

Synopsis of *Acalypha* L. (Euphorbiaceae) of Peru and Bolivia, with description of a new species

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Abstract

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A critical review of the Peruvian and Bolivian species of *Acalypha* L. (Euphorbiaceae) is presented. As a result 41 species (42 taxa) are accepted, 31 from Peru and 28 from Bolivia, and 94 names are considered synonyms. A new species is described and illustrated, *A. psamofila*, based on Bolivian material. Comprehensive nomenclatural information is supplied and 36 lectotypes and one neotype are designated. An identification key is also provided, as well as original illustrations of six species and distribution maps of all the accepted species.

Keywords: floristic, lectotypification, Malpighiales, Neotropics, taxonomy.

Resumen

Cardiel, J.M., Nee, M. & Muñoz Rodríguez, P. 2013. Sinopsis de *Acalypha* L. (Euphorbiaceae) de Perú y Bolivia, con la descripción de una nueva especie. *Anales Jard. Bot. Madrid* 70(2): 152-177 (en inglés).

Se presenta una revisión crítica de las especies de *Acalypha* L. (Euphorbiaceae) presentes en Bolivia y Perú. Como resultado se reconocen 41 especies (42 táxones), 31 para Perú y 28 para Bolivia, y 94 nombres son considerados sinónimos. Se describe e ilustra una nueva especie, *A. psamofila*, basada en material boliviano. Se aporta una exhaustiva información nomenclatural y se designan 36 lectótipos y un neótipo. Se incluye también una clave de identificación, así como ilustraciones originales de seis especies y mapas de distribución de todas las especies aceptadas.

Palabras clave: florística, lectotipificación, Malpighiales, Neotrópico, taxonomía.

INTRODUCTION

Acalypha L. is a monophyletic genus belonging to subfamily Acalyphoideae Kunth ex Beilschm., the most diverse and complex in the family Euphorbiaceae Juss. (Hayden & Hayden, 2000; Tokuoka, 2007; Wurdack & Davis, 2009). With c. 500 species *Acalypha* is, after *Euphorbia* L. and *Croton* L., the third largest genus in the Euphorbiaceae. The genus is found in tropical and subtropical regions worldwide in a variety of habitats from tropical rainforests to subdesertic areas, and from sea level to 4000 meters of elevation. The Neotropics are home to around two-thirds of the species.

Acalypha has traditionally been a poorly known genus compared with *Euphorbia* and *Croton*. The last global treatment was made by Pax and Hoffmann (1924) in Engler's Pflanzenreich. The knowledge of *Acalypha* in the Americas has been increasing during the last 20 years through updated national floristic treatments and checklists, e.g., Argentina (Bacigalupo & Mulgura, 1999), Belize (Balick & al., 2000), Brazil (Cardiel, 2010), Colombia (Cardiel, 1995; Murillo, 2004), Costa Rica (Burger & Huft, 1995; González, 2010), Ecuador (Cardiel & Muñoz, 2012a), Guianas (Gillespie, 1993, 1997), Honduras (Nelson, 2008), Mexico (Steinmann, 2002), Nicaragua (Levin, 2001), Panama (Correa & al., 2004), South Cone (Berry, 2007), and Venezuela (Ambruster & al., 2007; Cardiel, 1999; Levin, 1999, 2008).

Peruvian *Acalypha* have been treated nationally in Macbride's (1951) and in Brako's (1993) checklist, updated by Ulloa Ulloa & al. (2004). Several regional or thematic floras also included *Acalypha* species: León & al. (2006), Pennington & al. (2004), Valenzuela & al. (2007) and Vásquez (1997, 2010). Taxonomic works focused on Peruvian *Aca-*

lypha include those of Cardiel (2003, 2006, 2007); with 32 species included in Cardiel (2007). The Bolivian flora is less well known. There is no national flora, only Foster's (1958) list of names, which includes 55 *Acalypha* names and 41 accepted species, and the unpublished checklist of Jørgensen & al. (in preparation). Regional or thematic floras that mentioned *Acalypha* species include Arroyo & Villarroel (2009), Jardim & al. (2003), Killeen & al. (1993), Killeen & Schulenberg (1998), Moraes (1990), Parker & Bailey (1991), Serrano & Terán (1998[2000]) and Vargas (1993). Several new Bolivian species of *Acalypha* have been described recently (Cardiel, 2006; Cardiel & Muñoz, 2012b). Also relevant is the recent nomenclatural reorganization of *Acalypha* sect. *Communes* (Cardiel & al., 2013). This section includes three Bolivian species: *A. communis*, *A. variabilis* and *A. psamofila*, described here.

We present here a critical synopsis of the Peruvian and Bolivian species of *Acalypha*, with a key to their identification. Six original illustrations are included, as well as synoptic distribution maps of all the species.

MATERIAL AND METHODS

This work is based on the study of 1175 collections of *Acalypha* from Peru and 830 collections from Bolivia, from the following herbaria: A, AAU, B, BM, BP, BR, C, CAS, COL, DAV, F, G, GB, GH, GOET, HAL, HBG, JE, K, L, LE, LPB, M, MA, MO, MPU, NY, P, PR, S, SEL, SI, U, UC, UPS, US, W, WU, WRSL, Z and ZT (acronyms according to Thiers, 2013). We found a large number of type specimens, clarifying the identity of many names. Typifications were made after a carefully review of the original literature on the

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taxa and examination of the nomenclatural types. Where no holotype was indicated, or it has been lost or destroyed, a lectotype or neotype is designated according to the International Code of Nomenclature for Algae, Fungi and Plants (ICN, McNeill & al., 2012).

The structure of the catalogue follows, in general terms, the one we employed in previous works (Cardiel & Muñoz, 2012a; Muñoz-Rodríguez & al., 2014). The accepted species are cited in alphabetical order, including original publications, and synonyms based on Peruvian and Bolivian specimens. We cite the type collection for each name, indicating the specimens we studied with an exclamation mark (!). We cite an illustration when available. Then we summarize the general geographic distribution following TDWG standards (Brummitt, 2001), and the detailed Peruvian and Bolivian distribution, indicating the departments where the species have been found in each country; this information is also reflected in the distribution maps provided. We also indicate the total number of collections reviewed for each taxon; detailed information about these collections can be consulted in the data resources cited. Biogeographic regions [following, in general terms, the natural regions proposed by Brako & Zarucchi (1993) for Peru and those proposed by Renvoize (1998) for Bolivia], elevation range, and habitat are then described; this information was obtained exclusively from the studied specimens. We then list recent literature and thereafter we include, when needed, any other relevant information, including justifications for nomenclatural decisions. For the new species described we provide a more detailed information, including a diagnosis and full description, as well as a discussion and comments on the systematics of related species.

Data resources

All the information gathered as part of this work is available online (Cardiel & al., 2013). In addition, the information of studied specimens has been also uploaded to the Global Biodiversity Information Facility (GBIF) (<http://data.gbif.org/datasets/resource/12046/>).

RESULTS

We record 137 scientific names related to *Acalypha* from Peru and Bolivia, 41 of which are accepted species, 31 from Peru and 28 from Bolivia (Appendix 1). 94 names are considered synonyms, and four species are considered doubtful or excluded. We designate 36 lectotypes and one neotype. A new species, *A. psamofila*, is described, based on Bolivian material. Five species are endemic to Peru (*A. argomuelleri*, *A. aronioides*, *A. delicata*, *A. salicina* and *A. simplicistila*), and four are endemic to Bolivia (*A. beckii*, *A. machiensis*, *A. neeana* and *A. psamofila*). Three species are known only from these two countries: *A. hibiscifolia*, *A. reflexa* and *A. peruviana*. 18 species are present in both countries, and two species are introduced: *A. hispida* and *A. wilkesiana*. Finally, four taxa are treated as doubtful and excluded names: *A. brachyclada*, *A. contermina*, *A. cuprea* and *A. jubifera*.

KEY TO ACALYPHA OF PERU AND BOLIVIA

Key to the subgenera

1. Female flowers pedicellate, calyx with 4 or 5 sepals, the subtending bracts inconspicuous, not becoming foliaceous in fruit **Subgen. *Linostachys***
2. Female flowers sessile, calyx with 3 sepals, the subtending bracts becoming foliaceous and accrescent in fruit (except in *A. hispida*) **Subgen. *Acalypha***

Key to the species

Subgenus *Linostachys*

- 1a. Leaf blade palmately nerved, brightly colored minute resinous droplets present, mainly on lower leaf surface **40. *A. villosa***
- 1b. Leaf blade pinnately nerved, resinous droplets absent 2
- 2a. Female inflorescences paniculate; leaf blades with 10-17 veins per side; petioles generally more than 1 cm long **25. *A. platyphylla***
- 2b. Female inflorescences racemose; leaf blades with 9-13 veins per side; petioles less than 1 cm long **30. *A. salicifolia***

Subgenus *Acalypha*

- 1a. Herbs or suffrutices 2
- 1b. Trees or shrubs 15
- 2a. Female inflorescences densely flowered, ellipsoid or cylindrical, with the axis completely covered by the bracts, not conspicuously visible 3
- 2b. Female inflorescences more or less loosely flowered, cylindrical, with the axis conspicuously visible between the bracts 7
- 3a. Female bracts with long awned lobes 4
- 3b. Female bracts with triangular awnless lobes 5
- 4a. Young branches and leaves with glandular hairs; leaf blades acuminate at apex; female inflorescences axillary and terminal; styles unbranched **5. *A. alopecuroidea***
- 4b. Young branches and leaves without glandular hairs; leaf blades acute at apex; female inflorescences axillary; styles branched **2. *A. arvensis***
- 5a. Inflorescences ellipsoid, unisexual or androgynous (mostly female with a distal segment of male flowers) **27. *A. poiretii***
- 5b. Inflorescences cylindrical, unisexual 6
- 6a. Female bracts with 3-6 teeth ca. of the bract length **17. *A. infesta***
- 6b. Female bracts with 9-13 teeth less than ¼ of the bract length **7. *A. boliviensis***
- 7a. Annual herbs or suffrutices; inflorescences unisexual; female inflorescences terminal; sometimes solitary, ebracteate female flowers present 8
- 7b. Usually suffrutices; some inflorescences unisexual, some androgynous (mostly male with one to several female flowers at base), terminal or axillary; solitary, ebracteate female flowers absent 14
- 8a. Annual herbs 9
- 8b. Suffrutices 10
- 9a. Ovaries hispid; stipules up to 5 mm long, with rigid hairs to 1.5 mm. **33. *A. schultesii***
- 9b. Ovaries glabrous; stipules minute, 1-1.5 mm long, ciliated or hipidulous, without rigid hairs **38. *A. subcastrata***
- 10a. Male inflorescences terminal; female inflorescences terminal; some female flowers solitary, axillary, without developed bracts **14. *A. herzogiana***
- 10b. Male inflorescences axillary; female inflorescences terminal or axillary; solitary female flowers absent 11
- 11a. Leaf blades usually conduplicate, glabrous or subglabrous, lower leaf surface covered by a bright exudate, sometime reduced to spots, bright resinous droplets present or absent; female bracts without glandular hairs **39. *A. variabilis***
- 11b. Leaf blades not conduplicate, more or less densely pubescent to velutinous, lower leaf surface not covered by bright exudate, usually with conspicuous bright resinous droplets; female bracts with or without glandular hairs 12

- 12a. Young branches and lower leaf surface with whitish indument; leaf blade obtuse; female bracts without glandular hairs **28. A. psamofila**
- 12b. Young branches and lower leaf surface without whitish indument; leaf blade acute to acuminate; female bracts with glandular hairs 13
- 13a. Leaf blades firm-membranaceous, velutinous; petioles 3-5 cm long ... **8a. A. communis** subsp. **communis**
- 13b. Leaf blades thin-membranaceous, puberulous, promptly glabrescent; petioles 3-14(-18) cm long **8b. A. communis** subsp. **saltensis**
- 14a. Male inflorescences terminal; developed female bracts without glandular hairs **21. A. multicaulis**
- 14b. Male inflorescences axillary; developed female bracts with glandular hairs **10. A. cuspidata**
- 15a. Inflorescences unisexual or rarely some terminal inflorescences androgynous, mostly female with a distal segment of male flowers 16
- 15b. Inflorescences androgynous, mostly male with one to several female flowers at the base, others male 32
- 16a. All female inflorescences axillary 17
- 16b. Some female inflorescences terminal 23
- 17a. Leaf blade pinnately nerved (rarely pinnipalmately in *A. scandens*) ... 18
- 17b. Leaf blade palmately nerved 20
- 18a. Shrubs, usually clambering; female inflorescences 25-40 cm long ... **32. A. scandens**
- 18b. Trees or shrubs, not clambering; female inflorescences 7-15 cm long 19
- 19a. Leaf blades finely membranous, ovate-lanceolate or elliptic-lanceolate, the base rounded to acute; female bracts with glandular hairs **11. A. delicata**
- 19b. Leaf blades sub-chartaceous, generally obovate, the base sub-cuneate; female bracts without glandular hairs **9. A. cuneata**
- 20a. Leaves with stellate hairs **12. A. dictyoneura**
- 20b. Leaves without stellate hairs 21
- 21a. Female inflorescences extremely densely flowered, with the axis hidden; bracts non-acrescent; male inflorescences absent (usually cultivated plants) **16. A. hispida**
- 21b. Female inflorescences more or less densely flowered, with the axis visible; bracts conspicuously accrescent; male inflorescences usually present 22
- 22a. Leaf blades generally variegated; female inflorescences up to 10 cm long (usually cultivated plants) **41. A. wilkesiana**
- 22b. Leaf blades not variegated; female inflorescences more than 15 cm long **20. A. macrostachya**
- 23a. Trees or shrubs; female bracts more or less deeply divided into triangular or lanceolate teeth, acute to cuspidate at apex 24
- 23b. Shrubs (or suffrutices); female bracts deeply divided into linear teeth, usually rounded at apex 10
- 24a. Female bracts with glandular hairs 25
- 24b. Female bracts without glandular hairs 28
- 25a. Leaf blades 6-9 × 2.5-3.5 cm, usually narrowly ovate-lanceolate, acute to slightly acuminate **23. A. padifolia**
- 25b. Leaf blades more than 11 × 4 cm, usually elliptic to widely ovate-lanceolate, longly acuminate 26
- 26a. Leaf blades usually bullate; stipules rounded; female bracts lanceolate, entire or subentire **24. A. peruviana**
- 26b. Leaf blades not bullate; stipules lanceolate; female bracts flabellate or triangular-reniform, deeply dentate 27
- 27a. Leaf blade widely ovate-lanceolate, cordate at base **15. A. hibiscifolia**
- 27b. Leaf blade elliptic-lanceolate to oblong-lanceolate, acute at base **19. A. machiensis**
- 28a. Leaf blades linear-lanceolate, no more than 1(-1.5) cm wide **31. A. salicina**
- 28b. Leaf blades not linear-lanceolate, more than 4 cm wide 29
- 29a. Leaf blades oblong-lanceolate, pubescent on lower surface, not glossy **37. A. stricta**
- 29b. Leaf blades elliptic-lanceolate or ovate-lanceolate, becoming glabrous, glossy or not 30
- 30a. Leaf blades ovate-lanceolate, chartaceous; styles unbranched **34. A. simplicistila**
- 30b. Leaf blades elliptic-lanceolate, membranous; styles branched 31
- 31a. Leaf blades not glossy, margins sparsely toothed; female bracts with linear-lanceolate teeth **36. A. stenoloba**
- 31b. Leaf blades usually glossy, margins serrate or crenate-serrate, entire towards the base; female bracts with triangular-lanceolate teeth ... **35. A. stachyura**
- 32a. Leaf blades pinnately (sometimes pinnipalmately) nerved, not cordate at base 33
- 32b. Leaf blades palmately nerved, more or less cordate at base 38
- 33a. Leaf blades 8.5-16(-25) cm long 34
- 33b. Leaf blades up to 4.5(-5) cm long 35
- 34a. Leaf blades elliptic-lanceolate or oblong-lanceolate, usually more than 10 cm long; petioles (0.5-)1-2.5(-5) cm long **13. A. diversifolia**
- 34b. Leaf blades narrowly ovate-lanceolate, 8.5-9.5 cm long; petioles (1.2-)1.5-2(-2.3) cm long **22. A. neeana**
- 35a. Leaf blades glabrous or nearly so; inflorescences without glandular hairs 36
- 35b. Leaf blades pubescent at least at margin and on veins; inflorescences with or without glandular hairs 37
- 36a. Leaf blades chartaceous, elliptic or elliptic-lanceolate **4. A. arionioides**
- 36b. Leaf blades thin membranaceous, narrowly lanceolate **18. A. lycioides**
- 37a. Leaf blades membranaceous, not bullate, glabrous except on veins; inflorescences with glandular hairs **6. A. beckii**
- 37b. Leaf blades coriaceous, bullate, white-tomentose on lower surface; inflorescences without glandular hairs **3. A. argomuelleri**
- 38a. Young branches, leaves and inflorescences usually densely velutinous; glandular hairs absent **29. A. reflexa**
- 38b. Young branches, leaves and inflorescences not velutinous; glandular hairs present at least in the inflorescences 39
- 39a. Young branches, leaves and inflorescences covered with conspicuous glandular hairs **26. A. plicata**
- 39b. Glandular hairs present only on inflorescences, sometimes also a few on young branches 40
- 40a. Ovaries with glandular hairs **10. A. cuspidata**
- 40b. Ovaries without glandular hairs **2. A. amblyodonta**

