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CATALOG OF HONDURAN ACANTHACEAE WITH TAXONOMIC AND PHYTOGEOGRAPHIC NOTES

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ABSTRACT. A taxonomic revision of Honduran Acanthaceae based on field and herbarium studies reveals the presence of 96 species of that family in the country. Seventy-four of these species are treated as native to Honduras; eight of them are endemic there. Four of the endemic taxa, *Aphelandra molinae*, *Justicia pilzii*, *Pseuderanthemum liesneri,* and *Stenostephanus hondurensis*, are described as species new to science. Two genera and 12 previously described species are reported from Honduras for the first time. One new combination, *Stenostephanus sessilifolius*, based on *Glockeria sessilifolia* Oerst. [syn. *Hansteinia sessilifolia* (Oerst.) Durkee], and one new name, *Justicia ciriloi*, based on *Beloperone blechioides* Leonard [non *Justicia blechoides* (Lindau) Stearn], are proposed. A lectotype is designated for *Ruellia molinae* Gibson, a synonym of *Ruellia fulgida* Andr. Seven names currently applied to Honduran taxa are placed in synonymy of other names. Honduras has relatively low numbers of both total native species and endemic species of Acanthaceae compared to several smaller political units in the Mesoamerican region. This is attributed to several factors, including the prevalence of pine forests there. For each native species the catalog includes distributional data (both within and external to Honduras), habitats in Honduras, periods of flowering and fruiting in Honduras, specimen citations for each Honduran department in which the species is known to occur, and descriptions and/or taxonomic discussions where appropriate.

INTRODUCTION

Located in the center of the Mesoamerican region, Honduras is the second largest Central American nation. Physiographically, it consists of a large mountainous core bounded by narrow Caribbean lowlands in the north and a small Pacific lowland in the south. The entire region has long been settled by pre-Colombian and subsequently European cultures, and much of the land area comprises second-growth forests. There is no recent treatment of the Honduran vascular flora, but estimates of the number of species there vary from 5000 (Gentry 1978) to 6000 (Gómez et al. 1997). Brief summaries of botanical activities in Honduras were provided by Nelson (1990, 1996) and Nelson et al. (1996). The country is divided politically into 18 departments (Fig. 1).

With the publication of the *Flora de Nicaragua* (Stevens et al. 2001), Honduras is the only nation in Central America for which a recent account of Acanthaceae is lacking. Other than descriptions of undescribed taxa and reports of range extensions, little has been published about this large, mostly tropical family in Honduras. The only previous account of Honduran Acanthaceae is that of Molina (1975), in which the names of 80 native and exotic (including cultivated) species of the family were listed. With the exceptions of the herbarium collections at EAP, F, and MO, Honduran Acanthaceae are not well represented in the world's major herbaria. For the family, Honduras is both the least known and least collected region in Mesoamerica. The following study was undertaken in order to document those Acanthaceae known from Honduras, to revise their nomenclature and taxonomy, assess the status of the family in Honduras relative to the other Central American nations, and to provide additional collections of Acanthaceae from the country. Herbarium collections in

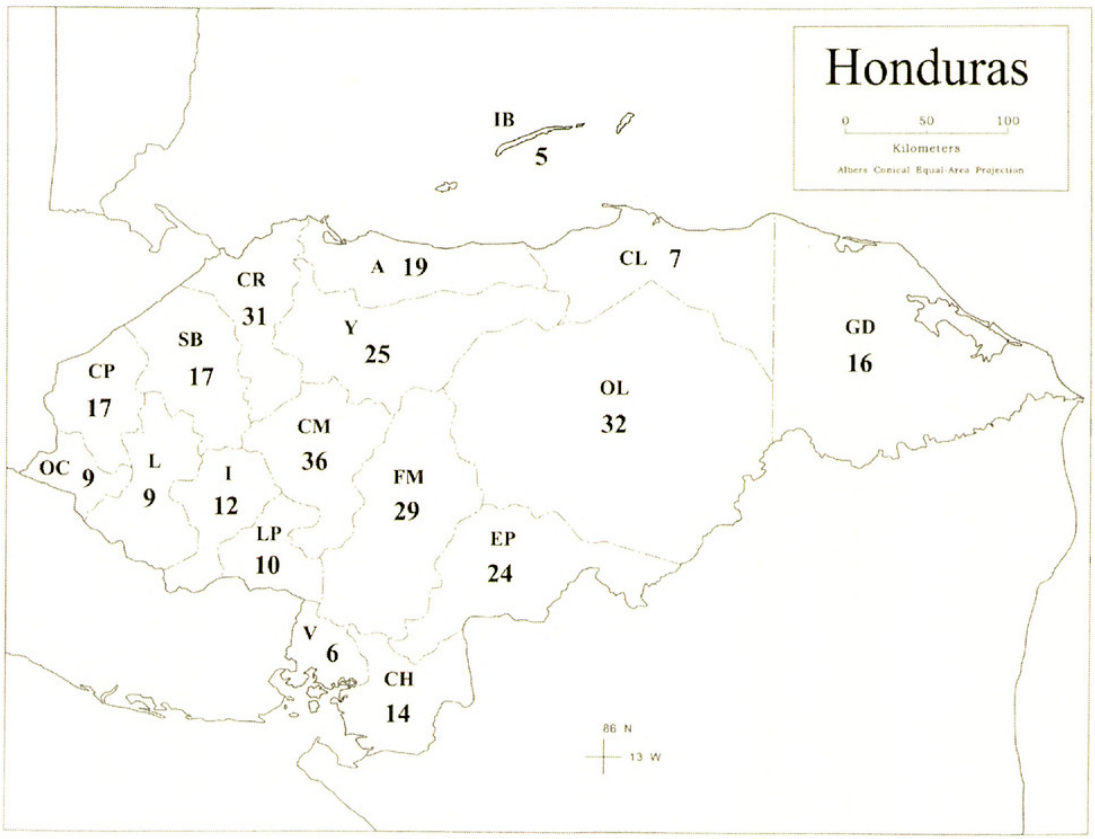

FIG. 1. Map of Honduras showing political departments and numbers of native species of Acanthaceae in each. A = Atlántida, CH = Choluteca, CL = Colón, CM = Comayagua, CP = Copán, CR = Cortés, EP= El Paraíso, FM = Francisco Morazán, GD = Gracias a Dios, I = Intibucá, IB = Islas de la Bahía, L = Lempira, LP = La Paz, OC = Ocotepeque, OL = Olancho, SB = Santa Bárbara, V = Valle, Y = Yoro.

Honduras, the United States, and Europe were studied, and field studies in 13 departments of Honduras were conducted for six weeks in 2000 and 2001.

Summary of Acanthaceous Flora of Honduras

Herein, 96 species of Acanthaceae are documented from Honduras. Of these, 74 are treated as occurring natively there and 22 are native to other regions of the world and either cultivated and/or naturalized in the country. Four species, *Aphelandra molinae*, *Justicia pilzii*, *Pseuderanthemum liesneri*, and *Stenostephanus hondurensis*, are newly described from Honduras; two genera (*Herpetacanthus* and *Stenostephanus*) are newly reported from Honduras; and 12 previously described species of Acanthaceae (*Herpetacanthus panamensis*, *Justicia ciriloi*, *J. tuxtlensis*, *Mendoncia guatemalensis*, *M. lindavii*, *Odontonema cuspidatum*, *Pseuderanthemum verapazense*, *Ruellia metallica*, *R. standleyi*, *R. tuberosa*, *Stenandrium chameranthemoideum*, *Stenostephanus sessilifolius*) are reported as native to or naturalized in the country for the first time. Among genera of Honduran Acanthaceae, *Justicia* is the largest genus with 19 native species and *Ruellia* is the second largest with 11 native species. These are the two largest genera of Acanthaceae in the New World. The most widely distributed species in Honduras is *Aphelandra scabra*, which occurs in all 18 departments.

Eight species (*Aphelandra dunlapiana*, *A. molinae*, *Dicliptera antidysenterica*, *Justicia calliantha*, *J. pilzii*, *Lophostachys zunigae*, *Pseuderanthemum liesneri*, and *Stenostephanus hondurensis*) are recognized as endemic to the country. Three others (*Anisacanthus tetracaulis*, *Justicia ciriloi*, and *J. ensiflora*) are nearly endemic there (i.e., they occur only in Honduras and Belize, El Salvador, Guatemala, and/or Nicaragua).

Although neither the total number of native species of vascular plants nor the number of those endemic to Honduras are known, based on the estimates of Davis et al. (1986; i.e., 5000 species and 148 endemic species) about 3% of the species are endemic to the country. The percentage of endemic Acanthaceae (11%) is thus more than three and one half times greater than the overall rate of endemism for the country.

Taxonomic reassessments made during this study have resulted in a new name (*Justicia ciriloi* for *Beloperone blechioides*), a new combination (*Stenostephanus sessilifolius* for *Hansteinia sessilifolius*), the recognition of a species (*Dicliptera antidysenterica*) previously treated as conspecific with another, and the placing of seven currently accepted names (*Dyschoriste hondurensis*, *Justicia danielii*, *J. rothschuhii*, *Ruellia latibracteata*, *R. molinae*, *R. williamsii*, and *Siphonoglossa ramosa* var. *hondurensis*) in the synonymy of others.

The following account includes species that are known to occur in Honduras as documented by specimen vouchers. Based on their presence in adjacent regions of Central America, additional species of Acanthaceae might be expected to occur in Honduras, but have yet to be collected in the country. These include *Aphelandra gigantiflora* Lindau, *Chileranthemum pyramidatum* (Lindau) T. F. Daniel, *Dicliptera guttata* Standl. & Leonard, *Justicia caudata* A. Gray, *J. eburnea* D. N. Gibson, *J. fimbriata* (Nees) V. A. W. Graham, *J. grandiflora* D. N. Gibson, *J. montana* (Standl. & Leonard) D. N. Gibson, *J. silvicola* D. N. Gibson, *J. soliana* Standl., *Razisea spicata* Oerst., *Ruellia donnell-smithii* Leonard, *R. pereducta* Standl. ex Lundell, *R. pygmaea* Donn. Sm., *Schaueria parviflora* (Leonard) T. F. Daniel, and *Tetramerium tenuissimum* Rose.

Distribution and Habitats

Wilson and Meyer (1982) presented a concise and informative account of Honduran physiographic, climatic, and ecological parameters in which they recognize nine ecological formations varying from arid to dry to moist to wet. American Acanthaceae occur in diverse communities but are particularly abundant in wet and dry lowland formations and in moist to wet montane forests. The habitat information provided in this treatment reflects that noted on herbarium specimens, which is sometimes imprecise or incomplete. From the pooled ecological data for a given species, it is often possible to determine whether it occurs in moist to wet vs. dry habitats, however. Among native Honduran Acanthaceae that can be unambiguously assigned to either moist to wet or dry formations, 46 species appear restricted to the former and only three (*Henrya insularis*, *Tetramerium nemorum*, and *T. nervosum*) to the latter. Few tropical American Acanthaceae occur in pine forests (including oak-pine forests), which are the most common and widespread plant communities in Honduras. Only 10 species of native Honduran Acanthaceae have been specifically noted to have been collected in such forests.

Figure 1 shows the numbers of native species of Acanthaceae in each department of Honduras. Major concentrations of species are present in the three central, mountainous departments of Comayagua (36), Olancho (32), and Cortés (31). Each of these departments contains a diversity of habitats, including extensive areas of both moist to wet and dry formations (Wilson & Meyer 1982). Olancho is the largest department of Honduras and, according to Nelson (1989), Comayagua is one of the few relatively well-collected departments. Departments with the fewest native Acanthaceae are Islas de la Bahía (5) and Valle (6). The low numbers there are likely

due to the small sizes of these departments, the lack of habitat diversity (each department consists mostly or entirely of a single ecological formation), and the high level of human disturbance in the landscape (i.e., Valle). Although the Bay Islands were apparently connected to the mainland throughout much of the Tertiary (Wilson & Meyer 1982), other small Caribbean islands near the Central American mainland are also poor in Acanthaceae (e.g., Fosberg et al. 1982).

Given the country's central location and diverse communities, it is perhaps not surprising that numerous Acanthaceae attain the northern- or southernmost extent of their distributions in Honduras. Non-endemic native Acanthaceae that attain the northernmost extent of their continental distributions in Honduras consist of *Herpetacanthus panamensis*, *Ruellia fulgida*, and *Stenostephanus sessilifolius*. All are species of moist to wet formations. Fifteen species of non-endemic Acanthaceae reach the southern- or easternmost extent of their continental distributions in Honduras: *Anisacanthus tetracaulis*, *Justicia breviflora*, *J. ciriloi*, *J. ensiflora*, *J. tuxtlensis*, *Louteridium donnell-smithii*, *Mendoncia guatemalensis*, *Odontonema albiflorum*, *O. cuspidatum*, *O. hondurense*, *Pseuderanthemum verapazense*, *Ruellia harveyana*, *R. puberula*, *Spathacanthus hahnianus*, and *Stenandrium chameranthemoideum*. Most of these species also occur predominantly or exclusively in moist to wet formations. It is a mystery to me why five times more northerly-occurring species reach the southern (or eastern) limit of their distributional range in Honduras than southern species reaching their northern limit.

Phenology

In general for Honduras, wet and dry periods are correlated with wind patterns resulting from migrations of the thermal equator and intertropical convergence zone (Wilson & Meyer 1982); however, given the diverse topography, local weather patterns are sometimes greatly influenced by regional physiography. In general, rains normally commence in Honduras in April or May, followed by a short dry season (the so-called "veranillo") in late July and early August. Another period of rain commences following the veranillo and lasts until November or December. This is followed by the main dry season of five to six months duration. At least five species of native Honduran Acanthaceae flower more or less throughout the year: *Aphelandra aurantiaca*, *A. scabra*, *Justicia ramosa*, *Odontonema tubaeforme*, and *Ruellia hookeriana*. The vast majority (at least 57 species) of the remaining native Honduran Acanthaceae flower during the long dry season from December into April or May. Forty-one of these species appear to flower only during that season. The known flowering periods of eight species (*Herpetacanthus panamensis*, *Justicia ensiflora*, *Mendoncia retusa*, *Pseuderanthemum alatum*, *P. cuspidatum*, *Ruellia puberula*, *Spathacanthus hahnianus*, and *Stenandrium pedunculatum*) suggest that they flower primarily or exclusively during the rainy season(s). Several of these species are known from relatively few collections and additional observations would be helpful to confirm their flowering periods. Flowering collections (i.e., with corollas present) of *Lophostachys zunigae* and *Ruellia standleyi* from Honduras remain unknown. Fruiting usually occurs simultaneously with flowering or lags only a month or two behind.

Honduran Acanthaceae in a Regional Context

For its relative size, location in the tropics, and topographic complexity, Honduras seems depauperate in the total number of native species of Acanthaceae. Table 1 shows a comparison of Acanthaceae in Central American nations as well as in

TABLE 1. FLORISTIC DATA FOR REGIONS OF NORTHERN LATIN AMERICA

The Yucatan Peninsula of Mexico comprises the states of Campeche, Quintana Roo, and Yucatán. Sources for numbers of total vascular plant species are: Mexico (J.-L. Villaseñor, pers. comm.), Yucatan Peninsula (G. Carnevali, pers. comm.), Chiapas (Breedlove 1981), Belize (Balick et al. 2000), Guatemala (Breedlove 1981), El Salvador (Gómez et al. 1997), Honduras (Gómez et al. 1997), Nicaragua (Stevens et al. 2001; G. Davidse, pers. comm.), Costa Rica (Hammel, pers. comm.), Panama (D'Arcy 1987), Colombia (E. Forrero, pers. comm). Sources of data for native Acanthaceae are: Mexico (Daniel, unpublished), Yucatan Peninsula (Daniel, unpublished), Chiapas (Daniel 1995, 1999a, 1999c), Belize (Daniel 1997), Guatemala (Daniel 2001 and unpublished), El Salvador (Daniel 2001), Honduras (present study), Nicaragua (Daniel 2001), Costa Rica (Daniel 2001), Panama (Daniel 2001), and Colombia (Daniel, unpublished); numbers for endemic Acanthaceae are derived from these same sources and from additional unpublished information.

Region	Area (km^2)	Total number of vascular plant species	Native species of Acanthaceae	Endemic species of Acanthaceae	Percent endemism
Mexico	1,972,546	~23,500	380	233	61%
Yucatan Peninsula	141,525	~2,150	40	10	25%
Chiapas	73,887	8,248	125	16	13%
Belize	22,965	3,408	40	1	3%
Guatemala	108,889	7,749	120	13	11%
El Salvador	20,877	~2,500	43	0	0%
Honduras	112,088	~6,000	74	8	11%
Nicaragua	140,746	5,354	59	2	3%
Costa Rica	51,101	9,360	121	38	31%
Panama	77,060	~8,145	108	21	19%
Colombia	1,138,914	~35,000	336	246	73%

Mexico and Colombia to the immediate north and south. Given its relatively large size and habitat diversity, Honduras has fewer total species and endemic species of Acanthaceae than several smaller regions to the north and south. This same situation is evident to an even greater extent in Nicaragua, the largest Central American nation, which has only 59 total native species and just two endemic species of Acanthaceae.

One can attribute the relatively small numbers of Acanthaceae in Belize and El Salvador to such factors as the relatively small sizes of these nations, the disturbance there caused by humans (both pre- and post-Columbian), and the lack of a diversity of major vegetation types. But what accounts for the small numbers in Honduras and Nicaragua? Both are large and have a greater diversity of vegetation types. Assuming that both countries are as well collected as Costa Rica, Panama, and Guatemala, there are several possible reasons for the relative paucity of Honduran (and presumably Nicaraguan) Acanthaceae compared with surrounding regions:

1) There are not as many regions at high elevations in Honduras as there are in Guatemala, Costa Rica, and Panama. The highest point in Honduras (Montaña Celaque at 2850 m) is considerably lower than the higher mountains in these countries (each of which has several peaks above 3000 m). Although Acanthaceae are not abundant in the cloud forest habitats that are generally found at these elevations, several genera (e.g., *Spathacanthus*, *Stenostephanus*) and species in other genera

(e.g., *Aphelandra tonduzii* Leonard, *Dicliptera iopus* Lindau, *D. skutchii* Leonard, *Justicia angustibracteata* Leonard, *J. fortunensis* T. F. Daniel & Wassh.) are mostly or entirely confined to such locations.

2) There is a general absence of climatic extremes, both wet and dry, in Honduras compared with several other Mesoamerican regions. The more or less continuous dry forest or thornscrub that extends from Mexico to Costa Rica along the Pacific Coast occupies very little area in Honduras due to the country's topography. As in several of the other regions of the country supporting dry forest and thornscrub, the limited dry region of the Pacific lowlands in southern Honduras has been highly degraded through its long history of human occupation and continues to be severely impacted by overgrazing of livestock and agriculture. There is also little truly wet forest in Honduras. Most portions of the low to mid-elevation, moist to wet forests of the Caribbean versant in Honduras have a definite dry season that decreases their diversity compared to the wet montane forests of other regions of Central America. Even moist to wet regions at high elevations that are referred to as cloud forests in Honduras (and which indeed contain cloud forest elements) have a definite dry season and are not nearly as rich in species as cloud forests to the north or south.

3) The presence of pine forests covering much of the country would appear to be a limiting factor for many species of Acanthaceae, as noted above. Pine forests are notably lacking in Acanthaceae wherever both occur, from the southeastern United States through Mexico and northern Central America to Nicaragua, where this forest type reaches its southern extent. Hence, the lack of Acanthaceae in this plant community and its prevalence in Honduras likely help to explain the relatively low number of acanthaceous species in the country.

It is probable that there is no single reason for the low numbers of both species and endemic taxa in Honduras (and Nicaragua) compared to smaller political units in the Mesoamerican region. Those numbers may result from all of the factors mentioned and from additional factors that are not obvious to me. Based on the numbers of total species presented in Table 1 and figures cited by Bramwell (2002), it appears that taxa other than Acanthaceae show a similar pattern in this region. Indeed, Almeda (1996) noted a similar situation for Honduran Melastomataceae.

Conservation and Future Studies

Even with a lower number of acanthaceous species in Honduras compared with some other Mesoamerican regions, the country is home to a diverse, unique, and interesting assemblage of Acanthaceae. Indeed, the percentage of Acanthaceae endemic to Honduras (Table 1) is similar to that of Guatemala and Chiapas, regions with considerably more species. Several undescribed species are described below and additional taxa will undoubtedly be discovered in Honduras as remote regions are explored. Fortunately, several of the endemic Acanthaceae occur in protected reserves (e.g., *Aphelandra molinae* in Parque Nacional de Celaque and *Lophostachys zunigae* in Parque Nacional Pico Bonito). It is difficult to assess the conservation status of the majority of acanthaceous species in Honduras. Some formerly common species may be seriously threatened by loss of habitat (e.g., *Anisacanthus tetracaulis*, see below), whereas other species appear to be quite rare and are not known to occur in protected areas (e.g., *Aphelandra dunlapiana*). Hopefully, the information presented in the catalog below can help to assess the conservation priorities and needs for this family in Honduras.

Collections representing three species of Honduran Acanthaceae, two of *Justicia* and one of *Dicliptera*, could not be identified; they do not sufficiently resemble known species in their respective genera from North and Central America to be associated with a name. In this catalog, they are treated under their respective genera but will require additional studies to determine whether they represent undescribed species, fall within the circumscription of poorly known South American taxa, or represent variation within species that require taxonomic reconsideration.

La Mosquitia (i.e., that part of northeastern Honduras mainly occupied by the indigenous Miskito people, with extensive areas of lowland pine savanna, and comprising most of the department of Gracias a Dios) is perhaps the least explored and least collected region of Honduras (Proctor 1983). Undoubtedly, additional native Acanthaceae will be found there. It is also likely that there were additional Acanthaceae in Honduras that have been extirpated during the past several hundred years.

Contents of Catalog

In the following enumeration of Honduran Acanthaceae at least one collection is cited from each department in which the species is known to occur. For native and naturalized species the habitats, elevational ranges, and flowering and fruiting times noted are based solely on Honduran collections. Distributions in the Western Hemisphere are noted for each native species. Detailed descriptions are provided here only for poorly known species and Honduran endemics. Pollen morphology is often useful for both classifying and identifying Acanthaceae. Scanning electron micrographs of pollen grains are shown for rare and endemic species, or to illustrate characteristics used in taxonomic discussions. Keys to and descriptions of most Acanthaceae occurring in Honduras are available in one or more of the following recent treatments of American Acanthaceae: Daniel (1995b), Durkee (1978, 1986, 2001), and Gibson (1974). The catalog also includes Acanthaceae cultivated in Honduras as they are represented in herbaria. In addition to those noted here, there are undoubtedly other exotic Acanthaceae cultivated in the country. Types of all names based on Honduran Acanthaceae are noted. Taxonomic reconsiderations are discussed where appropriate.

CATALOG OF HONDURAN ACANTHACEAE

Acanthus montanus (Nees) T. Anders.

This native of western tropical Africa is cultivated in gardens in Honduras. Other species of *Acanthus* L. are likely grown for ornament in the country as well. Nelson (1986) noted *A. mollis* L. as being cultivated there, but no specimens of it have been located.

Representative Specimen. **Comayagua**: vicinity of Siguatepeque, planted in garden, *P. Standley & J. Chacón P. 6627* (F).

Anisacanthus tetracaulis Leonard

Shrubs to 2 (–3) m tall. Young stems quadrate to quadrate-sulcate, ± bifariously to ± evenly pubescent with retrorse to flexuose to antrorse eglandular trichomes 0.1–1 mm long, distally often with an understory of evenly disposed eglandular to subglandular and glandular trichomes less than 0.05 mm long as well. Leaves petiolate,

petioles to 44 mm long, blades ovate to ovate-elliptic, 25–120 mm long, 10–77 mm wide, 1.5–3.3 times longer than wide, acuminate at apex, truncate to rounded to acute at base, surfaces pubescent (especially along major veins) with flexuose to antrorse eglandular trichomes, the abaxial surface also pubescent with an understory of erect glandular trichomes to 0.1 mm long (sometimes restricted to midvein). Inflorescence of axillary and terminal dichasiate spikes (to racemes to thyrses), these sometimes branched at base and collectively forming a terminal panicle, rachises evenly pubescent with erect eglandular to subglandular and glandular trichomes to 0.1 mm long, and usually also with a sparse overstory of eglandular trichomes like those of young stems (especially proximally); dichasia alternate, 1 per axil, secund, sessile to subsessile (i.e., with peduncles to 1 mm long). Bracts subulate, 1.5–2.5 mm long, 0.2–0.5 mm wide, abaxial surface pubescent with antrorse eglandular trichomes 0.2–0.5 mm long. Bracteoles subulate, 1.5–2.5 mm long, 0.3–0.4 mm wide, abaxial surface pubescent like bracts and with understory trichomes like those of rachis as well. Flowers sessile to pedicellate, pedicels to 3 mm long. Calyx 6–9 mm long (during anthesis, up to 11 mm long in fruit), tube 1–1.5 mm long, lobes lance-subulate, 4.5–8 mm long, 3.8–8 times longer than tube, 0.8–1.6 mm wide, abaxially pubescent with an understory of erect glandular and eglandular trichomes 0.05–0.2 mm long and an overstory (sometimes absent) of flexuose to antrorse eglandular trichomes to 0.6 mm long. Corolla red, 22–28 mm long, externally pubescent with flexuose to retrorse eglandular trichomes 0.1–0.3 mm long, tube 13–15 mm long, upper lip 11–15 mm long, 2-lobed at apex, lobes to 0.8 mm long, lower lip 11–14 mm long, lobes ovate, 3.5–6.5 mm long, 2.5–4 mm wide. Stamens 21–37 mm long, thecae red, 2.5–3.3 mm long; pollen (Fig. 2a, b) 3-colporate, 6-pseudocolpate, interapertural surfaces reticulate. Style 23–38 mm long, stigma 0.3 mm long, lobes not evident. Capsule 11–16 mm long, glabrous, head subspherical to somewhat flattened, ovate to elliptic in outline, 6–9 mm long. Seeds 2–4 per capsule, sublenticular to concavo-convex, 4.5–5.8 mm long, 3.5–4.6 mm wide, surfaces and margin tuberculate.

Phenology. Flowering: November–May; fruiting: February–May.

Distribution and habitat. El Salvador, Honduras; open fields in region of moist forest, moist thickets, along streams, dry forests, dry brushy quebradas, roadsides; 800–1200 m.

