Updated synopsis of *Acalypha* (Euphorbiaceae, Acalyphoideae) from Brazil

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Abstract

A critical taxonomic and nomenclatural review of the Brazilian species of *Acalypha* (Euphorbiaceae, Acalyphoideae) is presented. As a result, 40 species (44 taxa including six subspecies) are accepted, 37 of them native (17 endemic) and three introduced; also, 132 names are considered synonyms, 28 of them for the first time. Two new combinations are proposed: *Acalypha brasiliensis* subsp. *asterotricha* and *A. brasiliensis* subsp. *psilophylla*, previously considered varieties of *A. brasiliensis*. Information about types is provided for all the valid names, and 54 lectotypes and one neotype are designated. Identification keys and detailed distribution maps of all the native taxa are also provided.

Keywords *Acalypha* · Brazil · Euphorbiaceae · Malpighiales · South America · Typification

Introduction

*Acalypha* L. is one of the most species-rich genera of the family Euphorbiaceae. It includes ca. 500 species of mainly small trees and shrubs distributed in the tropics and subtropics, but some herbaceous species are also found in temperate regions. The Americas are home to around 250 species, which are distributed from southeastern Canada and the USA, to Uruguay and northern Argentina. The species are found in a wide variety of habitats, from tropical rainforests to subdesertic areas, and range from sea level to 4000 m of altitude (Cardiel and Muñoz-Rodríguez 2012). More detailed information on the presence of *Acalypha* in the New World can be found in Cardiel et al. (2013b).

The present work is part of the ongoing revision of *Acalypha* for South American countries and has been preceded by the taxonomic revisions or synopses for Colombia (Cardiel 1995a), Venezuela (Cardiel 1999), Ecuador (Cardiel and Muñoz-Rodríguez 2012), Peru and Bolivia (Cardiel et al. 2013b), and Argentina, Uruguay, and Paraguay (Cardiel and Muñoz-Rodríguez 2015).

Brazilian *Acalypha* were first treated nationally in the massive Martius’ *Flora Brasiliensis* (Müller-Argoviensis 1874). In that work, 34 species and 39 varieties of *Acalypha* were accepted, 12 of which were described for the first time. In the global treatment of *Acalypha* prepared by Pax and Hoffmann (1924) for Engler’s *Pflanzenreich*, 43 species were recognized from Brazil, two of them new. Five new species of *Acalypha* from Brazil have been described since 1924: *Acalypha uleana* L.B.Sm & Downs (Smith 1971), *A. sehne-mii* Allem & Irgang (Costa Allem and Irgang 1976), *A. apetiolata* Allem & J.L.Waechter (Costa Allem and Waechter 1977), *A. inselbergensis* Cardiel & I.Montero (Cardiel et al. 2013b), and *A. brasiliensis* (Müller-Argoviensis 1874).
Floristic treatments or checklists that included *Acalypha* species have been prepared for the following Brazilian states: Acre (Secco et al. 2008), Bahia (Carneiro et al. 2002; Amorim et al. 2005), Mato Grosso (Moore 1895; Sampaio 1916), Minas Gerais (Cordeiro 2004), Paraná (Angely 1977), Paraná (Ferreira De Sales et al. 1998), Rio Grande do Sul (Rambo 1960), Santa Catarina (Smith and Downs 1959; Smith et al. 1988), and São Paulo (Kuhlmann and Kühn 1947; Angely 1970; Wanderley et al. 2009; Cordeiro et al. 2011).

Information about *Acalypha* species from Brazil is also found in several regional or thematic floras, and other taxonomic works, such as Colla (1836), Glaziou (1913), Lingelsheim (1912), Berry et al. (2007), Matiko Sano et al. (2008), Mendoza et al. (2008), Lima et al. (2008), Stehmann et al. (2009), Lucena and Alves (2009, 2010), João et al. (2011), Secco et al. (2012), Moraes (2013), Duarte et al. (2013), Moro et al. (2014), Hassemer et al. (2015), Schwirkowski (2015), and Zuloaga et al. (2019). Other studies focused on *Acalypha* from Brazil are those by Sousa et al. (2017), featuring a review of the genus for the São Paulo state; Sousa (2018) reviewing *Acalypha* species from the Atlantic Forest domain; and Maciel-Júnior et al. (2020) updating information on *A. inselbergensis*. We highlight the work of Sousa et al. (2017) because it includes four figures with numerous field images showing different types of flowers and inflorescences that can appear in the Brazilian species of *Acalypha*. The revision of species included in *Acalypha sect. Communes* Pax & K.Hoffm. ex Cardiel, P.Muñoz & Muñoz Garm. (Cardiel et al. 2013a), is also relevant, as it includes several species widespread in southern Brazil. Finally, the recent study of epidermal crystals in *Acalypha* as a new taxonomic trait of the genus included numerous Brazilian species (Cardiel et al. 2020).

The aims of this work are to present an updated critical synopsis of the species of *Acalypha* from Brazil, including a complete nomenclatural review, and to provide a taxonomic key to facilitate their identification.

**Materials and methods**

This work is based on the study of c. 4000 Brazilian specimens of *Acalypha* from the following herbaria: ALCB, ASE, B, BAH, BM, BOTU, BR, BHCBS, C, CAS, CEN, CEPEC, CESJ, CGE, CGMS, COL, COR, CORD, CPAP, CRI, EAC, EAFM, ESA, F, FLOR, FUEL, FURB, G, G-DC, GH, HAB, HCB, HFPH, HERBAM, HFSL, HJ, HPBR, HRCB, HSJRP, HST, HTSA, HUEFS, HUEM, HUESB, HUFU, HVASF, IAC, ICN, INPA, IPA, IRAI, JOI, JPB, K, L, LIL, M, MA, MAC, MAUAM, MBM, MBML, MEXU, MFS, MO, MOSS, NY, P, PACA-AGP, PEUF, RB, RON, S, SP, SPF, SPF, SPF, SPFW, SPFR, SPSF, TEPB, UB, U, UEC, UESC, UFACPZ, UFP, UFRN, UPZ, UPS, US, VIES, and W (acronyms according to Thiers 2021, continuously updated). We also analyzed a large number of type specimens, clarifying the identity of many names.

The structure of the synopsis generally follows that employed in previous works (Cardiel and Muñoz-Rodríguez 2012, 2015). The accepted native species are cited in alphabetical order, followed by the accepted introduced or cultivated species, also in alphabetical order. Each species treatment includes original publications, homotypic synonyms, and nomenclatural synonyms. Only the synonyms based on Brazilian specimens are included, and some names previously cited as accepted for this country. We include the notation “syn. nov.” whenever we newly treat a name as a synonym. Each new synonym is proposed after careful review of its original description and type specimen(s). For each name, information about the type collections is included. Any novel designation of types was made after a careful review of the original literature of the taxa and examination of original material. When no holotype was indicated, or it was lost or destroyed, a lectotype or neotype was designated, according to the rules of the International Code of Nomenclature (Turland et al. 2018), and the recommendation of McNeill (2014). When no holotype was indicated, but a single specimen housed in the institution where the author is known to have worked exists, or if a single specimen with a label clearly in the author’s hand is available, we designate it as “lectotype or perhaps holotype” according to the recommendation by McNeill (2014). The remaining designations of lectotypes are justified in the “notes” section of each species.

All the referenced specimens have been examined, except those marked as “not found”; barcode numbers of type specimens are cited when available. References to illustrations (when available) and descriptions are also cited. Under the “distribution and habitat” section we list the general geographic distribution of each species in Americas, following Taxonomic Database Working Group standards (Brummitt 2001), and the detailed Brazilian distribution, indicating the geographic Brazilian regions, according to IBGE (2004), and the states of each region where the species have been found; then, we indicate the Brazilian biomes (according IBGE 2004), and altitudinal range. Finally, we indicate the total number of specimens reviewed for each taxon. All this information was obtained exclusively from the studied specimens. In the references section, we include mainly works citing species.
of Acalypha in Brazil. Finally, in the “notes” section, we include any other relevant information, including justifications for nomenclatural decisions if needed.

**Data resources**

All information gathered as part of this work, including the complete list of specimens studied, is available online, at the regularly updated Acalypha Taxonomic Information System website, www.acalypha.es. This website provides data about the whole genus, including information about ca. 35,000 Acalypha specimens worldwide (Cardiel et al. 2022).

**Results and discussion**

In the present work, we recorded 176 scientific names related to Acalypha from Brazil (Table 1). Of these, 40 are accepted species (44 taxa including six subspecies); 132 names are considered synonyms (including four nomina nuda and four names not validly published), 28 for the first time; and one species is excluded from Brazil: Acalypha riedeliania Baill. (=A. integrifolia Willd.), which is only found on Reunion Island. Type specimen(s) are indicated for all valid names, and we have designated 54 lectotypes (24 of which are, possibly, holotypes) and one neotype.

Of the 48 species recognized for Brazil in a preliminary compilation by Cardiel et al. (2010), we accept 32, 15 are treated as synonyms, and two are not found in Brazil (Acalypha stenoloba Müll.Arg. and the aforementioned A. riedeliania). We also report four new records for Brazil, three species (A. amphigyne, A. senilis, and A. variabilis), and one subspecies (A. communis subsp. trachelifolia). Two new combinations are proposed: A. brasiliensis subsp. asterotricha and A. brasiliensis subsp. psilophylla, previously considered varieties of A. brasiliensis.

Of the 40 accepted species, 37 are natives, 17 of them endemic, and three are introduced or cultivated (Acalypha alopecuroida Jacq. A. hispida Burm.f., and A. wilkesiana Müll.Arg.). As expected, Brazil has the greatest diversity of the genus among South American countries, followed by Bolivia, with 31 species, and Peru, with 28 species (Cardiel et al. 2013b). Brazil also has the highest level of endemic Acalypha species among South American countries (46%), followed far behind by Colombia (17%) and Bolivia (16%).

The species of Acalypha in Brazil are widespread; they appear less frequently in the upper basin of the Amazon River, although this may be biased due to less exploration and collection activity in this territory. Acalypha inhabits all Brazilian biomes. The Atlantic Forest biome is the richest in Acalypha species, and also the one with the greatest level of endemism; the species most closely associated with this biome are A. accedens, A. almadinensis, A. amblyodontata, A. apetiolata, A. brasiliensis, A. digynostachya, A. gracilis, A. herzogiana, A. klotzschii, A. macularis, A. martiana, A. multicaulis, A. peckoltii, A. poihiana, A. radicans, and A. uleana. The Cerrado biome is the main home of A. chorisandra, A. clausenii, A. communis subsp. apicalis, and A. communis subsp. communis, A. dimorpha, A. variabilis, and A. velamea, although some of these species can also appear in disturbed Atlantic Forest; A. amblyodontata can also appear in the Cerrado biome. In the Amazonia biome, the most characteristic species are A. acuminata, A. cuneata, A. scandens, A. stachyura, and A. stricta. In the Caatinga biome there appear mainly A. inselbergensis and A. multicaulis, but the latter is also frequent in Cerrado and disturbed Atlantic Forest areas. In the Pampa biome, the most characteristic species are A. communis subsp. trachelifolia, A. sehnemii, and A. senilis; A. velamea is also found there. Finally, only the poorly known A. ampigyne seems to be associated with the Pantanal Biome. Species with a wide distribution, not clearly associated with any of the aforementioned biomes, are A. arvensis and A. poiretii, species usually associated with anthropic areas, and A. diversifolia, A. macrostachya, and A. villosa, species widely distributed throughout the Neotropics.

It should be noted that several species are poorly known and represented by a small number of collections. Acalypha ampigyne, A. chorisandra, and A. poihiana are only known from the type specimen, in all cases collected over a century ago. Acalypha dimorpha, A. macularis, A. peckoltii, and A. radicans have only two or three collections from the last decades, in addition to the nineteenth-century type collections. It is very likely that some of these species are extinct or, at least, highly threatened.

Other more recently described species, such as Acalypha almadinensis, A. apetiolata, and A. sehnemii, appear to be highly restricted endemics for which very few collections are known. Further field work is necessary to clarify the situation and conservation status of these species. The case of A. inselbergensis is remarkable. This species was described in 2018 based on a single collection, but immediately after that, once this new species was recognized as such, it was discovered to be widely distributed in the Caatinga biome, and more than 30 collections of this species are currently known (Maciel-Júnior et al. 2020).

Finally, we must point out that the diversity and complexity of Brazilian species of Acalypha is still not resolved satisfactorily. A more detailed study of some species is necessary, as well as having the support of the results of the phylogenetic works in progress. It is also necessary to increase efforts to search for species that are supported by a small number of collections.
Table 1  Taxa included in *Acalypha* of Brazil

| Published names | Accepted names in this paper |
|-----------------|-----------------------------|
| *A. accedens* Müll.Arg. | *A. accedens* Müll.Arg. |
| *A. accedens* var. *brachyandra* (Baill.) Müll.Arg. | *A. accedens* Müll.Arg. |
| *A. accedens* genuina Müll.Arg. | *A. accedens* Müll.Arg. |
| *A. accedens* var. *viridis* Müll.Arg. | *A. accedens* Müll.Arg. |
| *A. acuminata* Benth. | *A. acuminata* Benth. |
| *A. almadinensis* A.A.C.Sousa | *A. almadinensis* A.A.C.Sousa |
| *A. alopecuroidea* Jacq.* | *A. alopecuroidea* Jacq.* |
| *A. amblyodonta* (Müll.Arg.) Müll.Arg. | *A. amblyodonta* (Müll.Arg.) Müll.Arg. |
| *A. amblyodonta* var. *gaudichaudii* (Baill.) Müll.Arg. | *A. amblyodonta* (Müll.Arg.) Müll.Arg. |
| *A. amblyodonta* var. *repanda* Müll.Arg. | *A. amblyodonta* (Müll.Arg.) Müll.Arg. |
| *A. amblyodonta* var. *villosa* Müll.Arg. | *A. amblyodonta* (Müll.Arg.) Müll.Arg. |
| *A. amphigyne* S.Moore | *A. amphigyne* S.Moore |
| *A. ampliata* Pax & K.Hoffm. | *A. macularis* Pax & K.Hoffm. |
| *A. apetiolata* Allem & J.L.Waechter | *A. apetiolata* Allem & J.L.Waechter |
| *A. apicalis* N.E.Br. | *A. communis* subsp. *apicalis* (N.E.Br.) Cardiel & P.Muñoz |
| *A. arciana* Müll.Arg. | *A. arciana* Müll.Arg. |
| *A. arvensis* Poepp. | *A. arvensis* Poepp. |
| *A. aspericocca* Pax & K.Hoffm. | *A. arvensis* Poepp. |
| *A. betulooides* Klotzsch ex Baill. | *A. variabilis* Klotzsch ex Baill. |
| *A. brachyandra* Baill. | *A. accedens* Müll.Arg. |
| *A. brasiliensis* Müll.Arg. | *A. brasiliensis* Müll.Arg. |
| *A. brasiliensis* subsp. *asterotricha* (Müll.Arg.) Cardiel & A.A.C.Sousa | *A. brasiliensis* subsp. *asterotricha* (Müll.Arg.) Cardiel & A.A.C.Sousa |
| *A. brasiliensis* subsp. *brasiliensis* | *A. brasiliensis* subsp. *brasiliensis* |
| *A. brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa | *A. brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa |
| *A. brasiliensis* var. *angustifolia* Pax & K.Hoffm. | *A. brasiliensis* subsp. *angustifolia* Pax & K.Hoffm. |
| *A. brasiliensis* var. *asterotricha* Müll.Arg. | *A. brasiliensis* subsp. *asterotricha* Müll.Arg. |
| *A. brasiliensis* subsp. *asterotricha* f. *cordata* Müll.Arg. | *A. brasiliensis* subsp. *asterotricha* f. *cordata* Müll.Arg. |
| *A. brasiliensis* subsp. *asterotricha* f. *obtusa* Müll.Arg. | *A. brasiliensis* subsp. *asterotricha* f. *obtusa* Müll.Arg. |
| *A. brasiliensis* var. *brevipes* Müll.Arg. | *A. brasiliensis* var. *brevipes* Müll.Arg. |
| *A. brasiliensis* var. *cordata* (Müll.Arg.) Müll.Arg. | *A. brasiliensis* var. *cordata* (Müll.Arg.) Müll.Arg. |
| *A. brasiliensis* var. *glabrata* Müll.Arg. | *A. brasiliensis* var. *glabrata* Müll.Arg. |
| *A. brasiliensis* var. *homotricha* f. *microphylla* Müll.Arg. | *A. brasiliensis* var. *homotricha* f. *microphylla* Müll.Arg. |
| *A. brasiliensis* var. *longipes* Müll.Arg. | *A. brasiliensis* var. *longipes* Müll.Arg. |
| *A. brasiliensis* var. *maxima* Müll.Arg. | *A. brasiliensis* var. *maxima* Müll.Arg. |
| *A. brasiliensis* var. *mollis* Müll.Arg. | *A. brasiliensis* var. *mollis* Müll.Arg. |
| *A. brasiliensis* var. *obtusa* (Müll.Arg.) Müll.Arg. | *A. brasiliensis* var. *obtusa* (Müll.Arg.) Müll.Arg. |
| *A. brasiliensis* var. *psilophylla* Müll.Arg. | *A. brasiliensis* var. *psilophylla* Müll.Arg. |
| *A. brevibracteata* Müll.Arg. | *A. brevibracteata* Müll.Arg. |
| *A. brevipes* (Müll.Arg.) Müll.Arg. | *A. brevipes* (Müll.Arg.) Müll.Arg. |
| *A. chorisandra* Baill. | *A. chorisandra* Baill. |
| *A. clausenii* (Turcz.) Müll.Arg. | *A. clausenii* (Turcz.) Müll.Arg. |
| *A. communis* Müll.Arg. | *A. communis* Müll.Arg. |
Table 1 (continued)

