

NOTES ON BROMELIACEAE, XLII

Lyman B. Smith

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ABSTRACT

A supplement to the treatment of *Pitcairnia* in Flora Neotropical Monographs 14(1) is provided. Descriptions and illustrations are published for species of Neotropical *Pitcairnia* described since the publication of Flora Neotropica Monographs 14(1).

KEY WORDS: *Pitcairnia*, Bromeliaceae, taxonomy, Neotropics

1. PITCAIRNIOIDEAE

8. *PITCAIRNIA*

In 1974 Robert Jack Downs and I published the Pitcairnioideae in Flora Neotropica Monograph no. 14(1) including *Pitcairnia*. To its 260 species, about 100 have since been added. In conjunction with others, I plan to prepare a combined key with references to the numeric designations for each species in Flora Neotropica. Numeric references (e.g., 214.1) to added species will allow proper placement of each additional species in the Flora Neotropical treatment. Each added species listing includes a copy of the original description or its translation. Additional, previously undescribed species are here published, and included in the present listing.

This series is part of a plan to publish revisions of all the genera without regard to order and as specialists volunteer. So far we have prepared manuscripts of *Puya* and published *Encholirium*, (*Bradea* 5, no. 27:291. 1989 with 31 species).

- 75.2. *Pitcairnia arida* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Hispania, 8 km from Remolinos to Andes, Western Cordillera, east slope, Canyon of the Río Cauca, a narrow very dry and rocky gully by the road, bs-T, 900 m alt., 5° 48.9' north latitude, 75° 54.33' west longitude, 26.VII.1988, J. Betancur, R. Fonnegra, F.J. Roldán, & H. Ortíz 606 (HOLOTYPE: US; Isotype: HUA).

A *P. haughtii* L.B. Smith, cui verisimiliter affinis, petiolis serratis, inflorescentia multo ramosiore, floribus divergentibus differt.

PLANT caespitose, flowering 275 cm high (! J. Betancur). LEAVES fasciculate, all alike, 1.6 m long, densely farinose beneath; sheaths suborbicular, 6 cm broad, apically dark castaneous, lustrous; blades linear-lanceolate, attenuate, 38 mm wide, entire; petioles 12 mm wide, laxly spinose-serrate. SCAPE erect, stout, over 12 mm thick near base, densely farinose; scape bracts subfoliaceous basally, very narrowly triangular and long attenuate above, much exceeding the internodes, 85 cm long, chartaceous. INFLORESCENCE laxly paniculate, 77 cm long, densely farinose except the petals; primary bracts like the upper scape bracts, shorter than the sterile bases of the long divergent branches. FLORAL BRACTS narrowly ovate, attenuate, equaling or exceeding the slender terete 12 mm long pedicels. SEPALS linear-lanceolate, acute, 40 mm long, the posterior ones carinate; petals naked, roseate with pale apices. Pl. 1.

81.1. *Pitcairnia explosiva* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Salgar, 11 km on the road between Salgar and Bolombolo, very moist rocky gully, 900 m. alt., mouth of the Río Barroso, 5° 55' north latitude, 1.X.1987, *Julio Betancur, J. Zaruchi, & A. Brant 518* (HOLOTYPE: US; Isotype: HUA).

A *P. diffusa* L.B. Smith, cui valde affinis, foliorum laminis lineari-lanceolatis, petiolis spinoso-serratis differt.

PLANT flowering 175 cm high (! J. Betancur), stem short. LEAVES rosulate, all alike, 95 cm long (! J. Betancur); sheaths ovate, ca. 7 cm long, dark castaneous, densely white lepidote; blades linear-lanceolate, attenuate, 3 cm wide, entire or obscurely denticulate, white lepidote beneath, glabrous above; petioles 1 cm wide, laxly spinose-serrulate. SCAPE terete, 8 mm thick at apex, white lepidote becoming glabrescent upward; scape bracts erect, long-filiform-laminate from an ovate base, much longer than the internodes but exposing most of the scape, white lepidote to glabrescent. INFLORESCENCE extremely diffuse, tripinnate, glabrous except for the bases of the flowers; primary bracts narrowly triangular, attenuate, much shorter than the sterile bases of the elongate branches. FLORAL BRACTS ovate to narrowly triangular, longer or shorter than the 10 mm long pedicels; flowers lustrous red (! J. Betancur). SEPALS narrowly triangular, 32 mm long; petals 5 cm long; anthers and stigma exserted. Pl. 2.