CATALOGUE TO THE SPECIES OF ACALYPHA OF PERU AND BOLIVIA

1. *Acalypha alopecuroidea* Jacq., *Collectanea* 3: 196 (1789). *Ricinocarpus alopecuroides* (Jacq.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891).

TYPE: [Venezuela] *Crescit* in Venezuela. Tab. 620 in Jacq., *Ic. Pl. Rar.* 3 (1792), lectotype, designated by Cardiel (1995[1996]: 233).

Iconography: Jacquin, *Icones Plantarum Rariorum* 3, Tab. 620. 1792.

Distribution: Southeastern USA, Mexico, Central America, Caribbean, northern South America, Brazil and western South America. PERU: San Martín. Not found in Bolivia. We know of only two Peruvian collections, which are from Andean foothills, about 800 m. Disturbed areas (Fig. 1a).

References: Cardiel (2007), Vásquez (2010), Cardiel & Muñoz (2012a)

The Peruvian collections represent the southern boundary of the known distribution of this species. Macbride (1951) cited this species from Loreto department based on *L. Williams* 5032, which is *A. arvensis* Poepp.

2. *Acalypha amblyodonta* (Müll. Arg.) Müll. Arg., *Fl. Bras.*

11(2): 365 (1874). *Acalypha cuspidata* Jacq. var. *amblyodonta* Müll. Arg. *Linnaea* 34: 37 (1865). *Ricinocarpus amblyodontus* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Brazil: Rio de Janeiro] In Brasilia prope Rio de Janeiro, *C. Gaudichaud 1134* (lectotype, designated here, P[P00635211]!; isolectotypes, B[presumed destroyed, negative F 5277!], G-DC!). Other type collections: [Brazil] loc. cit., *G. Casaretto 1847* (G-DC), *A. Weddell 681*(G-DC!), *J.F. Widgren 190*.

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinarum*, Tab. 93b. 1943.

Distribution: Brazil, western South America (Bolivia and Peru) and southern South America (Paraguay and northern Argentina). BOLIVIA: Santa Cruz (two collections examined). PERU: Cuzco (two collections examined). Andean foothill and Chiquitania region, 400-1300 m. Dry forests (Fig. 1a).

References: Berry (2007), Cardiel (2010).

3. *Acalypha argomuelleri* Briq., *Annuaire Conserv. Jard. Bot. Genève* 4: 229 (1900).

TYPE: [Peru: Amazonas] Andes de Chachapoyas, *A. Mathews s.n.* (holotype, G, negative F 24427!; isotype F[fragment ex G]!).

Acalypha buddleifolia Pax & K. Hoffm. in Engl., *Pflanzenr.* 174-16 (Heft 85): 113 (1924).

TYPE: [Peru: Ancash] Huari, unterhalt Chavin de Huantar, in Tale des Puccha-Flusses, 2700 m, *A. Weberbauer 3737* (B [presumed destroyed, negative F 5282!]).

Iconography: Unknown.

Distribution: Western South America, Peruvian endemism. PERU: Amazonas, Ancash, Cajamarca and La Libertad (10 collections examined). Not found in Bolivia. Andean region, 2000-2800 m. Shrublands (Fig. 1b).

References: Brako (1993), Cardiel (2007).

Acalypha buddleifolia was described based on the collection *A. Weberbauer 3737*, from the B herbarium, and presumed destroyed. It would be necessary to designate a neotype.

4. *Acalypha aronioides* Pax & K. Hoffm. in Engl., *Pflanzenr.* 174-16 (Heft 85): 113 (1924).

TYPE: [Peru: Puno] zwischen Sandia und Cuyocuyo, 2100-2200 m, *A. Weberbauer 836* (lectotype, designated here, F!; isolectotype B [presumed destroyed, negative F 5278!]).

Acalypha divaricata Müll. Arg., *Linnaea* 34: 34 (1865), nom. illeg. non Raf. (1836). *Ricinocarpus divaricatus* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891).

TYPE: [Peru] in Peruvia, *J.A. Pavón s.n.* (holotype, G [negative F 7123!], isotype, MA!, MO!).

Iconography: Unknown.

Distribution: Western South America, Peruvian endemism. PERU: Apurimac, Ayacucho, Cuzco, Huancavelica and Puno (38 collections examined). Not found in Bolivia although expected in La Paz department. Andean region, 2400-4000 m. Rocky slopes (Fig. 1b).

References: Brako (1993), Cardiel (2007).

Saravia (1996) cited *Acalypha aronioides* from Bolivia based on misidentified specimens of *A. lycioides* Pax & K. Hoffm. Cardiel (2007) cited this species from Tacna department (Peru) based on herbarium specimen with confused label.

5. *Acalypha arvensis* Poepp. in Poepp. & Endl., *Nov. Gen. Sp. Pl.* 3: 21 (1841). *Ricinocarpus arvensis* (Poepp.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891).

TYPE: [Peru: Amazonas] Crescit in cultis et ruderalis provinciae Maynas ad Yurimaguas, *E. Poeppig 2215*[2115] (lectotype, W!), designated by Cardiel & Muñoz (2012: 8); isolectotypes, G [2 sheets]!, F [fragment ex W]!, W!).

Iconography: Dodson & al. *La Flora de Jauneche, Los Ríos. Ecuador*: 245, Tab. 92d. 1985.

Distribution: Southeastern U.S.A., Mexico, Central America, Caribbean, northern South America, Brazil and western South America. PERU: Huánuco, Junín, Loreto, Madre de Dios, San Martín and Ucayali (44 collections examined). BOLIVIA: Beni, La Paz and Santa Cruz (29 collections examined). Amazonian region and Andean foothills, 100-600(800) m. Disturbed areas, cultivated fields and shrublands (Fig. 1c).

References: Moraes (1990), Vargas (1993), Cardiel (2007), Cardiel & Muñoz (2012a).

6. *Acalypha beckii* Cardiel, *Nordic J. Bot.* 24(2): 169 (2006).

TYPE: Bolivia: Chuquisaca. Prov. Oropeza de Sucre, pasando Yotala, entrando por la quebrada Ñujchu, 2650 m, 15 Oct 1984, *S. Beck 8871* (holotype, MA!; isotypes, DAV!, LPB).

Iconography: Cardiel, *Nordic Journal of Botany* 24(2): 170, fig. 2. 2006.

Distribution: Western South America, Bolivian endemism. BOLIVIA: Chuquisaca. Not found in Peru. We only know two collections, which were made in northern Chuquisaca department. Andean region, 2650 m. Dry forests (Fig. 1d).

References: Cardiel (2006).

7. *Acalypha boliviensis* Müll. Arg., *Linnaea* 34: 162 (1865). *Ricinocarpus boliviensis* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 290 (1898).

TYPE: [Bolivia: La Paz] Prov. Larecaja, Sorata, *G. Mandon 1070* (holotype, G-DC [G00324655]; isotypes, B [presumed destroyed, negative F 5285!], G, F[2 sheets]!, K!, M!, NY[2 sheets]!, P[3 sheets]!, S[2 sheets]!, W!).

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinarum*, Tab. 86a. 1943.

Distribution: Western South America (Bolivia) and southern South America (Argentina). BOLIVIA: Chuquisaca, Cochabamba and La Paz (4 collections examined). Not found in Peru. Andean region, 1400-2800 m. Rocky slopes (Fig. 1d).

References: Berry (2007).

8. *Acalypha communis* Müll. Arg., *Linnaea* 34: 23 (1865). *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] In Brasiliae prov. Minarum Generalium, *J.F. Widgren s.n.* (lectotype, S [S07-12617]! de-

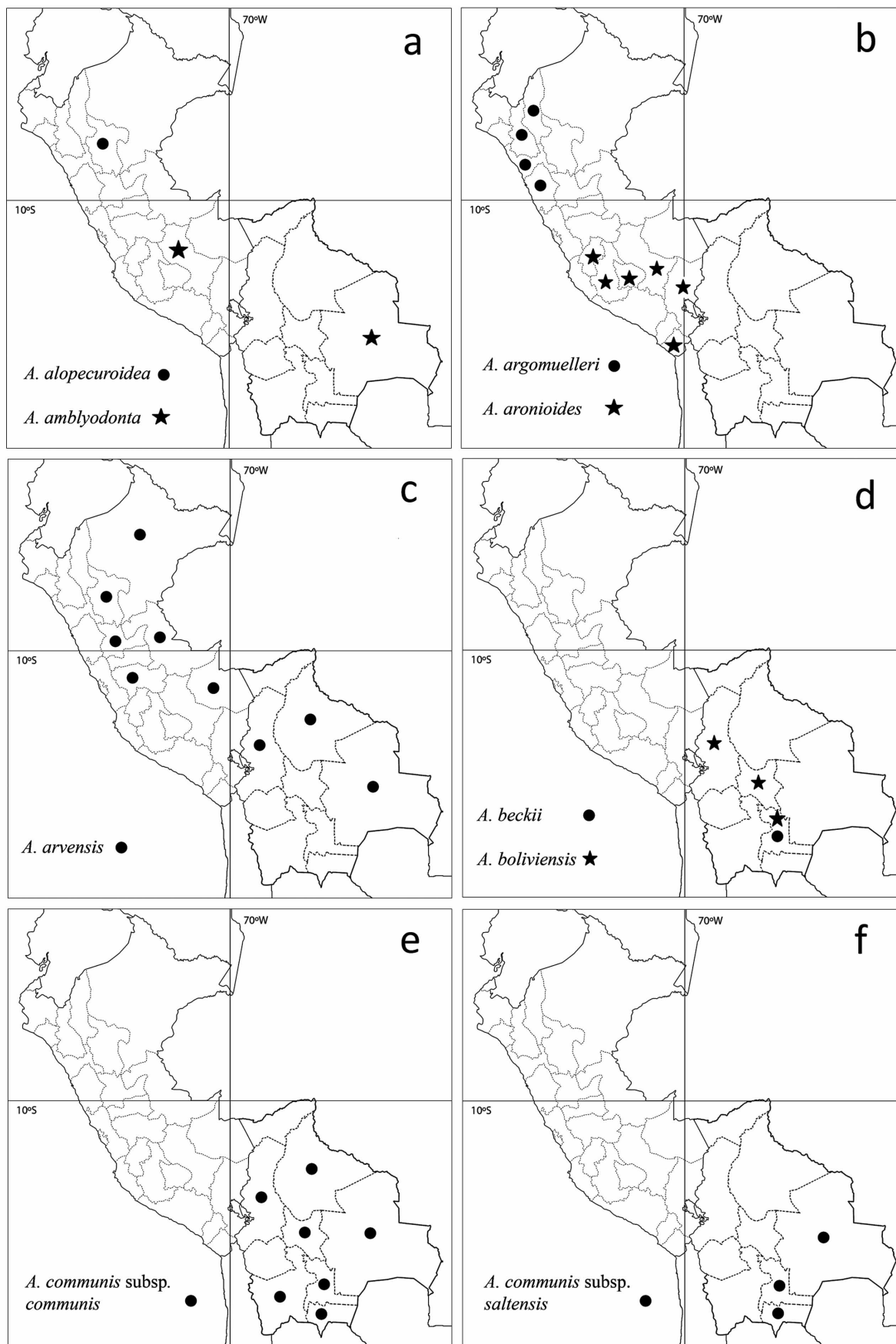


Fig. 1. Maps showing the Bolivian and Peruvian distributions of selected *Acalypha* species. **a**, *A. alopecuroidea* and *A. amblyodonta*; **b**, *A. argomuelleri* and *A. aronioides*; **c**, *A. arvensis*; **d**, *A. beckii* and *A. boliviensis*; **e**, *A. communis* subsp. *communis*; **f**, *A. communis* subsp. *saltensis*.

signated by Cardiel & al. (2013: 1300); isoelectotype, BR [699 782]).

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinarum*, Tab. 88b. 1943.

