
A New Species of *Cipura* (Iridaceae) from Colombia and Venezuela

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ABSTRACT. *Cipura gigas* is a new species of this Neotropical genus of nine species that extend from Paraguay in the south to Cuba and Mexico in the north. Apparently most closely related to the widespread *C. paludosa*, *C. gigas* is distinguished by its height (50–100 cm), the large bulb (ca. 3 cm diam.) with resinous tunics, basal leaves that are mostly 8–10 mm wide, lilac-purple flowers, and the inner tepals that form a narrow-mouthed urn-like cup 10–13 mm long. The species is restricted to the Orinoco basin of eastern Colombia and adjacent Venezuela. We provide a revised key to the genus.

Key words: *Cipura*, Colombia, Iridaceae, Iridoideae, Venezuela.

Cipura Aublet (Iridaceae, Iridoideae) is a New World genus in the tribe Tigridieae that is characterized by a bulbous rootstock, plicate leaves, and an ancestral, basic chromosome number of $x = 7$ (Goldblatt, 1990, 1998). *Cipura* is distinguished by the presence of a subapical cauline leaf inserted at the base of the subterminal inflorescence(s); inner tepals that are held erect, often overlapping and thus forming a wide- to narrow-mouthed cup; and inner tepal limbs that are short or obscurely distinguished from the claws (Goldblatt & Henrich, 1987, 1999). The genus extends from Paraguay and southern Brazil to central Mexico and Cuba, and now includes nine species (Ravenna, 1988).

Two species were unnamed in Goldblatt and Henrich's review (1987) of the genus. One of these, *Cipura* sp. 1, was subsequently described as *C. formosa* by Ravenna (1988). The second species, *Cipura* sp. 2, from the frontier region between Colom-

bia and Venezuela and now known from ample material, is described here as *C. gigas*.

In his review of *Cipura*, Ravenna (1988) also added another new species, *C. paradisiaca* Ravenna from Brazil, evidently closely related to *C. xanthomelas* Martius ex Klatt. Ravenna also presented an argument for the recognition of *C. inornata* Ravenna, a species included by Goldblatt and Henrich (1987) in *C. campanulata* Ravenna. The latter was regarded as a synonym of *C. cubensis* Grisebach by Ravenna (1988). Lastly, Ravenna provided a new name, *C. insularis*, for the Cuban species *C. cubensis* Wright ex Saville, a homonym in *Cipura*, dating from 1871. The latter species, evidently closely related to *C. cubensis*, was described when collected as having yellow flowers. It otherwise closely resembles a slender *C. cubensis*. *Cipura* thus currently has nine species. *Cipura cubensis* and *C. insularis* are difficult to distinguish from *C. inornata* from herbarium material, and we question their status as separate species. According to Ravenna, *C. cubensis* may be separated by the almost flat leaves, bell-shaped perianth, inner tepals nearly as long as the outer, and minutely funnel-shaped stigma versus lightly plicate leaves, cup-shaped perianth, inner tepals shorter than the outer, and minutely 3-lobed stigma in *C. inornata*. Illustrations showing the floral differences are sorely needed.

Previous studies reported three species of *Cipura* from Colombia, *C. paludosa* Aublet, *C. rupicola* Goldblatt & Henrich, and *C. gigas*, described here, before reported as *Cipura* sp. 2 (Goldblatt & Henrich, 1987) or *Cipura* sp. A (Goldblatt & Henrich,

1999). *Cipura rupicola*, however, only occurs in lowland Venezuela adjacent to Colombia.

In this paper we describe *Cipura gigas* as a new species and provide a key to the genus as a provisional contribution anticipating the publication of Ravenna's promised revision of the genus (Ravenna, 1988).

Cipura gigas Celis, Goldblatt & Betancur, sp. nov.

TYPE: Colombia. Guaviare: municipio de Miraflores, Serranía La Lindosa, trocha al Nuevo Tolima, finca Casa Blanca, cercanías de la casa, en sabana potrerizada, 2°29'12"N, 72°41'13"W, 465 m, 1 June 1997, J. Betancur & R. López 7296 (holotype, COL; isotypes, COAH, HUA, K, MO, NY, P, US). Figure 1.

