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SOBRALIA ABEL-ARAYAE, A NEW AND SCARCE SPECIES FROM COSTA RICA

ROBERT L. DRESSLER, MELANIA FERNÁNDEZ, AND FRANCO PUPULIN

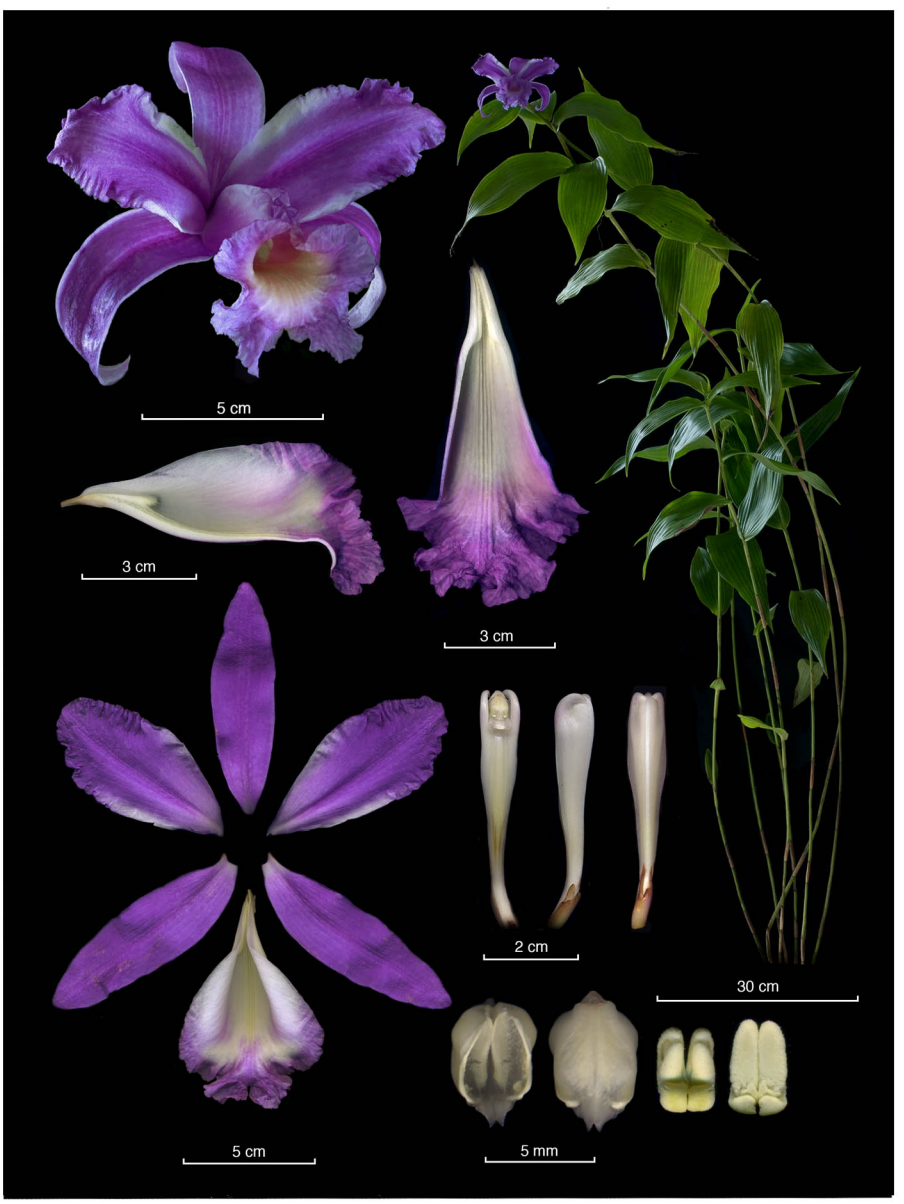
TO THE SOUTHEAST of Cartago and Paraíso, in Costa Rica, there is a rather primitive road through Guábata to Cachí. It is better to go up the road through Guábata, as it is much less frightening than the road from Cachí to Alto de Araya. Near the highest point of the road (Alto de Araya) there is a small lake that is said to be quite deep, and there are many Sobralias growing in or near the lake. Some grow on the tops of shrubs (or trees?) in the lake, and others grow along the edge of the lake. Most of the flowers near the lake are white or nearly white, and the variation strongly suggests that there are many hybrids, but there are also at least a few plants in the area that do not appear to be hybrids, though these may now be very scarce.

