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The Genus *Piper* (Piperaceae) in Honduras

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ABSTRACT. In preparation for a detailed account of the genus *Piper* L. in Honduras, a nomenclator is provided that includes the name, reference citation, and type information for species accepted. A total of 45 taxa are currently recognized, with over 100 names (species level and below) listed in synonymy, 58 of which are new. Lectotypification is provided for the following taxa for which types were not designated at the time of publication: *Piper cobanense* Trelease, *P. cyclophyllum* Trelease, *P. gracillimum* Trelease, *P. perinaequilongum* Trelease, *P. telanum* Trelease, *P. triumphale* Trelease, *P. wilsonii* Trelease, and *P. yzabalanum* C. DC. var. *pubinerve* Trelease.

RESUMEN. En anticipo al tratamiento detallado del género *Piper* L. en Honduras proveemos un nomenclátor que incluye el nombre, la cita bibliográfica de referencia y la información del tipo para cada especie aceptada. Al momento se reconocen 45 taxones con más de 100 nombres (a nivel de especie y abajo) listados en sinonimia, 58 de los cuales son nuevos. Se provee la lectotipificación para los siguientes taxones para los cuales el tipo no fue asignado al tiempo de su publicación: *Piper cobanense* Trelease, *P. cyclophyllum* Trelease, *P. gracillimum* Trelease, *P. perinaequilongum* Trelease, *P. telanum* Trelease, *P. triumphale* Trelease, *P. wilsonii* Trelease y *P. yzabalanum* C. DC. var. *pubinerve* Trelease.

Key words: Honduras, *Piper*, Piperaceae.

Paul Standley and Truman Yuncker (sometimes with colleagues) collected extensively in Honduras during the late 1920s and 1930s, respectively. As a result of their activities, and because there was a general lack of botanical information from Honduras prior to their efforts, they eventually published several initial floristic treatments (Standley, 1931; Yuncker, 1938, 1940). Both authors received assistance from William Trelease concerning the Piperaceae, as he was recognized at that time as the world authority for the family. Trelease examined virtually all of their

collections of the Piperaceae (primarily at the Field Museum (F), the U.S. National Herbarium (US), or the University of Illinois (ILL)), and also separately published an article in which new species were described on the basis of Standley's Honduran material (Trelease, 1929). Although the nomenclatural requirement for type citation (on or after 1 January 1958) did not exist at the time of these various publications, Trelease usually indicated types. Unfortunately, in his treatment of the family for Standley's 1931 publication, no type specimens were specifically mentioned for nine new species, other than a basic reference to their collection locality. While preparing an account of the Piperaceae types in the University of Illinois herbarium, Almut Jones (1985) designated a lectotype for one of these nine names (*Piper quiriguano* Trelease). We have completed this task by designating eight lectotypes on the following pages for the remaining Trelease names.

In considering which specimens to choose as lectotypes, we consulted the introduction (Standley, 1931), where it is clear that the flora of the Lancetilla Valley was based primarily on Standley collections made in 1927–1928, and that those specimens were “determined and the present flora was written at the Field Museum” (Standley, 1931: 47). Hence, most of our choices for lectotypes are from specimens at F. However, it is also apparent that Standley had access to a series of collections by Percy Wilson of the New York Botanical Garden (NY), made in 1903 in the area near Tela (at that time known as Puerto Sierra). Two of the lectotypes we have designated are based on these Wilson collections, since Trelease specifically annotated these sheets as the “Type.”

Anyone who has studied the taxonomic history of the Piperaceae soon comes to the realization that Trelease had a strong tendency to describe new species on the basis of minor variations in morphology, especially vegetative features. In addition, he apparently believed that species were rather limited

in their distribution, with ranges that corresponded to political or geographic boundaries. Therefore, similar collections from neighboring countries would often be described as new simply because they occurred in a different country or region (Standley & Steyermark, 1952). The overall result was the description of numerous species, varieties, and forms from Honduras, most of which had already been described previously. In an effort to update the taxonomy and nomenclature for *Piper* L. in Honduras prior to our formal treatment of the genus, we provide here a nomenclator of species along with extensive synonymy and relevant type information. A total of 45 taxa are recognized, but several of these names (e.g., *Piper biauratum* C. DC., *P. bisasperatum* Trelease, *P. chamissonis* (Miquel) Steudel ex C. DC., *P. chrysostachyum* C. DC., *P. peracuminatum* C. DC., and *P. perhispidum* C. DC.) are included on the basis of tentative identifications.

A similar checklist was published by Nelson Sutherland (2001), but without critical evaluation for many of the taxa. He recognized 54 species of *Piper* in Honduras, and 34 of the names he accepted based on Honduran types have been reduced here to synonymy after comparison with recent treatments of the genus *Piper* from Central America (e.g., Burger, 1971; Callejas, 2001; Tebbs, 1989, 1990, 1993) and our thorough examination of specimens. The only other checklist from Honduras of which we are aware was published by Molina (1975). This is simply a list of names of species (114 total) identified as occurring in Honduras on the basis of collections in the herbarium at Escuela Agrícola Panamericana (EAP), but without any attempt to evaluate the disposition of these names against recent literature concerning the Piperaceae. Of the 114 names Molina included, 20 are recognized here; 64 are reduced to synonymy herein because they are based on types from Honduras; 18 others have been recognized as synonyms in other floristic treatments; four names are ined., having never been published; four are legitimate names as recognized in other recent floristic treatments, but have not been verified by us as occurring in Honduras; one name is an illegitimate homonym (*P. striatum* C. DC.); one is a cultivated taxon (*P. nigrum* L., black pepper); and two are based on sterile specimens, so their exact disposition is uncertain and likely will remain so (*P. rinconense* Trelease and *P. yousei* Trelease).