| Published names                     | Accepted names in this paper                      |
|-------------------------------------|--------------------------------------------------|
| *A. communis* f. decumbens Müll.Arg. |                                                  |
| *A. communis* subsp. *apicalis* (N.E.Br.) Cardiel & P.Muñoz |                                                  |
| *A. communis* subsp. *communis*     |                                                  |
| *A. communis* subsp. *trachelifolia* (Pax & K.Hoffm.) Cardiel & P.Muñoz | A. *velamea* Baill.                          |
| A. communis var. *brevipes* Müll.Arg. | A. variabilis Klotzsch ex Baill.                 |
| A. communis var. *hirta* (Spreng.) Müll.Arg. | A. *communis* subsp. *apicalis* (N.E.Br.) Cardiel & P.Muñoz |
| A. communis var. *hirtiformis* Pax & K.Hoffm. |                                                  |
| A. communis var. *intermedia* Müll.Arg. | A. communis subsp. *communis*                    |
| A. communis var. *obscura* Müll.Arg. |                                                  |
| A. communis var. *pallida* Müll.Arg. | A. *velamea* Baill.                             |
| A. communis var. *puberula* Müll.Arg. | A. *communis* subsp. *communis*                 |
| A. communis var. *tomentella* Müll.Arg. |                                                  |
| A. communis var. *tomentosa* Müll.Arg. | A. *communis* subsp. *communis*                 |
| *A. cuneata* Poepp.                  |                                                  |
| A. *amblyodonta* Müll.Arg.          | A. *amblyodonta* Müll.Arg.                       |
| A. *oxydonta* Müll.Arg.             | A. *amblyodonta* Müll.Arg.                       |
| *A. digynostachya* Baill.           |                                                  |
| *A. dimorpha* Müll.Arg.             |                                                  |
| *A. divaricata* Klotzsch ex Baill.  | A. *gracilis* Spreng.                           |
| *A. diversifolia* Jacq.             | A. *detersifolia* Jacq.                         |
| A. *divaricata* Müll.Arg.           | A. *amblyodonta* Müll.Arg.                       |
| *A. dupraeana* Baill.               | A. *brasiliensis* Müll.Arg.                      |
| A. *amblyodonta* Müll.Arg.          | A. *amblyodonta* Müll.Arg.                       |
| A. *brasiliensis* Müll.Arg.         | A. *brasiliensis* Müll.Arg.                      |
| A. *brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa |                                                  |
| A. *fragilis* Müll.Arg.             | A. *accedens* Müll.Arg.                         |
| A. *goyazensis* Glaz.               | A. *brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa |
| *A. gracilis* Spreng.               | A. *velamea* Baill.                             |
| A. *gracilis* var. *divaricata* (Baill.) Pax & K.Hoffm. | A. *gracilis* Spreng. |
| A. *gracilis* var. *fraticulosus* Müll.Arg. | A. *gracilis* Spreng. |
| A. *gracilis* var. *genuina* Müll.Arg. | A. *gracilis* Spreng. |
| A. *gracilis* var. *pubescens* Müll.Arg. | A. *gracilis* Spreng. |
| *A. hassleriana* Chodat              |                                                  |
| *A. herzogiana* Pax & K.Hoffm.      |                                                  |
| *A. hispida* Mart. ex Colla         | A. *communis* Müll.Arg.                         |
| *A. hirta* Spreng.                  | A. variabilis Klotzsch ex Baill.                 |
| *A. humilis* Burm. f. *             | A. *variabilis* Klotzsch ex Baill.               |
| *A. inselbergensis* Cardiel & I.Montero |                                                  |
| *A. juruana* Ule                    |                                                  |
| *A. klotzschii* Baill.              |                                                  |
| *A. lagoensis* Müll.Arg.            | A. *multicaulis* Müll.Arg.                       |
| *A. linostachya* Baill.             | A. *villosa* Jacq.                              |
| *A. macrostachya* Jacq.             |                                                  |
| *A. macrostachya* Poir.             |                                                  |
| *A. macularis* Pax & K.Hoffm.       |                                                  |
| *A. major* Salzm. ex Baill.         | A. *brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa |

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| Published names                                      | Accepted names in this paper                                      |
|-----------------------------------------------------|------------------------------------------------------------------|
| A. mapirensis var pubescens Pax & K.Hoffm.         | A. stricta Poepp.                                                 |
| A. mapirensis var scabra Pax & K.Hoffm.            | A. stricta Poepp.                                                 |
| **A. martiana Müll.Arg.**                          |                                                                  |
| A. microstacaya Klotzsch in Pax & K.Hoffm.         |                                                                  |
| **A. multicaulis Müll.Arg.**                        |                                                                  |
| A. multicaulis var. genuina Müll.Arg.              |                                                                  |
| A. multicaulis var. tenuisipica Pax & K.Hoffm.     |                                                                  |
| A. multicaulis var. tomentella Müll.Arg.           |                                                                  |
| A. nitschkeana Pax & K.Hoffm.                      |                                                                  |
| A. noronhae Ridl.                                  |                                                                  |
| A. obovata var. cuneata (Poepp.) F.J.Macbr.        |                                                                  |
| A. omissa Pax & K.Hoffm.                           |                                                                  |
| A. oxyodonta (Müll.Arg.) Müll.Arg.                 |                                                                  |
| **A. peckoltii Müll.Arg.**                          |                                                                  |
| **A. pohliana Müll.Arg.**                           |                                                                  |
| A. poireti Spreng.                                 |                                                                  |
| A. prunifolia Nees & Mart.                         |                                                                  |
| A. pruriens Nees & Mart.                           |                                                                  |
| **A. radicans Müll.Arg.**                          |                                                                  |
| A. riedeliana Baill.                               |                                                                  |
| A. ruderalis Mart. ex Colla                        |                                                                  |
| **A. scandens Benth.**                             |                                                                  |
| **A. sehnmii Allem & Irgang**                       |                                                                  |
| A. seminuda Müll.Arg.                              |                                                                  |
| **A. senilis Baill.**                              |                                                                  |
| **A. stachyura Pax**                               |                                                                  |
| **A. stricta Poepp.**                              |                                                                  |
| A. striolata Lingelsh.                             |                                                                  |
| A. subsana Mart. ex Colla                          |                                                                  |
| A. subvillosa Müll.Arg.                             |                                                                  |
| A. tenuicaulis Baill.                              |                                                                  |
| A. tenuiramia Müll.Arg.                            |                                                                  |
| A. tracheliifolia Pax & K.Hoffm.                   |                                                                  |
| **A. uleana L.B.Sm. & Downs**                       |                                                                  |
| A. urostachya Baill.                               |                                                                  |
| **A. variabilis Klotzsch ex Baill**                 |                                                                  |
| A. variabilis var. elliptica Baill.                 |                                                                  |
| A. variabilis var. longifolia Baill.                |                                                                  |
| A. variabilis var. urticoides Klotzsch ex Baill.    |                                                                  |
| **A. velamea Baill.**                              |                                                                  |
| **A. villosa Jacq.**                               |                                                                  |
| A. villosa var. trichopoda Müll.Arg.               |                                                                  |
| A. weddelliana Baill.                              |                                                                  |
| A. weddelliana var. genuina Müll.Arg.              |                                                                  |
| A. weddelliana var. janeirensis Pax & K.Hoffm.     |                                                                  |
| A. weddelliana var. major (Baill.) Müll.Arg.       |                                                                  |
| **A. wilkesiana Müll.Arg.**                         |                                                                  |
| Gymnalypha jacquinii Griseb.                        |                                                                  |

A. stricta Poepp.  
A. stricta Poepp.  
A. accedens Müll.Arg.  
A. multicaulis Müll.Arg.  
A. multicaulis Müll.Arg.  
A. multicaulis Müll.Arg.  
A. herzogiana Pax & K.Hoffm.  
A. brasilensis subsp. psilophylla (Müll.Arg.) Cardiel & A.A.C.Sousa  
A. cuneata Poepp.  
A. accedens Müll.Arg.  
A. amphyodonta (Müll.Arg.) Müll.Arg.  
A. klotzchii Baill.  
A. multicaulis Müll.Arg.  
A. integrifolia Willd. [not found in Brazil]  
A. multicaulis Müll.Arg.  
A. brasiliensis subsp. asterotricha (Müll.Arg.) Cardiel & A.A.C.Sousa  
A. accedens Müll.Arg.  
A. amphyodonta (Müll.Arg.) Müll.Arg.  
A. klotzchii Baill.  
A. multicaulis Müll.Arg.  
A. accedens Müll.Arg.  
A. communis subsp. trachelifolia (Pax & K.Hoffm.) Cardiel & P.Muñoz  
A. stricta Poepp.
Updated synopsis of Acalypha L. (Euphorbiaceae, Acalyphoideae) from Brazil

Taxonomic synopsis

Acalypha L., Sp. Pl. 2: 1003. 1753.—TYPE: Acalypha virginica L. (lectotype designated by Small (1913: 457)).

The Brazilian species of Acalypha are shrubs or small trees, rarely herbs or subshrubs, usually monoecious (only A. clausseni is clearly dioecious); erect, decumbent, prostrate or with stoloniferous growth. The indument is composed of simple, glandular, stellate, or fasciculate trichomes. The leaves are undivided, alternate, petiolate (rarely sessile or subsessile), stipulate, and pinnately or palmately veined. The inflorescences can be terminal or axillary, frequently both, unisexual or androgynous, and usually spicate (racemose only in A. villosa), with flowers subtended by bracts. The flowers are unisexual and apetalous. The staminate flowers are inconspicuous, shortly pedicellate, with 4 sepals and 4–8 stamens (these flowers are very similar in all species). The pistillate flowers are small, usually sessile, with 3 sepals, and subtended by bracts usually dentate or deeply partited, rarely entire, that become foliaceous and accrescent in the fruit. Only A. villosa, has pedicellate pistillate flowers, with 5...
sepals, and with small, non-accrescent bracts. The styles are reddish, distinct or basally connate, divided several times into filiform segments, or rarely unbranched. The fruits are capsular, 3-lobed, usually papillose or muricate, and covered by different types of trichomes. The seeds are small, ovoid, and minutely foveolate.

Key to the species of Acalypha of Brazil

1a Pistillate flowers pedicellate, calyx with [4] 5 sepals; pistillate bracts not enlarging in fruit (Acalypha subgen. Linostachys (Klotzsch ex Schltdl.) Pax & K.Hoffm.) ………………………………….. A. villosa

1b Pistillate flowers sessile, calyx with 3[4] sepals; pistillate bracts enlarging in fruit, except in Acalypha hispida (Acalypha subgen. Acalypha) ………………………………….. 2

2a Inflorescences staminate (sometimes absent) and androgy nous and then mostly stamineate with one to several pistillate flowers at the base ……………………………………………………….. 3

2b Inflorescences unisexual, or rarely some inflorescences androgynous, and then mostly pistillate with a distal segment of stamineate flowers ……………………………………………………….. 17

3a Leaves and/or young branches with simple, and stellate or fasciculate trichomes, sometimes scarce, or rarely absent; mature pistillate bracts up to 5 mm long ……………………………………………………….. 4

3b Leaves and/or young branches with only simple trichomes; mature pistillate bracts up to 25 mm long (up to 5 mm long in A. inselbergensis) ……………………………………………………….. 1

4a Leaf blades usually oblong to elliptic-lanceolate, rarely ovate-lanceolate, subchartaceous, the margin slightly revolute; stellate or fasciculate trichomes minute (to 0.02 mm long); petioles shorter than the leaf blade ……………………………………………………….. A. accedens

4b Leaf blades usually broadly ovate-lanceolate, sometimes elliptic-lanceolate, membranaceous, the margin not revolute; stellate or fasciculate trichomes more than 0.05 mm long; petioles usually longer than the leaf blade ……………………………………………………….. 5

5a Leaf blades vinaceous on lower surface; mature pistillate bracts fleshy and vinaceous; trichomes fasciculate ……………………………………………………….. A. almadinensis

5b Leaf blades green or whitish on lower surface; mature pistillate bracts membranaceous and green; trichomes stellate, fasciculate, or absent ……………………………………………………….. 6

6a Stellate or fasciculate trichomes absent; leaf blades thin-membranaceous (almost translucent); ovary glabrous ……………………………………………………….. A. peckoltii

6b Stellate or fasciculate trichomes present (sometimes scarce); leaf blades firm-membranaceous; ovary pubescent ……………………………………………………….. A. brasiliensis

7a Leaf blades broadly ovate-lanceolate or subrounded, with actinodromous venation (sometimes narrowly ovate-lanceolate in A. amblyodonta) ……………………………………………………….. 8

7b Leaf blades lanceolate, narrowly ovate, obovate, or elliptic-lanceolate, pinnately veined ……………………………………………………….. 16

8a Leaf blades (1.5 −) 2 − 5(− 6) cm long ………………………………….. 9

8b Leaf blades (6 −)7 − 25 cm long ……………………………………………………….. 13

9a Shiny exudate covering the plant almost entirely; mature pistillate bracts 4 − 5 mm long, with entire or subentire margin ……………………………………………………….. A. inselbergensis

9b Shiny exudate absent; mature pistillate bracts 10 − 25 mm long, with dentate margin ……………………………………………………….. 14

10a Procumbent herb rooting at the nodes; leaf blades rounded at apex; all inflorescences axillary ……………………………………………………….. A. radicans

10b Erect herb (not rooting at the nodes); leaf blades acute at apex; inflorescences axillary or terminal ……………………………………………………….. 11

11a Some inflorescences terminal; androgy nous inflorescences sessile or shortly pedunculate (peduncle up to 0.5 mm long); mature pistillate bracts up to 12 mm long ……………………………………………………….. 13

11b All inflorescences axillary; androgy nous inflorescences long pedunculate (peduncle up to 6 cm long); mature pistillate bracts up to 25 mm long ……………………………………………………….. A. macularis

12a Leaf blades ovate-lanceolate to subtriangular, glabrous; terminal inflorescences staminate ……………………………………………………….. A. multicaulis