84.1. *Pitcairnia betancurii* L.B. Smith, *sp. nov.* COLOMBIA. Antioquia: Municipio Medellín, Old road to Guarne, forest reserve of the Universidad Nacional, woods along the road, 6° 17' north latitude, 75° 30' west



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Pitcairnia arida L.B. Smith & Betancur MARILLIACEAE

Hierba caulescente, abundante y caespitosa. Hojas acor-
sadas y con bastante indumento hacia el lado ab-
sual. Inflorescencia de 275 cm. de largo, racemosa, tér-
min, pedicelo y brácteas proximales con indumento blan-
cuzo, villosa hacia el ápice, espiga roja cuando
blanca hacia el ápice de las pálpas.

Monteplio Hispania: Nudo. de San Mateo y Andes. Cordo-
livera Occidental, Inveros orientales. Cañón del Río Casca,
terrazno por agua y pedregoso al lado de la carretera,
900 m.s.n.m., 84° 25' 54.31" Long. V; 4° 48' 14" Lat.
S.

COLECTOR J. Betancur, R. Pommer, J. J. Soldán, E. Ortiz
30 600 FEBRA 21 Agosto 1988

Plate 1, *Pitcairnia arida* L.B. Smith & Betancur.



Plate 2, *Pitcairnia explosiva* L.B. Smith & Betancur.

longitude, 1900-2000 m alt., 23.V.1987, *Julio C. Betancur, T. Fonnegra, & palynology class 464* (HOLOTYPE: US; Isotype: HUA).

A *P. oranensis* L.B. Smith, cui verisimiliter affinis, foliis omnibus similibus, inflorescentia simplici pauciflora, pedicellis superioribus reflexis differt.

PLANT stemless (?), flowering 2.1 m high (! J. Betancur). LEAVES 1.65 m long (! J. Betancur), all alike, strongly nerved beneath; sheaths ovate, pale green and glabrous basally, apically castaneous and sparsely and obscurely lepidote, merging with the petiole; blade linear-lanceolate, attenuate, 3 cm wide, pale lepidote beneath, soon glabrous, entire, merging basally with the spinose-serrate petiole. SCAPE slender (apex 3 mm thick), white farinose, glabrescent; scape bracts foliaceous below, above ovate, apiculate, 15 mm long, remote. INFLORESCENCE 10 cm long, lax at base with ascending flowers, dense above with reflexed flowers, glabrous. FLORAL BRACTS ovate, acute, 2 mm long; pedicels slender, to 8 mm long. SEPALS oblong, broadly rounded, 7 mm long, ecarinate; petals yellow-green (! J. Betancur), 13 mm long; stamens and style included; ovary 2/3 superior. Pl. 3..

84.2. *Pitcairnia farinosa* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA.

Antioquia: Municipio Sonsón, Páramo de Las Palomas, paved road between La Palmita and Rioverde de los Montes, Cordillera Central, 3000 m alt., cloud forest, 5° 46.2' north latitude, 75° 14.58' west longitude, 8.IV.1988, *J. Betancur, R. Callejas, & J. Luteyn 555* (HOLOTYPE: US; Isotype: HUA).

A *P. oranensis* L.B. Smith, cui verisimiliter affinis, foliis omnibus similibus, inflorescentia simplici densa, pedicellis patentibus differt.

PLANT stemless, known only from fragments but probably flowering near 2 m high. LEAF (one) 2.5 m long, strongly nerved beneath; sheath ovate, pale green and glabrous basally, apically castaneous and densely farinose and merging with the petiole; blade linear-lanceolate, attenuate, 4 cm wide, obscurely farinose both sides, glabrescent, entire, merging basally with the spinose-serrate petiole. SCAPE stout (apex 7 mm thick) dark red, white farinose (! J. Betancur), glabrescent; scape bracts ovate, ca. 7 mm long, remote. INFLORESCENCE simple, subdensely many flowered, 40 cm long, glabrous. FLORAL BRACTS ovate, 7 mm long; pedicels slender, spreading, to 13 mm long; flowers falling from the apex of the pedicel. SEPALS oblong-ovate, obtuse, 8 mm long, nerved; petals white (! J. Betancur), 35 mm long, naked; stamens and style included; ovary 3/4 superior. Pl. 4.

