

A third endemic *Dendrophthora* (Viscaceae) from Cerro Jefe, Panama**Job Kuijt**

649 Lost Lake Road, Victoria, BC V9B 6E3, Canada

jobkuijt@uvic.ca

and

Jerry and Linda HarrisonPTY 9617, 2250 NW 114th Ave., Unit 1P, Miami, FL 33192, USA**ABSTRACT**

A rare new species of *Dendrophthora*, ***D. primaria*** J. Kuijt (Viscaceae), **sp. nov.**, is described and illustrated. It is believed to be endemic to the Cerro Jefe area, as are two previously described species of the genus and several other mistletoes in Loranthaceae. Published on-line www.phytologia.org *Phytologia* 98(2): 142-145 (Apr 4, 2016). ISSN 030319430.

KEY WORDS: *Dendrophthora primaria*, Viscaceae, Panama, Cerro Jefe, endemic.

In a previous contribution (Kuijt et al. 2015), we described and illustrated two new species of *Dendrophthora* (Viscaceae) that are believed to be endemic to the Cerro Jefe area of central Panama. At that time, we had already located a third undescribed species but, since no male material had been found, we postponed its publication until we could study male material, its placement in either *Dendrophthora* or *Phoradendron* being contingent on the anthers being unilocular or bilocular, respectively (Kuijt 2003).

Unfortunately, repeated searches in the area have not been able to locate male material, and we wish to register this rare species as a *Dendrophthora* even though the possibility of eventually transferring it to *Phoradendron* must remain open. Our experience suggests that the present assignment is the more likely generic position.

DENDROPTHORA PRIMARIA J. Kuijt, **sp. nov.** Figs. 1 & 2.

Diagnosis Robust, grayish green plants. Leaf blades symmetrical, ovate to lanceolate, pendulous and often somewhat naviculate in shape, apex acute or acuminate, venation pinnate, inconspicuous. Dioecious. Female inflorescence with mostly 4 fertile internodes, flowers/fruits 2--4 per fertile bract, peduncle with 4--7 sterile basal internodes. Fruit ellipsoid, orange, 5 x 3 mm.

Description **Robust, glabrous, yellowish- to grayish-green plants**, often dichotomous by terminal abortion, occasionally with a terminal inflorescence, each innovation bearing 3 or 4 pairs of blunt cataphylls, the basal ones ca. 3 mm above the base, the uppermost ones near, or slightly below, the middle of the innovation and sometimes caducous. Distally, the innovation bears a single pair of foliage leaves between which the shoot apex commonly aborts, new innovations developing in the axis of foliage leaves. **Internodes terete**, red to yellowish brown, the nodes somewhat swollen. **Leaf blade** to 11 cm long and 5 cm wide, ovate to lanceolate, pendulous, coriaceous, yellowish or greyish green when fresh, drying cinnamon brown, tapering to an acute or acuminate apex, at maturity often somewhat naviculate in shape; margin leathery, red or reddish brown when fresh; petiole 10--15 mm, red, tapering into the obtuse to acute leaf base; venation pinnate but inconspicuous. Dioecious, inflorescences mostly at older foliar nodes, in small clusters. **Female inflorescence** (Fig. 2) to 3 cm long, with 4--7 sterile internodes together 1 cm long in fruit; fertile internodes mostly 4, each bearing 2--4 flowers in triseriate pattern; stigma and

inside of petals bright red, external surface reddish. **Fruit** ellipsoid, 5 x 3 mm, twice as long as the thickness of the rachis, orange with dark tip. **Male inflorescence** not known.

TYPE: PANAMA. PANAMÁ: Cerro Jefe, ca. 23 km from turn off to Los Altos de Cerro Azul from “Fucer,” reached from town of “24 Diciembre” off Inter-American Hwy; proceed to “first cut” off road ca. 50 m beyond entrance gate to conservation area along Paseo Cerro Jefe, 900 m, 09°13’17.01” N, 79°23’30.05”W, on *Lonchocarpus atropurpureus*, 28 Jun 2014, J. & L. Harrison 638 (Holotype UCH: Isotypes MO, PMA, US).

The dichotomous branching pattern seen in *Dendrophthora primaria* is also found in the two previously described Cerro Jefe species (Kuijt et al. 2015), and it is therefore useful to delineate contrasts between these three species. *Dendrophthora fortis* has broadly ovate, flat leaves with rounded apices, standing rigidly sideways, and showing numerous, very prominent, palmate veins; inflorescences bear 9--12 (female) or ca. 18 (male) flowers per fertile bract; and the globular, light pink fruits are about 3 mm in diameter (Kuijt et al. 2015). In contrast, *D. primaria* has ovate to lanceolate, often somewhat naviculate leaves that are mostly pendulous, with acute to acuminate apices and inconspicuous, pinnate venation; it bears female inflorescences with no more than 4 flowers per fertile bract, the ellipsoid, orange fruits being 5 x 3 mm in size. *Dendrophthora perlicarpa* is distinct from *D. primaria* in having its leaves transversely placed and showing 3 or 5 somewhat inconspicuous, palmate veins; its female inflorescences have 6 or 7 flowers per fertile bract; fruits are spherical, a clear pearly white, and 5--6 mm in diameter. All three species show at least some dichotomous branching, *D. perlicarpa* with occasional percurrent portions; innovations bear several prominent pairs of cataphylls to about halfway to the next foliage leaves.