Distribution: Western South America (Bolivia), Brazil, and southern South America. BOLIVIA: Beni, Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz and Tarija (57 collections examined). Not found in Peru. Andean and Chiquitanía regions, (300)500-1500(2000) m. Semideciduous forests, Tucumano-Boliviano forests, shrublands and cerrados (Fig. 1e, f).

References: Killeen & Schulenberg (1998), Serrano & Terán (1998 [2000]), Arroyo & Villarroya (2009), Cardiel & al. (2013).

Acalypha communis belongs to a complex group of species widespread in the northern part of the Southern Cone. This group was reviewed by Cardiel & al. (2013), who proposed dividing *A. communis* into five subspecies; two of them are present in Bolivia. Nevertheless we think that hybridization can occur between subspecies because we have observed plants with mixed characters. This group of plants still requires detailed study.

8a. *Acalypha communis* subsp. *communis*.

Distribution: Western South America (Bolivia), Brazil, and southern South America. BOLIVIA: Beni, Chuquisaca, Cochabamba, La Paz, Potosí, Santa Cruz and Tarija (40 collections examined). Not found in Peru. Andean and Chiquitanía regions, 500-1500(2000) m. Semideciduous forest, shrublands and cerrados (Fig. 1e).

References: Cardiel & al. (2013).

8b. *Acalypha communis* subsp. *saltensis* (Pax & K. Hoffm.)

Cardiel & P. Muñoz, *Taxon* 62(6): 1301 (2013). *Acalypha communis* Müll. Arg. var. *saltensis* Pax & K. Hoffm. in Engl., *Pflanzenr.* 147, 16 (heft 85): 39 (1924).

TYPE: [Argentina: Salta] San José, Ufergebüsche, *P.G. Lorentz & Hieronymus* 259 (lectotype K!), designated by Cardiel & al. (2013: 1301).

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinarum*, Tab. 88a. 1943 [sub *A. communis* var. *saltensis*].

Distribution: Western South America (Bolivia) and southern South America (northern Argentina). BOLIVIA: Chuquisaca, Santa Cruz and Tarija (17 collections examined). Not found in Peru. Andean foothills and Chiquitanía region, (300)500-1000(1400) m. Dry forests and Tucumano-Boliviano forests (Fig. 1f).

References: Cardiel & al. (2013).

This subspecies has a well-defined distribution along the eastern Andean slopes in southern Bolivia and northern Argentina that seems to be associated with the Tucumano-Boliviano forest. Some Santa Cruz collections show intermediate characters with *A. communis* subsp. *communis*.

9. *Acalypha cuneata* Poepp. in Poepp. & Endl., *Nov. Gen. Sp.* Pl. 3: 22 (1845). *Ricinocarpus cuneatus* (Poepp.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891). *Acalypha obovata* Benth. var. *cuneata* (Poepp.) J.F. Macbr., *Candollea* 8: 26 (1940).

TYPE: [Peru: Amazonas] Crescit in fruticetis maynensibus ad Yurimaguas. Martio lecta, *E. Poeppig* 2230 (lectotype, W[113778]!), designated by Cardiel & Muñoz (2012a), isoelectotypes, B[presumed destroyed, negative F 5288], F!, W!). Other type collections: [Peru: Amazonas] loc. cit., *E. Poeppig* 2317 (B[presumed destroyed, negative 5288], F!, G!, P[2 sheets]!, W!), 2330 (F!, G[4 sheets]!, P[2 sheets]!, W!), 2807 (W!).

Acalypha erosa Rusby, *Bull. Torrey Bot. Club* 28: 305 (1901).

TYPE: [Bolivia: La Paz] Prov. Larecacha, Guanai, 2000 ft, May 1886, *H.H. Rusby* 1757 (lectotype, designated here, NY[246106]!; isotype, NY[312664]!).

Iconography: Bentham, *The Botany of the voyage of H.M.S. Sulphur*, Tab. 53. 1844 [sub *A. obovata*].

Distribution: Central America (Panama), northern South America, Brazil, western South America. PERU: Amazonas, Cuzco, Huánuco, Junín, Loreto, Madre de Dios, Pasco and San Martín (124 collections examined). BOLIVIA: Beni, La Paz and Santa Cruz (15 collections examined). Amazonian region and Andean foothills, 100-1000(1900) m. Seasonally inundated rain forests and cloud forests (Fig. 2a).

References: Parker & Bailey (1991), Vargas (1993), Brako (1993), Cardiel (2007), Berry (2007), Vásquez (1997, 2010), Cardiel & Muñoz (2012a).

10. *Acalypha cuspidata* Jacq., *Pl. Hort. Schoenbr.* 2: 63, Tab. 243 (1797). *Ricinocarpus cuspidatus* (Jacq.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891).

TYPE: [Venezuela] Crescit ad Caracas, Tab. 243 in Jacq., loc. cit. (1797), lectotype designated by Cardiel (1995[1996]: 233).

Iconography: Jacquin, *Plantarum rariorum horti caesarei schoenbrunnensis*, Tab. 243. 1797.

Distribution: Mexico, Caribbean, northern South America, western South America. PERU: Tumbes. Not found in Bolivia. We know of a single collection. Coastal region, 700-800 m. Deciduous forests (Fig. 2a).

References: Berry (2007), Cardiel (2007), Cardiel & Muñoz (2012a).

The Peruvian collection represents the southern boundary of the known distribution of this species. Foster (1958) cited this species from Bolivia based on misidentified specimens of *A. villosa* Jacq.

11. *Acalypha delicata* Cardiel, *Nordic J. Bot.* 24(2): 167 (2006).

TYPE: Peru. Province of Tumbes. Mts. E. of Hacienda Chicama, 800-900 m, 19-24 Feb 1927, *A. Weberbauer* 7641 (holotype, F!; isotype, NY!).

Iconography: Cardiel, *Nordic Journal of Botany* 24(2): 168, fig. 1. 2006.

Distribution: Western South America, Peruvian endemism. PERU: Tumbes. We know of a single collection, from southern Tumbes department. Coastal region, 800-900 m. Deciduous brushwoods (Fig. 2b).

References: Cardiel (2007).

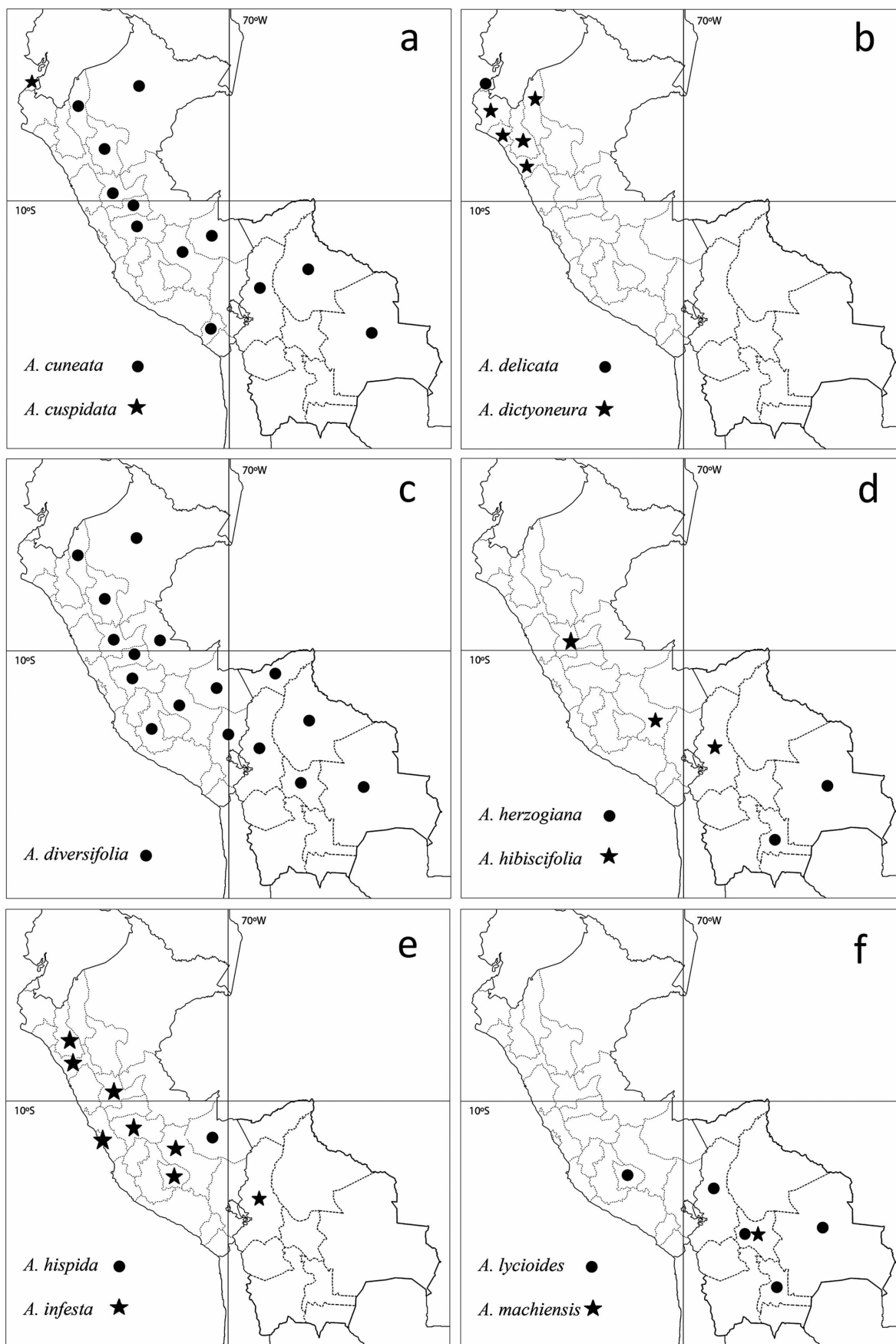


Fig. 2. Maps showing the Bolivian and Peruvian distributions of selected *Acalypha* species. **a**, *A. cuneata* and *A. cuspidata*; **b**, *A. delicata* and *A. dictyoneura*; **c**, *A. diversifolia*; **d**, *A. herzogiana* and *A. hibiscifolia*; **e**, *A. hispida* and *A. infesta*; **f**, *A. lycioides* and *A. machiensis*.

12. *Acalypha dictyoneura* Müll. Arg., *Linnaea* 34: 12 (1865). *Ricinocarpus dictyoneurus* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 617 (1891).

TYPE: [Peru: Amazonas] In Peruvia prope Chachapoyas, *A. Matthews s.n.* (holotype, G!; isotype, K!).

Acalypha dictyoneura Müll. Arg. f. *reducta* Müll. Arg., *Linnaea* 34: 13 (1865). *Acalypha dictyoneura* Müll. Arg. var. *reducta* (Müll. Arg.) J.F. Macbr., *Fieldiana, Bot.* 13(3a/1): 129 (1951).

TYPE: [Peru] In Peruvia, *J.A. Pavón s.n.* (lectotype, designated here, G-DC [G00324032]!; isolectotype B [presumed destroyed, negative F 5298!]).

Iconography: Unknown.

Distribution: Western South America (Ecuador and Peru). PERU: Amazonas, Cajamarca, La Libertad, Lambayeque and Piura (20 collections examined). Not found in Bolivia. Andean region, 1500-2500 m. Cloud forests (Fig. 2b).

References: Brako (1993), Cardiel (2007), Cardiel & Muñoz (2012a).

13. *Acalypha diversifolia* Jacq., *Pl. Hort. Schoenbr.* 2: 63, Tab. 244 (1797). *Acalypha leptostachya* Kunth f. *diversifolia* (Jacq.) Müll. Arg., *Linnaea* 34: 35. 1865. *Ricinocarpus diversifolius* (Jacq.) Kuntze, *Revis. Gen. Pl.* 2: 617. 1891.

TYPE: [Venezuela] ex Caracas, Tab. 244 in Jacq., *Pl. Hort. Schoenbr.* 2 (1797), lectotype designated by Cardiel (1995[1996]: 233).

Acalypha samydfolia [*samydaefolia*] Poepp. in Poepp. & Endl., *Nov. Gen. Sp. Pl.* 3: 21, Tab. 224 (1844). *Ricinocarpus samydfolius* (Poepp.) Kuntze, *Revis. Gen. Pl.* 2: 648 (1894).

TYPE: [Peru: Amazonas] crescit in sylvis maynensibus ad Yurimaguas, *E. Poeppig 2122* (lectotype, designated here, W!, negative 2496; isolectotypes, B [presumed destroyed, negative F 5138!], G[2 sheets]!, P[2 sheets]!, W!).

Acalypha microgyna [*microgyne*] Poepp. in Poepp. & Endl., *Nov. Gen. Sp. Pl.* 3: 21 (1844).

TYPE: [Peru: Huánuco] Crescit in sylvis Peruviae transandinis ad Cuchero. Not located.

Acalypha leptostachya Kunth var. *carpinifolia* Poepp. ex Müll. Arg., *Linnaea* 34: 35 (1865). *Acalypha diversifolia* Jacq. var. *carpinifolia* (Poepp. ex Müll. Arg.) Müll. Arg. in DC., *Prodr.* 15(2): 854 (1866).

TYPE: [Peru] in Peruvia, *E. Poeppig 1307* (lectotype, designated here, W!; isolectotypes, F!, P!, US!). Other type collections: [Colombia] In Nova Granata, *Balbis s.n.*, [Venezuela] in Venezuela, *A. Fendler 1261* (K!), [Mexico] in Mexico, *J. Linden 5*.

Acalypha inaequalis Rusby, *Bull. Torrey Bot. Club* 28: 303 (1901).

TYPE: [Bolivia: La Paz] Yungas, 6000 ft, 1885, *M. Bang 1947* (lectotype, designated here, NY [246116]!; isolectotypes, NY!, F!, US!).

Acalypha alchorneoides Rusby, *Bull. New York Bot. Gard.* 8(28): 101 (1912).

TYPE: [Bolivia: La Paz] Prov. Iturrealde, San Buena Ventura, 1400 ft, 12 Nov. 1901, *R.S. Williams 674* (lectotype, designated here, NY[246089]!; isolectotypes, NY!, K!).

Acalypha vermifera Rusby, *Mem. New York Bot. Gard.* 7: 286. 1927.

TYPE: [Bolivia: Beni] Huachi, 1800 ft 2 Sep 1921, *E.O. White 944* (lectotype, designated here, NY[312929]!; isolectotypes, MICH!, NY!).

Iconography: Jacquín, *Plantarum rariorum horti caesarei schoenbrunnensis*, Tab. 244. 1797.