Representative Specimens. Comayagua: Taulabé, quebrada La Caliche, *A. Rubio 7* (MO, PMA).—El Paraíso: Río de los Aguacates N of Yuscarán, *P. Standley 25718* (EAP).—Francisco Morazán: Río de La Orilla, SW del Valle de Yeguare, *A. Molina R. 3928* (EAP, F, GH).—Olancho: Campamento, *R. Ramos 131* (MO).

Only a single collection of this species is known from outside of Honduras (Daniel 2001). The type [Francisco Morazán: region of Cahuite, 800–1075 m, dry brushy quebrada, 5 March 1947, *P. Standley et al. 5012* (holotype: US!; isotypes: F! NY!)] and most other collections are from the department of Francisco Morazán. Two species of *Anisacanthus* (ca. 20 species, mostly from North America and South America) are known from Central America, this one and the recently described *A. nicaraguensis* Durkee from Nicaragua (Durkee 1999). According to Durkee (1999), *A. tetracaulis* differs from *A. nicaraguensis* by its shorter corollas (22–27 vs. 33–35 mm long), shorter calyces (6–9 vs. 11–15 mm long), shorter bracts and bracteoles (1.7–2.5 vs. 3.5–4.5 mm long), and shorter thecae (2.5–3.3 vs. 3.6–3.8 mm long). Leonard (1950) indicated that *A. tetracaulis* is related to the South American species, *A. caducifolius* (Griseb.) Lindau, which he indicated differed by its terete stems, shorter inflorescence, and smaller calyces. Daniel (2001) noted some of the distinctive characters of

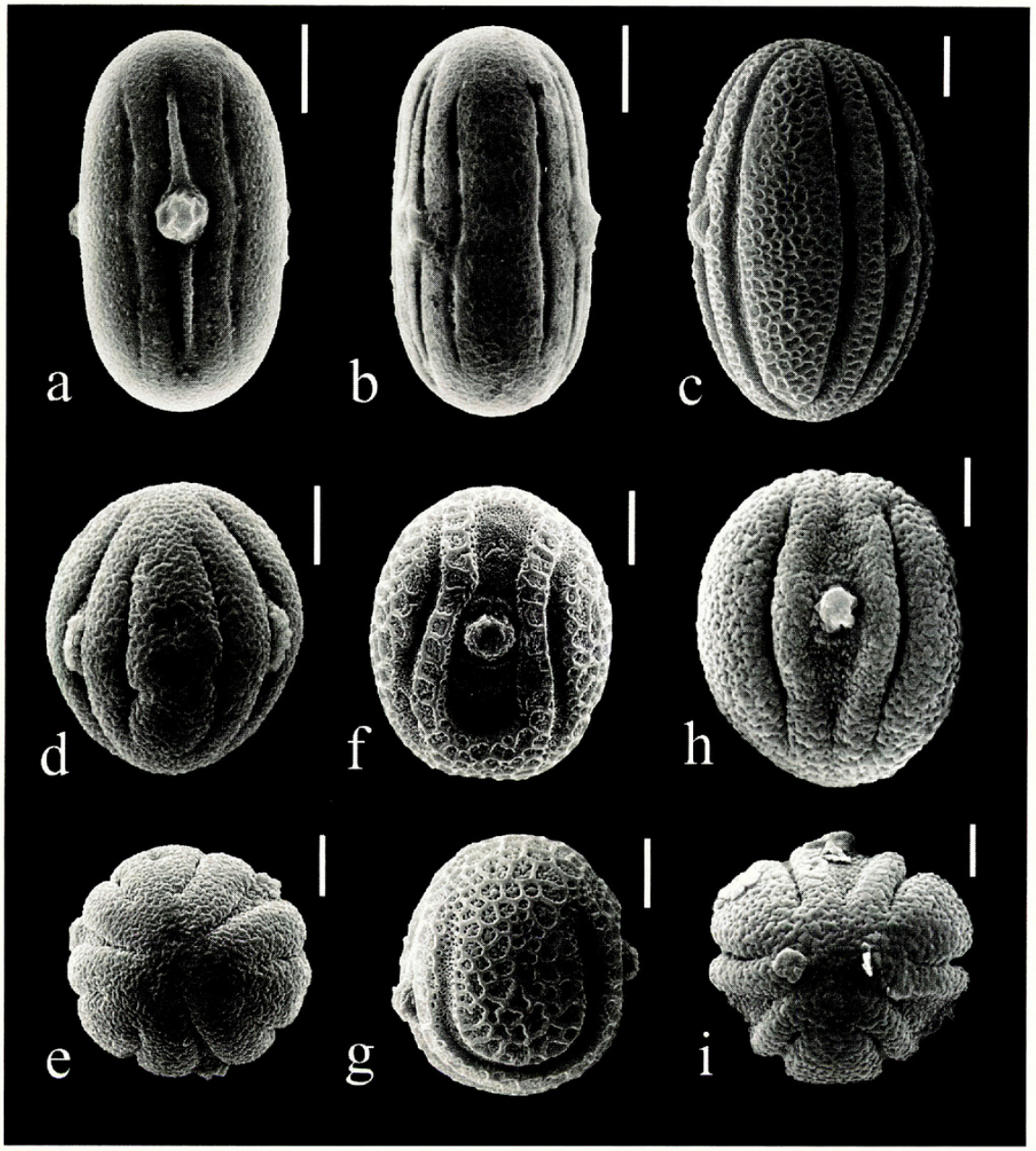

FIG. 2. Pollen of Honduran Acanthaceae. a. *Anisacanthus tetracaulis* (*Tucker 629* from El Salvador), apertural view. b. *A. tetracaulis* (*Tucker 629*), interapertural view. c. *Dicliptera* sp. (*Molina et al. 31415*), interapertural view. d. *Odontonema hondurense* (*Daniel & Araque 9500*), interapertural view. e. *O. hondurense* (*Daniel & Araque 9500*), polar view. f. *Dicliptera antidysenterica* (*Daniel & Araque 9612*), apertural view. g. *D. antidysenterica* (*Daniel & Araque 9612*), interapertural view. h. *Pseuderanthemum liesneri* (*Liesner 26343*), apertural view. i. *P. liesneri* (*Liesner 26343*), polar view. Scale bar: a, b = 15 μm; c, e = 9 μm; d, f, g = 10 μm; h, i = 6 μm.

A. tetracaulis with respect to Salvadoran Acanthaceae, but a full description of this poorly known species seems warranted and is provided above.

It appears that *Anisacanthus tetracaulis* is becoming rare in Honduras. It was rather commonly collected in the vicinity of Tegucigalpa and in the Yeguare Valley until about 1950. It has been collected only rarely since that time, and I was unable to locate populations of it during 2000 and 2001 in spite of extensive searching in regions where it had previously been collected. Both regions have experienced considerable increases in human population and environmental alteration in the years since 1950.

Aphelandra aurantiaca Lindl.

Phenology. Flowering: throughout the year; fruiting: December, March–April, July.

Distribution and habitat. Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Surinam, French Guiana, Ecuador, Peru, Bolivia, Brazil; moist forests, wet forests; 30–360 m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9483* (CAS, EAP, MO).—Cortés: La Cumbre desprendimiento de Sierra de Omoa, *A. Molina R. 3472* (EAP, F, US).—Islas de la Bahía: Guanaja, Fruit Harbour Bight, *W. Matamoros 187* (TEFH).—Yoro: Cordillera Nombre de Dios, ca. 2.5 km S of San José de Texíguat, between Río Guán Guán and Quebrada Aguacatal, 15°30'N, 87°27.5'W, *R. Evans 1316* (CAS, MO).

The narrow-leaved form of the species, sometimes treated as *A. repanda* Nees or *A. aurantiaca* var. *stenophylla* Standl., is known from northwestern Honduras (e.g., *Standley 52635* at EAP, *Standley 53875* at F). The type of the latter name is from this region: Atlántida: Lancetilla Valley near Tela, 150 m, wet forest, 22 December 1927, *Standley 53487* (holotype: F!).

Aphelandra dunlapiana Standl. & L. O. Williams

Perennial herbs or shrubs to 2 m tall. Young stems subquadrate to quadrate, evenly pubescent with erect to antrorse to antrorsely appressed eglandular trichomes 0.2–0.5 mm long. Leaves opposite, petiolate, petioles to 110 mm long, blades elliptic, 200–350 mm long, 66–138 mm wide, 2.3–4.0 times longer than wide, acuminate at apex, gradually or abruptly attenuate at base, surfaces pubescent (especially along major veins) with erect to flexuose to antrorse eglandular trichomes, margin entire to subsinuate. Spikes terminal, elongate, up to 180 mm long (excluding flowers), 40–49 mm in diameter (excluding flowers) near midspike, rachis evenly pubescent with erect to flexuose eglandular trichomes 0.3–0.6 mm long. Bracts tinged reddish when dry, spreading with age, ovate to elliptic to narrowly elliptic, 16–29 mm long, 4–10 mm wide, 2.9–4 times longer than wide, acute and erect at apex, abaxial surface and margin pubescent with flexuose to antrorse eglandular trichomes 0.2–0.4 mm long and distally pubescent with erect glandular trichomes 0.1–0.2 mm long as well, margin dentate with 1 (–2) teeth per side, teeth 0.2–3.5 (–4.5) mm long. Bracteoles often deciduous, subulate, 1.2–2.5 mm long, 0.2–0.4 mm wide, abaxial surface pubescent with antrorse eglandular trichomes 0.2–0.6 mm long. Calyx 9–14 mm long, lobes lanceolate to lance-ovate, 2–2.7 mm wide at base, subaristate to aristate at apex, abaxially pubescent with flexuose to antrorse eglandular trichomes 0.2–0.6 mm long. Corolla red, 60–67 mm long, externally pubescent with flexuose glandular (and a few eglandular) trichomes 0.3–1.2 mm long, upper lip 24–26 mm long, entire or 2-lobed at apex, lobes to 1 mm long, margin flared except at apex and base, lower lip ± perpendicular to or forming an obtuse angle with upper lip, 27–32 mm long, lateral lobes linear-elliptic, 22–24 mm long, 2.5–6 mm wide, lower-central lobe elliptic, 25–30 mm long, 7–12 mm wide, 1–1.3 times longer and 1.7–3.4 times wider than lateral lobes. Stamens 55–58 mm long, filaments pubescent with eglandular trichomes throughout length, thecae 6.5–7.5 mm long, apically pubescent with cobwebby trichomes, posterior pair extended up to 1.5 mm beyond anterior pair; pollen (Fig. 3a–c) 3-colpate; staminode not seen. Style 54–60 mm long, pubescent throughout length, stigma symmetrically funnelform, 0.2–0.3 mm long. Capsule 17–19 mm long, glabrous. Seeds ± flattened,

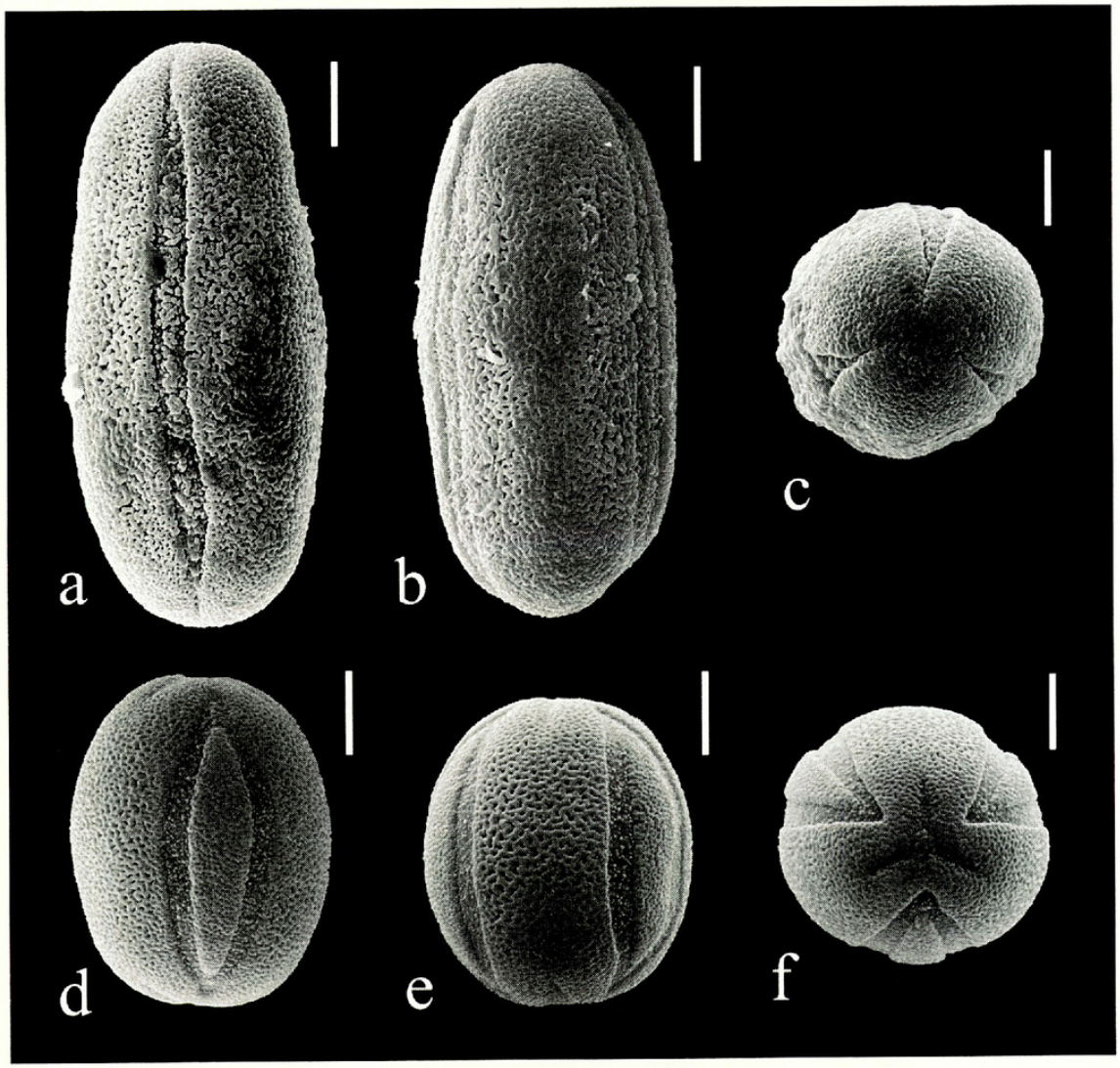

FIG. 3. Pollen of *Aphelandra dunlapiana* (*Hazlett et al. 8022*) and *A. molinae* (*Daniel & Araque 9885*). a. *A. dunlapiana*, apertural view. b. *A. dunlapiana*, interapertural view. c. *A. dunlapiana*, polar view. d. *A. molinae*, apertural view. e. *A. molinae*, interapertural view. f. *A. molinae*, polar view. Scale bar: a, b, f = 9 µm; c = 8 µm; d, e = 10 µm.

5–5.5 mm long, 4–4.5 mm wide, surface covered with unbranched papilla-like trichomes to 0.2 mm long.

Phenology. Flowering: April; fruiting: April.

Distribution and habitat. Endemic to Honduras; moist to wet forests; 150–270 m.

Representative Specimens. Atlántida: ravines E of Texíguat River, 1–2 km SW of aldea La Aurora, 15°30'N, 87°26'W, *D. Hazlett et al. 8022* (CAS, EAP).—Yoro: Cuenca de la Quebrada El Aguacatal, al S de San José de Texíguat, 15°30'16"N, 87°27"27"W, *J. González 704* (CAS, MO).

The specimens cited above represent the first collections of this species since the type [Atlántida: vicinity of San Alejo, at base of hills S of San Alejo near Río San Alejo, 22–27 April 1947, *P. Standley 7618* (holotype: F!; isotype: US!)] was collected in 1947. They reveal that this species, endemic to Honduras and with particularly showy flowers, persists in the Caribbean lowlands of the northwestern part of the country. The description of *A. dunlapiana* given above is based on all known collections.

Aphelandra molinae T. F. Daniel, sp. nov.—TYPE: HONDURAS. Lempira: Parque Nacional de Celaque, ca. 7 km W of Gracias, summit trail from visitor center to Las Minas, 14°33–34'N, 88°38–40'W, 1500 m, moist montane forest, 16–17 January 2001, *T. Daniel & J. Araque 9885* (holotype: CAS!; isotypes: EAP! MICH! MO! TEFH!). Fig. 4.

Frutex usque ad 1.5 m altus. Folia opposita, laminae ellipticae, 110–205 mm longae, 28–59 mm latae, 3.5–4.0-plo longiores quam latiores. Spicae ± elongatae, 40–55 mm diametro ad medium. Bracteae ovatae vel ellipticae vel obovatae, 28–40 mm longae, 12–15 mm latae, margine integrae, pagina abaxialis pubescens trichomatibus glandulosis et eglandulosis. Bracteolae lanceolatae, 15–18 mm longae. Corolla rubra, 67–70 mm longa, extus pubescens, labium inferum lobis lateralibus obovatis, 16–18 mm longis, 8.5–11 mm latis. Thecae 6–6.2 mm longae, pubescentes. Capsula pubescens trichomatibus eglandulosis.

Shrubs to 1.5 m tall. Young stems subterete to quadrate-sulcate, sparsely pubescent with antrorsely appressed eglandular trichomes 0.1–0.3 mm long. Leaves opposite, petiolate, petioles (naked portion) to 65 mm long, blades elliptic, 110–205 mm long, 28–59 mm wide, 3.5–4.0 times longer than wide, acuminate to falcate at apex, attenuate-decurrent at base, surfaces ± sparsely pubescent (especially along major veins) with antrorsely appressed eglandular trichomes, margin entire. Spikes terminal, ± elongate, up to 90 mm long (excluding flowers), 40–55 mm in diameter (excluding flowers) near midspike, rachis evenly and ± densely pubescent with erect to flexuose eglandular and glandular trichomes 0.3–0.7 mm long. Bracts maroon-tinged, ovate to elliptic to obovate, 28–40 mm long, 12–15 mm wide, 2.2–2.8 times longer than wide, erect to spreading, ± abruptly acuminate to subcaudate and erect to recurved-spreading at apex, abaxial surface and margin pubescent with erect to flexuose eglandular and glandular trichomes 0.1–0.6 mm long (glandular pubescent), margin entire. Bracteoles lanceolate, 15–18 mm long, 1.7–2.6 mm wide, abaxial surface glandular pubescent. Calyx 16–18 mm long, lobes free to base, lanceolate, 2.5–3 mm wide at base, abaxially glandular pubescent. Corolla red, 67–70 mm long, externally glandular pubescent, upper lip 24–26 mm long, emarginate at apex, lower lip perpendicular to upper lip to reflexed, 26–28 mm long, lateral lobes obovate, 16–18 mm long, 8.5–11 mm wide, lower-central lobe obovate, 25–27 mm long, 17–22 mm wide, 1.5–1.6 times longer and 1.8–2.1 times wider than lateral lobes. Stamens 49–55 mm long, posterior pair inserted 1 mm distal to anterior pair, filaments proximally pubescent with flexuose eglandular trichomes, distally sparsely pubescent to glabrous, thecae 6–6.2 mm long, all apically pubescent, posterior pair dorsally pubescent as well, anterior pair dorsally sparsely (if at all) pubescent; pollen (Fig. 3d–f) 3-colpate, each colpus with a fusiform band of thickened exine in the center, each pole with 3-armed aperturelike indentation; staminode 1 mm long. Style 60–63 mm long, pubescent with eglandular trichomes throughout, stigma 0.2–0.5 mm long, ± symmetrically funnelform. Capsule 17–23 mm long, pubescent with erect to flexuose to antrorse to retrorse eglandular trichomes 0.2–0.3 mm long. Seeds not seen.

Phenology. Flowering: January; fruiting: January.

Distribution and habitat. Endemic to western Honduras; moist montane forests; 1500 m.

This showy species is similar to *Aphelandra gigantiflora* Lindau in most features; however, it differs sufficiently from that taxon to warrant taxonomic recognition. These two species can be distinguished by the following couplet:

FIG. 4. *Aphelandra molinae* (*Daniel & Araque 9885*). a. Habit with flowers, ×0.6. b. Apex of stamen with anther, ×8. c. Distal portion of style with stigma, ×10.6. d. Capsule with calyx and one bracteole, ×2.4. e. Apex of bracteole showing pubescence, ×3.5. Drawn by Paul Hayes.

Bracts ± abruptly acuminate to subcaudate at apex; bracteoles 1.7–2.6 mm wide; lower lip of corolla with lateral lobes obovate, 8.5–11 mm wide, lower-central lobe 17–22 mm wide, 1.8–2.1 times wider than lateral lobes; thecae 6–6.2 mm long; Honduras. *A. molinae*

Bracts (rounded to) acute to gradually acuminate at apex; bracteoles 0.6–1.5 mm wide; lower lip of corolla with lateral lobes lance-linear to linear to linear-elliptic, 1–5.5 mm wide, lower-central lobe 8–17 mm wide, 3.1–8.6 times wider than lateral lobes; thecae 3.5–5.3 mm long; southern Mexico, Guatemala, and El Salvador. *A. gigantiflora*

The following key can be used to distinguish among the native species of *Aphelandra* now known from Honduras.

1. Abaxial surface of bracts with 2 submarginal clusters of padlike nectaries (up to 16 per cluster); corolla 30–45 mm long, lateral lobes of lower lip reduced to vestigial toothlike appendages up to 2.5 mm long and attached to upper lip. *A. scabra*
1. Abaxial surface of bracts without clusters of padlike nectaries; corolla 50–70 mm long, lateral lobes of lower lip conspicuous, 9.5–24 mm long, not attached to upper lip.
   2. Young stems ± flattened; bracts dentate with 7–15 teeth per side; lateral lobes of lower lip of corolla 9.5–15 mm long; thecae 4–5 mm long. *A. aurantiaca*
   2. Young stems subterete to quadrate to quadrate-sulcate; bracts entire or dentate with 1 (–2) teeth per side; lateral lobes of lower lip of corolla 16–24 mm long; thecae 6–7.5 mm long.
      3. Inflorescence rachis pubescent with eglandular trichomes only; bracts 16–29 mm long, 4–10 mm wide, 2.9–4 times longer than wide, acute at apex, margin dentate with 1 (–2) teeth per side; bracteoles subulate, 1.2–2.5 mm long; lateral lobes of lower lip of corolla linear-elliptic, 22–24 mm long, 2.5–6 mm wide; capsule glabrous. *A. dunlapiana*
      3. Inflorescence rachis pubescent with eglandular and glandular trichomes; bracts 28–40 mm long, 12–15 mm wide, 2.2–2.8 times longer than wide, ± abruptly acuminate to subcaudate at apex, margin entire; bracteoles lanceolate, 15–18 mm long; lateral lobes of lower lip of corolla obovate, 16–18 mm long, 8.5–11 mm wide; capsule pubescent. *A. molinae*

It is a pleasure to name this striking species in honor of Don Antonio Molina R. (b. 1926), long-time taxonomist with the Escuela Panamericana Agrícola, able collector of American plants, and dedicated proponent of Central American botany (Malo 1999).

Aphelandra scabra (Vahl) Sm.

Phenology. Flowering: September–April, July; fruiting: January–May.

Distribution and habitat. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Guyana, Surinam, Brazil; moist forests, pine forests, pine-oak forests, oak forests, thickets, along streams, brushy slopes; 0–1900 m.

Representative Specimens. Atlántida: Puerto Escondido, Punta Sal, 25 km O de Tela, *C. Nelson 7860* (TEFH).—Choluteca: near Bella Vista, *L. Williams & A. Molina R. 10897* (EAP).—Colón: base of Cerro Piedra Blanca, ca. 5 km NE of Bonito Oriental toward Limón, 15°46.5'N, 85°41'W, *R. Evans 1074* (CAS).—Comayagua: Siguatepeque, *J. Edwards 486* (UC, US).—Copán: 4 km N Copán Ruinas, *D. Lentz 1744* (EAP).—Cortés: Río Ulúa, Pimienta, *A. Molina R. 5626* (EAP, F).—El Paraíso: road to Yuscarán, Quebrado del Muro, *J. Swallen 11335* (NY, US).—Francisco Morazán: Río Yeguare near San Francisco, ca. 5 km S of El Zamorano, ca. 13°58'N, 86°59'W, *T. Daniel & J. Araque 9444* (CAS, EAP, MO).—Gracias a Dios: Barra Plátano, 15°53'N, 84°42'W, *P. Fryxell 2834* (CAS).—Intibucá: Quebrada Santiago near SW base of Sierra de Montecillos, ca. 24.5 km SW of Siguatepeque toward Jesús de Otoro, ca. 14°31'N, 87°59'W, *T. Daniel & J. Araque 9642a* (CAS, EAP).—Islas de la Bahía: Isla de Roatán, *C. Nelson & E. Romero 4584* (CAS).—La Paz: 300 m S de Guajiquiro, *R. Keyser 1384* (EAP).—Lempira: Celaque National Park, ca. 7 km W of Gracias, ca. 14°34'N, 88°38'W, *T. Daniel & J. Araque 9626* (CAS, EAP).—Ocotepeque: vicinity of Nuevo Ocotepeque, *P. Standley 27898* (EAP).—Olancho: lower slopes of Sierra de Agalta, 3–5 km above (N) of Catacamas, ca. 14°53'N, 85°54'W, *T. Daniel & G. Pilz 9598* (CAS, EAP).—Santa Bárbara: Lago Yojoa, Punta Gorda, 14°52'N, 88°00'W, *J. MacDougal et al. 3113* (CAS).—Valle: ca. 3.5 km SE of Coyolito on Isla Zacate Grande, ca. 13°19'N, 87°36'W, *T. Daniel & J. Araque 9821* (CAS, EAP, MO).—Yoro: Río Jacagua, 15 km O de Victoria, *C. Nelson et al. 7039* (TEFH).

The widespread occurrence (in all 18 departments) of this species in Honduras is likely a result of its broad ecological amplitude rather than "weediness," as in some other widely distributed Acanthaceae (e.g., *Blechum pyramidatum*).

Aphelandra sinclairiana Nees

This native of southern Central America, which differs from Honduran species by its orange bracts and pink corollas, is known only from cultivation in Honduras.

Representative specimens. Cortés: garden in San Pedro Sula, *T. Peréz E. s.n.* (EAP, F).

Asystasia gangetica T. Anderson

This native of Africa and the Indian Subcontinent is cultivated and possibly naturalized in Honduras.

Representative Specimens. Cortés: garden in San Pedro Sula, *T. Peréz E. s.n.* (EAP).—Gracias a Dios: cultivada en Puerto Lempira, *C. Nelson & E. Vargas 5166* (MO, TEFH).—Islas de la Bahía: Guanaja, Fruit Harbour Bight, *C. Nelson 9970* (TEFH).

