

DISTRIBUTION: Atlantic Forest; 140–695 m; epiphytic. F9viii, G8xi, H8ix, H9ii. ES, **MG, RJ.**

BLOOMING: September to October.

VOUCHER: Descoberto, *Castro 599* (CESJ).

**Portea petropolitana** var. **noettigii** (Wawra) L.B.Sm., Arq. Bot. Estado São Paulo 1: 113. 1943.—*Aechmea noettigi* Wawra, Oesterr. Bot. Z. 30: 117. 1880. TYPE: Brazil—Rio de Janeiro, Entre Rios, *Wawra 108* (Holotype: W).

DISTRIBUTION: Atlantic Forest; 430–695 m; epiphytic. F9vii; H8vi, ix. **MG, RJ.**

BLOOMING: July to October.

VOUCHER: Coronel Pacheco, *Pereira 10593* (HB).

**Portea silveirae** Mez, Bot Jahrb. Syst. 30(67): 4. 1901. TYPE: Brazil—Minas Gerais, serra da Conceição, Mantiqueira, A.A. *Silveira 8* (Holotype: B1, Isotype: R).

DISTRIBUTION: Atlantic Forest; 240–1100 m; epiphytic, saxicolous, terrestrial. C10iv; E8x; F9vi, viii; H8vi, ix. **BA, MG.**

BLOOMING: July to January.

VOUCHER: Jequitinhonha, *Mello-Silva 436* (SPF).

**Pseudananas sagenarius** (Arruda) Camargo, Revista Agric. (Piracicaba) 14(7,8): 4. 1939.—*Bromelia sagenaria* Arruda, Diss. pl. Brazil 13. 1810. TYPE: Original description.

DISTRIBUTION: Savanna, Atlantic Forest; 140–1500 m; terrestrial. B7i; C12; E6i; F8xvi; G6i; G8ii, viii. **AL, BA, ES, MG, MT, PE, PR, RJ, SC, SP.**

BLOOMING: Peaking October to November.

VOUCHER: Catas Altas, *Viana s.n.* (BHCB 18392, US).

**Quesnelia arvensis** (Vell.) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 381. 1892.—*Bromelia arvensis* Vell. Fl. Flum. 130. 1825. TYPE: Lectotypification by the plate of Vellozo, Icon. 3, t. 141, 1831, suggested by Smith & Downs (1979).

DISTRIBUTION: Atlantic Forest; ca. 340 m; epiphytic. H9ii. **MG, PR, RJ, SP.**

BLOOMING: August.

VOUCHER: Descoberto, *Almeida 8* (CESJ).

**Quesnelia augusto-coburgii** Wawra, Oesterr. Bot. Z. 30: 150. 1880. TYPE: Brazil—Minas Gerais, Juiz de Fora, *Wawra II-185, Wawra II-196* (Syntypes: W lost, Lectotype: plates 28 and 35-B, Wawra, Itin. princ. S. Coburgi. 1883, designated by Smith & Downs 1979).

DISTRIBUTION: Atlantic Forest; ca. 340–1000 m; epiphytic, saxicolous. G9ii, H9ii. **MG, RJ.**

BLOOMING: April to July. Fruit July to December.

VOUCHER: Amparo da Serra, *Palhais 149* (VIC).

**Quesnelia indecora** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 384. 1892. TYPE: Brazil—*Schott 5506* (Holotype: W lost, Lectotype: plate 74 of Mez, Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3) 1892, designated by Smith & Downs 1979).

DISTRIBUTION: Rocky fields, Atlantic Forest; 695–1600 m; epiphytic, saxicolous, terrestrial. F8xvi; G8ii, vii, x; H8ix; I7v. ES, MG.

BLOOMING: May to July.

VOUCHER: Catas Altas, *Mota 219* (BHCB, MBM).

**Quesnelia kautskyi** C.M.Vieira, Bradea 8(23): 131. 1999. TYPE: Brazil—Espírito Santo, Marechal Floriano, estrada para Parajú, *C.M. Vieira 967* (Holotype: RB!). Paratypes: Brazil—Espírito Santo, Castelo, *A. Seidel 651* (HB). Minas Gerais, Alto Caparaó, Parque Nacional do Caparaó, Vale Verde, ao lado do córrego, *L.S. Leoni 3384* (HB!, GFJP). Minas Gerais, Caparaó, Parque Nacional do Caparaó, *R. Simão-Bianchini 272* (SPF!).

DISTRIBUTION: Atlantic Forest; 1100–2000 m; epiphytic, saxicolous. G9xvii; G10i, ii. **ES, MG.**

BLOOMING: June to September. Fruit in December.

VOUCHER: Alto Caparaó, *Krieger FPNC 217* (CESJ, RB, SPF).

NOTE: Usually confused with *Quesnelia strobilispica* Wawra.

**Quesnelia liboniana** (De Jonghe) Mez in Budnowski, Bot. Arch. 1: 66. 1922.—*Billbergia*

*liboniana* De Jonghe, J. Hort. Prat. Belgique 9: 1,2. 1851. TYPE: Lectotype not yet selected.

DISTRIBUTION: Atlantic Forest; 650–1300 m; epiphytic, saxicolous. F8xvi, G9xviii, H7vi. MG, RJ, SP.

BLOOMING: August to September.

VOUCHER: Caxambú, *Pereira 10619* (HB, US).

**Quesnelia quesneliana** (Brongn.) L.B.Sm., Arq. Bot. Estado São Paulo 2(2): 196. 1952.—*Billbergia quesneliana* Brongn., Ann. Sci. Nat. (Paris) 2(15): 371. 1841. TYPE: Brazil—*Hort. Paris s.n.* (Holotype: P).

DISTRIBUTION: Atlantic Forest; ca. 700 m; epiphytic, saxicolous, terrestrial. G9. ES, MG, RJ. BLOOMING: September to November.

NOTE: Only records from the literature were found. Specimens cited for eastern MG by Vieira (1999): Bom Jesus do Boné, *Leoni 3015* (GFJP); Carangola, *Leoni s.n.* (GFJP); and Tombo, *Leoni s.n.* (GFJP).

**Quesnelia strobilispica** Wawra, Oesterr. Bot. Z. 30: 149. 1880. Synonyms: *Bromelia blanda* Schott ex Beer, Fam. Bromel. 43. 1856. *Quesnelia blanda* Schott ex Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 383. 1892. TYPE: Neotypified by plate 25, Wawra, Itin. princ. S. Coburgi. 1883 (Vieira 1999).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 700–1400 m; saxicolous, epiphytic, terrestrial. F8v, xviii; G9iii, vii. ES, MG, RJ.

BLOOMING: July to October.

VOUCHER: Conceição do Mato Dentro, *Mello Barreto 2104* (BHCB).

NOTE: This species can appear identified as *Quesnelia blanda*.

**Racinaea aerisicola** (Mez) M.A.Spencer & L.B.Sm., Phytologia 74: 157. 1993.—*Vriesea aerisicola* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 555. 1894. Synonym: *Tillandsia aerisicola* (Mez) Mez in C. DC., Monogr. phan. 9: 759. 1896. TYPE: Brazil—*Lhotsky s.n.* (Lectotype: G).