12b Leaf blades oblong to elliptical lanceolate, pubescent; terminal inflorescences androgynous ……………………………………………………….. A. dimorpha
13a Stipules filiform; androgynous inflorescences pedunculate; mature pistillate bracts deeply divided … .......................................................... A. amphigyne

13b Stipules triangular-lanceolate, broadened at the base; androgynous inflorescences sessile; mature pistillate bracts dentate .................................................. A. amblyodonta

14a Young branches glabrous; leaf blades narrowly obovate to spatulate-lanceolate .......................................................... A. klotzschii

14b Young branches subglabrous or pubescent; leaf blades ovate to elliptic-lanceolate .......................................................... A. martiana

15a Petioles 4 – 8 cm long; young branches subglabrous or pubescent .......................... A. pohliana

15b Petioles to 2(– 3) cm long; young branches pubescent .......................................................... A. diver- 

16a Leaf blades narrowly lanceolate; mature pistillate bracts to 13 mm long, with 11 – 15 equal teeth .......................................................... A. poiretii (in part)

16b Leaf blades elliptic-lanceolate to ovate or oblun-

17a Herbs (slightly suffruticous in A. clausseau-

17b Trees, shrubs, or rarely sub-

18a Leaves sessile or with petioles to 2 mm long .......................................................... A. alopecuroidea

18b Leaves with petioles more than (5 −) 10 mm long .......................................................... A. arvensis

19a Inflorescences androgynous; mature bracts deeply divided; styles branched .... A. uleana

19b Inflorescences unisexual; mature bracts dentate; styles unbranched .................. A. clausse

20a Some inflorescences androgy-

20b All inflorescences unisexual ................. A. sehnemii

21a Young branches and leaves with glandular trichomes; all androgynous inflorescences terminal; mature pistillate bracts deeply divided ......................... A. poiretii (in part)

22a Pistillate inflorescences densely flowered, ellipsoid or cylindrical, with the axis completely covered by the bracts, not conspicuously visible .......................................................... A. hispida

22b Pistillate inflorescences loosely flowered, cylindrical, with the axis conspicuously visible between the bracts .......................................................... A. herzogiana

23a Pistillate bracts with triangular awnless teeth .......................................................... A. poiretii (in part)

23b Pistillate bracts with long awned teeth .......................................................... A. gracilis (in part)

24a Young branches and leaves with glandular trichomes; leaf blades acuminate at apex; pistillate inflorescences axillary and terminal; styles unbranched .................. A. wilkesiana

24b Young branches and leaves with simple trichomes; leaf blades acute at apex; pistillate inflorescences axillary; styles branched .......................................................... A. arvensis

25a Pistillate flowers in spikes and some pistillate flowers solitary, axillary, without a developed bract; staminate inflorescences terminal; pistillate bracts not deeply partite (less than ½ of the length of the bract) .......................................................... A. herzogiana

25b Pistillate flowers always in spikes, solitary pistillate flowers absent; staminate inflorescences axillary and terminal; pistillate bracts deeply partite (more than ½ of the length of the bract) .......................................................... A. gracilis (in part)

26a All inflorescences axillary ................. A. wilkesiana

26b Some inflorescences terminal or subtermi-

27a Leaf blades generally variegated, tinted reddish; pistillate inflorescences up to 10 cm long (usually cultivated plants) .......................................................... A. wilkesiana
29b Leaf blades not variegate, greenish; pistillate inflorescences more than 15 cm long ................................................................. A. macrostachya

30a Leaf blades usually obovate-lanceolate, cuneate to subcuneate at base; pistillate inflorescences 7–15 cm long ........................................ A. cuneata

30b Leaf blades ovate to oblong or elliptic-lanceolate, acute to subcordate at base; pistillate inflorescences more than 15 cm long .......................... 31

31a Shrubs not clambering; leaf blades acute at base; pistillate inflorescences erect, 15–20 cm long ................................................................. A. acuminata

31b Shrubs usually clambering; leaf blades rounded to subcordate at base; pistillate inflorescences pendulous, 25–40 cm long .......................... A. scandens

32a Some staminate inflorescences terminal; pistillate inflorescences axillary or subterminal; androgynous inflorescences absent ........................................ 35

32b All staminate inflorescences axillary; some pistillate inflorescences terminal; androgynous inflorescences rarely present ........................................ 37

33a Young branches and leaf blades glabrous or glabrescent; leaf blades elliptic-lanceolate, margin entire or obscurely crenate, slightly revolute ........ A. digynostachya

33b Young branches and leaf blades pubescent; leaf blades ovate-lanceolate, margin dentate, not revolute ......................................................... 36

34a Young branches and leaves densely tomentose; leaf blades chartaceous or subchartaceous; petioles to ¼ of the length of the leaf blade ........................................ A. chorisandra

34b Young branches and leaves sparsely pubescent; leaf blades thin-membranaceous; petioles to ½ of the length of the leaf blade ........................................ A. gracilis (in part)

35a T rees or shrubs more than 4 m high .................................................... 36

35b Shrubs or subshrubs up to 1 m high long ........................................ 37

36a Leaf blades oblong-lanceolate, pubescent on lower surface, not glossy ............ A. stricta

36b Leaf blades elliptic-lanceolate or ovate-lanceolate, becoming glabrous, usually glossy .................................................... A. stachyura

37a Young branches and leaf blades with numerous glandular trichomes; leaf blades usually deeply cordate at base .................................................... A. hassleriana

37b Young branches and leaf blades usually with only simple trichomes (a few glandular trichomes in A. communis subsp. trachelifolia); leaf blades rounded or rarely slightly cordate at base .................................................. 38

38a Leaf blades usually with conspicuous bright, resinous droplets; pistillate bracts with glandular trichomes ................................................................. A. communis

38b Leaf blades with or without bright, resinous droplets; pistillate bracts without glandular trichomes ................................................................. 39

39a Young branches usually hispid; leaf blades usually conduplicate, glabrous or subglabrous (with appressed trichomes on veins); lower leaf surface covered by a bright exudate, sometimes reduced to spots .................................................... A. variabilis

39b Young branches tomentose to velutinous; leaf blades not conduplicate (sometimes slightly conduplicate in A. senilis), more or less densely velutinous; lower leaf surface without exudate .................................................... 40

40a Leaves with petioles (5–)10–50 mm long, leaf blades ovate-triangular to subrounded, membranous ................................................................. A. senilis

40b Leaves sessile or with petioles up to 3(–5) mm long, leaf blades elliptic, oblong, or ovate-lanceolate, chartaceous .................................................... 41

41a Leaf blades 7–8 × 3.5–5 cm, with simple trichomes; pistillate bracts with teeth covered with crystalliferous papillae .................................................... A. vellamea

41b Leaf blades 2–6 × 0.8–2.5 cm, with stellate or fasciculate trichomes; pistillate bracts without papillae .................................................... A. apetiolata

Acalypha accedens Müll.Arg., Linnaea 34: 35. 1865. = Ricinocarpus accedens (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, “In Brasilia meridionali”, s.d., J. Lhotsky s.n. (lectotype designated here or perhaps holotype: G-DC barcode G00324475; isolecotypes: G barcode G00383657, and W barcode W0022063).
Updated synopsis of Acalypha L. (Euphorbiaceae, Acalypoideae) from Brazil

1. Acalypha weddelliana Baill., Adansonia 5: 232. 1865, syn. nov. = Ricinocarpus weddellianus (Baill.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, 1844, M.A. Weddell s.n. (lectotype designated here: P barcode P00645435). Remaining syntypes: Brazil, Rio de Janeiro, “bords du ruisseau de Uba”, s.d., A. Saint-Hilaire Cat. A^1^ n° 644, (P barcodes P00645437 and P00645436); Brazil: s.loc., 1816–1821, M. Argoviensis (P barcode P00645438).

2. Acalypha brachyandra Baill., Adansonia 5: 232. 1865, syn. nov. = Acalypha accedens var. brachyandra (Baill.) Müll.Arg. in Martius, Fl. Bras. 11(2): 362. 1874. —TYPE: Brazil, Rio de Janeiro, Nova Friburgo, Nov 1842. P.C.D. Claussen 76 (lectotype designated here or perhaps holotype: P barcode P00635206; isolecotyopes: G barcodes G00383654 and G00383655).

3. Acalypha estrellana Baill., Adansonia 5: 237. 1865, syn. nov.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, 1843, M. Weddell 677 (lectotype designated here: P barcode P04836876; isolecotyope: P barcode P04836877). Remaining syntype: Brazil, Rio de Janeiro, “serra d’Estrella”, 1844, M. Weddell 794 (P barcodes P00645441, and P00645441).

4. Acalypha tenuiramea Müll.Arg., Prdr. 15(2): 858.1866, syn. nov.—TYPE: Brazil, Rio de Janeiro, Organ Mountains, 1838–1839, Wilkes Expedition s.n. (lectotype designated here or perhaps holotype: G-DC; isolecotype: G barcode G000939655, BR barcode BR0000006997786, G barcode G00405454, K barcode K000600536).

5. Acalypha omissa Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 111. 1924, nom. nud. sub A. omissa Pax & K.Hoffm.

6. Acalypha weddelliana Baill., Adansonia 5: 232. 1865, syn. nov. = Acalypha brachyandra Baill., Adansonia 5: 232. 1865, syn. nov. = Acalypha accedens var. brachyandra (Baill.) Müll.Arg. in Martius, Fl. Bras. 11(2): 362. 1874. —TYPE: Brazil, Rio de Janeiro, “prope Mandioca”, s.d., L. Riedel s.n. (lectotype designated here or perhaps holotype: G barcode G000939655).

7. Acalypha omisia Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 111. 1924, syn. nov.—TYPE: Brazil, “Südbrasilianische Provinz”, s.d., F. Sellow 470 (holotype: B presumed destroyed [B neg. F5309].

8. Acalypha weddelliana var. janeirensis Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 122. 1924, syn. nov.—TYPE: Brazil, Rio de Janeiro, Cachoeira, s.d., Mendonça 151 (holotype: B presumed destroyed).

9. Acalypha accedens var. genuina Müll.Arg. in Martius, Fl. Bras. 11(2): 361. 1874. Designation not validly published.

10. Acalypha weddelliana var. genuina Müll.Arg. in Martius, Fl. Bras. 11(2): 365. 1874. Designation not validly published.

11. Acalypha microstachya Klotzsch in Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 111. 1924, nom. nud. sub A. omisia Pax & K.Hoffm.

12. Acalypha brasiliensis var. homotricha f. microphylla Müll.Arg. in Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85)

References: Müller-Argoviensis (1866: 860, 1874: 361), Pax and Hoffmann (1924: 118), Sousa et al. (2017: 340).

Distribution and habitat: Endemic to Brazil: Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, and São Paulo). Atlantic Forest, 10–600 m a.s.l. 74 specimens studied (Fig. 1a).

Notes: Acalypha weddelliana was described based on three different Brazilian collections (syntypes), M.A. Weddell s.n., A. Saint-Hilaire Cat. A^1^ n° 644, and A. Saint-Hilaire s.n. We selected the best preserved of those specimens, M.A. Weddell s.n. at P as the lectotype.

Acalypha estrellana was described based on two different Brazilian collections (syntypes), M.A. Weddell 677 and 794. We selected the best preserved of those specimens, M.A. Weddell 677 at P, as the lectotype.

The type specimen of Acalypha tenuiramea was wrongly quoted as “in insula Orjan Oceani Pacifici” by Müller-Argoviensis (1866). The Wilkes Expedition to the Pacific Ocean (1838–1842) made a brief visit to Rio de Janeiro from November 1838 to January 1839 (Stanton 1975). The type specimen of A. tenuiramea was probably collected in the Serra dos Órgãos (Organ Mountains), in the vicinity of Rio de Janeiro, in addition to the type specimen of A. brevibracteata (= A. brasiliensis subsp. psilophylla).

Acalypha acuminata Bentham., Hooker’s J. Bot. Kew Gard. Misc. 6: 329. 1854. = Ricinocarpus acuminatus (Benth.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, Amazonas, “in the Gapó at Managuiri, at the mouth of the Rio Negro”, Jun 1851, R. Spruce 1643 (lectotype designated here: K barcode K000600537; isolecotyopes: BM barcode BM000939655, BR barcode BR0000006997786, G barcode G00405454, K barcode K000600536, P barcode P00635208, and TCD barcode TCD0007714).

Iconography: Not found.

Description: Pax and Hoffmann (1924: 118), Sousa et al. (2017: 340).

Distribution and habitat: Endemic to Brazil: North (Amazonas and Para). Amazonia, 200–300 m a.s.l. 19 specimens studied (Fig. 1b).
Fig. 1 Distribution map of selected Acalypha species in Brazil: a A. accedens; b A. acuminata; c A. almadinensis; d A. amblyodont; e A. amphygyn; f A. apetiolata

References: Müller-Argoviensis (1866: 860, 1874: 361), Pax and Hoffmann (1924: 118), Angely (1970: 324), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 259), Sousa et al. (2017: 340).

Notes: Acalypha acuminata was described based on a single collection, R. Spruce 1643+, of which we have found eight duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at K, as the lectotype.

Acalypha almadinensis A.A.C.Sousa, Syst. Bot. 44(2): 346. 2019.—TYPE: Brazil, Bahia, Almadina, Serra do Sete Paus, Fazenda Cruzeiro do Sul, 14° 44′ 06″ S 39° 41′ 46″ W, 578 m a. s. l., 26 Feb 1997. J.G. Jardim, P.B. Monteiro, E.R.
de Castro and J.F. dos Santos 986 (holotype: SP; isotype: CEPEC).

Iconography and description: Sousa et al. (2019: 346–347, fig. 1).

Distribution and habitat: Endemic to Brazil: Northeast (Bahia); Southeast (Minas Gerais). Atlantic Forest, 490–800 m a.s.l. 3 specimens studied (Fig. 1c).

References: Sousa et al. (2019).

Acalypha amblyodonta (Müll.Arg.) Müll.Arg. in Martius, Fl. Bras. 11(2): 365. 1874. ≡ Acalypha cuspidata var. amblyodonta Müll.Arg., Linnaea 34: 37. 1865. ≡ Acalypha dupraeana var. gaudichaudii Baill., Adansonia 5: 230. 1865. ≡ Acalypha amblyodonta var. gaudichaudii (Baill.) Müll. Arg. in Martius, Fl. Bras. 11(2): 366. 1874. ≡ Ricinocarpus amblyodontus (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, 1833, C. Gaudichaud-Beaupré 1134 (lectotype designated by Cardiel et al. (2013a: 155): P barcode P00635211; isolecotytes: B presumed destroyed [B neg. F 5277], G barcode G00383653, and P barcode P04838411).

≡ Acalypha cuspidata var. oxyodonta Müll.Arg., Linnaea 34: 37. 1865, syn. nov. ≡ Acalypha oxyodonta (Müll.Arg.) Müll.Arg. in Martius, Fl. Bras. 11(2): 367. 1874. ≡ Ricinocarpus oxyodontus (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, “in Brasilia meridionali”, 1832, J. Lhotsky s.n. (holotype: G-DC barcode G00324493).

≡ Acalypha dupraeana Baill., Adansonia 5: 229. 1865, syn. nov.—TYPE: Brazil, “Brésil mérid.”, 1842, M. Dupré s.n. (holotype: P barcode P00635207); isotype: NY barcode NY00348276).

≡ Acalypha dupraeana var. hilarii Baill., Adansonia 5: 230. 1865, syn. nov.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, s.d., A. Saint-Hilaire cat. C², n°. 76 (lectotype designated here or perhaps holotype: P barcode P04781789).

≡ Acalypha amblyodonta var. hispida Müll.Arg. in Martius, Fl. Bras. 11(2): 366. 1874, syn. nov.—TYPE: Brazil, Minas Gerais, Caldas, 18 Jun 1857, A.F. Regnell 1065 (lectotype designated here: S number S-R-7735; isolecotytes: BR barcode BR0000006998110, G barcode G00383651, P barcode P00635210, and S numbers S07-12625, and S07-12626).