Piper is generally characterized throughout the Neotropics as a genus of understory shrubs or small trees, or occasionally vines, with swollen nodes and aromatic properties due to the presence of ethereal oil cells; alternate, simple leaves with palmate or pinnate venation; and bisexual, perianth-less flowers usually arranged in leaf-opposed, bracteate spikes, or less

often racemes. Each flower consists of two to six stamens and three or four fused carpels. The fruit is a small drupe. This description applies well to the 45 taxa we have recognized below.

1. *Piper achoteanum* Trelease, J. Washington Acad. Sci. 19: 328. 1929. TYPE: Honduras. Comayagua, El Achote, near Siguatepeque, *P. C. Standley 56125* (holotype, F; isotypes, A, ILL, US).

Piper pictamentum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 352. 1938. TYPE: Honduras. Comayagua, vic. Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5902* (holotype, ILL; isotypes, F, GH, MO, NY).

Piper pictamentum Trelease var. *fluminis* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 352. 1938. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5718* (holotype, ILL; isotypes, F, GH, MO, NY, US).

Piper yunckeri Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 355. 1938. TYPE: Honduras. Comayagua, near El Achote, hills above plains of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6331* (holotype, ILL; isotypes, F, GH, MO, NY, US).

Piper yunckeri Trelease var. *latum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 355. 1938. TYPE: Honduras. Comayagua, near El Achote, hills above plains of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6333* (holotype, ILL; isotypes, F, GH, MO, NY).

2. *Piper aduncum* L., Sp. Pl. 29. 1753. TYPE: Jamaica. Plumier, Descr. Pl. Amér., tab. 77. 1693 (lectotype, designated by Saralegui Boza, 2004: 81, tab. 77, in Plumier, 1693).

Piper nonconformans Trelease, J. Washington Acad. Sci. 19: 334. 1929. Syn. nov. TYPE: Honduras. Comayagua, vic. Siguatepeque, *P. C. Standley 55906* (holotype, F; isotypes, A, ILL, US).

Piper multinervium Martens & Galeotti var. *flavicans* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 348. 1938. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5859* (holotype, ILL; isotypes, F, GH, MO, US).

Piper multinervium Martens & Galeotti var. *hirsuticaule* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 348. 1938. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5724* (holotype, ILL; isotypes, F, GH, MO, US).

Piper multinervium Martens & Galeotti var. *paralense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 348. 1938. TYPE: Honduras. Cortés, near Paral, Lake Yojoa, *T. G. Yuncker 4877* (holotype, ILL not seen; isotype, NY).

Piper multinervium Martens & Galeotti var. *peracutum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 349. 1938. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54921* (lectotype, designated by Jones, 1985: 59, ILL; isotypes, F, US).

Piper multinervium Martens & Galeotti var. *productipes* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 349. 1938. TYPE: Honduras. Comayagua, near El Achote,