Plantae 50–100 cm altae; bulbo 1.5–3 cm longo, ca. 3 cm diametro, tunicis nigribus resinosis nitidus, foliis basalibus 1–2(–3) ad 78 cm longis (2–)8–10 mm latis ensiformibus plicatis, rhipidiis 2–3 spatho exteriore ad 3 mm longo interiore ad 4.5 cm longo 3–6 florum, floribus purpureis tepalis interne cremei striatis exteriore luteis striatis interne, tepalis exterioribus 17–30 mm longis patentibus interioribus 10–13 mm longis erectis cupulis urciformibus, filamentis ca. 5 mm longis, antheris 3–4 mm longis ad stylum appressis, ovario 1–1.9 cm longo ellipsoideo incluso, capsulis 1.2–2 cm longis in spathis inclusis.

Plants 50–100 cm high. Bulb 1.5–3 cm long, ca. 3 cm diam., subglobose to ellipsoid with shiny, blackish, resinous tunics. Basal leaves 1 or 2(to 3), typically 30–78 cm × (2–)8–10 mm, sword-shaped, with open sheathing base, attenuate, plicate. Flowering stem 1 to 3 per plant, 40–84 cm long, erect, ± terete. Inflorescences with 2 or 3 pseudolateral rhipidia, on peduncles ca. 6 mm long, subtended by a subapical, attenuate cauline leaf 13–25 cm × 6–10 mm; spathes green, leafy, the outer 2.5–3 cm long, the inner 3.5–4.5 cm long; floral bracts 2.2–3 cm long. Flowers 3 to 6, lilac, borne on pedicels 10–17 mm long, the inner tepals with a central cream stripe outside and yellow central streak inside with darker lilac spots toward the margins and purplish toward the base, tepals unequal, connate at the base for ca. 2 mm, the outer 17–30 mm long, spreading, spathulate, obtuse, the inner 10–13 mm long, imbricate, elliptic, obtuse, forming an urn-like cup. Stamens with free filaments 5 mm long, pale lilac; anthers 3–4 mm long, appressed to the style, reaching to just below the base of the style branches. Ovary 1–1.9 cm long, ellipsoid, green, included in the spathes; style 8 mm long, dividing into three long branches, 3 mm long, each with an abaxial glandular stigmatic lobe and a pair of short, erect, crest-like adaxial appendages. Capsules 1.2–2 cm long, enclosed in the spathes, ellipsoid; seeds ca.

50 per capsule, ellipsoid, 1.4–1.5 × 1–1.1 mm, rugose, brown-black.

Etymology. The epithet refers to *Cipura gigas* being the tallest member of the genus, 50–100 cm high, with the broadest leaves, up to 10 mm wide, and the largest bulbs, up to 3 cm in diameter.

Distribution and habitat. *Cipura gigas* occurs in eastern Colombia and adjacent northwestern Venezuela, at 75–465 m, in open savannas on isolated hills in the Guayana region, such as El Tuparro National Park, La Lindosa (Colombia), and Atures (Venezuela).

The presence of *Cipura gigas* in Colombia was first noted by Goldblatt and Henrich (1987, 1999), but they did not describe the species due to insufficient material. We consider *C. paludosa* and *C. gigas* to be closely allied, because both species have inner tepals forming a narrow-mouthed urn, but they are easily distinguished by the size of the plant (10–40 vs. 50–100 cm tall), the bulb size (0.8–2 vs. ca. 3 cm diam.), the width of the basal leaves (1.5–5(–7) vs. (2–4)8–10 mm), and the length of the flowering stems (4.5–20 vs. 40–84 cm). Also, *C. paludosa* has non-resinous bulb tunics, whereas those of *C. gigas* are strongly resinous and shiny.

