



Pitcairnia pseudoelliptica (Bromeliaceae) a new species from Junin, Peru

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Abstract

A new *Pitcairnia* species from Junin, Peru, *P. pseudoelliptica* is described, illustrated and compared to the morphologically closely related species *P. elliptica* from Ecuador and the wide spread *P. rubiginosa* from the Guianas and Amazonian Colombia, Venezuela, Peru and Brazil. This plant is in culture for many years at several botanical gardens in Europe and identified as *P. elliptica*, but is a distinct species.

Key words: Taxonomy, Poales, Pitcarinioideae, *Pepinia*, Amazonas

Introduction

Pitcairnia is the second largest genus in the family of the Bromeliaceae with 421 species and 69 infraspecific taxa (Gouda *et al.* cont. updated). In the latest monograph about the family (Smith & Downs 1974), the genus was divided in two subgenera, *Pepinia* (Brongniart ex André) Baker (1881: 227) with seeds alate or rarely naked and subgenus *Pitcairnia* with bi-caudate seeds. Earlier *Pepinia* was recognized as a genus based on *Pepinia aphelandriflora* (André 1870: 32, see also Gouda & Manzanares 2024), and later again by Varadarajan & Gilmartin (1988), who transferred many (40) species to this genus. A deeper study of the seed structure by Taylor & Robinson (1999) proved that this division should be rejected, and the genus *Pepinia* was no longer recognized except by Luther (2000, 2001, 2002, 2007) who described five new species for this genus after this publication. Grant (2004) already transferred several of them to *Pitcairnia*, but one was described after this publication. This species described in *Pepinia* is transferred to *Pitcairnia* here.

Molecular research proved that *Pepinia* is not even monophyletic (Schubert 2017) and its members spread between the other *Pitcairnia* species in the phylogenetic trees as Taylor & Robinson (1999) already suggested. The division in the identification keys is still problematic, because most of the cases a flowering plant is to be identified and seeds are not available, or fruits and seeds are available and other characteristics are no longer available in the specimens.

The new species described here, *Pitcairnia pseudoelliptica*, has been in culture from 1973 onward in several botanical gardens in Europe. It was collected by Werner Rauh in San Ramón, Junin, Peru and brought in culture at the botanical gardens of Heidelberg. It keys out to *P. elliptica* Mez (1904: 624) or *P. rubiginosa* (Brongn. ex E.Morren) Baker (1889: 116) in the emended identification keys of the Encyclopaedia of Bromeliads (Gouda *et al.* cont. updated), depending on what subkey you choose (seeds alate or rarely naked: subkey VII [ovules are not caudate in this species] or seeds bi-caudate, inflorescence simple, leaf blades persistent, floral bracts narrow or small, and leaf blades petiolate: subkey IV). This new species resemble both of these two species and therefore is compared with both of them.

Taxonomy

Pitcairnia werffii (H. Luther) Gouda, *comb. nov.*

Basionym: *Pepinia werffii* H.Luther *Selbyana* 28: 5–12 (2007). **Type:** Peru, Dept. Pasco, Oxapampa, Along roadside

Chatarra to Pto. Bermudez, Alt. 880 m., 9 July 2003. *Werff, H. van der, R. Vásquez M., B. Gray, Rosa Ortiz & N. Dávila* 18187 (Holotype: SEL; Isotype: MO).

Pitcairnia pseudoelliptica Gouda, *sp. nov.* figures 1–2

Diagnose:—A *Pitcairnia elliptica*-like species ca. 40 cm tall (*vs.* 75 cm), the inflorescence reaching much above the leaves (*vs.* leaves exceeding the inflorescence), petiole of the leaf (5–)10–20 cm long (*vs.* 40 cm long), the leaf blade thin coriaceous, lanceolate, 35–65 x 6–8.2 cm, abaxially with a white membrane of fused scales (*vs.* very thin, elliptic, 20 x 9.5 cm, abaxial indument not masking the color of the blade), flowers divergent to spreading (*vs.* flowers erect), pedicel 1.2–1.5 cm long (*vs.* 0.5 cm); sepals 2.5 cm long, carinate (*vs.* 1.2 cm, ecarinate), petals ligulate, 6.4 cm long, with a oblong ligule at the base (*vs.* petals linear, 3 cm, naked).

