Additional Notes on *Anthurium rionegrense* Matuda: Morphology, Habitat and Distribution

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ABSTRACT

The type locality of *Anthurium rionegrense* is rediscovered and additional information about its morphology, habitat and distribution is presented. This species is a rupiculous plant with a large branched stem. It ranges from 500 to 650 m elevation, occurring in deciduous and semideciduous tropical forests near the borders of the Mexican states of Chiapas and Oaxaca. A new collection locality is also presented.

RESUMEN

Se reubica la localidad tipo de *Anthurium rionegrense* y se presentan datos sobre su morfología, hábitat y distribución. Esta especie se caracteriza por ser una planta rupícola, de tallos largos y ramificados. Se localiza entre los 500–650 msnm en bosque tropical caducifolio y subcaducifolio, en los límites de los estados Mexicanos de Chiapas y Oaxaca. Asimismo se presenta una nueva localidad de colección.

KEY WORDS

Anthurium rionegrense, Araceae, Cintalapa, Chiapas, Mexico.

INTRODUCTION

The most recent revision of *Anthurium* in Mexico and Central America (Croat, 1983), though the most complete ever, nevertheless lacks information on a number of poorly known species. Some species descriptions in that revision were not complete, needing information especially about infructescenses and habitat. In some cases, particularly with collections from Mexico, there was imprecise locality data for types (for example "between Río Grande and Finca La Gloria" which has proven to be very vague). Moreover, many of the species descriptions were made only from a few herbarium specimens with little or no field notes.

In a study of the species of *Anthurium* for Chiapas State, Mexico we found that *Anthurium rionegrense* was a species with little information regarding its morphology and distribution. For this reason we made an attempt to relocate the type locality and to make a complete study of this species.

During botanical explorations made near the border of Chiapas and Oaxaca states, in an area northeast of Cintalapa, we found the type locality of *Anthurium rionegrense* and studied plants in flower and in fruit which have proven to be that species. As a result of these findings the species can now be completely described in this paper.

Anthurium rionegrense Matuda, *Anales Inst. Biol. Univ. Nac. México* 36:109–

110, figura 4. 1965. TIPO: MEXICO. Oaxaca: Río Negro entre los estados de Chiapas y Oaxaca, 16 Mar 1961, *MacDougall 459* (MEXU).

Plants rupicolous; stems 5.5–26 cm long, 1.5–3 cm diam., pale brown, often branching and these giving rise to other individual plants; roots beige, 4.2–8.9 mm diam.; cataphylls narrowly triangular, pinkish when fresh, drying brown and fibrous, 2.3–4.6 cm long, 1.5–2.5 cm wide; LEAVES 1–5; **petioles** terete, 30–73 cm long, 4.4–7.2 mm diam., light green with whitish punctations; geniculum 1–4 cm long, thicker than the petiole; **blades** subcoriaceous, cordate-ovate to sub-reniform, dark green and matte-subvelvety adaxially, pale green and weakly pruinose abaxially, gradually acuminate at apex, 21–38.5 cm long, 18.6–30 cm wide; anterior lobe 14.2–23 cm long, posterior lobes 7–15.5 cm long, 6–8 cm wide, turned inward, sometimes overlapping, broadly rounded at apex; sinus hippocrepiform to closed and obovate, obtuse at the apex; major veins moderately paler than surface; midrib convex on both surfaces; primary lateral veins 2–4 pairs, departing midrib at 50° angle; collective veins arising from the first pair of basal veins, 6–10 mm from margin; basal veins 4–7 pairs, broadly arcuate toward the apex beyond the middle, the first pair free to the base, the remainder variously coalesced, the 4th and higher pairs coalesced to 4.7–6 cm; posterior rib curved, naked along the sinus 3–3.5 cm. INFLORESCENCE erect-spreading, longer than leaves; peduncle cylindric, light green with pale short lineations throughout, 39.5–74.5 cm long, 2.7–7.5 mm diam.; **spathe** linear-lanceolate, spreading, twisted, olive-green, 4.8–10.9 cm long, 1.2–2 cm wide, broadest toward the base and narrower toward the apex; **spadix** long-tapered, sessile, olive-green, 5.5–13 cm long, 5.4–8.8 mm diam. at the base, 3.6–4.1 mm diam. at apex; flowers rhombic, drying 3 mm long, 2.5 mm wide; outer tepals broadly triangular, the inner margin straight, convex on drying. INFRUCTESCENCE green when immature, orange when mature, erect in early fruit, pendent when mature, 6.5–18 cm long, 1.9–3.3 cm diam.; spathe persistent, pale green; berries orange, semiglossy, 7.3–15.4 mm long, 6.5–10.5 mm wide; seeds 2 per berry, 4.4–8 mm long, 3.5–6.7 mm wide, broadly rounded at apex (Figs. 1 and 2).

