

# *Aristolochia gorgona* (Aristolochiaceae), a new species with giant flowers from Costa Rica and Panama

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**Key words:** *Aristolochia*, Aristolochiaceae, collecting techniques, Costa Rica, flower structure, Panama.

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*Aristolochia grandiflora* was described by Swartz (1788), based on a specimen from Jamaica. As presently conceived by most taxonomists, the species is common but variable in flower size and shape, ranging from southern Mexico to Ecuador and the West Indies. It has become naturalized in Java (Cammerloher, 1923), Sri Lanka (Petch, 1924), and Florida (Wunderlin, 1998), es-

caped from cultivation. It is considered the largest-flowered plant in the Neotropics (Standley & Steyermark, 1946; Barringer, 1983a). Similar large-flowered aristolochias have been described (see synonymy in González, 1990), but all are considered conspecific with *A. grandiflora* by recent monographers (e.g., González, 1990, 1994). A striking new species with giant flowers, closely related to *A. grandiflora*, is here described as new. Its flowers are distinctive in living specimens, but herbarium specimens have been confused with the latter species.

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In the following description and discussion, the terminology for floral parts follows Pfeifer (1966) and González (1990, 1994). Due to the higher structural complexity of the calyx in this and related species (compared to other aristolochias), however, the following terms are newly coined or modified from Cammerloher (1923) to simplify description. These terms might also prove useful in future pollination studies. The “vestibule” refers to the chamber formed by the distalmost part of the tube. Cammerloher’s *Hintergrund*, or “background,” refers to the internal wall of the vestibule. The “gullet” (Cammerloher’s “*Reuse*”) refers to the curved, proximal part of the tube, in between the vestibule and the syrxinx. These two parts of the tube are separated by a short, narrow passage (the “bottleneck”), and differ in internal texture, indument, and coloration, even when they are similar in appearance externally. The “nectary” refers to a wide, glandular zone located proximally on the dorsal, internal surface of the utricle (described for *A. grandiflora* by Cammerloher, 1923); the utricle wall is thicker in the zone of the nectary. In *A. gorgona*, the limb folds in such a way that it presents two faces: a “frontal face” and a “lower face” (see Fig. 1D and E, respectively).

***Aristolochia gorgona*** M. A. Blanco, sp. nov. (Fig. 1)

TYPE: COSTA RICA. Heredia: Puerto Viejo de Sarapiquí, Estación Biológica La Selva, Quebrada Surá, near the Laboratory, 10°26'N, 83°59'W, 50 m, 4 Jan 2001 (fl, bud), M. Blanco 1752 (HOLOTYPE: USJ, including material in spirit; ISOTYPES: CR, MO, NY).

*Aristolochiae grandiflorae* Sw. affinis, sed floribus majoribus, limbus calyce plicatus frontalis atque infra tubus calyce, projecturae parvulae vermiformis interius obiecta, cauda minore.

**Herbaceous vine**, becoming semi-woody toward base with age, but never truly woody; peridermis not corky; stem and leaves aromatic. **Stem** twining, ribbed, 3–4 mm diam. when young, reaching 1.5 cm diam. at the base of the plant, glabrous; hy-