Barleria cristata L.

This native of southern Asia is probably known only from cultivation in Honduras.

Representative Specimens. Francisco Morazán: Zamorano, cultivated, *J. Valerio R. 1093* (EAP, F).

Barleria oenotheroides Dum. Cours.

Phenology. Flowering: November–January, May; fruiting: December, March–May.

Distribution and habitat. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Guyana; pine-oak forests, pine forests, moist thickets, along streams; 250–1100 m.

Representative Specimens. Choluteca: Cerro Guanacauro, 15 km ESE de Choluteca, *C. Nelson 1457* (TEFH).—Comayagua: Chichipates, Río Yure, 30 km E Lago Yojoa, *C. Nelson et al. 6607* (MO, TEFH).—Copán: Hwy CA4 between Guatemalan border at Agua Caliente and Santa Rosa de Copán, at Río Higuito near village of Cucuyagua Copán, 14°39'N, 88°53'W, *T. Croat & D. Hannon 63862* (CAS).—El Paraíso: Montaña Cifuentes entre El Urraco y Cifuentes, *A. Molina R. 11421* (EAP, F, NY).—Francisco Morazán: Suyapa, *A. Molina R. 704* (EAP).—Intibucá: Quebrada Santiago near SW base of Sierra de Montecillos, ca. 24.5 km SW of Siguatepeque toward Jesús de Otoro, ca. 14°31'N, 87°59'W, *T. Daniel & J. Araque 9639* (CAS, EAP).—Lempira: Río Mejocote, 9 km de Gracias, *C. Nelson et al. 247* (MEXU, TEFH).—Olancho: Río Patuca, *G. Cruz 113* (TEFH).—Santa Bárbara: along river ca. 1 km E of Santa Bárbara, ca. 14°55'N, 88°14'W, *T. Daniel & J. Araque 9620* (CAS, EAP, K, MO, US).

New World collections of this species have long been identified with the name *Barleria micans* Nees. Daniel (1995a) and Balkwill and Balkwill (1997) have shown that American plants of *B. micans* are conspecific with the western African species *B. oenotheroides*.

Blechum grandiflorum Oerst.

Phenology. Flowering: January–April; fruiting: February–May.

Distribution and habitats. Mexico, Guatemala, Honduras, Nicaragua; cloud forests, moist forests, pine forests, moist thickets, cafetales; 400–1700 m.

Representative Specimens. Comayagua: Montañuelas, *A. Molina R. 11784* (EAP).—Cortés: cafetal Los Naranjos near Lago Yojoa, *J. Dickson J178* (EAP).—El Paraíso: Montaña Apauhis sobre Danlí,

1600 m, bosque de nubes, 24 Sep 1952, *A. Molina R. 5119* (type of *Ruellia latibracteata* D. N. Gibson: holotype: F!; isotypes: EAP! GH!).—Francisco Morazán: faldas de Cordillera de Misoco, *A. Molina R. 6054* (EAP, F).—Olancho: along Río Olancho, on road between San Estéban and Bonito Oriental, 3.3 mi SW of border with Colon Dept., along Río Grande, 20.8 mi SW of jct. in hwy to La Ceiba and Trujillo, 15°31'N, 85°42'W, *T. Croat & D. Hannon 64507* (CAS, EAP, MO).—Yoro: Piedra Colorada, *A. Molina R. 6885* (EAP, F).

Ruellia latibracteata is treated here as a synonym of *B. grandiflorum*. It was based on collections from several departments of Honduras (Gibson 1972). Most of the collections cited above were originally identified as "Ruellia locuples Standl. & L. Williams," a name that was never validly published. Similar collections from Mexico, Guatemala, and Nicaragua have been treated as either *R. mirandana* Ramamoorthy & Hornelas (Ramamoorthy & Hornelas 1988) or *Blechum grandiflorum* Oerst. (Daniel 1995b; Durkee 2001). Daniel (1995a) discussed the generic position of this species and the generic distinctions between *Blechum* and *Ruellia*. Plants of *R. latibracteata* from Honduras have the diagnostic characteristics of the former genus. Plants from the western portion of the range of the species (Mexico and Guatemala) differ from most of those in the eastern portion of the range (Honduras and Nicaragua; including the type of *R. latibracteata*) by having inconspicuous glandular trichomes on the surfaces of the bracts and bracteoles. Pubescence, if any, on the bracts and bracteoles of most plants from Honduras and Nicaragua consists of a few antrorse to antrorsely appressed eglandular trichomes mostly along the midvein. A few of the inconspicuous glands are evident on *Dickson J178* at EAP, however. In all other features, plants of *R. latibracteata* from Honduras concur with those treated as *B. grandiflorum* elsewhere in tropical America.

Blechum pyramidatum (Lam.) Urb.

Phenology. Flowering: November–June; fruiting: November–June.

Distribution and habitats. U.S.A., Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia, naturalized in the Old World; pine-oak forests, moist forests, wet thickets, disturbed thickets, waste ground, lawns, along streams; 20–1300 m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9479* (CAS, EAP, MO).—Choluteca: along road between Panamerican Hwy and Cedeño, ca. 1 km S of Las Llanitos, ca. lat. 13°17'N, 87°20'W, *T. Daniel & J. Araque 9815* (CAS, EAP, MO).—Colón: Trujillo, Barrio Cristales, *C. Nelson & J. Martínez 1219* (TEFH).—Comayagua: El Banco, *J. Valerio R. 2335* (EAP).—Copán: Río Copán cerca de Copán Ruinas, *A. Molina R. 6595* (EAP, F).—Cortés: Nacimiento del Río Lindo near Lake Yojoa, *L. Williams & A. Molina R. 12386* (EAP, F).—El Paraíso: Río de los Aguacates N of Yuscarán, *P. Standley 27994* (EAP).—Francisco Morazán: Río Yeguare near San Francisco, ca. 5 km S of El Zamorano, ca. 13°58'N, 86°59'W, *T. Daniel & J. Araque 9455* (CAS, EAP).—Gracias a Dios: Ahuas Bila, 200 km SO de Puerto Lempira, Río Wankí, *C. Nelson & G. Cruz 9318* (TEFH).—Intibucá: Quebrada Santiago near SW base of Sierra de Montecillos, ca. 24.5 km SW of Siguatepeque toward Jesús de Otoro, ca. 14°31'N, 87°59'W, *T. Daniel & J. Araque 9641* (CAS).—Islas de la Bahía: 4 km E of Coxenhole, Roatán Island, *A. Molina R. 20724* (EAP, F, US).—La Paz: Aldea La Florida, 25 km SE de Marcala, *M. Martínez M. 151* (MO).—Ocotepeque: vicinity of Nueva Ocotepeque, *P. Standley 27994* (EAP).—Olancho: ca. 2.5 km above (N) Catacamas on lower slopes of Sierra de Agalta, ca. 14°53'N, 84°54'W, *T. Daniel & G. Pilz 9585* (CAS, EAP).—Santa Bárbara: ca. 9 km SW of Peña Blanca, in wash near Los Laureles and along road to 2 km beyond toward El Higuerón, ca. 14°56'N, 88°04'W, *T. Daniel & J. Araque 9614* (CAS, EAP).—Valle: along road between Panamerican Hwy near San Lorenzo and Coyolito, vicinity of Santa Rosa, ca. 13°26'N, 87°32'W, *T. Daniel & J. Araque 9816* (CAS, EAP).—Yoro: Río Jalegua, 2 km N de Yoro, *C. Nelson & J. Martínez 1871* (TEFH).

Bravaisia integerrima (Spreng.) Standl.

Phenology. Flowering: February–May; fruiting: February.

Distribution and habitat. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela; primary forests; 10–90 m.

Representative Specimens. Choluteca: 4 km SO de Marcovia, *E. Alexander s.n. (74-16)* (TEFH).—Comayagua: Valle de Comayagua, *D. Hazlett 1189* (EAP).—Gracias a Dios: Cerro Sipul, 1 km E de Krausirpe, 15°03'N, 84°52'W, *P. House 2287* (BM, F, MEXU, MO, TEFH).

This is one of the few arborescent species of Acanthaceae; in Honduras, it reaches heights to 20 meters. Data on *House 2287* attribute a local name ("yauma") to the Tawahka inhabitants in Gracias a Dios, and note that this species is used for firewood and its ash is used to treat maize kernels before grinding them to make tortillas.

Carlowrightia arizonica A. Gray

Phenology. Flowering: March; fruiting: March.

Distribution and habitats. U.S.A., Mexico, Guatemala, Honduras, Nicaragua, Costa Rica; habitat unknown; 640 m.

Representative Specimens. Comayagua: El Banco, *J. Valerio R. 2470* (EAP, F).

Crossandra infundibuliformis (L.) Nees

This native of Africa, Arabia, and the Indian Subcontinent is known only from cultivation in Honduras.

Representative Specimens. Cortés: San Pedro Sula, *T. Peréz E. s.n.* (F).—Francisco Morazán: vicinity of El Zamorano, *P. Standley 25994* (EAP).

Dicliptera antidysenterica A. Molina R.

Perennial herbs or shrubs to 1.5 m tall. Young stems quadrate-sulcate to subhexagonal, ± bifariously pubescent with retrorse to retrorsely appressed eglandular trichomes 0.1–0.3 mm long. Leaves petiolate, petioles to 75 mm long, blades ovate to elliptic, 35–185 mm long, 18–104 mm wide, 1.2–2.1 times longer than wide, acuminate at apex, (truncate to) rounded to acute to subattenuate at base, surfaces pubescent (especially along major veins) with flexuose to antrorse eglandular trichomes. Inflorescence of pedunculate cymes in axils of distal leaves and subfoliose bracts (inflorescence bracts) at or near shoot apex, inflorescence bracts often caducous, rachis pubescent with retrorse to retrorsely appressed eglandular trichomes 0.2–0.4 mm long, trichomes ± concentrated in 2 vertical lines, cymes (1–) 2–3 (–4) per axil, opposite at nodes, peduncles 2–23 mm long, pubescent like rachis, inflorescence bracts petiolate, ovate to narrowly elliptic, 8–18 mm long, 2–5.5 mm wide, pubescent like leaves, paired bracts subtending cymes lance-subulate to lanceolate to lance-ovate to linear, 5–14 mm long, 0.8–2.2 mm wide, abaxial surface nearly glabrous to sparsely pubescent with eglandular trichomes, margin ciliate with erect to flexuose eglandular trichomes to 1.2 mm long; cymules (3–) 4–6 (–7) per cyme, sessile to pedunculate, peduncles to 3 mm long. Outer cymule bracteoles unequal, the larger one obovate (to obovate-elliptic), 8–17 mm long, 1.2–1.7 times longer than shorter one, 2.4–7 mm wide, the shorter one elliptic to ovate, 6.5–10 mm long, 1.8–3 mm wide, both bracteoles rounded to acute (or sometimes slightly apiculate) at apex, mucro absent (or if

present, then up to 0.2 mm long), abaxial surface pubescent with flexuose to antrorse to antrorsely appressed eglandular trichomes 0.1–0.4 mm long, adaxial surface pubescent with flexuose glandular and eglandular trichomes to 0.4 mm long, margin ciliate with erect to flexuose eglandular trichomes to 1.5 mm long. Inner cymule bracteoles lanceolate, 5.5–9 mm long, 0.9–1.4 mm wide, abaxial surface pubescent with flexuose to antrorse eglandular trichomes 0.2–0.3 mm long. Calyx 4–5.5 mm long, lobes subulate, unequal, 3–4 mm long, abaxially pubescent like inner cymule bracteoles. Corolla resupinate, cream-white with faint maroon markings on upper lip, 15–19 mm long, externally pubescent with flexuose eglandular and sometimes glandular (sparse and inconspicuous when present) trichomes 0.2–0.8 mm long, tube 7.5–9.5 mm long, 1–1.5 mm in diameter near midpoint, upper lip 7–11 mm long, 3-lobed, lobes 0.3–0.6 mm long, lower lip 7–11 mm long, entire. Stamens inserted near mouth of corolla tube, 10–12 mm long, filaments pubescent with eglandular (and sometimes a few glandular) trichomes, thecae 1–1.4 mm long, ± equal in size, subparallel to subperpendicular, unequally inserted (overlapping by 0.4–0.7 mm long), dehiscing toward upper lip; pollen (Fig. 2f, g) 3-colporate, 6-pseudocolpate with much deformity and/or fusion of pseudocolpi. Style 14–15 mm long, pubescent with eglandular trichomes, stigma lobes 0.3–0.5 mm long. Capsule substipitate, 6.5–7.5 mm long, pubescent with flexuose glandular (especially near apex) and eglandular trichomes 0.1–0.5 mm long, stipe 0.5–0.8 mm long. Seeds 2.3–3 mm long, 2.2–3 mm wide, surface knobby with low, rounded papillae.

Phenology. Flowering: February–May; fruiting: February–May.

Distribution and habitats. Endemic to Honduras; moist forests, along streams, along trails, cafetales; 760–2100 m

Representative Specimens. Comayagua: along Quebrada Agua Helada, just outside San José de Los Planes, ca. 14 km E of Lago Yojoa, 14°47'N, 87°51'W, *R. Evans 1343* (CAS, EAP, MO, TEFH).—Cortés: cafetal Los Naranjos near Lago Yojoa, *J. Dickson J177* (EAP).—Santa Bárbara: E slopes of Cerro Santa Bárbara, 2100 m, 4 Apr 1951, *P. Allen et al. 6054* (holotype: F!; isotypes: EAP! US!).

In the protologue, Allen's type collection number is erroneously cited as "6056." This species is usually equated with *D. sumichrasti* Lindau (e.g., Gibson 1974), a species described from Mexico. Although studies of *Dicliptera* in Mexico and Central America are incomplete, the distinctions between *D. antidysenterica* and *D. sumichrasti* appear as great as between numerous other species currently recognized in the genus. *Dicliptera antidysenterica* and *D. sumichrasti* can be distinguished by the following couplet:

Inflorescence bracts ovate to narrowly elliptic; outer cymule bracteoles rounded to acute (sometimes slightly apiculate) at apex, emucronate (or mucro, if present, up to 0.2 mm long), margin ciliate with erect to flexuose trichomes to 1.5 mm long; inner cymule bracteoles 5–9 mm long; calyx 4–5.5 mm long; external surface of corolla pubescent with eglandular trichomes only (or glands, if present, very sparse and inconspicuous); capsules pubescent with eglandular and glandular (sometimes only near apex) trichomes. *D. antidysenterica*

Inflorescence bracts lanceolate; outer cymule bracteoles acute to spinose-aristate at apex with mucro to 1 mm long, margin ciliate with antrorse eglandular trichomes 0.1–0.2 mm long; inner cymule bracteoles 3.5–4.7 mm long; calyx 3–3.5 mm long; external surface of corolla pubescent with glandular (conspicuous) and eglandular trichomes; capsules pubescent with eglandular trichomes only. *D. sumichrasti*

In the protologue of *D. antidysenterica*, Molina (1965) noted that roots of of this species (and others of this genus) are crushed and cooked in order to make a remedy for amoebic dysentery in rural regions of Honduras.

Dicliptera sexangularis (L.) Juss.

Phenology. Flowering: February–April; fruiting: March–May.

Distribution and habitats. U.S.A., Mexico, Guatemala, Belize, El Salvador, Honduras, Panama, West Indies, Colombia, Venezuela, Surinam, French Guiana, Brazil; moist forests, moist thickets, dry thickets, disturbed areas, along streams; 0–900 m.

Representative Specimens. Comayagua: Quebrada Jeto, vicinity of Comayagua, *P. Standley & J. Chacón P. 6000* (EAP, F).—Cortés: vicinity of La Lima, Río Chamelecón, *P. Standley & J. Chacón P. 7092* (EAP, F).—El Paraíso: Montaña Apahuis, N of Danlí above Los Arcos, ca. 14°01'N, 86°33'W, *T. Daniel & J. Araque 9843a* (CAS, EAP).—Francisco Morazán: finca in Agua Blanca, ca. 5 km SW of Talanga, ca. 14°24'N, 87°07'W, *T. Daniel & G. Pilz 9578* (CAS, EAP).—Islas de la Bahía: Roatán Island, *A. Molina R. 20652* (EAP, F, US).—Olancho: ca. 2.5 km above (N) Catacamas on lower slopes of Sierra de Agalta, ca. 14°53'N, 84°54'W, *T. Daniel & G. Pilz 9584* (CAS, EAP, MO, US).—Santa Bárbara: Los Dragos on Río Chamelecón, SW of Quimistán, *P. Standley & H. Lindelie 7319* (EAP, F).

Dicliptera unguiculata Nees

Phenology. Flowering: November–April; fruiting: November–April.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Venezuela, Ecuador, Peru; moist forests, pine-oak forests, moist thickets, along streams, disturbed areas; 800–2000 m.

Representative Specimens. Choluteca: vicinity of San Marcos de Colón, *P. Standley 15737* (EAP, F).—Comayagua: Siguatepeque, *J. Valerio R. 2716* (EAP, F).—Cortés: Aldea Santa Elena, 10 km E de Lago Yojoa, *R. Maldonado 84* (TEFH).—El Paraíso: Mandasta, along road between Manzanagua and Morolica, ca. 8 km SE of San Lucas, 13°44'N, 86°55'W, *T. Daniel & J. Araque 9809* (BR, CAS, EAP, K, MO, TEFH, US).—Francisco Morazán: Zamorano, *J. Valerio R. 3747* (EAP, F, US).—Intibucá: vicinity of La Esperanza and Intibucá, *P. Standley 25599* (EAP, F).—La Paz: near Marcala, *F. Barkley & M. Hernández M. 40073* (GH, TEFH).—Ocotepeque: vicinity of Nuevo Ocotepeque, *P. Standley 27894* (EAP).

Information on the label of *Molina R. 27344* notes the local name "quita díarrea" for this species, and Nelson (1986) noted that it is used as a remedy for dysentery.

Dicliptera sp.

Ocotepeque: 10 km NE of Sinuapa, 1300 m, stream bank in mixed forest, 24 January 1976 (flr), *A. Molina R. et al. 31415* (EAP).

Several superficially similar species have been described from Guatemala (e.g., *D. debilis* Leonard, *D. guttata* Standl. & Leonard, *D. inutilis* Leonard, and *D. membranacea* Leonard), but their status and range of morphological variation have not been adequately studied. Several of these species are known only by the types, which are sometimes fragmentary. The Honduran collection noted above superficially resembles these species and *D. antidysenterica*, but differs from all of them by the following combination of characters: paired bracts subtending cymes linear to elliptic, 8.5–10 mm long, 1.1–2.7 mm wide; cymules 3 per cyme, sessile to subsessile; outer cymule bracteoles obovate, unequal, 10.5–15, 4–6 mm wide, abaxially sparsely pubescent eglandular trichomes, margin ciliate with flexuose eglandular trichomes to 1.3 mm long, apex rounded-apiculate; and corolla "fuchsia," resupinate, 30 mm long, externally pubescent with glandular and eglandular trichomes. It may represent an undescribed species, but it would seem imprudent to describe yet another species in this complex, based on a single and fragmentary specimen, at the present time. A better understanding of species of *Dicliptera* in Central America and fruiting collections resembling *Molina R. et al. 31415* should ultimately assist in determining its status. Pollen from this collection is shown in Fig. 2c.

Dyschoriste capitata (Oerst.) Kuntze

Phenology. Flowering: February–July; fruiting: February–July.

Distribution and habitats. Mexico, Guatemala, Honduras, Nicaragua; pine forests, open savannas, wet meadows, dry meadows; 1050–1500 m.

Representative Specimens. Comayagua: Siguatepeque, *A. Clewell 3147* (EAP).—Francisco Morazán: Zambrano, *A. Molina R. 14255* (EAP).—Intibucá: alrededores de La Esperanza, Cerro San Cristóbal, *J. Martínez & C. Bejarano 158* (MO, TEFH).

Dyschoriste quadrangularis (Oerst.) Kuntze

Phenology. Flowering: October–April; fruiting: November–April.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua; moist forests, moist thickets, dry thickets, along streams, disturbed areas; 480–1100 m.

Representative Specimens. Choluteca: vicinity of San Marcos de Colón, *P. Standley 15702* (EAP).—Comayagua: vicinity of Comayagua, *P. Standley & J. Chacón P. 5673* (EAP, F).—Copán: Copán Ruinas airport, *A. Molina R. et al. 32179* (EAP, MO).—El Paraíso: edge of dry lake near Galeras, 800 m, 5 January 1947, *L. Williams & A. Molina R. 11541* (type of *D. hondurensis* Leonard: holotype: US!; isotypes: EAP! GH!).—Francisco Morazán: grounds of Escuela Agrícola Panamericana in El Zamorano, S of livestock sheds, ca. 14°01'N, 87°01'W, *T. Daniel 9788* (CAS, EAP, MO, TEFH).—La Paz: 3 km N de La Paz, *B. Holst 362* (EAP).—Olancho: ca. 1 km upstream on Río Boquerón from Puente Boquerón on Juticalpa–Catacamas hwy., ca. 12 km SW of Catacamas, ca. 14°47'N, 86°00'W, *T. Daniel & G. Pilz 9582* (CAS, EAP).

Examination of the type of *D. hondurensis* Leonard reveals it to be similar in all characters to the widely distributed *D. quadrangularis*, and the former name is herewith placed into the synonymy of the latter. Color of the corollas of plants from Honduras varies from white to pink to purplish. The type of *D. hondurensis* was noted to have blue flowers.

Elytraria imbricata (Vahl) Pers.

Phenology. Flowering: October–May; fruiting: October–May.

Distribution and habitats. U.S.A., Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Ecuador, Peru, Bolivia, Brazil, Argentina; moist forests, moist thickets, dry forests, dry thickets, disturbed areas; 20–950 m.

Representative Specimens. Choluteca: La Laguna, *L. Williams & A. Molina R. 12681* (EAP, F).—Comayagua: 11 km O de Zambrano, *C. Nelson & R. Andino 12570* (TEFH).—Copán: Copán Ruins airport, *A. Molina R. et al. 32159* (EAP).—Cortés: Ocote Arrancado, 50 km N de Lago de Yojoa, *C. Nelson et al. 5632* (MO, TEFH).—Francisco Morazán: grounds of Escuela Agrícola Panamericana in El Zamorano, ca. 14°01'N, 87°01'W, *T. Daniel 9464* (CAS, EAP).—Intibucá: Agua Caliente, Las Marías, *J. Martínez 422* (TEFH).—Olancho: between Juticalpa and La Concepción, *P. Standley 17905* (EAP, F).—Santa Bárbara: carretera Chamelecón–Confradía, *A. Molina R. 3872* (EAP, F, GH).—Valle: along road between Puerto Solo and Coyolito, ca. 7 km NE of Coyolito, ca. 13°21'N, 87°36'W, *T. Daniel & J. Araque 9818* (CAS, EAP, TEFH).—Yoro: Victoria, Río Sulaco, *C. Nelson et al. 7178* (MO, TEFH).

The species generally has blue corollas, and those Honduran collections that note corolla color also indicate blue corollas. *Daniel 9824* from Francisco Morazán has corollas entirely white. The population from which this collection was made occurs in a pine plantation on the grounds of the Escuela Agrícola Panamericana. In this population, the ratio of plants with blue flowers to those with white flowers was approximately 1:1 among about 100 individuals seen. Plants grown from seed from these white-flowered individuals have white flowers themselves. Thus, they do not appear to represent an albinic form, but rather an unusual local expression of the species or an unrecognized taxon.

Eranthemum pulchellum Andr.

This native of the Indian Subcontinent is known only from cultivation in Honduras.

Representative specimen. Francisco Morazán: El Picacho, Tegucigalpa, *J. Valerio R. 3631* (EAP, F).

Fittonia albivenis (Lindl. ex Veitch) Brummitt

This native of Andean South America is known only from cultivation in Honduras.

Representative specimen. Cortés: garden in San Pedro Sula, *P. Standley 29479* (EAP).

Graptophyllum pictum (L.) Griff.

This species presumably is native to insular Malesia and is known only from cultivation in Honduras.

Representative specimen. Cortés: Aldea El Zapotal, 15 km NE de San Pedro Sula, *C. Ortega 199* (TEFH).—Francisco Morazán: Zamorano, *J. Valerio R. 3026* (EAP, F).

Hemigraphis alternata (Burm. f.) T. Anderson

This species presumably is native to insular Malesia. It is cultivated in Honduran gardens and purportedly escapes therefrom on occasion. Information on the label of *Molina R. 10380* notes that the plants were a probable escape from cultivation.

Representative Specimens. Atlántida: cerca de Estación Experimental de Lancetilla, *A. Molina R. 10380* (EAP, F).—Comayagua: vicinity of Siguatepeque, *P. Standley & J. Chacón P. 6646* (F).—Cortés: San Pedro Sula, jardín, *T. Peréz E. s.n.* (EAP).—Francisco Morazán: cultivada en jardín, campus de la EAP, El Zamorano, *A. Molina R. 14576* (LL).

Henrya insularis Nees ex Benth.

Phenology. Flowering: April–May; fruiting: April–June.

Distribution and habitats. U.S.A., Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica; dry thickets; 170–1800 m.

Representative Specimens. Francisco Morazán: Río Guarabuqui, terranos de los indios Xicaques de la Montaña de La Flor, *A. Molina R. 3017* (EAP, F).—La Paz: 6 km N de La Paz, Valle de Comayagua, *B. Holst 1677* (CAS, EAP, MO).—Santa Bárbara: hwy to Copán at double S curve, *J. Dickson 1443* (EAP, US).

Herpetacanthus panamensis Leonard

Phenology. Flowering: November; fruiting: November.

Distribution and habitats. Honduras, Nicaragua, Costa Rica, Panama; moist to wet forests; ca. 600 m.

Representative specimen. Yoro: Cordillera Nombre de Dios, slopes above E part of San José in Río León Valley, between Río Texíguat and Río Guán Guán, 15°30.5'N, 87°27'W, *J. MacDougal et al. 3291* (CAS, MO).

This is the first report of this genus and species in Honduras and represents the northernmost known station for both. *Herpetacanthus* Nees comprises about 10 species occurring in Central America and South America (primarily Brazil). The genus resembles *Justicia* in many features, but its androecium consists of four (vs. two in *Justicia*) fertile stamens (one pair dithecous and one pair monothecous). Indeed, molecular data indicate closer affinities to a lineage of Justicieae including *Pseuderanthemum* and *Odontonema* than to the lineage including *Justicia* (McDade et al. 2000).