- above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5819* (holotype, ILL; isotypes, F, GH, MO).
- Piper multinervium* Martens & Galeotti var. *protractifolium* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 349. 1938. TYPE: Honduras. Comayagua, above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5668* (holotype, ILL; isotypes, F, GH, MO, US).
- Piper multinervium* Martens & Galeotti var. *puberulipedunculatum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 349. 1938. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5876* (holotype, ILL; isotypes, F, GH, MO).
- Piper multinervium* Martens & Galeotti var. *pubescenticaule* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 350. 1938. TYPE: Honduras. Comayagua, Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5731* (holotype, ILL; isotypes, F, GH, MO).
- Piper multinervium* Martens & Galeotti var. *telanum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 350. 1938. TYPE: Honduras. Atlántida, Tela, *P. C. Standley 53264* (holotype, F; isotypes, ILL, US).
- 3. *Piper aequale*** Vahl, Eclog. Amer. 1: 4, pl. 3. 1797. TYPE: Montserrat, *J. Ryan s.n.* (holotype, C not seen; isotype, IDC 2201: 54.6).
- Piper atrichopus* Trelease, J. Washington Acad. Sci. 19: 330. 1929. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54594* (holotype, F; isotypes, A, ILL, US).
- Piper epilispes* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 344. 1938. TYPE: Honduras. Comayagua, El Achote, above plains of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6296* (holotype, ILL; isotypes, F, GH, MO, NY).
- Piper epilispes* Trelease var. *heterophyllum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 345. 1938. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6097* (holotype, ILL; isotypes, F, GH, MO, NY, US).
- 4. *Piper amalago*** Linnaeus, Sp. Pl. 29. 1753. TYPE: Jamaica. Sloane, Voy. Jamaica 1: 134, tab. 87, fig. 1. 1707 (lectotype, designated by Howard, 1973: 400, tab. 87, fig. 1 in Sloane, 1707).
- Piper tiguatum* C. DC., J. Bot. 4: 218. 1866. TYPE: Honduras. Valle, Isla del Tigre, Golfo de Fonseca, *G. W. Barclay 2633* (lectotype, designated by Nelson Sutherland, 1996: 59, K not seen).
- Piper cobanense* Trelease var. *sarculatum* Trelease, J. Washington Acad. Sci. 19: 331. 1929. Syn. nov. TYPE: Honduras. Yoro, Quebrada Seca, *P. C. Standley 53912* (holotype, F; isotypes, A, ILL [2], US).
- Piper cobanense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 159. 1931. Syn. nov. TYPE: Honduras. Yoro, Quebrada Seca, *P. C. Standley 53930* (lectotype, designated here, F; isotypes, ILL, US).
- Piper gracillimum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 159. 1931. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54684* (lectotype, designated here, F; isotypes, ILL, US).
- Piper wilsonii* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 161. 1931. Syn. nov. TYPE: Honduras. Atlántida, “edge of forest along trail West of Tela River, Puerto Sierra,” *P. Wilson 114* (lectotype, designated here, NY; isotype, US).
- Piper calvescens* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 342. 1938. Syn. nov. TYPE: Honduras. Santa Barbara, San Pedro Sula, *C. Thieme 5461* (holotype, US #796474).
- Piper calvescens* Trelease var. *pedunculatum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 342. 1938. TYPE: Honduras. Cortés, Potrerillos, *T. G. Yuncker 4882* (holotype, ILL; isotypes, A, F, MICH, MO, NY).
- Piper calvescens* Trelease var. *potrerillosense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 343. 1938. Syn. nov. TYPE: Honduras. Cortés, Potrerillos, *T. G. Yuncker 4894* (holotype, ILL; isotypes, A, F, MICH, NY).
- Piper comayaguanum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 343. 1938. Syn. nov. TYPE: Honduras. Comayagua, 6 km N of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6310* (holotype, ILL; isotypes, GH, MO, NY).
- Piper deamii* Trelease var. *yojoanum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 344. 1938. Syn. nov. TYPE: Honduras. Paral, Lake Yojoa, *T. G. Yuncker 4875* (holotype, ILL; isotypes, A, F, MICH, MO, NY).
- Piper siguatepequense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 354. 1938. Syn. nov. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6042* (holotype, ILL; isotypes, F, GH, MICH, MO, NY, US).
- Piper siguatepequense* Trelease var. *subrhombifolium* Trelease, Publ. Field Mus. Nat. Hist. 17: 354. 1938. Syn. nov. TYPE: Honduras. Comayagua, vic. Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5617* (holotype, ILL; isotypes, F, GH, MICH, MO, NY).
- Piper calvescens* Trelease var. *aguanum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 278. 1940. Syn. nov. TYPE: Honduras. Yoro, Aguan River valley, below Coyoles, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8124* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).
- Piper calvescens* Trelease var. *cangrejalense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 278. 1940. Syn. nov. TYPE: Honduras. Atlántida, lower slopes of Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8464* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).
- Piper gracillimum* Trelease var. *dantoense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 279. 1940. Syn. nov. TYPE: Honduras. Atlántida, near Danto River, slopes of Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8485* (holotype, ILL; isotypes, F, GH, MICH, MO, NY [2], US).

The name *Piper tigerianum* C. DC. (1866: 300) represents only an orthographical variant (cf. McNeill et al., 2006, Art. 61.1) of *P. tiguatum*, which appeared earlier in the same publication (1866: 218). Apparently de Candolle initially misread the location of the Barclay collections as “Tigu Island” (hence the name *tiguatum*), eventually realized that the correct location was “Tiger Island,” and tried to correct this with the epithet *tigerianum* as an addendum to his 1866 publication.

The lectotypes for *Piper cobanense*, *P. gracillimum*, and *P. wilsonii* were selected from F and NY material as earlier considered by Standley (1931) and seen by William Trelease.

5. *Piper arboreum* Aublet subsp. **arboreum**, Hist. Pl. Guiane 1: 23. 1775. TYPE: French Guiana. *J. B. C. F. Aublet s.n.* (lectotype, designated by Lanjouw & Uittien, 1940: 155, P not seen).

Piper perinaequilongum Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 160. 1931. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 56893* (lectotype, designated here, ILL; isotype, US).

Piper crassicaule Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 278. 1940. TYPE: Honduras. Atlántida, 25 km E of La Ceiba, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8572* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

The lectotype for *Piper perinaequilongum* was selected from three different collections seen by Trelease (*Standley 54419* (F, ILL), *54897* (F, ILL), and *56893* (ILL, US)). The first two collection numbers are completely sterile, whereas the third has young inflorescences, making it a more complete representation of this taxon and a better choice for lectotypification. The specimen at ILL was chosen as the lectotype because it has Trelease's handwriting, providing certainty that he actually saw this material.

6. *Piper arboreum* Aublet subsp. **tuberculatum** (Jacquin) Tebbs, Bull. Brit. Mus. Nat. Hist. (Bot.) 19: 156. 1989. Basionym: *Piper tuberculatum* Jacquin, Icon. Pl. Rar. 2: 2, pl. 211. 1795; Collectanea 5: 7. 1796. TYPE: Venezuela. *F. Bredemeyer s.n.* (holotype, W not seen).

Piper tuberculatum Jacquin var. *cangrejalense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 280. 1940. Syn. nov. TYPE: Honduras. Atlántida, lower slopes of Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8204* (holotype, ILL; isotypes, F, GH, MO, NY, US).