Anthurium rionegrense is a member of section *Belolonchium* and is recognized by its thin, broadly cordate-ovate leaves. It is also distinct in its rupiculous habit and in having an elongated stem that branches off to produce new individuals. The spadix is characteristically green, slender, tapered, sessile, and the flowers have thin petals. The species might be confused with *A. lezamae* from Chiapas, which differs in being more narrowly cordate-ovate and in having an alveolate epidermal pattern on drying.

Additional specimens examined—MEXICO. Chiapas: Cintalapa, arroyo Chamarra afluente del río Negro, límites Chiapas-Oaxaca, cercano a las localidades Felipe Angeles y Cal y Mayor, 38 km al NW de Cintalapa; 16°53′48″N, 93°53′30″W, 514 m, 31 Jul 2001, *Pérez-Farrera & Meléndez 1* (CHIP, HE, MO); Emiliano Zapata, 12 km al NW de Cintalapa, 16°43′39″N, 93°49′34″W, 624 m, 31 Jul 2001, *Pérez-Farrera & Meléndez 2* (CHIP, HE, MO).

DISTRIBUTION

The locality where *Anthurium rionegrense* was rediscovered is located between Quebrada Chamarra and Río Negro, very near the border of Chiapas and Oaxaca states, in Municipio Cintalapa, nearly midway between Felipe Angeles and Cal y Mayor, located 38 Km NW of Cintalapa, Chiapas. In this area the species is relatively abundant and occurs with *Anthurium schlechtendalii* Kunth.

A second population of *A. rionegrense* is located near the town of Emiliano Zapata, approximately 12 km NW of Cintalapa, Chiapas, along the highway between Cintalapa and Ejido Nuevo San Juan. At this locality the species is abundant and populations have both juvenile and adult plants (Fig. 3).