DISTRIBUTION: Rocky fields, Atlantic Forest; 945–1500 m; epiphytic. F8iv, v; G8ii, x; H8x. ES, MG, PR, RJ, SC, SP.

BLOOMING: May to September. Fruit in December.

VOUCHER: Catas Altas, *Mota 1108* (BHCB).

**Tillandsia arhiza** Mez in C. DC., Monogr. phan. 9: 855. 1896. Synonym: *Tillandsia retrorsa* Silveira, Floral. Mont. 2: 25. 1931.

TYPE: Paraguay—*Balansa 4747* (Holotype: P!).

DISTRIBUTION: Rocky fields; ca. 1100 m; saxicolous. E8iv. MG.

BLOOMING: Unknown.

VOUCHER: Diamantina, *Versieux 90* fl. cult. (RFA).

**Tillandsia chapeuensis** Rauh, Trop. Subtrop. Pflanzenwelt 58: 24. 1986. TYPE: Brazil—Bahia (Holotype: HEID).

DISTRIBUTION: Rocky fields; 1200–1300 m; saxicolous. H8x. BA, MG.

BLOOMING: December.

VOUCHER: Lima Duarte, *Leme 1470* (HB).

**Tillandsia copynii** Gouda, J. Bromeliad Soc. 38: 81. 1988. TYPE: Brazil—Minas Gerais, Paracatu, *A.N. Copijn s.n.* fl. cult. (Holotype: U 495840!).

DISTRIBUTION: Caatinga, savanna; 560 m; epiphytic. B8ii, D5ii. Endemic.

BLOOMING: Unknown. Fruit in October.

VOUCHER: Verdelândia, *Lombardi 4464* (BHCB).

**Tillandsia gardneri** Lindl., Bot. Reg. 28: t. 63. 1842. TYPE: Brazil—Guanabara, Rio de Janeiro, *Gardner 134* (Holotype: K).

DISTRIBUTION: Rocky fields, Atlantic Forest; 410–1900 m; epiphytic, saxicolous. C9i, ii; E8x; F8iii, iv, v, xiv, xvi; G7iii; G8ii, vii, ix; G9vii, viii, xvi; H5i; H7iii, x, xi, xiii; H8iii, x. BA, CE, ES, MG, PB, PE, PI, PR, RJ, RS, SC, SE, SP.

BLOOMING: Peaking March to July. Fruit May to January.

VOUCHER: Bom Jardim de Minas, *Grandi s.n.* (BHCB 17578, US).

**Tillandsia geminiflora** Brongn. in Duperrey, Voy. monde 186. 1829. TYPE: Brazil—Santa Catarina, Florianópolis, Ilha de Santa Catarina, *D'Urville s.n.* (Holotype: P!).

DISTRIBUTION: Atlantic Forest, rocky fields, savanna; 340–1620 m; epiphytic, rarely saxicolous. C8i; E6iii; F8iv, v, ix, xvi, xviii; G5iii; G8ix, xi; G9iii, vii, xv; G10ii; H7ii, iii, iv, xi; H8iii, ix, x; H9ii; I5i; I7v. DF, ES, GO, MG, MT, PR, RJ, RS, SC, SP.

BLOOMING: Peaking July to November. Fruit May to November.

VOUCHER: Santa Rita de Jacutinga, *Urbano 8923* (BHCB, CESJ, MBM).

**Tillandsia globosa** Wawra, Oesterr. Bot. Z. 30: 222. 1880. TYPE: Brazil—Rio de Janeiro, Entre Rios, *Wawra 142-B* (Holotype: W lost, Lectotype and Isolectotype: W) designated by Till (1994).

DISTRIBUTION: Atlantic Forest; 270–550 m; epiphytic. G8xi; G9iv, xi, xvii; H8vi; I7v. **BA, ES, MG, PB, RJ.**

BLOOMING: August to November.

VOUCHER: Carangola, *Leoni 956* (RB).

**Tillandsia graomogolensis** Silveira, *Floral. Mont.* 2: 26. 1931. Synonym: *Tillandsia kurt-horstii* Rauh, *Trop. Subtrop. Pflanzenwelt* 60: 69. 1987. TYPE: Brazil—Minas Gerais, Grão Mogol, Pedra Rica, A.A. *Silveira 800* (no preserved specimen).

DISTRIBUTION: Rocky fields, Atlantic Forest; 330–1000 m; saxicolous, rarely epiphytic. C8i, C9ii, C10vi, D10, E8iv, H8x. **BA, MG.**

BLOOMING: August to December. Fruit in May.

VOUCHER: Lima Duarte, *Leme 1489* (HB).

**Tillandsia horstii** Rauh, *Trop. Subtrop. Pflanzenwelt* 27: 5. 1979. TYPE: Brazil—Minas Gerais, *L. Horst s.n.* (Holotype: HEID, Iso-type: US!).

DISTRIBUTION: Habitat, elevation, and habit unknown. **BA, MG?**

BLOOMING: Unknown.

NOTE: This species is considered to be a natural hybrid (Heidt 1992). Cited for MG (doubtful origin) in the original description.

VOUCHER: Minas Gerais (without municipality), *Horst s.n.* (US 2848094).

**Tillandsia leonamiana** E.Pereira, *Bradea* 1: 437. 1974. Synonyms: *Tillandsia meridionalis* var. *subsecundifolia* Weber & Ehlers, *Feddes Reppert.* 94: 615. 1983. *Tillandsia recurvifolia* var. *subsecundifolia* (W.Weber & Ehlers) W.Till, *J. Bromeliad Soc.* 45: 268. 1995. TYPE: Brazil, Minas Gerais, extremo norte do estado, A. *Seidel 668* (Holotype: HB!).

DISTRIBUTION: Habitat and elevation unknown; saxicolous. **MG, PR.**

BLOOMING: October?.

VOUCHER: Minas Gerais (extreme north), *Seidel 668* (HB).

**Tillandsia loliacea** Mart. ex Schult. & Schult. f. in Roem. & Schult., *Syst. Veg.* 7(2): 1204. 1830. TYPE: Brazil, Bahia, Joazeiro, Monte Santo, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Caatinga, savanna; 270–1110 m; epiphytic, rarely saxicolous. A8i; B7i; C10ii, iii; D5i; E2ii; E8iv; F7ii, iii; F8xi, xviii; F10i; G6iii. **BA, CE, DF, ES, GO, MG, MT, PB, PE, PI, RN, SP.**

BLOOMING: February to October with peak in May.

VOUCHER: Pains, *Melo 5* (BHCB, RFA).

**Tillandsia mallemonitii** Glaziou ex Mez in Mart., Eichler & Urban, *Fl. Bras. (Martius)* 3(3): 608. 1894. TYPE: Brazil—Guanabara, Tijuca, *Glaziou 14345* (Holotype: B, Iso-type: K).

DISTRIBUTION: Atlantic Forest; 1300 m; epiphytic. I5i. **BA, MG, PR, RJ, RS.**

BLOOMING: January.