The region has been settled for many years. As far as we have seen, nearly everyone who lives in the area is either an Araya, or married to an Araya. Several of the people there mentioned a very attractive rose-purple *Sobralia*, but said that visitors have carried away nearly all of the plants for their gardens. Fortunately, Don Abel Araya had transplanted a plant to his nearby garden, to prevent its total disappearance from the area. He kindly gave us a division of his plant in 2006, and it has grown well in the Jardín Botánico Lankester. Through the years, the plant has flowered quite constantly in April and May, and we can now describe the species as *Sobralia abel-arayae*.

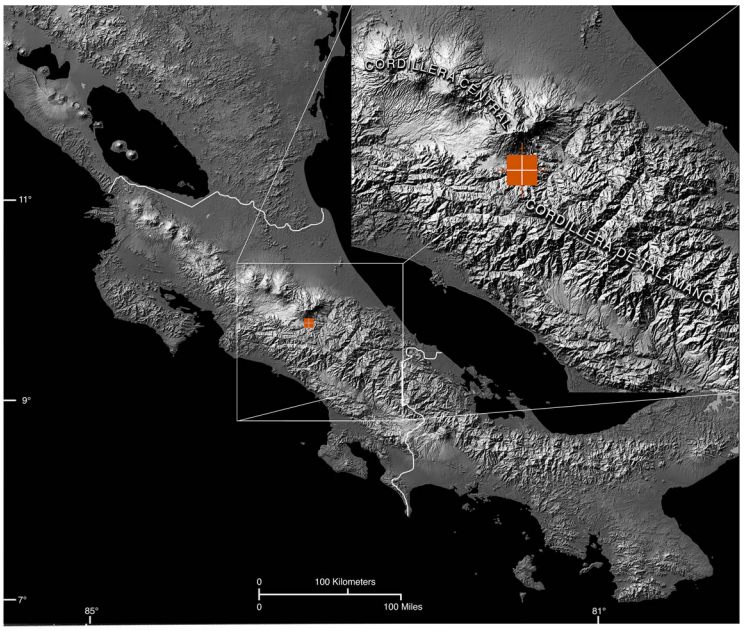
Sobralia abel-arayae Dressler, Mel.Fernández & Pupulin, sp. nov.
TYPE: Costa Rica. Cartago: Paraíso, Orosi, Guábata, Alto de Araya, Laguna de Carmela, 9°48′05″N -83°49′27″W, 1400 m, premontane moist forest, in areas surrounding the lake, 23.IV.2006, flowered in cultivation at Lankester Botanical Garden, 16 Apr. 2012, *R. L. Dressler 6737* (holotype, JBL, isotypes, JBL, USJ, CR, figs. 1-4).

The new species is similar to *S. bradeorum* Schltr., from which it mainly differs by the ovate leaves, the larger flowers with longer sepals and column, the petals distinctly broader than the sepals, and the presence of four low keels on the disc of the lip

