

## ARISTOLOCHIA SCHULTZEANA (ARISTOLOCHACEAE) NEW TO ECUADOR

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### ABSTRACT

*Aristolochia schultzeana* is a rare, low-elevation, humid, pluvial forest species. It was previously known only from Colombia but is now reported for Ecuador.

### RESUMEN

*Aristolochia schultzeana* es una especie rara de los bosques húmedos y pluviales de baja elevación. Previamente, esta especie se conocía solamente de Colombia, pero ahora se reporta para Ecuador.

In July 2007, while I was teaching a neotropical plant diversity class for Arizona State University's Andes and Amazon Field School, in the western part of the Amazonian region of Ecuador, a student produced a strange, spectacular and relatively large *Aristolochia* flower from a forested area at the edge of a nearby village. The flower was reminiscent of a *Nepenthes* or *Sarracenia* leaf, with an elongated floral tube terminated with two limb lobes, a small lower (anterior) lobe and a large, erect and expanded upper (posterior) lobe that was yellow with red-brown veins to the inside and with a margin of fleshy, forked, black fimbriae (Fig. 1). Unpleasantly scented, reminiscent of dead fish, I received the flower slightly dehydrated with the upper limb lobe hanging over the mouth of the floral tube. After taking several high-resolution digital photographs (300 dpi), the flower was placed in a plastic bag with some water, successfully rehydrating it and returning the posterior limb lobe to a vertically-erect position. Thereafter, several more photos were taken, including dissections and close-ups of the flower. Several days later I was taken to the actual plant in the field, which was a large vine with cordate leaves, growing just inside the edge of a young forest. It was not flowering or fruiting at the time. I was unable to obtain necessary collection and plant-export permits prior to my visit to Ecuador, therefore no herbarium specimen was made of this plant. It was not until several months later, using the photographs, that I identified this species as *Aristolochia schultzeana*, later confirmed by Favio González at the Herbario Nacional Colombiano. Furthermore, while researching this identification I learned this was apparently the first report of this species for Ecuador and only the third report for this species overall, suggesting that this is a species of striking global rarity. While photographing this plant I was unaware that I was documenting something of any significance, as my photos at the time were for the benefit of my curiosity alone.

Voucher: **ECUADOR. Provincia del Napo:** on a moderate, north-facing slope, along a trail just inside and near the edge of a second-growth rainforest, in a spot apparently used to put cut wood; ca. 10–20 m S of the well-traveled, paved road near the S side of the Rio Napo in the Quichua (Kichwa) village of Santa Urcu, within 100 m of the Casa Comunal and ca. 15 km via air ESE of Tena; elev. ca. 440m; ca. 01°03'01.9"S, 77°41'06.5"W; UTM 18M 201152E, 9883757N (WGS84), 18 Jul 2007, D. Goldman 3990 (BH, COL, GH, QCA).

The voucher consists of a printed set of 28 digital color photographs of the one flower found of this species, all but one photograph taken by myself, each printed on paper 25 cm × 18 cm, with scale indicated, all bound as a unit and mounted or contained on a single herbarium sheet. In addition, this photo-set has been deposited in the botany libraries at Harvard University (both printed and on a compact disk), and is also available for viewing in Morphbank, an archival, web based, public-access database of images of biological specimens for scientific study ([www.morphbank.net](http://www.morphbank.net)).

*Aristolochia schultzeana* O.C. Schmidt is a humid-tropical rainforest species that previously had been considered endemic to southern Colombia, where apparently it has been collected only twice (González



FIG. 1. Fresh flower, July 18, 2007. Photo credit: Kenny Richards.

1990). Hohene (1942) mentioned this species was present in Bolivia, but he did not cite any Bolivian specimens. The type locality is to the east side of the Andes in Colombia, near Umbría in the Departamento del Putumayo, 0°54'N, 76°10'W, 325m altitude, Oct–Nov 1930, *G. Klug 1786* (B [holotype, destroyed], BM, F, GH, K, MICH, NY [lectotype, designated by González 1990: 125], S, US). The second collection from Colombia

is relatively close to the Pacific coast, near Llorente, Tumaco, Departamento del Nariño, 8 Sep 1976, *O. de Benavides* 628 (COL). See González (1990) for a summary of this species in Colombia. Because this species is known, although sparingly, from within about 50 km of the Ecuadorean border, its discovery in Ecuador has been anticipated for some time (González 1994, 1999). Although it could have been expected that this species would first be found in Ecuador very close to the Colombian border, this newest record represents a range extension or perhaps a disjunction, found a minimum of about 160 km from of the Colombian border and approximately 270 km from nearest Colombian site for this species (in Putumayo). This suggests that the species could be more widespread than expected in the region, and its occurrence adjacent to a well-traveled, paved road suggests that it is more common than previously considered but simply overlooked, or that it flowers infrequently.

*Aristolochia schultzeana* is similar to another, but more widespread, tropical rainforest species, *A. didyma* S. Moore, found in scattered localities throughout northern South America (Foster 1958; González 1994; Hoehne 1942; Macbride 1937). Both species have large, cordate leaves, lack pseudostipules, have flowers of similar overall shape, fimbriate upper limb-lobe ornamentation, and floral coloration and patterning. However, *A. didyma* has a syrinx (an internal, downward projection of the floral tube into the utricle) which *A. schultzeana* lacks. Furthermore, the upper (posterior) limb lobe of *A. didyma* is deeply bifid apically with a tiny mucro in the sinus, whereas *A. schultzeana* has an undivided upper limb lobe with an elongate (7–15 mm) apical mucro. See Hoehne (1942) and González (1994) for a full comparison and illustrations of these two species.

Some local residents near the field site in Ecuador commented to me that this plant can be propagated from cuttings. This suggests that people in Santa Urcu and other nearby Quichua communities may have specific uses for this plant, although an exact use was not mentioned. *Aristolochia* spp. are commonly used in Ecuador for digestive-related ailments or occasionally malaria (Rios et al. 2007), particularly in the Amazonian region.

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