Pollen of the two known Central American species is 3-colporate, 6-pseudocolpate. The sole Honduran collection differs from those of *H. panamensis* in southern Central America by its glabrous (vs. sparsely pubescent, at least distally) capsules and inconspicuously (vs. conspicuously) ciliate bracts. It lacks corollas but label data on the specimen notes that buds were white.

Hygrophila costata Nees

Phenology. Flowering: September, December–June; fruiting: September, December–June.

Distribution and habitats. U.S.A., Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Surinam, French Guiana, Ecuador, Peru, Bolivia, Brazil, Paraguay, Uruguay, Argentina; moist forests, wet thickets, along streams; 50–1200 m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9484* (CAS, EAP, K, MO, US).—Choluteca: vicinity of San Marcos de Colón, *P. Standley 15780* (EAP, F).—Colón: Trujillo, Río Negro, *S. Cerna 112* (MO, TEFH).—Comayagua: Siguatepeque, *J. Valerio R. 2667* (EAP, F).—Francisco Morazán: Col. Germania, Río Choluteca, *R. Rodríguez 134* (TEFH).—Gracias a Dios: Quebrada de Unawas, 3 km NE de Krausirpe, 15°03'N, 84°50'W, *P. House 1816* (F, MO, TEFH).—Olancho: ca. 22 km NE of Catacamas on road to Dulce Nombre de Culmí, ca. 14°54'N, 85°43'W, *T. Daniel & G. Pilz 9592* (CAS, EAP, MO).

Hypoestes phyllostachya Baker

Phenology. Flowering: October, January–May; fruiting: October, January–May.

Distribution and habitats. Madagascar; both widely cultivated and naturalized in the American tropics; gardens, disturbed areas (e.g., roadsides), moist forests, pine-oak forests, dry forests; sea level to 1850 m.

Representative Specimens. Atlántida: garden in Tela, *A. Molina R. & A. Molina 34699* (EAP).—Comayagua: Aldea Agua Dulce, 14 km NE de Siguatepeque, *S. Ramos 107* (TEFH).—El Paraíso: Montaña Navijupe, Frijolares, between Galeras and Manzanagua, 2 km N of Manzanagua, 13°50'N, 86°59'W, *T. Daniel & J. Araque 9794* (CAS, EAP, MO).—Francisco Morazán: along road to Parque Nacional La Tigra, 22–25 km NE of Tegucigalpa, 14°12'N, 87°07'W, *T. Croat & D. Hannon 63977* (CAS, EAP).—La Paz: 7 km S de Marcala, cultivada, *R. Keyser 1643* (EAP).—Yoro: Armenia public school garden, *A. Molina R. 33829* (EAP).

This species is both cultivated and naturalized in Honduras.

Justicia aurea Schltdl.

Phenology. Flowering: September–April; fruiting: March.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama; wet forests, moist forests, moist thickets; 8–1600 m.

Representative Specimens. Atlántida: Estación Experimental de Lancetilla, *A. Molina R. 10397* (EAP, F).—Cortés: W side of Lake Yojoa near Peña Blanca, *L. Williams & R. Williams 18736* (EAP, F, GH, US).—El Paraíso: vicinity of Danlí, *P. Standley 16525* (EAP, F).—Francisco Morazán: San Juancito camino a Montaña La Tigra, *A. Molina R. 8823* (EAP, F, US).—Gracias a Dios: between Río Plátano and camp, Camp Tiro, 2 mi NW of Bulebar, ca. 15°43'N, 84°50'W, *J. Saunders 1148* (NY).—Lempira: camino a la Montaña Puca entre Guatán y Cuábanos, *A. Molina R. 12910* (EAP, F, NY).—Olancho: trail between Catacamas and La Presa, N of Catacamas, *P. Standley 18565* (EAP, F).—Santa Bárbara: carretera Chamelecon–Cofradia, *A. Molina R. 3860* (F, GH, US).—Yoro: camino de Yoro a la montaña Buenos Aires, *C. Nelson & J. Martínez 1766* (TEFH).

This native species is sometimes cultivated in Honduras.

Justicia brandegeana Wassh. & L. B. Sm.

This native of eastern montane Mexico is cultivated in Honduras. Because several herbarium specimens do not indicate that the plants were cultivated, the species might have become naturalized in some places as well. Possibly naturalized plants occur in moist and dry forests at elevations from 460 to 1500 m. Plants flower and fruit from January through July.

Representative Specimens. Copán: Copán Ruinas, *A. Molina R. & A. Molina 34278* (EAP, MO).—Cortés: vicinity of La Lima, *P. Standley & J. Chacón P. 7210* (EAP, F).—El Paraíso: 5 km S de El Paraíso, *N. Pastor 796* (EAP).—Francisco Morazán: Santa Lucia, 10 km NE de Tegucigalpa, *I. Cámbar 166* (CAS, MO).—Lempira: Gracias, *C. Nelson et al. 289* (TEFH).—Olancho: Aldea de Casas Viejas, 6 km NO de Juticalpa, *F. Flores 151* (NY).

Justicia breviflora (Nees) Rusby

Phenology. Flowering: March, December; fruiting: March, December.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras; wet forests; 240–300 m.

Representative Specimens. Cortés: Montaña de Río Piedras, *A. Molina R. 3545* (EAP, GH).

This species is apparently known only from two Honduran collections, that cited above and *C. Thieme 5401* (US) from San Pedro Sula.

Justicia calliantha Leonard

Perennial herbs or shrubs to 2 m tall or long, sometimes weak and clambering. Young stems subterete to subquadrate, multistriate with greenish striate depressions, evenly or bifariously pubescent with flexuose to retrorse eglandular trichomes 0.2–1 mm long. Leaves petiolate, petioles to 18 mm long, blades ovate to broadly ovate to cordate, 25–103 mm long, 16–56 mm wide, 1.3–1.9 times longer than wide, (rounded to) acute to acuminate at apex, truncate to rounded to cordate at base, surfaces pubescent (mostly along major veins) with erect to flexuose eglandular trichomes, margin entire. Inflorescence of opposite or alternate pedunculate clusters of flowers in leaf axils, peduncles 5–17 mm long, evenly pubescent with erect to flexuose eglandular trichomes 0.1–1 mm long, clusters 1–5-flowered, 1 cluster per axil, sometimes with a short rachis evident among flowers, rachis (if present) pubescent like peduncles. Bracts opposite to alternate, (lance-ovate to) subulate, 3–5.3 mm long, 0.5–1.3 mm wide, abaxial surface pubescent with an understory of erect eglandular and/or subglandular to glandular trichomes to 0.1 mm long and an overstory of erect to flexuose eglandular (and sometimes glandular) trichomes 0.2–0.5 mm long. Bracteoles subulate, 3.5–6 mm long, 0.5–7 mm wide, pubescent like bracts. Flowers sessile to short-pedicellate (i.e., pedicels to 2 mm long). Calyx 4-lobed, 6–9.5 mm long, lobes lanceolate, 4–8 mm long, 0.8–1.3 mm wide, abaxially pubescent with an understory of erect subglandular to glandular trichomes to 0.1 mm long and an overstory of erect to flexuose glandular and eglandular trichomes 0.2–0.3 mm long. Corolla red, 29–33 mm long, external surface pubescent with erect to flexuose glandular and eglandular trichomes 0.1–0.3 mm long, tube 15–18 mm long, gradually expanded distally, 2.8–3 mm in diameter near midpoint, throat not evident, upper lip 13–17 mm long, 2-lobed, lobes to 0.5 mm long, lower lip 16–19 mm long, lobes 0.5–1.5 mm long, 0.8–2 mm wide, central lobe largest. Stamens 14–16 mm long, filaments glabrous (at least distally), thecae 2–3.2 mm long, subparallel to perpendicular, unequally inserted, overlapping by 1.9–2 mm, unequal in size (distal theca larger), distal theca dorsally

pubescent with eglandular trichomes; pollen (Fig. 5a) 2-aperturate, apertures flanked on each side by 2 rows of insulae. Style 26–31 mm long, proximally pubescent with eglandular trichomes, distally glabrous, stigma unequally 2-lobed, 1 lobe 0.2 mm long, other lobe rudimentary. Capsule 15–20 mm long, externally pubescent with erect to retrorse glandular and eglandular trichomes to 0.2 mm long, head ellipsoid with medial constriction, 9–13 mm long. Seeds 4, 3.8–4.8 mm long, 3.5 mm wide, surfaces and margin with prominent conical tubercles.

Phenology. Flowering: November–March; fruiting: December–March.

Distribution and habitats. Endemic to Honduras; oak forests, thornscrub, along streams; 600–1050 m.

Representative Specimens. Comayagua: Los Jícaros, 5 km SE de Lamaní, *B. Holst 626* (EAP).—El Paraíso: Las Casitas, *P. Standley et al. 620* (EAP, F).—Francisco Morazán: Río Yeguare near San Francisco, 800 m, rocky knolls, 24 November 1946, *L. Williams & A. Molina R. 10971* (holotype: US!; isotype: EAP!).

This species is very similar to three species from Mexico and Central America, *Justicia nicaraguensis* Durkee, *J. sulphurea* (Donn. Sm.) D. N. Gibson, and *J. torresii* T. F. Daniel. It differs from all of these by its corollas, which are red (vs. yellow or orange) and pubescent with both glandular and eglandular (vs. eglandular only) trichomes.

Justicia candelariae (Oerst.) Leonard

Phenology. Flowering: January–April; fruiting: March–April.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras, Costa Rica, Panama; moist forests; 970–1500 m.

Representative Specimens. Comayagua: Quebrada El Rincón, between El Portillo and El Porvenir, 10 km W of Siguatepeque, *A. Molina R. & A. Molina 25461* (EAP, F, US).—La Paz: La Florida de Marcala, 1 km N de la escuela nueva, *R. Keyser 1707* (EAP).

Justicia carthagenensis Jacq.

Phenology. Flowering: October–January; fruiting: November–January.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Surinam, French Guiana, Ecuador, Peru; scrub forests, swampy thickets, disturbed thickets, along streams; 0–960 m.

Representative Specimens. Choluteca: along road between Panamerican Hwy and Cedeño, ca. 1 km S of Las Llanitos and ca. 14 km S of Panamerican Hwy, 13°17'N, 87°20'E, *T. Daniel & J. Araque 9814* (CAS, EAP, MO, TEFH).—Comayagua: Agua Caliente, vaguada de ríos Chamo y Humuya, *C. Nelson et al. 6502* (TEFH).—Cortés: orilla del Río Humuya, 40 km N Santa Cruz de Yojoa, *C. Nelson et al. 5839* (MO, TEFH).—Francisco Morazán: Valle de Zamorano, 30 km E de Tegucigalpa, *A. Oviedo 2* (TEFH).—Gracias a Dios: Río Segovia, *C. Nelson & E. Vargas 4972* (MO, TEFH).—Valle: along Salamar beach, 2 km E of San Lorenzo, Fonseca Gulf, *A. Molina R. & A. Molina 22760* (DS, EAP, F, NY).—Yoro: Victoria, Río Sulaco, *C. Nelson 7035* (MO, TEFH).

Justicia ciriloi T. F. Daniel, nom. nov. *Beloperone blechioides* Leonard, J. Wash. Acad. Sci. 32: 186.1942, non *Justicia blechoides* (Lindau) Stearn, 1971.—Type: Guatemala. Chiquimula: Montaña Nonojá, 3–5 mi. E of Camotán, 600–1800 m, 11 Nov 1939, *J. Steyermark 31740* (holotype: F!).

Perennial herbs to 1 m tall. Young stems subterete to subquadrate, pubescent with an inconspicuous understory (sometimes absent) of erect glands 0.05–0.5 mm

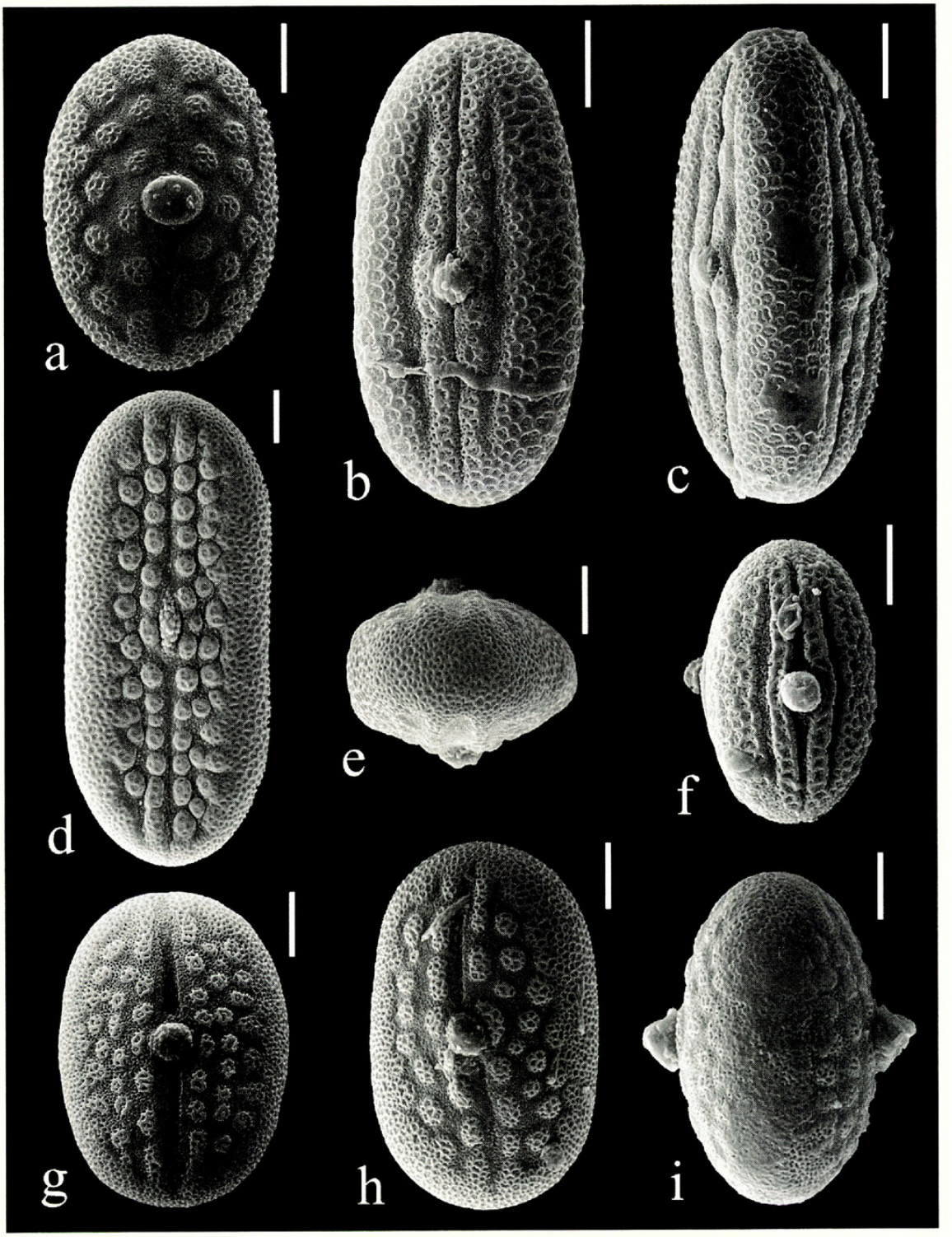

FIG. 5. Pollen of *Justicia*. a. *J. calliantha* (*Molina R. 18571*), apertural view. b. *J. ciriloi* (*Nelson et al. 6773*), apertural view. c. *J. ciriloi* (*Nelson et al. 6773*), interapertural view. d. *J.* sp. (*Dickson 1450*), apertural view. e. *J.* sp. (*Dickson 1450*), polar view. f. *J. tuxtlensis* (*Molina 20851*), apertural view. g. *J. ramulosa* (*Croat & Hannon 64117*), apertural view. h. *J. ramulosa* (*Wood 11161* from Bolivia), apertural view. i. *J. ramulosa* (*Zardini 4585* from Paraguay), interapertural view. Scale bar = 10 μm.

long and an overstory of erect to flexuose eglandular trichomes 0.5–1.5 mm long, trichomes ± evenly disposed (at least on youngest growth) or concentrated in (but not restricted to) 2 lines. Leaves petiolate, petioles to 27 mm long, blades ovate, 50–135 mm long, (17–) 23–62 mm wide, 2–2.9 times longer than wide, acuminate at apex, rounded to acute to subattenuate at base, surfaces pubescent with flexuose to

antrorse eglandular trichomes and abaxial surface (especially midvein) and margin with an understory of glandular trichomes 0.05–0.5 mm long as well, glandular trichomes present on leaves even when absent on young stems, margin entire to sinuate-crenate. Inflorescence terminal sessile to pedunculate densely bracteate 4-sided dichasiate spikes to 5.5 cm long (including peduncle and excluding flowers), 20–25 mm in diameter near midspike, peduncles to 15 mm long, pubescent like young stems, rachis pubescent like young stems; dichasia opposite, 1-flowered, 1 per axil, sessile. Bracts opposite, usually tinged with maroon along margin (at least near apex), sessile (or proximal bracts subfoliose and petiolate), ovate to ovate-elliptic, 13–19 mm long, 8–10 mm wide (proximal bracts often subfoliose and larger), apically rounded to acute to subacuminate, abaxial surface pubescent with antrorse eglandular trichomes 0.1–0.7 mm long, margin ciliate with flexuose eglandular trichomes to 1.3 mm long. Bracteoles linear-elliptic to elliptic, 7–13 mm long, 1.4–3 mm wide, pubescent like bracts. Flowers sessile. Calyx 5-lobed, 6–8.3 mm long, lobes lanceolate to linear-elliptic, subequal, 4.5–7.5 mm long, 0.9–1.2 mm wide, abaxially pubescent like bracts. Corolla white or yellow with maroon markings on the lips, 28–36 mm long, externally pubescent with flexuose eglandular trichomes 0.2–1 mm long, tube subcylindric to ± gradually expanded distally, 16–22 mm long, upper lip 9.5–15 mm long, 2-lobed, lobes 0.4–0.6 mm long, lower lip 9.5–18 mm long, lobes 1–5 mm long, 1.6–4 mm wide. Stamens inserted near apex of corolla tube, 12–17 mm long, filaments pubescent with flexuose eglandular trichomes, thecae maroon tinged, 1.5–2.2 mm long (including basal appendage), equal, subparallel to subperpendicular, superposed (contiguous or with gap to 0.3 mm long), dorsally pubescent with cobwebby eglandular trichomes, lower theca with a bulbous basal appendage 0.4–0.6 mm long; pollen (Fig. 5b, c) either 3-colporate and 6-pseudocolpate or 3-aperturate with apertures flanked on each side by 1 row of insulae or exhibiting an intermediate state between these two extremes. Style 19–25 mm long, pubescent with eglandular trichomes, stigma subequally to unequally 2-lobed, lobes 0.05–0.2 mm long. Capsule 9–10 mm long, pubescent with erect to flexuose eglandular trichomes 0.1–0.5 mm long, stipe 3–3.5 mm long, head ovoid to subspheric, 6 mm long. Seeds 4, lenticular, 2.5–3 mm long, 2–2.1 mm wide, minutely papillose, lacking trichomes.

Phenology. Flowering: December–January; fruiting: January.

Distribution and habitats. Guatemala, Honduras; riparian forests; 200–300 m.

Representative Specimens. Comayagua: Chichipates, orilla del Río Yure, 30 km E Lago Yojoa, *C. Nelson et al. 6608* (TEFH, MO), *6773* (MO, TEFH).—Yoro: orilla del Río Jacagua, 15 km O de Victoria, *C. Nelson et al. 7250* (TEFH).

These Honduran collections, made in 1980 and 1981, greatly resemble the type, and only known collection, of *Beloperone blechioides* from the department of Chiquimula in east-central Guatemala. They represent the first records of the species in Honduras, and apparently the first collections of the species since that of the type in 1939. In 1984, J. Simmons collected cuttings of this species in the department of Yoro (42 km E of Santa Rita to Morazán); these were subsequently grown at the Royal Botanic Gardens, Kew. A specimen from the plants cultivated at Kew was sent to CAS (CAS 930274) and conforms to the description above.

Because *Beloperone* is now treated as congeneric with *Justicia*, and because a confusingly similar epithet (i.e., "blechoides") has already been used in the latter genus, a new name is provided above for this "rediscovered" taxon, as allowed by Articles 11 and 53 of the International Code of Botanical Nomenclature (Greuter

et al. 2000). The name honors Prof. Cirilo Nelson (b. 1938) of the Universidad Autónoma de Honduras, who participated in the collection of all recent Honduran specimens of it.

Labels of the Honduran collections note that corollas were yellow or white-yellow. Label data on the type of *B. blechioides* notes that corollas were "white spotted with purple around lip. " Living plants cultivated at Kew from Simmons's cuttings (seen in 2002) have pale yellow corollas with maroon markings on the lips.

Gibson (1974) noted that *Justicia fulvicoma* Schltdl. (including *Beloperone belchioides* in her circumscription of that species) was known from Honduras. The basis for her inclusion of Honduras within the range of this species remains unknown. The illustration (her Fig. 87) labeled as "*Justicia fulvicoma*" in her treatment of Guatemalan Acanthaceae pertains to *J. ciriloi*. Information in the description above includes measurements from the Guatemalan type.

Justicia colorifera V. A. W. Graham

Phenology. Flowering: March–April, July; fruiting: March–April.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia; thickets, hedges; 1050–1215 m.

Representative Specimens. Comayagua: vicinity of Siguatepeque, *P. Standley & J. Chacón P. 6179* (EAP).—Cortés: San Pedro Sula, *C. Thieme 5400* (GH, US).—La Paz: along Marcala River, vicinity of Marcala town, *A. Molina R. & A. Molina 24272* (CAS, EAP, F, NY).

Known in Honduras as "sacatinta" and "añil" (fide *Standley & Chacón P. 6179*); both names allude to the use of this plant as a dye and as a bluing agent in laundering fabric.

Justicia comata (L.) Lam.

Phenology. Flowering: November–January, April–July; fruiting: December–January, April–July.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia, Brazil, Paraguay, Argentina, introduced into Asia; wet depressions in moist to wet forests, around lakes, swamps, along streams; 0–800 m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9481* (CAS, EAP, K, MICH, MO, US).—Colón: Trujillo, 5 km W of airport, old road to Castilla, *J. Saunders 985* (NY).—Comayagua: Pitosolo, Lago Yojoa, *J. Valerio R. 2957* (EAP, F).—Cortés: San Pedro Sula, *C. Thieme 5399* (CAS, GH, US).—Francisco Morazán: Río Yeguare, *J. Valerio R. 989* (EAP, F).—Gracias a Dios: Klauban, poblado al W de Brus, *E. Vargas et al. 351* (MEXU, MO).—Olancho: vicinity of Juticalpa, *P. Standley 17711* (EAP, F).—Santa Bárbara: alrededores de Santa Bárbara, Río Ulúa, *A. Molina R. 3803* (EAP).—Yoro: Quebrada Seca, *P. Standley 53921* (F, US).

Justicia ensiflora (Standl.) D. N. Gibson

Phenology. Flowering: August, November; fruiting: August, November.

Distribution and habitats. Guatemala, Belize, Honduras; moist forests; 50 m.

Representative Specimens. Cortés: Aldea La Pita, 5 km SO de Puerto Cortés, *C. Nelson et al. 3054* (MO, TEFH).—Yoro: "Coyol" [Coyoles, now Coyoles Central, fide C. Nelson, in litt.], *M. Carleton 501* (US).

Justicia macrantha Benth.

Phenology. Flowering: October–January; fruiting: unknown.

Distribution and habitats. Mexico, Guatemala, Honduras, Costa Rica, Panama; moist forests, roadsides; 700–1300 m.

Representative Specimen. Olancho: cañón del río del Monumento Natural El Boquerón, ca. 28 km NE de Juticalpa, *J. Linares & J. López 1847* (EAP).

Justicia micrantha (Oerst.) V. A. W. Graham

Phenology. Flowering: March–May; fruiting: March–May.

Distribution and habitats. Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador; moist thickets, pine-oak forests, dry thickets, dry forests; 220–700 m.

Representative Specimens. Comayagua: Agua Caliente, vaguada de ríos Chamo y Humuya, 35 km E Lago Yojoa, *C. Nelson et al. 6379* (TEFH).—El Paraíso: Valle Jamastrán entre Río Los Almendros y Chichicaste, *A. Molina R. 11390* (EAP, F, LL, NY).—Olancho: ca. 1 km upstream on Río Boquerón from Puente Boquerón on Juticalpa–Catacamas hwy, ca. 12 km SW of Catacamas, ca. 14°47'N, 86°00'W, *T. Daniel & G. Pilz 9583* (CAS, EAP, K, MICH, MO, US).—Yoro: Victoria, orilla del Río Sulaco, *C. Nelson et al. 7036* (MO).

Pollen of *Daniel & Pilz 9583* is 2-aperturate with apertures flanked on each side by 2 rows of insulae (Fig. 6a, b). This species was originally described from Nicaragua as *Chaetothylopsis micrantha* Oerst. It has been treated under the names *Chaetothylax leucanthus* Leonard (described from Colombia) and *Justicia rothschuhii* (Lindau) Durkee (=*Chaetothylax rothschuhii* Lindau; also described from Nicaragua).

Justicia pectoralis Jacq.

Phenology. Flowering: January–April, August; fruiting: February.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia, Paraguay, Brazil, Argentina; wet depressions in moist to wet forests, along streams; 30–1400 m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9480* (CAS, EAP, K, MO, US).—Comayagua: Siguatepeque, *J. Valerio R. 2737* (EAP, F).—Copán: Copán Ruinas, cultivated in hotel garden, *A. Molina R. & A. Molina 34285* (EAP).—El Paraíso: Trincheras, 5 km S de El Paraíso, *N. Pastor 804* (EAP).—Francisco Morazán: Zamorano, *J. Valerio R. 3723* (EAP).—Gracias a Dios: Río Mocorón, aldea de Mocorón, *C. Nelson & E. Vargas 5047* (MO, TEFH, US).—Olancho: trail between Catacamas and la presa, N of Catacamas, *P. Standley 18551* (EAP, F).

This native species is sometimes cultivated in Honduras.

Justicia pilzii T. F. Daniel, sp. nov.—Type: Honduras. Atlántida: 1–2 km NNW of Cabeza del Negro, 15°29'N, 87°27'W, 200–500 m, 26 April 1994, *D. Hazlett & A. Brant 8096* (holotype: EAP!; isotypes: BM! CAS! MEXU! MO!).

Fig. 7.