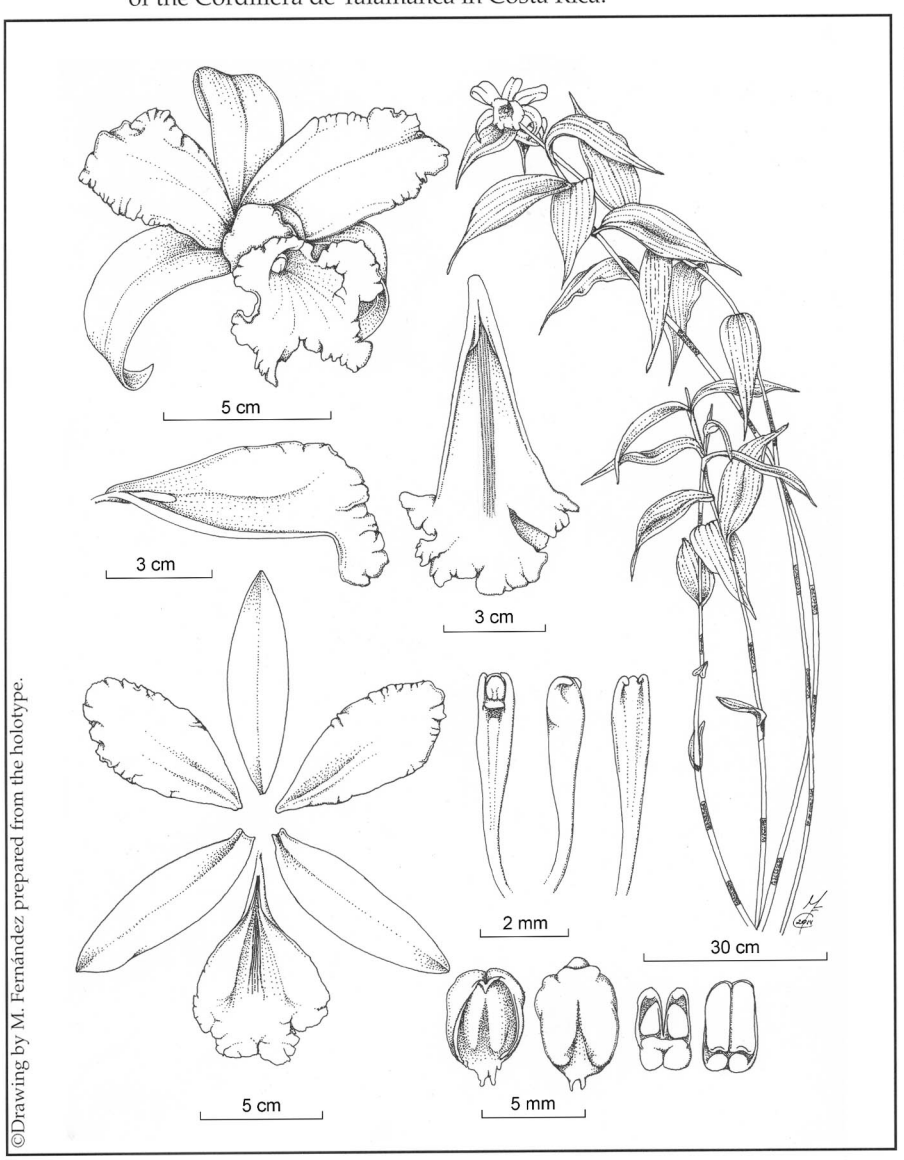
Roots 7-10 mm in diameter. **Stems** 1.4-1.6 meters in height, 9-12 mm in diameter. **Leaves** ovate, acuminate, 19-25 x 7-8 cm. **Inflorescence** 7-8 x 0.8-1 cm. **Ovary** white, ca. 7 cm. **Sepaline tube** ca. 11 mm, dark purple; **sepals** pale on outside and base, rose-purple within, **dorsal sepal** 8.6 x 2.5 cm., oblanceolate, obtuse, reflexed at the apex; **lateral sepals** 8.6 x 2.6 cm, oblong-lanceolate, obtuse, reflexed, **petals** rose-purple with two lateral, whitish fringes, obovate, broadly obtuse, margin undulate, 7.5 x 3.8 cm, inflected along the midvein from the base to near the middle; **lip** 9.4-6.5 cm, pink-purple with the base white, bilobate, blade in natural position 5 x 4.5 cm, pale with the median groove showing 4 low keels; **column** 5 cm long, 9 mm dorsiventrally, ca. 9 mm wide; column ridges pale, lateral lobules 3 x 4 mm, anther and stigma ventral.



Sobralia abel-arayae, a Lankester Composite Digital Plate prepared from the plant that served as the holotype.



Sobralia abel-arayae is only known from the northern end of the Cordillera de Talamanca in Costa Rica.



©Drawing by M. Fernández prepared from the holotype.