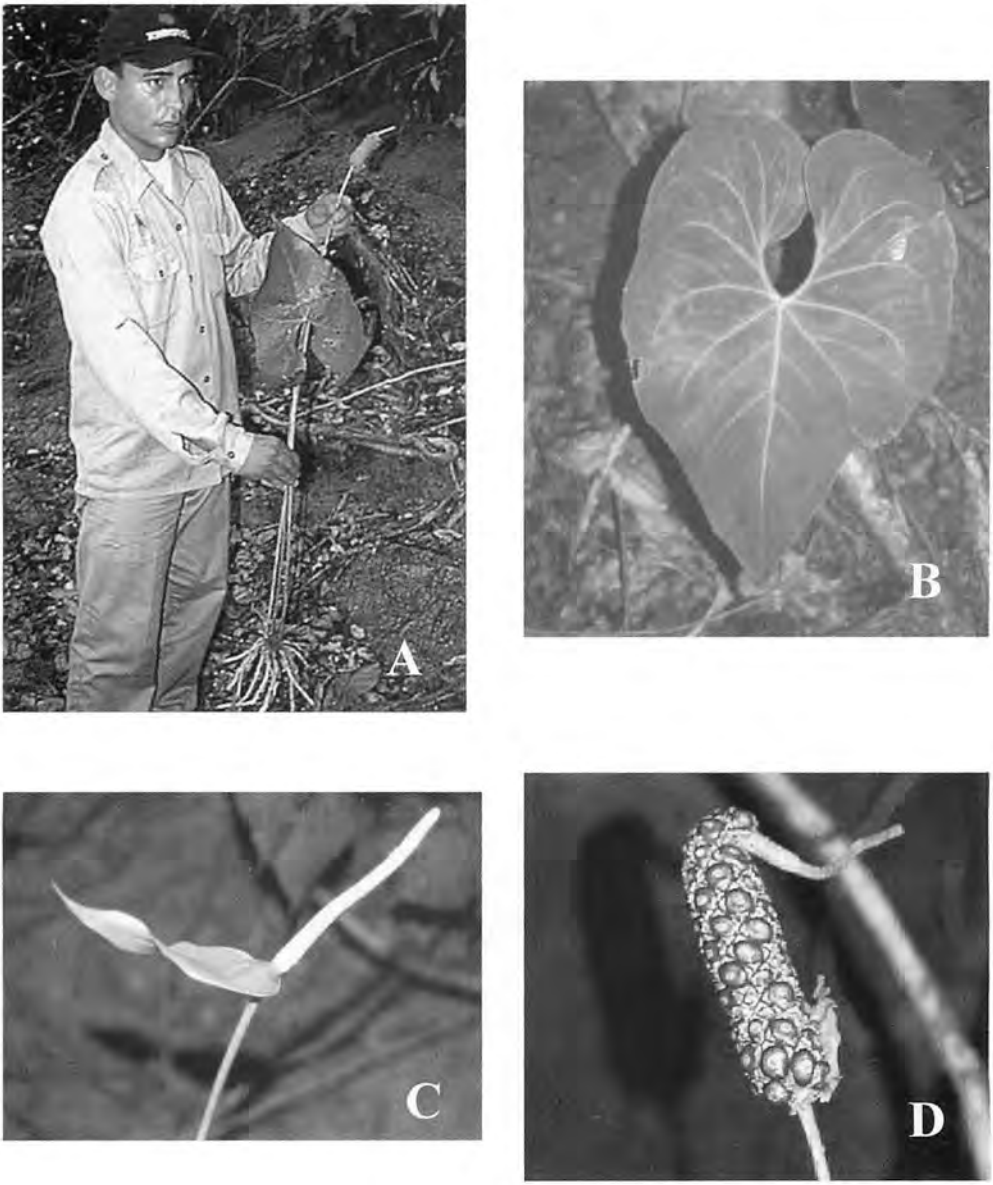

Fig. 1. *Anthurium rionegrense*. A. Habit. B. Detail of leaf (adaxial surface). C. Inflorescence. D. Inmature infrutescence.

HABITAT

At the type locality, *A. rionegrense* occurs on granitic rocks in the forest understory of "bosque tropical subcaducifolio" (semideciduous tropical forest) (Rzedowski, 1978) near Quebrada Chamarra. This type of vegetation is dominated by: *Bursera simaruba* (L.) Sarg., *Randia* sp., *Croton* aff. *pseudoniveus, Luhea candida* (DC.) Martius., *Trichilia hirta* L., *Comocladia* sp., *Stemmadenia donnell-smithii* (Rose) Woodson, *Thevetia ovata* (Cav.) A. DC., *Yucca elephantipes* Regel, *Plumeria rubra* L., *Pseudobombax ellipticum* (H.B.K.) Dugand, *Spondias purpurea* L.,