7. *Piper augustum* Rudge, Pl. Guian. 1: 10, pl. 7. 1805. TYPE: French Guiana. *J. Martin s.n.* (holotype, BM not seen).

The introductory comments by Stearn and Williams (1957) describe in detail the fate of Joseph Martin's collections after the French ship on which he was traveling was captured by British privateers. The specimens ultimately were purchased by Edward Rudge and Alymer Lambert, and the British Museum eventually acquired them in the 1840s, where they now reside. Rudge described 50 new species on the basis of Martin's collections, including four for *Piper* and one in *Peperomia* Ruiz & Pavón.

8. *Piper auritum* Kunth, Nov. Gen. Sp. 1: 54. 1816. TYPE: Mexico. Veracruz, "Crescit in regni Novae Hispaniae temperatis," *F. W. H. A. Humboldt s.n.* (holotype, P not seen; isotype, IDC 6209: 6.3).

Piper auritilaminum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 277. 1940. TYPE: Honduras. Atlántida, vicinity of La Ceiba, Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8263* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

Piper auritilimum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 277. 1940. TYPE: Honduras. Atlántida, Río Danto, slopes of Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8763* (holotype, ILL; isotypes, GH, MO, NY [2], US).

9. *Piper biauratum* C. DC., Anal. Inst. Fis.-Geog. Costa Rica 9: 161. 1897. TYPE: Costa Rica. Forest of Xirores, Talamanca, 100 m, *A. Tonduz 9270* (holotype, G not seen; isotype, US not seen).

10. *Piper bisasperatum* Trelease, Contr. U.S. Natl. Herb. 26: 173. 1929. TYPE: Costa Rica. Cartago, Cerro de la Carpintera, 1500–1850 m, *P. C. Standley 35723* (holotype, US not seen).

11. *Piper bredemeyeri* J. Jacquin, Ecl. Pl. Rar. 1: 125, pl. 84. 1816. TYPE: Venezuela. Caracas, *F. Bredemeyer s.n.* (holotype, W not seen).

Piper alveolatifolium Trelease, J. Washington Acad. Sci. 19: 329. 1929. TYPE: Honduras. Comayagua, Siguatepeque, *P. C. Standley 56344* (holotype, F; isotypes, A, ILL, US).

Piper javiculiferum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 345, t. 11. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6368* (holotype, ILL; isotypes, GH, MO, NY).

12. *Piper chamissonis* (Miquel) Steudel, Nomencl. Bot., ed. 2, 2: 340. 1841, nomen; ex C. DC., in A. DC., Prodr. 16(1): 283. 1869. Basionym: *Artanthe chamissonis* Miquel, Syst. Piperac. 457. 1844. TYPE: Mexico. Veracruz, "prope Hacienda de la Laguna," *C. J. W. Scheide s.n.* (lectotype, designated by Tebbs [as holotype], 1993: 36, B not seen).

13. *Piper chrysochrysum* C. DC., Bull. Soc. Roy. Bot. Belgique 30(1): 207. 1891. TYPE: Costa Rica. Near San Mateo, *H. F. Pittier 4073* (holotype, G not seen).

14. *Piper colonense* C. DC., Smithsonian Misc. Collect. 71(6): 11. 1920. TYPE: Panama. Colón, Río Fato valley, *H. F. Pittier 4221* (holotype, US not seen; isotypes, BM, GH not seen, NY).

Piper puente-altoanum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 280. 1940. Syn. nov. TYPE: Honduras. Atlántida, mountain slope near Puente Alto stop on S.F. Company railroad, East of La Ceiba, *T. G. Yuncker, J. M. Koepper & K. A. Wagner 8549* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

15. *Piper crassinervium* Kunth, Nov. Gen. Sp. 1: 48. 1816. TYPE: Colombia. “Crescit regime calidissima, in umbrosis, ad ripas fluminis Magdalenae, prope Honda,” *F. W. H. A. Humboldt 377* (holotype, P not seen; isotype, IDC 6209: 5.5).

16. *Piper fallens* Trelease, J. Washington Acad. Sci. 19: 332. 1929. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 53968* (holotype, F; isotypes, A, ILL, US).

17. *Piper glabrescens* (Miquel) C. DC., in A. DC., Prodr. 16(1): 271. 1869. Basionym: *Artanthe glabrescens* Miquel, London J. Bot. 4: 461. 1845. TYPE: Guyana. *Parker s.n.* (holotype, K not seen).

Piper yzabalanum C. DC. var. *pubinerve* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 161. 1931. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 55776* (lectotype, designated here, F; isotype, ILL).

The lectotype for *Piper yzabalanum* var. *pubinerve* was selected from F material as earlier considered by Standley (1931) and seen by William Trelease.

18. *Piper grande* Vahl, Eclog. Amer. 2: 3, pl. 11. 1798. TYPE: Colombia. Santa Martha, *J. P. B. von Rohr 46* (holotype, C not seen; isotypes, IDC 2201: 54.12 and 55.1–2).

19. *Piper hispidum* Swartz, Prodr. 15. 1788. TYPE: Jamaica, *O. P. Swartz s.n.* (holotype, M not seen).