VOUCHER: Camanducaia, *Gentry 21499* (US).

**Tillandsia parvispica** Baker, *J. Bot.* 25: 244. 1887. TYPE: Brazil—Serra do Picu, Boa Vista, *Glaziou 13258* (Holotype: P!).

DISTRIBUTION: Caatinga, Atlantic Forest; 270–1300 m; epiphytic. C10ii, vi; F8xvi; H8vi. **BA, MG, MT, PE.**

BLOOMING: August to October.

VOUCHER: Pedra Azul, *Magalhães 14136* (HB).

**Tillandsia pohliana** Mez in Mart., Eichler & Urban, *Fl. Bras. (Martius)* 3(3): 597. 1894. TYPE: Brazil—Minas Gerais, São Miguel, *Pohl 3658*. Lectotype: W, designated by Smith & Downs (1977).

DISTRIBUTION: Rocky fields, savanna; 500–1500 m; epiphytic, rarely saxicolous. C8i; C9ii; C10ii, iii; E2ii; E3; E5; E8iv; F2; F4iii; F7iii; F8xi; G5iv; H5ii; H7iv; I8. **CE, GO, MG, MT, SP.**

BLOOMING: September to December.

VOUCHER: Uberlândia, *Tameirão-Neto 1955* (BHCB).

**Tillandsia polystachia** (L.) L., *Sp. pl.* 1: 410. 1762.—*Renealmia polystachia* L., *Sp. pl.* 1: 286. 1753. TYPE: West Indies—*Plumier s.n.* (Holotype: P).

DISTRIBUTION: Rocky fields, Atlantic Forest; 420–930 m; epiphytic. F9ii, vii; G8xi; G9xviii; H7xiii; H8ix. **AC, BA, CE, ES, MG, MT, PB, PE, PR, RJ.**

BLOOMING: July to December peaking October. Fruit in April.

VOUCHER: Tiradentes, *Alves 15* (RB).

NOTE: Brazilian material is all *Tillandsia parvispica* fide H. Luther.

**Tillandsia pruinosa** Sw., *Fl. Ind. Occ.* 1: 594. 1797. TYPE: Jamaica—*Swartz s.n.* (Holotype: S).

DISTRIBUTION: Atlantic Forest; ca. 430 m; epiphytic. G9xi. **ES, MG, RJ.**

BLOOMING: August to November.

VOUCHER: Ponte Nova, *Goldschmidt 48* (VIC).

**Tillandsia recurvata** (L.) L., *Sp. pl.* 1: 410. 1762.—*Renealmia recurvata* L., *Sp. pl.* 1:

287. 1753. TYPE: Jamaica—*Sloane s.n.* (Holotype: BM, Isotypes: B, GOET, M, P).

DISTRIBUTION: Atlantic Forest, caatinga, rocky fields, savanna; 400–1650 m; epiphytic, saxicolous. C8ii; C9ii; C10vi; D7iii; E3; E4; E7iii; E8iv, x, xi; E9iii; F4iii, iv; F8iii, iv, ix, xi, xv, xvii, xviii, xx; F10ii; G7iii, vi; G8ii, ix, xi; G9iii, iv, vii, xviii; H6iv; H7i, iii, xi, xiii; H8ii, iii, vi, ix, x, xvi; I6ii; I7v; I8. AL, BA, CE, MG, PA, PB, PE, PR, RJ, RN, RS, SC, SP.

BLOOMING: September to March. Fruit all year.

VOUCHER: Santa Luzia, *Williams 6761* (R, RB, SP, US).

**Tillandsia sp. 1.**

DISTRIBUTION: Savanna, ca. 660 m, saxicolous. G6iii. Endemic?.

BLOOMING: October.

VOUCHER: Iguatama, *Melo 94* (RFA).

**Tillandsia aff. spengeliana** Klotzsch ex Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 596. 1894. TYPE: Brazil—without collector and locality (Holotype: B).

DISTRIBUTION: Atlantic Forest; 770–940 m; epiphytic. C11ii. BA, MG.

BLOOMING: August to September.

VOUCHER: Santa Maria do Salto, *Lombardi 5448* (RFA) “aff.”.

NOTE: This species might be *Tillandsia heubergeri* Ehlers sensu Luther.

**Tillandsia streptocarpa** Baker, Jour. Bot. 25: 241. 1887. TYPE: Paraguay—Luque, *Balansa 615* (Holotype: K, Isotypes: P!, S).

DISTRIBUTION: Caatinga, rocky fields, savanna; 500–1500 m; epiphytic, saxicolous. A8i; B8i; B9i, iv; C9ii; D7iii; E2ii; E6iii; E8iii, iv, x, xi; F7iii; F8v, xviii; G5iii, v; G8ix; H7xi; H8x. BA, DF, GO, MG, MS, MT, PB, PE, PI, PR, RN, RS, SP.

BLOOMING: September to January. Fruit March to May.

VOUCHER: Diamantina, *Cordeiro CFCR 522* (SPF, BHCB, SP, RB).

**Tillandsia stricta** Sol. in Sims, Bot. Mag. 37: t. 1529. 1813. TYPE: Brazil—Rio de Janeiro, *Banks s.n.* (Holotype: BM).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 330–1700 m; epiphytic, rarely saxicolous. C9ii; D9i; E8iii, iv, v; F8iii, iv, v, ix, xiv, xvi, xviii; F9viii, xix; G10i; G5v; G7iv, v; G8ii, vii, viii, ix, x; G9iii, iv, vi, vii, xvi, xviii; H5i; H7i, ix, xi, xii, xiii; H8ii, viii, ix, x, xiv; H9ii; I7iii, v. BA, ES, MG, PE, PR, RJ, RS, SC, SP.

BLOOMING: July to March with peaks in September and February. Fruit April to May.

VOUCHER: Diamantina, *Irwin 21868* (HB, RB, SP, US).

**Tillandsia tenuifolia** L. var. **tenuifolia**, Sp. pl. 1: 286. 1753. TYPE: Without locality, *Royen s.n.* (Holotype: L).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 420–1340 m; epiphytic, saxicolous. C10vi; E3; E8iv, vii; F4iv; F5i; F8iv, v, xviii; G5v; G9iii, xviii; H7i, iv, xiii; H8iii, x, xii, xiv; I5i, ii. BA, CE, DF, ES, MG, MT, PA, PE, PR, RJ, RS, SC, SP.

BLOOMING: August to March. Fruit March to July.

VOUCHER: Pedra Azul, *Harley 25190* (BHCB, SPF).

**Tillandsia tenuifolia** var. **surinamensis** (Mez) L.B.Sm., Phytologia 8: 220. 1962.—*Tillandsia pulchella* var. *surinamensis* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 603. 1894. Synonym: *Tillandsia apariciana* E.Pereira, Rodriguésia 38: 114. 1971. TYPE: Suriname—*Hostmann 592-A* (Holotype: U).

DISTRIBUTION: Rocky fields, Atlantic Forest; 610–1200 m; epiphytic, saxicolous. E7iv, E8xi, F8xviii, H8x. BA, CE, DF, ES, GO, MG, PB, PE, PR, RJ, RS, SC, SP.