popodium and prophyll not atrophied in branches (pseudostipules absent). **Leaves** alternate, distichous, simple; petiole 2.5–10 cm long; blade triangular-cordate, 5–27 cm long (from tip of basal lobes to apex), 5–21 cm wide, cordate basally with a wide-open sinus 2–6 cm deep, and then attenuated into petiole, entire along margin, acute to acuminate apically, glabrous adaxially, glabrous to hispidulous abaxially; venation palactinodromous with 3 main veins diverging from the base, the main lateral veins curving into the basal lobes, with 4–5 main branches each; tertiary veins more or less perpendicular to the primaries and secondaries; veins impressed adaxially, prominent abaxially. **Inflorescences** axillary from young stems, single-flowered, pendent; peduncle 6–10 cm long, bracteolate, green; bracteole suborbicular, perfoliate, with an acute apex, to 2 cm wide, green. Pedicel plus ovary to 8 cm long, straight, ribbed, reddish. **Flower** with a strong putrid smell. **Calyx** complexly three-dimensional in structure; utricle pyriform, gibbous, 14–19 × 5.5–10 cm, with 6 prominent external ribs, cream-colored with purplish ribs and reticulated venation externally, white with cottony hairs and a some bare, purple spots near the base internally. Nectary oval, 3.2 × 1.4 cm, orange-brown with a purple band distally. Syrxinx cylindrical, to 3.5 cm long, 1.4–1.7 cm diam. at the opening, directed obliquely into the utricle, cream with a purple rim. Tube sigmoid, divided into a “gullet” and a “vestibule,” 12.5 cm long, same color as utricle externally. Gullet U-shaped, 7.5 cm long, 2.8 cm wide at the bottom; white internally. Bottleneck 2 mm wide (in longitudinal section) in one measured first-day flower. Vestibule a wide, gibbous, more or less transversely bilobed chamber, 5 cm long, 7.5 cm wide, 2.8 cm deep at the middle; internal wall cream-colored, heavily blotched with transverse dark maroon bands that become solid in the distal third, covered by downward-pointing cream hairs. Annulus thin, sharp-edged, to 1.5 cm high, dark orange-brown, opening (fauces) 6.4 cm high (longitudinally), facing obliquely downward. Limb abruptly expanding from the annulus, massive, the distal half folding under the tube,