Distribution: Mexico, Central America, northern South America, Brazil, western South America. PERU: Amazonas, Ayacucho, Cuzco, Huánuco, Junín, Loreto, Madre de Dios, Pasco, Puno, San Martín and Ucayali (150 collections examined). BOLIVIA: Beni, Cochabamba, La Paz, Pando and Santa Cruz (52 collections examined). Amazonian and Andean region, 100-1000(2000) m. Rain forests to disturbed areas, usually along streams (Fig. 2c).

References: Parker & Bailey (1991), Vargas (1993), Brako (1993), Killeen & al. (1993), Alverson & al. (2000), Cardiel (2007), Valenzuela & al. (2007), Vásquez (2010), Cardiel & Muñoz (2012a).

14. *Acalypha herzogiana* Pax & K. Hoffm., *Meded. Rijks-Herb.* 40: 24 (1921).

TYPE: [Bolivia: Santa Cruz] in Walde zwischen Rio Pirai und Rio Cuchi, 450 m, *T. Herzog 1453* (lectotype, designated here, S[S-R-7754]!; isolectotypes, B[presumed destroyed, negative F 5294!], Z!).

Iconography: Unknown.

Distribution: Western South America (Bolivia), Brazil, southern South America (Paraguay). BOLIVIA: Chuquisaca and Santa Cruz (17 collections examined). Not found in Peru. Amazonian and Chiquitania region, 300-500 m. Dry forests and open sandy areas (Fig. 2d).

References: Foster (1958), Steinmann & Levin (2011).

15. *Acalypha hibiscifolia* Britton ex Rusby, *Mem. Torrey Bot. Club* 4(3): 257 (1895).

TYPE: [Bolivia: La Paz] Yungas, *H.H. Rusby 1275* (lectotype, designated here, NY [246115]!; isolectotype NY!).

Acalypha buchtienii Pax, *Repert. Spec. Nov. Regni Veg.* 5: 227 (1908).

TYPE: [Bolivia: La Paz] Sud Yungas, Yanacachi, 1700 m, 16 Jun 1906., *O. Buchtien 377* (lectotype, designated here, US [1158292]!; isolectotype B [presumed destroyed]).

Iconography: Fig. 3.

Distribution: Western South America (Bolivia and Peru). PERU: Cuzco and Huánuco (2 collections examined). BOLIVIA: La Paz (33 collections examined). Andean region, [500]800-2000 m. Cloud forests (Fig. 2d).

References: Berry (2007), Cardiel (2007).

16. *Acalypha hispida* Burm. f., *Fl. Ind.* 302, Tab. 61, f. 1 (1768). *Ricinocarpus hispidus* (Burm. f.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: Habitat in India, Tab. 61 in Burm. f., loc. cit. 302 (1768).

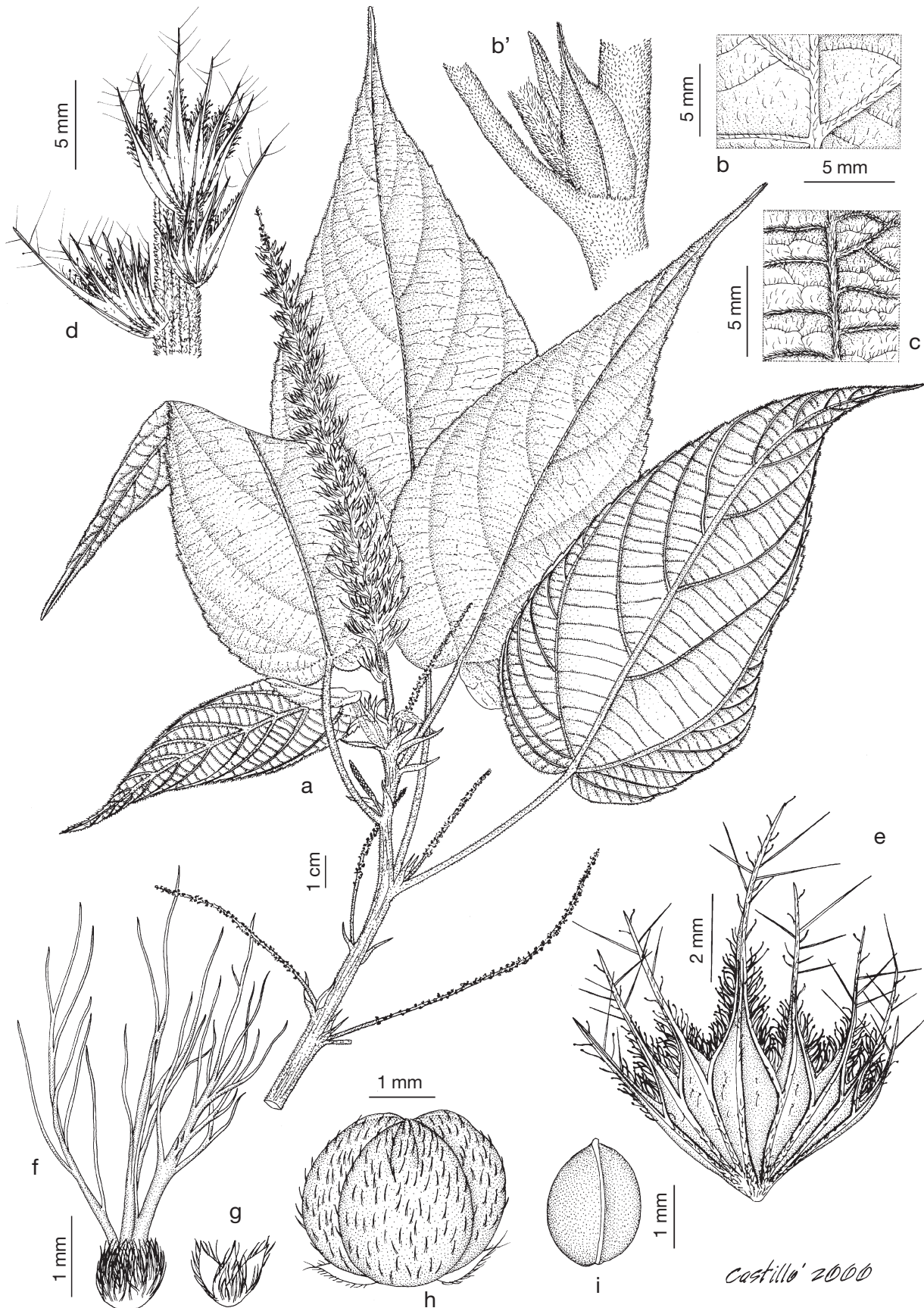


Fig. 3. *Acalypha hibiscifolia*. **a**, flowering branch; **b**, detail of the leaf upper surface; **b'**, stipules; **c**, detail of the leaf lower surface; **d**, detail of the female inflorescence; **e**, female developed bract; **f**, ovary and styles; **g**, calyx of female flower; **h**, capsule; **i**, seed. a-g, J.C. Solomon 8530 (F, MO); h, i, J.C. Solomon & M. Nee 14271 (MO).

Iconography: Burmann, *Flora indica*, Tab. 61, fig., 1. 1768.
Distribution: Native to Malaysia or Melanesia; grown in gardens throughout the tropics and frequently appearing naturalized despite not producing seeds. PERU: Madre de Dios (one collection examined). Not found in Bolivia but expected there. Amazonian region, 200 m. Urban areas (Fig. 2e).

References: Brako (1993), Cardiel (2007), Cardiel & Muñoz (2012a).

17. *Acalypha infesta* Poepp. in Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 22 (1845). *Ricinocarpus infestus* (Poepp.) Kuntze, Revis. Gen. Pl. 2: 617 (1891). *Acalypha infestans* Müll. Arg. var. *stenoloba* Müll. Arg., Linnaea 34: 23 (1865).

TYPE: [PERU: Huánuco] Crescit in cultis ad Cuchero, *E. Poeppig 1701* (lectotype, W [103476]!), designated by Cardiel & Muñoz (2012a: 10); isolectotypes, F!, P!, US!, W!).

Acalypha infesta var. *rotundifolia* Müll. Arg., Linnaea 34: 23 (1865).

TYPE: [Peru] In Peruvia, *J. Dombey s.n.* (lectotype, designated here, P [P00635275]!); isolectotypes, P [2 sheets]!. Other type collection: [Peru] In Peruvia, *J.A. Pavón 36* (P!).

Acalypha forbesii S. Moore, J. Bot. 336: 52 (1914).

TYPE: [Peru: Lambayeque] in valley between Pascamayo and Railhead, 7000 ft, *H.O. Forbes s.n.* (holotype, BM!).

Iconography: Cardiel, *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 97: 464, fig. 1. 2001.

Distribution: Western South America. PERU: Apurímac, Cajamarca, Cuzco, Huánuco, Junín, La Libertad and Lima (39 collections examined). BOLIVIA: La Paz (2 collections examined). Coastal and Andean regions, 100-2500(2800) m. Shrublands and cultivated fields (Fig. 2e).

References: Brako (1993), León & al. (2006), Cardiel (2007), Cardiel & Muñoz (2012a).

Acalypha infesta is rarely cited or collected, and often is confused with *A. poiretii* Spreng.

18. *Acalypha lycioides* Pax & K. Hoffm., Meded. Rijks Herb. 40: 24 (1921).

TYPE: [Bolivia: Santa Cruz] Bergwald bei Charagua, 1000 m, *T. Herzog 1213* (lectotype, designated here, Z [15838]!; isolectotypes, S!, F!, Z[15839]!).

Iconography: Lourteig & O'Donnell in Descole, *Genera et Species Plantarum Argentinorum*, Tab. 91. 1943.

Distribution: Western South America (Peru and Bolivia) and southern South America (Argentina). PERU: Apurímac (1 collection examined). BOLIVIA: Chuquisaca, Cochabamba, La Paz and Santa Cruz (30 collections examined). Andean region, [500]1000-2500 m. Dry forests, shrublands, and rocky slopes (Fig. 2f).

References: Serrano & Terán (1988 [2000]), Berry (2007).

19. *Acalypha machiensis* Cardiel & P. Muñoz, Brittonia 64(4): 365 (2012).

TYPE: Bolivia: Cochabamba. Province of Chapare, Villa Tunary, pasando el río, Parque Machía. 17°03'S 65°29'W, 479 m, 22 Sep 2002, *S. Beck 28576* (holotype, LPB!; isotype, MA!).

Iconography: Cardiel & Muñoz, Brittonia 64(4): 366, fig. 2. 2012.

Distribution: Western South America, Bolivian endemism. BOLIVIA: Cochabamba. We only know one collection, made at the foot of the eastern slope of the Cordillera Oriental, in Cochabamba department, at 469 m. Andean foothill. Rain forests (Fig. 2f).

References: Cardiel & Muñoz (2012b).

20. *Acalypha macrostachya* Jacq., Pl. Hort. Schoenbr. 2: 63, t. 245 (1797). *Ricinocarpus macrostachyus* (Jacq.) Kuntze, Revis. Gen. Pl. 2: 618 (1891).

TYPE: [Venezuela] Crescit ad Caracas (lectotype, Tab. 245 in Jacq., Pl. Hort. Schoenbr. 2. 1797, designated by Cardiel, 1995[1996]: 233).

Acalypha tristis Poepp. in Poepp. & Endl., Nov. Gen. Sp. Pl. 3: 22 (1845). *Acalypha macrostachya* Jacq. var. *tristis* (Poepp.) Müll. Arg. in Mart., Fl. Bras. 11(2): 345 (1874).

TYPE: [Peru: Loreto] Crescit in fruticetis maynensibus ad Yurimaguas, *E. Poeppig 3088* (lectotype, designated here, G!; isolectotypes, G!, W, F [fragment ex W]!).

Acalypha tarapotensis Müll. Arg. in DC., Prodr. 15(2): 808 (1866). *Ricinocarpus tarapotensis* (Müll. Arg.) Kuntze, Revis. Gen. Pl. 2: 618 (1891).

TYPE: [Peru: San Martín] In Peruvia orientali prope Tarapoto, *R. Spruce 4298* (holotype, G-DC [G00324051]; isotypes, BM!, G [2 sheets]!, GH!, K [2 sheets]!, NY!, W!).

Acalypha foliosa Rusby, Mem. Bull. New York Bot. Gard. 4(14): 443 (1907).

TYPE: [Bolivia: La Paz] Nor Yungas, Coroico, 20 Aug 1894, *M. Bang 2391* (lectotype, designated here, NY [246109]!; isolectotypes, BM!, C!, F[2 sheets]!, G!, K!, M!, MA!, MICH!, MO!, NY[3 sheets]!, US[2 sheets]!, W!, Z[2 sheets]!).

Acalypha williamsii Rusby, Bull. New York Bot. Gard. 8(28): 101 (1912). Non Rusby (1920).

TYPE: [Bolivia: La Paz] Prov. Iturralde, San Buena Ventura, 1500 ft, 20 Nov 1901, *R.S. Williams 656* (lectotype, designated here, NY [246144]!; isolectotypes, MA!, NY!, K! US!).

Acalypha heteromorpha Rusby, Mem. New York Bot. Gard. 7: 286 (1927).

TYPE: [Bolivia, Beni] Prov. Ballivián, Rubenabaque, 1000 ft, 7 Oct 1921, *M. Cárdenas 1554* (lectotype, designated here, NY [312930]!; isolectotype, NY!).

Iconography: Jacquin, *Plantarum rariorum horti caesarei schoenbrunnensis*, Tab. 245. 1797.

Distribution: Mexico, Central America, Caribbean (Grenada), northern South America, Brazil, western South America. PERU: Amazonas, Ayacucho, Cajamarca, Cuzco, Huánuco, Junín, Loreto, Madre de Dios, Pasco, San Martín and Ucayali (84 collections examined). BOLIVIA: Beni, Cochabamba, La Paz, Pando and Santa Cruz (55 collections examined). Amazonian and Andean regions, 100-2500 m. Rain forest, montane forest, shrublands and disturbed areas (Fig. 4a).