Piper aspericaule Trelease, J. Washington Acad. Sci. 19: 329. 1929. Syn. nov. TYPE: Honduras. Atlántida, vic. Tela, *P. C. Standley 55125* (holotype, F; isotypes, A, ILL, US).

Piper fraguanum Trelease, J. Washington Acad. Sci. 19: 332. 1929. TYPE: Honduras. Atlántida, La Fragua, *P. C. Standley 55730* (holotype, F; isotypes, ILL, US).

Piper hispidiseptum Trelease, J. Washington Acad. Sci. 19: 332. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 52715* (holotype, F; isotypes, A, ILL, US).

Piper imperspicuibracteum Trelease, J. Washington Acad. Sci. 19: 332. 1929. Syn. nov. TYPE: Honduras. Atlántida, vic. Tela, *P. C. Standley 54770* (holotype, F; isotypes, A, ILL, US).

Piper lancetillanum Trelease, J. Washington Acad. Sci. 19: 333. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 56552* (holotype, F; isotypes, A, ILL, US).

Piper obsessum Trelease, J. Washington Acad. Sci. 19: 334. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54925* (holotype, F; isotypes, A, ILL, US).

Piper perspicuibracteum Trelease, J. Washington Acad. Sci. 19: 335. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54872* (holotype, F; isotypes, A, ILL, US).

Piper prodigum Trelease, J. Washington Acad. Sci. 19: 335. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 54916* (holotype, F; isotypes, A, ILL, US).

Piper scabriseptum Trelease, J. Washington Acad. Sci. 19: 336. 1929. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley, near Tela, *P. C. Standley 52681* (holotype, F; isotypes, A, ILL, US).

Piper speratum Trelease, J. Washington Acad. Sci. 19: 336. 1929. Syn. nov. TYPE: Honduras. Atlántida, near Tela, *P. C. Standley 55184* (holotype, F; isotypes, A, ILL, US).

Piper yoroanum Trelease, J. Washington Acad. Sci. 19: 337. 1929. Syn. nov. TYPE: Honduras. Yoro, Quebrada Seca, *P. C. Standley 53889* (holotype, F; isotypes, A, ILL, US).

Piper adornatispicum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 340. 1938. Syn. nov. TYPE: Honduras. Comayagua, wet ravine at El Achote, above plains of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5885* (holotype, ILL; isotypes, F, GH, MO).

Piper apertum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 341. 1938. Syn. nov. TYPE: Honduras. Cortés, near shore of Lake Yojoa, *T. G. Yuncker 4821* (holotype, ILL; isotypes, F, NY).

Piper apertum Trelease var. *nodosum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 341. 1938. Syn. nov. TYPE: Honduras. Cortés, near shore of Lake Yojoa, *T. G. Yuncker 4821a* (holotype, ILL).

Piper fraguanum Trelease var. *viride* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 346. 1938. TYPE: Honduras. Atlántida, near Lancetilla, *T. G. Yuncker 4918* (holotype, ILL; isotypes, A, F, MO, NY).

Piper scabriseptum Trelease var. *reductum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 353. 1938. Syn. nov. TYPE: Honduras. Atlántida, near Lancetilla, *T. G. Yuncker 4773* (holotype, ILL; isotypes, A, F, NY).

Piper roseovenulosum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 353. 1938. Syn. nov. TYPE: Honduras. Cortés, near Parál, shore of Lake Yojoa, *T. G. Yuncker 4873* (holotype, ILL; isotypes, A, F, MO, NY).

Piper tenuiculispicum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 354. 1938. Syn. nov. TYPE: Honduras. Atlántida, bank of Tela River, above Lancetilla, *T. G. Yuncker 4509* (holotype, ILL; isotype, NY).

Piper meritum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 279. 1940. TYPE: Honduras. Atlántida, La Ceiba, *T. G. Yuncker, J. M. Koepper & K. A. Wagner 8363* (holotype, ILL; isotypes, GH, MO, NY [2], US).

20. *Piper imberbe* Trelease & Standley, Fieldiana Bot. 24: 303. 1952. TYPE: Guatemala. Izabal, between Escobas and waterfall, *P. C. Standley 39857* (holotype, F).

21. *Piper jacquemontianum* Kunth, Linnaea 13: 631. 1839. TYPE: Dominican Republic, *V. V. Jacquemont s.n.* (holotype, B not seen).