BLOOMING: October to April.

VOUCHER: Lima Duarte, *Andrade 1131* (BHCB, MBM).

**Tillandsia tenuifolia** var. **vaginata** (Wawra) L.B.Sm., Phytologia 8: 220. 1962.—*Tillandsia pulchra* var. *vaginata* Wawra, Oesterr. Bot. Z. 30: 224. 1880. TYPE: Brazil—Juiz de Fora, *Wawra II-212* (Holotype: W lost, Lectotype: plate 24-B, Wawra, Itin. princ. S. Coburgi. 1883, designated by Smith & Downs 1977).

DISTRIBUTION: Rocky fields, Atlantic Forest; 400–1160 m; epiphytic. B9v; F7ii, iii; F8xviii; G7ii; G9iv; H5i; H6iv; H7vi; H8ii, vi, x; I7iii. BA, ES, GO, MG, PB, PI, PR, RJ, RN, SP.

BLOOMING: Peaking November.

VOUCHER: Lima Duarte, *Brandão s.n.* (R 190567).

**Tillandsia tricholepis** Baker, J. Bot. 16: 237. 1878. TYPE: Bolívia—La Paz, Larecacha, *Mandon 1179 in part* (Lectotype: K, Isolectotypes: W, P!, cf. Till 1994).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 470–1110 m; epiphytic. E8iv; F8xi, xviii; G9iv; H8iv, ix, xi. CE, MG, PE, PR, RJ, RS.

BLOOMING: Unknown. Fruit June to October.



VOUCHER: Santana do Riacho, *Pirani CFSC 13268* (SPF).

**Tillandsia usneoides** (L.) L., Sp. pl. (ed 2) 1: 411. 1762.—*Renalmia usneoides* L., Sp. pl. 1: 287. 1753. TYPE: Jamaica—*Anonymus in Clifford Herbarium s.n.* (Lectotype: BM).

DISTRIBUTION: Rocky fields, Atlantic Forest; 340–1290 m; epiphytic. C9ii; E8i, iv; F8iii, iv, v, xi, xviii; F9viii; G9iii, v; H7iii, iv, xii, xiii; H8i, ii, iii, x; H9ii; I7iii, v. **BA, CE, ES, MA, MG, PA, PB, PE, PR, RJ, RS, SC, SP.**

BLOOMING: August to November.

VOUCHER: Bom Sucesso, *Tameirão-Neto 791* (BHCB, US).

**Vriesea arachnoidea** A.Costa, J. Bromeliad Soc. 44: 162. 1994. TYPE: Brazil—Rio de Janeiro, Nova Friburgo, Reserva Biológica de Macaé de Cima, Sítio Hum Baccus, *A.F. Costa 425* (RB!).

DISTRIBUTION: Atlantic Forest; ca. 1200 m; epiphytic, terrestrial. G9iii, vii. **MG, RJ.**

BLOOMING: November to January.

VOUCHER: Fervedouro, *Paula 1027* (VIC).

**Vriesea atropurpurea** Silveira, Floral. Mont. 2: 3. 1931. Synonyms: *Vriesea glauca* Silveira, Floral. Mont. 2: 3. 1931. *Vriesea albes-cens* Silveira, Floral. Mont. 2. t. 131. 1931. TYPE: Brazil—Minas Gerais, serra do Cipó, em campo arenoso, *A.A. Silveira s.n.* (no preserved specimen). Lectotype: plate 130, Floral. Mont. 2, 1931, designated by Leme (1999).

DISTRIBUTION: Rocky fields; 1000–1400 m; terrestrial, saxicolous. F8xviii. Endemic.

BLOOMING: July to August.

VOUCHER: Santana do Riacho, *Marques s.n.* (BHCB 42943).

**Vriesea billbergioides** E.Morren ex Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 534. 1894. TYPE: Brazil—Rio de Janeiro, *Glaziou 3630* (Holotype: B!, Isotypes: BR, P!).

DISTRIBUTION: Atlantic Forest; 1000–2000 m; epiphytic. G9iii; G10i, ii. **MG, RJ.**

BLOOMING: September to February.

VOUCHER: Alto Caparaó, *Krieger FPNC-211* (CESJ, RB, SPF).

**Vriesea bituminosa** Wawra, Oesterr. Bot. Z. 12: 347. 1862. TYPE: Brazil—Bahia, Ilhéus, *Wawra 257* (Holotype: W, SEL photo!).

DISTRIBUTION: Rocky fields, Atlantic Forest; 700–1650 m; epiphytic, saxicolous, terrestrial. F8iv, v; G9iii; H8x. **BA, CE, ES, MG, RJ, SP.**

BLOOMING: June to December. Fruit in April. VOUCHER: Lima Duarte, *Sousa s.n.* (BHCB 13730).

**Vriesea cacuminis** L.B.Sm., Phytologia 16: 79. 1968. TYPE: Brazil—Minas Gerais, Serrinha, próximo à Ibitipoca, *Schwacke 12296* (Holotype: RB!, Isotype: US!).

DISTRIBUTION: Rocky fields; ca. 1300 m; saxicolous. H8x. Endemic.

BLOOMING: July to October. Fruit in November.

VOUCHER: Lima Duarte, *Krieger 9298* (BHCB, RB).

**Vriesea carinata** Wawra, Oesterr. Bot. Z. 12: 349. 1862. TYPE: Brazil—Rio de Janeiro, Petrópolis, *Wawra 1-443*. Lectotype: W, Isotype: W, designated by Till (1994).

DISTRIBUTION: Atlantic Forest; 530–1300 m; epiphytic. H7xiii, H8x. **ES, MG, PR, RJ, RS, SC, SP.**

BLOOMING: February to June.

VOUCHER: Lima Duarte, *Paula s.n.* (VIC 26470).

**Vriesea clauseniana** (Baker) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 545. 1894.—*Tillandsia clauseniana* Baker, Handb. Bromel. 213. 1889. TYPE: Brazil—Minas Gerais, serra do Caraça, *Clausen s.n.* (Holotype: P!).

DISTRIBUTION: Rocky fields; 1100–2040 m; saxicolous. F8xvi; G8ii, x. Endemic.

BLOOMING: May to June.

VOUCHER: Catas Altas, *Ordones 183* (BHCB).

**Vriesea crassa** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 566. 1894. TYPE: Brazil—Rio de Janeiro, Nova Friburgo, *Glaziou 13261* (Holotype: K).

DISTRIBUTION: High altitude grassland, rocky fields; 900–1800 m; saxicolous, terrestrial. F8iv, v, xvi, xviii; G8vii, x; G9iii. **MG, RJ.**

BLOOMING: October to February. Fruit April to August.

VOUCHER: Conceição do Mato Dentro, *Mota 1867* (BHCB, RFA).

NOTE: This species can be misdetermined as *Vriesea stricta* in herbaria.

**Vriesea densiflora** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 567. 1894. TYPE: Brazil—*Glaziou 15672-B* (Holotype: B, US photo!).