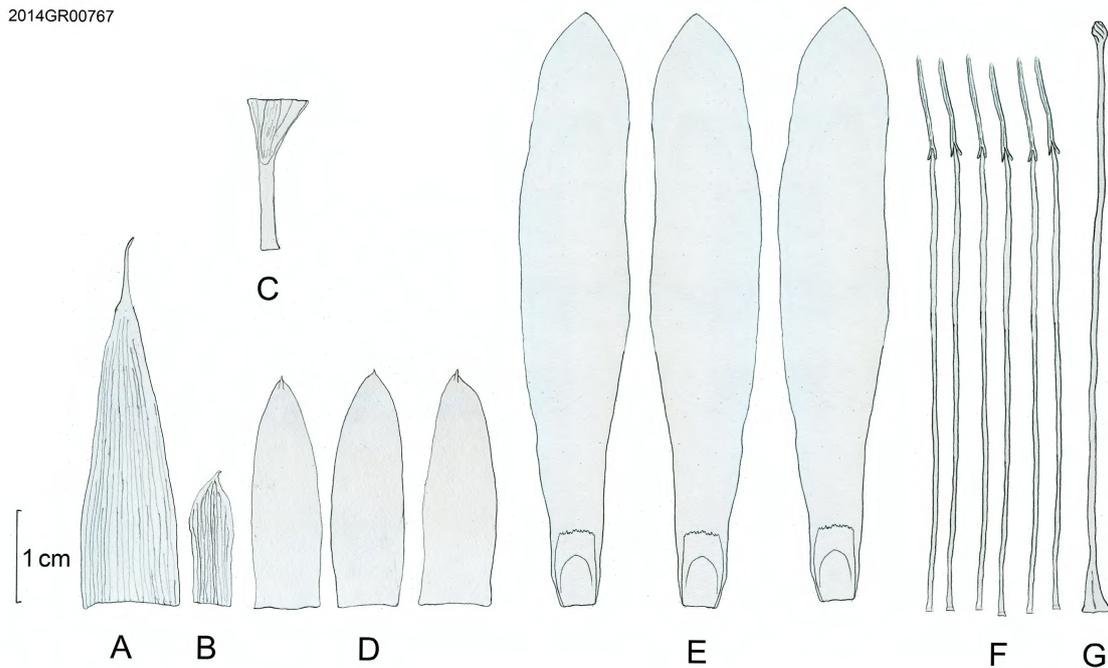


FIGURE 1. *Pitcairnia pseudoelliptica* flower parts: A. lower floral bract; B. median floral bract; C. pedicel and transverse section of the inferior part of the ovary; D. sepals; E. petals showing one large ligule at the base; F. stamens; G. pistil (superior part). Drawing by the author after the type specimen (Drawing by the author from accession 2014GR00767).

Type:—PERU: Junin, Chanchamayo Province, San Ramón District, near San Ramón, 1100 m elev. 30–10–1973, Rauh, W. 35607, flowered in culture at the Botanical Garden Utrecht June 2025 with accession number 2014GR00767 (holotype U, isotype USM).

Description:—**Plant** acaulescent, ca. 40 cm tall, flowering much taller, not dense, with 5–8 leaves in each rosette, forming an open rosette, yellowish green. **Leaves** polystichous, dimorphic, petiolate, persistent, 45–85(–100) cm long, the inflorescence reaching much above the leaves the inflorescence; **sheath** small, fleshy, broadly ovate, tightly imbricate, 2.5–3 cm long, 4–5 cm wide, entire, with broad membranaceous margins, covered with a membrane of scales, partly coming off, adaxially glabrous except distally, scales brown, abaxially castaneous to nearly black, lustrous white adaxially; **petiole** (5–)10–20 cm long, 4–6 mm wide, strongly channeled and involute when dry, entire, adaxially lustrous green; **blade** arching to recurving, somewhat stiffly, thin coriaceous, nearly flat but with a channeled midvein, venation distinct, (ob-)lanceolate, 35–65 cm long, 6–8.2 cm wide, yellowish lustrous green, laxly serrulate in upper half, with hyaline or pale brown, curved, ca. 0.3 mm long, antrorse spines, with narrow hyaline margins, narrowly cuspidate, filiform-attenuate, covered with a white membrane of fused scales, with closely appressed trichomes coming off easily, whitish scales, glabrescent adaxially; **reduced-leaves** lanceolate and sheath-like, 3.5–19 cm long, 1.7–2 cm wide, filiform cuspidate, soon dry and stramineous. **Inflorescence** central, simple, racemose, lax, including peduncle up to 100 cm long, with 40–70 flowers; **fertile part** 28–45 cm long, including petals 10–15 cm wide, cylindrical in outline; **peduncle** elongate, bracteate but mostly exposed, erect, 33–47 cm long, 4–6 mm in diameter, internodes 4–7 cm long, subdensely floccose, brown or orange

