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## KEY TO AECHMEA AND SIMULATORS

This revision follows the same general plan as that of Tillandsia in my Notes on Bromeliaceae, XXXI, and Guzmania in number XXXII. It is the last large key preliminary to my monograph and the only one of any great size in the Bromelioideae.

The demarcation of Aechmea as a genus is very difficult and I have erred on the side of lumping by reducing Chevalieria, Disteganthus, Wittmackia (Phytologia 14: 464. 1967) and Gravisia (Phytologia 19: 281. 1970) to Aechmea because their supposed distinctions proved inadequate or illusory.

I have had to change Mez's key to subgenera because the cyathiform inflorescence that he used to define Subgenus Ortgiesia is not significant and the species that he included there must be distributed elsewhere. At the same time Hoplophytum is replaced by Ortgiesia because Aechmea fasciata, the type species of Hoplophytum, accords better with Mez's definition of Subgenus Aechmea, while the type species of Ortgiesia, Aechmea recurvata, fits his definition of Hoplophytum except for the cyathiform inflorescence. The revised key to subgenera is as follows:

1. Petal-appendages well developed; inflorescence simple or compound, never perennial.
2. Flowers pedicellate; inflorescence lepidote, amply compound, lax.....Subgenus 1. PODAECHMEA
2. Flowers sessile or subsessile or if pedicellate then the inflorescence glabrous and simple or subsimple.
3. Inflorescence compound, or if simple then lax with entire sepals or the flowers distichous.
4. Sepals unarmed; flowers in more than 2 ranks, glabrous.  
Subgenus 2. LAMPROCCUS
4. Sepals mucronate or mucronulate, or if unarmed then the flowers distichous and lepidote.
5. Floral bracts neither decurrent nor forming pouches around the flowers.
6. Sepals nearly or quite free.....Subgenus 3. AECHMEA
6. Sepals connate for one-third to one-half their length, their mucros about as long as their free lobes.  
Subgenus 4. ORTGIESIA
5. Floral bracts decurrent and forming pouches around the flowers.....Subgenus 5. PLATYAECHMEA
3. Inflorescence simple; flowers more than 2-ranked.
7. Sepals mucronate or mucronulate; petal-appendages appearing basal or higher.....Subgenus 6. POTHUAVA
7. Sepals unarmed; petal-appendages mostly appearing to be inserted well above the base....Subgenus 7. MACROCHORDION
1. Petal-appendages rudimentary or reduced; inflorescence simple

or rarely digitate, perennial; flowers strobilate, in many ranks; floral bracts mostly thick and ligneous.

Subgenus 8. PURPUROSPADIX

Subgenus 1. PODAECHEMEA

1. Sepals unarmed, 4 mm long. Peru.....Ae. ferruginea
1. Sepals mucronate.
  2. Sepals 22 mm long; inflorescence pendulous, its axes, ovaries and sepals coarsely and densely white-lepidote. Mexico. Ae. mcvaughii
  2. Sepals not over 6 mm long.
    3. Petals yellow; sepals 4 mm long; pedicels 4 mm long. Mexico Ae. galeottii
    3. Petals red to blue.
      4. Sepals 6 mm long; lower branches of the inflorescence much divided. Mexico, Costa Rica, Ecuador.....Ae. mexicana
      4. Sepals 3.5 mm long; lower branches of the inflorescence simple or slightly divided. Mexico, British Honduras. Pl. I, fig. 1-3.....Ae. lueddemanniana

Subgenus 2. LAMPROCOCCUS

1. Calyx campanulate; sepals broadly obovate. Guyana. Ae. campanulata
1. Calyx tubular.
  2. Leaves 2-ranked; sheaths elongate.
    3. Scape long, decurved; leaf-blades marked with spots or bands. Brazil.....Quesnelia marmorata
    3. Scape short, erect, largely hidden by the leaf-sheaths; leaf-blades concolorous. Colombia, Venezuela, Amazonian Brazil.....Ae. brevicollis
  2. Leaves more than 2-ranked; sheaths short.
    4. Ovary alate; inflorescence few-flowered; floral bracts large. Brazil.....Ae. brachycaulis
    4. Ovary wingless, terete.
      5. Inflorescence involucrate with large upper scape-bracts and lower primary bracts, corymbose. Colombia, Peru, Amazonian Brazil.....Ae. corymbosa
  5. Inflorescence not involucrate.
    6. Floral bracts evident, well developed.
      7. Inflorescence simple.
        8. Leaf-blades petiolate or subpetiolate. Costa Rica, Colombia.....Ronnbergia spp.
        8. Leaf-blades ligulate, not narrowed at base. Brazil. Quesnelia spp.
      7. Inflorescence laxly bipinnate. Brazil. Pl. I, fig. 4. Ae. weilbachii
  6. Floral bracts minute or lacking. Brazil.
    9. Flowers distinctly pedicellate; ovary verrucose.
      10. Sepals 4 mm long; scape erect; inflorescence basally compound.....Ae. podantha

10. Sepals 9 mm long; scape usually decurved; inflorescence simple. P. I, fig. 5, 6.....Ae. racinae
9. Flowers sessile.
11. Inflorescence bipinnate throughout.
12. Petals white; sepals 6.5 mm long.....Ae. corallina
12. Petals colored; sepals 4 mm long.
13. Inflorescence longer than broad; petal-blades wholly blue.....Ae. miniata
13. Inflorescence about as broad as long; petal-blades blue only at apex.....Ae. farinosa
11. Inflorescence simple or bipinnate at base only.
14. Scape decurved; sepals 8-10 mm long; ovary verrucose.  
Ae. warasii
14. Scape erect; sepals 4.5-6 mm long.
15. Floral bracts minute.....Ae. victoriana
15. Floral bracts wholly lacking.....Ae. fulgens

## Subgenus 3. AECHMEA

1. Floral bracts about equaling to exceeding the sepals.
2. Inflorescence dense.
3. Sepals serrulate-alate on the keel; inflorescence densely subglobose, densely brown-lanate. Brazil.....Ae. mollis
3. Sepals not serrulate-alate.
4. Leaf-blades with broad dark purple spots beneath; inflorescence ovoid, 7 cm long; sepals free, 11 mm long, mucronulate. Brazil.....Ae. orlandiana
4. Leaf-blades concolorous.
5. Inflorescence broad.
6. Flowers fasciculate; primary bracts forming an involucre beneath the subglobose inflorescence. Trinidad, Venezuela. Pl. I, fig. 7-9.....Ae. aripensis
6. Flowers spicate.
7. Inflorescence tripinnate, corymbose. Venezuela. Pl. I, fig. 10, 11.....Ae. gigantea
7. Inflorescence bipinnate, digitate. Amazonian Brazil.  
Ae. rodriguesiana
5. Inflorescence cylindrical or slenderly fusiform.
8. Floral bracts and sepals marginally serrate. Colombia, Ecuador.....Ae. hoppii
8. Floral bracts and sepals entire. Brazil.
9. Sepals free, 9 mm long, unarmed.....Ae. mutica
9. Sepals connate, 23 mm long including the 5 mm macro.  
Ae. macrochlamys
2. Inflorescence lax at least toward base.
10. Sepals 11-22 mm long.
11. Spikes few-flowered, 3-5 cm long.
12. Mucros of the floral bracts much longer than the body of the bract. Guyana.....Ae. brassicoides
12. Mucros of the floral bracts short. Brazil.
13. Inflorescence ample, tripinnate; sepals 22 mm long.  
Ae. rubens

13. Inflorescence bipinnate from a few spikes; sepals 13 mm long.....Ae. prava
11. Spikes many-flowered, 15-35 cm long; flowers distichous. Brazil.  
14. Floral bracts divergent, not touching one another; sepals 21-25 mm long. Pl. II, fig. 1, 2.....Ae. blanchetiana
14. Floral bracts imbricate; sepals 17 mm long. Ae. fraudulosa
10. Sepals 4-6 mm long; flowers distichous.
15. Spikes lax; floral bracts one to one and a half times as long as the internodes. Costa Rica. Pl. II, fig. 3, 4. Ae. pittieri
15. Spikes dense or subdense; floral bracts at least twice as long as the internodes.
16. Floral bracts even or nearly so, glabrous, 15-20 mm long. Costa Rica to Colombia.....Ae. dactylina
16. Floral bracts prominently nerved, densely white-arachnoid at first, 6-13 mm long. Honduras to Colombia.....Ae. pubescens
1. Floral bracts distinctly surpassed by the sepals.
17. Floral bracts in the form of a cylinder or cup, completely enclosing the base of the ovary with their margins overlapping.
18. Mucro of the floral bracts 2-8 mm long; sepals 3-11 mm long
19. Spikes very dense; flowers few, subfasciculate; sepals mucronate, 4 mm long. Northern South America. Ae. mertensii
19. Spikes lax; sepals 6-11 mm long.
20. Rhachis terete, slender; spikes distinctly stipitate. Peru.....Ae. paniculata
20. Rhachis angled. Brazil.
21. Leaf-spines 5 mm long; inflorescence slenderly cylindrical Ae. huebneri
21. Leaf-spines 2 mm long; inflorescence amply pyramidal. Pl. II, fig. 5-7.....Ae. ampla
18. Mucro of the floral bracts to 16 mm long; sepals 16-20 mm long.
22. Inflorescence densely ferruginous-flocculose; branches all bearing a few flowers at their bases, but the upper branches with sterile apices. Bolivia, Brazil. Ae. kuntzeana
22. Inflorescence pale-flocculose.
23. Branches at the base of the inflorescence reduced to fascicles of sterile setiform bracts. Panama to French Guiana, Brazil.....Ae. setigera
23. Branches all bearing a few flowers at their bases, but with sterile apices.
24. Floral bracts but slightly exceeding the ovary. Colombia.....Ae. longicuspis
24. Floral bracts nearly equaling the sepals. Amazonian Brazil. Pl. II, fig. 8, 9.....Ae. prancei
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- .17. Floral bracts not completely enclosing the base of the ovary
25. Floral bracts equaling or exceeding the ovary at anthesis.
26. Sepals 12-23 mm long.
27. Inflorescence laxly and amply 3-4-pinnate, broad. Brazil
28. Floral bracts ovate, attenuate; rhachis angled. Pl. II, fig. 10-12.....Ae. eurycorymbus
28. Floral bracts reniform with a terminal spine; rhachis terete.....Streptocalyx floribundus
27. Inflorescence or its branches dense.
29. Lower primary bracts ample, nearly as broad as long, covering most of each branch.
30. Primary bracts with conspicuous densely white-lepidote apices; sepals inconspicuously mucronate; branches aborted, few-flowered. Colombia, Ecuador.  
Ae. nidularioides
30. Primary bracts nearly or quite concolorous; sepals often strongly mucronate.
31. Flowers distichous; scape usually not more than equaling the globose to cylindric inflorescence.  
Northern South America.....Streptocalyx spp.
31. Flowers polystichous; scape much longer than the globose inflorescence. Brazil.....Ae. capitata
29. Lower primary bracts much longer than broad, thin, entire, crumpled with age.
32. Floral bracts narrow, exposing the rhachis. Trinidad.  
Ae. downsiana
32. Floral bracts ample, imbricate and concealing the rhachis (Gravisia in part).
33. Flowers spicate on elongate axes. Brazil.  
Ae. lanjouwii
33. Flowers fasciculate at the ends of the branches.
34. Lower branches equaling to much exceeding the primary bracts. Brazil.....Ae. mulfordii
34. Lower branches only about half as long as the primary bracts. Costa Rica, Venezuela, Trinidad, Tobago, Guiana, Brazil.....Ae. aquilega
26. Sepals 4-11 mm long.
35. Flowers polystichous or so few or so lax as not to show their rank.
36. Sepals not more than apiculate. Brazil.
37. Leaf-blades with brown-purple spots or wavy bands; lower branches stipitate.....Ae. fosteriana
37. Leaf-blades concolorous; all branches sessile, densely fasciculate in the axils of the primary bracts.  
Ae. bambusoides
36. Sepals distinctly mucronate.
38. Inflorescence dense.
39. Spikes to 10-flowered; floral bracts lance-ovate, attenuate. Venezuela.....Ae. gigantea
39. Spikes 2-3-flowered; floral bracts very broadly subovate. Brazil. Pl. II, fig. 13, 14.  
Ae. phanerophlebia