≡ Acalypha amblyodonta var. repanda Müll. Arg. in Martius, Fl. Bras. 11(2): 366. 1874, syn. nov.—TYPE: Brazil, Minas Gerais, “Lagoa Santa”, s.d., J.E.B. Warming 1576 (lectotype designated here or perhaps holotype: G barcode G00383652; isolecotytes: P barcode P00635209).

≡ Acalypha amblyodonta var. villosa Müll.Arg. in Martius, Fl. Bras. 11(2): 366. 1874.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, s.d., J. Lhotsky s.n. (lectotype designated here: W). Remaining syntypes: Brazil, “ad cataractam Tipuensem”, s.d., C.P.F. von Martius s.n. (M barcodes M0239416, M0239417, and M0239418); Brazil, “ad Fazienda da Casta”, s.d., J.B.E. Pohl 3277 (US barcode US00096287, W number 22044, and 220452). Goiás, “rio Maranhão”, s.d., J.B.E. Pohl 2044 (W); Brazil, Minas Gerais, Tijuco “Tejuco”, s.d., Schott 412 (W); Brazil, Minas Gerais, Lagoa Santa, s.d., J.E.B. Warming 1564 (G barcode G00383650); ibidem. cit., J.E.B. Warming s.n. (P barcode P04839310); ibidem. cit., E. Warming s.n (C barcode C10013862); Brazil, Rio de Janeiro, monte Corcovado, 1857, G. Casaretto 1847 (G-DC barcode G00324493); Brazil, Rio de Janeiro, s.d., L. Riedel 1167 not found; ibidem. cit., s.d., Weddel 681 not found; ibidem. cit., s.d., A. Glaziou 20 (BR barcodes BR0000005844265 and BR0000005844234); ibidem. cit., s.d., Schuech s.n. not found; ibidem. cit., s.d., Mikan s.n. (W).

Iconography: Müller-Argoviensis (1874: 366, tab. 53); Lourteig and O’Donnell (1942: 299, fig. 6; 1943, tab. 93b), sub. A. amblyodonta var. villosa Müll.Arg.

Description: Pax and Hoffmann (1924: 120), Sousa et al. (2017: 340).

Distribution and habitat: Brazil, Western South America (Bolivia and Peru) and Southern South America (Paraguay and Argentina). Brazilian distribution: Northeast (Bahia, Ceara, Paraiba, Pernambuco, and Rio Grande do Norte). Central West (Goiás, Mato and Grosso do Sul). Southeast (Minas Gerais, Rio de Janeiro, and São Paulo). South (Parana) Mainly in Caatinga, Cerrado, and disturbed Atlantic Forest, 200–1100 m a.s.l. 287 specimens studied (Fig. 1d).

References: Müller-Argoviensi (1874: 365), Glaziou (1913: 623), Pax and Hoffmann (1924: 120, 121), Angely (1977: 81), Govaerts et al. (2000: 47), Berry et al. (2007: 2010), Matiko Sano et al. (2008: 736), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Lucena and Alves (2010), Cordiero et al. (2011: 259), Wanderley et al. (2011: 259), Cardiel et al. (2013b), De Sousa and Alves (2014), Cardiel and Muñoz-Rodríguez (2015), Sousa et al (2017: 340).

Notes: Acalypha amblyodonta var. hispida was described based on a single collection, A.F. Regnell 1065, of which we have found six duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at S, as the lectotype.

Acalypha amblyodonta var. villosa was described based on fourteen different Brazilian collections (syntypes), G. Casaretto 1847, A. Glaziou 20, J. Lhotsky s.n., C.P.F. von Martius s.n., Mikan s.n., J.B.E. Pohl 2044 and 3277, L.
Acalypha amphigyne S.Moore, Trans. Linn. Soc. London, Bot. 4: 467. 1895.—TYPE: Brazil, Mato Grosso do Sul, Corumbá, Dec 1891. S. Moore 1024 (lectotype designated here: K barcode K000600552; isotype: MO not seen).

Iconography: Not found.

Description: Moore (1895: 467).

Distribution and habitat: Endemic to Brazil: Central West (Mato Grosso do Sul). Pantanal, 120 m a. s. l. 4 specimens studied (Fig. 1e).

References: Pax and Hoffmann (1924: 40).

Notes: Acalypha amphigyne was described based on a single Brazilian collection, S. Moore 1024, of which we have found four duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at K, as the lectotype.

Pax and Hoffmann (1924: 40) considered Acalypha amphigyne as a “anomalous form” of A. communis var. hirtiformis. The type specimens of Acalypha amphigyne present androgynous axillary inflorescences with a single pistillate bract at the base, clearly different from the inflorescences of A. communis, and no anomalous structure has been observed; therefore, we consider that this species should be accepted, although is only known from the type collection.

The type specimen of Acalypha amphigyne was collected over a century ago, so we cannot rule out the possibility that the species is now extinct.

Acalypha apetiolata Allem & J.L.Waechter, Revista Bras. Biol. 37: 85.1977.—TYPE: Brazil, Rio Grande do Sul, Municipio de Vacaria (Fazenda da Ronda). En campos arbustivos y rupestres, junto al río Pelotas, próximo a la frontera con Santa Catarina, 3 Jan 1947. B. Rambo s.n. (holotype: PACA number 34780; isotype: MO not seen).

Iconography and description: Costa Allem and Watcher (1977: 87, fig. 3).

Distribution and habitat: Endemic to Brazil: South (Rio Grande do Sul). Atlantic Forest, 1000 m a. s. l. 4 specimens studied (Fig. 1f).

References: Alvarez Filho (1977), Bencke and Duarte (2008: 98), Sobral et al. (2009: 248), Cardiel et al. (2010: 963).

Notes: Acalypha apetiolata can be included in the recently defined Acalypha sect. Communes, a complex group of species widespread in north of the Southern Cone (Cardiel et al. 2013a). Within this group, A. apetiolata can be confused with A. velamea Baill., also with sessile or subsessile leaf blades. The presence of stellate trichomes (absent in A. velamea) is the main distinctive character of A. apetiolata.

Acalypha arvensis Poep. in Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 21. 1841. ≡ Ricinocarpus arvensis (Poep.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Peru, Amazonas, Maynas ad Yurimaguas, s.d. E. Poeppig 2215 [2115] (lectotype designated by Cardiel and Muñoz-Rodríguez, 2012: 8): W; isolectotypes: G barcodes G003836452, and G00324857, F barcode F0042434F, P barcode P04839414, and W).

Iconography: Dodson et al. (1985: 245, tab. 92d).

Description: Cardiel (1995a, b: 52).

Distribution and habitat: Mexico, Central America, Caribbean, Northern South America, Brazil, and Western South America; introduced in southeastern USA. Brazilian distribution: North (Acre, Amapa, Amazonas, Para, and Rondonia); Central West (Goiás and Mato Grosso do Sul); Southeast (Rio de Janeiro); South (Parana and Santa Catarina). Mainly disturbed areas in Amazonia, Cerrado and Atlantic Forest, 0–750 m a. s. l. 89 specimens studied (Fig. 2a).

References: Cardiel et al. (2010: 963), De Sousa and Alves (2014).

Notes: Acalypha arvensis is frequently misidentified as A. aristata Kunth, but A. aristata is a synonym of the previously published A. alopecuroidea Jacq., an introduced species in Brazil.

Acalypha brasiliensis Müll.Arg., Linnaea 34: 37. 1865, nom. cons. ≡ Acalypha brasiliensis var. mollis Müll.Arg., Linnaea 34: 37. 1865. ≡ Acalypha dupraeana var. arciana Baill., Adansonia 5: 230 (1865), nom. illeg. superfl. ≡ Acalypha arciana Müll.Arg. in Martius, Fl. Bras. 11(2): 362. 1874. ≡ Ricinocarpus arcianus (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 617. 1891. ≡ Ricinocarpus brasiliensis (Müll. Arg.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil. Bahia, “Ponço d’Arcia”, Jun 1844, J.S. Blanchet 3865 (lectotype designated by Cardiel and Muñoz-Rodríguez 2015: 390): G-DC barcode G00324483; isolectotypes: BM barcode BM000939658, NY barcode NY00246091, and W).

≡ Acalypha subsansa Mart. ex Colla, Herb. Pedem. 5: 113. 1836. nom. rej.—TYPE: Brazil, Rio de Janeiro, Cabo Frio, s.d., Anonymous [Wied] s.n. (lectotype designated by
Moraes et al. (2014: 145): TO; isoelectotype: BM barcode BM001125229).

Iconography: See in the subspecies.

Description: Sousa et al. (2017: 340).

Distribution and habitat. Brazil and Southern South America (Argentina). Brazilian distribution: Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, and Sergipe); Central West (Distrito Federal, Goiás, and Mato Grosso do Sul); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do
Sul, and Santa Catarina). Mainly in Atlantic Forest, also occur in Caatinga and Cerrado, 0–1000 (–1400) a. s. l. 538 specimens studied (Fig. 2b–d).

References: Müller-Argoviensis (1866: 859, 1874: 363), Glaziou (1913: 623), Pax and Hoffmann (1924: 117), Smith and Downs (1959: 198), Angely (1970: 324, 1977: 81–1), Smith et al. (1988: 196), Govaerts et al. (2000: 53), Berry et al. (2007: 2010), Matiko Sano et al. (2008: 736), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), Cardiel and Muñoz-Rodríguez (2015: 390), Hurbath et al. (2016: 493), Sousa et al. (2017: 340) Cardiel et al. (2020: 8).

Notes: Acalypha brasiliensis was first described by Müller Argoviensis in March 1865, who divided it into three varieties (var. mollis, var. asterotricha, and var. psilophylla), with var. asterotricha further separated into two forms (f. cordata and f. obtusa). Müller Argoviensis added four more varieties in 1874 (var. brevipes, var. glabra, var. longipes, and var. maxima). Cardiel and Muñoz-Rodríguez (2015), in order to fix the application of the name A. brasiliensis, lectotypified it using original material of A. brasiliensis var. mollis.

Acalypha dupraeana var. arciana was published by Henry Baillon in April–May 1865 referencing the same collection used before by Müller Argoviensis to describe A. brasiliensis var. mollis (M. Blanchet 3865), therefore, Baillon’s name is nom. illeg. superf. (Cardiel and Muñoz-Rodríguez 2015). Pax and Hoffmann (1924: 117) and subsequent works cited Acalypha arciana as a combination “Acalypha arciana (Baill.) Müll.Arg.”, but the name “Acalypha arciana” cannot be considered a combination of Acalypha dupraeana var. arciana Baill. due to this name being illegitimate (see previous note). The name A. brasiliensis var. mollis has priority, but this name cannot be combined as “A. mollis (Müll. Arg.) Müll.Arg.”, as it is already in use (A. mollis Kunth). A. arciana proposed by Müller-Argoviensis (1874) must thus be considered as the correct name (nom. nov.).

Acalypha brasiliensis is a morphologically complex species that includes numerous infraspecific taxa. The shape and size of the leaves can vary greatly, as can the density of the indument; in young specimens or branches, the stellate or fasciculate trichomes cover almost the entire plant, especially the lower leaf surface, which appears whitish; however, on old specimens the stellate trichomes can be very scarce and even disappear. A. brasiliensis is also one of the most common and widely distributed species of the genus in Brazil. After a careful review of the original material and the large number of collections available, we consider that the morphological differences justify the recognition of three different taxa with subspecies rank. Additional analyses are still necessary to elucidate the complexity of this species, but such studies, including the incorporation of molecular analyses, are beyond the scope of this work.

Key to the subspecies of Acalypha brasiliensis

1a Leaves pinnately veined with stellate trichomes ................................................................. A. brasiliensis subsp. asterotricha

1b Leaves palmately veined (actinomorphic) with stellate or fasciculate trichomes ................................................................. 2

2a Trichomes stellate; leaf blades (6–) 8–18.5 cm long; petioles usually longer than the leaf blade; mature pistillate bracts shorter than the fruit ……………….. A. brasiliensis subsp. psilophylla

2b Trichomes fasciculate; leaf blades 4–7 (–9) cm long; petioles equal or slightly shorter than the leaf blade; mature pistillate bracts longer than the fruit ……………….. A. brasiliensis subsp. brasiliensis

Acalypha brasiliensis subsp. asterotricha (Müll.Arg.) Cardiel & A.A.C.Sousa, comb. nov. ≡ Acalypha brasiliensis var. asterotricha Müll.Arg. f. obtusa Müll. Arg., Linnaea 34: 37. 1865. ≡ Acalypha brasiliensis var. obtusa (Müll.Arg.) Müll.Arg. in Martius, Fl. Bras. 11(2): 363, 1874.—TYPE: Brazil, Bahia, s. loc., 1831, J.S. Blanchet 98 (lectotype designated here: G-DC barcode G00324480).

≡ Acalypha brasiliensis var. asterotricha f. cordata Müll. Arg., Linnaea 34: 37. 1865. ≡ Acalypha brasiliensis var. cordata (Müll.Arg.) Müll.Arg. in Martius, Fl. Bras. 11(2): 363, 1874, syn. nov.—TYPE: Brazil, Bahia, s. loc., s.d., J.S. Blanchet s.n. (lectotype designated here or perhaps holotype: G-DC barcode G00324481).

≡ Acalypha seminuda Müll.Arg. in Martius, Fl. Bras. 11(2): 360, 1874, syn. nov.—TYPE: Brazil, Bahia, s.loc., s.d., L. Riedel s.n. (lectotype designated here or perhaps holotype: G barcode G00383715).

≡ Acalypha brasiliensis var. maxima Müll.Arg. in Martius, Fl. Bras. 11(2): 364, 1874.—TYPE: Brazil, Bahia, 1830, P. Salzmann 486 (lectotype designated here or perhaps holotype: G-DC barcode G00324479).

Iconography: Not found.

Distribution and habitat: Endemic to Brazil: Northeast (Bahia). Atlantic Forest, 0–100 m. 4 specimens studied (Fig. 2b).

Notes: The basionym Acalypha brasiliensis var. asterotricha was first described by Müller Argoviensis, who recognized two forms (f. cordata and f. obtusa). We consider that the differences between them do not justify the recognition of
these taxa. In order to fit the application of the name of this variety, it is lectotypified using original material of Acalypha brasiliensis var. asterotricha f. obtusa.

*Acalypha brasiliensis* subsp. *brasiliensis*.

**Iconography:** Not found.

**Distribution and habitat:** Endemic to Brazil: Northeast (Bahia and Pernambuco); Central West (Goiás); Southeast (Minas Gerais). Atlantic Forest, 500–700 m a. s. l. 20 specimens studied (Fig. 2c).

**Notes:** A remarkable feature of *Acalypha brasiliensis* subsp. *brasiliensis* is the presence of styloids on the lower surface of the leaves (not found in the other subspecies). This type of epidermal crystals, recently studied, is very infrequent in *Acalypha*; among the Brazilian species of the genus, they are only found in this subspecies and in *A. inselbergensis* (Cardiel et al. 2020).

*Acalypha brasiliensis* subsp. *psilophylla* (Müll.Arg.) Cardiel & A.A.C.Sousa, comb. nov. ≡ *Acalypha brasiliensis* var. *psilophylla* Müll.Arg., Linnaea 34: 38. 1865.—TYPE: Brazil, Bahia, 1830, P. Salzmann 484 (lectotype designated here or perhaps holotype: G-DC barcode G00324477).

≡ *Acalypha dupraevana* var. *sylvicola* Baill., Adansonia 5: 230. 1865, syn. nov.—TYPE: Brazil, Minas Gerais, s.loc., s.d.; A. Saint-Hilaire cat. B 1, n°. 364 (lectotype designated here or perhaps holotype: P barcode P04781791, non P04839011). Syn. nov.