distally; **peduncle bracts** not foliaceous, erect, the lower ones imbricate, the upper remote, chartaceous, finely veined, triangular lanceolate, entire, 3.8–6 cm long, 1.1–1.5 cm wide, narrowly cuspidate with thicker subulate apex, except the lowest all about equaling the internodes but so narrow to expose most of the peduncle; **axis** elongate, wholly exposed at anthesis, stout, straight or slightly curved, obtuse angled, internodes irregularly 0.5–2.5 cm long, subdensely floccose, orange or red; **floral bracts** ample, divergent with the pedicel, nearly straight, remote, chartaceous, finely veined, ecarinate, the lowest ones narrowly ovate or obovate, entire, narrowly acuminate or apiculate, 1.4–4 cm long, 0.45–1.1 cm wide, the lower ones much exceeding the ovary to about equaling the pedicel, with thin margins, adaxially sparsely lepidote to glabrescent toward the base, abaxially densely lepidote (floccose), green or soon dry and stramineous. **Flowers** divergent to spreading to a right angle with the rachis, corolla turning one sided to form a cap over the exposed stamens, excl. pedicel ca. 6.7 cm long, corolla slightly zygomorphic, with the petals turning to one side, imbricate and hooded over the stamens, pedicellate, deciduous excluding pedicel; **pedicel** 1.2–1.5 cm long, 1.5–2 mm in diameter distally, straight or curved ascending, sparsely floccose, red; **sepals** fleshy, even, narrowly ovate, symmetric, entire, with thin margins, narrowly rounded and apiculate, cymbiform, 2.5 cm long, 0.85 cm wide, adaxial ones distinct from the abaxial one, bluntly carinate, free, sparsely lepidote, only abaxially and at the very base and apex adaxially, orange-red; **petals** lingulate (lower 1/3 cuneate), margins entire, thin, imbricate and incurved, forming a cap above the stamens, with 5 mm wide claw, rounded and then obtuse, 6.4 cm long, 1.1 cm wide, tinged salmon-orange on a yellowish base, bearing one large ligule at the base; ligules 8 mm long, 4.5 mm wide, truncate and erodate dentate, at the base, for more than half adnate to the petals, margins incurved around the ovary. **Stamens** 6 cm long, included but exposed below the one sided petal-blades, all equal in length, shorter than the pistil; **filament** slender, flat at the base but upper part dilated and more subterete, free, white or pale green distally; **anther** basifixed below the narrow lobes, linear, 11 mm long, greenish yellow, with two narrow lobes contiguous with the filament at the base, apiculate at the apex; pollen yellow. **Pistil** just exerted, 6.5 cm long; **ovary** more than half-inferior, orange, sparsely lepidote, cuneate-obconic, 7 mm long, 7 mm wide, attenuate into the style, green; **ovules** axial, ovoid, many; **style** slender, elongate, many times as long as the ovary, pale green; **stigma** conduplicate-spiralized club-shaped, with hyalin papillae, red.