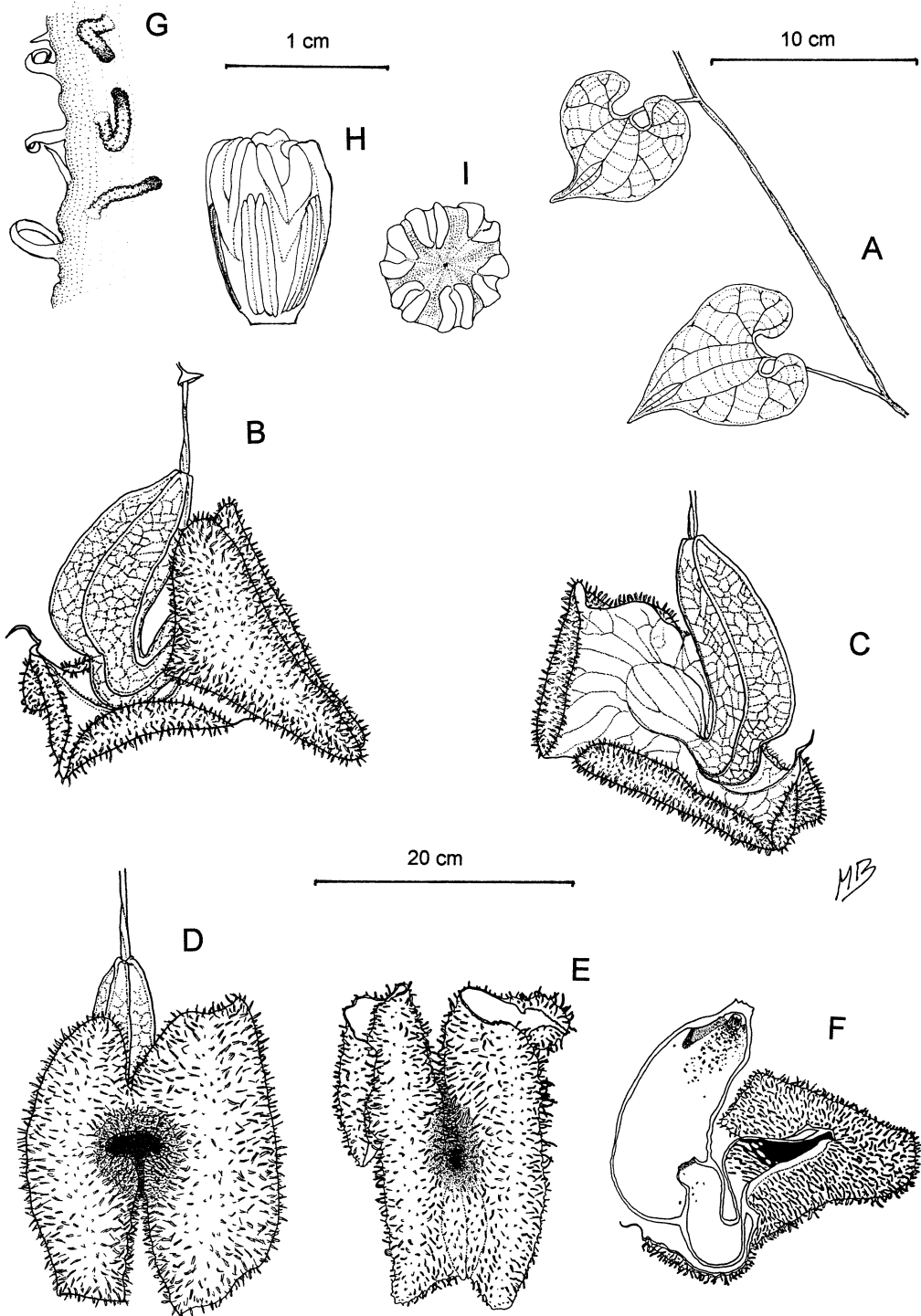


FIG. 1. *Aristolochia gorgona* (Blanco 1752, USJ). A. Stem and leaves. B–F. Flower (drawn from photographs of fresh flowers). B. Side view. C. Oblique view from back. D. Front view. E. View from below; front of flower toward the top. F. Longitudinal section. G. Detail of limb margin and tentacles. H, I. Gynostemium. H. Lateral view. I. Top view.

thus presenting two faces, cordiform with two wide upper lobes, 25–31 cm long, 25–30 cm wide when held flat, marginally fringed, the fringes flattened, cirrhose, 3–10 mm long; apically obtuse with a terminal cauda (appendix) 5 cm long, 2 mm wide; cream suffused with purple externally, the internal surface cream with clear orange-brown blotches (almost solid in some flowers), darker brown around the opening, velvety in texture, the whole surface densely covered by small vermiform projections (tentacles), these cylindrical, minutely papillose, clear orange-brown with a dark brown apex, 5–20 mm long, 1–2 mm thick (0.5–1 mm thick and totally black when dry). Frontal limb face directed obliquely upward with reflexed sides, 15–22 cm long, 15–18 cm wide (when sides reflexed); lower limb face almost horizontal, with sides and apex reflexed, 24 cm long, 13 cm wide (when sides and apex reflexed); appendix directed upwards and variously twisted. **Gynostemium** coroniform, sessile, radially symmetrical, 13 mm high, 7 mm wide at the apex, cream-colored with purple at the base; anthers 6, yellow; stigmatic surface white. **Fruit** a 6-carpelate, many-seeded capsule, cylindric-hexagonal with a blunt apex, 6–7 cm long (excluding pedicel), 3.5 cm wide, septically dehiscent, the carpels separating completely at maturity; green with purplish longitudinal ribs when developing, dry at maturity. **Seeds** obovoid-deltoid, 13–18 mm long, 11–17 mm wide, 2–2.5 mm thick, seed coat suberized, brown.

*Distribution and ecology.*—Currently known from throughout the Atlantic lowlands of Costa Rica and two sites in central and eastern Panama (a third Panamanian collection lacks locality information), from sea level to 100 m (to 600 m in the Cordillera de Tilarán). It is expected to occur both in southern Nicaragua and in northern department of Chocó in Colombia, since it has been collected close to the Nicaraguan and Colombian borders.

Occurring along or near streams, in secondary growth thickets. At La Selva, it climbs to the crowns of small to medium-sized trees, but not tall canopy trees with straight boles. As in *Aristolochia grandiflora*, the stems are herbaceous and never

form a corky bark, contrary to the assertions of Barringer (1983a) and Cook (2001). Some branches produced low in the main stem grow toward the ground and become runners that produce adventitious roots at each node. These resume the climbing mode many meters away from the base of the plant, establishing new clumps by vegetative reproduction.