DISTRIBUTION: Rocky fields; ca. 2200 m; saxicolous. E8ix. Endemic.

BLOOMING: February.

VOUCHER: Santo Antônio do Itambé, *Ander-son 35757* (US).

**Vriesea diamantinensis** Leme, J. Bromeliad Soc. 47(4): 168. 1997. TYPE: Brazil—Minas Gerais, Diamantina, BR 259, *E.M.C. Leme 1817* (Holotype: HB).

DISTRIBUTION: Rocky fields; 1100–1400 m; saxicolous. E8iii, iv, xi. Endemic.

BLOOMING: August to March. Fruit in January.

VOUCHER: Serro, *Vasconcelos s.n.* (BHCB 40171).

NOTE: This species can be misdetermined as *Vriesea stricta* in herbaria.

**Vriesea ensiformis** (Vell.) Beer, Fam. Bromel. 92. 1857.—*Tillandsia ensiformis* Vell., Fl. Flum. 133. 1825. LECTOTYPE: plate 129, Vellozo, Icon. 3, Fl. Flum. 1831, designated by Smith & Downs (1977).

DISTRIBUTION: Atlantic Forest; 480–1200 m; epiphytic. F9viii; G9vii; H8vi, ix, xii; H9vi; I7v. **BA, ES, MG, PR, RJ, SC, SP.**

BLOOMING: October to March. Fruit in April.

VOUCHER: Coronel Pacheco, *Heringer 1165* (SP, VIC).

**Vriesea friburgensis** Mez var. **friburgensis** in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 537. 1894. TYPE: Brazil—Rio de Janeiro, Nova Friburgo, *Glaziou 16467* (Holotype: K, Isotypes: C, P).

DISTRIBUTION: Atlantic Forest, rocky fields, savanna; 700–1400 m; epiphytic, saxicolous, terrestrial. C9ii; E8x; F8iv, v, x, xvi; G7iii; G8ii, iv, ix, x; H7i, xii; H8ii, x. **BA, MG, PR, RS, SC, SP.**

BLOOMING: November to December.

VOUCHER: Conceição do Mato Dentro, *Mota 1866* (BHCB, RFA).

**Vriesea friburgensis** var. **tucumanensis** (Mez) L.B.Sm., Anais Bot. Herb. “Barbosa Rodrigues” 4: 68. 1952.—*Vriesea tucumanensis* Mez in C. DC., Monogr. phan. 9: 585. 1896. TYPE: Argentina—Sierra de Tucumán, *F. Schultz s.n.* (Holotype: B).

DISTRIBUTION: Atlantic Forest; ca. 830 m; epiphytic. I6iv. **MG, PR, RS, SC, SP.**

BLOOMING: December.

VOUCHER: Pouso Alegre, *Hoehne s.n.* fl. cult. (SP 24550).

**Vriesea gigantea** Gaudich., Atl. Voy. Bonite, Bot. 3: t. 70. 1846. TYPE: Brazil—Santa Catarina, Florianópolis, *Gaudichaud 127 in part* (Holotype: P).

DISTRIBUTION: Atlantic Forest; 340 m; epiphytic. H9ii. **ES, MG, PR, RJ, RS, SC, SP.**

BLOOMING: June.

VOUCHER: Descoberto, *Castro 463* (CESJ, MBM, SP).

**Vriesea gradata** (Baker) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 523. 1894.—*Tillandsia gradata* Baker, J. Bot. 26: 105. 1888. TYPE: Brazil—Rio de Janeiro, Petrópolis, *Glaziou 15473* (Holotype: K, Isotype: C).

DISTRIBUTION: Atlantic Forest; 340–800 m; epiphytic. H8ix, xiv; H9ii; I7v; I8. **ES, MG, RJ, SP.**

BLOOMING: December to April peaking February. Fruit in September.

VOUCHER: Santa Rita de Jacutinga, *Marilene* (CESJ 11577, SPF).

**Vriesea guttata** Linden & André, Ill. Hort. 22: 43. 1875. TYPE: Brazil—Santa Catarina, *Gautier in Linden Hortus s.n.* (no preserved specimen). Lectotype original description and plate designated by Smith & Downs (1977).

DISTRIBUTION: Rocky fields, Atlantic Forest; 1000–1700 m; epiphytic. F8ix; G9iii, vi; H9vi. **MG, PR, RJ, SC, SP.**

BLOOMING: September to February. Fruit December to February.

VOUCHER: Jaboticatubas, *Parra CFSC 12990* (SPF).

**Vriesea heterostachys** (Baker) L.B.Sm., Phytologia 19: 289. 1970.—*Tillandsia heterostachys* Baker, J. Bot. 26: 106. 1888. TYPE: Brazil—São Paulo, *Glaziou 13260 in part* (Holotype: B!, Isotype: P!).

DISTRIBUTION: Atlantic Forest; 550–1400 m; epiphytic, saxicolous, terrestrial. F8vii; G9iii, iv, vii; H8x; I7v. **ES, MG, RJ, SP.**

BLOOMING: March to May.

VOUCHER: Itabira, *Matos s.n.* (R 46311, US).

**Vriesea aff. hieroglyphica** (Carrière) E.Morren, Ill. Hort. 31: 41. 1884. TYPE: Brazil—São Paulo, Santos, *Grand in Hortus Museum Paris s.n.* (Holotype, P?).

DISTRIBUTION: Rocky fields?, more likely in Atlantic Forest; ca. 650 m; saxicolous. C8ii. **ES, MG, RJ, SP.**

BLOOMING: Unknown.

VOUCHER: Francisco Sá, *Seidel 1093* fl. cult. (RB) “aff.”.

**Vriesea hoehneana** L.B.Sm., Proc. Amer. Acad. Arts 68: 150. 1933. TYPE: Brazil—São Paulo, Alto da Serra, Estação Biológica, *L.B. Smith 1945* (Holotype: GH, Isotype: US!).

DISTRIBUTION: Rocky fields; ca. 1600 m; saxicolous, terrestrial. H8x. **MG, SP.**