Herbae perennes vel frutices usque ad 1 m alti. Folia petiolata, laminae nodo inaequalibus, margine integris. Inflorescentia floribus in spicas axillares (vel terminales); dichasia uniflora, alterna, sessilia. Bracteae subulatae vel lineares vel anguste ellipticae, 0.8–2 mm longae. Calyx 5-lobus, 3–4.1 mm longus, lobis homomorphis.

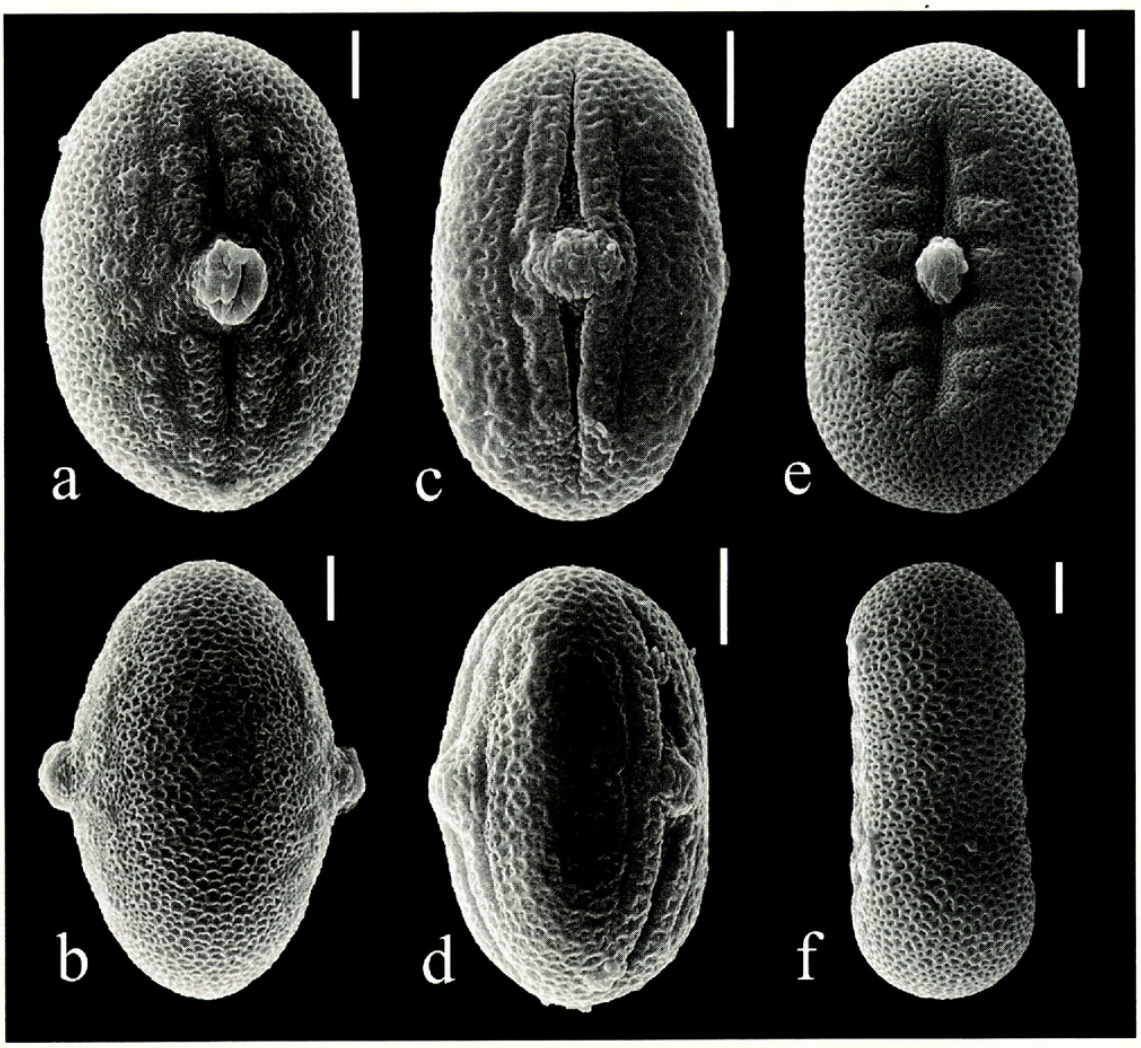

FIG. 6. Pollen of *Justicia*. a. *J. micrantha* (*Daniel & Pilz 9583*), apertural view. b. *J. micrantha* (*Daniel & Pilz 9583*), interapertural view. c. *J. pilzii* (*Hazlett & Brant 8096*), apertural view. d. *J. pilzii* (*Hazlett & Brant 8096*), interapertural view. e. *J. trichotoma* (*Chacón G. 1015*), apertural view. f. *J. trichotoma* (*Chacón G. 1015* from Costa Rica), interapertural view. Scale bar = 6 μm.

Corolla viridi-alba vel viridi-lutea et purpureo-notata, 6.5–10 mm longa, extus pubescens trichomatibus eglandulosis. Stamina thecis 0.8–1.2 mm longis, pubescentibus, theca inferna basi calcarata. Capsula 6.5–10 mm long, pubescens trichomatibus eglandulosis.

Perennial herbs to shrubs to 1 m tall. Young stems quadrate to quadrate-sulcate to ± flattened, pubescent with antrorse eglandular trichomes 0.1–0.3 mm long, trichomes often conspicuously septate with maroon septa, appearing ± evenly disposed or concentrated in 2 lines. Leaves petiolate, petioles to 13 mm long, blades ovate-elliptic to broadly elliptic, those of a pair at nodes unequal in size, larger blades 23–95 mm long, 13–34 mm wide, 1.4–3.6 times longer than wide, smaller blades 5–53 mm long, 3–25 mm wide, 1.2–2.1 times longer than wide, larger blades 1.8–9.6 times longer than smaller blades, all blades (rounded to) acute to acuminate at apex, (rounded to) acute (to attenuate) at base, surfaces pubescent with antrorse to antrorsely appressed eglandular trichomes restricted to major veins, margin entire. Inflorescence of axillary (and terminal) pedunculate dichasiate spikes to 20 mm long (including peduncle and excluding flowers), spikes opposite or alternate at nodes, peduncles to 6 mm long, rachis evenly pubescent with erect to flexuose to antrorse eglandular trichomes 0.05–0.2

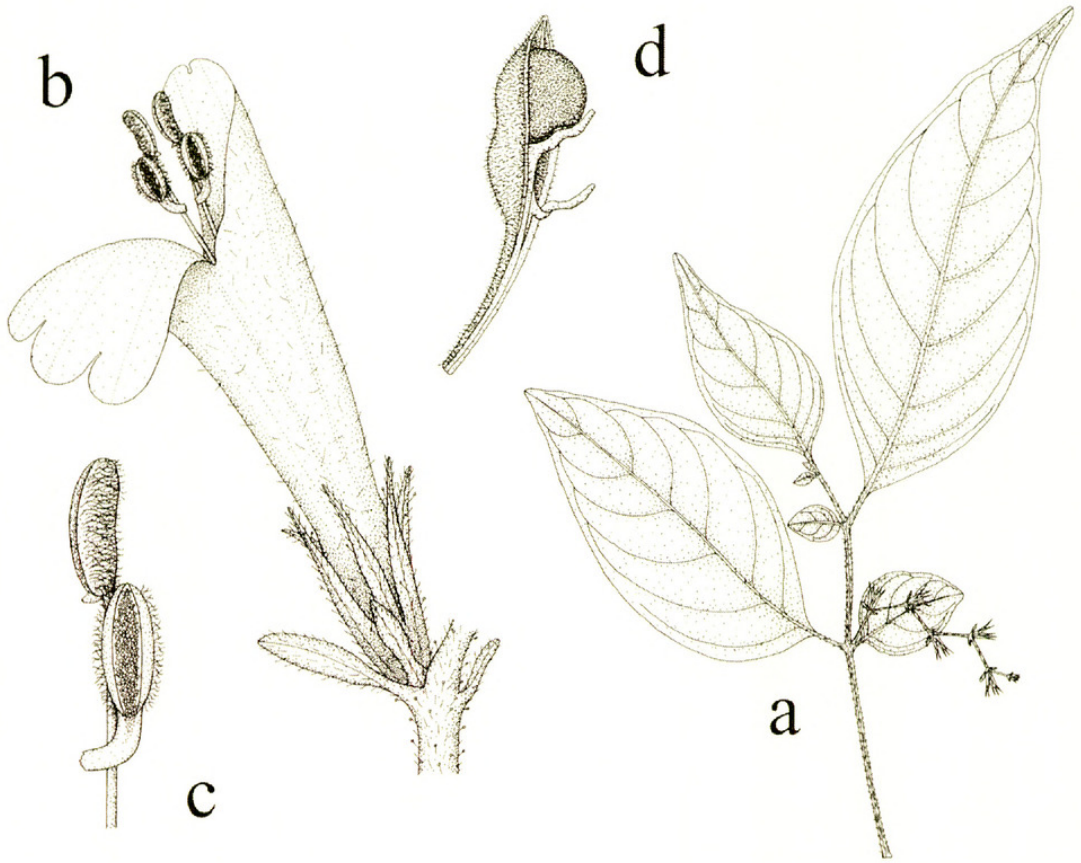

FIG. 7. *Justicia pilzii* a. Branch (*Hazlett & Brant 8096*), ×0.9. b. Inflorescence node with flower (*Wilson 219*), ×7. c. Distal portion of stamen with anther (*Wilson 219*), ×19. e. Capsule valve with seed (*Hazlett & Brant 8096*), ×4.7. Drawn by Jennifer Kane.

mm long and erect to flexuose glandular trichomes 0.1–0.3 mm long (glandular pubescent); dichasia 1-flowered, alternate (but not secund), sessile. Bracts opposite to subopposite, subulate to linear to narrowly elliptic, 0.8–2 mm long, 0.3–0.6 mm wide, abaxial surface glandular pubescent (or glandular trichomes sometimes absent). Bracteoles subulate to linear, 0.7–1.5 mm long, 0.2–0.4 mm wide, abaxial surface pubescent like bracts. Flowers subsessile (i.e., borne on pedicels to 0.5 mm long). Calyx 5-lobed, 3–4.1 mm long, lobes lance-subulate, equal in size, 2.3–3.5 mm long, abaxially glandular pubescent. Corolla greenish white to greenish yellow with purple markings, 6.5–10 mm long, externally pubescent with erect to flexuose eglandular trichomes 0.1–0.3 mm long, tube 5–7 mm long, upper lip 2–3.5 mm long, entire to emarginate at apex, lower lip 2–3.8 mm long, lobes 0.5–0.8 mm long, 0.6–0.9 mm wide. Stamens 3 mm long, thecae unequally inserted (overlapping by 0.1–0.2 mm) to superposed (contiguous), parallel, 0.8–1.2 mm long (including basal appendage), unequal in size (lower theca longer), pubescent with flexuose eglandular trichomes, upper theca with a basal appendage up to 0.1 mm long, lower theca with basal appendage 0.4–0.5 mm long; pollen (Fig. 6c, d) 3-colporate, 6-pseudocolpate, exine reticulate to bireticulate. Style 5–7 mm long, proximally pubescent and distally glabrous, stigma ± funnelform, 0.1 mm long. Capsule 6.5–10 mm long, externally pubescent with erect to flexuose to retrorse eglandular trichomes 0.1–0.3 mm long. Seeds 4, lenticular, 1.7–2.3 mm long, 1.7–2.2 mm wide, surface smooth to ± rugose.

Phenology. Flowering: January, April; fruiting: April.

Distribution and habitats. Endemic to Honduras; along streams and in thickets in wet forests; 20–200 m.

PARATYPES. **Honduras.** ATLÁNTIDA: vicinity of San Alejo, base of hills S of San Alejo near Río San Alejo, *P. Standley 7598* (EAP, F); Lancetilla Valley, near Tela, *P. Standley 52969* (F), *55396* (A, F); along trail W of Tela River, Puerto Sierra, *P. Wilson 219* (NY).

The species is readily recognizable among Honduran Acanthaceae by the conspicuously unequally sized leaves at each node. Honduran specimens of this species were treated by Standley (1931) as *J. trichotoma* (Kuntze) Leonard. Both species occur in wet forests of the Caribbean lowlands. While *J. pilzii* resembles *J. trichotoma* of southern Central America by its antrorse cauline trichomes, anisophyllous leaves, similar inflorescences, equally 5-lobed calyces, relatively small and similarly shaped corollas, and pubescent thecae, it differs in numerous significant characters, which are summarized in the following couplet:

Cauline trichomes eglandular; leaf margin entire; calyx 3–4.1 mm long; corolla 6.5–10 mm long; thecae 0.8–1.2 mm long, the lower theca with a basal appendage 0.5 mm long; pollen 3-aperturate, apertures flanked on each side by a pseudocolpus (i.e., 6-pseudocolpate); capsule 6.5–10 mm long; seed surface smooth to rugose; Honduras. *J. pilzii*

Cauline trichomes usually with some glandular trichomes present; leaf margin sinuate; calyx 6.5–9 mm long; corolla 15–17 mm long; thecae 0.5–0.7 mm long, the lower theca with a basal appendage 0.2 mm long; pollen 2-aperturate, apertures flanked on each side by peninsulae; capsule 12–15 mm long; seed surface gemmate to baculate; Costa Rica and Panama. *J. trichotoma*

The palynological differences (Fig. 6c–f) were noted in multiple collections of each species (*J. pilzii*: *Hazlett & Brant 8096*, *Standley 55396*, and *Wilson 219*; *J. trichotoma*: *Chacón G. 1015*, *Hammel 7736*, and *Jiménez M. 1909*).

Although present, glandular trichomes are neither as numerous nor conspicuous in the inflorescence of *Wilson 219* as in the other collections of *J. pilzii* observed.

The epithet of this species honors Dr. George Pilz (b. 1942) of the Escuela Agrícola Panamericana in Honduras, student of Nyctaginaceae, devoted teacher and amiable colleague, who helped make this account possible.

Justicia ramosa (Oerst.) V. A. W. Graham

Phenology. Flowering: throughout the year; fruiting: December, March–August.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Costa Rica, Colombia; moist forests, moist thickets, along streams, oak thickets, dry thickets, dry forests, thornscrub; 400–1300 m.

REPRESENTATIVE SPECIMENS. COMAYAGUA: El Banco, *J. Valerio R. 2449* (EAP, F).—EL PARAÍSO: road between Yuscarán and Oropolí, 10–14 km N of Oropolí, ca. 13°55'N, 86°48'W, *T. Daniel et al. 9566* (CAS, EAP, MO, US).—FRANCISCO MORAZÁN: ca. 21 km SE of Talanga along road to Villa de San Francisco, ca. 14°14'N, 87°01'W, *T. Daniel & G. Pilz 9608* (CAS, EAP, K, MO, US).—OCOTEPEQUE: vicinity of Nueva Ocotepeque, *P. Standley 27993* (EAP).—OLANCHO: vicinity of Catacamas, *P. Standley 18161* (EAP, F).

Both Gibson (1974; see under *Siphonoglossa* Oerst.) and Durkee (2001) treated *J. ramosa* and *J. sessilis* Jacq. as conspecific. Hilsenbeck (1989; as *Siphonoglossa*) studied these species and their types in detail and concluded that they are distinct on the basis of the flowers (sessile in the leaf axils in *J. sessilis* vs. borne in bracteate spikes in *J. ramosa*) and seeds (surface with bullate encrustations 0.3–0.5 mm long in *J. ramosa* vs. surface with tuberculate or papillose protuberances 0.1–0.2 mm in diameter in

J. sessilis). Until they are again thoroughly studied from throughout their ranges, both species, as distinguished by Hilsenbeck, are recognized here. As treated here, *J. ramosa* includes *Siphonoglossa hondurensis* Standl. & Steyerm. [=*S. ramosa* var. *hondurensis* (Standl. & Steyerm.) Hilsenb.], the type of which was collected in Honduras [Francisco Morazán: región de La Travesía, cerca de Suyapa, 1100 m, 18 Sep 1948, *P. Standley 12459* (holotype: F!; isotype: EAP!)]. Hilsenbeck (1989) indicated that var. *hondurensis* could be distinguished from var. *ramosa* by its dark brown stems, more ovately-lanceolate leaves, and usually shorter corollas. These characters appear to vary throughout the range of the species. As noted by Ayers and Boufford (1988), the type of *Justicia rhodioides* Leonard from Colombia also pertains to this species.

Justicia ramulosa (Morong) C. Ezcurra

Phenology. Flowering: January–March; fruiting: May.

Distribution and habitats. Guatemala, Honduras, Peru, Bolivia, Brazil, Paraguay, Argentina; moist forests, cafetales; 400–600 m.

Representative Specimens. Copán: vicinity of ruins near Copán Ruinas, ca. 14°51'N, 89°08'W, *T. Daniel & J. Araque 9624* (CAS, EAP, K, MICH, MO, US).—Olancho: along Río Olancho, W of main Tegucigalpa–Catacamas hwy, ca. 1 km upstream from and NW of Puente Boquerón, 8.6 mi SW of Catacamas, 6 mi SW of Sta. María del Real, 14°45'N, 86°00'W, *T. Croat & D. Hannon 64117* (CAS, MO).

Central American plants of this species have been treated as *Chaetothylax cuspidatus* D. N. Gibson (Gibson 1974) or *Justicia danielii* L. H. Durkee (Durkee 1999; a new name in *Justicia* for *C. cuspidatus*, not *J. cuspidata* Vahl). Comparison of Central American collections to those of *J. ramulosa* from South America (including an isotype of *Beloperone ramulosa* Morong) reveals that they are similar in every way. Indeed, Lindau annotated the type of *C. cuspidatus* from Guatemala as *Beloperone ramulosa*. South American plants show more variation than was observed among Central American plants in the following characteristics: density of cauline pubescence (trichomes nearly absent to sparse to dense vs. dense), bract shape (ovate to elliptic to obovate vs. obovate), degree of development of aristate bracteal apex (poorly to well developed vs. well developed), and capsule pubescence (glabrous to pubescent vs. pubescent). Some South American plants are indistinguishable from Central American plants in all of these features.

As interpreted here, *J. ramulosa* exhibits an interesting disjunct and amphi-equatorial distribution. At least two other species of Acanthaceae have a similar distribution pattern, occurring in Mexico and southern South America: *Ruellia erythropus* (Nees) Lindau (Ezcurra 1993) and *R. coerulea* Morong (Daniel 1995b).

Pollen of *Croat & Hannon 64117* is 2-aperturate with apertures flanked on each side by 2–3 rows of insulae (Fig. 5g–i). It greatly resembles pollen of *J. ramulosa* from South America (i.e., *Wood 11161* from Bolivia and *Zardini 4585* from Paraguay; Fig. 5h, i). Capsules and seeds, hitherto unknown for Central American representatives of *J. ramulosa*, can be described as follows: capsules 6.5–8 mm long, pubescent with erect to flexuose to retrorse eglandular trichomes 0.05–0.2 mm long, stipe 2–3 mm long, head subellipsoid with a slight medial constriction, 4.5–5 mm long; seeds 4, sublenticular, 1.5–1.9 mm long, 1.4–1.5 mm wide, surfaces and margin covered with trichomelike papillae (pilae and baculae).

Justicia spicigera Schltdl.

Phenology. Flowering: April; fruiting: unknown.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica; moist thickets; 900 m.

Representative Specimens. Olancho: Quebrada Catacamas cerca de la presa en Montaña Peña Blanca, *A. Molina R. 8346* (EAP, F, NY).

It is possible that this commonly cultivated species is not native in Honduras (although it is so treated here). Because of its uses as a bluing agent in laundering fabric, a blue dye, and a remedy in domestic medicine, it has likely been cultivated for centuries throughout Mexico and Central America. The limits of its native distributional range are not known with certainty.

Justicia tuxtlensis T. F. Daniel

Phenology. Flowering: April: fruiting: April.

Distribution and habitats. Mexico, Honduras; moist forests; 200 m.

Atlántida: mountain Nombre de Dios between Saladito and San Francisco, *A. Molina R. 20851* (EAP, F, NY).

This species was recently described from the lowland rain forests on the Gulf slope of southeastern Veracruz in Mexico. Herewith, it is reported from Honduras for the first time. In spite of the apparent geographic disjunction in the range of *J. tuxtlensis*, its occurrence in Honduras is not surprising. The Caribbean lowlands in Honduras form a discontinuous portion of the moist to wet lowland formations that extend from southeastern Mexico (i.e., Veracruz) to Panama. The collection noted above agrees with the description provided by Daniel (2002), except that the bracts of a pair vary from only slightly heteromorphic to homomorphic (vs. heteromorphic) and the corollas are noted on the label to be pale yellow (vs. whitish). Pollen of the sole Honduran collection (Fig. 5f) also concurs with Mexican collections of the species (i.e., 3-colporate, 6-pseudocolpate). Additional representative of this species should be sought in the moist to wet forests between the Los Tuxtlas region of Veracruz and northern Honduras.

Justicia sp. 1

Santa Bárbara: dry lumbered hillside on hwy San Pedro to Copán at double S curve where it descends rapidly, 168 m, 17 April 1965 (flr, frt), *J. Dickson 1450* (US).

I am unable to associate this collection with a known species of *Justicia* from northern Latin America. It differs from all other Honduran *Justicia* by the following combination of characters: dense, antrorse to antrorsely appressed and ± evenly disposed cauline trichomes; crenate leaf margins; short axillary spikes; triangular bracts 1–2 mm long; equally 5-lobed and glandular pubescent calyces; red-orange and glandular pubescent corollas 21–25 mm long; 2-aperturate pollen (Fig. 5d, e) with apertures flanked by 2 rows of insulae; and glandular pubescent capsules 13.5–16.5 mm long. Whether it represents an undescribed species or one that has been overlooked in recent floristic accounts (e.g., the status of several names and species from southern Mexico has yet to be assessed) remains to be determined. Additional collections from Honduras that resemble this plant are also highly desirable.

Justicia sp. 2

Atlántida: Campamento Quebrada Grande, ca. 10 km SW of La Ceiba, base of N slope of Pico Bonito, 15°42'N, 86°51'W, 80–100 m, gravel bar along river, moist evergreen forests, 11 May 1993 (flr, frt), *R. Liesner 26190* (EAP, MO).

This collection lacks mature flowers and seeds. It can be distinguished from all other species of *Justicia* in Honduras by the following combination of characters: tawny-colored, antrorse to antrorsely appressed trichomes concentrated in (but not restricted to) two lines; terminal panicles with axillary spikes; heteromorphic bracts at each spike node with one bract obovate to circular, 3–4 mm wide, and subtending a 1-flowered dichasium and with the other bract subulate, less than 0.5 mm wide, and sterile; calyces equally 5-lobed, the lobes with hyaline margins; whitish corollas less than 10 mm long and externally pubescent with eglandular trichomes only; and capsules 7 mm long, pubescent with eglandular trichomes only. Liesner's collection superficially resembles other species with heteromorphic bracts from Mexico and Central America (Wasshausen & Daniel 1995) and four species from southern Central America with axillary and terminal, conspicuously bracteate inflorescences and relatively small corollas (Daniel & Wasshausen 1990). It differs from all of these in characters observable on the two specimens studied, however. Additional collections with mature flowers, pollen, and seeds are needed to fully assess its status.

Lepidagathis alopecuroidea (Vahl) R. Br. ex Griseb.

Phenology. Flowering: January–May; fruiting: January–May.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Guyana, Surinam, French Guiana, Bolivia, Paraguay, Brazil; moist forests, dry forests, dry thickets; 70–1100 m.

Representative Specimens. Atlántida: Parque Nacional Pico Bonito, ca. 12 km SW of La Ceiba at N base of Cordillera Nombre de Dios, ca. 15°42'N, 86°51'W, *T. Daniel & J. Araque 9509* (CAS, EAP).—El Paraíso: Breñales a lo largo del Río Guayambre, Valle Jamastrán, *A. Molina R. 7354* (EAP, F).—Francisco Morazán: Montaña de La Flor, *C. Byrne 1* (TEFH).—Gracias a Dios: Quebrada Unawas, 3 km NE de Krausirpe, 15°03'N, 84°50'W, *P. House 1812* (CAS, MO, TEFH).—Olancho: ca. 2.5 km above (N) Catacamas on lower slopes of Sierra de Agalta, ca. 14°53'N, 84°54'W, *T. Daniel & G. Pilz 9586* (CAS, EAP).—Yoro: Cordillera Nombre de Dios, ca. 30 km SW of Tela–La Ceiba Hwy between San José de Texíguat and Campo Nuevo, ca. 15°29'N, 87°27'W, *T. Daniel & J. Araque 9492* (CAS, EAP, MO).

Lophostachys zunigae C. Nelson

Perennial of unknown height. Young stems subquadrate, bifariously pubescent with flexuose to antrorse to appressed eglandular trichomes to 0.4 mm long, soon glabrate; leaves petiolate, petioles to 30 mm long, blades ovate-elliptic to elliptic, 80–150 mm long, 26–46 mm wide, 3.1–3.6 times longer than wide, reduced in size distally (e.g., to 26 mm long and 5 mm wide and up to 5.2 times longer than wide), acuminate at apex, attenuate at base, abaxial surface pubescent along major veins with eglandular trichomes. Inflorescence of terminal ± pedunculate dichasiate spikes to 55 mm long (including peduncle and excluding flowers), rachis evenly pubescent with upward-pointing eglandular trichomes 0.2–0.7 mm long, dichasia opposite, sessile; bracts ovate to lance-ovate, 9–15 mm long, 2.5–3 mm wide, abaxial surface pubescent like rachis or with trichomes becoming ± appressed, margin ciliate with erect to flexuose eglandular trichomes 0.2–0.8 mm long; bracteoles subulate to lance-subulate, 7.5–12 mm long, 0.4–1 mm wide, abaxial surface pubescent like bracts; flowers sessile. Calyx drying ± straw-colored (and sometimes ± green distally), 21–25 mm long, anterior lobe (next to bract) obovate, 20–25 mm long, 5.1–7 mm wide, 2-lobed at apex (divided 0.06–0.15 its length) with lobes 0.5–3.3 mm long, lateral lobes lance-subulate, 11–12.5 mm long, 0.9–1 mm wide, posterior lobe obovate, 20.5–25 mm long, 6.5–7.6 mm wide, entire, lobes abaxially and marginally pubescent like bracts. Corolla not seen. Stamens not seen. Style 21 mm long, stigma subcapitate, 0.2 mm long. Capsule 11.2–13 mm long, glabrous. Seeds 2.5–4 mm long, 2.5–3.5 mm wide, covered with appressed trichomes.

Phenology. Flowering: April; fruiting: April–May.

Distribution and habitats. Endemic to Honduras; moist forests, 400–800 m.