Flowering occurs throughout the year. Flowers are normally produced 3–15 m from the ground. Numerous muscid and phorid flies (as well as staphylinid beetles) have been found trapped inside the utricles of first-day flowers. Similar flies were found by both Cammerloher (1923) and Hilje (1984) in *Aristolochia grandiflora*, suggesting that there is a potential for hybridization if both species occurred together. However, available herbarium specimens do not indicate sympatry (in Costa Rica, *A. grandiflora* is mostly found on the Pacific lowlands).

Fruits have been collected in March, April, and July, but undoubtedly occur year-round as well. As in *A. grandiflora*, the capsules are completely dehiscent (the carpels do not remain united at the apex in the characteristic “inverted parachute” fashion of most wind-dispersed aristolochias). The seeds are thick and lack wings; their ability to float for long periods and the riparian distribution of the plants suggest water dispersal.

*Etymology.*—Named after the Gorgons, the three monstrous sisters of Greek mythology that had snakes for hair and poisonous breath, in allusion to the grotesque appearance of the flowers, the tentacle-covered limb, and the putrid smell that emanates from it.

Additional specimens examined: COSTA RICA. **Alajuela:** San Carlos, Hacienda Platanar, 17 km E of La Fortuna, 75 m, 28 Jun 1985 (bud), *Haber et al. 1823* (CR, MO); San Ramón, Bosque Eterno de los Niños, Cordillera de Tilarán, 5 km W of Chachagua, Quebrada Chachaguita drainage, 10°24'00"N, 84°39'00"W, 800–900 m [actually 600 m, W. Haber, pers. comm.], 17 Jul 1993 (bud), *Haber 11545* (INB, MO). **Heredia:** Sarapiquí, Puerto Viejo, La Selva Biological Station, 10°26'N, 83°59'W, 50 m, 29 Mar 2001 (fl), *Blanco 1852* (USJ), 30 Mar 2001 (fl), *Blanco 1853* (USJ), 4 Jul 2001 (fr), *Blanco et al. 1946* (USJ), 11 Jun 1981 (fl), *Hammel & Trainer 10851* (DUKE), 14 Sep 1981

(fl), *D. Smith 211* (DUKE, MO). **Limón:** Reserva Biológica Hitoy Cerere, Valle de la Estrella, 9°40'30"N, 83°01'20"W, 100 m, 21 Sep 1993 (bud), *Carballo 246* (INB, MO); Matina, Cordillera de Talamanca, along Río Barbilla, to ca. 0.5 km upstream from jct. with Quebrada Cañabral, 10°01'N, 83°24.5'W, 100 m, 8 Sep 1988 (fl.), *Grayum et al. 8891* (CR, MO); Refugio Nacional Barra del Colorado, forests and pastures between Río Chirripocito and Río Sardina ("Sardinal" on Chirripó Atlántico quadrangle), 10°38'N, 83°45'W, 12 m, 20 Apr 1990 (fr), *Grayum 9781* (CR, MO); Sipurio [Talamanca, Amubri, 9°32'N, 82°57'W, 50 m], Apr 1894 (fl), *Tonduz s.n.* (CR 8744); Talamanca, Sixaola, rd. between Punta Uva & San Rafael, Cerros de Manzanillo, 9°37'28"N, 82°42'01"W, 0 m, 22 Mar 2001 (bud, fr), *Valverde 1369* (USJ).

**PANAMA. Without further locality data:** 1962 (bud, fr.), *Duke 6142* (MO). **Darién:** Río Pirre between Pirre & El Real, 30 Dec 1972 (bud), *Gentry & Clewell 7093* (MO). **Panamá:** Serranía de Majé, trail along Río Ipetí, near confluence with Río Ambroino, 8°57'N, 79°32'W, 29 Jan 1984 (bud, fl), *Churchill & de Nevers 4476* (MO).