The new species is clearly a rare entity and is here placed in *Dendrophthora* even though the crucial male flowers have not yet been located; we are confident that, when male plants are available, the anther will be found to be unilocular, a difference constituting the major distinction from the related *Phoradendron*. Our reasons for this assignment are partly its evident general similarity to the other two endemic Cerro Jefe species, especially in the matter of multiple cataphylls and dichotomous branching habit. The elevation at which the plant was found also supports this assignment, as *Dendrophthora* is primarily a high altitude genus in continental settings, while *Phoradendron* is almost exclusively low altitude in preference. The local exception to the latter pattern is the ubiquitous *P. piperoides* (Kunth) Trel. which is easily separated from the three local *Dendrophthora* species by its biseriate flowers, monoecy, and exclusively percurrent branching, each pair of foliage leaves there alternating with a single pair of very low intercalary cataphylls.

The discovery of *Dendrophthora primaria* reinforces the high degree of mistletoe endemism of the Cerro Jefe area. As mentioned above, two other species of the genus have recently been described that are endemic or essentially so (Kuijt et al. 2015). Additionally, *Psittacanthus pusillus* Kuijt and *Peristethium primarium* (Kuijt) Kuijt (both Loranthaceae) are known to be restricted to the area (Kuijt 2009, 2011). Another, previously unreported species of *Psittacanthus* for Panama, *P. costaricensis* Kuijt, is abundant locally on Cerro Jefe but otherwise known from only a couple collections from adjacent Costa Rica (Kuijt 2009). A specimen of the latter, *Harrison & Harrison 652*, has been deposited at UCH.

Etymology. The epithet “*primaria*” is a transcription of “Jefe.”

LITERATURE CITED

- Kuijt, J. 2003. Monograph of *Phoradendron* (Viscaceae). Syst. Bot. Monogr. 66: 1-643.
 Kuijt, J. 2009. Monograph of *Psittacanthus* (Loranthaceae). Syst. Bot. Monogr. 86: 1-361.
 Kuijt, J. 2011. Reinstatement and expansion of the genus *Peristethium* (Loranthaceae). Ann. Missouri Bot. Gard. 98: 542-577.

Kuijt, J., J. Harrison and L. Harrison. 2015. Endemism in two new species of *Dendrophthora* (Viscaceae) from Cerro Jefe, Panama. *Phytologia* 97: 139-144.

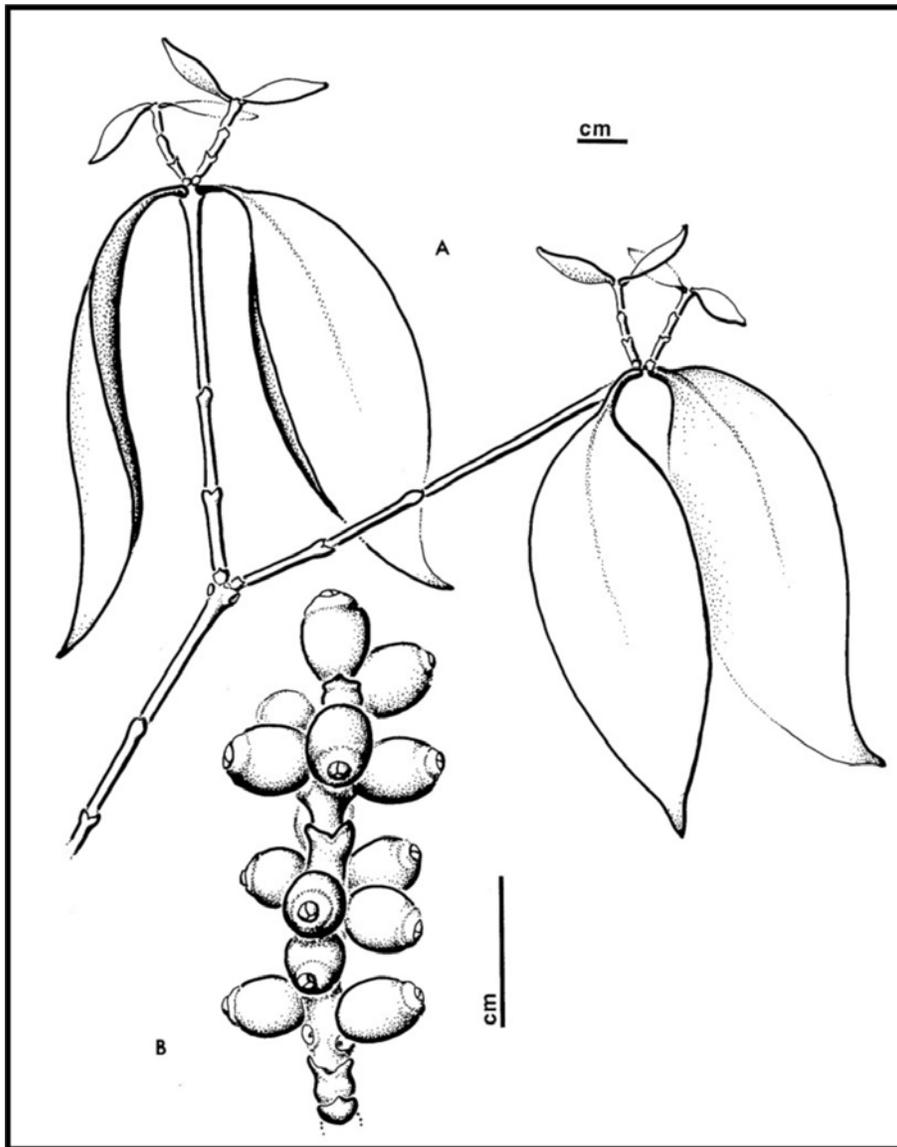


Fig. 1. *Dendrophthora primaria*. Harrison & Harrison 638 (UCH). A. Habit. B. Infructescence.



Fig. 2. *Dendrophthora primaria*, female inflorescences. *Harrison & Harrison 638* (UCH).