≡ *Acalypha major* Salzm. ex Baill., Adansonia 5: 236. 1865, syn. nov. ≡ *Acalypha weddelliana* var. major (Salzm. ex Baill.) Müll.Arg. in Martius, Fl. Bras. 11(2): 264. 1874.—TYPE: Brazil, São Paulo, Serra da Mantiqueira “serra de Mantiquera”, 1816–1821, A. Saint-Hilaire cat. D, n°. 589 (lectotype designated here): P barcode P04836882; isolectotype: P barcode P04836883). Remaining syntypes: Brazil, Bahia, s.d.; *Herb. P. Salzmann* s.n. (P barcodes P04839018, P00645439, P00645440 and P04839021, BM barcode BM000939659, G barcode G00383700, MPU barcodes MPU015022, MPU015024, MPU015023 and MPU015025); Brazil, Rio de Janeiro, Paraiba “sur les bords du Parahyba”, s.d.; A. Saint-Hilaire cat. A 1, n°. 491 (P barcode P04836881).

≡ *Acalypha brevibracteata* Müll.Arg., Pradr. 15(2): 855. 1866, syn. nov.—TYPE: Brazil, Rio de Janeiro, Organ Mountains, s.d.; Wilkes Expedition s.n. (lectotype designated here or perhaps holotype: G-DC barcode G00324503; isotype: GH barcode GH00045444).

≡ *Acalypha brasiliensis* var. *longipes* Müll.Arg. in Martius, Fl. Bras. 11(2): 363, 1874.—TYPE: Brazil, Goiás, Pedro Alvez, s.d., J.B.E. Pohl 21 (lectotype designated here: G-DC barcode G00383639; isolectotypes: BR barcode BR000006997816, F barcode P04839027, G, NY, and W number 0022042, 0022043). Remaining syntypes: Brazil, Rio de Janeiro, Monte Corcovado, s.d., C.P.F. von Martius s.n. (BR barcode BR0000005622481); ibidem. cit., A. Glaziou 1012 (BR barcodes BR000006998127, and BR000006998455), C, K, P barcodes P05543217, P04839027, and P04839028).

= *Acalypha brasiliensis* var. *brevipes* Müll.Arg. in Martius, Fl. Bras. 11(2): 363, 1874.—TYPE: Brazil, Rio de Janeiro, Canta Gallo, s.d., L. Riedel 374 (lectotype designated here: G barcode G00383640; isolectotypes: G barcode G00383641, P barcode P00635218, and W).

= *Acalypha noronhiae* Ridl., J. Linn. Soc., Bot. 27: 59 (1890).—TYPE: Brazil, Pernambuco, Fernando de Noronha. On the slopes of the Peak, among the boulders, 1887. H.N.Ridley, T.G. Lea and G.A. Ramage 109 (lectotype designated here: K barcode K000600543; isolectotypes: B presumpt destroyed [B neg. F0BN005306], BM barcode BM000947446, GH barcode GH00045473, and US barcode US00096377).

= *Acalypha brasiliensis* var. *angustifolia* Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. XVI: 117. 1924.—TYPE: Brazil, San Paolo, Capoeira, s.d, A. Loefgren and E. Edwall 1825 (lectotype designated here: W barcode W0022040; isolectotype: SP number 13759). Remaining syntype: Brazil, Rio de Janeiro, Rio de Janeiro, s.d., Moura 1027 not seen.

= *Acalypha fragilis* Pax & K.Hoffm., Repert. Spec. Nov. Regni Veg. 41: 226 (1937), syn. nov.—TYPE: Brazil, Ceará, Serra de Araripe, 25 Mar 1935. L. Luetzelburg 26128 (lectotype designated here or perhaps holotype: M barcode M0239440; isotype: EAC barcode EAC36499).

**Iconography:** Lourteig and O’Donell (1942: 303, fig. 8; 1943, tab 87).

**Distribution and habitat.** Brazil and Southern South America (Argentina). Brazilian distribution: Northeast (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, and Sergipe); Central West (Distrito Federal, Goiás, and Mato Grosso do Sul); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo); South (Paraná, Rio Grande do Sul, and Santa Catarina). Mainly in Atlantic Forest, also occur in Caatinga and Cerrado, 0–1000 (–1400). 504 specimens studied (Fig. 2d).

**References:** Müller-Argoviensis (1866: 859, 1874: 363), Glaziou (1913: 623), Pax and Hoffmann (1924: 117), Smith
and Downs (1959: 198), Angely (1970: 324, 1977: 81-1), Smith et al. (1988: 196), Govaerts et al. (2000: 53), Berry et al. (2007: 2010), Matiko Sano et al. (2008: 736), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), Cardiel and Muñoz-Rodríguez (2015: 390), Hurbath et al. (2016: 493), Sousa et al. (2017: 340) Cardiel et al. (2020: 8).

Notes: Acalypha major was described based on three different Brazilian collections (syntypes), Saint-Hilaire cat. D, n° 589, Herb. P. Salzmann s.n., and A. Saint-Hilaire cat. A1 nº 491. We selected the best preserved of those specimens, Saint-Hilaire cat. D n° 589 at P, as the lectotype.

The type specimen of Acalypha brevibracteata was wrongly quoted as “in insula Orjan Oceani Pacifici” by Müller-Agroiensis (1866). See notes for A. accedens.

Acalypha brasilensis var. longipes was described based on three different Brazilian collections (syntypes), J.B.E. Pohl 21, C.P.F. von Martius s.n., and A. Glaziou 1012. We selected the best preserved of those specimens, J.B.E. Pohl 21 at G-DC, as the lectotype.

Acalypha brasilensis var. brevipes was described based on a single Brazilian collection, J.E.B. Warming 1565, of which we have found three duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at C, as the lectotype.

Acalypha brasilensis var. glabrata was described based on a single Brazilian collection, L. Riedel 374, of which we have found four duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at G, as the lectotype.

Acalypha noronhae was described based on a single Brazilian collection, H.N. Ridley, T.G. Lea and G.A. Ramage 109, of which we have found five duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at Fig. 2e.

Acalypha brasiliensis var. angustifolia was described based on two different Brazilian collections (syntypes), A. Loefgren and E. Edwall 1825 and Moura 1027. We were only able to find one of those specimens, A. Loefgren and E. Edwall 1825 at W, and designate it as the lectotype.

Acalypha chorisandra Baill., Adansonia 5: 235. 1865. ≡ Ricinocarpus chorisandra (Baill.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, Minas Gerais, Canabrava, A. Saint-Hilaire cat. B1 nº 1069 (lectotype designated here: P barcode P00635219; isolectotype: P barcode P04839011). Distribution and habitat: Endemic to Brazil: Southeast (Minas Gerais). Cerrado, 500–600 m a. s. l. 2 specimens studied (Fig. 2e).

References: Müller-Agroiensis (1866: 883, 1874: 353), Pax and Hoffmann (1924: 86), Cardiel et al. (2010: 963).

Notes: Acalypha chorisandra was described based on a single Brazilian collection, A. Saint-Hilaire cat. B1 nº 1069, of which we have found two duplicates at P. Due to the lack of holotype indication, we designate the best preserved specimen as the lectotype.

Acalypha chorisandra is only known from the type specimens, collected in a currently profoundly transformed habitat over 150 years ago. We cannot rule out the possibility that the species is now extinct.

Acalypha clausenii (Turcz.) Müll.Arg., Linnaea 34: 51. 1865. ≡ Odontelema clausenii [clausenii] Turcz., Bull. Soc. Imp. Naturalistes Moscou 21(1): 588 (1848). Ricinocarpus clausenii (Turcz.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, Minas Gerais, Aug–April 1840, P. Clausen s.n. (lectotype designated here: K barcode K000600549; isolectotypes: BR barcodes BR0000013309398, BR0000013309374, and BR0000013309381, G barcodes G00439921, and G00439912, K barcode K000600550). Remaining syntypes: Brazil, s.loc., s.d., P. Clausen 84 (G barcode G00324841, and P barcode P04839004); ibidem. cit., P. Clausen 774 (P barcode P04839007); ibidem. cit., P. Clausen 775 (P barcode P04839005); ibidem. cit., P. Clausen 1114 (P barcode P04839002); ibidem. cit., P. Clausen 458 (BR barcode BR0000013309404, G barcode G00439913, GH barcode GH00045448, and TUB barcode TUB009089).

Iconography: Not found.

Description: Pax and Hoffmann (1924: 86), Sousa et al. (2017: 342).

Distribution and habitat: Endemic to Brazil: Northeast (Tocantins); Central West (Distrito Federal, Goiás; Southeast (Minas Gerais and Rio de Janeiro). Mainly in Cerrado, rarely in disturbed Atlantic Forest, 400–1250 m a. s. l. 123 specimens studied (Fig. 2f).

References: Müller-Agroiensis (1866: 884, 1874: 353), Glaziou (1913: 623), Pax and Hoffmann (1924: 86), Angely (1970: 325, 1977: 81-2), Alves (1999: 489), Cordeiro and Carneiro-Torres (2006: 42), Matiko Sano et al. (2008: 736), Mendoça et al. (2008), Sobral et al. (2009: 248), Cardiel et al. (2010: 963) Cordeiro et al. (2011: 260), Sousa et al. (2017: 341), Cardiel et al. (2020: 9).
Updated synopsis of Acalypha L. (Euphorbiaceae, Acalyphoideae) from Brazil

Notes: Odonteilema clausenii, the basionym of Acalypha clausenii, was described based on five different Brazilian collections (syntypes), of P. Clausen: 84, 774, 775, 1114 and s.n. We selected the best preserved of those specimens, P. Clausen s.n. at K, as the lectotype.

Acalypha clausenii presents unique characteristics among the native Brazilian Acalypha species, such as being dioecious, having staminate and pistillate terminal inflorescences, and having unbranched styles.

Acalypha communis Müll.Arg., Linnaea 34: 23. 1865, nom. cons. = Acalypha communis Müll.Arg. var. tomentosa Müll.Arg., Linnaea 34: 24. 1865. = Ricinocarpus communis (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 617 (1891).—TYPE: Brazil, Minas Gerais, s.d., J.F. Widgren s.n. (lectotype designated by Cardiel et al. (2013a: 1299); S number S07-12617; isolecotypes: BR barcode BR0000006997823, and P barcode P04838989).

=Acalypha hirsuta Mart. ex Colla, Herb. Pedem. 5: 114. 1836, nom. rej.—TYPE: Brazil, Rio de Janeiro, “Serra da Estrela,” s.d., Anonymous s.n. (lectotype designated by Moraes et al. (2014: 145): TO not seen). Remaining syntype: Brazil, Rio de Janeiro, “in Campos de Goyaticazes,” 1815, M.A.P., Prinz zu Wied s.n. (BR barcode BR0000008675477).

Iconography: See in the subspecies.

Description: Bacigalupo (2005: 173), Sousa et al. (2017: 342).

Distribution and habitat: Brazil, Western South America (Bolivia), and Southern South America (Argentina, Paraguay, and Uruguay). Brazilian distribution: North (Tocantins); Northeast (Bahia and Maranhão); Central West (Goiás, Distrito Federal, Mato Grosso, and Mato Grosso do Sul); Southeast (Minas Gerais, São Paulo, and Rio de Janeiro); South (Paraná, Rio Grande do Sul, and Santa Catarina). Cerrado and disturbed Atlantic Forest, 200–1200 m a.s.l. 223 specimens studied (Fig. 3a–c).

References: Müller-Argoviensis (1866: 840, 1874: 349), Moore (1895: 467), Glaziou (1913: 623), Pax and Hoffmann (1924: 37), Smith and Downs (1959: 198), Rambo (1960: 7), Angely (1970: 325, 1977: 81–2), Smith et al. (1988: 199), Berry et al. (2007), Matiko Sano et al. (2008: 736), Mendoça et al. (2008), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), Cardiel et al. (2013a: 1299, 2013b: 157). De Sousa and Alves (2014), Cardiel and Muñoz-Rodríguez (2015: 390), Sousa et al. (2017: 342).

Notes: Acalypha communis is a polymorphic species divided into five subspecies widespread in northern part of the Southern Cone (Cardiel et al. 2013a); three of them are found in Brazil. Some specimens of A. communis may have mixed characters that make it difficult to assign them to subspecies; hybrids are likely to appear in areas where the subspecies coexist.

Key to the Brazilian subspecies of Acalypha communis

1a Young branches and leaf blades with minute sparse glandular trichomes; leaf bases narrowly oblong-lanceolate, 1.5–3 cm wide; leaf bases truncate to subcordate

…………..........................................1

1b Young branches and leaves velutinous, leaf blades 6–8 × (3–) 4–5 cm, petiole 3–5 cm long

……………………………………………………………2

2a Young branches and leaves puberulous, leaf blades (9) – 13–17 × (4–) 6–9 cm, petiole (6–) 8–19 cm long

…………………………………………………………………………………………..2

=Acalypha communis subsp. communis

=Acalypha communis subsp. apicalis (N.E.Br.) Cardiel & P.Muñoz, Taxon 62(6): 1299. 2013. ≡ Acalypha apicalis N.E. Br., Trans. & Proc. Bot. Soc. Edinburgh 20: 70. 1894.—TYPE: Argentina, Formosa, Río Pilcomayo, Nov 1894, J.G. Kerr s.n. (holotype: K barcode K000600553).

=Acalypha communis var. hirtiformis Pax & K.Hoffm., in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 39. 1924.—TYPE: Brazil, Mato Grosso, Cuyaba, s.d., G.O.A. Malme 3039 (lectotype designated by Cardiel et al. (2013a: 1300): S number S-R-7702; isolecotype: S number S07-12624).

Iconography: Cardiel and Muñoz-Rodríguez (2015: 394, fig. 3).

Distribution and habitat: Brazil, and Southern South America (Argentina and Paraguay). BRAZIL: North (Tocantins); Northeast (Maranhão); Central West (Goiás, Distrito Federal, Mato Grosso, Mato Grosso do Sul); Southeast (Minas Gerais). Cerrado, 200–1000 m a.s.l. 87 specimens studied (Fig. 3a).

References: Cardiel et al. (2013a: 1299), Cardiel and Muñoz-Rodríguez (2015: 391).

=Acalypha communis Müll.Arg. subsp. communis.

=Acalypha communis var. tomentella Müll.Arg., Linnaea 34: 24. 1865.—TYPE: Brazil, Minas Gerais, s.d., J.F. Widgren s.n. (lectotype designated here) or perhaps
holotype: S number S07-12620; isotypes: BR barcode BR0000006998479, and G barcode G00324311).

= *Acalypha communis* var. *puberula* Müll.Arg., Linnaea 34: 24. 1865.—TYPE: Brazil: “in Brasilia meridionali”, s.d., L. Riedel s.n. (lectotype designated by Cardiel et al. (2013a: 1300): W.

= *Acalypha communis* var. *intermedia* Müll.Arg. in Martius, Fl. Bras. 11(2): 350, 1874.—TYPE: Brazil, Goyaz: “ad Rio Claro”, J.B.E. Pohl 2117 (lectotype, designated by Cardiel et al. (2013a: 1300): W number 22067; isolectotype: W number 22049).

= *Acalypha communis* var. *obscura* Müll.Arg. in Martius, Fl. Bras. 11(2): 350, 1874.—TYPE: Brazil: “habitat in Brasilia occidentali”, s.d., Tamberlik s.n. (lectotype, designated by Cardiel et al. (2013a: 1300): W number 22059;
isolateotypes: G barcode G00383637, and W numbers 22051 and 22055).

**Iconography:** Lourteig and O'Donell (1942: 305, fig. 9; 1943, tab 88b); Bacigalupo (2005: 174, fig. 84).

**Distribution and habitat:** Western South America (Bolivia), Brazil, and Southern South America (Argentina and Paraguay). Brazilian distribution: Northeast (Bahia); Central West (Goiás, Distrito Federal, Mato Grosso, Mato Grosso do Sul); Southeast (Minas Gerais, São Paulo, Rio de Janeiro); South (Paraná, Rio Grande do Sul, Santa Catarina). Cerrado and disturbed Atlantic Forest, 300–1200 m a. s. l. 142 specimens studied (Fig. 3b).