38. Inflorescence lax.
40. Rhachis geniculate. Brazil
41. Ovary trigonous; some leaf-blades narrowly triangular branches to 6 cm long.....Ae. purpurea-rosea
41. Ovary terete; all leaf-blades ligulate; branches 40-50 cm long.....Streptocalyx floribundus
40. Rhachis straight; leaf-blades ligulate. Lesser Antilles, Trinidad, Guiana, Brazil.....Ae. lingulata
35. Flowers manifestly distichous; spikes mostly rather dense
42. Inflorescence 3-4-pinnate.
43. Sepals acuminate to a soft point; inflorescence densely white-lanate. Brazil.....Ae. araneosa
43. Sepals not acuminate; inflorescence not densely vistite
44. Upper scape-bracts serrate. Colombia..Ae. servitensis
44. Upper scape-bracts entire.
45. Floral bracts only about as long as the internodes, red. Mexico, Central America, Colombia.  
Ae. bracteata
45. Floral bracts more than twice as long as the internodes. Colombia, Ecuador. Pl. II, fig. 15, 16.  
Ae. pyramidalis
42. Inflorescence not more than bipinnate.
46. Spike-rhachis excavated or winged.
47. Upper scape-bracts serrate. Costa Rica to Peru and Bolivia.....Ae. angustifolia
47. Upper scape-bracts entire. Colombia, Ecuador.  
Ae. leucocarpa
46. Spike-rhachis merely angled.
48. Sepals 9-10 mm long.
49. Spikes densely few-flowered; rhachis straight. Colombia.....Ae. stenosepala
49. Spikes lax, 10 cm long; rhachis geniculate. Peru.  
Ae. nallyi
48. Sepals 4-5 mm long.
50. Scape-bracts dentate. Ecuador.....Ae. eggersii
50. Scape-bracts entire. Bolivia.....Ae. brachyclada
25. Floral bracts distinctly shorter than the ovary at anthesis
51. Sepals 12-23 mm long.
52. Floral bracts setiform from a minute base or evenlacking.
53. Axes stout; sepals 23 mm long; primary bracts broad. Brazil.....Ae. tomentosa
53. Axes slender; sepals 12-16 mm long.
54. Inflorescence densely cylindric except at base; sepals 16 mm long. Brazil.....Ae. bahiana
54. Inflorescence laxly subpyramidal; sepals 12-14 mm long.
55. Ovary slenderly cylindric. Brazil.
56. Inflorescence white-tomentose.....Ae. constantinii
56. Inflorescence ferruginous-tomentose....Ae. stelligera
55. Ovary obovoid or clavate; inflorescence sparsely flocculose, soon glabrous.
57. Inflorescence broadly pyramidal, lax, 30-60 cm wide at base. Colombia, Venezuela.....Ae. spectabilis

57. Inflorescence cylindric, narrow. Venezuela, Trinidad  
Pl. III, fig. 1-3.....Ae. fendleri
52. Floral bracts broad and flat for most of their length.
58. Scape decurved, very slender; floral bracts minute,  
suborbicular. Venezuela.
59. Inflorescence branched throughout; wing of the sepal  
not extending above the midnerve. Pl. III, fig. 4, 5  
Ae. filicaulis
59. Inflorescence terminating in a long spike; wing of the  
sepal much exceeding the midnerve.....Ae. lasseri
58. Scape erect.
60. Primary bracts like the floral bracts; inflorescence  
cylindric. Mexico.....Ae. matudae
60. Primary bracts large.
61. Inflorescence densely cylindric except the interrupted  
base.
62. Primary bracts firm, serrate. Colombia, Peru,  
Bolivia, Suriname, Amazonian Brazil.  
Streptocalyx poeppigii
62. Primary bracts thin, entire. Trinidad..Ae. downsiana
61. Inflorescence amply paniculate.
63. Petals 15 mm long; primary bracts 15-18 mm long.  
Guatemala.....Ae. iguana
63. Petals 25-35 mm long. Brazil.
64. Floral bracts 5-8 mm long; petals 25 mm long.  
Ae. werdermannii
64. Floral bracts 1-3 mm long; petals 35 mm long. Pl.  
III, fig. 6, 7.....Ae. megalantha
51. Sepals 4-11 mm long.
65. Branches of the inflorescence (either the primary or the  
ultimate) fascicled at each node, very slender, terete.
66. Spikes mostly 1-flowered, the flowers appearing slender-  
ly pedicellate but the floral bracts situated immedi-  
ately below the ovary. Venezuela.  
Ae. cymoso-paniculata
66. Spikes nearly all 2-8-flowered.
67. Inflorescence broadly pyramidal, lax, 30-60 cm wide at  
base. Colombia, Venezuela.....Ae. spectabilis
67. Inflorescence cylindric, not more than 9 cm wide at  
base.
68. Sepals 11-12 mm long. Trinidad, Venezuela. Pl. III,  
fig. 1-3.....Ae. fendleri
68. Sepals 5-6 mm long. Jamaica, Colombia.  
Ae. paniculigera
65. Branches of the inflorescence solitary at each node.
69. Sepals obscurely mucronulate to unarmed; flowers  
distichous.
70. Inflorescence subdigitate; spikes dense. Ecuador.  
Ae. abbreviata
70. Inflorescence elongate.
71. Scape-bracts serrate or serrulate.
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72. Inflorescence tripinnate at base, its trichomes flat, peltate. Colombia.....Ae. servitensis
72. Inflorescence bipinnate throughout, its trichomes cylindrical, crisped.....Ae. nallyi
71. Scape-bracts entire.
73. Leaf-blades subentire or minutely serrulate toward base. Costa Rica to Peru and Venezuela, Amazonian Brazil.....Ae. penduliflora
73. Leaf-blades laxly serrate with broad flat spines 7 mm long. Venezuela.....Ae. politii
69. Sepals distinctly mucronate.
74. Ovary trigonous; trichomes of the inflorescence filamentous, crisped; outer leaf-blades narrowly triangular; scape-bracts inconspicuous. Brazil. Pl. III, fig. 8, 9.....Ae. purpurea-rosea
74. Rhachis terete; leaf-blades all ligulate.
75. Rhachis straight or slightly flexuous.
76. Flowers polystichous. Central America.  
Androlepis skinneri
76. Flowers distichous.
77. Upper scape-bracts serrulate. Colombia....Ae. nivea
77. Upper scape-bracts entire. Venezuela, Suriname, Amazonian Brazil, Bolivia. Pl. III, fig. 10, 11.  
Ae. tocantina
75. Rhachis geniculate.
78. Inflorescence trichomes slenderly cylindrical; upper scape-bracts massed beneath the inflorescence, flat, serrate, persistent. Colombia, Bolivia, Brazil. Pl. III, fig. 12-14. Ae. castelnavii
78. Inflorescence trichomes squamiform.
79. Leaf-sheaths concolorous with the blades; scape-bracts persistent. Brazil.....Ae. azurea
79. Leaf-sheaths dark castaneous; scape-bracts soon deciduous.
80. Blades broadly acute or obtuse, 5 cm wide, the teeth stout, 4 mm long; inflorescence minutely verrucose. The Guianas, Amazonian Brazil.  
Ae. melinonii
80. Blades acute, 3 cm wide, the teeth slender; inflorescence smooth. Amazonian Brazil..Ae. egleriana

## Subgenus 4. ORTGIESIA

1. Scape wholly covered by the leaf-sheaths; floral bracts usually serrulate.
2. Sepals 6 mm long without the terminal mucro. Brazil.  
Ae. guaratubensis
2. Sepals 9-15 mm long without the terminal mucro.
3. Leaf-blades narrowly triangular, regularly attenuate from base to apex. Brazil, Uruguay, Paraguay, Argentina.  
Ae. recurvata
3. Leaf-blades linear, acute. Brazil.....Ae. pimenti-velosoi



1. Scape evident, raising the inflorescence well above the leaf-sheaths. Brazil.
4. Inflorescence compound.
  5. Floral bracts exceeding the sepals. (cf. Subgenus Aechmea).  
(Ae. macrochlamys)
  5. Floral bracts distinctly surpassed by the sepals.
  6. Petals white; leaves frequently banded; flowers 15 mm long; sepals 3.5 mm long without the 3 mm mucro.....Ae. candida
  6. Petals colored.
    7. Petals yellow; inflorescence densely white-flocculose; branches slender, geniculate; scape-bracts mostly imbricate; flowers 20-25 mm long.....Ae. caudata
    7. Petals blue.
      8. Inflorescence persistently white-flocculose; branches nearly or quite straight; flowers 20 mm long.  
Ae. coelestis
      8. Inflorescence soon glabrous; branches geniculate.
        9. Flowers 17 mm long; scape-bracts mostly imbricate.  
Ae. organensis
        9. Flowers 25 mm long; scape-bracts mostly remote.  
Ae. gracilis
  4. Inflorescence simple.
    10. Petals white.
      11. Leaves broadly rounded and apiculate, sometimes banded; sepals 3.5 mm long without the 3 mm mucro..(Ae. candida)
      11. Leaves abruptly acuminate, densely and evenly cinereous-lepidote beneath; sepals 4 mm long without the 1 mm mucro.....Ae. bicolor
    10. Petals colored,
      12. Petals yellow.
        13. Flowers subverticillate; leaves often white-banded beneath; sepals 7 mm long including the 3 mm mucro.  
Ae. blumenavii
        13. Flowers evenly distributed along the axis or more lax toward the base, but not at all verticillate; leaves not banded; sepals 7-11 mm long including the long mucro.
        14. Sepals connate for one-third to half their length.  
Ae. caudata
        14. Sepals short-connate; anthesis beginning in the middle of the inflorescence.....Ae. kertesziae
    12. Petals blue.
      15. Inflorescence very lax, few-flowered, soon glabrous; flowers 25 mm long; scape-bracts mostly remote.
      16. Scape erect.....Ae. gracilis
      16. Scape decurved.....Ae. apocalyptica
      15. Inflorescence with its axis slightly exposed, many-flowered.
        17. Flowers 20 mm long; inflorescence stout; floral bracts soft.....Ae. cylindrata
        17. Flowers 15 mm long; inflorescence slender; floral bracts pungent.....Ae. gamosepala

## Subgenus 5. PLATYAECHEMIA

1. Flowers polystichous; floral bracts serrulate. Brazil.
2. Primary bracts about equaling or shorter than the branches; sepals unarmed, free; flowers 13 mm long. Pl. IV, fig. 1-2  
Ae. caesia
2. Primary bracts exceeding the branches or the inflorescence simple and cyathiform.
3. Inflorescence broadly pyramidal, compound; only the highest scape-bracts imbricate; bracts of the inflorescence pale rose, becoming glabrous; petals pale blue at anthesis.  
Ae. fasciata
3. Inflorescence narrowly pyramidal or ellipsoid and simple; scape-bracts nearly all imbricate; bracts of the inflorescence brown, persistently white-lepidote; petals coral red at anthesis.....Ae. dealbata
1. Flowers distichous; floral bracts entire.
4. Floral bracts truncate, pouch-shaped. Bolivia, Brazil, Uruguay, Paraguay, Argentina.....Ae. distichantha
4. Floral bracts not truncate, extending much higher dorsally than ventrally.
5. Leaf-blades distinctly petiolate; inflorescence simple or rarely digitate from a few spikes. Colombia, Peru, Guiana, Brazil.....Ae. contracta
5. Leaf-blades not petiolate.
6. Sepals exerted beyond the bracts at anthesis.
7. Lower primary bracts serrulate.
8. Sepals very unequally connate, 15 mm long; primary bracts diminishing gradually in size toward the apex of the inflorescence. Colombia.....Ae. anomala
8. Sepals free or equally short-connate, 10-13 mm long; primary bracts abruptly much shorter toward the apex of the inflorescence.
9. Floral bracts elliptic, retuse, much exceeding the ovary; leaf-blades concolorous. Peru.....Ae. retusa
9. Floral bracts broadly ovate, subtruncate, slightly exceeding the ovary; leaf-blades usually conspicuously white-banded. Colombia, Peru, Amazonian Brazil. Pl. IV, fig. 3, 4.....Ae. chantinii
7. Lower primary bracts entire.
10. Floral bracts uniform, their mucro short, subapical; spikes oblong. Lesser Antilles, Trinidad.  
Ae. dichlamydea
10. Floral bracts tapering into a terminal mucro 4-5 mm long, the lower ones much larger than the others. Lesser Antilles.....Ae. smithiorum
6. Sepals included in the floral bracts at anthesis.
11. Leaf-blades broadly white-banded beneath; floral bracts 28 mm long. Colombia.....Ae. zebrina
11. Leaf-blades concolorous; floral bracts 6-25 mm long.
12. Primary bracts entire; rhachis flattened, little or not at all excavated (cf. Subgenus Aechmea).