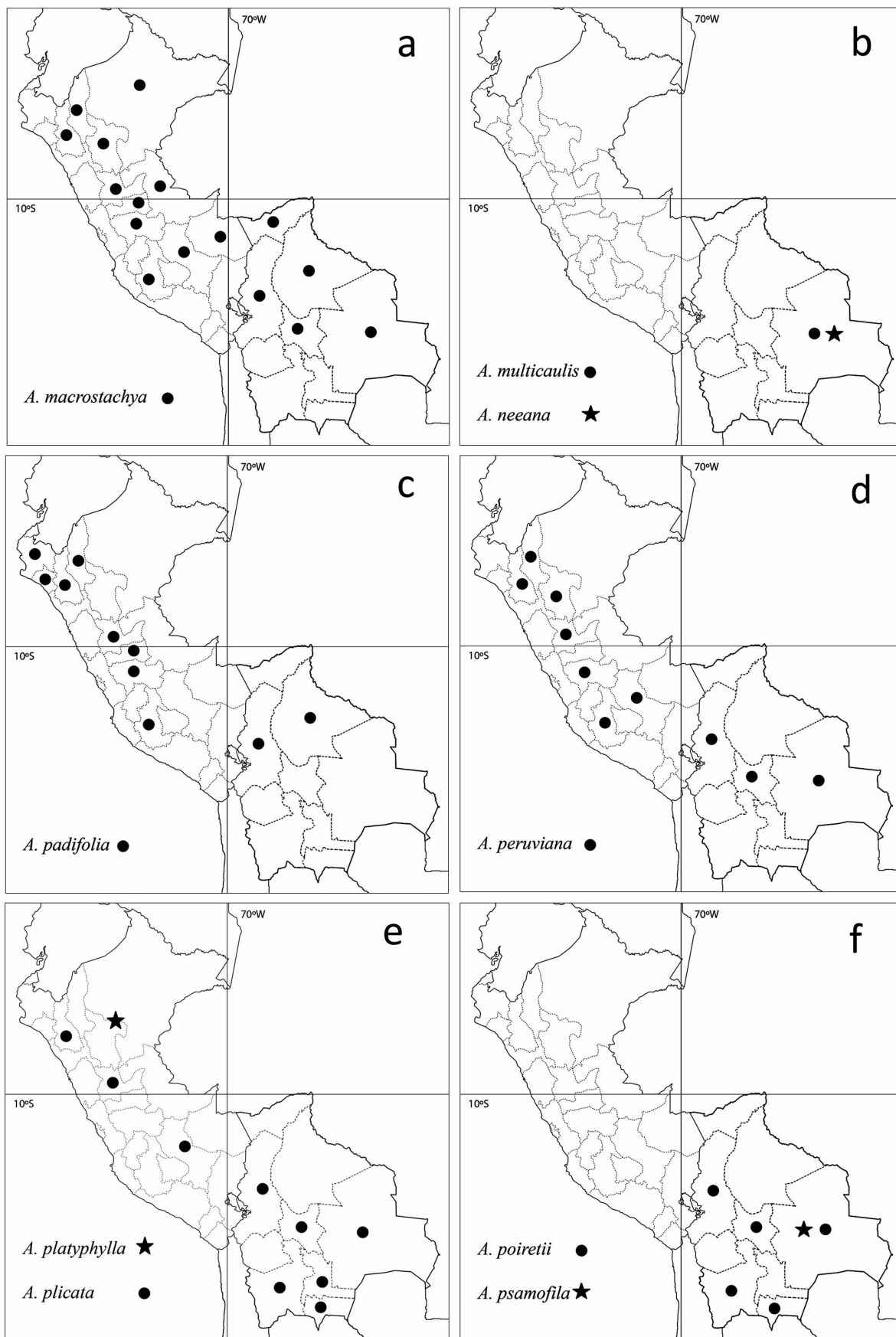


Fig. 4. Maps showing the Bolivian and Peruvian distributions of selected *Acalypha* species. **a**, *A. macrostachya*; **b**, *A. multicaulis* and *A. neeana*; **c**, *A. padifolia*; **d**, *A. peruviana*; **e**, *A. platyphylla* and *A. plicata*; **f**, *A. poiretii* and *A. psamofila*.

References: Parker & Bailey (1991), Vargas (1993), Killeen & Schulenberg (1998), Pennington & al. (2004), Berry (2007), Cardiel (2007), Valenzuela & al. (2007), Vásquez (1997, 2010), Cardiel & Muñoz (2012a).

21. *Acalypha multicaulis* Müll. Arg., *Linnaea* 34: 53 (1865). *Ricinocarpus multicaulis* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Brasil] In Brasilia, *F. Sellow s.n.* (neotype, designated here, K!).

Iconography: Lourteig & O'Donnell in Descole, *Genera et Species Plantarum Argentinarum*, Tab. 92a. 1943.

Distribution: Western South America (Bolivia) and southern South America (Paraguay, Uruguay and Argentina). BOLIVIA: Santa Cruz (2 collections examined). Not found in Peru. Chiquitania region, 400 m. Dry forests (Fig. 4b).

References: Berry (2007), Arroyo & Villarroel (2009).

Acalypha multicaulis was described based on a single collection, *F. Sellow s.n.* from the B herbarium, presumed destroyed; a negative made by Francis Macbride is preserved (negative F 5304!). Because we located no duplicates, we designate as neotype another *Sellow's* collection of this species from Brazil, found in the K herbarium.

22. *Acalypha neeana* Cardiel & P. Muñoz, *Brittonia* 64(4): 363 (2012).

TYPE: Bolivia: Santa Cruz. Province of Florida, 2.5 km NE of main highway at Mairana, Quebrada Yesera, *M. Nee & I. Vargas 44687* (holotype, LPB!; isotypes, MA!, MO!, NY!, USZ!).

Iconography: Cardiel & Muñoz, *Brittonia* 64(4): 364, fig. 1. 2012.

Distribution: Western South America, Bolivian endemism. BOLIVIA: Santa Cruz. Not found in Peru. We only know one collection, made on the eastern slopes of the Cordillera Oriental, in Santa Cruz department. Andean region, 1550 m. Deciduous forests (Fig. 4b).

References: Cardiel & Muñoz (2012b).

23. *Acalypha padifolia* Kunth in Humb. & Bonpl., *Nov. Gen. Sp.* (quarto ed.) 2: 97 (1817). *Ricinocarpus padifolius* (Kunth) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Colombia: Nariño] *Crescit locis sylvaticis subfrigidis inter Almaguer et Pasto, prope villam Meneses, alt. 1322 hex, A. Humboldt & A. Bonpland 2136* (holotype, P-Bonpl.!; isotype, P!).

Acalypha macrodonta Müll. Arg., *Linnaea* 34: 51 (1865). *Ricinocarpus macrodonta* (Müll. Arg.) Kuntze *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Peru] In Peruvia, *J.A. Pavón s.n.* (holotype, G-DC [G00324843], negative F 8501!).

Acalypha ruiziana Müll. Arg., *Linnaea* 34: 16 (1865).

TYPE: [Peru] In Peruvia, *J.A. Pavón s.n.* (lectotype, designated here, MA [812800]!; isolectotype, MA [812799]!). Other type collection: [Peru] loc. cit., *H. Ruiz s.n.*, B [presumed destroyed, negative F 5316!], K!).

Iconography: Unknown.

Distribution: Western South America. PERU: Amazonas, Ayacucho, Cajamarca, Huánuco, Junín, Lambayeque, Pasco and Piura (45 collections examined). BOLIVIA: Beni and La Paz (11 collections examined). Andean region, [800]1200-2000 m. Forests, shrublands and disturbed areas (Fig. 4c).

References: Vargas (1993), Brako (1993), Cardiel (2007), Cardiel & Muñoz (2012a).

24. *Acalypha peruviana* Müll. Arg., *Linnaea* 34: 17 (1865). *Ricinocarpus peruvianus* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Peru] In Peruvia, *H. Ruiz s.n.* (lectotype, designated here, K [K000600514]!; isolectotype, B [presumed destroyed, negative F 5308!]). Other type collection: *J.A. Pavón s.n.* (G-DC, MA!).

Acalypha bullata Müll. Arg., *Linnaea* 34: 17 (1865).

TYPE: [Peru] In Peruvia, *H. Ruiz s.n.* (holotype, G-DC [G00324366]; isotype, B [presumed destroyed, negative F 5283!]).

Acalypha subbullata Pax & K. Hoffm. in Engl., *Pflanzenr.* 147-16(85): 67 (1924).

TYPE: [Peru: Junín] Pariahuanca. *A. Mathews 1199* (holotype, W!, negative 32507).

Ricinocarpus controversus Kuntze, *Revis. Gen. Pl.* 3(2): 290 (1898). *Acalypha controversa* (Kuntze) K. Schum., *Just. Bot. Jahresber.* 26(1): 348 (1900).

TYPE: [Bolivia: Cochabamba] Río Juntas, 1600 m, *O. Kuntze s.n.* (lectotype, designated here, NY [273203]!; isolectotype, NY!).

Iconography: Unknown.

Distribution: Western South America (Peru and Bolivia). PERU: Amazonas, Ayacucho, Cajamarca, Cuzco, Huánuco, Junín and San Martín (28 collections examined). BOLIVIA: Cochabamba, La Paz and Santa Cruz (5 collections examined). Andean region, 1500-3150 m. Cloud forests (Fig. 4d).

References: Brako (1993), Vargas (1993), León & al. (2006), Cardiel (2007).

25. *Acalypha platyphylla* Müll. Arg., *Linnaea* 34: 6 (1865). *Ricinocarpus platyphyllus* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Ecuador] in Ecuador peruviae, *L. Fraser, s.n.* (holotype, G-DC 324093!, isotype BM!).

Acalypha subandina Ule, *Verh. Bot. Vereins Prov. Brandenburg* 50: 77 (1908).

TYPE: [Peru: currently department of San Martín] Departamento de Loreto, Cerro de Escalero, 1200 m, *E. Ule 6840* (lectotype, G! designated by Muñoz-Rodríguez & al. (2014: 211); isolectotypes, B [presumed destroyed, negative F 5322!], CORD!, K!, MG!).

Iconography: Cardiel, *Acalypha in Flora de Colombia* 15: 48, fig. 13. 1995.

Distribution: Western South America (Colombia, Ecuador and Peru). PERU: San Martín (one collection examined). Not

found in Bolivia. We only know the type collection of *A. subandina*. Andean foothills, 1200 m. Montane forests (Fig. 4e).

References: Brako (1993), Cardiel (2007), Cardiel & Muñoz (2012a), Muñoz-Rodríguez & al. (2014).

Acalypha platyphylla is widely distributed in the Colombian and Ecuadorian Andes. The Peruvian specimen points the southern boundary in the known distribution of this species. Ulloa Ulloa & al. (2004) cited another collection from Peru, identified as *A. subandina*, based on *Schunke 8458* (MO), which is of *A. stenoloba*.

26. *Acalypha plicata* Müll. Arg. in DC., Prodr. 15(2): 855 (1866). *Ricinocarpus plicatus* (Müll. Arg.) Kuntze, Revis. Gen. Pl. 2: 618 (1891).

TYPE: [Bolivia] In Bolivia, *T. Bridges s.n.* (holotype, G-DC [G00324504]!, negative F 7124); isotype K!).

Acalypha flabellifera Rusby, Mem. Torrey Bot. Club 6: 119 (1896).

TYPE: [Bolivia: Cochabamba] Near snow line, Mt. Tunari (?). *M. Bang 1109* (lectotype, designated here, NY [00246108]!; isolectotypes, BM!, F!, G!, GH[2 sheets]!, K!, MA!, MO!, NY[3 sheets]!, US[2 sheets]!).

Acalypha fulva I.M. Johnst., Contr. Gray Herb. 75: 29 (1925).

TYPE: [PERU: Huánuco] Muña, 2100 m, *J.F. Macbride 4011* (holotype, F [535075]!, negative 50138; isotypes, GH, US!).

Ricinocarpus cuspidatus (Jacq.) Kuntze var. *glandulosus* Kuntze, Revis. Gen. Pl. 3(2): 291 (1898).

TYPE: [Bolivia: Cochabamba] Tunarigebirge, 3000 m, *O. Kuntze s.n.* (holotype, NY[273204]!).

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinae*, Tab. 90. 1943 [sub. *A. flabellifera*].

Distribution: Northern South America, western South America and southern South America. PERU: Cajamarca, Cuzco and Huánuco (5 collections examined). BOLIVIA: Cochabamba, Chuquisaca, La Paz, Potosí, Santa Cruz and Tarija (60 collections examined). Andean region, (1200)1500-3000(3600) m. Dry forests, shrublands, rocky slopes and sandy places (Fig. 4e).

References: Vargas (1993), Serrano & Terán (1998[2000]), Cardiel (2007), Berry (2007).

The type locality of *Acalypha flabellifera* "near snowline Mt. Tunari" is only penciled onto one sheet (NY 246108); this and other collections with this locality are undoubtedly in error and were collected much further down the Andean slopes to the north. Bang's notebooks from these Cochabamba collections were lost, resulting in very imprecise locality data.

27. *Acalypha poiretii* Spreng., Syst. Veg. 3: 879 (1826).

Ricinocarpus poiretii (Spreng.) Kuntze, Revis. Gen. Pl. 3(2): 618 (1891).

TYPE: "Amer. trop.", *Anonymous s.n.* (holotype, P-LAM!).

Acalypha paupercula Pax & K. Hoffm., Meded. Rijks-Herbar. 40: 24. 1921. syn. nov.

TYPE: [Bolivia. Santa Cruz] Prov. Cordillera, Camatindi, 700 m, *T. Herzog 1167* (lectotype, designated here, S [S-R 7739]!; isolectotype, Z!).

Iconography: Lourteig & O'Donell in Descole, *Genera et Species Plantarum Argentinae*, t. 86b. 1943.

Distribution: South-central USA., Mexico, Central America, Caribbean, northern South America, Brazil, western South America (Bolivia), southern South America (Argentina). BOLIVIA: Cochabamba, La Paz, Potosí, Santa Cruz and Tarija (9 collections examined). Not found in Peru. Andean region, 800-2300 m. Scrublands and disturbed areas (Fig. 4f).

References: Berry (2007), Cardiel (2007), Guantay & al. (2008).

Although poorly developed, *Acalypha paupercula* appears to match *A. poiretii* and therefore we propose treating it as a synonymy of *A. poiretii*.

28. *Acalypha psamofila* sp. nov.

TYPE: Bolivia: Santa Cruz. Prov. Andrés Ibáñez: Along highway from Santa Cruz to Abapó, 3 km S of crossing of railroad and 2 km S of bridge over Quebrada Pejí, 17°58'S, 63°11'W, 450 m, 27 Dec 1988, *M. Nee, G. Coimbra, A. Araujo & S. Nogales 48480* (holotype, MA [630580]!; isotypes, LPB, NY).

Species Acalyphae vellameae Baill. *similis, a qua praecipue differt petiolis longioribus (usque 4,5 cm vs usque 1,5 cm in A. vellamea) atque stipulis inconspicuis (vs usque 13 mm in A. vellamea).*

Iconography: Fig. 5.