**References:** Cardiel et al. (2013a: 1299), Cardiel and Muñoz-Rodríguez (2015: 391).

*Acalypha communis* Müll.Arg. subsp. *tracheliifolia* (Pax & K.Hoffm.) Cardiel & P.Muñoz, Taxon 62(6): 1301. 2013. = *Acalypha tracheliifolia* Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 41. 1924.—TYPE: Argentina, Entre Ríos, J. Tweedie 62 (neotype designated by Cardiel et al. (2013a: 1300): BM number 999630).

**Iconography:** Not found.

**Distribution and habitat:** Brazil, and Southern South America (Argentina and Uruguay). Brazilian distribution: South (Rio Grande do Sul); Pampa, 0–100 m a. s. l. 2 specimen studied (Fig. 3c).

**References:** Cardiel et al. (2013a: 1300), Cardiel and Muñoz-Rodríguez (2015: 395).

**Notes:** *Acalypha communis* subsp. *tracheliifolia* is here reported from Brazil for the first time.

*Acalypha cuneata* Poepp. in Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 22. 1845 [1841]. ≡ *Ricinocarpus cuneatus* (Poepp.) Kuntze, Revis. Gen. Pl. 2: 617. 1891. ≡ *Acalypha orthea* Benth. var. *cuneata* (Poepp.) J.F. Macbr., Candollea 8: 26. 1940.—TYPE: Peru, Loreto, prov. de Alto Amazonas, Yurimaguas, s.d., E. Poeppig 2230 (lectotype designated by Cardiel and Muñoz-Rodríguez 2012a: W-Rchb. Number 1889-113778; isolateotypes: A barcode A00045449, B presumed destroyed [B neg. F00005288], F barcodes F0042437F, and F0042436F, G barcode G00383631, HAL barcode HAL0077024, P barcodes P00076207, and P00076206, W-Rchb. Number 1889-0105849, and W nº 0021406).

**Iconography:** Not found.

**Description:** Pax and Hoffmann (1924: 85), Sousa et al. (2017: 342).

**Distribution and habitat:** Brazil and Southern South America (Argentina and Paraguay). Brazilian distribution: Northeast (Acre, Amazonas, Rondonia), Amazonia, 70–170 m a. s. l. 61 specimens studied (Fig. 3d).

**References:** Cardiel et al. (2010: 963), Moraes et al (2014: 144).

**Notes:** *Acalypha juruana* was described based on a single Brazilian collection, *E. Ule 5875*, of which we have found several duplicates, one of them from B and presumed destroyed. Due to the lack of a holotype indication, we designate the best preserved specimen, at HBG, as the lectotype.

*Acalypha digynostachya* Baill., Adansonia 5: 233. 1865. ≡ *Ricinocarpus digynostachyus* (Baill.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, São Paulo, Lambari, A. Saint-Hilaire cat. C2 nº 1131 (lectotype designated here: P barcode P00635239; isolateotypes: P barcodes P00635238, and P00635240).

**Iconography:** Not found.

**Description:** Cardiel (1995a: 104).

**Distribution and habitat:** Central America, Northern South America, Brazil, and Western South America. Brazilian distribution: North (Acre, Amazonas, and Rondonia), Amazonia, 70–170 m a. s. l. 61 specimens studied (Fig. 3d).

**References:** Cardiel et al. (2013a: 144), Moraes et al (2014: 144).

**Notes:** *Acalypha juruana* was described based on a single Brazilian collection, *E. Ule 5875*, of which we have found several duplicates, one of them from B and presumed destroyed. Due to the lack of a holotype indication, we designate the best preserved specimen, at HBG, as the lectotype.
Forest, rarely in Cerrado, (5–) 300–1100 m a.s.l. 245 specimens studied (Fig. 3e).

References: Müller-Argoviensis (1866: 887, 1874: 351), Pax and Hoffmann (1924: 85), Angely (1970: 326), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), Sousa et al. (2017: 342).

Notes: Acalypha digynostachya was described based on a single collection, A. Saint-Hilaire cat. C² nº 1131, of which we have found three duplicates at P. Due to the lack of a holotype indication, we designate the best preserved specimen as the lectotype.

Acalypha striolata was considered a synonym of A. gracilis by Pax and Hoffmann (1924), and Berry et al. (2007). Cardiel and Muñoz-Rodríguez (2015) considered A. striolata a distinct species, common in southern Brazil, Argentina, and Paraguay. After more study, we consider this species to be conspecific with the previously described A. digynostachya.

Acalypha dimorpha Müll.Arg. in Martius, Fl. Bras. 11(2): 354. 1874. ≡ Ricinocarpus dimorphus (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, Minas Gerais, “in Virginia prope Lagoa Santa”, 28 Dec 1863, J.E.B. Warming 1558 in part (lectotype designated here: G barcode G00383623; isolecotype: C barcode C10013862 in part). Remaining syntype: Brazil, Rio de Janeiro, Rio de Janeiro, s.d., E. Warming 1566 (C barcode C10013865).

Iconography: Not found.

Description: Pax and Hoffmann (1924: 89).

Distribution and habitat: Endemic to Brazil: Southeast (Minas Gerais and Rio de Janeiro). Atlantic Forest, 0–1000 m a.s.l. 1.4 specimens studied (Fig. 3f).

References: Pax and Hoffmann (1924: 89), Matiko Sano et al. (2008: 736), Mendoça et al. (2008), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260).

Notes: Acalypha dimorpha was described based on two different Brazilian collections (syntypes), J.E.B. Warming 1558 and 1566. We selected the best preserved of those specimens, J.E.B. Warming 1558 at G, as the lectotype.

The collection E. Warming 1558 from C includes specimens of Acalypha amblyodonta and A. dimorpha.

Acalypha diversifolia Jacq., Pl. Hort. Schoenbr. 2: 63, Tab. 244. 1797. ≡ Ricinocarpus diversifolius (Jacq.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Venezuela, Caracas (lectotype designated by Cardiel (1995b: 233): tab. 244 in Jacq., Pl. Hort. Schoenbr. 2 (1797)).

• ≡ Acalypha diversifolia var. squarrosa Müll.Arg. in Martinus, Fl. Bras. 11(2): 358. 1874.—TYPE: Brazil, Goiás, “Corallinho”, s.d., J.B.E. Pohl s.n. (lectotype designated here: M barcode M0239435; isolecotypes: BR barcode BR000000583825, and G barcode G00383699).

Iconography: Jacquin (1797, tab. 244).

Description: Cardiel (1995a: 91), Sousa et al. (2017: 345).

Distribution and habitat: Mexico, Central America, Northern South America, Brazil, and Western South America. Brazilian distribution: North (Acre, Amazonas, Pará, Rondônia, and Roraima); Northeast (Bahia and Maranhão); Central West (Goiás, Distrito Federal, Mato Grosso, and Mato Grosso do Sul); Southeast (Minas Gerais and São Paulo). Mainly in Amazonia, also in Cerrado and Atlantic Forest, 80–700 m a.s.l. 308 specimens studied (Fig. 4a).

References: Müller-Argoviensis (1866: 854, 1874: 357), Glaziou (1913: 623), Pax and Hoffmann (1924: 107), Matiko Sano et al. (2008: 736), Mendoça et al. (2008), Cardiel et al. (2010: 963), Cardiel and Muñoz-Rodríguez (2015) considered "Corallinho", M barcode M0239435; isolecotypes: BR barcode BR000000583825, and G barcode G00383699).

Notes: Acalypha diversifolia var. squarrosa was described based on a single Brazilian collection, J.B.E. Pohl s.n., of which we have found three duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen, at M, as the lectotype.

Acalypha gracilis Spreng., Syst. Veg. 4(2): 315. 1827. ≡ Ricinocarpus gracilis (Spreng.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, s.loc., s.d., F. Sellow [Sello] s.n. (neotype designated by Cardiel and Muñoz-Rodríguez (2015: 395): W number 167581; isonotypes: BR barcode BR0000005838271, K, P barcode P00635263, and W).

Notes: Acalypha gracilis var. fruticulosa Müll.Arg., Linnaea 34: 25. 1865.—TYPE: Brazil, Minas Gerais, Lagoa Santa, Feb 1865, J.B.E. Warming 1626/3 (neotype designated here: C)

• ≡ Acalypha diversicata Klotzsch ex Baill., Adansonia 5: 234. 1865. Nom. illeg. (non A. diversicata Raf. nec A. divaricata Müll.Arg.), syn. nov. ≡ A. gracilis var. diversicata (Baill.) Pax & K.Hoff. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 84. 1924.—TYPE: Brazil, Rio Grande do Sul, 1833, C. Gaúchach-Baupré 1685 (lectotype designated here: P barcode P04838525). Remaining
syntype: Brazil, s.loc., s.d., F. Sellow [Sello] s.n., B presumed destroyed, K, P barcode P00635263, and W).
• = Acalypha gracilis var. pubescens Müll.Arg. in Martius, Fl. Bras. 11(2): 352. 1874.—TYPE: Brazil, Minas Gerais, Caldas., s.d., A.F. Regnell 249 in part (lectotype designated here: S number S-R 7753; isolecotypes: BR, G, P, S, and SP).
• − Acalypha gracilis var. genuina Müll.Arg., Linnaea 34: 24. 1865. Designation not validly published.

Iconography: Lourteig and O’Donell (1942: 316, fig. 12; 1943, tab. 94b); Bacigalupo (2005: 174, fig. 84).
Description: Bacigalupo (2005: 176), Sousa et al. (2017: 345).

Distribution and habitat: Brazil and Southern South America (Argentina, Paraguay, and Uruguay). Brazilian distribution: Northeast (Tocantins); Central West (Goiás and Mato Grosso do Sul); Southeast (Minas Gerais, Rio de Janeiro, and São Paulo). Mainly in Atlantic Forest and also Cerrado, (30–) 300–1000 (1550) m a. s. l. 360 specimens studied (Fig. 4b).

References: Müller-Argoviensis (1866: 841, 1874: 352), Pax and Hoffmann (1924: 84), Smith and Downs (1959: 199), Rambo (1960: 8), Angely (1970: 326, 1977: 81-4), Smith et al. (1988: 205), Berry et al. (2007: 2012), Matiko Sano et al. (2008: 736), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), De Sousa and Alves (2014), Sousa et al. (2017: 345), Cardiel et al. (2020: 9).

Notes: Acalypha gracilis var. fruticulosa was first described by Müller Argoviensis, based on a Brazilian specimen collected by Friedrich Sello (or Sellow, as he changed his name in 1814 when he went to Brazil) from the imprecise location “Brasilia meridionali”, and deposited in the Berlin herbarium. Sello’s herbarium and types were mostly destroyed in the Berlin herbarium fire of 1944. We found several collections by Eugen Warming identified as this taxon in handwritten notes by Müller Argoviensis, and have designated one of them, from C, as the neotype.

Acalypha divaricata was described based on two different Brazilian collections (syntypes), C. Gaudichaud-Beaupré 1685 and F. Sellow s.n. We selected the best preserved of those specimens, C. Gaudichaud-Beaupré 1685 at P, as the lectotype.

Acalypha gracilis var. pubescens was described based on a single Brazilian collection, A.F. Regnell 249 in part, of which we have found six duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen at S, as the lectotype.

Acalypha hassleriana Chodat, Bull. Herb. Boissier, sér. 2, 5: 606. 1905.—TYPE: Paraguay, Canindeyú, Sierra de Maracayú, ad ripam fluminis Jejui guazu, Dec. E. Hassler 5678 (lectotype designated by Cardiel et al. (2013a: 1302): P barcode P00635268; isolectotypes: B not seen, BM, GH, K, NY, P, UC, W).

Iconography: Not found.

Distribution and habitat: Brazil and Southern South America (Paraguay). Brazilian distribution: Northeast (Maranhão), Central West (Goiás and Mato Grosso do Sul). Cerrado, 590 m a. s. l. 3 specimens studied (Fig. 4c).

References: Rambo (1960: 9), Angely (1977: 81.4), Sobral et al. (2009: 248) Cardiel et al. (2020: 8).

Notes: Acalypha hassleriana is known from Paraguay based on a few old specimens collected between 1845 and 1902. Cardiel and Muñoz Rodríguez (2015) suggested that this species could be extinct in that country. In Brazil, it has been reported from Paraná (Angely 1977), Rio Grande do Sul, and Santa Catarina (Rambo 1960), but we cannot confirm these citations. We found only three Brazilian collections of A. hassleriana, from Goiás, Mato Grosso do Sul, and Maranhão.

Acalypha hassleriana belongs to Acalypha sect. Comunides (Cardiel et al. 2013a), and can be distinguished mainly by its usually deeply cordate leaf blades covered with glandular trichomes.

Acalypha herzogiana Pax & K.Hoffm., Meded. Rijks-Herb. 40: 24. 1921.—TYPE: Bolivia, Santa Cruz, between Pirai River and Cuchi River, 450 m a. s. l., Jan 1911, T. Herzog 1453 (lectotype designated by Cardiel et al. (2013b: 159): S number S-R-7754; isolectotypes: B presumed destroyed [B neg. F-5294], and Z).

• = Acalypha nitschkeana Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. XVI: 88. 1924.—TYPE: Paraguay, Canindeyú, Sierra de Maracayú, 1898–1899, E. Hassler 5125 (lectotype designated by Cardiel and Muñoz-Rodríguez (2015: 396): P barcode P00645401; isolectotypes: B presumed destroyed [B neg. F5302], BM, F, K, MO, NY, P).

Iconography: Cardiel and Muñoz-Rodríguez (2015: 398, fig. 4).

Description: Steinmann and Levin (2011), Sousa et al. (2017: 345).

Distribution and habitat: Brazil, Western South America (Bolivia), and Southern South America (Argentina and Paraguay). Brazilian distribution: Southeast (São Paulo); South (Paraná, Rio Grande do Sul). Atlantic Forest, 500–600 m a. s. l. 13 specimens studied (Fig. 4d).

References: Rambo (1960: 10) sub A. nitschkeana, Carneiro and Irgang (2005: 177) sub A. nitschkeana, Berry et al. (2007), Sobral et al. (2009: 248) sub A. nitschkeana, Cardiel et al. (2010: 963), Steinmann and Levin (2011), Cardiel et al. (2013b), Sousa et al. (2017: 345).
**Notes:** In addition to the wild specimens found of this species, we also found several specimens of a cultivar of *Acalypha herzogiana*, usually from gardens or urban areas. This cultivar is of uncertain origin and is characterized by the showy terminal pistillate inflorescences formed by numerous densely clustered, ebracteate, pistillate flowers. It was studied by Steinmann and Levin (2011), who hypothesized that it is the result of homeotic mutation resulting in the stamens being replaced by styles. We found this cultivar of *A. herzogiana* in Goiás, Parana, Rio de Janeiro, and Santa Catarina (14 specimens studied).

**Acalypha inselbergensis** Cardiel & I. Montero, Phytotaxa 356(2): 162. 2018.—TYPE: Brazil, Pernambuco, Municipio Brejo da Madre de Deus, rock outcrop at the north shore of the Sitio Otis dam, 560 m a. s. l., 08°05. 306′ S, 36°22. 909′ W, 16 Dec 1999, *L. Krause* and *A. Liebig* 276 (holotype: RB barcode RB00752960S; isotypes LZ, PEUFR, ROST, and S number S11-29219).

**Iconography and description:** Cardiel and Montero (2018: 162, fig. 2).

**Distribution and habitat:** Endemic to Brazil: Northeast (Alagoas, Bahia, Pernambuco, Rio Grande do Norte, and Sergipe). Caatinga, 200–700 m a. s. l. 38 specimens studied (Fig. 4e).

**References:** Maciel-Júnior et al. (2020), Cardiel et al. (2020: 8).

**Notes:** *Acalypha inselbergensis* was recently described based on a single collection found on a granitic rocky outcrop (inselberg) in northeastern Penambuco. However, very shortly afterward, it was discovered that *A. inselbergensis* is a widely distributed species in the Caatinga Domaina of Brazilian northeast (Marciel et al. 2020). This species was frequently confused with *Acalypha multicaulis* but can be easily distinguished by the entire pistillate bracts (vs. den- tate en *A. multicaulis*) and the shiny exudate that covers the entire plant (absent in *A. multicaulis*).