- BLOOMING: November to December.  
VOUCHER: Lima Duarte, *Krieger 13227* (CESJ).
- Vriesea itatiaiae** Wawra, Oesterr. Bot. Z. 30: 221. 1880. TYPE: Brazil—Rio de Janeiro, Itatiaia, Wawra II-463 (Holotype: W lost). Lectotype plate 34-C, Wawra, Itin. princ. S. Coburgi. 1883, designated by Smith & Downs (1977).
- DISTRIBUTION: High altitude grassland; 2030 m; terrestrial. H7i. MG, RJ.
- BLOOMING: May to June.  
VOUCHER: Aiuruoca, *Vasconcelos s.n.* (BHCB 47860).
- Vriesea jonghei** (K.Koch) E.Morren, Belgique Hort. 28: 257. 1878.—*Encholirium jonghei* Libon ex K.Koch, Allg. Gartzeitung. 22. 1857. TYPE: Brazil—Minas Gerais, Diamantina, *Libon in De Jonghe Hortus s.n.* (probably no preserved specimen).
- DISTRIBUTION: Unknown. BA, MG, PR, RJ, SP.
- BLOOMING: Unknown.  
NOTE: Cited for MG in the original description of the basionym (*Encholirium jonghei*), which was collected by Libon in Diamantina.
- Vriesea longicaulis** (Baker) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 542. 1894.—*Tillandsia longicaulis* Baker, J. Bot. 26: 80. 1888. TYPE: Brazil—Rio de Janeiro, Petrópolis, morro do Retiro, *Glaziou 8988* (Holotype: K).
- DISTRIBUTION: High altitude grassland, rocky fields, 1200–1650 m, epiphytic, saxicolous. F8ix, xvi; G8ii, vii, viii, x; G9iii, vii; H8x. ES, MG, RJ, SC, SP.
- BLOOMING: February to July. Fruit April to November.  
VOUCHER: Itabirito, *Vasconcelos 89* (BHCB).
- Vriesea longistaminea** Paula & Leme, Vidalia 1(2): 25. 2004. TYPE: Brazil—Minas Gerais, Mariana, *E.M.C. Leme 5363* fl. cult. (Holotype: HB).
- DISTRIBUTION: Rocky fields; 1000–1400 m; saxicolous. G7iii, G8viii. Endemic.  
BLOOMING: December to January.  
VOUCHER: Brumadinho, *Martens 263* (SPF) “cf.”.
- Vriesea lubbersii** (Baker) E.Morren ex Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 533. 1894.—*Tillandsia lubbersii* Baker, Handb. Bromel. 219. 1889. TYPE: Plate of *Edouard Morren s.n.* (Lectotype: K).
- DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 900–1100 m; epiphytic. F8iv; H7x. ES, MG, RJ, SC, SP.
- BLOOMING: February. Fruit in May.  
VOUCHER: Caeté, *Mota 344* (BHCB, RFA).
- Vriesea minarum** L.B.Smith, Arq. Bot. Estado São Paulo 1: 118. 1943. Synonyms: *Tillandsia citrina* Baker, Handb. Bromel. 244. 1889. *Vriesea citrina* E.Morren ex Baker, Handb. Bromel. 244. 1889, pro syn. *Vriesea citrina* (Baker) L.B.Sm., Phytologia 21: 93. 1971. TYPE: Brazil—Minas Gerais, Caeté, pico da Piedade, *M.B. Foster 564* (Holotype: GH, US photo!).
- DISTRIBUTION: Rocky fields; 1000–1800 m; saxicolous, terrestrial. F8iv, xiv, xv; G7iii, v; G8iii, vii, ix, x. Endemic.  
BLOOMING: December to March. Fruit March to July.  
VOUCHER: Sabará, *Versieux 176* (RFA).  
NOTE: This species can be misdetermined as *Vriesea atropurpurea* or *V. stricta* in herbaria.
- Vriesea minor** (L.B.Sm.) Leme, J. Bromeliad Soc. 46(6): 245. 1996.—*Vriesea bituminosa* var. *minor* L.B.Sm., Phytologia 16: 79. 1968. TYPE: Brazil—Minas Gerais, estrada Tijucal e Serro, *E. Pereira 2861*. (Holotype: RB!, Isotypes: HB!, US!).
- DISTRIBUTION: High altitude grassland, rocky fields; 1000–1700 m; saxicolous, terrestrial, rarely epiphytic. Endemic.  
BLOOMING: September to April peaking February. Fruit April to July.  
VOUCHER: Datas, *Leme 1823* (HB).
- Vriesea modesta** Mez, Bot. Jahrb. Syst. 30(67): 7. 1901. TYPE: Brazil—Minas Gerais, alto da Serra da Mantiqueira, *H. Magalhães 1020* (Holotype: B!, Isotype: R!).
- DISTRIBUTION: Atlantic Forest; elevation unknown; epiphytic. ES, MG, RJ.  
BLOOMING: April.  
NOTE: Only known from the type collection.
- Vriesea monacorum** L.B.Sm., Arq. Bot. Estado São Paulo 1: 119. 1943. TYPE: Brazil—Minas Gerais, Santa Bárbara, serra do Caraça, *M.B. Foster 693* (Holotype: GH, US photo!, Isotype: US!).
- DISTRIBUTION: Rocky fields; 1200–1600 m; epiphytic, saxicolous. E8x; F8ix, xvi. Endemic.  
BLOOMING: December to March. Fruit May to July.  
VOUCHER: Santa Bárbara, *Hensold CFCR 2894* (SPF).
- Vriesea morrenii** Wawra, Oesterr. Bot. Z. 30: 219. 1880. TYPE: Brazil—Rio de Janeiro,

Petrópolis, cachoeira de Itamarati, *Wawra* 72 (Holotype: W lost, Isotype: B!).

DISTRIBUTION: Atlantic Forest; 600–1250 m; epiphytic, saxicolous. G9vii, H8xiv. **ES, MG, RJ.**

BLOOMING: September to December.

VOUCHER: Fervedouro, *Paula 1075* (VIC).

**Vriesea nanuzae** Leme, J. Bromeliad Soc. 47(4): 172. 1997. TYPE: Brazil—Minas Gerais, Diamantina, BR 259, *E.M.C. Leme 1820* (Holotype: HB).

DISTRIBUTION: Rocky fields; 1350 m; saxicolous. E8iv. Endemic.

BLOOMING: November.

NOTE: Only known from the type collection. Cited for MG in the original description.

**Vriesea neoglutinosa** Mez, Pflanzenreich 4(32): 636. 1935. TYPE: Brazil—Rio de Janeiro, Botafogo, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Habitat, elevation, and habit unknown. F8xvi. **ES, MG, PR, RJ, SC, SP.**

BLOOMING: Unknown.

VOUCHER: Santa Bárbara, *Silva s.n.* fl. cult. (SEL 85570).

**Vriesea oligantha** (Baker) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 544. 1894.—*Tillandsia oligantha* Baker, J. Bot. 25: 345. 1887. TYPE: Brazil—Minas Gerais, serra de Ouro Preto, *Glaziou 15472* (Holotype: K; Isotype: C).

DISTRIBUTION: Rocky fields; (550?)900–2000 m; epiphytic, saxicolous, terrestrial. B9v; C8i; C9ii; D8ii; E8iii, iv, vii, xi; F8v, xviii; G8ii, ix, x. **BA, MG.**

BLOOMING: November to March. Fruit April to September.

VOUCHER: Santana do Riacho, *Duarte 1982* (RB, US).

NOTE: Some individuals present pups emerging from the inflorescence (viviparity).

**Vriesea paraibica** Wawra var. **paraibica**, Itin. princ. S. Coburgi. 160. 1883. TYPE: Brazil—Minas Gerais, Juiz de Fora, *Wawra II-184* (Holotype: W lost, Lectotype and Isolectotype: W designated by Till 1994).

DISTRIBUTION: Atlantic Forest; ca. 700 m; epiphytic. H8ix. **MG, RJ.**

BLOOMING: April to July (Costa 2002).

NOTE: Cited for MG in the original description and in Fl. Neotr. Monogr. 14(2): 1222. 1977.

