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NEW DISTRIBUTION RECORDS OF ACANTHACEAE IN GUATEMALA

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ABSTRACT

New occurrence records for 11 species of Acanthaceae are reported for Guatemala. Four species, *Justicia breedlovei*, *Justicia ensiflora*, *Louteridium mexicanum*, and *Stenostephanus gracilis* are newly reported for the country, and departmental records are noted for seven additional species. One hundred twenty-eight native species of Acanthaceae have been documented from Guatemala to date.

KEY WORDS: Acanthaceae, Guatemala, *Justicia breedlovei*, *Justicia ensiflora*, *Louteridium mexicanum*, *Stenostephanus gracilis*

RESUMEN

Nuevos registros de ocurrencia de 11 especies de Acanthaceae se reportan en Guatemala. Se registraron cuatro especies, *Justicia breedlovei*, *Justicia ensiflora*, *Louteridium mexicanum* y *Stenostephanus gracilis*, en el país por primera vez, y se destacan nuevos registros departamentales por siete especies adicionales. Ciento veintiocho especies nativas de Acanthaceae son conocidas desde Guatemala hasta la actualidad.

PALABRAS CLAVES: Acanthaceae, Guatemala, *Justicia breedlovei*, *Justicia ensiflora*, *Louteridium mexicanum*, *Stenostephanus gracilis*

Taxonomic, ecological, and conservation data of Guatemalan Acanthaceae were recently reviewed and revised (Daniel 2010). Daniel (2010) documented 124 species of the family from Guatemala. Ongoing collecting, primarily by local botanists, as well as continuing studies of historical collections have resulted in 11 new occurrence records of species of Acanthaceae either for the country or for departments within Guatemala. For example, recent collections made in the under-collected departments of Jutiapa and Santa Rosa document the occurrences of six species new to those departments and one species new to the country.

In this update of Guatemala's acanthaceous flora, four species are newly reported for the country: *Justicia breedlovei*, *Justicia ensiflora*, *Louteridium mexicanum*, and *Stenostephanus gracilis*. Thus, 128 native species of Acanthaceae are currently known from Guatemala. This is the highest

number of native species for the family among the seven nations of Central America. Collections of seven additional species represent new departmental records within Guatemala: *Aphelandra speciosa* (Santa Rosa), *Dicliptera unguiculata* (Santa Rosa), *Hypoestes phyllostachya* (Jutiapa), *Lepidagathis guatemalensis* (Jutiapa), *Odontonema tubaeforme* (Baja Verapaz and Jutiapa), *Ruellia blechum* (Jutiapa), *Spathacanthus hahnianus* (Quiché). Collections noted for *Spathacanthus hahnianus*, previously known only from a single collection in Guatemala, are the first in more than 125 years and confirm the persistence of that species in the country.

Descriptions of most Guatemalan Acanthaceae that incorporate taxonomic changes and collections since Gibson's (1974) account of the family in the *Flora of Guatemala* can be found in either Daniel (1995) or Daniel (2010). The following distribution records provide collection information, geographic ranges, and pertinent taxonomic notes (where appropriate).

Aphelandra speciosa Brandegee

Santa Rosa: Pueblo Nuevo Viñas, Finca Santa Isabel, 14º12'17.7"N, 90º27'33.7"W, 1044 m, cultivo de café, 22 II 2010 (flr), *L. Velásquez & E. Morales 672* (BIGU, CAS).

This species is endemic to the mountains of southeastern Chiapas and southwestern Guatemala, where it was previously known from Quezaltenango, San Marcos, and Suchitepéquez (Daniel 2010).

Dicliptera unguiculata Nees

Santa Rosa: Pueblo Nuevo Viñas, Finca Santa Isabel, 14º12'44.7"N, 90º26'46.8"W, 1055 m, cultivo de café, 23 II 2010 (flr, frt), *L. Velásquez & E. Morales 732* (BIGU, CAS).

This widespread species occurs from southern Mexico to Peru. It has been documented previously from seven departments in Guatemala: Alta Verapaz, Chimaltenango, Guatemala, Jalapa, Quetzaltenango, Sacatepéquez, and Sololá (Daniel 2010). Because the species often occurs in disturbed habitats, it will likely be found in additional departments as well.