Sobralia abel-arayae. **A:** habit. **B:** flower. **C:** dissected perianth. **D:** lateral view of the lip, longitudinally dissected. **E:** ventral view of the lip, the lateral lobes removed. **F:** column (ventral, lateral, and dorsal views). **G:** anther cap and pollinarium (both in ventral and dorsal views).

Distribution: known only from Costa Rica (Map 1).

Habitat and ecology: the plants were found growing in the ground of the open areas of the premontane moist forests of south Cartago, close to the rich-species region of Tapantí National Park.

Etymology: the name is dedicated to Don Abel Araya, who lives in the area where the type specimen was collected and who gave us a division of the plant.

Additional specimens examined (paratypes): Costa Rica. Cartago: Paraíso, Guábata, Alto de Araya, laguna de Carmela, 9°48'05"N-83°49'27"W, 1400 m, premontane moist forest, in areas surrounding the lake, 23.IV.2006, *R. L. Dressler* 6735 (USJ, CR) (Fig. 4). Cartago: Paraíso, Orosi, Purisil, *Silveira 2* (USJ).

Sobralia abel-arayae is most similar to *S. bradeorum*, but the latter bears lanceolate-elliptic leaves (vs. ovate) and has smaller flowers (sepals <7 cm vs. >8 cm), according to the copy of Schlechter's drawing of the type conserved at AMES. Furthermore, the petals of *S. abel-arayae* are almost twice as wide as those of *S. bradeorum* (3.8 cm vs. 1.8 cm), and the column is distinctly longer (5 cm vs. 3 cm). The disc of the lip has 4 low keels in the new species, whilst in *S. bradeorum* there are only three, prominent keels (Schlechter 1923).

The new species is also similar to *S. warscewiczii* mainly because of the broadly ovate, plicate leaves, the purple flower with reflexed, oblong-lanceolate sepals and broad, wavy petals, and the bilobed lip with central keels. Nevertheless, the new species can be distinguished by the smooth surface of the sheaths, which are warty in *S. warscewiczii*, even though not so prominently as suggested by the drawing published by Reichenbach (1866) in his account of the orchids from Central America (see Dressler 2013). Furthermore, the lip of *S. abel-arayae* has four low longitudinal keels from the base up to three quarters of its length, while the holotype of *S. warscewiczii* clearly has separate veins in the center of the lip that run to the apex (Dressler 2013).

This species is very attractive, and one can understand why so many plants have disappeared from Alto de Araya. Nevertheless, we hope that our plant (or Don Abel's) can be crossed with another, and seedlings can be distributed, and perhaps re-introduced to the gardens near Alto de Araya. Happily, just a few days after the flowering of our division of Don Abel's plant, a plant that we believe to be the same species, but from a quite different area (Purisil de Cartago), has flowered. The other plant is not quite as showy as the one from Alto de Araya, but, still, we may be able

Another flower from the plant that served as the holotype, photographed in May 2012.
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Sobralia abel-arayae, photo of the flower from a plant that served as a paratype (Dressler 6735).
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to cross the two plants, as a first step toward distributing plants of *Sobralia abel-arayae*. ✾

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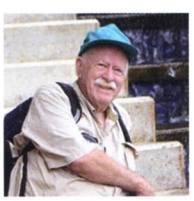
About the Authors



Robert L. Dressler received his Ph.D. in Biology from Harvard in 1957. Since then he worked 22 years for the Smithsonian Tropical Research Institute in Panama, edited two Floras for the Missouri Botanical Gardens and is the current Director of Lankester Botanical Garden in Costa Rica. He is the author of numerous publications and books on orchids.

Melania Fernández is a research assistant at Lankester Botanical Garden, University of Costa Rica, where she conducts research projects on orchid systematics and ecology. She is also in charge of the organization and maintenance of LBG Natural Collections.

Franco Pupulin is a Senior Research Professor at the University of Costa Rica where he works as Head of Research at the Lankester Botanical Garden. His research mostly focuses on the systematics, floristic, and evolution of Neotropical orchids, on which he published numerous articles and books.

E-mail: franco.pupulin@ucr.ac.cr