ATLÁNTIDA: Pico Bonito National Park, Pico Bonito, trail between CURLA camp and first river camp, 15°42'N, 86°51'W, *T. Hawkins 937* (EAP, MO).

Lophostachys zunigae is known only from the collection cited above and the type: Atlántida: Quebrada de Oro, Montaña de Búfalo, 20 km SO de La Ceiba, bosque húmedo tropical, 780–1800 m, 3–6 May 1989, *R. Zúniga 453* (holotype: TEFH!; isotypes: EAP! MO! US!). Although the flowers are noted to be light purple on the label of Hawkin's collection at MO and the presence of styles suggest that corollas were recently on the plant collected, corollas are not present on the two specimens examined. The label of *Hawkins 937* at EAP attributes (erroneously) the collection to Cusuco National Park in Cortés on 3 May 1993.

This species differs from all other Mexican and Central American species of *Lophostachys* (Daniel 1993a) by the following combination of character states: calyx 21–25 mm long, the anterior calyx lobe obovate, apically divided less than one-half the length of the lobe, the apical segments 0.5–3.3 mm long; bracteoles subulate to lance-subulate, 7.5–12 mm long; capsules 11.2-13 mm long, glabrous. When corollas and stamens of this species become known, additional distinguishing character states should be sought in these structures.

Louteridium donnell-smithii S. Watson

Phenology. Flowering: January–June; fruiting: February–June.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras; wet forests, moist forests, commonly on limestone; 300–1540 m.

REPRESENTATIVE SPECIMENS. COMAYAGUA: Quebrada el Caliche, SE de la Villa Taulabe, *D. Ruiz 138* (NY, TEFH).—COPÁN: Montaña Espiritu Santo, 15°05'N, 88°55'W, *T. Hawkins & D. Mejía 185* (EAP, MO).—CORTÉS: entre Pito Solo y Agua Azul, Lago Yojoa, *A. Molina R. 10619* (EAP, F).—SANTA BÁRBARA: eastern slopes of Cerro Santa Bárbara, *P. Allen et al. 6047* (CAS, EAP, F, GH, US).

Megaskepasma erythrochlamys Lindau

This species, presumably native in northern South America, is probably known only from cultivation in Honduras; however, not all collections cited below note that the plants were cultivated.

REPRESENTATIVE SPECIMENS. CHOLUTECA: San Juan Arriba de Corpus, *G. Sandoval AP16* (EAP).—COLÓN: Faust, 4 km N de Sonaguera, *N. Pastor 970* (EAP).—EL PARAÍSO: Santa Cruz, 9 km NO de El Paraíso, *N. Pastor 646* (EAP).—FRANCISCO MORAZÁN: vicinity of El Zamorano, *A. Molina R. et al. 34186* (EAP, MO).

Mendoncia guatemalensis Standl. & Steyerm.

Phenology. Flowering: December, April–May; fruiting: December, August.

Distribution and habitats. Mexico, Guatemala, Honduras; wet forests, moist forests; 60–1100 m.

REPRESENTATIVE SPECIMENS. COPÁN: 3 km S of Dulce Nombre de Copán, *L. Williams et al. 42979* (EAP, F, US).—CORTÉS: entre Agua Azul y Pito Solo, Lago de Yojoa, *A. Molina R. 7329* (EAP, F, LL).—OLANCHO: Montaña de Chifiringo, 20 km S de Campamento, *C. Soto 225* (MO, TEFH).—YORO: Camino Real de San José Texíguat a Campo Nuevo en un lugar llamado Las Letras al oeste del Cerro Cabeza de Negro, 15°28'00"N, 87°26'05"W, *R. Aguilar & R. Evans 4071* (CAS, MO).

This species is reported from Honduras for the first time. The three species of *Mendoncia* known from the country can be distinguished by the following key:

1. Corolla entirely red; bracteoles lance-ovate, 3–4 times longer than wide, apically acuminate-falcate, abaxial surface pubescent with trichomes 1–5.5 mm long; drupe pubescent with erect to flexuose eglandular trichomes 0.1–0.8 mm long. *M. lindavii*
1. Corolla whitish with purplish marking; bracteoles elliptic to ovate, 1.3–2.2 times longer than wide, apically rounded to retuse-apiculate to acute-apiculate, abaxial surface glabrous or pubescent with trichomes 0.3–1 (–1.5) mm long; drupe glabrous or mealy-glandular.
   2. Bracteoles 1.6–2.2 times longer than wide, rounded to acute-apiculate at apex, abaxial surface evenly and ± densely pubescent with conspicuous, antrorse to antrorsely appressed trichomes 0.4–1 mm long; drupe 18–23 mm long, 11–15 mm in diameter. *M. guatemalensis*
   2. Bracteoles mostly 1.3–1.6 times longer than wide, retuse-apiculate at apex, abaxial surface glabrous or very sparsely pubescent with a few scattered, antrorsely appressed trichomes 0.2–0.3 mm long or puberulent with inconspicuous, erect trichomes 0.05–0.1 mm long; drupe 14–17 mm long, 7.5–10 mm in diameter. *M. retusa*

Mendoncia lindavii Rusby

Phenology. Flowering: April–May; fruiting: April–May.

Distribution and habitats. Belize, Guatemala, Honduras, Costa Rica, Panama, Colombia, Ecuador, Peru, Bolivia; moist forests; 130–200 m.

Atlántida: Parque Nacional Pico Bonito, ca. 12 km SW of La Ceiba at N base of Cordillera Nombre de Dios, ca. 15°42'N, 86°51'W, *T. Daniel & J. Araque 9510* (CAS, EAP, MO, US); Parque Nacional Pico Bonito, base of N slope of Pico Bonito, E of new CURLA (Centro Universitario Regional del Litoral Atlantico) camp building on the Quebrada Grande, ca. 1/3 km above its confluence with the Río Bonito, ca. 10 km SW of La Ceiba, 15°42'N, 86°50'W, *R. Evans 1630* (CAS, EAP, MO, TEFH).—Cortés: Cienaga section [=Agua Azul, fide A. Molina R., pers. comm. 2001] Lake Yojoa, *R. Howard et al. 681* (GH, US).

All known Honduran collections of this species, which is newly reported for the country, are cited above. *Mendoncia lindavii* (Central and South America) superficially resembles *M. hoffmannseggiana* Nees (South America). The two species appear to be distinguishable by the pubescence of the bracteoles and peduncles, which is spreading-villose in *M. lindavii* and appressed-strigose in *M. hoffmannseggiana*.

Mendoncia retusa Turrill

Phenology. Flowering: August–December; fruiting: November–March.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama; moist forests; sea level to 1010 m.

Representative Specimens. Atlántida: Lancetilla Valley near Tela, *P. Standley 53656* (F, US).—Cortés: quebrada near Agua Azul, *L. Williams & A. Molina R. 11330* (EAP, F).—Gracias a Dios: Las Marías Río Plátano, *R. Tinoco et al. 154* (TEFH).

Nelsonia canescens (Lam.) Spreng.

Phenology. Flowering: January; fruiting: March.

Distribution and habitats. Mexico, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, French Guiana, Brazil, Old World; habitat unknown; 1200 m.

Representative specimen. Intibucá: Quebrada Los Naranjos, San Juan, Magdalena, *J. Martínez 359* (MO, TEFH).—Ocotepeque: carretera entre Antigua Ocotepeque y Nueva Ocotepeque, *C. Nelson et al. 1534* (TEFH).

Odontonema albiflorum Leonard

Phenology. Flowering: May; fruiting: May.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras; habitats and elevation unknown.

Copán: Hac. El Limón to El Paraíso, *S. Blake 7353* (US).

This species was documented from Honduras by Leonard (1936) and is apparently known from there only by Blake's collection made in 1919. Blake noted on the specimen label that the corollas were white with maroon-purple spots on the limb. The Honduran species of *Odontonema* can be identified with the following key:

1. Corolla red.
   2. Dichasia sessile, at least some (usually most) whorled at inflorescence nodes; rachis nearly glabrous or pubescent with appressed eglandular trichomes in lines. *O. tubaeforme*
   2. Dichasia subsessile to pedunculate, at least some (usually most) clearly pedunculate in each inflorescence, opposite at inflorescence nodes; rachis evenly pubescent with erect eglandular trichomes. *O. cuspidatum*
1. Corolla yellow or white with purplish markings on limb.
   3. Inflorescence of dense, unbranched (rarely branched at base), dichasiate spikes or racemes; dichasia mostly whorled at inflorescence nodes; corolla white with purplish markings on limb, externally glabrous. *O. albiflorum*
   3. Inflorescence of open panicles of dichasiate racemes; dichasia opposite at inflorescence nodes; corolla yellow, externally pubescent with glandular and eglandular trichomes. *O. hondurense*

Odontonema cuspidatum (Nees) Kuntze

Phenology. Flowering: January, June, September; fruiting: January.

Distribution and habitats. Mexico, Honduras, West Indies; moist forests, moist thickets; 200–1300 m.

Representative Specimens. Copán: near Santa Rita village, *A. Molina R. et al. 33659* (EAP, MO).—Cortés: along road between Villa Nueva and Pimienta, *A. Molina R. & A. Molina 34434* (EAP, F, MO).—Francisco Morazán: Quebrada Seca, vicinity of Cerro de Hule, *A. Molina R. & A. Molina 34234* (EAP, MO).

Odontonema cuspidatum was previously known from native populations only in Mexico and the West Indies (Daniel 1995c). Standley (1931) and Yuncker (1940) applied this name to plants of *O. tubaeforme* from Atlántida. The species is sometimes cultivated in other tropical regions, including Honduras. Collections from cultivated plants have been made in the departments of Cortés and Francisco Morazán. None of the collections noted above indicate that the plants were cultivated, and they all appear to represent either native or naturalized populations of the species in Honduras. These plants all have the rachis evenly pubescent with short, erect, and eglandular trichomes; the lower dichasia usually pedunculate; and the corolla red with the throat shorter and narrower than in *O. tubaeforme*.

Gibson (1974) included *Odontonema cuspidatum* and *O. tubaeforme*, both red-flowered species, as conspecific with the purple-flowered *O. callistachyum* (Schltdl. & Cham.) Kuntze, and treated this latter species as occurring in Honduras. Daniel (1995c) recognized all three species and indicated that *O. callistachyum* was known from native populations only in Mexico, Belize, and Guatemala. Both *O. cuspidatum* and *O. tubaeforme* are herein treated as native to Honduras, although the former species may be represented in the country only by cultivated and naturalized plants.

Odontonema hondurense (Lindau) D. N. Gibson

Phenology. Flowering: October–July; fruiting: October–May.

Distribution and habitats. Belize, Guatemala, Honduras; wet forests, moist forests, along streams; 30–830 (–1680) m.

Representative Specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9485* (CAS, EAP, MO, US).—Colón: mountain directly S of Trujillo, *J. Saunders 236* (NY).—Copán: Montaña Espiritu Santo, trail between San Joaquin and Quebrada Grande in Parque Nacional de Cerro Azul, 10.5 km NE of Florida, *T. Hawkins 181* (EAP, MO).—Cortés: Cuyamel, *M. Carleton 457* (US).—Gracias a Dios: alrededores del Río Plátano, dentro de 10 km de la costa Atlántica, 15°30–55'N, 84°40'–85°00'W, *A. Clewell & G. Cruz 4209* (EAP, MO).—Olancho: cerca Río Paulaya, 30 km NNE de Culmí, *R. Keyser 1325* (TEFH).—Yoro: along road from San José de Texíguat to Campo Nuevo in Cordillera Nombre de Dios, ca. 24 km SW of Tela–La Ceiba hwy (#13), ca. 15°31'N, 87°26'W, *T. Daniel & J. Araque 9500* (CAS, EAP, MO, US).

The type of the basionym *Diateinacanthus hondurensis* Lindau is from Honduras: Atlántida: along trail near Bolet's Plantation, Puerto Sierra (=Tela, fide A. Molina R., pers. comm. 2001), 20 Jan 1903, *P. Wilson 129* (holotype: NY, photo! at http://www.nybg.org/bsci/hcol/vasc/Acanthaceae.html). As interpreted here, this species shows considerably more variation in pubescence than was suggested by Daniel (1995c). For example, the inflorescence rachises vary from virtually glabrous (e.g., *Clewell & Cruz 4209*) to inconspicuously puberulent (e.g., *Liesner 26409*, CAS) to conspicuously pubescent (e.g., *Hawkins 181*). *Hawkins 181* is also unusual in its exceptionally long (to 27 mm long) corollas and its occurrence at 1680 m elevation. *Odontonema hondurense* can be distinguished from other species of *Odontonema* in Honduras by its yellow corollas, which are externally pubescent. Pollen (Fig. 2d, e) of this species is 3-colporate and 6-pseudocolpate, as in most of its Mesoamerican congeners.

Odontonema tubaeforme (Bertol.) Kuntze

Phenology. Flowering: throughout the year; fruiting: December–August.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama; wet forests, moist forests, dry forests, moist thickets, cafetales, along streams; 20–1600 m.

Representative Specimens. Atlántida: base of N slope of Pico Bonito, E of new CURLA camp on Quebrada Grande, ca. 10 km SW of La Ceiba, 15°42'N, 86°51'W, *R. Evans 1589* (EAP).—Colón: Trujillo, edge of Río Negro, *A. Clewell et al. 4315* (EAP, MO).—Comayagua: Río Frío, ca. 2 km NE de La Libertad, 14°46'N, 87°35'W, *J. Linares et al. 2322* (EAP).—Copán: ca. 1.5 km W of Santa Rita on road from Copán, *J. Poole & W. Watson 948* (LL).—Cortés: ca. 3 km beyond Cofradia toward Cusuco National Park, ca. 15°25'N, 88°10'W, *T. Daniel & J. Araque 9622* (CAS, EAP, K, MO, US).—El Paraíso: Montaña Apauhis, cerca de Danlí, *A. Molina R. 7444* (EAP).—Gracias a Dios: orilla del Río Mocorón, aldea de Mocorón, *C. Nelson & E. Vargas 5094* (CAS, MO).—Intibucá: Quebrada de Pelón de Guise, *A. Molina R. 6407* (EAP, F, LL).—Lempira: Parque Nacional de Celaque, summit trail from visitor center to Las Minas, ca. 14°33–34'N, 88°38–40'W, *T. Daniel & J. Araque 9886* (CAS, EAP).—Olancho: ca. 2.5 km above (N) Catacamas on lower slopes of Sierra de Agalta, ca. 14°53'N, 84°54'W, *T. Daniel & G. Pilz 9588* (CAS, EAP, MO).—Santa Bárbara: ca. 9 km SW of Peña Blanca, in wash near Los Laureles and along road to 2 km beyond toward El Higuerón, ca. 14°56'N, 88°04'W, *T. Daniel & J. Araque 9613* (CAS, EAP).—Yoro: Río Guaimas (Guayman) on hwy between Progresso and Tela, 15°30'N, 87°40'W, *G. Davidse et al. 34384* (EAP).

Unlike plants in El Salvador, which tend to confound *O. tubaeforme* and *O. glaberrimum* (M. E. Jones) V. M. Baum (Daniel 2001), those from Honduras generally share the distinctions seen in Mexican plants of *O. tubaeforme* noted by Daniel (1995c): whorled and sessile dichasia, rachis nearly glabrous or pubescent with appressed eglandular trichomes in lines, corolla red and shaped like those of the Mexican ones.

Pachystachys lutea Nees

This native of Peru is known only from cultivation in Honduras.

Representative Specimens. Comayagua: La Libertad, *Z. Caballero 138* (TEFH).—Copán: Copán Ruinas, *A. Molina R. & A. Molina 34304* (EAP).—El Paraíso: Las Dificultades, 10 km S de El Paraíso, *N. Pastor 855* (EAP).—Francisco Morazán: El Zamorano, Escuela Agrícola Panamericana, *A. Molina R. 27202* (EAP, F).

Poikilacanthus macranthus Lindau

Phenology. Flowering: April–May; fruiting: April–May.

Distribution and habitats. Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, Panama; cloud forests, moist forests, along streams; (600–) 1400–2200 m.

Representative Specimens. Cortés: Sierra de Merendón, Montaña del Carmen, *T. Pérez E. s.n.* (EAP).—El Paraíso: Planes de Cifuentes, 80 km E de Danlí, *C. Nelson & R. Andino 10309* (TEFH).—Gracias a Dios: alrededores del Río Plátano, ca. 25 km de la costa, W de Buena Vista, 15°40'N, 85°00'W, *A. Clewell & G. Cruz 4206* (EAP, MO).—Olancho: Agalta Natl. Park, trail between La Chorrera campsite and La Picucha summit, *W. D'Arcy 18064* (CAS, EAP, MO).—Santa Bárbara: eastern slopes of Cerro Santa Bárbara, *P. Allen et al. 6058* (EAP, F).

Variation in pubescence among collections of this species was noted by Daniel (1991a). The more conspicuously pubescent form of the species, formerly treated as *P. setiferus* Standl. & Steyerm., is represented by *Pérez E. s.n.* from Cortés. The lower elevation limit is an estimate based on locality data from *Clewell & Cruz 4206* and topographic maps of the region.

Pseuderanthemum alatum (Nees) Radlk.

Phenology. Flowering: September; fruiting: unknown.

Distribution and habitats. Mexico, Guatemala, Honduras, Nicaragua; moist forests; 600 m.

Representative Specimens. Olancho: orillas Quebrada El Ocote, 14 km NE de Juticalpa, *G. Adolfo Torres 48* (MO, TEFH).

Pseuderanthemum carruthersii (Seem.) Guillaumin

This species, purportedly native to Polynesia, is probably known only from cultivation in Honduras (although not noted as such on specimen labels).

Atlántida: La Unión, Ceiba, *D. Velásquez D. 121* (NY, TEFH).—Cortés: Aldea Tulián, 5 km W de Puerto Cortés, *S. Muñoz 125* (TEFH).—El Paraíso: Aldea El Chichicaste, *J. Sánchez Ch. 126* (TEFH).—Francisco Morazán: Nueva Armenia, *O. Méndez 123* (TEFH).—Valle: Amapala, *J. Valerio R. 3351* (EAP, F, RSA).—Yoro: 2 km N de Progreso, *R. Guevara 141* (TEFH).

Pseuderanthemum cuspidatum (Nees) Radlk.

Phenology. Flowering: May, August–December (chasmogamous), September–March (cleistogamous); fruiting: September–December.

Distribution and habitats. Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Venezuela, Ecuador; cloud forests, moist thickets, along streams; 500–1600 m.

Representative Specimens. Comayagua: El Resumidero, 4 km W de La Laguna, *B. Holst 1351* (EAP).—Cortés: Montaña de La Nieve, 20 km S de San Antonio de Cortés, *C. Nelson et al. 7902* (CAS, MEXU, MO).—El Paraíso: Mpio. El Paraíso, camino de El Paraíso a Las Dificultades, *J. Linares et al. 4022* (EAP, MEXU).—Lempira: faldas de Montaña Puca entre Guatán y Cuábanos, *A. Molina R. 12944* (EAP).—Olancho: Río Wampú, NE de Culmí, *C. Nelson & A. Clewell 694* (EAP, MO).—Yoro: Río Pijol Valley, 6–7 km S of Nueva Esperanza, 15°12'N, 87°35'W, *R. Liesner 26599* (CAS, EAP, MO, TEFH).

Plants with only budlike, cleistogamous flowers, plants with chasmogamous flowers (e.g., corollas to 30 mm long), and plants with flowers intermediate between these extremes (e.g., corollas ca. 10 mm long) are evident among Honduran representatives of this species. Cleistogamous-flowered individuals of *Pseuderanthemum* have been treated as various species of *Buceragenia* Greenm. (Daniel 1995a).

Pseuderanthemum liesneri T. F. Daniel, sp. nov.—TYPE: HONDURAS. Atlántida: Campamento Quebrada Grande, ca. 10 km SW of La Ceiba, base of N slope of Pico Bonito, from camp to 2 km S of camp, Río Bonito, 15°42'N, 86°51'W, 80–140 m, edge of forest next to cacao plantation, 14 May 1993, *R. Liesner 26343* (holotype: CAS!; isotypes: EAP, MEXU! MO! TEFH). Fig. 8.

Frutices usque ad 1.5 m alti. Folia brevi-petiolata, laminae subcoriaceae, ellipticae. Flores in paniculam racemoideam terminalem dispositi, rhachides puberulae trichomatibus eglandulosis, minus quam 0.05 mm longis; dichasia opposita, sessilia vel subsessilia, uniflora, solitaria axilla. Flores pedicellati. Calyx 1.3–1.5 mm longus. Corolla lavandula, 9–11.5 mm longa, extus puberula trichomatibus glandulosis et eglandulosis.

Shrubs to 1.5 m. Young stems ± evenly and minutely puberulent with erect eglandular trichomes less than 0.05 mm long. Leaves petiolate, petioles to 12 mm long, blades subcoriaceous, elliptic, 99–205 mm long, 33–73 mm wide, 2.6–3.7 times longer than wide, subacuminate to acuminate at apex, rounded to acute at base, surfaces appearing ± glabrous but with at least midvein minutely puberulent, margin entire to subsinuate, midvein canaliculate on adaxial surface. Inflorescence a terminal panicle of racemes, rachises minutely puberulent; dichasia opposite, sessile to subsessile (i.e., borne on peduncles to 0.2 mm long), 1-flowered, 1 per axil. Bracts triangular-subulate to subulate, 0.9–1.5 mm long, abaxial surface pubescent with erect to antrorse eglandular trichomes to 0.05 mm long. Bracteoles triangular to subulate, 0.5–1.1 mm long, abaxial surface pubescent like bracts. Flowers pedicellate, pedicels 1.5–2.2 mm long. Calyx 5-lobed, 1.3–1.5 mm long, lobes 0.8–1 mm long, abaxially puberulent like bracts. Corolla lavender, 9–11.5 mm long, externally puberulent with erect glandular and eglandular trichomes to 0.05 mm long, tube 5–6 mm long, sometimes ± expanded distally for 1–2 mm into a throat, limb 7–9 mm in diameter, upper lip 3.5–4.5 mm long, lobes 3.2–3.6 mm long, 2–2.2 mm wide, lower lip 4–5.5 mm long, lobes 3.9–4.2 mm long, 2.5–3 mm wide. Stamens exserted, 4.5–5.2 mm long, thecae 0.8–1.2 mm long, subequally inserted, subequal in size; pollen oblate-spheroidal to subprolate, 3-colporate, 6-pseudocolpate; staminodes 0.3–0.5 mm long, sometimes with rudimentary thecae. Style 2–3 mm long, sparsely pubescent proximally, stigma subcapitate, 2-lobed, less than 0.1 mm long. Ovary pubescent with antrorse eglandular trichomes. Capsule and seeds not seen.

Phenology. Flowering: May, November; fruiting: unknown.

Distribution and habitats. Endemic to northern Honduras (Atlántida); moist forests; 100–300 m.

PARATYPE. ATLÁNTIDA: Jilamito Viejo, 4.5 km S of Jilamito Nuevo, 15°30'N, 87°34'W, *P. Maas et al. 8497* (MO).

There is neither a worldwide account of *Pseuderanthemum* nor a treatment of the North American, Central American, or South American species. *Pseuderanthemum liesneri* does not conform to Colombian species treated by Leonard (1958) and

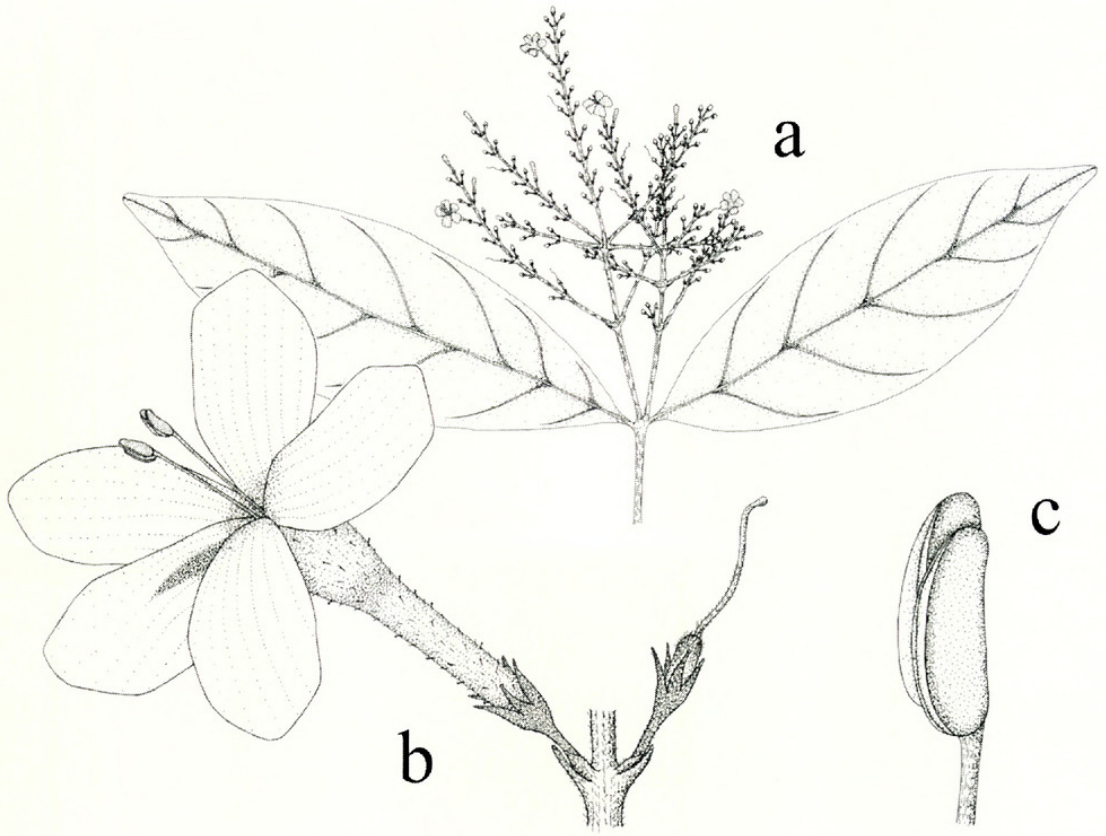

FIG. 8. *Pseuderanthemum liesneri* (*Liesner 26343*). a. Branch with inflorescences, ×0.45. b. Inflorescence node with flower (left) and calyx + gynoecium after dehiscence of corolla (right), ×5.5. c. Apex of stamen with anther, ×23. Drawn by Jennifer Kane.

differs from all other Mexican and Central American species of the genus by its small calyces (1.3–1.5 vs. 1.5–12 mm long) and chasmogamous corollas (9–11.5 vs. 15–45 mm long). Among Mesoamerican species, it superficially resembles *P. verazpazense*, which also occurs in Honduras (see below), but can be distinguished from that species by the following couplet:

Herbs to 6 dm tall; young stems with at least some internodes bifariously pubescent with flexuose to recurved trichomes 0.1–0.8 mm long; calyx 2.5–4 mm long, abaxially pubescent with glandular and eglandular trichomes; corolla (16–) 18–35 mm long; stamens included in corolla tube; style 13–20 mm long. *P. verapazense*

Shrubs to 1.5 m tall; young stems ± evenly puberulent with erect trichomes less than 0.05 mm long; calyx 1.3–1.5 mm long, abaxially pubescent with eglandular trichomes only; corolla 9–11.5 mm long; stamens exserted from mouth of corolla; style 2.6–3 mm long. *P. liesneri*

The androecial and gynoecial distinctions noted above may reflect different floral forms of heterostylous species. Heterostyly has been noted among various species of *Pseuderanthemum* (Daniel 1995b), but it has not been reported in *P. verapazense*. If *P. liesneri* is heterostylous, then the two known collections represent the "thrum" form. Cleistogamous flowers, which are also frequent among species of *Pseuderanthemum* (Daniel 1995a), were not observed on the collections of *P. liesneri*. Pollen of *P. liesneri* (Fig. 2h, i) resembles that reported for other Mexican and Central American species (Daniel 1998).