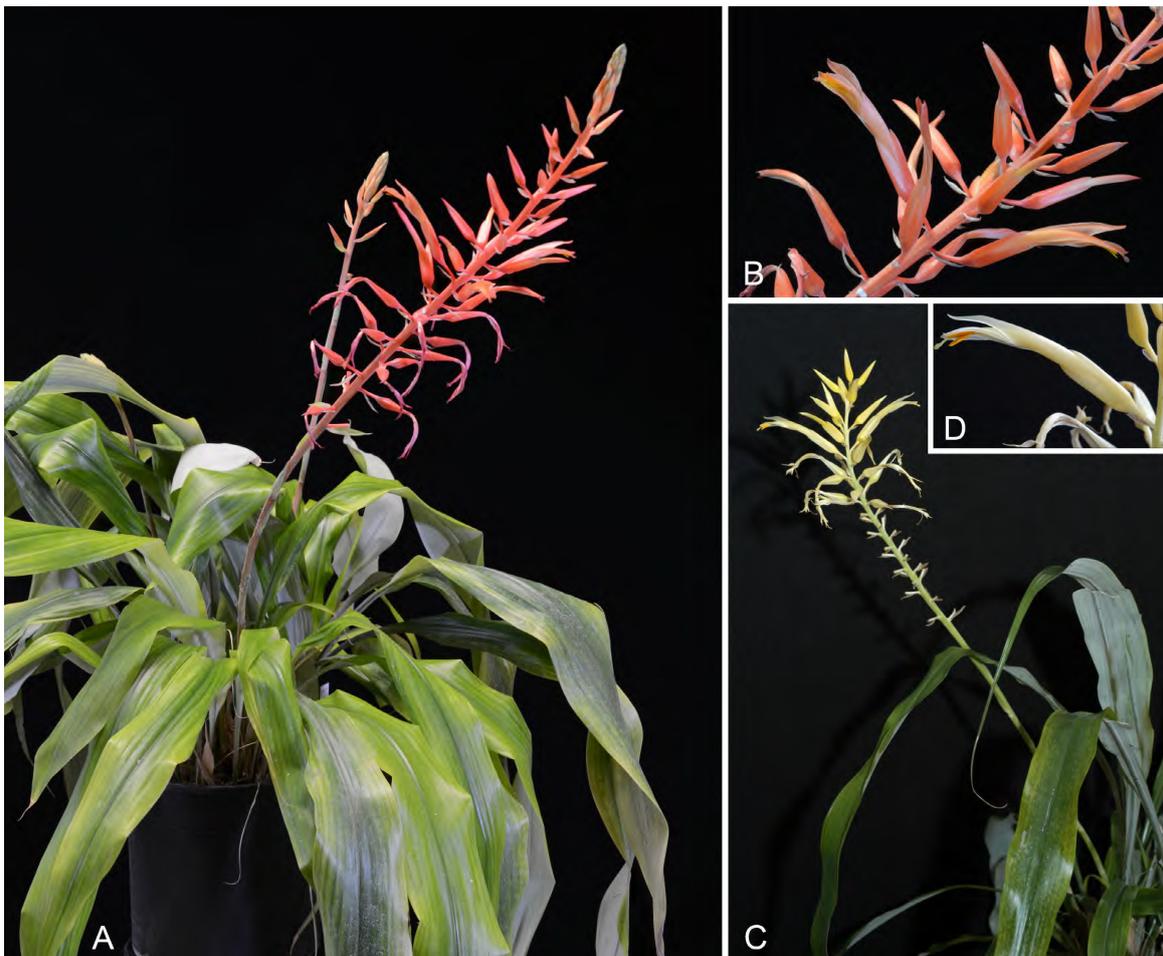


FIGURE 2. *Pitcairnia pseudoelliptica* A–B accession 2014GR00767, used for the type: A. flowering plant; B. detail of the inflorescence and flower; C–D accession 2000GR00643: C. inflorescence; D. flower. Photos by the author.



FIGURE 3. *Pitcairnia elliptica* Mez. A. leaf, showing the elliptic acuminate blade and very slender petiole; B. dense inflorescence with erect flowers; C. inflorescence and actinomorphic flowers; D. fruits. Photos by Rudy Gelis in Pichincha province, Ecuador, November 2020.

Distribution:—Only known from the type specimen, from San Ramón, Junin, Peru.; It probably grows in more humid conditions, because of the persistent broad leaves, at ca. 1100 elevation.

Etymology:—The epithet '*pseudoelliptica*' is composed from the words '*pseudo-*' ('alike') and '*elliptica*' (*Pitcairnia elliptica* alike).

Observations:—*Pitcairnia elliptica* Mez is a rare species known from Ecuador, Pichincha and Carchi provinces only, and has very long slender leaf petioles and broad short elliptic blades green in color also abaxially, with the

relatively short inflorescence between the leaves. This new species from Peru, Junin, is somewhat similar with *P. elliptica*, but differs in much shorter leaf petioles and relatively much longer leaf blades that are white lepidote abaxially and an inflorescence elevated much above the leaves which is relatively much longer with many flowers. For more detailed differences, see Table 1 and the diagnose.