13. Floral bracts even or nearly so, glabrous, 15-20 mm long. Costa Rica to Colombia.....(Ae. dactylina)
13. Floral bracts prominently nerved, densely white-arachnoid at first, 6-13 mm long. Honduras to Colombia.....(Ae. pubescens)
12. Primary bracts serrate; rhachis strongly excavated.
14. Spikes short-stipitate or sessile.
15. Sepals connate for 2 mm. Lesser Antilles..Ae. serrata
15. Sepals subfree. Mexico to Colombia and Guyana, Brazil.  
Ae. tillandsioides
14. Spikes long-stipitate; primary bracts diminishing evenly in size toward the apex of the inflorescence.
16. Floral bracts coriaceous, nearly even, narrow and exposing the rhachis at anthesis. Colombia, Peru. Pl. IV, fig. 5, 6.....Ae. tessmannii
16. Floral bracts chartaceous, prominently nerved, ample and completely covering the rhachis at anthesis. Colombia.....Ae. romeroi

## Subgenus 6. POTHUAVA

1. Floral bracts serrate. Brazil.
2. Inflorescence scapose.....Ae. pectinata
2. Inflorescence sessile.....Ae. pitcairnioides
1. Floral bracts entire.
3. Scape-bracts serrate.
4. Floral bracts with soft apices, unarmed
5. Lower floral bracts like the scape-bracts but entire, covering the flowers. Panama.....Ae. allenii
5. Lower floral bracts shorter than the fruiting ovaries.
6. Scape-bracts minutely dentate toward apex; inflorescence subdense. Costa Rica.....Ae. tonduzii
6. Scape-bracts coarsely and densely serrate; inflorescence very dense. Costa Rica, Colombia.....Ae. mariae-reginae
4. Floral bracts with pungent narrowly triangular or spinose apices; inflorescence subdense.
7. Mucros of the sepals 8-10 mm or longer.
8. Sepal mucro much more than 10 mm long. Ecuador.  
Ae. aciculosa
8. Sepal mucro 8-10 mm long.
9. Inflorescence cylindric. Peru. Pl. IV, fig. 7, 8.  
Ae. weberbaueri
9. Inflorescence subcapitate. Costa Rica, Colombia.  
Ronnbergia spp.
7. Mucros of the sepals not more than 3 mm long.
10. Flowers 50 mm long; sepals 17 mm long without the mucro. Ecuador.....Ae. involucrata
10. Flowers 30 mm long; sepals 10 mm long without the mucro. Ecuador, Peru.....Ae. fraseri
3. Scape-bracts entire or obscurely serrulate.
11. Ovary verrucose; inflorescence laxly few-flowered. Ecuador.  
Ae. drakeana

11. Ovary even.
12. Floral bracts with soft flat apices.
13. Floral bracts shorter than the enlarged ovary.
14. Scape-bracts elliptic, rose; leaf-blades unchanneled.  
Mexico, Central America, West Indies, Venezuela,  
Brazil.....Ae. nudicaulis
14. Scape-bracts narrowly lanceolate or linear, green; leaf-blades with a strong narrow median channel.
15. Sepals nearly or quite free. Costa Rica...Ae. tonduzii
15. Sepals half-connate or more. Costa Rica, Colombia,  
Peru.....Ronnbergia spp.
13. Floral bracts much exceeding the ovaries of the lower flowers.
16. Scape-bracts green, rather firm. Colombia.  
Ronnbergia spp.
16. Scape-bracts thin and scarios, often deciduous.
17. Petals blue; floral bracts quickly deciduous; flowers  
20 mm long (cf. Subgenus Ortgiesia). Brazil.  
(Ae. cylindrata)
17. Petals yellow; floral bracts persistent.
18. Floral bracts subnavicular and enfolding the base of  
the ovary; mucro about half as long as the calyx-  
lobe; flowers 20 mm long. Brazil.....Ae. comata
18. Floral bracts very narrow; mucro almost as long as the  
calyx-lobe; flowers 17 mm long. Brazil, Argentina.  
Ae. calyculata
12. Floral bracts with spinose or pungent apices.
19. Floral bracts thin, strongly nerved.
20. Flowers finally becoming reflexed; floral bracts subor-  
bicular; leaves spinose-acuminate; sepals 14 mm long,  
their mucros 3 mm long. Brazil.....Ae. squarrosa
20. Flowers never more than spreading.
21. Floral bracts emarginate; inflorescence with a conspi-  
cuous coma of sterile bracts; sepals 9 mm long, their  
mucros minute. Brazil.....Ae. alopecurus
21. Floral bracts acute to acuminate.
22. Leaf-blades narrowly elliptic, subpetiolate; mucro of  
the sepals 4 mm long. Colombia.....Ae. subpetiolata
22. Leaf-blades ligulate, not narrowed toward the base.  
Brazil.
23. Scape-bracts subcoriaceous, persistent, ample, very  
densely imbricate and wholly concealing the scape;  
leaves acute or acuminate; petals blue toward apex;  
flowers 20-25 mm long; sepals 8-10 mm long, lanate  
at base.....Ae. vanhoutteana
23. Scape-bracts membranaceous, soon disintegrating, the  
lower ones remote; leaves rounded and apiculate.  
Ae. kleinii
19. Floral bracts thick, coriaceous or woody. Brazil.
24. Sepals connate; scapebracts divergent, acuminate into a  
stout subulus.....Ae. ornata
24. Sepals free.



11. Leaves and scape-bracts spotted with red; sepals 8 mm long, about half connate; petals appendaged near the middle; inflorescence flocculose.....Ae. maculata
11. Leaves and scape-bracts concolorous; sepals 12 mm long, connate for 2 mm; petals appendaged at base; inflorescence appressed-lepidote.....Ae. chlorophylla

## Subgenus 8. PURFUROSPADIX

1. Floral bracts serrulate.
2. Sepals 13 mm long; scapes central; spikes cylindric, single.
3. Floral bracts merely spreading, broadly acute. Panama, Colombia.....Ae. germinyana
3. Floral bracts spreading-recurving toward apex, acuminate. Costa Rica to Peru.....Ae. veitchii
2. Sepals 15-38 mm long.
4. Sepals about half connate, 15 mm long; leaves petiolate; scapes lateral from below the rosette; inflorescence simple.
5. Sepals entire. French Guiana.....Ae. basi-lateralis
5. Sepals serrulate. Brazil.....Ae. calatheoides
4. Sepals short-connate or free, 17-38 mm long.
6. Scape-bracts scarcely or not imbricate, smaller than the floral bracts; scapes lateral. Suriname....Ae. lateralis
6. Scape-bracts densely imbricate and large or the scape lacking.
7. Sepals 25-38 mm long. Mexico to Amazon Basin.
8. Leaves and bracts sparsely pale-lepidote to glabrous.
9. Scape elongate; spikes globose, usually several in a digitate inflorescence. Mexico to Venezuela and Ecuador.....Ae. magdalenae
9. Scape short or none; spike flattened-globose, solitary. Guyana Brazil.....Ae. fernandae
8. Leaves and bracts densely ferruginous-lepidote.
10. Floral bracts spreading, 5 cm long; sepals 25 mm long. Colombia, Brazil.....Ae. rubiginosa
10. Floral bracts reflexed toward apex, 7 cm long; sepals 36 mm long. Ecuador.....Ae. strobilacea
7. Sepals 17-20 mm long, Eastern Brazil.
11. Inflorescence globose to cylindric; scape elongate. Ae. multiflora
11. Inflorescence depressed-globose.
12. Scape-bracts and floral bracts red, drying to dark castaneous; floral bracts coarsely serrate, flat toward base.....Ae. depressa
12. Scape-bracts and floral bracts always green; floral bracts serrulate, their bases enfolding the flowers.
13. Ovules caudate.....Ae. saxicola
13. Ovules obtuse.....Ae. hostilis
1. Floral bracts entire.
14. Floral bracts flat, dark castaneous when dry. Brazil. Ae. conifera

- .14..Floral bracts navicular, enfolding at least the base of the flower.
15. Sepals and floral bracts wholly covered with a white wooly indument; inflorescence cylindric, 6 cm in diameter; sepals 10 mm long. Brazil.....Ae. perforata
15. Sepals and floral bracts clearly visible.
16. Apices of the floral bracts broadly acute to acuminate, not truly mucronate.
17. Scape-bracts serrate; floral bracts and sepals punctulate lepidote. Brazil.....Ae. sphaerocephala
17. Scape-bracts entire.
18. Floral bracts and sepals completely covered with appressed white scales; leaf-blades ligulate. Brazil.  
Ae. leucolepis
18. Floral bracts and sepals glabrous; leaf-blades narrowly triangular. Venezuela.....Ae. pallida
16. Apices of the floral bracts mucronate with terete spines. Brazil.
19. Sepals 26 mm long; floral bracts acuminate into an 8-12 mm mucro; inflorescence green.....Ae. muricata
19. Sepals not over 17 mm long.
20. Floral bracts and sepals covered with white appressed scales; sepal-mucro large, stout.....Ae. cariocae
20. Floral bracts brown-lepidote; sepals glabrous, the delicate mucro 0.5 mm long.....Ae. castanea

## Supplement to Key

## Subgenus 5. PLATYAECHMEA

- 3a. Scape erect; inflorescence many-branched; spikes many-flowered.....Ae. fasciata
- 3a. Scape decurved; inflorescence few-branched; spikes 1-3-flowered.....Ae. wittmackiana

## AECHMEA

Relative to Mez in Engler, Pflanzenreich IV. Fam. 32. 1934.  
(Synonymy in separate list following)

ABBREVIATA L. B. Smith, Phytologia 6: 434. 1959.

ACICULOSA Mez & Sodiro; Pflr. 156.

ALBA Mez; Pflr. 168.

ALLENII L. B. Smith, Ann. Missouri Bot. Gard. 28: 411. 1941.

ALOPECURUS Mez; Pflr. 163.

AMPLA L. B. Smith, sp. nov. Ae. paniculata R. & P. atque Ae. huebneri Harms affinis, a priore axibus lanatis, petalis minoribus, a posteriore inflorescentia ampla, a ambobus foliorum spinis parvis distinguenda.

PLANT flowering 1.3 m high. LEAVES ca. 50 cm long, covered with pale appressed scales; sheaths elliptic, ample, merging with the blades and somewhat longer, dark castaneous basally; blades ligulate, broadly subacute, ca. 7 cm wide, the spines subclax, triangular, spreading, 2 mm long. SCAPE erect, 1 cm in diameter,

pale-lanate; scape-bracts erect, imbricate and enfolding the scape, elliptic, entire, subchartaceous, pale-lanate. INFLORESCENCE erect, laxly pyramidal, ca. 70 cm long, amply tripinnate, pale-lanate; primary bracts like the upper scape-bracts, longer or shorter than the naked sterile bases of the branches; primary branches spreading, to 30 cm long; secondary bracts linear, shorter than the spikes; spikes spreading, 2-3 cm long, laxly and distichously few-flowered; rhachis nearly straight, angled, sulcate. FLORAL BRACTS suborbicular with the margins free from the rhachis, completely surrounding the base of the flower, 5 mm long without the 2 mm slender mucro, about equaling the ovary; flowers divergent, sessile. SEPALs strongly asymmetric with the right wing extending above the apex, 11 mm long, short-connate, unarmed; petals imperfectly known, over 18 mm long, bearing 2 lacerate scales at base. Pl. II, fig. 5: Spike; fig. 6: Floral bract; fig. 7: Sepal.

BRAZIL: BAHIA: Canavieiras, restinga, 29 January 1965, Lanna 742 & Castellanos 25491 (Centro Pesq. Fl. & Conserv. Nat. - Rio de Janeiro, type; photo US).

ANGUSTIFOLIA Poepp. & Endl.; Pflr. 132.

ANOMALA L. B. Smith, *Caldasia* 3: [237]. 1945.

APOCALYPTICA Reitz, *Sellowia* 14: 99. 1962.

AQUILEGA (Salisb.) Griseb.; Pflr. 108 sub Gravisia. Cf. *Phytologia* 19: 281. 1970.

Var. AQUILEGA. Floral and secondary bracts green. Costa Rica Venezuela, Trinidad, Tobago, the Guianas, Brazil.

Var. CHRYSOCOMA (Baker) L. B. Smith, *Phytologia* 19: 281. 1970. Floral and secondary bracts bright yellow. Brazil.

ARANEOSA L. B. Smith, *Arquiv. Bot. Est. S. Paulo* II. 1: 53. 1941.