*Aristolochia gorgona* has been collected several times in the past but has been confused with *A. grandiflora* in herbaria. It was first collected by Tonduz in 1894. All the collections from La Selva Biological Station attributed to *A. grandiflora* appear to be really *A. gorgona*. There are five *Aristolochia* species known from La Selva (Wilbur, 1994), three of which have been described as new from the site (Barringer, 1983b; Pfeifer, 1976; and the present one).

*Aristolochia grandiflora* and *A. gorgona* are closely related. Shared characters include herbaceous (non-woody) stems, single-flowered inflorescences with a perfoliate bracteole at the base of the pedicel; a tube divided into gullet and vestibule that curves away from the median calyx lobe (González & Stevenson, 2000); a well-defined annulus, a massive limb that extends more or less perpendicularly from the tube opening, carpels separating completely at dehiscence, and thick, floating seeds (González, 1990, reports flat seeds for of *A. grandiflora*, in reality an occasional condition caused by seed abortion; pers. obs.). However, *A. gorgona* can be distinguished by its generally larger flowers, its fimbriate calyx limb that folds under the tube, the presence of "tentacles" on the limb surface, and the relatively short caudal appendix. *Aristolochia grandiflora* has a concave

to flat, smooth limb, and has a long caudal appendix. González (1990) provided a detailed illustration of *A. grandiflora*, that includes material from the type. The utricle and tube are similar in shape in both species, which probably accounts for their confusion in herbaria, but both structures are considerably larger in *A. gorgona* (Fig. 2). Images of living flowers of both species are available online at the W3 TROPICOS website (<http://mobot.mobot.org/W3T/Search/vast.html>).

Only a handful of collections of *Aristolochia grandiflora* have flowers comparable in size with those of *A. gorgona*. Among them are *Gentry & Lott 32509* (MO) from Veracruz, Mexico; *R. & E. West s.n.* (FLAS) from a cultivated plant in Florida; and *Allen 867* (MO) from Darién, Panama. The latter might represent a different, as yet undescribed species (see below). These collections have gigantic flowers with limbs in excess of 25 cm in length (excluding the appendix).

The calyx limb of *Aristolochia gorgona* has a wide surface area, and once open it folds in a complex way that is difficult to describe (Fig. 1B–E). First, there is a medial-longitudinal crease from top to bottom, rendering the limb conduplicate. The margins are somewhat reflexed, exposing the inner surface to the sides of the flower. Finally, there is a transverse crease at the middle, so that the limb folds under the geniculate tube. Because of this second fold, the limb actually presents two faces, one toward the front, and another toward the bottom. From a distance, each individual flower looks like two open flowers too close together, one pushing the other to a downward-facing position (Fig. 1B). This flower shape is constant among different plants seen at La Selva.

An easy way to distinguish *Aristolochia gorgona* is to look for the "tentacles" covering the internal limb surface. In dried specimens, these tentacles turn black and shrivel, looking almost like hairs. While drying, many of them stick to the newspaper and break off easily, but many others remain on the limb. These structures probably act as osmophores, judging from their papillate surface (a common feature of