Shrubs or subshrubs c. 0.5 m high, monoecious; young branches thick, divaricate, densely velutinous-pubescent, with simple, slender hairs; older branches glabrescent. Stipules inconspicuous, linear-lanceolate, to 2.5 mm long, subacute, hispidulous, caducous. Petiole (1.5)2-3.5(5) cm long, with indumentum similar to that found on the young branches. Leaf blade 3.5-5(7) × 3-4(6) cm, broadly ovate to subtriangular, membranaceous; the base rounded to truncate; the apex subobtuse to apiculate; the margin crenate-dentate, teeth rounded to subacute; upper surface pubescent with simple, thin hairs; lower surface densely pubescent, subvelutinous with simple, whitish hairs, with sparse bright yellow minute droplets; venation palmate to pinnipalmate, with 4-5 veins per side. Stipels absent. Inflorescences unisexual. Male inflorescences axillary, 3-4(5) cm long, spicate; peduncle 1-3 cm long, thick, densely pubescent; rachis hispidulous; flowers glomerate; bracts minute, to 1 mm long, linear-lanceolate, ciliate-hispidulous. Female inflorescences numerous, terminal and axillary, erect, to 8(10) cm long; peduncle 1.5-2 cm long, thick, with indumentum similar to that found on the young branches; rachis densely pubescent; young bracts 1.5(2) mm long, densely pubescent, divided to base into linear lobes; developed bracts to 6-7 mm long, pubescent on upper and lower surface, with simple hairs; margin divided into 8-10 linear teeth 2/5-3/5 of the bract length, subacute, finely ciliate and papillose, flowers solitary. Male flowers inconspicuous, hispidulous; pedicel to 1 mm long, buds c. 1 mm diameter, sometimes with sparse minute bright droplets. Female flowers sessile; sepals 3, triangular, c. 1 × 0.5 mm, hispidulous-ciliate; ovary 1.5-2.4 mm diameter, densely pubescent; styles

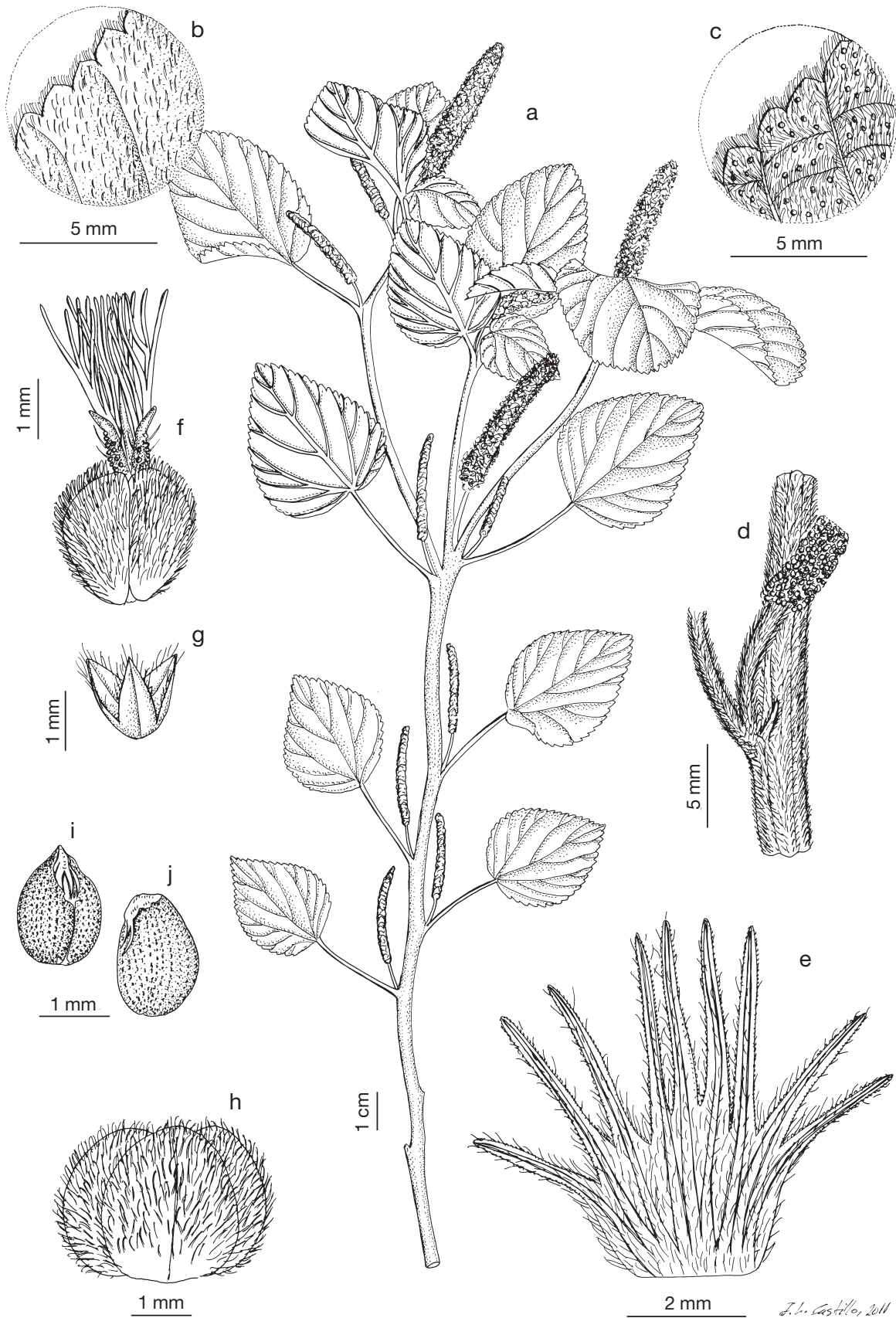


Fig. 5. *Acalypha psamofila*. **a**, flowering branch; **b**, detail of the leaf upper surface and margin; **c**, detail of the leaf lower surface; **d**, detail of the petiole, male inflorescence and stipule; **e**, female developed bract; **f**, ovary and styles; **g**, calyx of female flower; **h**, capsule; **i, j**, seeds. a-d, f, g, *M. Nee* 37935 (MA); e, h, i, j, *M. Nee* 48480 (MA).

3.5-5 mm long, thickened at base, hispidulous, each branched into 6-7 slender segments. Capsule c. 3 mm diameter, densely pubescent; seeds piriform, 2 × 1.4 mm, minutely foveolate.

Etymology: The specific epithet refers to the characteristic habitat of this plant, which grows in sandy soils. Most of the herbarium specimens studied have abundant sand grains attached to the branches and leaves.

Distribution: Western South America, Bolivian endemism. BOLIVIA: Chuquisaca and Santa Cruz (10 collections examined). Chiquitania region, 375-480 m. Grassy stabilized or active sand dunes (Fig. 4f).

Acalypha psamofila can be included in a recently defined *Acalypha* sect. *Communes* (Pax & K. Hoffm.) Cardiel, P. Muñoz & Muñoz Garm., a complex group of species widespread in the northern part of the Southern Cone (Cardiel & al., 2013). Within this group the new species is close to *A. vellamea* Baill. of Brazil and Paraguay. *Acalypha psamofila* can be distinguished from *A. vellamea* mainly by its leaves with petioles to 4.5 cm long (vs. to 0.5 cm long in *A. vellamea*) and its inconspicuous stipules, to 2.5 mm long (vs. to 13 mm long in *A. vellamea*). Among the Bolivian species it is related to *A. communis* subsp. *communis* and *A. variabilis*. *Acalypha psamofila* can be distinguished from *A. communis* mainly by its whitish indument on young branches and the lower leaf surface, and its female bracts without glandular hairs (vs. no whitish indument and female bracts with glandular hairs in *A. communis*). *Acalypha psamofila* differs from *A. variabilis* by lacking the conduplicate leaves with bright exudate characteristic of this species.

Additional specimens examined: BOLIVIA. Chuquisaca: Prov. Luis Calvo, El Salvador, Laguna Seca, campo Quemado, [20°35'S, 63°21'W], 09 Dec 1992, J. Penseiro & G. Marino 125 (NY), 4397 (NY). Santa Cruz: Prov. Andrés Báñez, ca. 15 km al Norte de Santa Cruz, por el nuevo aeropuerto Viru Viru, [17°48'S, 63°10'W], 420 m, 19 Mar 1981, S. Beck 6665 (DAV, LPB, MA); In Hecken um Sta. Cruz, 450 m, T. Herzog 1529 (S, W); W of Santa Cruz to Montero, 17°39'S, 63°10'W, 375 m, 26 Feb 1988, M. Nee 36389 (MO, NY); along río Chore-Chore, 17°56'S, 63°06'W, 380 m, 22 Jan 1989, M. Nee 37694 (NY); W side of Santa Cruz, 17°47'S, 63°13'W, 420 m, 03 Dec 1989, M. Nee 37935 (K, MA, MO, NY); 7 km SE of Naranjillos, 18°02'S, 63°12'W, 480 m, 30 Sep 1990, M. Nee 38990 (LPB, MA, MO, NY); along quebrada Peji, 17°57'S, 63°11'W, 440 m, 11 Dec 1994, M. Nee 45836 (NY); El Pari [17°47'S, 63°12'W], 10 Apr 1946, Peredo, I. s.n. (NY, S).

29. *Acalypha reflexa* Müll. Arg., *Linnaea* 34: 33 (1865).

TYPE: [Peru] In Peruvia, J.A. Pavón s.n. (holotype, G-DC, [G00324473, negative F: 7144]!).

Acalypha mandonii Müll. Arg. *Linnaea* 34: 162 (1865). *Ricinocarpus mandonii* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Bolivia: La Paz] In Boliviae Andinae prov. Larecaja prope Sorata, 2600-2700 m, 1858-1859, G. Mandon 1071 (holotype, G-DC [G00324474, negative F 7141]!; isotypes, BM!, F[2 sheets]!, K!, MA!, NY[2 sheets]!), P[3 sheets]!, S!).

Acalypha soratensis Pax & K. Hoffm. in Engl., *Pflanzenr.* IV. 147-16 (Heft 85): 126 (1924).

TYPE: [Bolivia: La Paz] Sorata, May 1892, M. Bang 1316 (lectotype, designated here, K [K000600509]!, isolectotypes, BM!, F!, K!, M!, MO!, NY[2 sheets]!, US). Other type collection: [Bolivia: La Paz] Sorata, 8000 ft, Feb 1886, H.H. Rusby 1257 ["ex parte" in protologue] (BM!, GH!, MO!, NY[4 sheets]!, US!).

Iconography: Fig. 6.

Distribution: Western South America (Peru and Bolivia). PERU: Cajamarca and Junín (7 collections examined). BOLIVIA: La Paz and Santa Cruz (12 collections examined). Andean region, 1900-3000 m. Dry forests, rocky slopes (Fig. 7a).

References: Cardiel (2007).

In previous treatments, *Acalypha mandonii* has been considered the accepted name for this species, and *A. reflexa* its synonym. However, *A. mandonii* was described in the 2nd fascicle of the 34th volume of the *Linnaea* journal, while *A. reflexa* was described in the 1st fascicle of the 34th volume. According to Foster (1962), fascicle 1 was published in March 1865 and fascicle 2 in December 1865. Therefore the first name should have priority. The holotype of *A. reflexa*, from G-DC, shares the herbarium sheet with the type specimen of *A. contermina* Müll. Arg. (J.A. Pavón s.n.).

30. *Acalypha salicifolia* Müll. Arg., *Flora* 47: 438 (1864). *Ricinocarpus salicifolius* (Müll. Arg.) Kuntze, *Revis. Gen. Pl.* 2: 618 (1891).

TYPE: [Ecuador] In Andibus Ecuadorensibus, R. Spruce 4963 (holotype, W; isotypes, F[fragment ex W]!, K[2 sheets]!).

Acalypha macbridei I.M. Johnst., *Contr. Gray Herb.* 75: 28 (1925).

TYPE: [Peru: Huánuco] Pampayacu, hacienda at mouth of Río Chiao, J.F. Macbride 5093 (holotype, F!; isotypes, GH!, K!, US!).

Iconography: Fig. 8.

Distribution: Western South America (Ecuador and Peru). PERU: Amazonas, Huánuco, Junín, Loreto and Pasco (19 collections examined). Not found in Bolivia. Amazonian region and Andean foothills, (300)700-1600 m. Rain forests and montane forests (Fig. 7b).

References: Brako (1993), Cardiel (2007), Cardiel & Muñoz (2012a), Muñoz-Rodríguez & al. (2014).

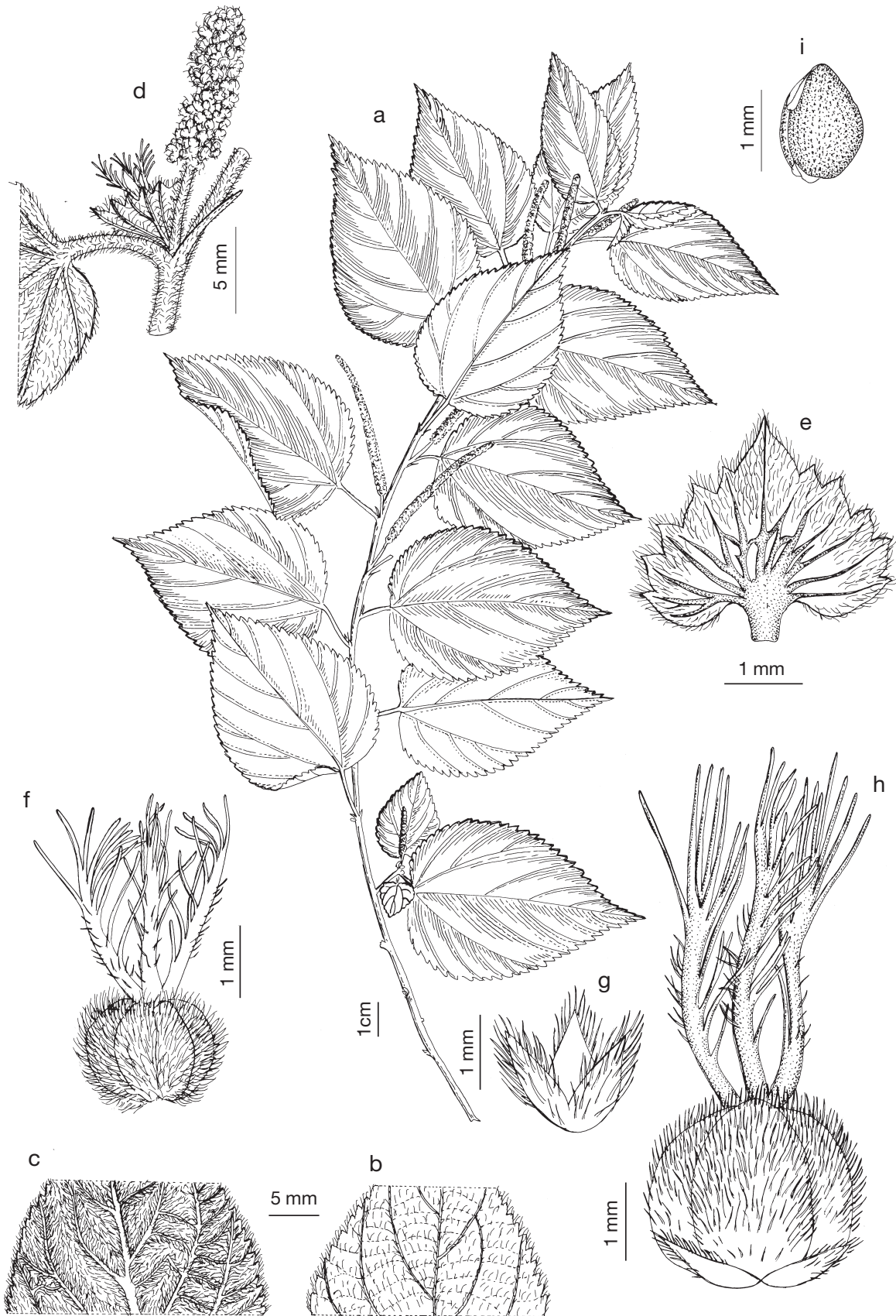
31. *Acalypha salicina* Hutch. ex Cardiel, *Nordic J. Bot.* 22(5): 627 (2003).