**Vriesea paraibica** var. **interrogatoria** (L.B.Sm.) A.Costa, Unpublished—*Vriesea interrogatoria* L.B.Sm., Arq. Bot. Estado

São Paulo 1: 117. 1943. TYPE: Brazil—Rio de Janeiro, Itatiaia, *M.B. Foster 1039* (Holotype: GH, Isotype: SP!).

DISTRIBUTION: Atlantic Forest; 1000–1900 m; epiphytic. H7i. **MG, RJ, SP.**

BLOOMING: May to June. Fruit in February.

VOUCHER: Aiuruoca, *Tameirão-Neto 2887* (BHCB).

**Vriesea pardalina** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 523. 1894. TYPE: Brazil—Rio de Janeiro?, morro de São Vicente para Cachoeira, *Glaziou 15474* (Holotype: B!, Isotype: P!).

DISTRIBUTION: Rocky fields, Atlantic Forest; 730–1330 m; epiphytic. F8iv, xviii; H8x; I6v. **MG, RJ.**

BLOOMING: August to February peaking October.

VOUCHER: Santana do Riacho, *Duarte 2233* (RB, US).

**Vriesea pauperrima** E.Pereira, Bradea 1(25): 274. 1972. TYPE: Brazil—Espírito Santo, entre Castelo e Cachoeiro do Itapemirim, A. *Seidel 631* fl. cult. (Holotype: HB).

DISTRIBUTION: Atlantic Forest; 340–580 m; epiphytic. F9iii, viii; H9ii. **BA, ES, MG, PR, RJ, RS, SP.**

BLOOMING: February. Fruit in June.

VOUCHER: Caratinga, *Costa s.n.* (BHCB 22153).

NOTE: The species can appear identified erroneously as *Vriesea carinata*.

**Vriesea penduliflora** L.B.Sm., Arq. Bot. Estado São Paulo 1: 120. 1943. TYPE: Brazil—Rio de Janeiro, Itatiaia, cascata da Maromba, *M.B. Foster 135* (Holotype: GH).

DISTRIBUTION: Atlantic Forest; 1600 m; epiphytic, rarely terrestrial or saxicolous. H8x. **MG, RJ.**

BLOOMING: December.

VOUCHER: Lima Duarte, *Leme 1483* (HB).

**Vriesea procera** (Mart. ex Schult. & Schult. f.) Wittm., Bot. Jahrb. Syst. 13(29): 21. 1891. TYPE: Brazil—Bahia, rio Itaipé, *Martius s.n.* (Holotype: M).

DISTRIBUTION: Atlantic Forest, rocky fields; 450–1120 m; epiphytic, terrestrial. C10iv, D11iii, E8iv, H7xiii, H9vi. **BA, CE, ES, MG, PB, PE, PI, PR, RJ, SE, SP.**

BLOOMING: September to April.

VOUCHER: Serra dos Aimorés, *Martinelli 14839* (RB).

**Vriesea racinae** L.B.Sm., Lilloa 6: 387. 1941.

- TYPE: Brazil—Espírito Santo, Santa Teresa, *M.B. Foster 270* (Holotype: GH).
- DISTRIBUTION: Atlantic Forest; 1300 m?; epiphytic. G9vii. ES, MG.
- BLOOMING: December.
- VOUCHER: Fervedouro, *Paula s.n.* (VIC 26214).
- Vriesea rafaellii** Leme, Harvard Pap. Bot. 4(1): 163. 1999. TYPE: Brazil—Minas Gerais, Juiz de Fora, rio do Peixe, *E.M.C. Leme 3410* (Holotype: HB!).
- DISTRIBUTION: Atlantic Forest; ca. 700 m; epiphytic. H8ix. Endemic.
- BLOOMING: June to July.
- VOUCHER: Juiz de Fora, *Berg s.n.* fl. cult. (SEL 82089).
- Vriesea regnellii** Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 548. 1894. TYPE: Brazil—Minas Gerais, Caldas, *Regnell III-1799* (Holotype: B, SEL photo!, Isotypes: US!, S!).
- DISTRIBUTION: Atlantic Forest, > 1000 m?; epiphytic. H5i. MG, RJ.
- BLOOMING: Unknown.
- NOTE: This species is only known from the type collection. The name has been applied incorrectly to *Vriesea* sp. 1.
- Vriesea ruschii** subsp. **leonii** Leme, Pabstia 4(1): 2. 1993. TYPE: Brazil—Minas Gerais, Carangola, serra da Araponga, fazenda da Neblina, Parque Estadual da Serra do Brigadeiro, *L.S. Leoni 1968* (Holotype: GFJP, Isotype: HB!).
- DISTRIBUTION: Atlantic Forest; 1300–1600 m; epiphytic. G9iii, iv, vii; G10i. Endemic.
- BLOOMING: Peaking November to December.
- VOUCHER: Alto Caparaó, *Krieger FPNC-829* (CESJ, RB).
- Vriesea sazimae** Leme, Bromélia 2(4): 26. 1995. TYPE: Brazil—São Paulo, Campos do Jordão, Horto Florestal, *M. Sazima 32328* (Holotype: UEC). Ibidem, *M. Sazima 32344* (Paratype: HB!).
- DISTRIBUTION: Atlantic Forest; 1900 m; epiphytic. I5i. MG, SP.
- BLOOMING: February.
- VOUCHER: Camanducaia, *França 258* (BHCB).
- Vriesea saxicola** L.B.Sm., Phytologia 16: 83. 1968. TYPE: Brazil—Minas Gerais, próximo à São João del Rei, serra do Lenheiro, *W. Schwacke 12086* (Holotype: RB!, Isotype: US!).
- DISTRIBUTION: Rocky fields; 900–1350 m; saxicolous. H7xi, xiii. Endemic.
- BLOOMING: October to December. Fruit in June.
- VOUCHER: Tiradentes, *Silva 730* (HB).
- Vriesea scalaris** E.Morren, Belgique Hort. 29: 301. 1879. TYPE: Brazil—*E. Morren s.n.* (“Clonotype”: LG).
- DISTRIBUTION: Atlantic Forest; 340–1000 m; epiphytic. G9iii, vi; H9ii. BA, ES, MG, PE, RJ, SC.
- BLOOMING: Peaking December to January.
- VOUCHER: Ervália, *Paula 1064* (VIC).
- Vriesea sceptrum** Mez in C. DC., Monogr. phan. 9: 606. 1896. TYPE: Brazil—Minas Gerais, Caldas, Pedra Branca, *Regnell III-1254* in part (Holotype: US!, Isotype: P!).
- DISTRIBUTION: Atlantic Forest; 1100–2050 m; epiphytic. H5i, iii; I5i; I6ii; I7iv. MG, RJ, SP.
- BLOOMING: September to November.
- VOUCHER: Camanducaia, *Mota 1280* (BHCB).
- Vriesea schwackeana** Mez in C. DC., Monogr. phan. 9: 590. 1896. TYPE: Brazil—Minas Gerais, serra de Ouro Preto, *W. Schwacke 9209* (Holotype: B!, Isotype: RB!).
- DISTRIBUTION: Rocky fields, Atlantic Forest; 1300–1500 m; epiphytic, saxicolous. G8x, G9iii. MG, SP.
- BLOOMING: October to February.
- VOUCHER: Ouro Preto, *Paula s.n.* (VIC 26454).
- Vriesea segadas-viannae** L.B.Sm., Smithsonian Misc. Collect. 126: 35. 1955. TYPE: Brazil—Minas Gerais, Jaboticatubas, serra do Cipó, Palácio, *L.B. Smith 6755*. (Holotype: US!, Isotype: R!).
- DISTRIBUTION: Rocky fields; 1200 m; epiphytic. F8iv. Endemic.
- BLOOMING: Unknown. Fruit April to May.
- VOUCHER: Jaboticatubas, *Reitz 7857* (HBR).
- Vriesea simulans** Leme, J. Bromeliad Soc. 47(4): 169. 1997. TYPE: Brazil—Minas Gerais, estrada de Presidente Juscelino para Gouvea, BR 259, km 520, *E.M.C. Leme 1802* (Holotype: HB!, Isotype: SEL!).
- DISTRIBUTION: Rocky fields; ca. 1250 m; saxicolous. E7vi; E8iii, iv. Endemic.
- BLOOMING: November.
- VOUCHER: Diamantina, *Giulietti CFCR 2430* (RB).
- Vriesea sp. 1.**
- DISTRIBUTION: Rocky fields; 1000–1200 m; saxicolous, terrestrial. G5v. Endemic.