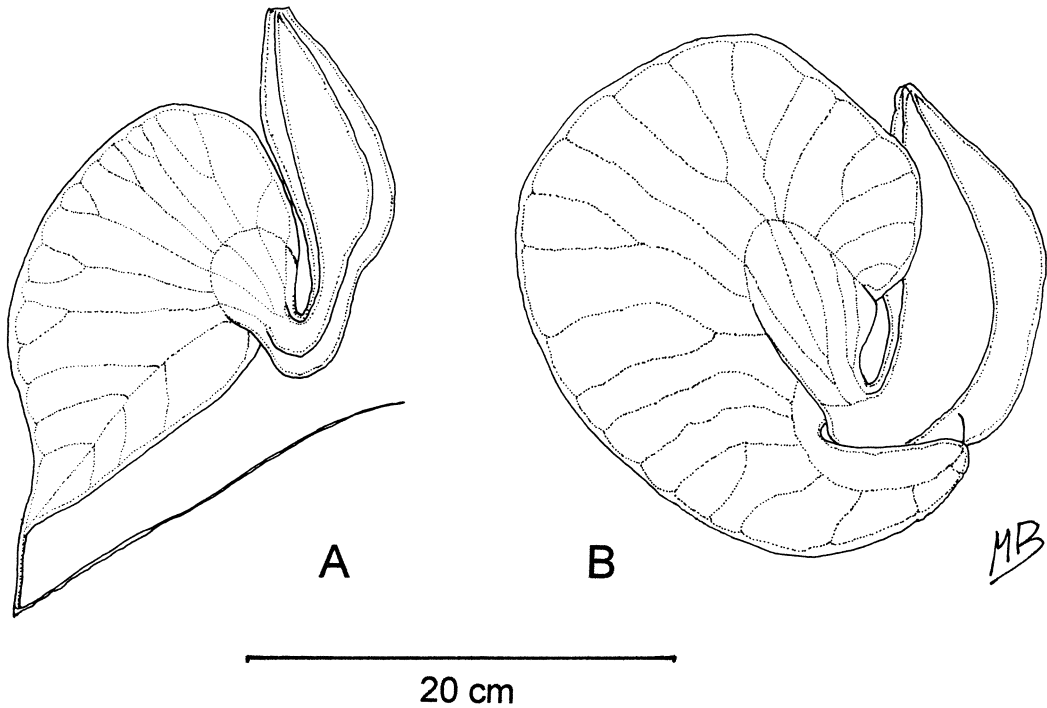


FIG. 2. Shapes of pre-anthesis flower buds (about same size of open flowers) of *Aristolochia grandiflora* and *A. gorgona* in profile. A. *A. grandiflora* (Jiménez & Castro 1015, CR). B. *A. gorgona* (Blanco 1752, USJ).

scent glands in flowers; Vogel, 1990). In many *Aristolochia* species with an appendaged calyx limb, the appendix is the major source of volatile compounds (Vogel, 1990), and this is the case in *A. grandiflora* (pers. obs.). It is conceivable that in *A. gorgona* the tentacles replace the appendix as the scent-producing organ, providing a much larger surface-area for diffusion. In *A. gorgona*, the appendix is relatively short (4–5 cm), whereas in *A. grandiflora* it is normally 20–50 cm, and there are a few reports of lengths of 1 m or more (Standley, 1938).

Even in bud the two species can be readily distinguished (Fig. 2). In buds of *A. gorgona*, the limb is sharply bent under the tube and has a very short caudal appendix, whereas in *A. grandiflora* the limb is funnel-shaped and the appendix is relatively long, even in small buds. If cut open, immature buds of *A. gorgona* show the “tentacles” developing on the internal limb surface. These details are important for identification because most collections of both

species consist mainly of unopened buds (see below).

Even though flower color may be variable in both species (apparent variation probably owes much to the lack of uniformity in color description among collectors), it seems that the calyx limb of *Aristolochia gorgona* has large pink to clear brown irregular blotches (sometimes becoming almost solid) on a cream surface, while that of *A. grandiflora* has smaller, dark maroon spots in a checkered, radiating pattern. In both species the blotches become darker and solid around the annulus.

Flower size also appears to be highly variable in *Aristolochia gorgona*, both within individuals and among populations. For instance, the holotype has a larger flower (both in limb area and utricle length) than the isotypes. Other specimens have even smaller flowers (with the exception of Grayum *et al.* 8891 at CR, which is even larger), but some of these clearly represent immature buds. Most flower measurements in the description were taken from the type

collection only, because it is difficult to distinguish between true variations in size and artifacts from pressing.

Vegetatively, the two species are very similar. The leaves of *Aristolochia gorgona*, however, tend to be relatively wider (mean length-to-width ratio of 1.2 vs. 1.6 in *A. grandiflora*), with a rounder outline, and lighter green when exposed to similar light levels. The leaf sinus of *A. grandiflora* tends to be U-shaped, while in *A. gorgona* it is more omega-shaped, with the basal lobes curved inward, sometimes even touching. However, there is some overlap in leaf shape between both taxa. Fruits and seeds are similar in both species.