Pitcairnia pseudoelliptica can also be confused with *P. rubiginosa* (Brongn. ex E.Morren) Baker, but can be easily distinguished from that species, by the fleshy leaf-sheaths forming a thickened base (vs. thin coriaceous), shorter petioles and the elongated peduncle raising the inflorescence much above the leaves (vs. inflorescence between the leaves). For more detailed differences, see table 1.

Plants are grown at Heidelberg Botanical Garden for ages and distributed to several Botanical Gardens in Europe. We received material at the Utrecht Botanical Garden (BG) from Berlin BG in 2000, 2004 and again in 2014 with IPEN number PE-0-HEID-130367 (this network reference number should be identical in all BGs). All plants had the same source (Heidelberg), but the first one grown under accession number 2000GR00643 flowered pale yellow, while the other plants and the plant in Heidelberg (see <https://gartenbank.cos.uni-heidelberg.de/public/gb.php?sid=SID&gn=130367>) flowered orange-red. The pale yellow flowering plant does not differ in other characteristics but the color from the orange-red specimen.

TABLE 1. Comparing *Pitcairnia pseudoelliptica* sp. nov. with *P. elliptica* Mez and *P. rubiginosa* (Brongn. ex E.Morren) Baker.

	<i>Pitcairnia pseudoelliptica</i>	<i>Pitcairnia elliptica</i>	<i>Pitcairnia rubiginosa</i>
leaves			
- length in cm (cm long)	45–85(–100)		60–120
- relative length (the inflorescence)	the inflorescence reaching much above the leaves	exceeding the inflorescence	much exceeding the inflorescence
sheath			
- structure, thin, fleshy etc.	fleshy		thin coriaceous
petiole			
- length in cm (cm long)	(5–)10–20	40	20–40(–65)
- margins entire or not	entire	entire or serrulate	laxly serrulate
blade			
- thin or thick	thin coriaceous	very thin	chartaceous
- shape	lanceolate	elliptic	lanceolate to linear-lanceolate
- length in cm (cm long)	35–65	20	(15–)–35–90
- width in cm (cm wide)	6–8.2	9.5	2.5–7
- apex	narrowly cuspidate and filiform-attenuate	acuminate	attenuate or cuspidate
- indument abaxially	covered with a white membrane of fused scales	lepidote not masking the blade color	densely lepidote not much masking the blade color
inflorescence			
- density: lax, dense etc.	lax	dense	lax to subdense
- number of flowers	40–70	ca 30	10–40
peduncle			
- length in cm (cm long)	33–47		15–30
- indument	floccose	glabrous/furfuraceous	floccose
peduncle-bracts			
- direction: erect, divergent etc.	erect		divergent
- apex: acute, apiculate etc.	cuspidate	acuminate	acuminate and filiform attenuate
floral-bracts			
- color	green soon stramineous		reddish

.....continued on the next page

TABLE 1. (Continued)

	<i>Pitcairnia pseudoelliptica</i>	<i>Pitcairnia elliptica</i>	<i>Pitcairnia rubiginosa</i>
flowers			
- (excl. pedicel) length in cm (cm long)	6.7		3–5.5
pedicel			
- length (cm long)	1.2–1.5	0.5	0.7–2
sepals			
- structure	fleshy	thin	fleshy
- margins	with thin margins		not thin at the margins
- apex	rounded and then apiculate	rounded	acute or obtuse
- length in cm (cm long)	2.5	1.2	1.8–2.5
- back (surface)	bluntly carinate	ecarinate	ecarinate
- indument	sparsely lepidote	glabrous/furfuraceous	floccose
- color	orange	red	red
petals			
- ligules (nectary scales)	bearing one large ligule at the base	naked (without a ligule at the base)	ligules present
- length in cm (cm long)	6.4	3	3.2–5.4
- color	orange		red
stamens			
- relative length	included but exposed below the one sided petal-blades	included, corolla actinomorphic	about equaling the petals&included but exposed below the one sided petal-blades
anthers			
- length (mm long)	11		6–10
ovary			
- position: superior, inferior etc.	slightly more than half-inferior	1/4 inferior	for 2/3 inferior
ovules			
- form and appendage	obtuse	caudate	

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