BLOOMING: December to March.

VOUCHER: São Roque de Minas, *Farney 182* (RB).

NOTE: This taxon often has been identified as *Vriesea regnellii* but appears to be an undescribed species related to *V. atropurpurea*.

**Vriesea stricta** L.B.Sm., Arq. Bot. Estado São Paulo 1(5): 122. 1943. TYPE: Brazil—Minas Gerais, Jaboticatubas, serra do Cipó, Vacaria, *M.B. Foster 622* (Holotype: GH, Isotypes: SP!, US!).

DISTRIBUTION: Rocky fields; 1000–1500 m; saxicolous, terrestrial. F8v, ix, xviii. Endemic.

BLOOMING: July to January peaking October. Fruit February to April.

VOUCHER: Conceição do Mato Dentro, *Versieux 258* (SP).

NOTE: Frequently confused with *Vriesea minarum*.

**Vriesea vagans** (L.B.Sm.) L.B.Sm., Phytologia 13: 118. 1966.—*Vriesea philippocoburgii* var. *vagans* L.B.Sm., Arquivo Bot. Estado São Paulo 1: 121. 1943. TYPE: Brazil—São Paulo, próximo a Apiai, de São Paulo para Curitiba, *M.B. Foster 399*. (Holotype: GH, Isotype: US!).

DISTRIBUTION: Rocky fields, savanna, Atlantic Forest; 590–1300 m; epiphytic. F8ix; G8v; H7viii, xiii. BA, ES, MG, PR, RJ, RS, SC, SP.

BLOOMING: November to March. Fruit April to July.

VOUCHER: Diogo de Vasconcelos, *Tameirão-Neto 2604* (BHCB).

**Wittrockia cyathiformis** (Vell.) Leme, Canistrum Bromel. Mata Atl. 67. 1997.—*Tillandsia cyathiformis* Vell., Fl. Flum. 137. 1825. Synonyms: *Canistrum cyathiforme* (Vell.) Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 252. 1891. *Canistrum regnellii* Mez in Mart., Eichler & Urban, Fl. Bras. (Martius) 3(3): 252. 1891. *Canistrum schwackeanum* Mez, Bot. Jahrb. Syst. 30(67): 4. 1901. LECTOTYPE: plate 144 in Vellozo, Icon. 3, Fl. Flum. 1831, designated by Smith & Downs (1979).

DISTRIBUTION: Atlantic Forest; 830–1200 m; epiphytic, saxicolous, terrestrial. G8x; H5i; I5i; I6i, iv. BA, MG, PR, RJ, SC, SP.

BLOOMING: October to April.

VOUCHER: Ouro Preto, *Schwacke 10558* (RB).

**Wittrockia gigantea** (Baker) Leme, Canistrum Bromel. Mata Atl. 70. 1997.—*Nidularium giganteum* Baker, J. Bot. 18: 50. 1880. Synonyms: *Canistrum ingratum* Mez, Bot. Jahrb. Syst. 67: 3. 1901. *Canistrum gigan-*

*teum* (Baker) L.B.Sm., Arq. Bot. Estado São Paulo 2: 118. 1950. TYPE: Brazil—Rio de Janeiro, *Glaziou 11692* (Holotype: K).

DISTRIBUTION: Atlantic Forest; 700–1400 m, epiphytic, terrestrial, saxicolous. F8ix; G9iii, vii; H8x; I7iii. MG, RJ, SP.

BLOOMING: March to July.

VOUCHER: Jaboticatubas, *Foster 609* (SP, US).

**Wittrockia tenuisepala** (Leme) Leme, Canistrum Bromel. Mata Atl., 65. 1997.—*Nidularium tenuisepalum* Leme, Bradea 5(29): 319. 1990. TYPE: Brazil—Minas Gerais, Manhumirim, *A. Seidel 1099* fl. cult. (Holotype: HB!, Isotype: RB!, “Clonotype”: HB!, SEL).

DISTRIBUTION: Atlantic Forest; ca. 610 m; habit unknown. G10iv. Endemic.

BLOOMING: Unknown.

VOUCHER: Manhumirim, *Leme s.n.* fl. cult. (HB 77762, RB).

#### **Wittrockia sp. 1.**

DISTRIBUTION: Rocky fields, Atlantic Forest; 1000 m; epiphytic, terrestrial. E8x. BA?, MG.

BLOOMING: March.

VOUCHER: São Gonçalo do Rio Preto, *Viana 1734* (BHCB).

NOTE: Undescribed new species.

#### ACKNOWLEDGMENTS

This paper is a part of the M.Sc. dissertation of LMV undertaken at the Post-Graduate Program in Botany of the Universidade Federal do Rio de Janeiro/Museu Nacional. We acknowledge support from the Brazilian agencies: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), and Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), and from the U.S.A.: National Science Foundation (DEB-0129446), Marie Selby Botanical Gardens, and Smithsonian Women’s Committee. We thank the Instituto Estadual de Florestas (MG) for permission to collect; A. Hagler for reviewing the English, R. Andreatta, and A. Calvente for suggestions on an earlier draft of this manuscript; H. E. Luther, B. K. Holst, and the Mulford B. Foster Bromeliad Identification Center at Marie Selby Botanical Gardens, and W. J. Kress, R. Faden, and the Smithsonian Institution/Research Training Program, where the initial survey was made during an internship by LMV, for all their suggestions and encouragement. Final thanks go to the curators and keepers of the herbaria for access to specimens and data, Selbyana editorial staff and to two anonymous reviewers who contributed to improve the manuscript.

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