**Acalypha klotzschii** [klotzschii] Baill., Adansonia 5: 231. 1865.—TYPE: Brazil, Rio de Janeiro, Rio de Janeiro, 1831–1833, *C. Gaudichaud-Beaupré* 1157, *A. Saint-Hilaire Cat. B* nº 168, and *L. Riedel* s.n. We selected the best preserved of those specimens, *C. Gaudichaud-Beaupré* 1157 at P, as the lectotype.

**Iconography:** Jacquin (1797: t. 245).

**Description:** Cardiel (1995a: 111), Sousa et al. (2017: 347).

**Distribution and habitat:** Mexico, Central America, Carib- bean, South America, and western South America. Brazilian distribution: North (Acre, Amazonas, Rondônia, and Roraima); Central West (Distrito Federal); Southeast (Minas Gerais and São Paulo). Mainly in Amazonia, also occur in Cerrado and Atlantic Forest, usually in distributed areas, 200–800 m a. s. l. 56 specimens studied (Fig. 5a).
References: Müller-Argoviensis (1866: 810, 1874: 344), Glaziou (1913: 622), Pax and Hoffmann (1924: 144), Angely (1970: 326), Matiko Sano et al. (2008: 736), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260), Sousa et al. (2017: 345).

Notes: *Acalypha macrostachya* is one of the most common and widely distributed species of the genus in northern South America, mainly in the Andean Region, reaching, to a lesser extent, the Amazon basin. It is usually associated with disturbed areas. In Brazil this species shows a disjunct distribution, although we think that the collections from southeastern Brazil (from Minas Gerais and São Paulo)
could have their origin in randomly introduced plants, later naturalized.

**Acalypha macularis** Pax & K.Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 138. 1924.—**TYPE**: Brazil, Rio de Janeiro, Rio de Janeiro, Feb 1882, A. Glaziou 13190 in part (lectotype designated here: G barcode G00383670; isolecototypes: B presumed destroyed [B neg. F 5350], C barcode C10013867, and K barcode K000600542). Remaining syntypes: Brazil, Minas Gerais, Congonhas do Campo, s.d., A. Glaziou 13190 (Heft 85) IV. 147. XVI: 138. 1924.—**TYPE**: Brazil, Rio de Janeiro, Morro da Bica, Casadura “Serra de Bica” s.d., A. Schenck 1917 (holotype: B presumed destroyed [B neg. F 5297]).

**Iconography**: Not found.

**Description**: Pax and Hoffmann (1924: 111).

**Distribution and habitat**: Endemic to Brazil: Southeast (Minas Gerais and Rio de Janeiro). Atlantic Forest, 100–600 m a. s. l. 16 specimens studied (Fig. 5c).

**Notes**: Acalypha martiana was described based on two different Brazilian collections (syntypes), J.B.E. Pohl 273 and C.P. F. von Martius1041. We selected the best preserved of those specimens, J.B.E. Pohl 273 at W, as the lectotype.

**Acalypha multicaulis** Müll.Arg., Linnaea 34: 53. 1865, nom. cons. prop. in prep. = *Ricinocarpus multicaulis* (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—**TYPE**: Brazil, s.loc., s.d., F. Sellow s.n. (neotype designated by Cardiel et al. (2013b: 163): K; isonototype: G barcode G00439914).

**Iconography**: Not found.

**Description**: Pax and Hoffmann (1924: 138).

**Distribution and habitat**: Endemic to Brazil: Northeast (Bahia); Southeast (Minas Gerais, Rio de Janeiro, and São Paulo). Atlantic Forest, 0–50 m a. s. l. 13 specimens studied (Fig. 5b).

**Notes**: The collection of Acalypha macularis cited by Pax and Hoffman (A. Glaziou 13190) includes different specimens and localities from Rio de Janeiro and Minas Gerais. The single specimen with Pax’s handwritten label (B, neg. F 5350) is from Rio de Janeiro, and was presumably destroyed (we only known it by a negative at F). We designated as the lectotype the duplicate found at G.

**Acalypha martiana** Mull.Arg. in Martius, Fl. Bras. 11(2): 359. 1874. = *Ricinocarpus martianus* (Mull.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—**TYPE**: Brazil, Rio de Janeiro, Morro da Bica, Casadura “Serra de Bica” s.d., A. Schenck 1917 (holotype: B presumed destroyed [B neg. F 5297]).

**Iconography**: Not found.

**Description**: Pax and Hoffmann (1924: 111).

**Distribution and habitat**: Endemic to Brazil: Southeast (Minas Gerais and Rio de Janeiro). Atlantic Forest, 100–600 m a. s. l. 16 specimens studied (Fig. 5c).

**Notes**: Müller-Argoviensis (1874: 359), Pax and Hoffmann (1924: 111), Angely (1970: 327), Sobral et al. (2009: 248), Cardiel et al. (2010: 963), Cordeiro et al. (2011: 260).

**References**: Sobral et al. (2009: 248), Cardiel et al. (2010: 963).
Acalypha multicaulis var. tomentella was described based on three different Brazilian collections (syntypes), *J.E.B. Warming* 1618, *J.E.B. Warming* s.n., and *L. Riedel* 830. We found specimens only of *J.E.B. Warming* 1618, and designate the best preserved of those, at C, as the lectotype.

*Acalypha multicaulis* var. *tenuisepica* was described based on a single Brazilian collection, *A. Glaziou* 11542, of which we have found two duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen, at C, as the lectotype.

*Acalypha multicaulis* is sometimes confused with *A. herzogiana* because of their similar suffruticose habit, terminal staminate inflorescences, and similar leaf shape. However, *A. multicaulis* has androgynous, mostly stamine inflorescences, with one to several pistillate bracts at the base. In *A. herzogiana* the inflorescences are always unisexual.

*Acalypha peckoltii* Müll. arg. in Martinus, Fl. Bras. 11(2): 365. 1874.—TYPE: Brazil, Rio de Janeiro, Canta Gallo, s.d., T. Peckolt 206 (lectotype designated here) or perhaps holotype: BR barcode BR000000699794; isolecotyopes: BR barcode BR0000006998271, and G barcode G00383728).

**Iconography:** Not found.

**Description:** Pax and Hoffmann (1924: 123).

**Distribution and habitat:** Endemic to Brazil: Southeast (Rio de Janeiro, São Paulo). Atlantic Forest, 50–100 m a. s. l. 3 specimens studied (Fig. 5e).

**References:** Pax and Hoffmann (1924: 123).

**Notes:** *Acalypha peckoltii* was described based on a single Brazilian collection, *T. Peckolt* 206, of which we have found three duplicates, only one of them at BR with a handwritten label recognizable by Müller Argoviensis (the duplicate at G is probably a fragment of the same specimen). Due to the lack of a holotype indication, we designate this specimen at BR as the lectotype or perhaps holotype.

*Acalypha peckoltii* is close to *A. brasilienis* but can be distinguished by its thin-membranaceous (almost translucent) leaf blades and glabrous ovary (vs. firm membranaceous leaf blades and pubescent ovary in *A. brasilienis*).

*Acalypha pohliana* Müll. arg. in Martinus, Fl. Bras. 11(2): 360. 1874. ≡ *Ricinocarpus pohlianus* (Müll.Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, Rio de Janeiro, “Paz Copez ad san João”, 1817–1821, *J.B.E. Pohl* 3430 (lectotype designated here) or perhaps holotype: W barcode W00599994; isolecotyopes: W barcode W0059933, F barcode 839285, and G barcode G00383722).
Iconography: Not found.

Description: Pax and Hoffmann (1924: 111).

Distribution and habitat: Endemic to Brazil: Southeast (Rio de Janeiro). Atlantic Forest, c. 100 m a. s. l. 3 specimens studied (Fig. 5f).

References: Pax and Hoffmann (1924: 111), Sobral et al. (2009: 248).

Notes: Acalypha pohliana was described based on a single Brazilian collection, J.B.E. Pohl 3430, of which we have found four duplicates at F, G, and W. Due to the lack of holotype indication, we designate the single specimen with a label clearly in the author’s hand, at W, as the lectotype or perhaps holotype.

Acalypha pohliana is only known from the type gathering collected over 200 years ago in a habitat profoundly transformed by human activity. We cannot rule out the possibility that the species is now extinct.

Acalypha poiretii Spreng., Syst. Veg. 3: 879. 1826. ≡ Ricinocarpus poiretii (Spreng.) Kuntze, Revis. Gen. Pl. 3(2): 618. 1891.—TYPE: Unknown country, “Amer. trop.”, s.d., Anonymous s.n. (lectotype designated here or perhaps holotype: P-LAM barcode P00382110).

Iconography: Lourteig and O’Donell (1942: 325, fig. 17; 1943, tab. 86).

Description: Sousa et al. (2017: 347).

Distribution and habitat: South-central USA, Mexico, Central America, Caribbean, Northern South America, Brazil, Western South America (Bolivia), Southern South America (Argentina). Brazilian distribution: North (Amazonas and Pará); Northeast (Amapá, Bahia, Ceará, Pernambuco, Piauí, Rio Grande do Norte, and Sergipe); Central West (Distrito Federal); Southeast (Espírito Santo, Rio de Janeiro, and São Paulo); South (Santa Catarina). Amazonia, Caatinga, Cerrado and Atlantic Forest; ruderal plant usually associated with disturbed areas, 0–650 m a. s. l. 171 specimens studied (Fig. 6a).

References: Müller-Argoviensis (1866: 865, 1874: 346), Pax and Hoffmann (1924: 126), Cardiel et al. (2010: 964).

Notes: Acalypha poiretii was described based on a single collection from tropical America, Anonymous s.n., of which we have found a single specimen at P-LAM. Due to the lack of holotype indication, we designate it as the lectotype or perhaps holotype.

Acalypha radicans Müll.Arg., Linnaea 34: 39. 1865.—TYPE: Brazil, s.loc., s.d., F. Sellow s.n. (lectotype designated here or perhaps holotype: K barcode K001206653).

Iconography: Not found.

Description: Pax and Hoffmann (1924: 126).

Distribution and habitat: Endemic to Brazil: Southeast (Rio de Janeiro). Atlantic Forest, 25 m a. s. l. 2 specimens studied (Fig. 6b).

References: Müller-Argoviensis (1866: 865, 1874: 368), Pax and Hoffmann (1924: 126), Cardiel et al. (2010: 964).

Notes: Acalypha radicans was described based on a single Brazilian collection, F. Sellow s.n., of which we have found a single specimen at K. Due to the lack of holotype indication, we designate it as the lectotype or perhaps holotype.

Pax and Hoffmann (1924) cited the specimen Ule 4786 [B neg. F5313] from Rio de Janeiro as belonging to this species. We have not been able to find this collection, and it was probably destroyed in the bombing of Berlin herbarium.

Acalypha scandens Benth., Hooker’s J. Bot. Kew Gard. Misc. 6: 329. 1854. ≡ Ricinocarpus scandens (Benth.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Brazil, Pará, On the island of the Amazon opposite Santarem, s.d., R. Spruce 1000 (lectotype designated here or perhaps holotype: K barcode K000600539; isolecotypes: BM barcode BM000939656, and K barcode K000913015).

Iconography and description: Cardiel (1995a: 109, fig. 24).

Distribution and habitat: Northern South America, Brazil, and Western South America. Brazilian distribution: North (Acre, Amazonas, and Pará). Amazonia, 10–200 m a. s. l. 27 specimens studied (Fig. 6c).

References: Müller-Argoviensis (1866: 809, 1874: 346), Pax and Hoffmann (1924: 147), Cardiel et al. (2010: 964).

Notes: Acalypha scandens was described based on a single Brazilian collection, R. Spruce 1000, of which we have found three specimens at BM and K. Due to the lack of holotype indication, we designate the single specimen with
a label clearly in the author’s hand, at K, as the lectotype or perhaps holotype.

_Acalypha sehnenii_ Allem & Irgang, Bol. Soc. Argent. Bot. 17: 305. 1976.—TYPE: Brazil, Rio Grande do Sul, Município de Tupanciretã (Jari), 26 Jan 1942, _B. Rambo s.n._ (holotype: PACA barcode PACA009470; isotypes: PACA barcodes PACA009095, and PACA009200).

*Iconography and description:* Costa Allem and Irgang (1976: 306, fig. 3).
**Distribution and habitat:** Endemic to Brazil: South (Rio Grande do Sul). Pampa, 465 m a. s. l. 3 specimens studied (Fig. 6d).

**References:** Cardiel et al. (2010: 963). Berry et al. (2007: 2013).

**Acalypha senilis** Baill., Adansonia 5: 228. 1865. ≡ Ricinocarpus senilis (Baill.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Uruguay: “Banda oriental del Uruguay, cerro das las Animas”, 1816–1821, A. Saint-Hilaire cat. C2 no. 2162 (holotype: P barcode P00645421).

**Iconography:** Not found.

**Description:** Pax and Hoffmann (1924: 40).

**Distribution and habitat:** Brazil and Southern South America (Argentina, Paraguay, and Uruguay). Brazilian distribution: Central West (Mato Grosso do Sul); South (Rio Grande do Sul). Cerrado and Pampa, 50–500 m a. s. l. 4 specimens studied (Fig. 6e).

**References:** Müller-Argoviensis (1866: 841, 1874: 351), Pax and Hoffmann (1924: 40), Cardiel et al. (2013a: 1301) Cardiel et al. (2020: 8).

**Notes:** Acalypha senilis belongs to Acalypha sect. Communes (Cardiel et al. 2013a). It is frequently confused with A. communis subsp. communis. Acalypha senilis can be distinguished by its pistillate bracts without glandular trichomes, and its ovate to triangular or subrounded leaf blades (vs. pistillate bracts with glandular trichomes and ovate to lanceolate leaf blades in A. communis subsp. communis).

**Acalypha stachyura** Pax, Repert. Spec. Nov. Regni Veg. 7: 110. 1909.—TYPE: Bolivia, La Paz: Charopampa und San Carlos bei Mapiri, 750 m a. s. l., Aug–Nov 1909, O. Buchten 1315 (lectotype designated by Cardiel and Muñoz (2012a: 13): M barcode M0026939; isolecotypes: US barcode US00096372).

**Iconography and description:** Cardiel (1995a: 80, fig. 21).

**Distribution and habitat:** Brazil and Western South America. Brazilian distribution: North (Acre, Amazonas, and Rondonia); Central West (Mato Grosso). Amazonia, 200–400 m a. s. l. 44 specimens studied (Fig. 6f).

**References:** Pax and Hoffmann (1924), Cardiel et al. (2010: 964).

**Acalypha stricta** Poepp. in Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 21, pl. 225. 1845. ≡ Ricinocarpus strictus (Poepp.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Peru, Huánuco, Pampayacu “Pampayaco”, Jul, E. Poeppig s.n. (lectotype designated here or perhaps holotype: W; isolecotypes: F barcode F0040619F, and P barcodes P04839213, and P04839122).

- = Acalypha urostachya Baill., Adansonia 5: 229. 1865, syn. nov.—TYPE: Brazil, s.loc., s.d., Anonymous s.n. (holotype: P barcode P00645426).
- = Acalypha mapirensis var. pubescens Pax & K. Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 65. 1924, syn. nov.—TYPE: Brazil, Acre, Alto Amazonas, rio Acre, seringal São Francisco, s.d., E. Ule 9535 (lectotype designated by Cardiel et al. (2014: 171): NY barcode NY246129).
- = Acalypha mapirensis var. scabra Pax & K. Hoffm. in Engl., Pflanzenr. (Heft 85) IV. 147. XVI: 65. 1924, syn. nov.—TYPE: Brazil, Acre, Alto Amazonas, rio Acre, Seringal São Francisco, E. Ule 9535b (lectotype designated here: G barcode G00383667; isolecotypes: NY barcode 00246129, and US barcode US00096372). Remaining syntype: Peru, Puna, Sandia, Chunchus-mayo, 900 m a. s. l., s.d., Weberbauer 1174 (B presumed destroyed).