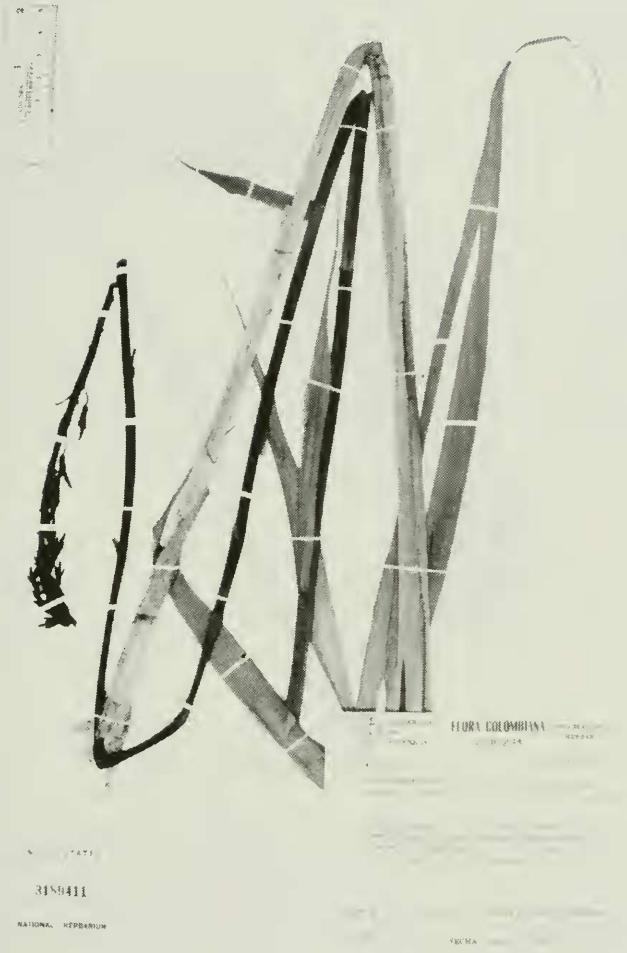


Plate 3, *Pitcairnia betancurii* L.B. Smith



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INSTITUTO VENEZOLANO DE INVESTIGACIONES CIENTÍFICAS
 DIVISION DE BOTANICA Y ZOOLOGIA
 CAROLINA DE ORO, VENEZUELA
 FECHA: 1958
 LOCALIDAD: ...
 ALTURA: ...
 AUTOR: ...
 COLECTOR: ...
 NÚMERO DE LA PLANTA: ...
 NÚMERO DE LA HOJA: ...

Plate 4, *Pitcairnia farinosa* L.B. Smith & Betancur.

- 144.1. *Pitcairnia fluvialis* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio San Luis, Saxicolous on the banks of the Río Samana Norte, canyon below the autohighway Medellín-Bogotá, under the bridge over the same river, 360 m alt., bmlh-T, 5° 59' north latitude, 74° 56' west longitude, 23.VI.1987, *Julio C. Betancur, R. Callejas, A. Arbeláz, H. Correa 469* (HOLOTYPE: US; Isotype: HUA).

A *P. johannis* L.B. Smith, cui verisimiliter affinis, bracteis florigeris late ovatis, pedicellis brevissimis, sepalis multo brevioribus base amplioribus differt.

PLANT caespitose (! J. Betancur), flowering 45 cm high. LEAVES all alike, fasciculate, 39 cm long; sheaths suborbicular, 17 mm long, apically castaneous and white lepidote; blades linear, long attenuate, 6 mm wide, glabrous with age, entire. SCAPE erect, slender, pale lepidote; scape bracts erect, the lowest subfoliaceous and imbricate, the highest ovate, acute, shorter than the internodes. INFRUCTESCENCE sublaex, 12 cm long, obscurely pale lepidote. FLORAL BRACTS like the upper scape bracts, 9 mm long; pedicels not over 2 mm long. SEPALS linear-lanceolate, acute, 17 mm long, the posterior ones carinate; ovary 4/5 superior; seeds bicaudate. Pl. 5.

- 164.1. *Pitcairnia setipetiola* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio San Luis, Piedra del Castrillón, Cordillera Central, eastern slope, periodical cloud forest, borders and only on the steepest rockfaces, 1300-1700 m alt., 6° 4.30' north latitude, 74° 59.74' west longitude, 17.IX.1988, *J. Betancur, F.J. Roldán, G. Castaño 714* (HOLOTYPE: US; Isotype: HUA).

A *P. semaphora* L.B. Smith, cui affinis, foliorum laminis petiolisque multo angustioribus, bracteis florigeris majoribus suberectis differt.