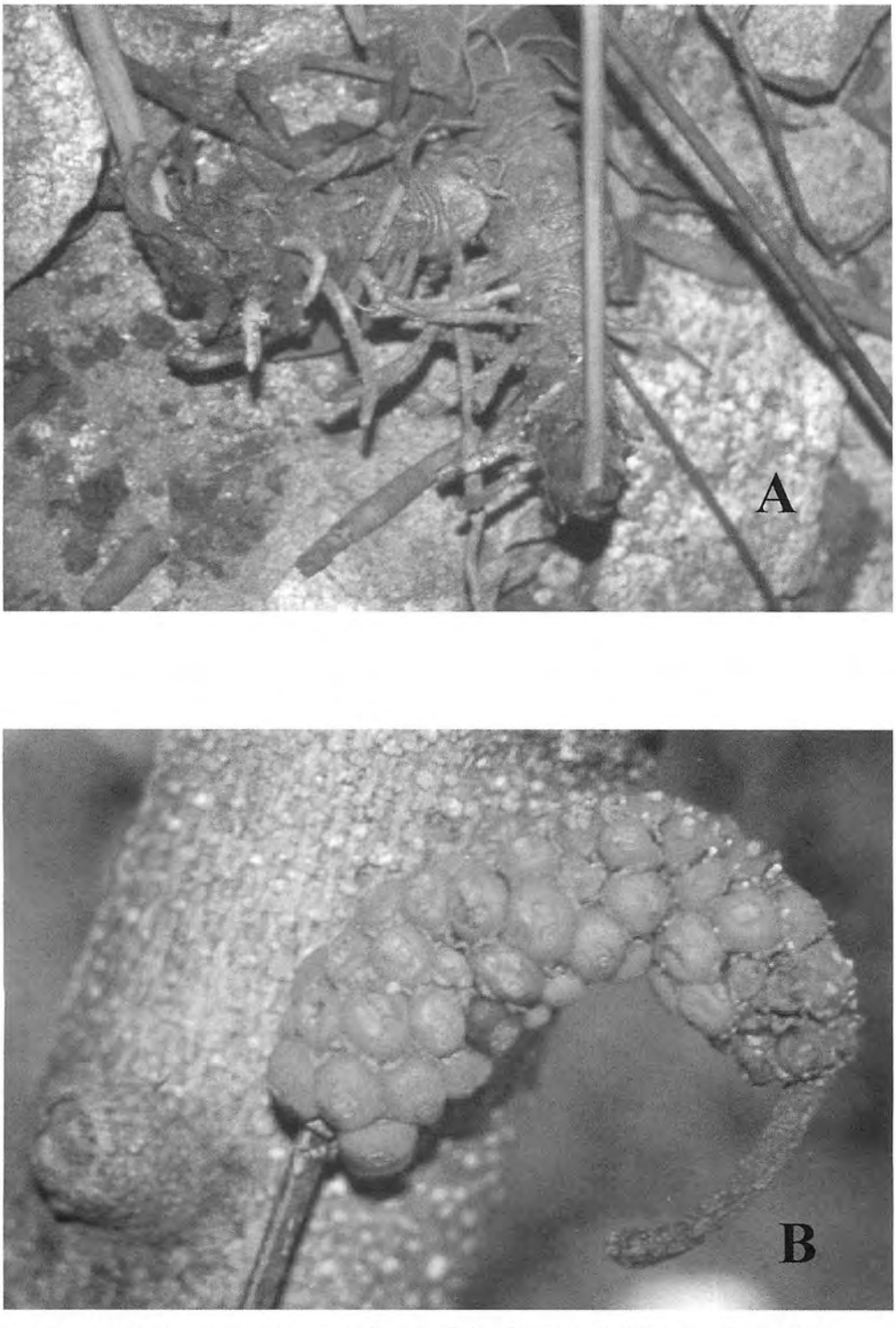

Fig. 2. *Anthurium rionegrense*. A. Detail of the rhizome. B. Mature infrutescence.