Hypoestes phyllostachya Baker

Jutiapa, Moyuta, Finca Los Ausoles, 14º03'07.32"N, 90º05'43.63"W, 1019 m, cultivo de café, 6 IV 2010 (flr, frt), *L. Velásquez & J. García 870* (BIGU, CAS).

This commonly cultivated species is native to Madagascar. Daniel (2010) noted that it has become naturalized in at least six departments of Guatemala: Alta Verapaz, Baja Verapaz, Escuintla, Guatemala, Sacatepéquez, and San Marcos. The species, which sometimes forms an extensive ground cover, continues to increase its range in the American tropics.

Justicia breedlovei T.F. Daniel

Huehuetenango: Nentón, orillas del Río Salchilá, 15º59'05"N, 91º33'34.3"W, 1588 m, 7 II 2011 (flr, frt), *L. Velásquez & M. Véliz 1656* (BIGU, CAS), *M. Véliz & L. Velásquez 22572* (BIGU, CAS), *22576* (BIGU, CAS), *22603* (BIGU, CAS).

The collections cited above from northern Huehuetenango, near the Chiapan border, are the first from Guatemala. The species was previously known from a nearby region of Chiapas in southern Mexico (Daniel 1995). These collections extend its known flowering and fruiting season from December to February, elevational range from 1170 to 1588 m, height of the shrubs from 1.2 to 2.5 m, petiole length from 25 to 30 mm, capsules length from 9.5 to 11 mm, stipe length from 3 to 4 mm, seed length from 2.5 to 3 mm, and seed width from 2 to 2.3 mm. Seeds of the Guatemalan plants appear to lack the superficial and inconspicuous trichomes evident on those from Chiapas;

however, sparse eglandular trichomes less than 0.05 mm are evident on portions of their margin. Figure 1 shows the striking inflorescences, with maroon bracts and orange flowers, of this species.

Figure 1. Photographs of inflorescences. A. *Justicia breedlovei* (photo by L. Velásquez). B. *Justicia ensiflora* (photo by R. Kriebel).

Justicia ensiflora (Standl.) D.N. Gibson

Izabal: Morales, Sierra Caral, hacia la cima, 15.38749°, -88.69357°, 1000 m, 14 Jun 2011 (flr), *R. Kriebel et al. 5596* (CAS, NY, USCG).

Justicia ensiflora was previously known from Belize and Honduras (Gibson 1974; Daniel 2005, 2010: 373). It is distinctive among Guatemalan Acanthaceae by the long (12–18.5 cm) peduncles of the inflorescence, purplish rachis, bright orange calyx and corollas, corollas 56–65 mm long, and anther thecae 4–5 mm long (Figure 1). Capsules and seeds, which are not present on the single known Guatemalan collection, have not been described previously for the species. Based on collections from Honduras (cited in Daniel 2005), they can be described as follows: capsules 14–16 mm long, pubescent with flexuose eglandular trichomes 0.1–0.3 mm long, stipe 5–7 mm long, head subellipsoid, 9 mm long; seeds lenticular, 3 mm long, 2.2 mm wide, rugose.

Lepidagathis guatemalensis (Donn. Sm.) Kameyama

Jutiapa: Moyuta, Finca Los Ausoles, 14º02'46.13"N, 90º05'34.20"W, 1180 m, lade de un arroyo, 14 IV 2010 (flr), *L. Velásquez & J. García 919* (BIGU, CAS).

This species, previously known as *Lophostachys guatemalensis* Donn. Sm., has been recorded from El Salvador, southern Mexico (Chiapas and Oaxaca), and the following departments of Guatemala: Escuintla, Guatemala, and Santa Rosa (Daniel 2010).

Louteridium mexicanum (Baill.) Standl.

Alta Verapaz: Mpio. Rubeltem, Montaña Sacranix, Wegstrecke zwischen der Finca Xalcata (= Saqmoc) und der Filnca Sacté, S des Río Sachichaj (W der Strasse Cobán–Chisec), ca. 500 m, Kalkkarst, Reste von halbimmergrünen Wald, 25 III 2001 (flr, frt), *H. Foerther et al. 10940* (BM).