ARIPENSIS (N. E. Brown) Pittendrigh, *Journ. Washington Acad. Sci.* 48: 316. 1958. Pflr. 109 sub Gravisia.

AZUREA L. B. Smith, *Arquiv. Jard. Bot. Rio de Janeiro* 10: [141]. 1950.

BAHIANA L. B. Smith, *Phytologia* 13: 458. 1966.

BAMBUSOIDES Smith & Reitz, *Bromel. Soc. Bull.* 14: 32. 1964.

BASI-LATERALIS (Lem.) L. B. Smith, *Phytologia* 7: 109. 1960. Pflr. 38 sub Disteganthus.

BICOLOR L. B. Smith, *Smithsonian Misc. Coll.* 126: 12, 213. 1955.

BLANCHETIANA (Baker) L. B. Smith, *Smithsonian Misc. Coll.* 126: 13, 205. 1955. Pflr. 133. sub Aechmea remotiflora Mez.

BLUMENAVII Reitz, *Anais Bot. Herb. Barbosa Rodrigues* 4: 21. 1952.

BRACHYCAULIS Baker; Pflr. 124.

BRACHYCLADA Baker; Pflr. 142.

BRACTEATA (Sw.) Griseb.; Pflr. 139 but with "Mez" as combining author.

Var. BRACTEATA. Primary bracts completely lacking in the apical part of the inflorescence; young fruit lepidote. Mexico to Colombia.

Var. PACIFICA Beutelspacher, *Cact. Sucul. Mex.* 16: 44. 1971.



Primary bracts developed throughout the inflorescence; young fruit glabrous. Mexico

BRASSICOIDES Baker; Pflr. 108 sub Gravisia.

BREVICOLLIS L. B. Smith, Contr. Gray Herb. 154: 32. 1945.

BROMELIIFOLIA (Rudge) Baker; Pflr. 165.

Var. BROMELIIFOLIA. Leaf-blades green. Guatemala to Argentina.

Var. RUBRA M. B. Foster, Bromel. Soc. Bull. 12: 34. 1962.

Leaf-blades reddish. Brazil.

CAESIA E. Morr. ex Baker; Pflr. 151.

CALATHEOIDES L. B. Smith, Phytologia 13: 147. 1966.

CALYCVLATA (E. Morr.) Baker; Pflr. 159.

CAMPANULATA L. B. Smith, Mem. New York Bot. Gard. 9: 316. 1957

CANDIDA E. Morr. ex Baker; Pflr. 127.

CARIOCAE L. B. Smith, Smithsonian Misc. Coll. 126: 13, 228.

1955. Pflr. 97 sub Chevalieria comata Mez.

CASTANEA L. B. Smith, Smithsonian Misc. Coll. 126: 13, 228. 1955.

CASTELNAVII Baker; Pflr. 137.

CAUDATA Lindm.; Pflr. 126. Brazil.

Var. CAUDATA. Leaf-blades wholly green; live petal-blades yellow turning purplish with age.

Var. VARIEGATA M. B. Foster, Bromel. Soc. Bull. 3: 47. 1953.

Leaf-blades with broad white longitudinal stripes.

Var. EIPPERI Reitz, Sellowia 17: 41. 1965. Petal-blades blue at anthesis. This character would seem to contradict one of the chief specific characters.

CHANTINII (Carr.) Baker; Pflr. 137.

CHLOROPHYLLA L. B. Smith, Smithsonian Misc. Coll. 126: 14, 227 1955.

COELESTIS (K. Koch) E. Morr.; Pflr. 126.

COMATA (Gaud.) Baker; Pflr. 160. Brazil.

Var. COMATA. Leaf-blades concolorous.

Var. MAKOYANA (Mez) L. B. Smith, Smithsonian Misc. Coll. 126: 14, 221. 1955. Pflr. 159 sub Aechmea lindeni Baker. Leaf-blades yellow-striped.

CONIFERA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 53. 1941.

CONTRACTA (Mart. ex Schult. f.) Baker; Pflr. 160.

CORALLINA (Beer) Brongn. ex Baker; Pflr. 123.

CORYMBOSA (Mart. ex Schult. f.) Mez; Pflr. 125.

COSTANTINII (Mez) L. B. Smith, Phytologia 19: 281. 1970. Pflr 111 sub Gravisia.

CYLINDRATA Lindm.; Pflr. 158.

CYMOSO-PANICULATA Baker; Pflr. 134.

DACTYLINA Baker; Pflr. 147.

DEALBATA E. Morr. ex Baker; Pflr. 152.

DEPRESSA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 54. 1941.

DICHLAMYDEA Baker; Pflr. 146.

Var. DICHLAMYDEA. Stipes equaling or exceeding the primary bracts; primary bracts narrow, thin. Lesser Antilles.

- Var. *PARIAENSIS* Pittendrigh in L. B. Smith, *Phytologia* 18: 137. 1969. Primary bracts ample, firm. Venezuela.
- Var. *TRINITENSIS* L. B. Smith, *Contr. Gray Herb.* 102: 145, 185. 1933. Stipes shorter than the primary bracts, stout. St. Vincent, Trinidad.
- DISTICHANTHA* Lem.; Pflr. 149.
- Var. *DISTICHANTHA*. Inflorescence lax or sublax with spikes more or less spreading; leaf-blades mostly acute or attenuate, evenly convex.
- Forma *DISTICHANTHA*. Petals purple or blue. Brazil, Bolivia, Paraguay, Argentina, Uruguay.
- Forma *ALBIFLORA* L. B. Smith, *Arquiv. Bot. Est. S. Paulo* II. 1: 102. 1943. Petals white. Brazil.
- Var. *CANALICULATA* M. B. Foster, *Bromel. Soc. Bull.* 12: 4. 1962. Leaf-blades with a narrow median channel. Brazil.
- Var. *SCHLUMBERGERI* E. Morr. ex Mez; Pflr. 149. Inflorescence dense, elongate; leaves usually attenuate. Brazil, Bolivia, Paraguay, Argentina.
- Var. *GLAZIOVII* (Baker) L. B. Smith, *Arquiv. Bot. Est. S. Paulo* II. 1: 102. 1943. Pflr. 148 sub *Aechmea glaziovii* Baker. Inflorescence dense, short, ovoid; leaves usually rounded and apiculate. Brazil.
- DOWNSIANA* Pittendrigh, *Journ. Washington Acad. Sci.* 48: 315. 1958.
- DRAKEANA* André; Pflr. 157.
- EGGERSII* Mez; Pflr. 142.
- EGLERIANA* L. B. Smith, *Bol. Mus. Paraense Emilio Goeldi* II. 1: 2. 1958.
- Var. *EGLERIANA*. Plant 40 cm high; leaves 50 cm long; inflorescence 9-21 cm long. Brazil.
- Var. *MAJOR* L. B. Smith, *Mem. New York Bot. Gard.* 10, no. 5: 40. 1964. Plant over 60 cm high; leaves to 110 cm long; inflorescence ample, 37 cm long. Brazil, Venezuela.
- EURYCORYMBUS* Harms, *Notizblatt* 12: 528. 1935.
- FARINOSA* (Regel) L. B. Smith, *Phytologia* 13: 148. 1966. Pflr. 125 sub *Aechmea glomerata* (Beer) Mez var. *farinosa* (Regel) Mez. Brazil.
- Var. *FARINOSA*. Leaf-blades green with a farinose coat on both sides.
- Var. *CONGLOMERATA* (Baker) L. B. Smith, *Phytologia* 13: 148. 1966. Leaf-blades farinose beneath, glabrous above, wholly green.
- Var. *DISCOLOR* (Beer ex Baker) L. B. Smith, *Phytologia* 13: 148. 1966. Leaf-blades claret-brown beneath.
- FASCIATA* (Lindl.) Baker; Pflr. 152. Brazil.
- Var. *FASCIATA*. Leaves green.
- Var. *PURPUREA* (Guillon) Mez; Pflr. 152. Leaves red-purple.
- FENDLERI* André; Pflr. 134.
- FERNANDAE* (E. Morr.) Baker; Pflr. 170.
- FERRUGINEA* L. B. Smith, *Contr. Gray Herb.* 98: 5. 1932.
- FILICAULIS* (Griseb.) Mez; Pflr. 134.
- FOSTERIANA* L. B. Smith, *Arquiv. Bot. Est. S. Paulo* II. 1: 54. 1941.

- FRASERI Baker; Pflr. 157.  
 FRAUDULOSA Mez; Pflr. 636.  
 FULGENS Brongn.; Pflr. 123. Brazil.  
 Var. FULGENS. Leaves green.  
 Var. DISCOLOR (C. Morr.) Brongn.; Pflr. 123. Leaves red-purple beneath.
- GALEOTTEI Baker; Pflr. 121.  
 GAMOSEPALA Wittm.; Pflr. 128. Brazil.  
 Var. GAMOSEPALA. Sepals red; petals purple or blue.  
 Var. NIVEA Reitz, Sellowia 14: 101. 1962. Sepals rose; petals white.
- GERMINYANA (Carr.) Baker; Pflr. 168.  
 GIGANTEA Baker; Pflr. 138.  
 GRACILIS Lindm.; Pflr. 127.  
 GUARATUBENSIS E. Pereira, ined. Oct. 1972. Keyed from manuscript by permission of author.
- HOPPII (Harms) L. B. Smith, Phytologia 4: 213. 1953.  
 HOSTILIS E. Pereira, ined. Oct. 1972. Keyed from manuscript by permission of author.
- HUEBNERI Harms, Pflr. 131.  
 IGUANA Wittm.; Pflr. 135.  
 INVOLUCRATA André; Pflr. 157.  
 KERTESZIAE Reitz, Anais Bot. Herb. Barbosa Rodrigues 4: 24. 1952.
- KLEINII Reitz, Anais Bot. Herb. Barbosa Rodrigues 5: 254. 1954  
 KUNTZEANA Mez; Pflr. 128.  
 LAMARCHEI Mez; Pflr. 165.  
 LANJOUWII (L. B. Smith) L. B. Smith, Phytologia 19: 281. 1970.  
 LASSERI L. B. Smith, Bromel. Soc. Bull. 3: 43. 1953.  
 LATERALIS L. B. Smith, Contr. U. S. Nat. Herb. 29: 525. 1954.  
 LEUCOCARPA André; Pflr. 143.  
 LEUCOLEPIS L. B. Smith, Smithsonian Misc. Coll. 126: 14, 228. 1955.
- LINGULATA (L.) Baker; Pflr. 87 sub Wittmackia.  
 Var. LINGULATA. Branches spreading and curved-ascending; subulate apex of the floral bracts much longer than the inconspicuous base. Lesser Antilles, Trinidad, the Guianas, Venezuela, Brazil.  
 Var. PATENTISSIMA (Mart. ex Schult. f.) L. B. Smith, Smithsonian Misc. Coll. 126: 15, 208. 1955. Branches straight, spreading to reflexed; floral bracts with broadly ovate base about as long as the subulate apex; sepals about 2 mm long without the mucro. Brazil.  
 Var. FROESII L. B. Smith, Smithsonian Misc. Coll. 126: 15, 208. 1955. Floral bracts with a relatively short mucro; sepals 7 mm long without the mucro. Brazil.
- LONGICUSPIS Baker; Pflr. 128.  
 LUJEDDEMANNIANA (K. Koch) Brongn.; Pflr. 120.  
 MACROCHLAMYS L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 54. 1941.  
 MACULATA L. B. Smith, Smithsonian Misc. Coll. 126: 15, 227. 1955.

MAGDALENAE (André) André ex Baker; Pflr. 169.

Var. MAGDALENAE. Leaf-blades wholly green. Mexico to Venezuela and Ecuador.

Var. QUADRICOLOR M. B. Foster, Bromel. Soc. Bull. 16: 27. 1966  
Leaf-blades variegated with longitudinal stripes of green, white and yellow blending down into red. Mexico.

MARIAE-REGINAE H. Wendl.; Pflr. 156.

MATUDAE L. B. Smith, Contr. U. S. Nat. Herb. 29: 430. 1951.

MCVAUGHII L. B. Smith, Phytologia 10: 481. 1964.

MEGALANTHA Harms, Gartenflora 86: 159. 1937.

MELINONII Hook.; Pflr. 138.

MERTENSII (Meyer) Schult. f.; Pflr. 130.

MEXICANA Baker; Pflr. 119.

MINIATA (Beer) hort. ex Baker; Pflr. 124. Brazil.

Var. MINIATA. Leaves green.