Pseuderanthemum praecox (Benth.) Leonard

Phenology. Flowering: November, February–May; fruiting: March–May.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica; cloud forests, evergreen montane forests, pine-oak forests, pine forests, meadows and along streams, secondary shrubby vegetation; 1050–2430 m.

Representative Specimens. Comayagua: Barranco de Trincheras [ca. 20 km N of Siguatepeque], *L. Williams & A. Molina R. 12530* (EAP).—Francisco Morazán: near Hoya Grande, *L. Williams & A. Molina R. 10996* (EAP).—Intibucá: Banos Las Piletas, La Esperanza, *A. Molina R. 6211* (EAP).—La Paz: Montaña Verde on Cordillera Guajiquiro, *A. Molina R. & A. Molina 24359* (EAP, F, NY).—Lempira: Parque Nacional de Celaque, ca. 7 km W of Gracias, summit trail, 14°33–34'N, 88°38–40'W, *T. Daniel & J. Araque 9861* (BR, CAS, EAP, K, MO, MICH, TEFH, US).—Ocotepeque: Reserva Biológica Guisayote, SE slope of Cerro Cocal, along trail ca. 100 m N of Santa Rosa de Copán–Nueva Ocotepeque hwy, ca. 13 km E of Nueva Ocotepeque, 14°28'N, 89°05'W, 2010 m, *R. Evans 1541* (EAP, MO).

Daniel (1995b) tentatively recognized both *Pseuderanthemum fasciculatum* (Oerst.) Leonard and *P. praecox* in Chiapas, Mexico. Salvadoran plants were treated as *P. fasciculatum* (Daniel 2001). Examination of Honduran collections referable to these taxa reveals that plants conforming to *P. praecox* differ from those conforming to *P. fasciculatum* only by lacking leaves. All Honduran (and Salvadoran) plants are here considered to belong to a single species, *P. praecox*, until such time as the taxonomy of this genus has been fully studied and resolved. Honduran plants of *P. praecox* differ from those of *P. cuspidatum* by their generally longer and glandular calyx.

Pseuderanthemum verapazense Donn. Sm.

Phenology. Flowering (cleistogamous) April; fruiting: April.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras; riverine forests; 265–360 m.

Santa Bárbara: Los Dragos, on Río Chamelecón SW of Quimistán, *P. Standley & H. Lindelie 7364* (EAP, F).

The sole collection representing the occurrence of this species in Honduras lacks chasmogamous flowers, but otherwise resembles specimens of this species occurring to the west of Honduras (described in Daniel 1995b). This represents the first report of *P. verapazense* in Honduras.

Ruellia coerulea Morong

Phenology. Flowering: May; fruiting: unknown.

Distribution and habitats. Mexico (presumably native), Bolivia, Brazil, Paraguay, Uruguay, Argentina and widely cultivated/naturalized in the Western Hemisphere; moist forests; sea level to 700 m.

Representative Specimens. Atlántida: El Naranjo, Las Mangas, *M. R. M. 29* (TEFH).—Islas de la Bahía: Roatán, Flowers Bay, *C. Nelson 2067* (TEFH).—Santa Bárbara: Lago de Yojoa, W shore near El Rincón, *S. Blackmore & M. Chorley 3695* (MO).

The Honduran collections of *R. coerulea* represent cultivated (e.g., *Nelson 2067*) and possibly naturalized plants. Daniel (1995b) discussed the taxonomy and distribution of this species, which has often been treated as *R. brittoniana* Leonard.

Ruellia fulgida Andr.

Phenology. Flowering: January–May; fruiting: May.

Distribution and habitats. Honduras, Nicaragua, Panama, Colombia, Venezuela, West Indies; moist forests and thickets, cafetales; 600–900 m.

Olancho: Catacamas, Montañas de Murmuyo, Sierra de Agalto, *S. Blackmore & G. Heath 1944* (MO); ca. 2.5 km above (N) Catacamas on lower slopes of Sierra de Agalta, ca. 14°53'N, 84°54'W, *T. Daniel & G. Pilz 9587* (CAS, EAP); Quebrada Catacamas cerca de la presa en Montaña Peña Blanca, 900 m, 28 April 1957, *A. Molina R. 8343* (lectotype of *R. molinae* D. N. Gibson, here designated: F!; isolectotype: EAP!); faldas del Cerro El Boquerón, 20 km NE de Juticalpa, *J. Segovia 178* (MO, TEFH); trail between Catacamas and La Presa, N of Catacamas, *P. Standley 18675* (EAP).—Yoro: near Puente Grande, on a tributary of the Río Agua (Río Puente Grande), *S. Blackmore & M. Chorley 4061* (MO).

All of the Honduran specimens studied are cited above. In the protologue of *Ruellia molinae*, Gibson (1973) indicated that the type was *Molina 8343* at F and EAP. Because she annotated the specimen at F as the holotype in 1972, it is designated as the lectotype of the species. Gibson (1973) compared *R. molinae* to *R. pereducta* Standl. ex Lundell, to which it appears closely related; however, *R. molinae* is indistinguishable from *R. fulgida,* and the name *R. molinae* is here included in the synonymy of that species. This pair of superficially similar species, *R. pereducta* and *R. fulgida*, can be distinguished in Honduras by the characters in the following couplet:

Axillary dichasia with flowers crowded into a headlike cluster at distal end of peduncle (when secondary peduncles rarely present, these arising from a headlike cluster and terminating in another headlike cluster); peduncles, abaxial surface of calyx lobes, and capsules conspicuously (and often ± densely) pubescent; corolla red; Honduras to South America. *R. fulgida*

Axillary dichasia conspicuously expanded between flowers (i.e., conspicuous secondary peduncles present and flowers not crowded into headlike clusters); peduncles, abaxial surface of calyx lobes, and capsules glabrous or with sparse and inconspicuous trichomes; corolla pink or pinkish purple; Mexico, Guatemala, Belize. *R. pereducta*

Whether these differences are better reflective of distinctions at the specific level (as treated here) or infraspecific variation that is largely correlated with geographic distribution remains a matter of conjecture at present.

Ruellia geminiflora H. B. K.

Phenology. Flowering: March–July, October; fruiting: March–December.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia, Brazil, Paraguay, Argentina; oak forests, pine forests, savannas, wet pastures, brushy slopes, along streams, disturbed areas; 350–1100 m.

Representative Specimens. Comayagua: Siguatepeque, *J. Valerio R. 2654* (EAP, F).—Copán: ca. 18 km NE of Copán on road to San Pedro Sula, *J. Poole & W. Watson 994* (LL).—Cortés: Río Armentas, *C. Thieme 5396* (CAS, US).—El Paraíso: below Guayabillas, near Quebrada Jagua, *A. Molina R. 652* (EAP).—Francisco Morazán: grounds of Escuela Agrícola Panamericana in El Zamorano, ca. 14°01'N, 87°01'W, *T. Daniel 9466* (CAS, EAP).—Lempira: Celaque National Park, ca. 7 km W of Gracias, ca. 14°34'N, 88°38'W, *T. Daniel & J. Araque 9625* (CAS, EAP).—Olancho: road to Las Lomas, NE of Catacamas, *P. Standley 18473* (EAP).—Yoro: ca. 5 km SE of Nueva Esperanza, ca. 15°16'N, 87°34'W, *T. Daniel & J. Araque 9519* (CAS, EAP, MO, US).

Nelson (1986) ascribed numerous medicinal attributes to this species, including use as an emetic and as a remedy for pneumonia, dysentery, jaundice, and intestinal obstructions.

Ruellia harveyana Stapf

Phenology. Flowering: April; fruiting: May.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras; wet forests; elevation unknown.

Representative Specimens. Colón: path to Río Negro Dam, 1.5 mi SE Trujillo, *J. Saunders 208* (NY).—Gracias a Dios: Río Plátano, *A. Clewell 4206* (TEFH).

Ruellia hookeriana (Nees) Hemsl.

Phenology: Flowering and fruiting throughout the year.

Distribution and habitats. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua; pine forests, pine-oak forests, thickets, along streams, pastures; 360–1600 m.

Representative Specimens. Choluteca: Mpio. San Marcos de Colón, El Aguacate, ca. 3 mi S of San Francisco, 13°21'N, 86°54'W, *G. Davidse et al. 35070* (EAP, MO).—Comayagua: Valle Comayagua, entre Las Mercedes y Villa de Flores, *A. Molina R. 14372* (EAP).—Copán: Yaragua Creek, 1 mi W of Copán Ruinas, *A. Molina R. & A. Molina 30866* (EAP, F, MO).—Cortés: San Pedro Sula, *T. Pérez E. s.n.* (EAP).—El Paraíso: 15 km N of Yuscarán, *L. Williams & A. Molina R. 18218* (EAP, F).—Francisco Morazán: near El Jicarito, toward Pedregal, *P. Standley 20856* (EAP, F).—Intibucá: Quebrada Santiago, ca. 24.5 km SW of Siguatepeque toward Jesús de Otoro near SW base of Sierra de Montecillos, ca. 14°31'N, 87°59'W, *T. Daniel & J. Araque 9642c* (CAS, K, EAP, MO, US).—Ocotepeque: Quebrada Tinasa, between Sinuapa and La Providencia, *A. Molina R. 22391* (EAP, F).—Olancho: Mpio. La Unión, ca. 10 mi E of La Unión on road to Olanchito, ca. 15°03'N, 86°35'W, *G. Davidse et al. 35070* (EAP).—Santa Bárbara: Los Dragos, on Río Chamelecón, SW of Quimistán, *P. Standley & H. Lindelie 7419* (EAP, F).—Yoro: Aguán River valley, vicinity of Coyoles, above village of Los Flores, *T. Yuncker et al. 8143* (F, MO, NY).

Considerable variation is evident in vegetative pubescence of this species. Densely pubescent plants from Honduras have been treated as a distinct species, *R. williamsii* Leonard [type: Francisco Morazán: drainage of the Río Yeguare, ca. 14°N and 87°W, near Las Mesas, 900 m, barranco in pine-oak forest, 11 July 1948, *L. Williams 14187* (holotype: US!)]. Leonard (1950) noted that *R. williamsii* is very closely related to *R. hookeriana* and that additional studies might show it to be merely a form of that species. He distinguished *R. williamsii* on the basis of its densely pilose younger stems, smaller (up to 4 cm long and 2 cm wide vs. mostly 5–6 cm long and 3 cm wide) leaf blades, and somewhat longer (15 mm long vs. ca. 10 mm long) calyx segments. All of the measurements noted by Leonard for the putative distinctions are encompassed by specimens of *R. hookeriana* from Chiapas, Mexico (Daniel 1995b). Thus, *R. williamsii* is herewith included in the synonymy of *R. hookeriana*. *Davidse et al. 35478* from Olancho differs from other individuals of *R. hookeriana* by its linear-oblanceolate (vs. subulate) calyx lobes.

Ruellia inundata H. B. K.

Phenology. Flowering: November–May; fruiting: November–May.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador, Brazil; moist thickets, dry thickets, dry forests, thornscrub, along streams, disturbed areas; 110–1400 m.

Representative Specimens. Choluteca: vicinity of San Marcos de Colón, *P. Standley 15789* (EAP, F).—Comayagua: Mpio. Villa de San Antonio, entre Villa de San Antonio y Ciudad de La Paz, ca. 3 km NE de Villa de San Antonio, 14°21'N, 87°37'W, *J. Linares et al. 2305* (EAP).—Cortés: Manacal Ranch, *J. Dickson 1148* (US).—El Paraíso: Río Choluteca near Ojo de Agua, *L. Williams & A. Molina R. 12727* (EAP).—Francisco Morazán: Río Yeguare near San Francisco, ca. 5 km S of El Zamorano, ca. 13°58'N, 86°59'W, *T. Daniel & J. Araque 9443* (CAS, EAP, K, MO, US).—Intibucá: Quebrada Santiago near SW

base of Sierra de Montecillos, ca. 24.5 km SW of Siguatepeque toward Jesús de Otoro, ca. 14°31'N, 87°59'W, *T. Daniel & J. Araque 9642b* (CAS, EAP).—La Paz: between Sadagua River and Llano San Antonio, *A. Molina R. 24127* (EAP, F).—Ocotepeque: entre Antigua Ocotepeque and Nueva Ocotepeque, *C. Nelson et al. 1498* (EAP).—Olancho: between Juticalpa and La Concepción, *P. Standley 17926* (EAP, F).—Santa Bárbara: along river ca. 1 km E of Santa Bárbara, ca. 14°55'N, 88°14'W, *T. Daniel & J. Araque 9621* (CAS, EAP, MO, US).—Valle: vicinity of Amapala, Isla Tigre, *P. Standley 20733* (NY, US).—Yoro: between Olanchito and Yoro, ca. 5 km E of Arenal, ca. 15°23'N, 86°51'W, *T. Daniel & J. Araque 9516* (CAS, EAP).

Variation in color of the corollas has been noted elsewhere for this species (Daniel 1995b). In Honduras, most plants have pink corollas, but both lavender and white corollas have been noted on herbarium labels.

Ruellia malacosperma Greenm.

Phenology. Flowering: September–November, May–June; fruiting: September–November, June.

Distribution and habitats. Mexico, cultivated and/or naturalized in other regions; moist thickets, dry forests; 10–950 m.

Representative Specimens. Comayagua: vicinity of Siguatepeque (cultivated), *P. Standley & J. Chacón P. 6641* (F).—Cortés: between Villa Nueva and Pimienta toward San Pedro Sula, *A. Molina R. & A. Molina 34428* (EAP, F, MO).—Francisco Morazán: Colonia Las Colinas, Tegucigalpa, *A. Molina R. 33853* (EAP).—Valle: Amapala, *J. Valerio R. 3362* (EAP, F, UC).

This species is commonly cultivated in warm regions, including Honduras. On the label of *Molina R. 33853*, from a ravine in Tegucigalpa, it is noted that the plants had probably escaped from cultivation. It remains to be determined whether the species is native or naturalized in Honduras, but the latter status seems more likely, and it is so treated here. The taxonomic status (e.g., whether it is distinct from *R. coerulea*) and origins (e.g., whether it is a hybrid) of this species have been widely speculated upon (e.g., Turner 1991; Daniel 1995b).

Ruellia matagalpae Lindau

Phenology. Flowering: January–May; fruiting: January–May.

Distribution and habitats. Mexico, Guatemala, Belize, Honduras, Nicaragua; moist forests, oak forests, second growth along rivers; 100–750 m.

Representative Specimens. Comayagua: quebrada El Caliche, vicinity of Taulabé, *A. Molina R. & A. Molina 31668* (EAP, F, MO).—Cortés: SW of Lake Yojoa near Punta Gorda, *P. Allen 6470* (EAP, F, GH, US).—Islas de la Bahía: Roatán, camino de French Harbour a Six Huts, *A. Oviedo 129* (F).—Olancho: lower slopes of Sierra de Agalta, 3–5 km above (N) of Catacamas, ca. 14°53'N, 85°54'W, *T. Daniel & G. Pilz 9599* (CAS, EAP, MO).—Santa Bárbara: Punta Gorda, Lago Yojoa, 14°53'N, 88°00'W, *R. Evans 1025* (EAP, MO).

Ruellia metallica Leonard

Phenology. Flowering: April; fruiting: January, April.

Distribution and habitats. Guatemala, El Salvador, Honduras, Costa Rica, Panama; moist forests; 50–120 m.

Representative specimens. Atlántida: Lancetilla Valley, ca. 3 km up Río Lancetilla from Lancetilla Botanical Garden, ca. 15°44'N, 87°27'W, *T. Daniel & J. Araque 9482* (CAS, EAP, K, MICH, MO, US).—Gracias a Dios: Cerro de Colón, 1 km S de Krausirpe, 15°03'N, 84°50'W, *P. House 1856* (TEFH).

This is the first report of this species from Honduras.

Ruellia nudiflora (Engelm. & A. Gray) Urb.

Phenology. Flowering: November, March, June–August; fruiting: November–August.

Distribution and habitats. U.S.A., Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, West Indies; deciduous forests, thickets, disturbed areas; 60–830 m.

Representative Specimens. Comayagua: 1 km a Comayagua, *A. Molina R. 14264* (EAP).—Copán: between Acropolis and Jaguar Temple of Copán Ruinas, *A. Molina R. 26250* (EAP, F, MO, NY, US).—Cortés: San Pedro Sula, *A. Molina R. & A. Molina 34332* (EAP).—Francisco Morazán: finca in Agua Blanca, ca. 5 km SW of Talanga, ca. 14°24'N, 87°07'W, *T. Daniel & G. Pilz 9605* (CAS, EAP, MO, US).—Olancho: waste ground in Catacamas, *T. Daniel & G. Pilz 9589* (CAS, EAP, MO).—Yoro: Mpio. Olanchito, 20 mi W of Olanchito on road to Yoro, 15°27'N, 86°43'W, *G. Davidse et al. 35520* (CAS, EAP, MO).

Among Honduran collections, this name has often been applied to plants treated here as *Ruellia puberula* (see below).

Ruellia paniculata L.

Phenology. Flowering: February–April; fruiting: February–April.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, West Indies, Colombia, Venezuela, Brazil; moist lake shores, thickets; 8–640 m.

Representative Specimens. Choluteca: 14 km SO Choluteca, *E. Repulski 643* (EAP).—Comayagua: El Banco, J. *Valerio R. 2375* (EAP, F).—Cortés: Río Lindo to Potrerillos, *L. Williams & A. Molina R. 17861* (EAP, F, US).

Ruellia puberula (Leonard) Tharp & F. A. Barkley

Phenology. Flowering: April–October; fruiting: throughout the year.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras; moist forests, moist thickets, dry thickets, arid scrub, disturbed areas; 500–1800 m.

Representative Specimens. Comayagua: Valle Comayagua entre Las Mercedes and Villa de Flores, *A. Molina R. 14358* (EAP).—Copán: La Florida to Hac. Esperitu Santo, *S. Blake 7401* (US).—Cortés: Lago de Yojoa, Isla de Venado, *M. García 86* (NY).—El Paraíso: alrededores de El Rodeo, ca. 10 km S de Yuscarán, *J. Linares & R. Metsger 1671* (EAP).—Francisco Morazán: Río Guarabuquí, terrenos de los indios Xicaques de la Montaña de La Flor, *A. Molina R. 3027* (EAP, F).—Intibucá: above Río Otoño, *F. Barkley & J. Hernández R. 40416* (GH).—La Paz: vicinity of La Paz, *P. Standley 24991* (EAP).—Olancho: Rancho Quemado, *W. Gillis 9602* (US).

Ruellia puberula was treated as a variety of *R. nudiflora* by Leonard (1927), and most Honduran collections of it have been identified as the latter species. Honduran collections of *R. puberula* differ from those of *R. nudiflora* by the characters in the following couplet:

Plants prostrate or procumbent; leaves mostly 13–45 mm long and 5–20 mm wide; inflorescence of long-pedunculate, eglandular dichasia from leaf axils above the base of the plant, a terminal glandular inflorescence absent; corolla externally pubescent with eglandular trichomes (or if glandular trichomes present, then these few and inconspicuous); capsules varying from entirely pubescent with eglandular trichomes (sometimes with glands at the apex) to pubescent only in the distal half and mostly lacking apical glands. *R. puberula*

Plants erect; leaves mostly 35–125 mm long and 17–45 mm wide; inflorescence of 1) basal, long-pedunculate, and eglandular or sparsely glandular dichasia, 2) a terminal, glandular inflorescence, and 3) laterally spreading, mostly glandular dichasia between the basal and terminal inflorescence; corolla externally pubescent with glandular and eglandular trichomes, the glands conspicuous; capsules entirely pubescent and including glandular trichomes (at least at apex). *R. nudiflora*

Ruellia standleyi Leonard

Phenology. Flowering: unknown; fruiting: May.

Distribution and habitats. Guatemala, Honduras, Nicaragua, Costa Rica; moist forests; 700 m.

Representative Specimens. Olancho: Mata de Maíz, O de Montaña Punta de Piedra, 30 km NE de Culmí, *C. Nelson & E. Vargas 2743* (MO, TEFH).

This distinctive species with crenate leaf margins, a densely glandular terminal inflorescence, greenish corollas, and linear-ellipsoid capsules has not been reported previously from Honduras.

Ruellia tuberosa L.

Phenology. Flowering: September; fruiting: April, August–September.

Distribution and habitats. West Indies, Colombia, Venezuela, Peru, naturalized in tropical regions worldwide; gardens and waste places; near sea level.

Representative Specimen. Atlántida: Tela, ca. 15°47'N, 87°28'W, *T. Daniel & J. Araque 9489* (CAS, EAP, MO, US).

This species is apparently both cultivated and naturalized in Honduras. *Daniel & Araque 9489* was naturalized in waste ground in Tela, whereas another collection from Tela (*Nelson 7781*, US) was collected from the patio of a house. Plants of this species typically produce both cleistogamous and chasmogamous flowers.

Sanchezia parvibracteata Sprague & Hutch.

This native of southern Central America and northern South America is likely known only from cultivation in Honduras.

Representative Specimens. Comayagua: Siguatepeque, *J. Valerio R. 2725* (EAP, F).—Francisco Morazán: vicinity of El Zamorano, *P. Standley 28490* (EAP).

A collection (*Rodríguez 192*, CAS, MO) from Montaña La Tigra in Francisco Morazán was not noted to have been cultivated and might represent a naturalized individual or population.

Spathacanthus hahnianus Baill.

Phenology. Flowering: August–September; fruiting: March.

Distribution and habitats. Mexico, Guatemala, Honduras; moist forests; 900–2300 m.

Representative Specimens. Cortés: 2 km NW de la quebrada de Cantiles, 15°32'N, 88°15'W, *C. Nelson et al. 16631* (TEFH).—Lempira: Parque Nacional Montaña de Celaque, Cerro Aguacatal, Las Chimis, San Manuel Colohete, *P. House et al. 185* (EAP).—Yoro: ca. 16 km from Yarucha [=Yaruca?] on Quebrada de Oro to Cerro Búfalo, *W. Holmes 4392* (NY, TEX).

Spathacanthus hahnianus was reported from Honduras by Daniel (1999b), who also provided a key to the three known species of the genus. These rare trees (to 12 m tall according to *House et al. 185*) and shrubs remain poorly known in Honduras. *House et al. 185* lacks corollas but likely represents this species.

Stenandrium chameranthemoideum Oerst.

Phenology. Flowering: March–May; fruiting: March–April.

Distribution and habitats. Mexico, Honduras; moist forests; 1200–1500 m.

Representative Specimens. Comayagua: Barranco Trincheras, ca. 20 km N of Siguatepeque, *A. Molina R. 1368* (EAP), *6964* (EAP, F), *A. Molina R. & A. Molina 25477* (EAP, F), *L. Williams & A. Molina R. 12517* (EAP), *18059* (EAP).

This is the first report of this species in Honduras and Central America. All five known Honduran collections of *S. chameranthemoideum* come from the same locality and are cited above. The Honduran plants differ from those in Mexico only by the young stems with antrorsely appressed (vs. erect to flexuose to retrorse) trichomes.

Stenandrium pedunculatum (Donn. Sm.) Leonard

Phenology. Flowering: June–November; fruiting: June–November.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua; pine forests, moist forests, along streams, grassy slopes; 800–1100 m.

Representative Specimens. Choluteca: near El Banquito, *L. Williams & A. Molina R. 10796* (EAP, F, US).—El Paraíso: Río Lizapa, Llano de Lizapa, *A. Molina R. 3955* (EAP, F, MO, US).—Francisco Morazán: near San Francisco, drainage of Río Yeguare, 14°N, 87°W, *A. Molina R. 218* (EAP, F, GH).

Stenostephanus hondurensis T. F. Daniel, sp. nov.—Type: Honduras. Copán: El Paraíso, Cerro Azul, 15°06'N, 88°55'W, 1700 m, bosque montano, 8 Mar 2000, *L. Zelaya & S. Laínez 336* (holotype: TEFH!). Fig. 9.

Perennis. Folia petiolata, laminae ellipticae, 120–175 mm longae, 36–70 mm latae, 2.5–3.4-plo longiores quam latiores. Inflorescentia thyrsi, rachis pubescens trichomatibus eglandulosis, dichasia pedunculata (1–) 3-flora, flores pedicellati. Corolla rubra, 17–18 mm longa, extus pubescens, labium superiorus 7–9 mm longum, labium inferiorus 8–11 mm longum lobis 2–4.5 mm longis. Capsula ignota.