This is the first record of this species from Guatemala. It can be distinguished from *Louteridium donnell-smithii*, which also occurs in Alta Verapaz, by the pubescence of young stems, leaves, inflorescence rachis, dichasial peduncles, and pedicels. In *L. mexicanum*, these are glabrous

or pubescent with eglandular trichomes to 0.8 (–1) mm long; in *L. donnell-smithii* they are pubescent with glandular and eglandular trichomes up to 2.8 mm long). *Louteridium mexicanum* was previously known only from southern Mexico (Chiapas, Oaxaca, Tabasco, Veracruz; Daniel 1995). As noted by Daniel (2010), plants from Guatemala previously attributed to *L. mexicanum* are *L. purpusii* Brandegee. Label data of *Foerther et al. 10940* note that Guatemalan plants grow on karst limestone in semievergreen forest remnants and that they had brownish violet corollas.

Odontonema tubaeforme (Bertol.) Kuntze

Baja Verapaz: Pauzal, 1200 m, *H. von Tuerckheim II 1752* (BP). **Jutiapa**, Moyuta, Finca Los Ausoles, 14º03’07.32”N, 90º05’43.63”W, 1019 m, cultivo de café, 6 IV 2010 (flr), *L. Velásquez & J. García 867* (BIGU, CAS).

Odontonema tubaeforme occurs from southern Mexico to Panama. Daniel (2010) noted its occurrence in thirteen departments of Guatemala. Von Tuerckheim’s locality “Pauzal” in Baja Verapaz has not been located with certainty. However, ca. 12–13 (air) km to the northeast of Purulhá (15°14'7.62"N, 90°14'6.07"W) there is a “Pansal” (Hoa and Hong 2005) with elevations in the nearby the mountains up to 2000 m. Von Tuerckheim also collected other plants “between Purulka and Pauzal” (e.g., *Diplazium prominulum* Maxon).

Ruellia blechum L.

Jutiapa: Moyuta, Finca Los Ausoles, 14º03’07.32”N, 90º05’43.63”W, 1019 m, cultivo de café, 6 IV 2010 (flr), *L. Velásquez & J. García 869* (BIGU, CAS).

This widely distributed and weedy species, previously known as *Blechum pyramidatum* (Lam.) Urb., occurs from Mexico to Peru. It has been introduced and become naturalized in the southern United States (Florida) and the Paleotropics (e.g., Papua New Guinea). Daniel (2010) noted its occurrence in 14 of Guatemala’s 22 departments, and it will likely be found in most of the remaining ones.

Spathacanthus hahnianus Baill.

Quiché: Chajul, bosque de Finca la Perla, 15.6083724°N, 91.1041225°W, 1400 m, bosque de *Vochysia*, *Gordonia*, *Magnolia*, e *Hieronyma*, 15 XI 2009 (flr, frt), *E. Tribouillier & I. Pedro 409* (BIGU); Chajul, bosque de Finca la Perla, 15°36’19.22”N, 91°6’12.09”W, 1500 m, bosque mesófilo con *Magnolia mexicana* y *Pseudolmedia*, 28 XI 2009 (frt), *E. Tribouillier & I. Pedro 436* (BIGU); Chajul, bosque de aldea Chel, 15.6157966°N, 91.0439035°W, 1800 m, bosque de *Billia*, *Hedyosmum*, *Ocotea*, *Oreopanax*, y *Elaeagia*, 7 XI 2010 (flr), *E. Tribouillier & I. Pedro 469* (BIGU).

This species was previously known from Mexico, Honduras, and Alta Verapaz, Guatemala (Daniel 2005, 2010). Because the sole collection from Guatemala, *von Tuerckheim 1030*—the type of *Spathacanthus simplicifolius* (Donn. Sm.) Lindau, was collected more than 125 years ago, Daniel (2010) indicated that the species was likely rare or possibly extirpated in Guatemala. The collections noted above from Quiché reveal that the species persists in mesophytic montane forests and extend its known fruiting period to November.

Stenostephanus gracilis (Oerst.) T.F. Daniel.

Santa Rosa: Pueblo Nuevo Viñas, Finca Santa Isabel, 14º12’44.7”N, 90º26’46.9”W, 1061 m, 24 II 2010 (flr), *L. Velásquez & E. Morales 804* (BIGU, CAS).

This is the first record of the species for Guatemala and for any species of *Stenostephanus* in the department of Santa Rosa. Although known only from plants bearing flowers, this collection has all of the characteristics of *S. gracilis* in Chiapas and Costa Rica (Daniel 1999). Indeed, the

occurrence in southeastern Guatemala provides a geographic link from the previously known occurrences in southern Mexico to those in southern Central America.

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