Var. DISCOLOR (Beer) Beer ex Baker; Pflr. 124. Leaves purple-brown beneath.

MOLLIS L. B. Smith, Phytologia 20: 178. 1970.

MULFORDII L. B. Smith, Phytologia 19: 281. 1970.

MULTIFLORA L. B. Smith, Contr. Gray Herb. 117: 4. 1937.

MURICATA (Arr. Cam.) L. B. Smith, Phytologia 8: 12. 1961.

Pflr. 97 sub Chevalieria stephanophora. Considered by Erdtman to be distinct from Aechmea in pollen type (letter), which would require erection of new genus as type species of Chevalieria is an Aechmea.

MUTICA L. B. Smith, Smithsonian Misc. Coll. 126: 16, 205. 1955

NALLYI L. B. Smith, Bromel. Soc. Bull. 13: 124. 1964.

NERVATA L. B. Smith, Smithsonian Misc. Coll. 126: 17, 224.

1955.

NUDLARIOIDES L. B. Smith, Phytologia 4: 356. 1953.

NIVEA L. B. Smith, Caldasia [1], no. 4: 13. 1942.

NUDICAULIS (L.) Griseb.; Pflr. 160.

Var. NUDICAULIS. Leaf-blades wholly green; inflorescence lax; floral bracts reniform and inconspicuous or lacking. Mexico, Central America, West Indies, Venezuela.

Var. CUSPIDATA Baker; Pflr. 161 sub var. sulcata (Lindm.) Mez. Floral bracts subtriangular or ovate, conspicuous; inflorescence lax; flowers wholly yellow. Brazil.

Var. AUREO-ROSEA (Ant.) L. B. Smith, Smithsonian Misc. Coll. 126: 17, 220. 1955. Flowers apically red. Brazil.

Var. CAPITATA Reitz, Sellowia 17: 42. 1965. Inflorescence dense, subcapitate; leaf-blades white-banded. Brazil.

Var. PLURIFOLIA E. Pereira, Bradea 1: 161. 1972. Leaves many in an obconical rosette, red-spotted at apex. Brazil.

ORGANENSIS Wawra; Pflr. 127.

ORLANDIANA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 55. 1941.

ORNATA (Gaud.) Baker; Pflr. 164 sub Ae. hystrix E. Morr. Brazil.

Var. ORNATA. Leaves concolorous; inflorescence to 4 cm thick without the petals; flowers stout; petals usually pale red or rose.

Var. HOEHNEANA L. B. Smith, Smithsonian Misc. Coll. 126: 17, 224. 1955. Inflorescence about 3 cm thick without the petals; flowers slender; petals blue.

Var. NATIONALIS Reitz, Anais Bot. Herb. Barbosa Rodrigues 4: 30. 1952. Leaves longitudinally green- and yellow-striped.

PALLIDA L. B. Smith, Mem. New York Bot. Gard. 10, no. 5: 40. 1964.

PANICULATA R. & P.; Pflr. 129.

PANICULIGERA (Sw.) Griseb.; Pflr. 135.

PECTINATA Baker; Pflr. 155.

PENDULIFLORA André; Pflr. 143.

PERFORATA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 55. 1941.

PHANEROPHLEBIA Baker; Pflr. 129.

PIMENTI-VELOSOI Reitz, Anais Bot. Herb. Barbosa Rodrigues 4: 26. 1952. Brazil.

Var. PIMENTI-VELOSOI. Ovary white-tomentulose.

Var. GLABRA Reitz, Anais Bot. Herb. Barbosa Rodrigues 5: 256. 1953. Ovary glabrous, red.

PINELIANA (Brongn. ex Planch.) Baker; Pflr. 164.

Var. PINELIANA. Leaf-blades to 6 cm wide; inflorescence to 7 cm long and 3 cm thick.

Var. MINUTA M. B. Foster, Bromel. Soc. Bull. 11: 96. 1961. About half as large as the typical variety.

PITCAIRNIOIDES Mez; Pflr. 155.

PITTLERI Mez; Pflr. 139.

PODANTHA L. B. Smith, Smithsonian Misc. Coll. 126: 18, 203. 1955.

POLITII L. B. Smith, Mem. New York Bot. Gard. 9: 318. 1957.

PRANCEI L. B. Smith, sp. nov. A Ae. longicuspe Baker, cui valde affinis, bracteis florigeris magnis sepala fere omnino occultantibus differt.

PLANT flowering over 1 m high. LEAVES ca. 1 m long; sheaths suboblong, 30 cm long, dark castaneous, densely brown-lepidote; blades ligulate, acuminate into a stout dark terminal cusp, laxly serrate with stout dark antrorse 5 mm long spines, glabrous. SCAPE erect, 1 cm in diameter, densely white-lanate; scape-bracts lanceolate, attenuate to a dark stout cusp, 30 cm long, entire, subcoriaceous, rose, densely white-tomentulose. INFLORESCENCE bipinnate, densely cylindric, 30 mm long, 7 cm in diameter, densely white-tomentulose on axes and bracts; primary bracts narrowly lanceolate, attenuate, to 25 mm long including the slender terminal spine; branches very short with the basal flower developed and the 1 or 2 others much reduced. FLORAL BRACTS forming a tube that encloses all but the tips of the sepals, thin-coriaceous, bearing a dark slender terminal 15 mm long spine. SEPALS strongly asymmetric, subelliptic, obtuse, unarmed, 18 mm long, glabrous; petals and fruit green (! Prance). Pl. II, fig. 8: Floral bract and flower; fig. 9: Sepal.

BRAZIL: ACRE: epiphytic in forest on terra firme, vicinity of km 7, road Sena Madureira to Rio Branco, 30 September 1968, Prance, Coelho, Ramos & Farias. 7681 (US, type; NY).

PRAVA E. Pereira, ined. Oct. 1972. Keyed from manuscript by permission of author.

PUBESCENS Baker; Pflr. 141.

PURPUREO-ROSEA (Hook.) Wawra; Pflr. 125.

PYRAMIDALIS Benth.; Pflr. 140.

RACINAE L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 56. 1941. Brazil.

Var. RACINAE. Scape long, decurved; leaves obconic-rosulate, blades recurved, ligulate.

Var. TUBIFORME E. Pereira, Bradea 1: 161. 1972. Leaves cylindrical-rosulate, blades erect, sublinear.

Var. ERECTA L. B. Smith, Arquiv. Jard. Bot. Rio de Janeiro 10: 142. 1950. Scape short, erect.

RAMOSA Mart. ex Schult. f.; Pflr. 129. Brazil.

Var. RAMOSA. Sepals and ovary green and yellow.

Var. FESTIVA L. B. Smith, Smithsonian Misc. Coll. 126: 18, 210. 1955. Sepals red; ovary white.

RECURVATA (Kl.) L. B. Smith; Pflr. 153. Brazil.

Var. RECURVATA. Inflorescence completely exserted above the leaf-sheaths; floral bracts serrate.

Var. ORTGIESII (Baker) Reitz, Anais Bot. Herb. Barbosa Rodrigues 4: 29. 1952. Pflr. 154 sub Aechmea ortgiesii Baker. Inflorescence almost or wholly included by the leaf-sheaths; floral bracts serrate.

Var. BENRATHII (Mez) Reitz, Anais Bot. Herb. Barbosa Rodrigues 4: 30. 1952. Pflr. 153 sub Aechmea benrathii Mez. Leaves and bracts entire or nearly so.

RETIUSA L. B. Smith, Phytologia 10: 484. 1964.

ROBERTO-SEIDELII E. Pereira, Bradea 1: 159. 1972.

RODRIGUESIANA (L. B. Smith) L. B. Smith, Phytologia 19: 281. 1970.

ROMEROI L. B. Smith, Phytologia 5: 282. 1955.

RUBENS (L. B. Smith) L. B. Smith, Phytologia 19: 282. 1970.

RUBIGINOSA Mez; Pflr. 170.

SAXICOLA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 2: 118. 1950.

SERRATA (L.) Mez; Pflr. 145.

SERVITENSIS André; Pflr. 141.

Var. SERVITENSIS. Scape-bracts and lower primary bracts broad, coarsely dentate.

Var. EXIGUA L. B. Smith, Phytologia 4: 358. 1953. Scape-bracts and lower primary bracts narrow, obscurely dentate.

SETIGERA Mart. ex Schult. f.; Pflr. 129.

SMITHIORUM Mez; Pflr. 147.

SPECTABILIS Brongn. ex Houlet; Pflr. 134.

SPHAEROCEPHALA (Gaud.) Baker; Pflr. 96 sub Chevalieria sphaerocephala Gaud.

SQUARROSA Baker; Pflr. 164.

STELLIGERA L. B. Smith, Smithsonian Misc. Coll. 126: 18, 207. 1955.

STENOSEPALA L. B. Smith, Bot. Mus. Leaflet. Harvard 17: 76. 1955.

- STROBILACEA L. B. Smith, Phytologia 6: 435. 1959.
- SUBPETIOLATA L. B. Smith, Contr. Gray Herb. 124: 8. 1939.
- TESSMANNII Harms; Pflr. 145.
- TILLANDSIOIDES (Mart. ex Schult. f.) Baker; Pflr. 144.
- Var. TILLANDSIOIDES. Inflorescence pinnate, usually much interrupted toward base. Colombia, Venezuela, Guiana, Brazil.
- Var. KIENASTII (E. Morr. ex Mez) L. B. Smith, Caldasia [1], no. 5: [5]. 1942. Pflr. 144 sub Aechmea kienastii E. Morr. ex Mez. Inflorescence digitate or rarely simple. Mexico, Central America, Colombia, Venezuela.
- TOCANTINA Baker; Pflr. 140.
- TOMENTOSA Mez; Pflr. 138.
- TONDUZII Mez & Pittier; Pflr. 162.
- TRIANGULARIS L. B. Smith, Smithsonian Misc. Coll. 126: 19, 224. 1955.
- TRITICINA Mez; Pflr. 162. Brazil.
- Var. TRITICINA. Upper scape-bracts entire; floral bracts exceeded by the sepals.
- Var. CAPENSIS L. B. Smith, Smithsonian Misc. Coll. 126: 19, 223. 1955. Upper scape-bracts serrulate; floral bracts overtopping the sepals.
- TURBINOCALYX Mez; Pflr. 162.
- VANHOUTTEANA (Van Houtte) Mez; Pflr. 162.
- VEITCHII Baker; Pflr. 169.
- VICTORIANA L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 57. 1941. Brazil.
- Var. VICTORIANA. Leaves wholly green.
- Var. DISCOLOR, M. B. Foster, Bromel. Soc. Bull. 5: 29. 1955. Leaves bronze-red beneath.
- WARASII E. Pereira, Bradea 1: 160. 1972.
- WEBERBAUERI Harms, Notizblatt 14: 330. 1939.
- WEILBACHII Didr.; Pflr. 122. Brazil.
- Var. WEILBACHII. Leaves green.
- Var. LEODIENSIS André. Pflr. 122. Leaves tinged with purple.
- WERDERMANNII Harms, Notizblatt 12: 529. 1935.
- WITTMACKIANA (Regel) Mez; Pflr. 147.
- WORONOWII Harms, Notizblatt 11: 60. 1930; Pflr. 137; emend L. B. Smith. Streptocalyx subnuda L. B. Smith, Bot. Mus. Leafl. Harvard 17: 73, fig. 1955. S. holmesii Slingerland, Brom. Soc. Bull. 14: 53 (color plate), 54. 1964. Nomen. Inflorescentia bipinnata, ad 26 cm longa.
- COLOMBIA: CAQUETA: woods, Hetucha, on Río Orteguaiza, July 1926, Woronow & Juzepczuk 6158 (B, type, B photo 1192/28); epiphytic, Río Caucaya, between Puerto Jaramillo and Río Putumayo, alt. 225 m, 16 May 1942, Schultes 3719 (GH, type of Streptocalyx subnuda L. B. Smith). AMAZONAS: Loretoyacu River, Trapecio Amazónico, alt. 100 m, September 1946, Schultes & Black 8294 (US).
- PERU: LORETO: woods by Mouth of Río Napo, J. Holmes & Lee Moore, cultivated January 1967, J. Marnier-Lapostolle 34 (US, clonotypic of Streptocalyx holmesii Slingerland).
- Harms correctly placed Aechmea woronowii in Aechmea but

mistook the whole inflorescence for a single branch. I recognized the character of the inflorescence in describing the species as Streptocalyx subnuda, but placed it in the wrong genus because I failed to find appendages on the petals at that time.

ZEBRINA L. B. Smith, Phytologia 4: 358. 1953.