PLANT abundant (! J. Betancur), caulescent, flowering 54 cm high. LEAVES dimorphic, the outer reduced to ovate, 3 cm long, with floccose sheaths and linear flat setose-serrate blades; the inner foliaceous leaves fascicled below the inflorescence, 65 cm long; inner sheaths as before but inner ones to 12 cm long; blades lance-linear, attenuate, 23 mm wide, entire, narrowed into a rolled quill like petiole 1.5 mm thick, entire. SCAPE 1 mm thick, floccose; scape bracts ovate, apiculate, shorter than the upper internodes. INFLORESCENCE simple, 15 cm long, subdense, finely farinose except the petals. FLORAL BRACTS like the upper scape bracts, nearly equaling the sepals, rose (! J. Betancur). SEPALS lance-oblong, apiculate, 11 mm long, yellow-green (! J. Betancur); petals 17 mm long, white (! J. Betancur); ovary ca. 1/2 superior. Pl. 6.



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Plate 5, *Pitcairnia fluviatilis* L.B. Smith & Betancur.



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 Date: 1961
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Plate 6, *Pitcairnia setipetiola* L.B. Smith & Betancur.

- 164.2. *Pitcairnia ventidirecta* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Sonsón, Páramo de Las Palomas, paved road between La Palmita and Rioverde de los Montes, Cordillera Central, cloud forest and bmh-M, 3000 m alt., 5° 46.2' north latitude, 75° 14.58' west longitude, 8.IV.1988, *Julio Betancur, Ricardo Callejas, Jim Luteyn 552* (HOLOTYPE: US; Isotype: HUA).

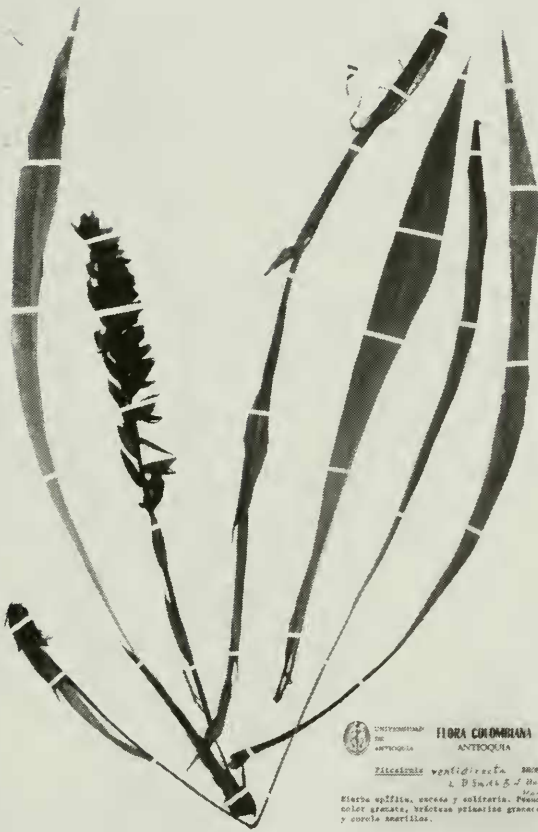
A *P. semaphora* L.B. Smith, cui affinis, foliorum laminis petiolisque multo angustioribus, scapi vaginis supremis multo majoribus internodiis haud vel vix superantibus, bracteis florigeris amplis sepala fere obtegentibus differt.

PLANT slenderly caulescent, flowering 54 cm high. LEAVES dimorphic, the outer reduced to ovate long floccose sheaths and linear flat 17 mm long black spinose-serrate blades; the inner foliaceous leaves fascicled below the inflorescence, 36 cm long; sheaths as before, blades lance-linear, attenuate, to 22 mm wide, entire, narrowed into a rolled quill like petiole 1.5 mm thick, spinose-serrulate. SCAPE ascending, slender, floccose at base; scape bracts like outer leaves basally, above elliptic, attenuate, exceeding or slightly shorter than the internodes. INFLORESCENCE simple, secund flowered, 13 cm long, lax at base, dense upward and sterile at apex, sparsely flocculose, glabrescent. FLORAL BRACTS ovate, apiculate, to 20 mm long, inflated, thin, the lower ones equaling and enfolding the sepals, the upper shorter; pedicels slender, 3 mm long. SEPALS lance-ovate, acute, 9 mm long, and corolla yellow (! J. Betancur) ovary 4/5 superior. Pl. 7.