- Piper aeruginosibaccum* Trelease, J. Washington Acad. Sci. 19: 328. 1929. TYPE: Honduras. Atlántida, near La Ceiba, *P. C. Standley 56735* (holotype, F; isotypes, A, ILL, US).
- Piper deditium* Trelease, J. Washington Acad. Sci. 19: 331. 1929. TYPE: Honduras. Yoro, Quebrada Seca, *P. C. Standley 53937* (holotype, F; isotypes, A, ILL, US).
- Piper onerosum* Trelease, J. Washington Acad. Sci. 19: 335. 1929. TYPE: Honduras. Atlántida, Tela, *P. C. Standley 53696* (holotype, F; isotypes, A, ILL, US).
- Piper praeterlatum* Trelease, J. Washington Acad. Sci. 19: 335. 1929. TYPE: Honduras. Atlántida, Lancetilla Valley near Tela, *P. C. Standley 54337* (holotype, F; isotypes, A, ILL, US).
- Piper vexans* Trelease, J. Washington Acad. Sci. 19: 336. 1929. TYPE: Honduras. Atlántida, near Tela, *P. C. Standley 54742* (holotype, F; isotypes, A, ILL, US).
- Piper triumphale* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 161. 1931. Syn. nov. TYPE: Honduras. Atlántida, vic. Tela, thicket along beach, *P. C. Standley 53035* (lectotype, designated here, F; isotype, ILL).
- Piper actae* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 340. 1938. Syn. nov. TYPE: Honduras. Atlántida, in sandy soil along beach, Tela, *T. G. Yuncker 4657* (holotype, ILL; isotypes, A, F, MO, NY).
- Piper allatum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 341. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Rincon, 10 mi. W of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6068* (holotype, ILL; isotype, GH).
- Piper arenicola* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 341. 1938. Syn. nov. TYPE: Honduras. Atlántida, between Tela and Lancetilla, *T. G. Yuncker 4499* (holotype, ILL; isotypes, A, F, NY).
- Piper paludicola* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 351. 1938. Syn. nov. TYPE: Honduras. Atlántida, marshy area near Tela, *T. G. Yuncker 4977* (holotype, ILL; isotypes, A, F, MO, NY).
- Piper euilspilosum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 279. 1940. TYPE: Honduras. Atlántida, La Ceiba, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8015* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).
- Piper sagax* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 280. 1940. Syn. nov. TYPE: Honduras. Yoro, Coyoles, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8030* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).
- Piper tumidipedunculum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 281. 1940. TYPE: Honduras. Yoro, Las Flores, near Coyoles, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8151* (holotype, ILL; isotypes, GH, MO, NY [2], US).
- The lectotype for *Piper triumphale* was selected from F material as earlier considered by Standley (1931) and seen by William Trelease.
- 22. *Piper lacunosum*** Kunth, Nov. Gen. Sp. 1: 51. 1816. TYPE: Brazil. "Crescit in montanis, temperatis Provinciae Jaen de Bracamoros, inter Passo de Matará et Cavico," *F. W. H. A. Humboldt s.n.* (holotype, P not seen; isotype, IDC 6209: 5.16).
- 23. *Piper marginatum*** Jacquin, Icon. Pl. Rar. 2: 2, pl. 215. 1795. TYPE: Plumier, Descr. Pl. Amér., tab. 76. 1693 (lectotype, designated by Saralegui Boza, 2004: 68, tab. 76 in Plumier, 1693).
- Piper quiriguano* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 160. 1931. TYPE: Honduras. Yoro, near Progreso, *P. C. Standley 54995* (lectotype, designated by Jones, 1985: 75, ILL; isotypes, A, F).
- 24. *Piper martensianum*** C. DC., in A. DC., Prodr. 16(1): 251. 1869. TYPE: Mexico, *J. A. Pavón s.n.* (holotype, G not seen; photo of holotype at A, F, MO, neg. 34144).
- 25. *Piper obliquum*** Ruiz & Pavón, Fl. Peruv. 1: 37, pl. 63. 1798. TYPE: Peru. "in Cuchero sylvis ad Cayumba terminum," *H. Ruiz López & J. A. Pavón s.n.* (holotype, P not seen; isotype, BM not seen).
- Piper laterifissum* Trelease, J. Washington Acad. Sci. 19: 333. 1929. TYPE: Honduras. Atlántida, Lancetilla Valley near Tela, *P. C. Standley 53943* (holotype, F; isotypes, A, ILL, US).
- Piper auritum* Kunth f. *rinconense* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 342. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Rincon, Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6064* (holotype, ILL; isotypes, GH, MO).
- Piper cristicola* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 343. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Achote, above plains of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6247* (holotype, ILL; isotype, GH).
- 26. *Piper peltatum*** L., Sp. Pl. 1: 30. 1753. TYPE: Plumier, Descr. Pl. Amér., tab. 74. 1693 (lectotype, designated by Howard, 1973: 381, tab. 74 in Plumier, 1693).
- 27. *Piper peracuminatum*** C. DC., Smiths. Misc. Coll. 71(6): 9. 1920. TYPE: Panama. Colón, Dos Bocas, Río Fató valley, *H. F. Pittier 4210* (holotype, US 679313; isotype, G not seen).
- 28. *Piper perhispidum*** C. DC., Bot. Gaz. 70: 183. 1920. TYPE: Costa Rica. Bords du Río Barranca, near San Juan de San Ramón, *A. Tonduz 17771* (holotype, G not seen).
- 29. *Piper phytolaccifolium*** Opiz in Presl, Reliq. Haenk. 151. 1828. TYPE: Ecuador. Guayaquil, *T. P. X. Haenke s.n.* (holotype, PR not seen).
- Piper telanum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 161. 1931. Syn. nov. TYPE: Honduras. Atlántida, forest W of Tela River, 29 Jan. 1903, *P. Wilson 222* (lectotype, designated here, NY; isotypes, F, ILL [lectotype fragment]).
- For *Piper telanum*, the specimen at F is without a collection number, but other identifying information

(e.g., collection date, locality, and Trelease's handwriting) is the same as the specimen at NY. The specimen at NY has Trelease's handwriting and initials in the lower left corner, with his designation of "Type" clearly indicated.

30. *Piper pseudoasperifolium* C. DC., in A. DC., Prodr. 16(1): 318. 1869. TYPE: Mexico. Oaxaca, *P. E. Boissier s.n.* (holotype, G not seen).