TYPE: Peru: Puno, río Távara, border of river, 400 m, 13° 21'S, 69° 40'W, 20 May 1992. A. Gentry, C. Reynel, R. Ortiz & P. Núñez 76917 (holotype, MO!; isotype, MA!).

Iconography: Cardiel, *Nordic Journal of Botany* 22(5): 628, fig. 1. 2003.

Distribution: Western South America, Peruvian endemism. PERU: Cuzco and Puno (5 collections examined). Amazonian region and Andean foothills, 150-1100 m. River banks (Fig. 7b).

References: Ulloa Ulloa & al. (2004), Cardiel (2007).



F.L. Castillo, 2009

Fig. 6. *Acalypha reflexa*. **a**, flowering branch; **b**, detail of the leaf upper surface; **c**, detail of the leaf lower surface; **d**, detail of the leaf base, androgynous inflorescence and stipule; **e**, female developed bract; **f**, ovary and styles; **g**, calyx of female flower; **h**, capsule and styles; **i**, seed. a-i, *J.R.L. Wood 8161* (LPB).

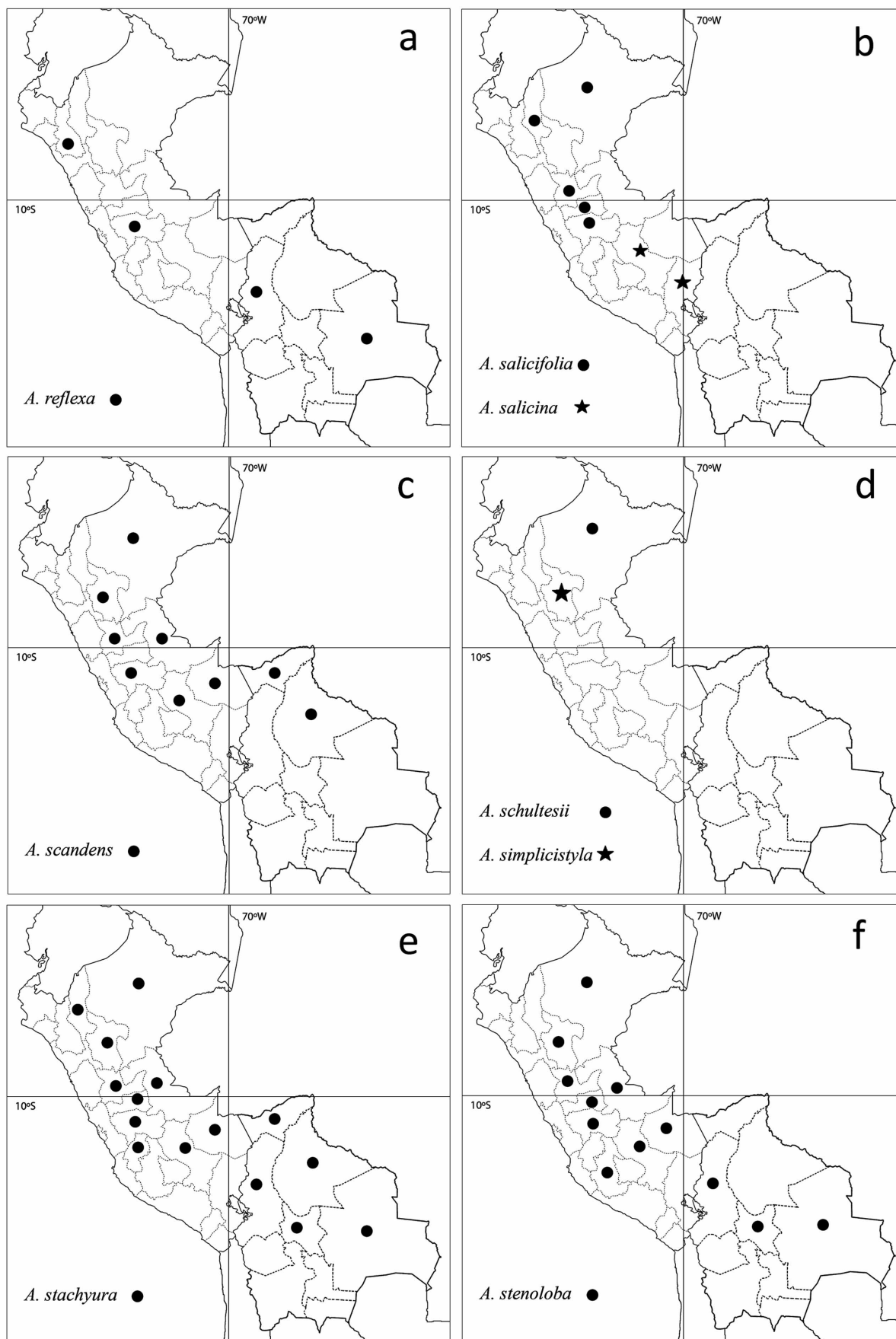


Fig. 7. Maps showing the Bolivian and Peruvian distributions of selected *Acalypha* species. **a**, *A. reflexa*; **b**, *A. salicifolia* and *A. salicina*; **c**, *A. scandens*; **d**, *A. schultesii* and *A. simplicistyla*; **e**, *A. stachyura*; **f**, *A. stenoloba*.

32. *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, R. Spruce 1000 (holotype, K!). Other type collection: [Surinam] F.W.R. Hostmann 990 (W!).

Iconography: Cardiel, *Flora de Colombia* 15: 109, fig. 24. 1995.

Distribution: Northern South America, western South America and Brazil. PERU: Cuzco, Huánuco, Junín, Loreto, Madre de Dios, San Martín and Ucayali. (104 collections examined). BOLIVIA: Beni and Pando (7 collections examined). Amazonian region, 100-500(900) m. Seasonally inundated forests (Fig. 7c).

References: Brako (1993), Vásquez (1997), Cardiel (2007), Valenzuela & al. (2007), Cardiel & Muñoz (2012a).

33. *Acalypha schultesii* Cardiel, Anales Jard. Bot. Madrid 52(2): 155 (1995).

TYPE: Colombia: Amazonas. N'uma ilha à margen da lagoa Dolphim (Loreto-Yaco), 30 Oct 1946, R.E. Schultes & Black 46-250 (holotype, F!).

Iconography: Cardiel, *Anales del Jardín Botánico de Madrid* 52(2): 156, fig. 2. 1995.

Distribution: Western South America (Colombia and Peru). PERU: Loreto. Not found in Bolivia. We only know of two Peruvian collections, from the Amazonian region, at about 180 m. River banks (Fig. 7d).

References: Cardiel (2007).

34. *Acalypha simplicistyla* Cardiel, Nordic J. Bot. 22(5): 629 (2002).

TYPE: Peru: San Martín. Prov. Mariscal Cáceres, Distrito Tocache Nuevo, quebrada de Saule Chico, margen derecha del río Huallaga, 7 Sep 1970, J. Schunke 4347 (holotype, US!; isotypes, F!, GH!, MO!, USM).

Iconography: Cardiel, *Nordic Journal of Botany* 22(5): 630, fig. 2. 2003.

Distribution: Western South America, Peruvian endemism. PERU: San Martín (3 collections examined). Andean foothills, 400-1000 m. Rain forests (Fig. 7d).

References: Ulloa Ulloa & al. (2004), León & al. (2006), Cardiel (2007).

35. *Acalypha stachyura* Pax, Repert. Spec. Nov. Regni Veg. 7: 110 (1909).

TYPE: [Bolivia: La Paz] Charopampa und San Carlos bei Mapiri, 750 m, Aug-Nov 1909. *O. Buchtien* 1315 (lectotype, M!, designated by Cardiel & Muñoz (2012a: 13); isolectotype, US!). Other type collections: *O. Buchtien* 1307 (WRSL, US!), 1314 (US!).

Acalypha macrophylla Ule, Verh. Bot. Vereins Prov. Brandenburg 50: 79 (1908). Nom. illeg., non Kunth 1917.

TYPE: [Peru: Loreto] feuchte Niederung bei Tarapoto, *E. Ule* 6656 (lectotype, designated here, G!; isolectotypes, B [presumed destroyed, negative F 5299!], K!).

Iconography: Cardiel, *Flora de Colombia* 15: 80, fig. 21. 1995.

Distribution: Western South America and Brazil. PERU: Amazonas, Cuzco, Huancavelica, Huánuco, Junín, Loreto, Madre de Dios, Pasco, San Martín and Ucayali. (78 collections examined). BOLIVIA: Beni, Cochabamba, La Paz, Pando and Santa Cruz (98 collections examined). Amazonian region and Andean foothills, 100-1000(1500) m. Seasonally inundated rain forests (Fig. 7e).

References: Brako (1993), Cardiel (2007), Vásquez (1997, 2010).

36. *Acalypha stenoloba* Müll. Arg., *Flora* 55: 41 (1872).

TYPE: [Peru] Habitat in Peruvia. *T. Haenke s.n.* (holotype, M!, negative F 19517).

Acalypha capillaris Rusby, Mem. Torrey Bot. Club 4(3): 257 (1895).

TYPE: [Bolivia: La Paz] Yungas, 1890, *M. Bang* 676 (lectotype, designated here, NY [246103]!; isolectotypes, BM!, F!, GH!, K!, MO[2 sheets], NY![3 sheets], US![3 sheets]). Other type collection: [Bolivia: Santa Cruz] Santa Cruz, Feb 1865. *R. Pearce s.n.* (K!).

Ricinocarpus gracilis var. *arboreus* Kuntze, Revis. Gen. Pl. 3(2): 291 (1898), syn. nov.

TYPE: [Bolivia: Santa Cruz] Rio Juntas, 1600 m, *O. Kuntze s.n.* (lectotype, designated here, NY!). Other type collection: [Bolivia: Santa Cruz] Santa Cruz, 350 m, *O. Kuntze s.n.*

Acalypha brittoni Rusby, Bull. Torrey Bot. Club 28: 303 (1901).

TYPE: [Bolivia: La Paz] Mapiri, 5000 ft, May 1886, *M. Bang* 1260 (lectotype, designated here, NY [312936]!; isolectotypes, NY!, US!).

Acalypha grandispicata Britton ex Rusby, Bull. Torrey Bot. Club 28: 304 (1901).

TYPE: [Bolivia: La Paz] Prov. Larecaja, Mapiri, 5000 ft, May 1886. *M. Bang* 1261 (lectotype, designated here, NY [246113]!; isolectotype, NY!).

Acalypha lechleri Britton ex Rusby, Bull. Torrey Bot. Club 28: 304 (1901).

TYPE: [Bolivia: La Paz] Prov. Nor Yungas, Unduavi, 8000 ft, Oct. 1885. *M. Bang* 2610 (lectotype, designated here, US [931764]!; isolectotypes, NY[2 sheets]!). Other type collections: [Bolivia: La Paz] *H.H. Rusby* 1420 (NY!); [Peru] *Lechler* 2408 (K!).

Acalypha lucida Rusby, Bull. New York Bot. Gard. 4: 444 (1907).

TYPE: [Bolivia] *M. Bang* 2560 (lectotype, designated here, NY [246122]!; isolectotypes, BM!, F!, G!, K!, M!, MICH!, MO, NY![3 sheets], US!). Other type collection: [Bolivia] *M. Bang* 2561 (BM!, F!, MICH!, MO, NY![2 sheets], M!, US!).

Acalypha baenitzii Pax, Repert. Spec. Nov. Regni Veg. 5: 227 (1908).

TYPE: [Bolivia: La Paz] Surupaya [Sirupoya] bei Yanacachi, 2100 m, 19 Jun 1906. *O. Buchtien* 376 (holotype, US [1158271]!).



Fig. 8. *Acalypha salicifolia*. **a**, flowering branch; **b**, detail of the leaf base and stipule; **c**, detail of the margin and leaf lower surface; **d**, detail of female inflorescence; **e**, female flower; **f**, calyx of female flower; **g**, capsule; **h**, seed. a-h, J. Jaramillo & al. 13069 (SEL).

Acalypha ovata Pax & K. Hoffm., Meded. Rijks-Herb. 40: 23 (1921).

TYPE: [Bolivia: Cochabamba] Locotal, 1600-1900 m, *T. Herzog 2255* (holotype, Z [15840]!).

Acalypha douilleana Rusby, Mem. New York Bot. Gard. 7: 285 (1927).

TYPE: [Bolivia: La Paz] Prov. Inquisivi, Cañamina, 4000 ft, 15 Jul 1921, *H.H. Rusby 74* (holotype, NY[00246104]!; isotypes, K!, MICH!, US!).

Acalypha eugenifolia Rusby, Mem. New York Bot. Gard. 4: 443 (1907).

TYPE: [Bolivia: La Paz] Near Coroico, 03 Aug 1894. *M. Bang 2368* (lectotype, designated here, NY [246107]!; isolectotypes, C!, F!, G!, K!, M!, MICH!, MO!, NY [3 sheets]!, US!, Z!).

Iconography: Fig. 9.

Distribution: Western South America (Bolivia and Peru). PERU: Ayacucho, Cuzco, Huánuco, Junín, Loreto, Madre de Dios, Pasco, San Martín and Ucayali (57 collections examined). BOLIVIA: Cochabamba, La Paz and Santa Cruz (98 collections examined). Andean foothills and Amazonian region, (250)500-2100(2500) m. Rain forests and montane forests (Fig. 10f).