SYNONYMS AND EXCLUDED NAMES

- amazonica Ule; Pflr. 145 - CHANTINII.  
 ampullacea Mez; Pflr. 153 - RECURVATA var. RECURVATA.  
 ampullacea var. longifolia Hassler; Pflr. 153 - RECURVATA  
 var. RECURVATA.  
 andradei Gilmartin, Phytologia 16: 167. 1968 - LEUCOCARPA.  
 aureo-rosea (Ant.) Baker; Pflr. 161 - NUDICAULIS var.  
 AUREO-ROSEA.  
 benrathii Mez; Pflr. 153 - RECURVATA var. BENRATHII.  
 bernoulliana Wittm.; Pflr. 120 - MEXICANA  
 boliviana Rusby; Pflr. 142 - ANGUSTIFOLIA  
 capixabae L. B. Smith, Arquiv. Bot. Est. S. Paulo II. 1: 56.  
 1941 - VICTORIANA var. VICTORIANA.  
 chromatica C. H. Wright; Pflr. 156 - PANICULIGERA.  
 cumingii Baker; Pflr. 143 - ANGUSTIFOLIA  
 cylindrica Mez; Pflr. 142 - ANGUSTIFOLIA  
 dryanderæ Harms, Notizblatt 12: 529. 1935 - (inflores-  
 cence) ANGUSTIFOLIA, (leaf) PITCAIRNIA SP.  
 ellipsoidea Rusby; Pflr. 166 - BROMELIIFOLIA  
 eriostachya Ule; Pflr. 165 - BROMELIIFOLIA  
 friedrichsthalii Mez & Donn.-Smith; Pflr. 140 - PENDULIFLORA  
 glaziovii Baker; Pflr. 148 - DISTICHANTHA var. GLAZIOVII.  
 glomerata (Beer) Mez; Pflr. 124 - FARINOSA var.  
 CONGLOMERATA.  
 glomerata var. discolor (Beer) Mez; Pflr. 125 - FARINOSA  
 var. DISCOLOR.  
 glomerata var. farinosa (Regel) Mez; Pflr. 125 - FARINOSA  
 var. FARINOSA.  
 hamata Mez; Pflr. 151 - FASCIATA.  
 humilis Mez; Pflr. 132 - MERTENSII.  
 hystrix E. Morr.; Pflr. 164 - ORNATA var. ORNATA.  
 inconspicua Harms; Pflr. 133 - ANGUSTIFOLIA  
 inermis Mez; Pflr. 143 - PENDULIFLORA  
 involucrifera Mez; Pflr. 157 - DISTICHANTHA var.  
 SCHLUMBERGERI  
 jucunda E. Morr. ex Baker; Pflr. 148 - DISTICHANTHA var.  
 GLAZIOVII.  
 kienastii E. Morr. ex Mez; Pflr. 144 - TILLANDSIODES var.  
 KIENASTII.  
 lagenaria Mez; Pflr. 166 - LAMARCHEI.  
 lalindei Linden & Rodigas; Pflr. 156 - MARIAE-REGINAE.  
 latifolia (Willd.) Kl.; Pflr. 136 - PANICULIGERA.  
 lavandulacea C. H. Wright; Pflr. 146 - SMITHIORUM.  
 laxiflora Benth.; Pflr. 141 - BRACTEATA.



- lindenii* (E. Morr.) Baker; Pflr. 158 - COMATA var. COMATA.  
*macracantha* Brongn.; Pflr. 139 - BRACTEATA.  
*marmorata* (Lem.) Mez; Pflr. 122 - QUESNELIA MARMORATA  
 (Lem.) R. W. Read.  
*mitis* (Mart. ex Schult. f.) L. B. Smith, Smithsonian Misc.  
 Coll. 126: 16, 205. 1955 - CORYMBOSA.  
*mucroniflora* Hook.; Pflr. 131 - MERTENSII.  
*myriophylla* E. Morr. ex Baker; Pflr. 150 - DISTICHANTHA var.  
 DISTICHANTHA.  
*nudicaulis* var. *sulcata* (Lindm.) Mez; Pflr. 161 - Var.  
 CUSPIDATA.  
*ortgiesii* Baker; Pflr. 154 - RECURVATA var. ORTGIESII.  
*platyphylla* Hassler; Pflr. 150 - DISTICHANTHA var.  
 DISTICHANTHA.  
*platzmannii* Wittm.; Pflr. 125 - CAUDATA var. CAUDATA.  
*poepigii* Baker; Pflr. 89 - LINGULATA ?  
*polystachya* (Vell.) Mez; Pflr. 149 - DISTICHANTHA var.  
 DISTICHANTHA.  
*polystachya* var. *excavata* (Baker) Mez; Pflr. 150 -  
 DISTICHANTHA var. DISTICHANTHA.  
*polystachya* var. *longifolia* Castellanos; Pflr. 150 -  
 DISTICHANTHA var. SCHLUMBERGERI.  
*porteoides* Britton; Pflr. 135 - FENDLERI.  
*pulchella* E. Morr. ex Baker; Pflr. 148 - DISTICHANTHA var.  
 GLAZIOVII.  
*pulchra* (Beer) Mez; Pflr. 168 - BROMELIIFOLIA.  
*purpurea* B. S. Williams, New & General Plant Catalogue  
 Victoria & Paradise Nurseries, London 22. 1889 [According to  
 Kew Index Suppl. 1: 12. 1902]; Kew Bull. 1890, Appendix 2: 37.  
 1890. Colombia - leaves only, identification probably impossible  
*purpurea-coerulea* Mez; Pflr. 642 - error for PURPUREA-ROSEA.  
*remotiflora* Mez; Pflr. 133 - BLANCHETIANA.  
*rubra* Alv. Silv. Fl. Mont. 2, add.: 1. 1931. Pflr. 637 -  
 DISTICHANTHA var. SCHLUMBERGERI ?  
*schultesiana* Mez; Pflr. 133 - PENDULIFLORA.  
*selloana* Baker; Pflr. 160 - CALYCVLATA.  
*spicata* Mart.; Pflr. 131 - MERTENSII.  
*sprucei* Mez; Pflr. 137 - CASTELNAVII.  
*standleyi* Cuf. Arch. Bot. Sist. Fitogeog. & Genet. 9: 182.  
 1933 - PUBESCENS ?  
*thyrsoflora* (Willd.) Schlecht.; Pflr. 132 - MERTENSII.  
*tinctoria* (Mart.) Mez; Pflr. 166 - BROMELIIFOLIA.  
*tricolor* Alv. Silv. Fl. Mont. 2, add.: 2. 1931; Pflr. 637 -  
 NUDICAULIS var. CUSPIDATA.

## Chevalieria - AECHMEA

- comata* Mez; Pflr. 97 in part, not as to basionym - AECHMEA  
 CARIOCAE.  
*ornata* Gaud.; Pflr. 96 - AECHMEA ORNATA.  
*sphaerocephala* Gaud.; Pflr. 96 - AECHMEA SPHAEROCEPHALA.  
*stephanophora* (E. Morr. ex Baker) Mez; Pflr. 97 - AECHMEA

## MURICATA.

thyrsigera (Speg.) Mez; Pflr. 95 - AECHMEA CALYCVLATA  
[Castellanos !].

## Disteganthus - AECHMEA

basi-lateralis Lem.; Pflr. 38 - AECHMEA BASI-LATERALIS.

## Gravisia - AECHMEA

- aquilega (Salisb.) Mez; Pflr. 108 - AECHMEA AQUILEGA.  
aquilega var. chrysocoma (Baker) L. B. Smith, Phytologia 8:  
219. 1962 - AECHMEA AQUILEGA var. CHRYSOCOMA.  
aripensis N. E. Br.; Pflr. 109 - AECHMEA ARIPEHSIS.  
brassicoides (Baker) Mez; Pflr. 108 -  
AECHMEA BRASSICOIDES.  
capitata (Schult. f.) L. B. Smith, Arquiv. Bot. Est. S. Paulo  
II. 1: 57. 1941 - AECHMEA CAPITATA (Schult. f.) Baker, Journ.  
Bot. 17: 167. 1879 (in key above, but overlooked in list of  
accepted species).  
chrysocoma (Baker) Mez; Pflr. 109 - AECHMEA AQUILEGA var.  
CHRYSOCOMA.  
constantinii Mez; Pflr. 111 - AECHMEA COSTANTINII.  
exsudans (Lodd.) Mez; Pflr. 109 - AECHMEA AQUILEGA var.  
AQUILEGA.  
fosteriana L. B. Smith, Phytologia 8: 218. 1962, non Aechmea  
fosteriana L. B. Smith 1941. - AECHMEA MULFORDII.  
lanjouwii L. B. Smith, Act. Bot. Neerl. 5: 93. 1956 - AECHMEA  
LANJOUWII.  
rodriguesiana L. B. Smith, Phytologia 13: 153. 1966 - AECHMEA  
RODRIGUESIANA.  
rubens L. B. Smith, Phytologia 8: 218. 1962 - AECHMEA RUBENS.

## Wittmackia - AECHMEA

- glaziovii Mez; Pflr. 89 - AECHMEA LINGULATA var. LINGULATA.  
lingulata (L.) Mez; Pflr. 87 - AECHMEA LINGULATA var.  
LINGULATA.  
odora (Miq.) Mez; Pflr. 88 - AECHMEA LINGULATA var. LINGULATA.  
patentissima (Mart.) Mez; Pflr. 89 - AECHMEA LINGULATA var.  
PATENTISSIMA.  
poeppigii (Baker) Mez; Pflr. 89 - AECHMEA LINGULATA var.  
LINGULATA ?

## MISCELLANEOUS NOTES

ENCHOLIRIUM PATENS L. B. Smith, sp. nov. A E. lutzii L. B. Smith, cui affinis, bracteis florigeris longe caudatis, pedicellis gracillimis, floribus viridibus differt.

PLANT flowering ca. 2 m high. LEAVES over 60 cm long; sheaths suborbicular, 6 cm wide; blades very narrowly triangular, 35 mm wide, covered with pale appressed scales, becoming more or less

glabrous above, repand-serrate with broad flat antrorse teeth 5 mm long. SCAPE glabrous; scape-bracts erect, the lower subfoliaceous and much exceeding the scape, the upper entire, much reduced and several times shorter than the internodes. INFLORESCENCE glabrous, straight, appearing simple but the basal bracts resembling upper scape-bracts and subtending undeveloped branch buds, the terminal and developed portion laxly racemose, to 35 cm long; axis to 7 mm thick. FLORAL BRACTS long-caudate from a broadly ovate base, much shorter than the very slender spreading 10 mm long pedicels; only very immature flowers known. SEPALS broadly ovate, subtruncate, 5 mm long. Pl. V, fig. 1: Floral bract and young flower.

BRAZIL: BAHIA: cerrado on slopes of Espigão Mestre, ca. 8 km northwest of Barreiras, incomplete road to Santa Rita da Cassia, valley of the Rio das Ondas, alt. 600 m, 3 March 1971, Irwin, Harley & Smith 31443 (NY, type).

GREIGIA STENOLEPIS L. B. Smith, sp. nov. *G. juarezianae* L. B. Smith in systemate meo (Phytologia 20: 70. 1968) affinis sed foliorum laminis ubique serratis, bracteis sepalisque majoribus differt.

LEAVES rosulate (! Cuatrecasas), to 9 dm long; sheaths elliptic, 10 cm long, castaneous except the pale base, densely brown-lepidote, spinose-serrate at apex; blades linear, attenuate, slightly contracted toward base, to 33 mm wide in the middle, pale-lepidote on both sides, laxly serrate, the spines slender, spreading or antrorse, dark castaneous, the basal ones to 5 mm long. SCAPE to 5 cm long; upper scape-bracts triangular-ovate without distinction between base and blade, to 5 cm long, entire, thin, strongly nerved, centrally castaneous with pale margins. INFLORESCENCES compressed and probably lateral, ca. 10-flowered; primary bracts like the upper scape-bracts, about equaling the sepals at anthesis. FLORAL BRACTS linear, ca. 35 mm long, thin except for the thick-subulate apex, sparsely lepidote. SEPALS triangular-ovate, to 23 mm long, acute with a small slightly sub-terminal mucro, pale, strongly nerved; petals and stamens not seen; ovary ellipsoid, dark castaneous. Pl. V, fig. 2: Base of leaf; fig. 3: Scape and inflorescence; fig. 4: Sepal.