Piper indignum Trelease, J. Washington Acad. Sci. 19: 333. 1929. TYPE: Honduras. Comayagua, near Siguatepeque, *P. C. Standley 55990* (holotype, F; isotypes, A, ILL, US).

31. *Piper pseudofulgineum* C. DC., Linnaea 37: 355. 1872. TYPE: Costa Rica. Monte Candelaria, *A. S. Oersted s.n.* (holotype, C not seen).

Piper atlantidanum Trelease, J. Washington Acad. Sci. 19: 329. 1929. TYPE: Honduras. Atlántida, near La Ceiba, *P. C. Standley 56739* (holotype, F; isotypes, A, ILL, US).

Piper atlantidanum Trelease var. *yorose* Trelease, J. Washington Acad. Sci. 19: 330. 1929. Syn. nov. TYPE: Honduras. Yoro, near Progreso, *P. C. Standley 55073* (holotype, F; isotypes, A, ILL, US).

Piper deltoideocarpum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 344. 1938. TYPE: Honduras. Comayagua, riverbank near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5654* (holotype, ILL; isotypes, F, GH, MO, US).

Piper ornatispicum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 351. 1938. Syn. nov. TYPE: Honduras. Comayagua, thicket on riverbank near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5618* (holotype, ILL; isotypes, GH, MO, NY).

Piper praemollitum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 352. 1938. Syn. nov. TYPE: Honduras. Cortés, near shore of Lake Yojoa, *T. G. Yuncker 4825* (holotype, ILL; isotypes, A, MO, NY).

Piper tesseraespicum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 354. 1938. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5662* (holotype, ILL; isotypes, F, GH, MO, NY).

Piper viae-marginis Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 355. 1938. Syn. nov. TYPE: Honduras. Comayagua, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6044* (holotype, ILL; isotypes, F, GH, MO, NY).

Piper coyolense Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 278. 1940. TYPE: Honduras. Yoro, near Las Flores, Río Aguán, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8147* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

Piper elasmophyllum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 278. 1940. TYPE: Honduras. Atlántida, lower slopes of Mt. Cangrejal, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8461* (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

Piper subaequilaterum Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 280. 1940. TYPE: Honduras. Atlántida, Roma siding, about 25 km E of La Ceiba, *T. G. Yuncker, J. M.*

Koepfer & K. A. Wagner 8565 (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

32. *Piper pseudolindenii* C. DC., Linnaea 37: 335. 1872. TYPE: Costa Rica. "ad Realgo," *A. S. Oersted s.n.* (holotype, C not seen).

Piper firmifolium Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 346. 1938. Syn. nov. TYPE: Honduras. Comayagua, near El Rincón, ca. 10 mi. W of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6048* (lectotype, designated by Jones, 1985: 38, ILL; isotypes, F, GH, ILL, MICH, MO, NY).

Piper laceratibracteum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 346. 1938. Syn. nov. TYPE: Honduras. Comayagua, ravine at El Achote, above Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6266* (holotype, ILL; isotypes, F, GH, MICH, MO).

Piper koepferi Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 279. 1940. Syn. nov. TYPE: Honduras. Yoro, Aguán Valley, near Medina, *T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8631* (holotype, ILL; isotypes, F, GH, MICH, MO, NY [2], US).

Piper clivicola P. C. Standley & L. O. Williams, Ceiba 1: 142. 1950. Syn. nov. TYPE: Honduras. Intibucá, vic. La Esperanza and Intibucá, *P. C. Standley 25627* (holotype, EAP not seen; isotypes, F, US).

Jones (1985) designated a lectotype for *Piper firmifolium* Trelease because there are two collections at ILL of *Yuncker et al. 6048*, both with "Type" written on the label in Trelease's handwriting. She did not offer any explanation for choosing one specimen over the other, but there are appropriate annotation labels to clearly distinguish between them.

33. *Piper reticulatum* L., Sp. Pl. 1: 29. 1753. TYPE: Martinique. Plumier, Descr. Pl. Amér., tab. 75. 1693 (lectotype, designated by Howard, 1988: 29, tab. 75 in Plumier, 1693).

34. *Piper sanctum* (Miquel) Schlechtendal ex C. DC., in A. DC., Prodr. 16(1): 330. 1869. Basionym: *Artanthe sancta* Schlechtendal ex Miquel, Linnaea 18: 714. 1844. TYPE: Mexico. Atlacomulco, *C. J. W. Schiede 1105* (holotype, HAL not seen).

35. *Piper scalarispicum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 353. 1938. TYPE: Honduras. Comayagua: above El Achote, SW of Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 6156* (holotype, ILL; isotypes, F, GH, MO, NY, US).

Piper nubigaudens Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 351. 1938. TYPE: Honduras. Comayagua, above El Achote, near Siguatepeque, *T. G. Yuncker, R. F. Dawson & H. R. Youse 5991* (holotype, ILL; isotypes, F, GH, MO, US).

36. *Piper schiedeanum* Steudel, Nomencl. Bot. ed. 2, 2: 343. 1841. Replaced Name: *Piper tiliifolium* Schlechtendal & Chamisso, Linnaea 6: 352. 1831, non *Piper tiliifolium* Desvaux ex Hamilton, lit. cit. 1825. TYPE: Mexico. "in sylvis Misantlae," C. J. W. Schiede 1102 (holotype, BM not seen).