Perennials of unknown height. Young stems subterete to subquadrate, ± evenly pubescent with antrorsely appressed eglandular trichomes 0.2–0.4 mm long, soon glabrate. Leaves petiolate, petioles to 25 mm long, blades elliptic, 120–175 mm long, 36–70 mm wide, 2.5–3.4 times longer than wide, acuminate at apex, attenuate at base, surfaces with antrorse eglandular trichomes, trichomes ± restricted to major veins, margin entire, ciliate. Inflorescence a terminal thyrse to 110 mm long (including peduncle), peduncle and rachis ± flattened to ridge-angled, evenly pubescent with erect to flexuose eglandular trichomes 0.05–0.2 mm long; dichasia opposite, (1–) 3-flowered, pedunculate, peduncles 1.5–2.5 mm long, pubescent like rachis. Bracts triangular-subulate, 1–1.2 mm long, 0.4–0.5 mm wide, abaxial surface pubescent like rachis or with the trichomes becoming ± antrorse. Bracteoles linear to triangular-subulate, 0.6–0.8 mm long, 0.2 mm wide, pubescent like bracts. Flowers pedicellate, pedicels 2.5–4 mm long, pubescent like rachis, lateral flowers borne on secondary peduncles 1.5–2 mm long. Calyx 1.5–2 mm long, abaxially pubescent with erect to antrorse eglandular trichomes to 0.05 mm long, lobes triangular-subulate, 1.2–1.5 mm long, subequal in length, 0.6–0.8 mm wide. Corolla linear to ± c-shaped in bud, red, 17–18 mm long, externally pubescent with erect to antrorse eglandular trichomes 0.05–0.1 mm long, tube 6–8 mm long, ± gradually expanded distally forming a ± distinguishable throat, narrow proximal portion 3.5–4 mm long, throat 3–4.5 mm long, 3–3.2 mm in diameter, widest near midpoint, upper lip straightforward to spreading, 7–9 mm long, 2 mm wide, lower lip 3-lobed, 8–11 mm long, lobes 2–4.5 mm long, 0.9–1.4 mm wide. Stamens inserted near base of corolla tube (in proximal 1/3), 16–17 mm long, thecae red, 3.2–3.8 mm long; pollen (Fig. 10c) globose-spherical, 2-porate, surface of

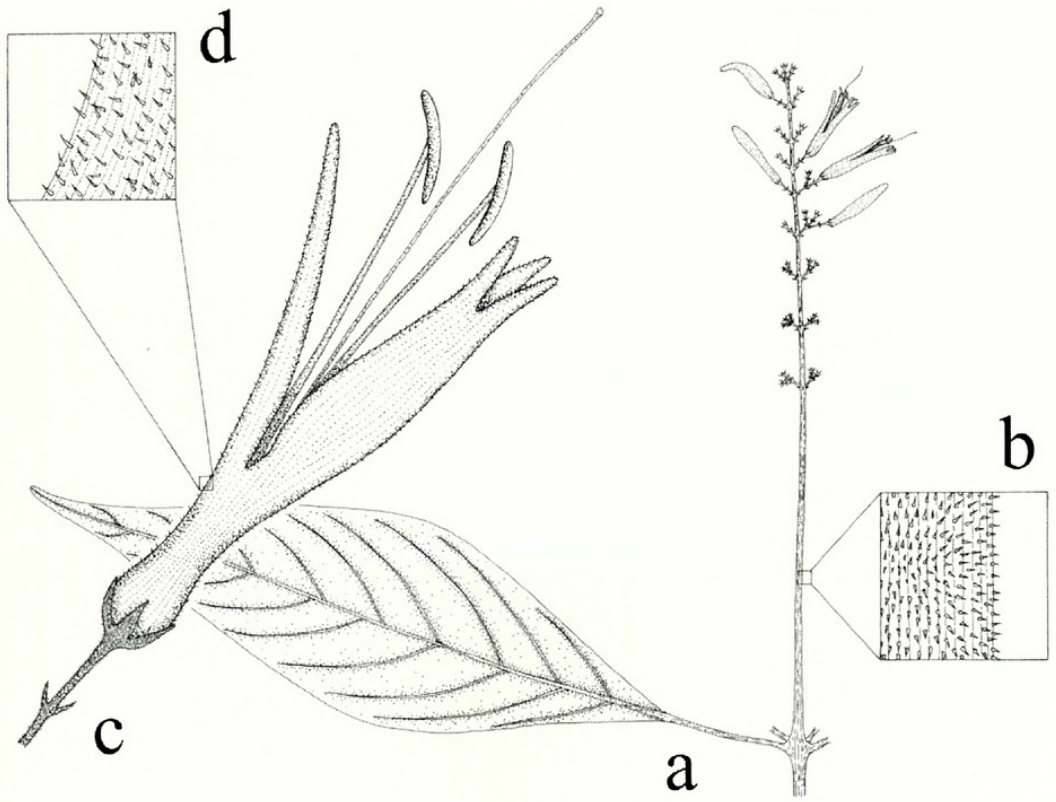

FIG. 9. *Stenostephanus hondurensis* (*Zelaya & Laínez 336*). a. Leaf and inflorescence, ×0.5. b. Detail of inflorescence peduncle showing pubescence, ×5.6. c. Portion of floral peduncle, bracteoles, pedicel, and flower, ×3.7. d. Detail of pubescence on external surface of corolla, ×19. Drawn by Jennifer Kane.

circular regions densely baculate to gemmate, peripheral band apparently continuous, baculate to gemmate. Style red, 20–22 mm long, glabrous, stigma 0.1 mm long, minutely 2-lobed. Ovary glabrous. Capsule and seeds not seen.

Phenology. Flowering: March; fruiting: unknown.

Distribution and habitats. Endemic to western Honduras; montane forests; 1700 m.

Stenostephanus Nees is a neotropical genus with about 75 species occurring from Mexico to Bolivia. This represents the first report of the genus in Honduras. It can be distinguished from other Honduran genera of Acanthaceae by the following combination of characters: cystoliths present, two stamens with 1-thecous anthers, and 2-porate pollen divided into two gemmate regions by a continuous or interrupted peripheral band. Species of *Stenostephanus* usually have very restricted distributions, and they tend to occur in cloud forests at relatively high elevations.

Hansteinia Oerst. and *Habracanthus* Nees are now treated as congeneric with *Stenostephanus* (Daniel 1995a, 1999a; Wasshausen 1999), but many of the nomenclatural combinations for Central American species have yet to be made. Daniel (1999a) revised the Mexican species; the Central American species are currently being studied. *Stenostephanus hondurensis* does not conform to any of the 24 currently recognized species of these genera from Mexico and Central America nor does it appear to be conspecific with South American taxa (Leonard 1958; Wasshausen 1999; Wasshausen & Wood 2001; Wood 1988). Superficially, it resembles *Habracanthus ruberrimus* D. N. Gibson from Guatemala by its more or less flattened to ridge-angled inflorescence peduncles and rachises, its red corollas, and generally similar pollen (Fig. 10c–e). That

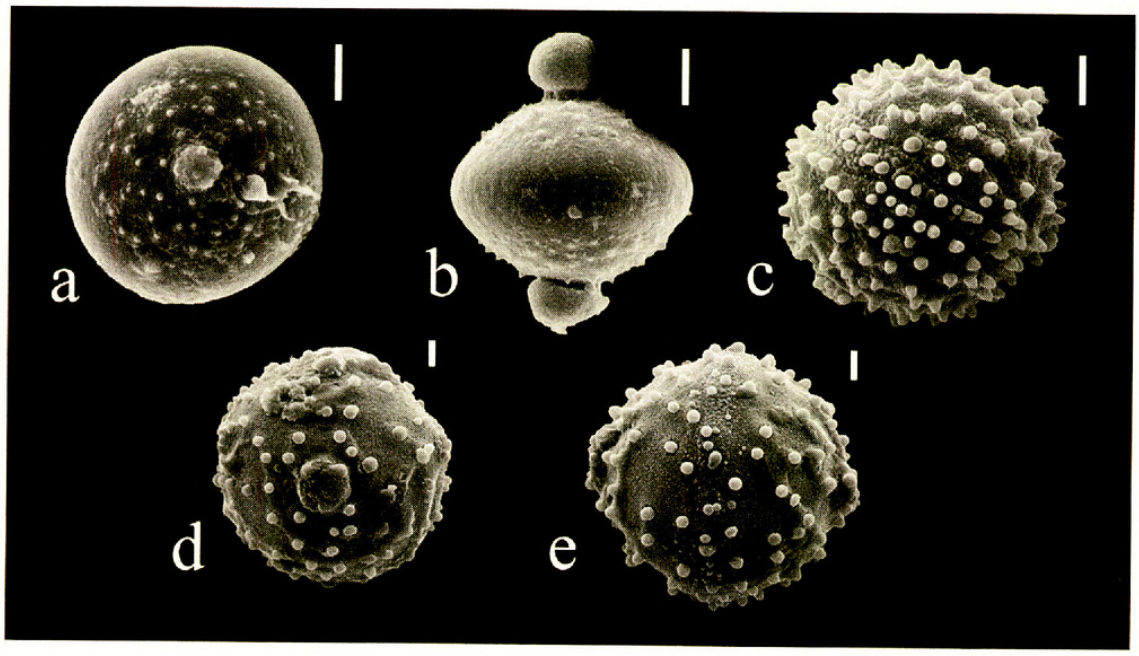

FIG. 10. Pollen of *Stenostephanus*. a. *S. sessilifolius* (*Liesner 26675*), apertural view. b. *S. sessilifolius* (*Liesner 26675*), interapertural view. c. *S. hondurensis* (*Zelaya & Laínez 336*), interapertural view. d. *S. ruberrimus* (*Contreras 6621* from Guatemala), apertural view. e. *S. ruberrimus* (*Contreras 6621*), interapertural view. Scale bar: = 5 μm.

species differs from *S. hondurensis* by its inconspicuously bifariously pubescent rachis with antrorse to antrorsely appressed trichomes, dichasia borne on peduncles 3–13 mm long, subulate bracts 1.5–3.5 mm long, calyx 5–6 mm long and abaxially glabrous, and corolla 25–36 mm long with the external surface covered with papillae less than 0.05 mm long.

Stenostephanus sessilifolius (Oerst.) T. F. Daniel, comb. nov. *Glockeria sessilifolia* Oerst., Vidensk. Meddel. Dansk Naturhist. Foren. Kjøbenhavn 1854: 141. 1855.*Galeottia sessilifolia* (Oerst.) Kuntze, Revis. gen. pl. 2: 490. 1891. *Hansteinia sessilifolia* (Oerst.) Durkee, Fieldiana, Bot. (n.s.) 18: 44. 1986.—TYPE: COSTA RICA. Heredia: "in monte Barba," 6000 ft, May 1847, *A. Oersted 10659* (holotype: C!).

Phenology. Flowering: May; fruiting: May.
Distribution and habitats. Honduras, Costa Rica; along streams; 1300–1500 m.

YORO: Río Pijol Valley, 7 km SE of Nueva Esperanza, 15°12'N, 87°35'W, *R. Liesner 26675* (EAP, MO).

A new combination in *Stenostephanus* is proposed for the species most recently treated as *Hansteinia sessiliflora* (Durkee 1986). Wood (1988) and Daniel (1995a) discussed the relationships of these and other genera with two monothecous stamens and biporate pollen.

This represents the first report of this species in Honduras. In late April of 2000, I was unsuccessful in relocating the population from which the only known Honduran collection was made in the region southeast of Nueva Esperanza. Morphological characters evident on Liesner's specimens fall within the range of variation observed on specimens of *S. sessilifolius* from Costa Rica, although they tend to have more

trichomes on the rachis and peduncles of the inflorescence. Label data on Liesner's collection describe the corollas as orange. Most plants of *S. sessilifolius* have corollas that are red dorsally and yellow ventrally. Corollas on some collections from Costa Rica (e.g., *Koptur SK-92*) are sometimes described as "orange-red," when it is evident (even from the dried corollas) that they are red dorsally and yellow ventrally. In their dried state, it is not possible to determine the color of the corollas from the sole Honduran specimens. Pollen of *S. sessifolius* from Honduran plants (Fig. 10a, b) concurs with that of Costa Rican plants.

The two species of *Stenostephanus* in Honduras can be distinguished using the following couplet:

Inflorescence peduncles and rachis evenly pubescent; bracteoles linear to triangular-subulate, 0.6–0.8 mm long; calyx 1.5–2 mm long; corolla externally pubescent; thecae 3.2–3.8 mm long; pollen with peripheral band baculate to gemmate. *S. hondurensis*

Inflorescence peduncles and rachis glabrous to bifariously pubescent; bracteoles subulate, 1–1.7 (–2.5) mm long; calyx 5–13.5 mm long; corolla externally glabrous; thecae 2.5–3 mm long; pollen with peripheral band psilate to subpsilate. *S. sessilifolius*

Tetramerium nemorum Brandegee

Phenology. Flowering: February–May; fruiting: May.

Distribution and habitats. Mexico, Guatemala, El Salvador, Honduras, Nicaragua; dry forests, thornscrub, along streams; 350–690 m.

Representative Specimens. Comayagua: vicinity of Comayagua, *P. Standley & J. Chacón P. 5911* (EAP, F).—El Paraíso: road between Yuscarán and Oropolí, 10–14 km N of Oropolí, ca. 13°55'N, 86°48'W, *T. Daniel et al. 9569* (CAS, EAP, K, MO, US).—Francisco Morazán: ca. 21 km SE of Talanga along road to Villa de San Francisco, ca. 14°14'N, 87°01'W, *T. Daniel & G. Pilz 9606* (CAS, EAP, K, MEXU, MICH, MO, UPS).

The type of the taxonomic synonym, *Averia melanosperma* Leonard, is from Honduras: El Paraíso, thicket along Choluteca River near Ojo de Agua, 559 m, 1 Feb 1947, *L. Williams & A. Molina R. 14050* (holotype: US!; isotype: F!).

Tetramerium nervosum Nees

Phenology. Flowering: January–February, May; fruiting: January–February, May.

Distribution and habitats. U.S.A., Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru; dry forests, thornscrub, disturbed areas, along streams; 110–1200 m.

Representative Specimens. Choluteca: El Escudo, 4.5 km W de San Francisco, *C. Nelson 1364* (EAP).—El Paraíso: vicinity of Río California, between Río Choluteca and Jacalapea, *P. Standley 29163* (EAP, F).—Francisco Morazán: grounds of Escuela Agrícola Panamericana in El Zamorano, S of livestock sheds, ca. 14°01'N, 87°01'W, *T. Daniel 9549* (CAS, EAP, MO, US).—Valle: Gulf of Fonseca, Tiger Island, 1838, *A. Sinclair s.n.* (type of *T. polystachyum* Nees: holotype: K!).

Daniel (1986) equated *T. polystachyum* with *T. nervosum*. Plants resembling the type of the former name have since been recollected on Isla Tigre (e.g., *P. Standley 20700* at NY and US). Sinclair's type specimen represents one of the first known plants to have been collected in Honduras (Nelson 1990, 1996).

Thunbergia alata Bojer ex Sims

Phenology. Flowering: throughout the year; fruiting: July–September, December–April.

Distribution and habitats. Africa, naturalized throughout the tropics; gardens, disturbed areas, beaches; 0–1600 m.

Representative Specimens. Atlántida: 8.1 km S of La Ceiba near Río Cangrejal on road to Yaruca, *T. Daniel & J. Araque 9514* (CAS, EAP, MO, US).—Choluteca: vicinity of San Marcos de Colón, *P. Standley 15701* (EAP, F).—Colón: Trujillo, *A. Clewell et al. 4282* (EAP, MO).—Comayagua: vicinity of Siguatepeque, *P. Standley & J. Chacón P. 6635* (F).—Copán: 10 mi W of Copán toward La Entrada, *T. Croat 42513* (MO).—Cortés: vicinity of La Lima, *P. Standley & J. Chacón P. 7193* (F).—El Paraíso: El Paraíso, *A. Molina R. 27207* (EAP, F, US).—Francisco Morazán: Zamorano, *J. Valerio R. 3543* (EAP, F, US).—La Paz: vicinity of Marcala town, Marcala River, *A. Molina R. & A. Molina 24277* (EAP, F, NY).—Lempira: Cd. Gracias, ca. 14°25'N, 88°35'W, *C. Nelson et al. 320* (MO).—Ocotepeque: vicinity of Nuevo Ocotepeque, Sinuapa River, *A. Molina R. 22160* (EAP, F, NY).—Olancho: Campamento, *I. Guerra C. 112* (MO).—Santa Bárbara: alrededores de Santa Bárbara, Río Ulúa, *A. Molina R. 3804* (EAP, F, GH, US).—Yoro: near Progresso, *P. Standley 55008* (F, US).

This species is both cultivated and naturalized in Honduras.

Thunbergia erecta (Benth.) T. Anderson

This native of western tropical Africa is known only from cultivated plants in Honduras.

Representative Specimens. Atlántida: Tela, *A. Molina R. & A. Molina 34698* (EAP).—Colón: Faust, 4 km N de Sonaguera, *N. Pastor E. 972* (EAP).—Francisco Morazán: Zamorano, *J. Valerio R. 2242* (EAP, F).

Thunbergia fragrans Roxb.

Phenology. Flowering: December–February, May, August; fruiting: December–February, May.

Distribution and habitats. India, naturalized in many tropical regions; gardens, disturbed areas; 40–1000 m.

Representative Specimens. Atlántida: near Lancetilla, *T. Yuncker 5017* (F, NY).—Comayagua: Agua Caliente, vaguada de Río Chamo y Río Humuya, *C. Nelson et al. 6447* (MEXU, MO).—Cortés: 5 km de San Pedro Sula, Río Arenales, El Sauce, *A. Molina R. 3827* (EAP, F, GH, US).—El Paraíso: vicinity of Danlí, *P. Standley 16681* (EAP, F).—Francisco Morazán: Cementerio General, Comayagüela, *C. Sherman 152* (NY).—La Paz: alrededores de La Paz, *M. Medina 230* (MO).—Yoro: near Mindanao, *J. Dickson 911* (EAP).

This species is both cultivated and naturalized in Honduras.

Thunbergia grandiflora Roxb.

Phenology. Flowering: November–May, August; fruiting: unknown.

Distribution and habitats. India through southeastern Asia, cultivated and naturalized in tropical regions; gardens, disturbed areas; 80–800 m.

Representative Specimens. Atlántida: Lancetilla Experiment Station, *T. Yuncker 5030* (NY).—Choluteca: aldea Las Delicias, 20 km N de Choluteca, *J. Segovia 40* (MEXU).—El Paraíso: outskirts of Danlí, *N. Harriman 14586* (MO).—Francisco Morazán: El Zamorano, *A. Molina R. & A. Molina 34795* (EAP, MO).—Olancho: vicinity of Juticalpa, *P. Standley 18084* (EAP).

This species is cultivated and reputedly naturalized (e.g., *Standley 18084*) in Honduras. Some cultivated plants from El Zamorano (e.g., *Valerio R. 1097, 2289*, both at EAP) have narrow leaves lacking large marginal teeth (they also have coarsely and irregularly sinuate margins and three major veins). They are suggestive of *Thunbergia laurifolia* and may represent that species.

Excluded Names

The following names have been cited from Honduras in one or more sources. They are excluded based on the reasons provided.

Aphelandra aurantiaca var. *stenophylla* Standl. = narrow-leaved form of *Aphelandra aurantiaca* Lindl. (Daniel, 1991b, and see above).

Aphelandra deppeana Schltdl. & Cham. = *Aphelandra scabra* (Vahl) Sm. (Daniel 1991b).

Aphelandra repanda Nees = narrow-leaved form of *Aphelandra aurantiaca* (Daniel 1991b and see above).

Asystasia coromandeliana Nees = *Asystasia gangetica* T. Anderson (Fosberg et al. 1993).

Averia longipes (Standl.) Leonard = *Tetramerium nemorum* Brandegee (Daniel 1986).

Averia melanosperma Leonard = *Tetramerium nemorum* (Daniel 1986).

Barleria micans Nees = *Barleria oenotheroides* Dum. Cours. (Daniel 1995a).

Beloperone guttata Brandegee = *Justicia brandegeana* Wassh. &. L. B. Sm. (Daniel 1989).

Beloperone variegata Lindau.—This name is a synonym of *Justicia chamaephyton* D. N. Gibson (Daniel 1993b), a species known only from southern Costa Rica. Molina's (1975) inclusion of it among Honduran Acanthaceae was likely based on a misidentification.

Beloperone violacea Planch. & Linden.—This name was applied to plants collected from the Gulf of Fonseca by Hemsley (1882), who also noted the taxonomic synonym, *Justicia carthagenensis* Jacq. If these two names do indeed apply to the same species, then the correct name for it in *Justicia* is *J. carthagenensis*.

Blechum brownei Juss. = *Blechum pyramidatum* (Lam.) Urb. (Daniel 1995a).

Buceragenia glandulosa Leonard = *Pseuderanthemum cuspidatum* (Nees) Radlk. (Daniel, 1995b, and see above).

Carlowrightia costaricana Leonard = *Carlowrightia arizonica* A. Gray (Daniel 1995b).

Chaetothylax rothschuhii Lindau = *Justicia micrantha* (Oerst.) V. A. W. Graham (see above).

Crossandra undulaefolia Salisb. = *Crossandra infundibuliformis* (L.) Nees (Bailey 1949).

Dicliptera assurgens (L.) Juss. = *Dicliptera sexangularis* (L.) Juss. (Daniel 1995b).

Dicliptera brachiata Spreng.—This name applies to a species of the southern United States and northern Mexico. Molina's (1975) inclusion of it from Honduras was based on a misidentification.

Dicliptera sumichrasti Lindau.—See above under *Dicliptera antidysenterica* A. Molina R.

Dicliptera vahliana Nees = *Dicliptera sexangularis* (Daniel 1995b).

Dyschoriste hondurensis Leonard = *Dyschoriste quadrangularis* (Oerst.) Kuntze (see above).

Dyschoriste oaxacensis Kobuski = *Dyschoriste capitata* (Oerst.) Kuntze (Daniel 1995b).

Dyschoriste skutchii Leonard = *Dyschoriste capitata* (Daniel 1995b).

Eranthemum nervosum (Vahl) R. Br. ex Roem. & Schult. = *Eranthemum pulchellum* Andr. (Fosberg et al. 1993).

Fittonia argyroneura Coem. = *Fittonia albivenis* (Lindl. ex Veitch) Burmmitt (Brummitt 1980).

Henrya scorpioides (L.) Nees.—Although this name is commonly applied to plants of *H. insularis* Nees ex Benth., its basionym pertains to *Dicliptera sexangularis* (Daniel 1990).

Hygrophila conferta Nees = *Hygrophila costata* Nees (Daniel 1995b).

Hygrophila guianensis Nees = *Hygrophila costata* (Daniel 1995b).

Hypoestes sanguinolenta Hook. f.—This name is commonly misapplied to *Hypoestes phyllostachya* Baker (Daniel 1995b).

"*Jacobinia pohliana* var. *velutina* Hort. "—This "name" was cited by Molina (1975). I find no evidence for its publication.

Jacobinia spicigera (Schltdl.) L. H. Bailey = *Justicia spicigera* Schltdl. (Daniel 1995b).

Jacobinia umbrosa (Benth.) Blake = *Justicia aurea* Schltdl. (Daniel 1995b).

Justicia chamaephyton D. N. Gibson.—This species of southern Costa Rica is not known from Honduras. Molina's (1975) inclusion of it was based on a misidentification.

Justicia corynimorpha D. N. Gibson = *Justicia carthagenensis* Jacq. (Daniel 1995b).

Justicia fulvicoma Schltdl.—See above under *Justicia ciriloi* T. F. Daniel.

Justicia olanchana Standl. & L. Williams, nomen nudum—Although listed by Molina (1975), this manuscript name was never published; plants so annotated are *Justicia ramulosa* (Morong) C. Ezcurra.

Justicia peckii (S. F. Blake) Standl. = *Justicia breviflora* (Nees) Rusby (Daniel 1995b).

Justicia tinctoria (Oerst.) D. N. Gibson = *Justicia colorifera* V. A. W. Graham (Daniel 1995b).

Justicia trichotoma (Kuntze) Leonard.—See above under *Justicia pilzii* T. F. Daniel.

Justicia tuerckheimiana Donn. Sm. = *Justicia candelariae* (Oerst.) Leonard (Daniel 1995b).

Mendoncia costaricensis Oerst.—Standley (1931) used this name for plants from the Lancetilla Valley, and Molina (1975) included it in his list of Honduran Acanthaceae. A Standley collection from Lancetilla at F that was labeled with this name is *Mendoncia retusa* Turrill. *Mendoncia costaricesis* is not known from Honduras.

Nelsonia brunelloides (Lam.) Kuntze—Although this name has often been used in referring to plants treated above as *Nelsonia canescens* (Lam) Spreng., Barker (1986) indicated that its basionym pertains to *Hemigraphis*.

Odontonema callistachyum (Schltdl. & Cham.) Kuntze.—Not known from Honduras; see above under *O. cuspidatum* (Nees) Kuntze.

Odontonema paniculiferum S. F. Blake.—Yuncker (1940) used this name for plants from Atlántida. It was included in the synonymy of *Odontonema hondurense* (Lindau) D. N. Gibson by Daniel (1997).

Poikilacanthus setiferus Standl. & Steyerm. = *Poikilacanthus macranthus* Lindau (Daniel 1991a, and see above).

Pseuderanthemum atropurpureum (W. Bull) Radlk. = *Pseuderanthemum carruthersii* (Seem.) Guillaumin (Daniel 1995b).

Razisea spicata Oerst.—*Standley 14158* (F), supposedly collected from moist pine-oak forest at 1600 m at Monte Oscuro in the department of Francisco Morazán, has written across the label, "mixed label, this plant may not be from Honduras." Lacking additional confirmation of the presence of this species in Honduras, it is excluded from the acanthaceous flora of the country. As noted above, it might be expected to occur there in moist forests.

Ruellia brittoniana Leonard = *Ruellia coerulea* Morong (Daniel 1995b).

Ruellia campestris (Oerst.) Hemsl.—This name, based on a fragmentary collection from Costa Rica and not treated by Durkee (1986), has been applied to plants from Honduras. Honduran specimens determined with this name (e.g., *Gillis 9602* at US) are treated here as *Ruellia puberula*.

Ruellia latibracteata D. N. Gibson = *Blechum grandiflorum* Oerst. (see above).

Ruellia molinae D. N. Gibson = *Ruellia fulgida* Andr. (see above).

Ruellia williamsii Leonard = *Ruellia hookeriana* (Nees) Hemsl. (see above).

Siphonoglossa hondurensis Standl. & Steyerm. = *Justicia ramosa* (Oerst.) V. A. W. Graham (see above).

Siphonoglossa ramosa var. *hondurensis* (Standl. & Steyerm.) Hilsenb. = *Justicia ramosa* (see above).

Siphonoglossa sessilis (Jacq.) D. N. Gibson.—See above under *Justicia ramosa*.

Teliostachya alopecuroidea (Vahl) Nees = *Lepidagathis alopecuroidea* (Vahl) R. Br. ex Griseb. (Daniel 1995b).

Tetramerium polystachyum Nees = *Tetramerium nervosum* Nees(Daniel 1986).

Thunbergia alba S. Moore.—Molina (1975) listed this name for cultivated acanthaceous plants, probably in reference to white-flowered individuals of *T. alata* Bojer ex Sims.

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