- 169.1. *Pitcairnia gemmipara* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Frontino, Murri region, further below Alto de Cuevas, road from Nutivara to La Blanquita, 1680 m alt., bp-PM, 6° 4' north latitude, 76° 18' west longitude, 12.IV.1987, *Julian C. Betancur, F.J. Roldán, D. Restrepo, G. Martínez, S. Sylva, C.E. Orrego 419* (HOLOTYPE: US; Isotype: HUA).

A *P. sodiroi* Mez, cui in Flora Neotropica posita, planta caespitosa, foliorum laminis latissime oblanceolatis differt.

PLANT caespitose, flowering 180 cm high, producing shoots from the base. LEAVES fasciculate, to 92 cm long; sheaths ample, over 45 mm long, lustrous castaneous beneath; petioles slender, white lepidote beneath, densely serrate with slender spines 3 mm long; blade broadly oblanceolate, 13.5 cm wide, channeled, pale beneath with minute crossveins, dark above and white lepidote. SCAPE erect, ca. 10 mm thick, densely white lepidote; scape bracts narrowly triangular, long attenuate, much exceeding the internodes, spinose-serrulate. INFLORESCENCE simple, densely cylindrical but the sepals largely



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Pitcairnia ventidirecta BROMELIACEAE
 L. B. SMITH & J. BETANCUR

Herba epifita, caeca y solitaria. Pseudopetalo color granate, bráctea primaria granosa, néctar y corcha amarillos.

Municipio Suroño: Páramo de Las Palmas, camino de herradura entre La Pazña y Elverde de los Montes, 3000 m.s.n.m., Cordillera Central, bosque subhúmedo y húmedo, 75° 14.58' Long. W; 5° 46.0' Lat. N.

COLLECTOR: Jairo Betancur, Ricardo Callejas, JIM LUTER
 N. 522 FECHA: 6 Abril 1968

Plate 7, *Pitcairnia ventidirecta* L.B. Smith & Betancur.

exposed, 63 cm long, white tomentose. FLORAL BRACTS narrowly ovate, long attenuate, 3 cm long, thin, sulcate when dry; pedicels stout, 4 mm long; flowers suberect. SEPALS very narrowly triangular, attenuate, 32 mm long; petals 65 mm long, orange, bearing a truncate denticulate scale at base; stamens included; ovary 4/5 superior. Pl. 8.

- 169.2. *Pitcairnia fruticosa* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Frontino, Murri Region, road between Nutivara and La Blanquita, Alto de Cuevas, virgin forest slightly opened, bp-PM, 1910 m alt., 6° 47' north latitude, 76° 17' west longitude, 17.IV.1987, Julio C. Betancur, F.J. Roldán, D. Restrepo, G. Martínez, S. Sylva, C. E. Orrego 445 (HOLOTYPE: US; Isotype: HUA).

A *P. sodiroi* Mez, cui in Flora Neotropica posita, foliorum lamina latissime oblanceolatis, a *P. gemmipara* Smith & Betancur, planta epiphytica stolonifera differt.

PLANT epiphytic, stoloniferous, shrubby, flowering 130 cm high. LEAVES to 90 cm long; sheaths ample, ca. 60 cm wide, castaneous beneath; petioles slender, pale and sulcate (dry) beneath, laxly serrate with straight spreading 2.5 mm long black spines; blade broadly oblanceolate, acute, 11 cm wide, pale beneath with minute crossveins, dark above and sparsely pale lepidote. SCAPE erect, 1 cm thick, densely white lepidote; scape bracts ovate, attenuate, appressed pale lepidote, spinose-serrate, much exceeding the internodes. INFLORESCENCE simple, subdensely cylindrical, 44 cm long. FLORAL BRACTS narrowly triangular from an ovate base, attenuate, shorter than the upper sepals, papyraceous; pedicels stout, 2 mm long; flowers divergent. SEPALS narrowly ovate, apiculate, 38 mm long, glabrous, yellow-green; petals 6 cm long, orange; stamens and pistil included. Pl. 9.

- 176.1. *Pitcairnia formosa* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio de Salgar, 5 km on the road from Bolombolo to Salgar, bs-T, border herb very showy and abundant with almost all individuals in flower, 720 m alt., 5° 55' north latitude, 75° 55' west longitude, 29.IX.1987, Julio C. Betancur, Jim Zaruchi, & Alan Brant 513 (HOLOTYPE: US; Isotype: HUA).

A *P. brachysperma* André, cui valde affinis, sepalis latioribus late alatis differt.