Paratypes. COLOMBIA. **Casanare:** margen derecha del Río Casanare, Caserío Indígena Tsamani, 31 jul. 1977, *Niño 317* (COL). **Meta:** La Macarena, camino del Río Guayabero a Caño Cristales, 26 jun. 1996, *Cárdenas 7204* (COAH); Puerto Lleras, Menegua, 15 ene. 1937, *García-Barriga 9009* (COL); Puerto Gaitán, Centro de Investigaciones Carimagua, jul. 1994, *G.C. 60* (VALLE); La Macarena, Vereda Cachivera, por el camino que conduce del Río Guayabero a Caño Cristales, 1 ago. 2000, *López 6765* (COAH); Puerto López, finca Los Laureles, 3 jun. 1980, *Rangel 1429* (COL); Laguna de Carimagua, 1 nov. 1975, *Rewinkel 20* (COL); Puerto Gaitán, Carimagua, 150 m, 11 jun. 1905, *Rippstein 3055* (VALLE); Puerto Lleras, Rancho Menegua, 100 km SE de Villavicencio, 16 jul. 1945, *Schiefer 814* (GH). **Vichada:** Caño Urimica, 5 ene. 1972, *Cabrera 2055* (COL); Río Vichada, 13 jul. 1945, *di Giovanni 146* (COL); Cumaribo, alrededores del Centro Administrativo, Territorio Faunístico El Tuparro, entre los valles inferiores de los ríos Tuparro y Tomo, 11 ago. 1979, *Salamanca 432* (COL); Cumaribo, Territorio Faunístico El Tuparro, 1.5 km N de la carretera a El Tapón, 11 sep. 1979, *Vincelli 1230* (COL, FMB, MO). VENEZUELA. **Amazonas:** Atures, región de Rincones de Cachorro, a 30 km N de Puerto Ayacucho y a unos 5 km NE de Galipero, 23 sep. 1980, *Huber 5711* (MO); Atures, by tree on E side of road 5.5 km S of Puerto Ayacucho, 2.4 km S of Alcabala, 8 Sep. 1985, *Steyermark 131598* (MO); **Portuguesa:** Guanare, terrenos de la UNELLEZ, mesa de cavacas, 4 Oct. 1998, *Aymard 7081* (MO).

KEY TO THE SPECIES OF *CIPURA*

- 1a. Flowers yellow; capsules globose and exerted from the spathes.