COLOMBIA: CUNDINAMARCA: Massif of Bogotá, eastern slope, drainage of Río Negro, knife crests between Fomeque and Laguna de Chingaza, between El Paval and Cuchillero, alt. 3050-3200 m, 7 February 1969, J. Cuatrecasas & T. R. Soderstrom 27308 (US, type)

GUZMANIA CUATRECASASII L. B. Smith, Phytologia 21: 85. 1971, emend.

SEPALIS lanceolatis, apice fractis innotis, quam bracteis florigeris bene brevioribus, tenuibus, nervatis.

Due to faulty observation in the original description, terminal floral bracts were mistaken for sepals.

GUZMANIA CUZCOENSIS L. B. Smith, sp. nov. *G. cuatrecasasii* L. B. Smith in systemate meo (Phytologia 21: 73. 1971) affinis sed inflorescentia laxa longiore, spicis angustioribus differt.

PLANT 2 m high (! Dudley), described from only the upper scape and fruiting inflorescence. LEAVES rosulate, ca. 1 m long

(! Dudley), presumably with ligulate blades judging from the form of the scape-bracts. SCAPE 1 cm in diameter at apex; scape-bracts erect, imbricate, broadly ovate, the lower ones castaneous at base, the upper largely castaneous. INFLORESCENCE laxly bipinnate except at apex, 32 cm long, glabrous at least with age; axis stout, geniculate; primary bracts semiorbicular, apiculate, to 3 cm long, even, thin-coriaceous, castaneous; spikes spreading short-stipitate, ellipsoid but appearing nearly spherical with age due to the spreading fruit, strobilate, 60 mm long, 25 mm in diameter. FLORAL BRACTS broadly elliptic, obtusely cuspidate, 25 mm long, wholly covering the sepals, broadly convex and ecarinate even except the faintly nerved and possibly verrucose or lepidote apex; flowers subsessile. SEPALS lanceolate, obtuse, 17 mm long, short-connate, thin, nerved. Pl. V, fig. 7: Apex of inflorescence; fig. 8: Sepal.

PERU: CUZCO: LA CONVENCION: in very dense, always damp and dripping dark cloud forest at Camp 3, alt. 2150-2200 m, 23 July 1968, T. R. Dudley 11317 (NA, type).

HECHTIA CAERULEA (Matuda) L. B. Smith, comb. nov. Niveophyllum caeruleum Matuda, Cact. & Sucul. Mex. 10: 3, fig. 2-4. 1965. Hechtia integerrima M. B. Foster, Bromel. Soc. Bull. 18: 4, fig. 1968. Pl. V, fig. 5: Branch of inflorescence; fig. 6: Dissection of pistillate flower.

MEXICO: MEXICO: humid calcareous ravine of Santo Tomás de los Platanos, south of Valle de Bravo, alt. 1200 m, 15 March 1960, Matuda 37440 (UNAM, type); idem, cultivated, University of California s. n. (US).

ORIGIN UNSPECIFIED: cultivated, Orlando, Florida, 1966, M. B. Foster 3072 (US, type of Hechtia integerrima M. B. Foster).

HOHENBERGIA VESTITA L. B. Smith, sp. nov. Ab omnibus speciebus inflorescentia angusta tripinnata lanuginosa, bracteis florigeris late acutis, sepalis inermibus differt.

PLANT flowering to 1.5 m high (! Irwin). LEAVES ca. 70 cm long, covered with pale appressed brown-centered scales; sheaths elliptic, 25 cm long, dark castaneous; blades ligulate, flat, 4-7 cm wide, attenuate at apex into a stout cusp, laxly serrate with flat dark spines 3-5 mm long. SCAPE straight, stout, pale-lanate; scape-bracts much exceeding the internodes but so narrow as to expose much of the scape, lance-ovate, attenuate to a slender cusp, covered with pale appressed scales, the upper entire. INFLORESCENCE subcylindric, 11-27 cm long, laxly tripinnate at base with spikes about 3 in each subsessile fascicle, densely bipinnate toward apex; primary bracts like the upper scape-bracts but much smaller, exceeding the lowest branches; spikes subcylindric, dense, to 5 cm long, densely pale-lanate. FLORAL BRACTS broadly ovate, broadly acute and mucronulate, to 12 mm long, about equaling the sepals, subcoriaceous, nerved, sublustrous, red when dry. SEPALS very short-connate, strongly asymmetric with a rounded wing extending well above the midnerve, 6.5 mm long, unarmed. Pl. V, fig. 9: Branch of inflorescence; fig. 10: Sepal.

BRAZIL: MINAS GERAIS: secondary forest on steep slopes,

shallow lateritic clay at base of Serra da Piedade, ca. 35 km east of Belo Horizonte, road to Caete, alt. 1600 m, 13 January 1971, Irwin, Harley & Onishi 30287 (NY, type). BAHIA: extensive area of sandstone above the 100 m falls of the Rio Ferro Doido, ca. 18 km east of Morro do Chapéu (11° 32' S, 41° 10' W), Serra do Tombador, alt. 1100 m, 20 February 1971, Irwin, Harley & Smith 30693 (NY, US); on sandstone rocks, summit of Morro do Chapéu, 7 km south of Morro do Chapéu (town), alt. 1150 m, 16 February 1971, Irwin, Harley & Smith 32287 (NY, US).

*NEOREGELIA HATSCHBACHII* L. B. Smith, sp. nov. *N. bahianae* (Ule) L. B. Smith in systemate meo (Phytologia 15: 180. 1967) affinis sed foliis acutis, extus densissime lepidotis, sepalis minoribus differt.

PLANT propagating by stout scaly stolons. LEAVES about 10 in an ellipsoid rosette, reddish, concolorous, densely cinereous-lepidote on all exposed surfaces, the outer ones reduced to short ovate acute sheaths, the inner to 25 cm long; sheaths elliptic, 14 cm long, distinctly exceeding the blades; blades varying from (outer) triangular with a thick involute terminal cusp to ligulate, broadly acute and apiculate, 27 mm wide, laxly serrulate with spreading spines 0.5 mm long. SCAPE 7 cm long; scape-bracts imbricate, the upper ones short-involucrate about the inflorescence, elliptic, entire, membranaceous, subdensely brown-lepidote. INFLORESCENCE simple, few-flowered. FLORAL BRACTS ovate, acute, about equaling the pedicels; pedicels slender, distinct, to 23 mm long. SEPALS slightly asymmetric, oblong, acute, 26 mm long, very short-connate, membranaceous, sparsely lepidote; petals acute, ca. 4 cm long, white with blue apices (! Hatschbach). Pl. V, fig. 11: Floral bract and flower; fig. 12: Sepal.

BRAZIL: MINAS GERAIS: Mun. Diamantina: rock outcrops, Guinda, alt. 1300 m, 14 November 1971, Hatschbach & Pelanda 27945 (US, type; Herb. Mus. Bot. Municipal, Curitiba, isotype).

*Neoregelia hatschbachii* would probably present further contrasts with *N. bahiana* if the outer leaves of the latter were known.

*NEOREGELIA PASCOALIANA* L. B. Smith, sp. nov. *N. seideliana* Smith & Reitz in systemate meo (Phytologia 15: 180. 1967) affinis sed foliorum laminis latioribus purpureo-maculatis, sepalis latioribus, petalis omnino albis differt.

LEAVES many in a broadly obconic rosette, to 46 cm long; sheaths broadly elliptic, 20 cm long, covered with appressed brown scales; blades broadly ligulate, broadly rounded and apiculate, 9 cm wide, finely purple-spotted with a large spot at apex, covered with appressed cinereous scales, laxly antrorse-serrate with flat dark spines 4 mm long. SCAPE 7 cm long; scape-bracts imbricate, the upper ones involucrate about the inflorescence, broadly ovate, broadly acute and apiculate, exceeding the ovaries entire, subchartaceous, subdensely brown-lepidote. INFLORESCENCE simple, many-flowered, 8 cm in diameter. FLORAL BRACTS oblong, acute, exceeding the ovaries, thin, tomentose-lepidote at apex; pedicels slender, distinct, to 25 mm long. SEPALS asymmetric, broadly sublanceolate, acute and minutely apiculate, 28 mm long,

connate for 4 mm, green, brown-lepidote, the apical scales filamentous-lacerate; petals white (! Vinha). Pl. V, fig. 13: Floral bract and flower; fig. 14: Sepal.

BRAZIL: BAHIA: restinga, Parque Nacional de Monte Pascoal, (ca. 16° 55' S, 39° 40' W), 26 March 1968, S. G. da Vinha & Santos 168 (US, type; Herb. Centro Pesquisas do Cacau, Itabuna, isotype).

STREPTOCALYX BIFLORUS L. B. Smith, sp. nov. A S. longifolio (Rudge) Baker, cui affinis, foliorum laminis latioribus, floribus 2 fasciculatis, bracteis florigeris apice tomentoso-lepidotis differt.

PLANT known only from fragments. LEAVES over 50 cm long, laxly and obscurely appressed-lepidote; sheaths elliptic; blades linear, attenuate to a slender cusp, 30 mm wide, flat, subluxly serrulate with broad spreading spines 2 mm long, deep red (! Dodson & Thien). SCAPE little known, probably short. INFLORESCENCE subcapitate, densely bipinnate, 9 cm long; primary bracts ovate, acute, 7 cm long, glabrous, yellow (! Dodson & Thien), densely dark-serrulate; spikes 2-flowered fascicles. FLORAL BRACTS obovate, conduplicate, much exceeding the ovary, serrulate near apex but this concealed by dense linear ferruginous scales. SEPALS slightly asymmetric, spatulate, mucronate, 15 mm long, the apex very finely serrulate; petals 35 mm long, naked pink (! Dodson & Thien); stamens included; ovary obconic; placentae subapical; ovules obtuse. Pl. V, fig. 15: Primary bract and branch; fig. 16: Sepal.

ECUADOR: PASTAZA: tropical rainforest, Topo, along Río Topo, alt. 1300 m, 11 January 1962, Dodson & Thien 2070 (WIS, type; photo US).

## Pl. I

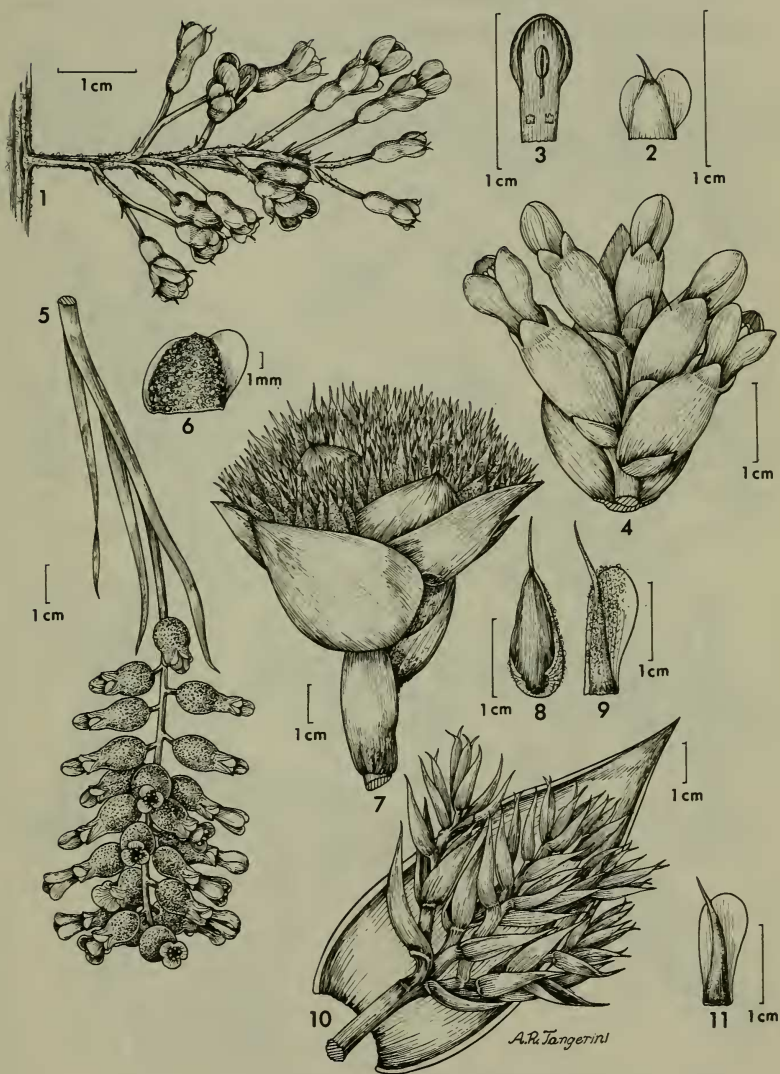


Fig. 1-3: *Aechmea luiddemanniana*. 4: *Ae. weilbachii*.  
 5, 6: *Ae. racinae*. 7-9: *Ae. arripensis*.  
 10, 11: *Ae. gigantea*.