PLANT known only from fragments, flowering over 67 cm high. LEAVES (only foliaceous known) to 113 cm long; covered beneath with a membrane of fused scales ("white-furfuraceus" Mez), ("cerosided" Betancur); sheaths unknown; blades linear-lanceolate, 2 cm wide, entire; petioles distinct, 1 cm



Plate 8, *Pitcairnia gemmipara* L.B. Smith & Betancur.



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DESCRIPCION:
 Hojas rígidas, largo ribete serrado con ceros
 y puntos redondos, de 10 cm. longitud de 40 cm.
 con verde amarillito, sedales, espina y ribete
 serrado, nervios amarillos. Hojas de 10 cm. de
 longitud y 4 cm. de anchura.

Localidad: Páramo, Región Sur. Cercado entre
 las montañas de la Sierra de Guadalupe. Cerca
 del punto de la carretera, 1000 m. s. n. m. Sur de
 Bogotá, 4° 47' lat. N., 76° 17' long. W.

COLLECTOR: J. Betancur, F. J. Ballew, J. Betancur,
 S. G. Gentry, S. Gentry, C. Gentry

FECHA: Abr 17, 1962

Plate 9, *Pitcairnia fruticosa* L.B. Smith & Betancur.



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Pitcairnia formosa L.B. Smith & Betancur
 Hierba epifita, muy simétrica y abundante. Hojas
 lanceoladas, estrechamente agudas o finamente ciliadas. Inflorescencia
 en forma de panícula o racimo. Corolla blanca y
 pedicelos verdes. Ovarios primarios verdes y los
 secundarios amarillos. Corolla y involucro, centro
 verde.

Material de Salgar, 3 km. de la carretera de Belén
 a Salgar, Depto. 710 N.E. de Antioquia, 5° 55' Lat. N; 76° 55'
 Long. W.

COLECTOR: Smith, Betancur, J. de la Cruz, A. de la Cruz

No. 513 FECHA: Septiembre 25, 1962

Plate 10, *Pitcairnia formosa* L.B. Smith & Betancur.



Plate 11, *Pitcairnia basincurva* L.B. Smith & Betancur.

wide. SCAPE erect, slender, glabrescent; scape bracts narrowly ovate, attenuate, white vestite with fused scales, only the highest shorter than the internodes. INFLORESCENCE simple, lax, 16 cm long. FLORAL BRACTS ovate, attenuate, exceeding the pedicels, papyraceous, green (! J. Betancur), white vestite with fused scales; pedicels to 12 mm long, angled, more or less vestite. SEPALS lance-oblong, attenuate, 33 mm long, coffee red, the dorsal ones broadly alate; petals ca. 5 cm long, red-orange (! J. Betancur); stamens and stigma enclosed, ovary 4/5 superior. Pl. 10.

216.2. *Pitcairnia basincurva* L.B. Smith & J. Betancur, *sp. nov.* COLOMBIA. Antioquia: Municipio Santo Domingo: 20 km on the road from Barbosa to Yolombó, after El Pescadito Restaurant, abundant on the roadside bank, 1100 m alt., 6° 31' north latitude, 75° 14' west longitude, 19.IX.1987, *Julio C. Betancur, R. Callejas, F.J. Roldán 512* (HOLOTYPE: US; Isotype: HUA).

A *P. abundans* L.B. Smith, cui verisimiliter affinis, scapi bracteis parvis remotis, bracteis florigeris quam pedicellis gracilibus brevioribus differt.

PLANT stemless, flowering 9 dm high. LEAVES polymorphic, the outermost with suborbicular sheaths and flat linear spinose-serrate 25 mm long persistent blades, next above leaves known only by their incurved entire 15 mm wide stubs, and centrally an ovate apiculate sheath developing into foliaceous linear-lanceolate subpetiolate entire blades 56 cm long, 20 mm wide, laxly and finely pale lepidote on both sides. SCAPE straight, slender, sparsely and finely pale lepidote; scape bracts narrowly triangular, attenuate, thin, much shorter than the internodes. INFLORESCENCE simple, laxly racemose, 26 cm long, laxly and finely pale lepidote including the petals. FLORAL BRACTS like the upper scape bracts, about equaling the slender 12 mm long pedicels. SEPALS linear-lanceolate, acute, 29 mm long, strongly asymmetric, basally red, apically yellow; petals white (! J. Betancur), naked, zygomorphic forming a hood over the stamens and stigma; ovary less than half superior. Pl. 11.