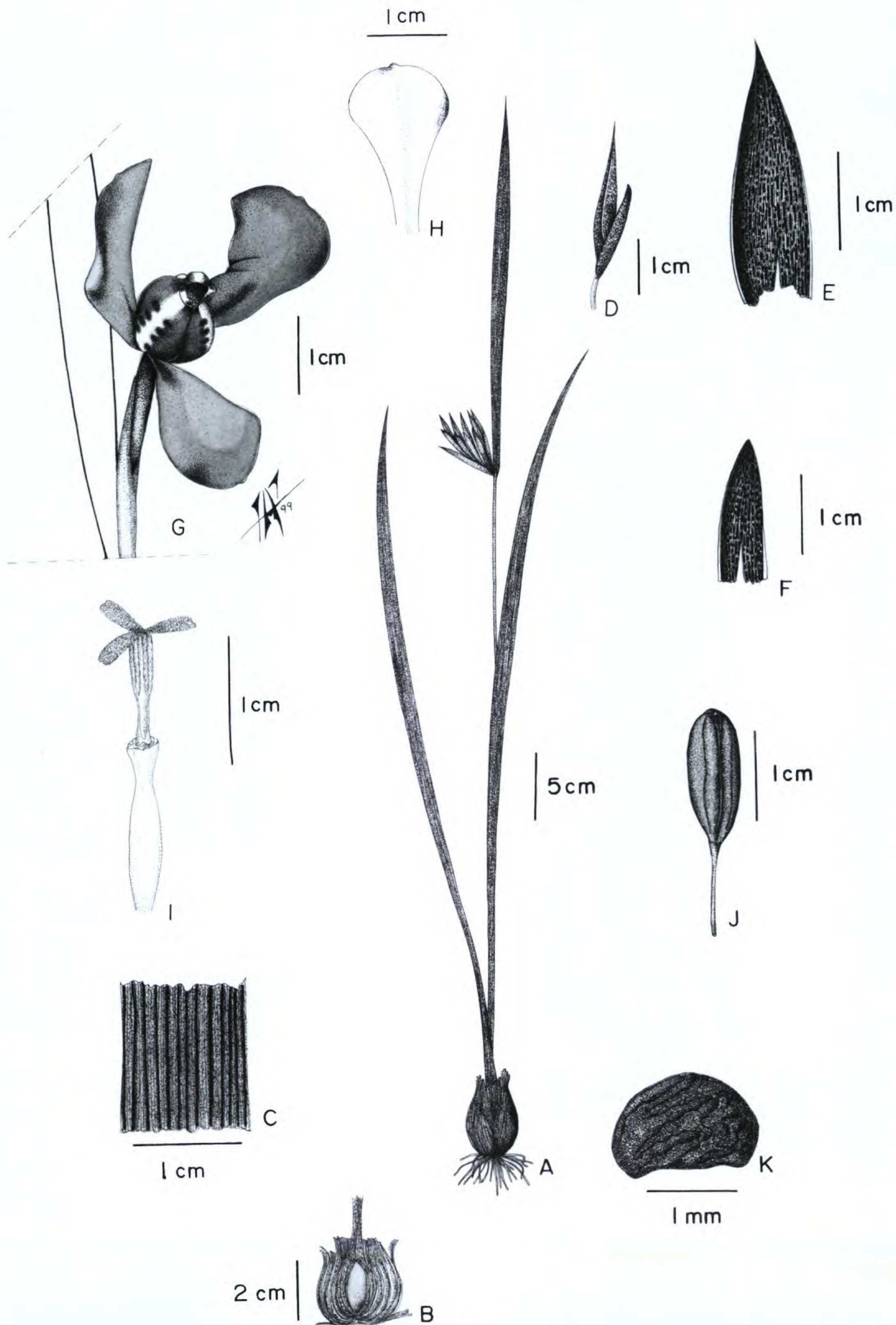


Figure 1. *Cipura gigas* Celis, Goldblatt & Betancur. —A. Habit. —B. Longitudinal section of bulb. —C. Detail of a basal leaf. —D. Floral unit. —E. First floral bract. —F. Second floral bract. —G. Flower. —H. Outer tepal. —I. Gynoecium and androecium. —J. Capsule. —K. Seed. (Drawn from the holotype, *Betancur & López 7296*, COL.)

- 2a. Inner tepals yellow with black markings on the keel and at the apex, less than half as long as the outer tepals, to 14 mm long . . .
 *C. xanthomelas*
- 2b. Inner tepals entirely pale yellow, somewhat more than half as long as the outer, to 18 mm long.
- 3a. Style branches terminating in paired crests *C. paradisiaca*
- 3b. Style branches truncate, without obvious crests *C. rupicola*
- 1b. Flowers shades of blue to violet or pale creamy yellow; capsules cylindric-fusiform or nearly globose, included in the spathes.
- 4a. Rhipidia solitary or two, subtended by a cauline leaf shorter than or about as long as the spathes *C. formosa*
- 4b. Rhipidia usually at least two, subtended by a cauline leaf usually at least twice as long as the spathe.
- 5a. Bulbs 15–20 mm diam., with tunics not, or only slightly, resinous.
- 6a. Flowers usually pale blue to violet, rarely white; inner tepals with a yellow nectar guide and a zone of nectariferous tissue, often outlined in violet; flowers (1)2 to 3 in each rhipidium; inner tepals closely imbricate forming an urn-shaped cup, about half as long as the outer . . .
 *C. paludosa*
- 6b. Flowers white to cream to pale yellow, rarely pale blue; inner tepals without yellow nectar guides or a zone of nectariferous tissue; flowers solitary in each rhipidium; inner tepals somewhat shorter to about as long as the outer and not closely imbricate (distinctions below from Ravenna, 1988).
- 7a. Inner tepals distinctly shorter than the outer, forming a wide cup; leaves shallowly pleated *C. inornata*
- 7b. Inner tepals nearly as long as the outer and forming a bell; leaves \pm flat.
- 8a. Perianth white to cream *C. cubensis*
- 8b. Perianth pale yellow *C. insularis*
- 5b. Bulbs about 30 mm diam., with heavily resinous, shiny tunics *C. gigas*

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