Pl. II

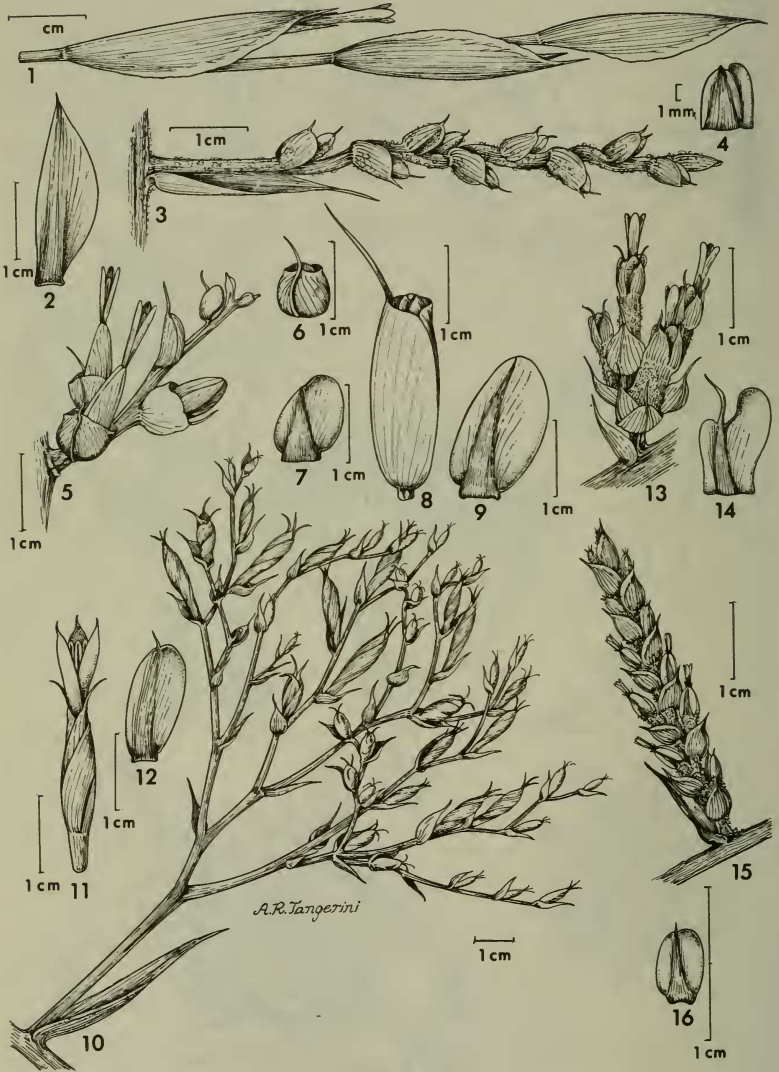


Fig. 1, 2: *Aechmea blanchetiana*. 3, 4: *Ae. pittieri*.  
 5-7: *Ae. ampla*. 8, 9: *Ae. prancei*. 10-12: *Ae.*  
*eurycorymbus*. 13, 14: *Ae. phanerophlebia*.  
 15, 16: *Ae. pyramidalis*.



## Pl. III

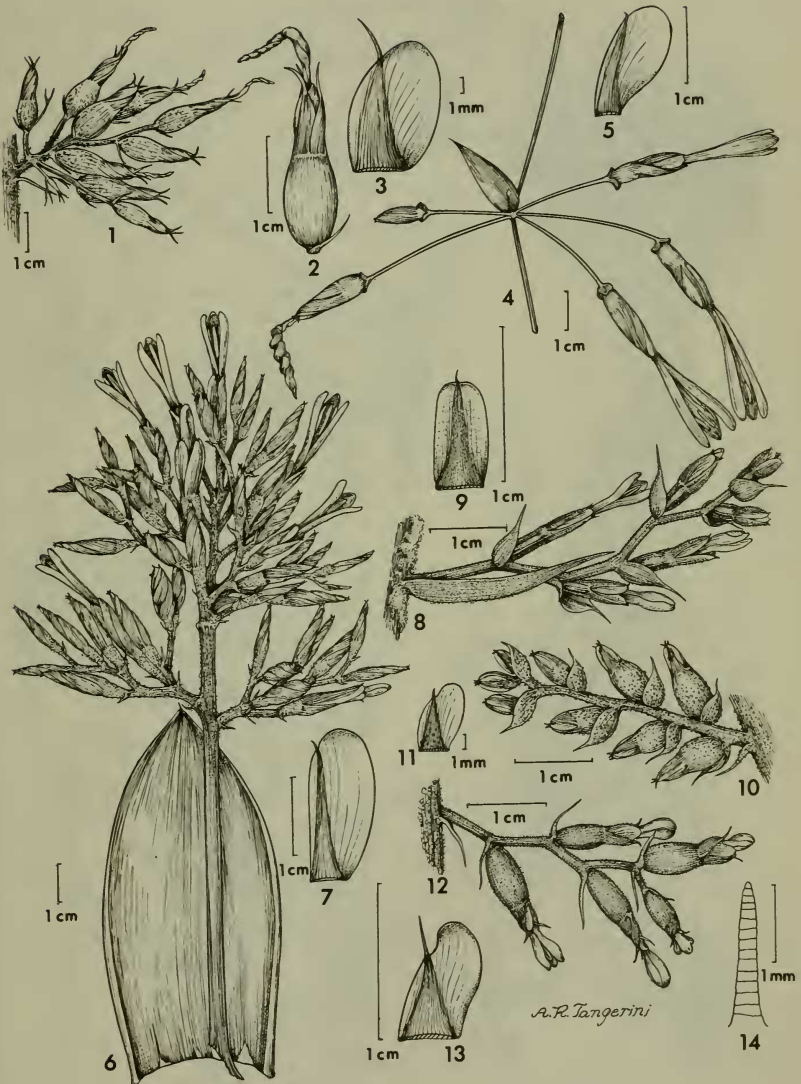


Fig. 1-3: *Aechmea fendleri*. 4, 5: *Ae. filicaulis*.  
 6, 7: *Ae. megalantha*. 8, 9: *Ae. purpurea-rosea*.  
 10, 11: *Ae. tocantina*. 12-14: *Ae. castelnavii*.

## Pl. IV

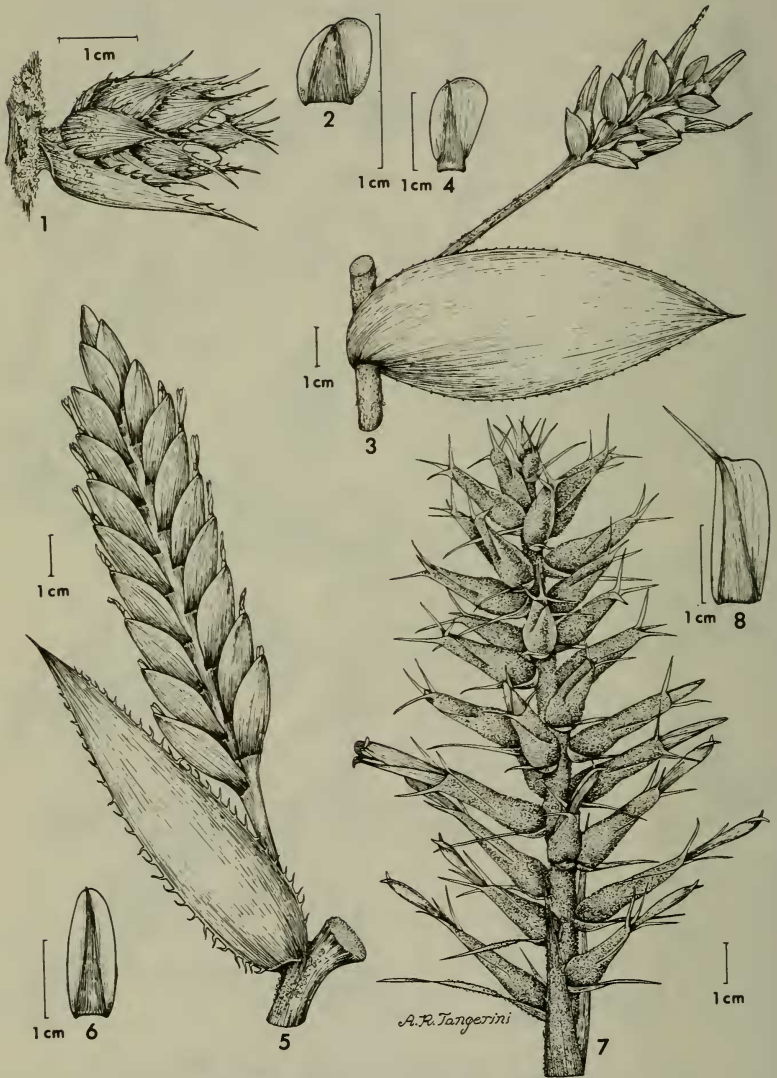


Fig. 1, 2: *Aechmea caesia*. 3, 4: *Ae. chantinii*.  
5, 6: *Ae. tessmannii*. 7, 8: *Ae. weberbaueri*.

## Pl. V

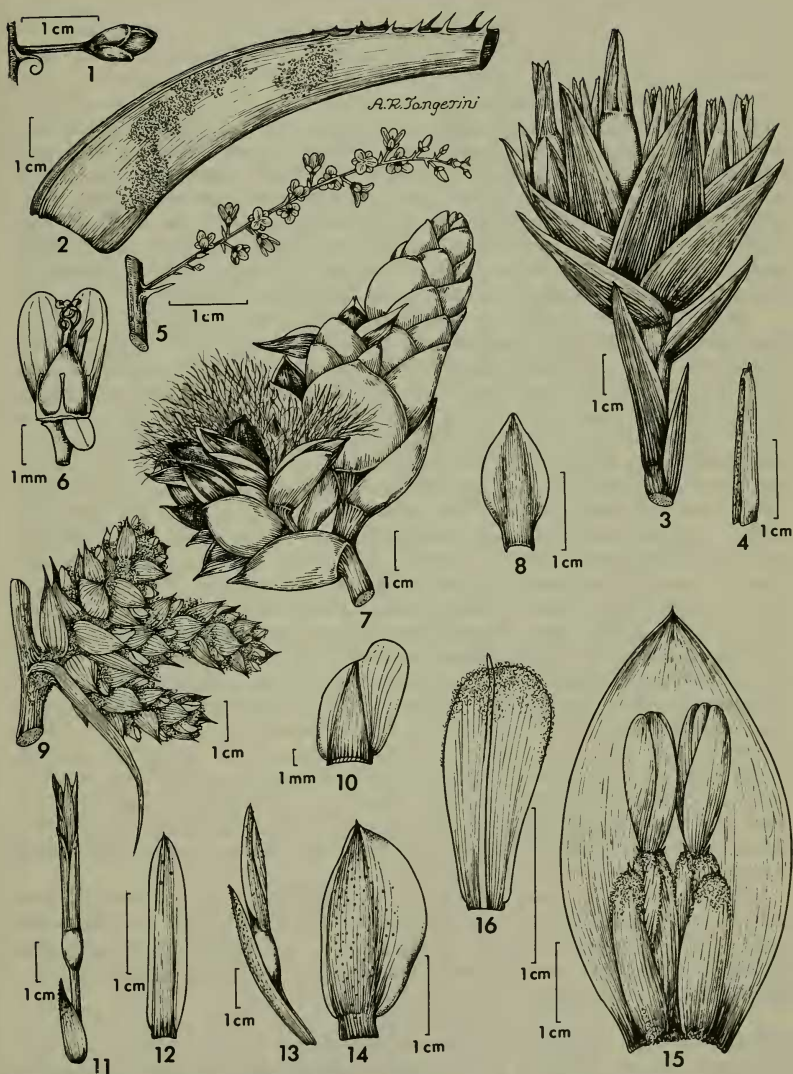


Fig. 1: *Encholirium patens*. 2-4: *Greigia stenolepis*.  
 5, 6: *Hechtia caerulea*. 7, 8: *Guzmania cuzcoensis*.  
 9, 10: *Hohenbergia vestita*. 11, 12: *Neoregelia hatschbachii*. 13, 14: *N. pascoaliana*.  
 15, 16: *Streptocalyx biflorus*.