**Iconography:** Poeppig and Endlicher (1845: pl. 225).

**Description:** Pax and Hoffmann (1924).

**Distribution and habitat:** Brazil and Western South America (Peru and Bolivia). Brazilian distribution: North (Acre, Amazonas, and Rondonia). Amazonia, 100–200 m a. s. l. 43 specimens studied (Fig. 7a).

**References:** Müller-Argoviensis (1866: 827), Pax and Hoffmann (1924: 64), Cardiel et al. (2010: 964), Berry et al. (2007).

**Notes:** Acalypha stricta was described based on a single Peruvian collection, E. Poeppig s.n., of which we have found four specimens at F, P, and W. Due to the lack of holotype indication, we designate the single specimen with a label clearly in the author’s hand, at W, as the lectotype or perhaps holotype.

**Acalypha mapirensis var. scabra** was described based on two different Brazilian collections (syntypes), E. Ule 9535b and Weberbauer 1174. We selected the best preserved specimen of the single collection we found, E. Ule 9535b at G, as the lectotype.
Acalypha uleana L.B.Sm. & Downs, Phytologia 22(2): 90. 1971.—TYPE: Brazil, Santa Catarina, Bom Jardim da Serra, slopes by source of Rio Capivare, Serra Geral, Feb 1891, E. Ule s.n. (holotype: HBG barcode HBG516637; isotype: MO not found).

Distribution and habitat: Endemic to Brazil: South (Santa Catarina). Atlantic Forest, 1300 m a. s. l. 1 specimen studied (Fig. 7b).

Iconography and description: Smith (1971: 91, plate 1, figs. 16–18).
Acalypha variabilis Klotsch ex Baill., Adansonia 5: 226. 1865.—TYPE: Brazil, Rio Grande, s.d., F. Sellow s.n. (lectotype designated by Cardiel et al. 2013a: 1301): W number W-22068; isolecotypes: B and W.
- = Acalypha hirta Spreng., Syst. Veg. 4 (2, Curr. Post.): 315. 1827, nom. illeg., (non Acalypha hirta Cav.) = Acalypha communis var. hirta (Spreng.) Müll.Arg., Linnaea 34: 24. 1865.—TYPE: Brazil, Rio Grande, s.d., F. Sellow s.n. (lectotype designated by Cardiel et al. 2013a: 1301): W number W-22068; isolecotypes: B and W.
- = Acalypha variabilis var. longifolia Baill., Adansonia 5: 227. 1865.—TYPE: Brazil, Rio Grande do Sul, “Capilha de Mercedes”, A. Saint-Hilaire cat. C2 n° 2430 bis (lectotype designated here) or perhaps holotype: P barcode P04839509; isolecotypes: P barcodes P04839508, and P04839512.
- = Acalypha variabilis var. elliptica Baill., Adansonia 5: 227. 1865.—TYPE: Brazil, Rio Grande do Sul, “Capilha de Mercedes”, A. Saint-Hilaire cat. C2 n° 64 (not found).
- = Acalypha variabilis var. urticoides Klotsch ex Baill., Adansonia 5: 227. 1865.—TYPE: Brazil, s.loc., s.d., F. Sellow s.n. (lectotype designated by Cardiel et al. 2013a: 1300): W number W-167595; isolecotypes: P barcodes P00635223, P00635224, and P00635225, and W number W-22060).
- = Acalypha betuloides Klotsch ex Baill., Adansonia 5: 228. 1865.—TYPE: Brazil, s.loc., s.d., F. Sellow s.n. (lectotype designated by Cardiel et al. 2013a: 1300): P Barcode P00635220; isolecotype: BR barcode BR0000005838219).
- = Acalypha humilis Pax & K.Hoffm., Repert. Spec. Nov. Regni Veg. 8: 162. 1910.—TYPE: Brazil, Rio Grande do Sul, “Estancia Lourenço Gomez”, 500 m a. s. l., 18 Oct 1904. A. Bornmüller 229 (lectotype designated here) or perhaps holotype: M barcode M0239434; isolecotype: JE barcode JE 00004660).

Iconography: Cardiel and Muñoz-Rodríguez (2015: 402, fig. 5).

Description: Pax and Hoffmann (1924).

Distribution and habitat: Brazil, Western South America (Bolivia), Southern South America (Argentina and Paraguay). Brazilian distribution: Central West (Mato Grosso and Mato Grosso do Sul); Southeast (Minas Gerais and São Paulo); South (Parana, Rio Grande do Sul, and Santa Catarina). Mainly in Cerrado and Pampa, also extend to disturbed Atlantic Forest, 500–1000 m a. s. l. 86 specimens studied (Fig. 7c).

References: Müller-Argoviensis (1866: 841), Pax and Hoffmann (1924: 37), Cardiel et al. (2013a: 1300, 2013b: 171).

Notes: Acalypha variabilis var. longifolia was described based on a single Brazilian collection, A. Saint-Hilaire cat. C2 n° 2430 bis, of which we have found three duplicates at P. Due to the lack of holotype indication, we designate the single specimen with a label clearly in the author’s hand, as the lectotype or perhaps holotype.

Acalypha humilis was described based on a single Brazilian collection, A. Bornmüller 229, of which we have found two duplicates at JE and M. Due to the lack of holotype indication, we designate the single specimen with a label clearly in the author’s hand (Ferdinand Pax), at M, as the lectotype or perhaps holotype.

Acalypha variabilis is here reported from Brazil for the first time.

Acalypha velamea Baill., Adansonia 5: 228. 1865. = Ricinocarpus velameus (Baill.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, Mato Grosso/Mato Grosso do Sul, “Province de Mato-Grosso”, s.d., C. Gaudichaud-Beaupré 246 (holotype: P barcode P000645247).

- = Acalypha communis var. brevipes Müll.Arg., Linnaea 34: 24. 1865. = Acalypha brevipes (Müll.Arg.) Müll.Arg. in Martius, Fl. Bras. 11(2): 348. 1874, nom. illeg., (non Acalypha brevipes Raf.). = Ricinocarpus brevipes (Müll. Arg.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Brazil, s.loc., s.d., P.C.D. Claussen 776 (not found).
- = Acalypha communis f. decumbens Müll.Arg., Linnaea 34: 24. 1865.—TYPE: Brazil, s.loc., s.d., L. Riedel s.n. (lectotype designated by Cardiel et al. 2013a: 1301): K).
- = Acalypha communis var. pallida Müll.Arg. in Martius, Fl. Bras. 11(2): 349. 1874.—TYPE: Brazil, Minas Gerais, Lagoa Santa, s.d., J.E.B. Warming s.n. (lectotype designated here: W number W-7706; isotypes: C and G).
- = Acalypha goyazensis Glaz., Bull. Soc. Bot. France 59(3): 623.1913 [“1912”], nom. nud., pro syn. of A. brevipes (Müll.Arg.) Müll.Arg.

Iconography: Müll.Arg-Argoviensis (1866: 839).
Distribution and habitat: Brazil and Southern South America (Argentina and Paraguay). Brazilian distribution: Central West (Goiás, Mato Grosso, and Mato Grosso do Sul); Southeast (Minas Gerais and São Paulo); South (Rio Grande do Sul). Cerrado and Pampa, 500–1000 m a. s. l. 84 specimens studied (Fig. 7d).

References: Müller-Argoviensis (1866: 839), Berry et al. (2007: 2013), Sobral et al. (2009: 248), Cardiel et al. (2010: 964), Cardiel and Muñoz-Rodríguez (2015: 403), Sousa et al. (2017: 347).

Notes: Acalypha communis var. pallida was described based on a single Brazilian collection, J.E.B. Warming s.n. Due to the lack of holotype indication, we designate the best preserved specimen, at W, as the lectotype.

Acalypha villosa Jacq., Enum. Syst. Pl. 32. 1760. ≡ Gymnalysia jaccquini (Jacq.) Griseb., Bonplandia (Hannover) 6: 2. 1858. ≡ Ricinocarpus villosus (Jacq.) Kuntze, Bonplandia (Hannover) 6: 2. 1858. ≡ Ricinocarpus villosus (Jacq.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: Colombia, Bolivar, Cartagena (lectotype designated by Howard and Bornstein (1989: 10): tab. 183, fig. 16 in Jacq., Select. Stirp. Amer. Hist. (1763); epitype designated by Cardiel (1995b: 232): tab. 47 in Jacq., Hort. Bon. Vindov. 3 (1776).

• = Acalypha linostachya Baill., Adansonia 5: 235. 1865.—TYPE: Brazil, Goiás, entre Goyaz et Cujaba, Dec 1844, H.A. Weddell 2914 (lectotype designated by Muñoz-Rodríguez et al. (2014: 213): P barcode P00645430; isolectotypes: P barcodes P00645431, and P00645429).
• = Acalypha villosa Jacq. var. trichopoda Müll.Arg. in Martius, Fl. Bras. 11(2): 340. 1874.—TYPE: Brazil, Minas Gerais, Lagoa Santa, s.d., J.E.B. Warming 1567 (lectotype designated here: G barcode G00383701; isolectotypes: C barcode C10013881, and P barcode P00645428).
• = Acalypha subvillosa Müll.Arg. in Martius, Fl. Bras. 11(2): 341. 1874.—TYPE: Brazil, Goiás, “prope Caretão”, s.d., J.B.E. Pohl 1682 (lectotype designated by Muñoz-Rodríguez et al. (2014: 213): W; isolectotypes: G barcode G00383702, and W).

Iconography: Lourteig and O’Donell (1942: 330, fig. 19; 1943, tab. 95).

Description: Cardiel (1995a: 27).

Distribution and habitat: Mexico, Central America, Caribbean, Northern South America, Brazil, Western South America, Southern South America (Argentina, Paraguay). Brazilian distribution: North (Acre, Rondônia, and Tocantins); Northeast (Bahia and Ceará); Central West (Goiás, Mato Grosso, and Mato Grosso do Sul); Southeast (Minas Gerais, Rio de Janeiro, and São Paulo). Mainly in Caatinga and Cerrado, rarely in Amazonia and Atlantic Forest, (50–) 200–1000 m a. s. l. 194 specimens studied (Fig. 7e).

References: Müller-Argoviensis (1866: 802, 1874: 339), Glaziou (1913: 624), Pax and Hoffmann (1924: 16), Angely (1970: 327, 1977: 81-6), Cordeiro and Carneiro-Torres (2006: 42), Berry et al. (2007: 2013), Matiko Sano et al. (2008: 737), Sobral et al. (2009: 248), Cardiel et al. (2010: 964), Cordeiro et al. (2011: 260), Cardiel et al. (2013a: 173), Muñoz-Rodríguez et al. (2014). Sousa et al. (2017: 347).

Notes: Acalypha villosa var. trichopoda was described based on a single Brazilian collection, A.J.E.B. Warming s.n., of which we have found three duplicates. Due to the lack of a holotype indication, we designate the best preserved specimen, at G, as the lectotype.

Acalypha villosa is the most widely distributed species in this genus in the New World. It is the only Brazilian species belonging to Acalypha subgenus Linostachys which is characterized by the pistillate flowers pedicellate, calyx with 4 or 5 sepals, and the subtending bracts inconspicuous, not becoming foliaceous in fruit.

Introduced or cultivated species

Acalypha alopecuroidea Jacq., Collectanea 3: 196. 1789. ≡ Ricinocarpus alopecuroides (Jacq.) Kuntze, Revis. Gen. Pl. 2: 617. 1891.—TYPE: Venezuela (lectotype designated by Cardiel (1995a, b: 233): tab. 620 in N.J. von Jacquin, Icones plantarum, pariorum 3 (1792)).

Acalypha alopecuroidea is native to Central America and the Caribbean region, and has been introduced to the USA and northern South America (Cardiel et al 2013a). In Brazil we only found two old collections from Goiás state. This species can be confused with A. arvensis Poepp., but it is easily distinguished by its acuminate leaf blades with glandular trichomes, some pistillate inflorescences terminal, and unbranched styles, vs. acute leaf blades without glandular trichomes, all pistillate inflorescences axillary, and branched styles in A. arvensis.

Acalypha hispida Burm.f., Fl. Ind. 303, pl. 61, f. 1. 1768.—TYPE: Lám. 61 in Burman, Flora Indica: 302 (1768).
Updated synopsis of Acalypha L. (Euphorbiaceae, Acalyphoideae) from Brazil

Acalypha hispida is a shrub native to Melanesia or Malesia (Sagun et al. 2010); it is frequently used as an ornamental plant in gardens throughout the tropics, and sometimes becomes naturalized.

It is easy to distinguish by its extremely long, and densely flowered pistillate inflorescences with red stigmas. In Brazil we found 18 collections from: North (Amazonas), Northeast (Bahia, Piauí, Rio Grande do Norte), Central West (Goiás), Southeast (Minas Gerais, Rio de Janeiro), and South (Parana).

Acalypha wilkesiana Müll.Arg. in DC., Prodr. 15(2): 817. 1866, nom. cons. prop.—TYPE: Fiji, “in insulis Fidji”, s.d., Wilkes Expedition s.n. (U.S. Expl. Exped. under Capt. Wilkes) (lectotype designated here: G-DC barcodes G00324021 and G00324022; isolecotypes: GH barcode GH00045512, K barcode K000959008, and US barcodes US00096423 and US00096424). Remaining syntype: B.C. Seeman s.n. (GH and US barcode US0096425).

Native to the Melanesian island of Fiji (Sagun et al. 2010), Acalypha wilkesiana is used as an ornamental plant in gardens throughout the tropics and frequently appears to be naturalized. In Brazil we found 96 collections from: Northeast (Alagoas, Bahia, Paraíba, Pernambuco, Piauí, Rio Grande do Norte); Central West (Mato Grosso do Sul); Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro and São Paulo); and South (Paraná, Rio Grande do Sul, Santa Catarina). Acalypha wilkesiana is easily identifiable by its large and broad leaves, usually variegated from coppery green to red colored.

Acalypha wilkesiana was described based on two different collections (syntypes), Wilkes expedition s.n. and B.C. Seeman s.n. We selected the best preserved of those specimens, Wilkes Expedition s.n., at G-DC, as the lectotype. There are two sheets at G-DC with different barcodes (G00324021 and G00324022) but numbered “1” and “2” in the upper right corner, implying that this is one specimen over two sheets.

Excluded species

Acalypha riedelianiana Baill. Adansonia 5: 231. 1865. ≡ Ricinocarpus riedelianus (Baill.) Kuntze, Revis. Gen. Pl. 2: 618. 1891.—TYPE: “in caldariis parisiensisibus culta”, 1864. L. Riedel s.n. (holotype: P barcode P00645419).

Acalypha riedelianiana was described by Henry Baillon on the basis of a plant grown from seed in the Paris botanical garden greenhouse. Baillon assumed that this specimen came from a collection made by the German botanist Ludwig Riedel in Brazil (no location specified). Subsequent references of this species (Müller-Argoviensis 1866: 857, 1874: 356, Pax and Hoffmann 1924: 114, Cardiel et al. 2010: 964) simply repeat this information about its origin.

After studying the single type specimen of Acalypha riedelianiana, we consider that it belongs to A. integrifolia Willdl., a species only known from Mauritius and Reunion, in the Western Indian Ocean Region. The type specimen in P does not have a Riedel handwritten label (as almost all of his Paris specimens do). The only handwritten label belongs to Baillon who indicated the supposed Brazilian origin. The plant grown in Paris probably came from one of the French expeditions to the Indian Ocean islands carried out in the nineteenth century. Jean Michel Claude Richard was director of the Jardin du Roi (currently Jardin de l’Etat) of Reunión, from 1829 to 1868. Richard sent most of his collections to the Muséum d’Histoire Naturelle of Paris. Louis Hyacinthe Boivin, a member of the Expedición Oise (1846–1852), also sent his plant collections to P (Dorr 1997; Grouzis et al. 2010). Many specimens of A. integrifolia, collected by Boivin in Reunion, are deposited in P.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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