*Aristolochia gorgona* might correspond to what Pfeifer originally called the "true" *A. grandiflora* (Pfeifer, 1960). Flowers were described as "pilose" and extremely large, and the color description also matches that of *A. gorgona* (cited specimen, Allen 647, not seen). However, Pfeifer described it as having a long caudal appendix, and the given measurements are probably much exaggerated (flowers 3 m long, utricle 45 cm long). Pfeifer himself (1966) later refrained from recognizing this taxon as distinct. A specimen at MO (Allen 867 from Darién, Panama) has the same general shape as the illustration in Pfeifer (1960: fig. 97), with a very large flower that has a very short tube with a single curve (instead of sigmoid as in *A. grandiflora* and *A. gorgona*), no obvious vestibule, and a long appendix; however, it lacks any visible pilosity. This specimen might represent a different, unnamed taxon, but it is necessary to study living material.

The type of *Aristolochia grandiflora* (Swartz *s.n.*, S 2174, annotated as such by F. González in 1987) shows a smooth calyx limb with a long appendix, and the utricle shape and proportions match those of populations on the Pacific lowlands of Costa Rica. Pfeifer (1960: fig. 96) originally classified these plants as *A. arborescens* L. Even though Linnaeus's (1753) name predates *A. grandiflora* Sw., the poor original description and apparent absence of a type specimen hinder its application (González, 1990: 98).

*Aristolochia caudata* was cited by Gon-

zález (1990) as a Linnaean name under the synonymy of *A. grandiflora*. Nevertheless, the former was originally described by Jacquin (1760) based on a Jamaican collection, and explicitly cited as such by Linnaeus (1762). Pfeifer's (1966) illustration and description of *A. caudata* agree well with Jacquin's (1760), and is quite different from *A. grandiflora*. Thus, *Aristolochia caudata* Jacq. should no longer be considered a synonym of *A. grandiflora*.

A similar case applies to the name *Aristolochia gigantea* Mart. & Zucc. Both Pfeifer (1966) and González (1990) included this name under the synonymy of *A. grandiflora*, as having been published by Hooker. In his account of *A. gigantea*, Hooker (1846) explicitly cited the original description by Martius, and mentioned the presence of "perfoliate stipules" (pseudostipules), characteristic of this Brazilian species (González, 1990: 136). The associated illustration, however, shows a plant without pseudostipules, very similar to *A. grandiflora*, but in which the calyx limb points upward and has a short appendix. Pfeifer's (1966) figure 37 includes a scheme of the flower in Hooker's illustration. It clearly belongs to the *A. grandiflora* complex, and could possibly represent a malformed flower. Duchartre (1864: 473) became aware of Hooker's confusion, and christened the illustrated plant as *A. grandiflora* ssp. *hookeri*. Therefore, *A. gigantea* should be excluded from the synonymy of *A. grandiflora*.

Pfeifer (1966) included *Aristolochia cordiflora* Mutis ex H.B.K. in the synonymy of *A. grandiflora*. González (1990) demonstrated that *A. cordiflora* really corresponds to what has until recently been called *A. gigantea* Mart. & Zucc. in southern Central America (Pfeifer, 1966; Croat, 1978; Barringer, 1983a), and provides detailed differences among the three species. The real *A. gigantea* only occurs in Brazil. Similarly, the name *A. cordiflora* Mutis ex H.B.K. should be excluded from the synonymy of *A. grandiflora*.

Other names attributed to the synonymy of *Aristolochia grandiflora* that need to be compared with *A. gorgona* are *A. scandens* P. Br., *A. foetens* Lindl., *A. gigas* Lindl., *A.*

*gigas* var. *sturtevantii* W. Watson, and *A. pichinchensis* Pfeifer (Pfeifer, 1966; González, 1990, 1994). Browne (1756: 329) described three different species from Jamaica as *A. scandens*. The description of the second one (“*A. 2 scandens*” in Pfeifer, 1966, and González, 1990) agrees well with typical *A. grandiflora* Sw. It points out the large size of the flowers and the long appendix of the calyx limb. The descriptions of the other two species correspond respectively with *A. odoratissima* L. and *A. trilobata* L. (Pfeifer, 1966).