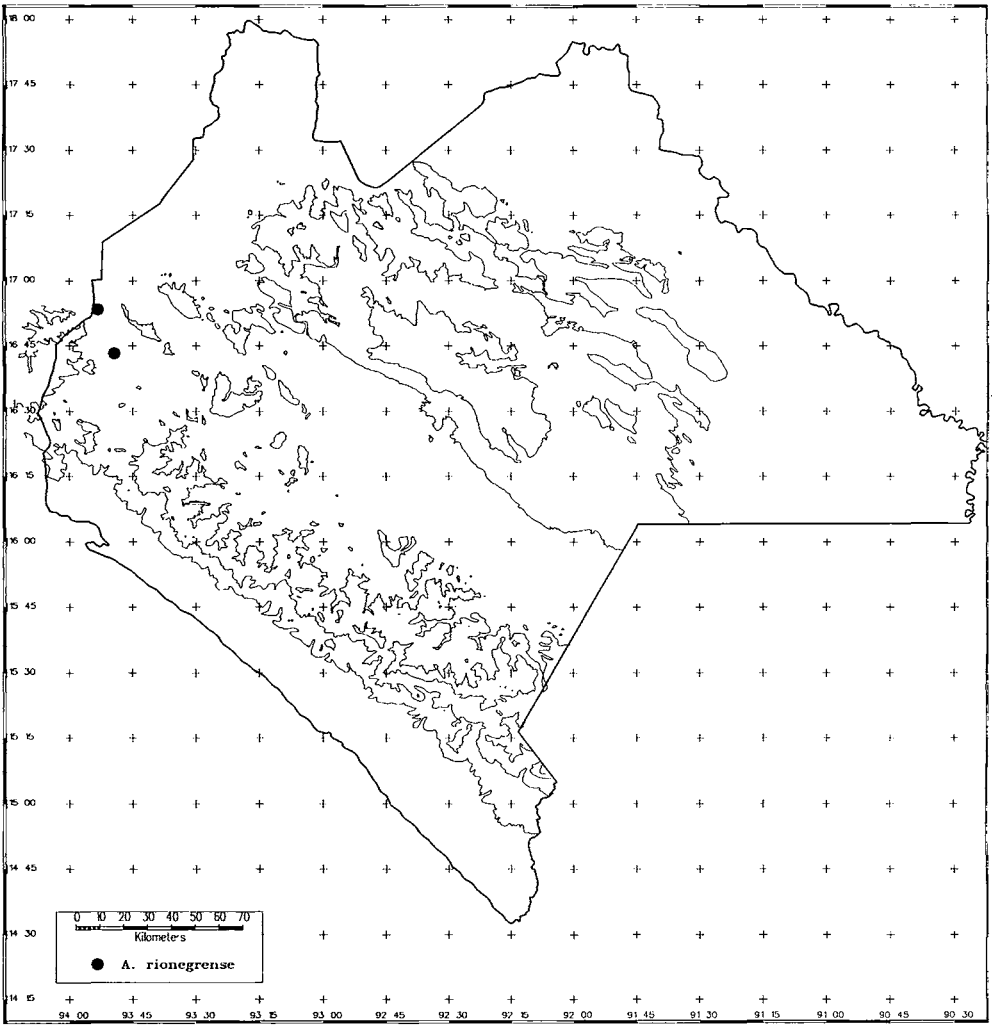

Fig. 3. Distribution map of *Anthurium rionegrense* in México, Chiapas State.

Anthurium schlechtendalii Kunth, *Adiantum concinnum* Willd., and *Costus spicatus* (Jacq) Sw. At the second locality where *A. rionegrense* was found, it occurs on sandstone in a dry stream bed in disturbed vegetation classified as "bosque tropical caducifolio" (deciduous tropical forest) dominated by *Luhea candida* (DC.) Martius, *Bursera simaruba* (L.) Sarg, *Tabebuia* sp., *Haematoxylon brasiletto* Karst, *Randia* sp., *Capparis* sp, *Spondias purpurea* L., *Solanum* sp., *Croton* aff. *pseudoniveus, Anthurium schlechtendalii* Kunth, *Pilosocereus* sp., *Comocladia* sp., *Tillandsia flabellata* Baker and *Opuntia puverula* Pf.

So far, it is known that *A. rionegrense* ranges from 500 to 650 m and is restricted to the mountainous region north of Cintalapa, Chiapas. But, it is possible that the species might also occur in the mountains to the east of Chimalapas, Oaxaca as well. Though the species is known from "bosque tropical caducifolio" (deciduous tropical forest) and "bosque tropical subcaducifolio" (semideciduous tropical forest) it may also occur in "bosque de *Quer-*

cus" (*Quercus* forest) and "bosque tropical perennifolio" (evergreen tropical rain forest). These forest types are in neighboring regions where this species might also be present, however this information has not been confirmed.

DISCUSSION AND CONCLUSION

Croat (1983) reported this species to be an epiphyte with a short stem, but this information is not correct. The original description made by Matuda (1965) was primarily based on herbarium material (*MacDougall 459,* MEXU) where the shape of stem ("acaulis et gracilis") made the plant appears to be epiphytic. Unfortunately, Croat was unable to locate the type locality to reappraise the species with living material. Our observations in the field indicate that this species is completely rupicolous, with a branching stem, large to medium in size, and that these branches can give rise to new plants.

Both, Matuda (1965) and Croat (1983) described the petiole of *A. rionegrense* as being sulcate adaxially but at the type locality the petioles were observed to be terete. The infructescence of *A. rionegrense* was never described before due to lack of specimens in fruiting condition. For the first time here, the infructescence is reported to be erect when immature and pendent when mature, it also shows a wide variation in size even within same population.

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LITERATURE CITED

Croat, T. 1983. A revision of the Genus *Anthurium* (Araceae) of Mexico and Central America. Part I: Mexico and Middle America. *Ann. Missouri Bot. Gard.* 70(2):211–420.

Matuda, E. 1965. Plantas nuevas de México. *Anales Inst. Biol. Univ. Nac. México* 36:107–117.

Rzedowski, J. 1978. *La vegetación de México.* Edit. Limusa, México. D.F.