Piper levilimbum Trelease, J. Washington Acad. Sci. 19: 333. 1929. TYPE: Honduras. Atlántida, Lancetilla Valley near Tela, P. C. Standley 53483 (holotype, F; isotypes, A, ILL, US).

Piper cyclophyllum Trelease, Field Mus. Nat. Hist., Bot. Ser. 10: 159. 1931. Syn. nov. TYPE: Honduras. Atlántida, Lancetilla Valley near Tela, P. C. Standley 52703 (lectotype, designated here, F; isotype, ILL).

Piper atrichopus Trelease var. *arborescens* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 276. 1940. TYPE: Honduras. Atlántida, ca. 25 km E of La Ceiba, T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8578 (holotype, ILL; isotypes, F, MO, NY).

Piper exigens Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 345. 1938. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 6124 (holotype, ILL; isotypes, F, GH, MO, NY).

Piper exigens Trelease var. *subovatum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 345. 1938. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 5997 (holotype, ILL; isotypes, F, GH, MO, NY).

Piper variable C. DC. ex J. Donnell Smith var. *obtentum* Trelease, Field Mus. Nat. Hist., Bot. Ser. 9: 281. 1940. TYPE: Honduras. Atlántida, near La Ceiba, Mt. Cangrejal, T. G. Yuncker, J. M. Koepfer & K. A. Wagner 8495 (holotype, ILL; isotypes, F, GH, MO, NY [2], US).

The lectotype for *Piper cyclophyllum* was selected from F material as earlier considered by Standley (1931) and seen by William Trelease.

37. *Piper trigonum* C. DC., J. Bot. 4: 212. 1866. TYPE: Colombia. Barbaocoas, J. J. Triana 44 (holotype, G not seen; isotype, BM not seen).

38. *Piper tuerekheimii* C. DC. ex J. Donnell Smith, Bot. Gaz. 19: 258. 1894. TYPE: Guatemala. Alta Verapaz, Pansamalá, H. Tuerckheim 1038 (holotype, US 798221).

39. *Piper umbellatum* L., Sp. Pl. 30. 1753. TYPE: Plumier, Descr. Pl. Amér., tab. 73. 1693 (lectotype, designated by Huber, 1987: 289, tab. 73 in Plumier, 1693).

40. *Piper umbricola* C. DC., Bull. Soc. Roy. Bot. Belgique 30(1): 215. 1891. TYPE: Costa Rica. "Bois frais près du Rodeo de Pacaca, flor en janvier," H. F. Pittier 3238 (lectotype, designated by Tebbs [as holotype], 1993: 31, G not seen; isotype, US 798345).

Piper inconsumptum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 346. 1938. Syn. nov. TYPE: Honduras. Cortés, near Paral, Lake Yojoa, T. G. Yuncker 4871 (holotype, ILL; isotypes, A, F, MO, NY).

41. *Piper urophyllum* C. DC., Anal. Inst. Fis.-Geog. Costa Rica 9: 170. 1897. TYPE: Costa Rica. "Bois dans la vallée du Rio Tuis (basin du Reventazón), 600 m," H. Pittier 8159 (lectotype, designated by Tebbs [as holotype], 1990: 204, G not seen).

42. *Piper veraguense* C. DC., in A. DC., Prodr. 16(1): 294. 1869. TYPE: Costa Rica. Veragua, J. Warszewicz s.n. (holotype, G not seen).

43. *Piper villiramulum* C. DC., Smiths. Misc. Coll. 71: 11. 1920. TYPE: Panama. Colón, Loma de la Gloria, near Fató, H. F. Pittier 4083 (holotype, US 679179; isotype, NY).

Piper dawsoni Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 343. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Achote, above plains of Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 6283 (holotype, ILL; isotypes, F, GH, MO, NY).

Piper laedans Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 347. 1938. Syn. nov. TYPE: Honduras. Comayagua, El Achote, above Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 5821 (holotype, ILL; isotypes, GH, MO, NY).

Piper mystaciferum Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 350. 1938. Syn. nov. TYPE: Honduras. Comayagua, ravine at El Rincón, 10 miles W of Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 6054 (holotype, ILL; isotypes, F, GH, MO, US).

44. *Piper xanthostachyum* C. DC., Anal. Inst. Fis.-Geog. Costa Rica 9: 169. 1897. TYPE: Costa Rica. "Bois de la vallée du Rio Tuis," H. F. Pittier 8158 (lectotype, designated by Tebbs [as holotype], 1990: 227, G not seen).

Piper monteluctans Trelease, Field Mus. Nat. Hist., Bot. Ser. 17: 347. 1938. Syn. nov. TYPE: Honduras. Comayagua, ridge above El Achote, in cloud zone, above plains of Siguatepeque, T. G. Yuncker, R. F. Dawson & H. R. Youse 6176 (holotype, ILL; isotypes, F, GH, MO).

45. *Piper yucatanense* C. DC., Linnaea 37: 334. 1872. TYPE: Mexico. Yucatán, J. J. Linden 184 (holotype, G-DEL).

Piper thiemeanum Trelease, Amer. J. Bot. 8: 214, pl. 5, fig. 2. 1921. TYPE: Honduras. Cortes, San Pedro Sula, C. Thieme 5455 (holotype, US 796492; isotypes, GH, K, UC, US [3]).

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