The descriptions and associated illustrations of both *Aristolochia foetens*, based on a plant from “the West Indies” (Lindley, 1836), and *A. gigas*, based on a plant from Guatemala (Lindley, 1842), clearly show the characteristic features of *A. grandiflora*, including a concave calyx limb with a long appendix. Lindley differentiated his two species by flower size and color pattern, strength of smell, and plant indument. As presently understood, these features are variable within *A. grandiflora*.

Watson (1891) proposed the name *Aristolochia gigas* var. *sturtevantii* for a larger-flowered form of *A. gigas* Lindl. Again, this can easily be considered a variation of *A. grandiflora*. Watson didn’t provide a formal description or a Latin diagnosis, but since he made reference to the illustrations previously published by Sargent (1890: 597–599), it complies with article 44.1 of the Code (Greuter et al., 2000). However, since the name was explicitly proposed (ostensibly in anticipation of its future acceptance), it is to be considered invalidly published under article 34.1(b) of the Code. The combination “*Aristolochia grandiflora* var. *sturtevantii*”, occasionally used in the horticultural trade and in some herbarium determinations, has never been validly published.

*Aristolochia pichinchensis* was described from Ecuadorian material by Pfeifer (1977). González (1990) considered its diagnostic features as those of incompletely open flowers of *A. grandiflora*, and sunk it under the latter’s synonymy. It also has a smooth calyx limb with a relatively long appendix, though the limb folds transversely (but in a different way than in *A. gorgona*), has an

elongate tube gullet, and the flowers are smaller than those of regular *A. grandiflora*. The associated illustration shows an incompletely dehiscent fruit (carpels remaining united at the apex), but this is not evident in the paratype (*Dodson & Gentry 6537*, MO). The taxonomic status of *A. pichinchensis* needs to be reassessed with careful study of living material.

More study is needed to clarify the taxonomy of the *Aristolochia grandiflora* complex over its wide range in the Neotropics. It is possible that several other species are still lumped under this name (Pfeifer, 1966). For example, the flower illustrated by Patzelt (1985: 123, as *A. gigas* Lindl.) also belongs to this group, but the shape of the utricle and tube is different from Central American populations of *A. grandiflora*, and its appendix is also very short. Differences that are obvious in fresh flowers are obscured in herbarium specimens (Pfeifer, 1977).

When collecting these plants, the flowers are easily damaged by pole pruners and by falling to the ground. In *Aristolochia grandiflora*, individual flowers take up to 40 days to develop and are open for two days only (Hilje, 1984), so many collections or duplicates consist only of immature buds (Pfeifer, 1960; pers. obs.). Because buds burst open easily when pressed, care should be taken to note whether unopened buds are being included in the collection. As the appendix is easily damaged or lost during collecting, the length of this structure should be included in the description. And since the flowers deliquesce rapidly after the second day of anthesis, they should be pressed immediately (preferably between two layers of waxed paper, since they often stick to newspaper). Being three-dimensional, they are also hard to press in such a way that permits appreciation of the original shape. The complex flower shape of *A. gorgona* is impossible to infer from a pressed specimen, and the enormous flowers scarcely fit on a standard herbarium sheet when flattened. Photographs of fresh, open flowers from different views showing a scale are thus useful. Careful, standardized measurements of different floral parts deserve particular attention (cf. González, 1994: fig. 2).



The ideal approach for the study of this complex would be to develop a common garden, especially since even a single plant can produce flowers of different sizes, as presumably determined by a number of environmental factors (Hilje, 1984: 23).

With flowers considerably bigger than those of most *Aristolochia grandiflora* specimens (in terms of perianth area), *A. gorgona* is one of the largest-flowered species in the genus, and one of the largest-flowered plant species native to the Americas. It is surprising that a plant with such large flowers and relatively common in a well-botanized country as Costa Rica had been overlooked until now. It would be worthwhile to introduce this striking new species to cultivation. Stem cuttings from the type locality have been established at Lankester Botanical Garden, and are growing vigorously at the time of this writing.

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