References: Vargas (1993), Cardiel (2007), Vásquez (2010).

Although poorly preserved, *Ricinocarpus gracilis* var. *araboreus* appears to match *A. stenoloba* and therefore we propose treating the former name as a synonymy of *A. stenoloba*.

37. *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: Lima] Crescit in fruticetis montanis Peruviae orientalis ad Pampayaco [Pampayacu], Jul, *E. Poeppig s.n.* (holotype, W!; isotype, F!).

Acalypha benensis Britton ex Rusby, Bull. Torrey Bot. Club 28: 304 (1901).

TYPE: [Bolivia: Beni] Prov. Vaca Díez, junction of Rivers Beni and Madre de Dios, Aug 1886, *H.H. Rusby 1264* (lectotype, designated here, NY [246097]!; isolectotypes, BM!, GH!, K!, MA!, MO!, NY[2 sheets]!, P!, US[2 sheets]! W!).

Acalypha mapirensis Pax, Repert. Spec. Nov. Regni. Veg. 7: 110 (1909).

TYPE: [Bolivia: La Paz] Charopampa bei Maripi, 570 m. *O. Buchtien 1308* (lectotype, designated here, US [1158887]!). Other type collections: [Bolivia: La Paz] loc. cit., *O. Buchtien 1310* (B[presumed destroyed, negative F 5301]!, F!, MO[2 sheets]!, 1311 (US[3 sheets]!)).

Acalypha mapirensis var. *pubescens* Pax & K. Hoffm., in Engl., Pflanzenr. 147, 16(Heft 85): 65 (1924).

TYPE: [Brazil] Alto Amazonas: Rio Acre, Seringal São Francisco, *E. Ule 9535* (lectotype, designated here, NY [246129]!; isolectotypes, B [presumed destroyed]).

Acalypha variegata Rusby, Mem. New York Bot. Gard. 7: 285 (1927).

TYPE: [Bolivia: La Paz] Prov. Inquisivi, Cañamina, 4000 ft 30 Jul 1921. *E. O. White s.n.* (holotype, NY[312942]!).

Acalypha bopiana Rusby, Mem. New York Bot. Gard. 7: 287 (1927).

TYPE: [Bolivia: La Paz] cataracts of the Bopi River, 3000 ft, 3 Sep 1921. *H.H. Rusby 478* (holotype, NY[312935]!; isotypes, K!, MA!, MICH!).

Acalypha tomentosula Ule, Verh. Bot. Vereins Prov. Brandenburg 50: 79 (1908).

TYPE: [Peru: Loreto] bei Tarapoto, Dec 1902, *E. Ule 6637* (holotype, K [K000600518]!).

Iconography: Poeppig & Endlicher, *Nova genera ac species plantarum* 3, pl. 225. 1845.

Distribution: Brazil, Western South America (Peru and Bolivia). PERU: Amazonas, Ayacucho, Cuzco, Huánuco, Junín, Lima, Loreto, Madre de Dios, Pasco, Piura, Puno, San Martín and Ucayali. (222 collections examined). BOLIVIA: Beni, Cochabamba, La Paz, Pando and Santa Cruz (167 collections examined). Coastal, Amazonian, Andean and Chiquitanía regions, (100)300-2000(2500) m. Rain forests, shrublands and disturbed areas (Fig. 10a).

References: Brako (1993), Killeen & al (1993), Jardim & al. (2003), Cardiel (2007), Valenzuela & al. (2007), Vásquez (2010), Berry & al. (2013).

Acalypha stricta is the more frequently collected species in Peru and Bolivia.

38. *Acalypha subcastrata* F. Aresch., Pl. Itin. Eugeniae: 137 (1910).

TYPE: [Ecuador] On Puna i Guayaquil viken, *N.J. Andersson 160* (lectotype, S[S-R-7773]!, designated by Cardiel & Muñoz (2012: 14); isolectotype, S[08-1622]!).

Iconography: Fig. 11.

Distribution: Western South America (Ecuador and Peru). PERU: Cajamarca, Lambayeque, Piura and Tumbes (9 collections examined). Not found in Bolivia. Coastal region, 150-400(1200) m. Dry forests and disturbed areas (Fig. 10b).

References: Cardiel (2007), Cardiel & Muñoz (2012a).

39. *Acalypha variabilis* Klotzsch ex Baill., Adansonia, 5: 226 (1865). *A. variabilis* var. *typica* Baill., Adansonia 5: 227 (1865).

TYPE: [Brazil] Brasilia, *F. Sellow s.n.* (lectotype, P [635221]!, designated by Cardiel & al. (2013: 1301); isolectotypes, P[635222]!, B [presumed destroyed]).

Iconography: Unknown.

Distribution: Western South America (Bolivia), Brazil and southern South America (Argentina, Paraguay and Uruguay). BOLIVIA: Beni and Santa Cruz (23 collections examined). Not found in Peru. Chiquitanía region, 250-500(1000) m. Grasslands, shrublands, rocky places and disturbed areas (Fig. 1b).

References: Cardiel & al. (2013).

Acalypha variabilis has been usually treated as a synonym of *A. communis*. According to the recent revision of *Acalypha* sect. *Communes* (Cardiel & al., 2013), *A. variabilis* should be considered a distinct species.

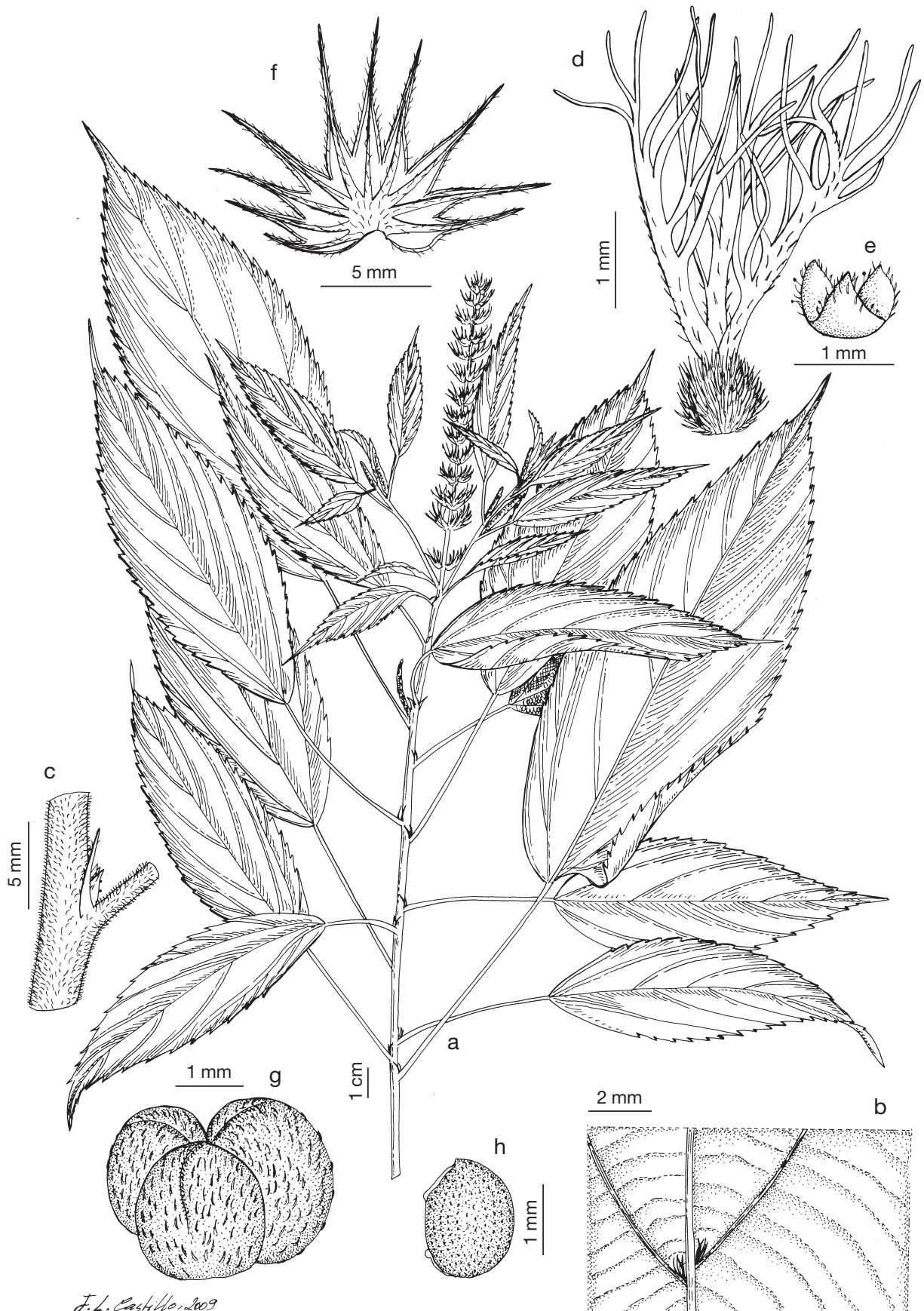


Fig. 9. *Acalypha stenoloba*. **a**, flowering branch; **b**, detail of the leaf lower surface; **c**, detail of the petiole and stipule; **d**, ovary and styles; **e**, calyx of female flower; **f**, female developed bract; **g**, capsule; **h**, seed. a-e, g, h, *l. Vargas 2102* (MA), f, *BMA 13* (MA).

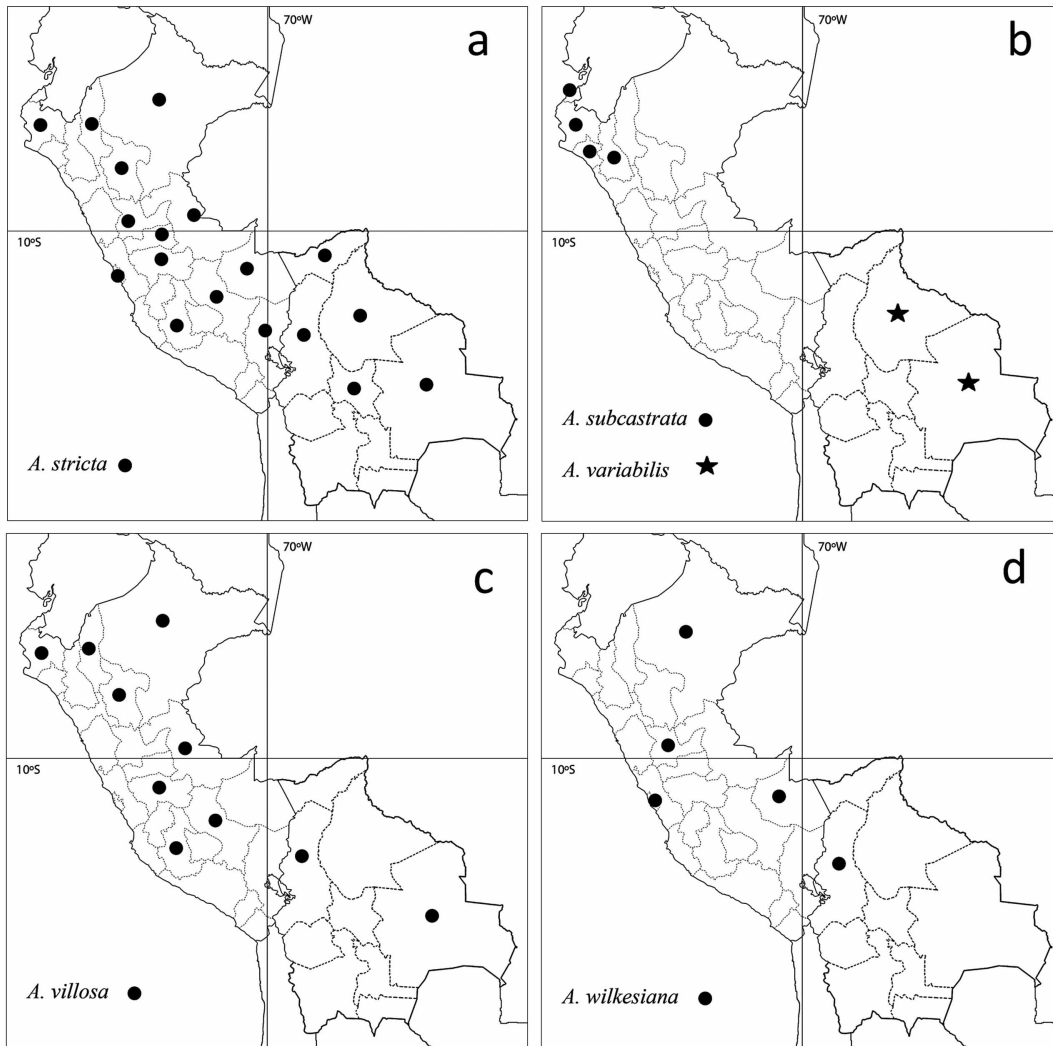


Fig. 10. Maps showing the Bolivian and Peruvian distributions of selected *Acalypha* species. **a**, *A. stricta*; **b**, *A. subcastrata* and *A. variabilis*; **c**, *A. villosa*; **d**, *A. wilkesiana*.

40. *Acalypha villosa* Jacq., Enum. Syst. Pl. 32 (1760). *Ricincarpus villosus* (Jacq.) Kuntze, Rev. Gen. Pl. 2: 618 (1891). *Gymnalypha jacquinii* (Jacq.) Griseb., Bonplandia (Hannover) 6: 2 (1858).

TYPE: [Colombia: Bolívar] Habitat Carthagena in silvis & sepibus. Lectotype, Tab. 183 fig. 16. in Jacq., *Select. Stirp. Amer. Hist.* (1763), designated by R.A. Howard (1989). Epitype, Tab. 47 in Jacq., *Hort. Bon. Vindob.* 3 (1776), designated by J.M. Cardiel (1995[1996]).

Acalypha villosa Jacq. var. *tomentosa* Müll. Arg., *Linnaea* 34: 8 (1865).

TYPE: [Peru] In Peruvia, J.A. Pavon s.n. (lectotype, G-DC[G00324082] designated by Muñoz-Rodríguez & al. (2014: 213); isolectotype, W!).

Acalypha villosa Jacq. var. *latiuscula* Pax & K. Hoffm. in Engl., *Pflanzenr.* 147, 16 (heft. 85): 17 (1924).

TYPE: [Ecuador] Manabi, bei Hacienda El Recreo, *H. Eggers 15616* (lectotype, K!, designated by Cardiel & Muñoz (2012a); isolectotype, L!).

Acalypha williamsii Rusby Descr. S. Amer. Pl. 47 (1920). Nom. illeg. non Rusby (1912). *Acalypha rusbyi* Dorr, *Brittonia* 43(4): 226 (1991).

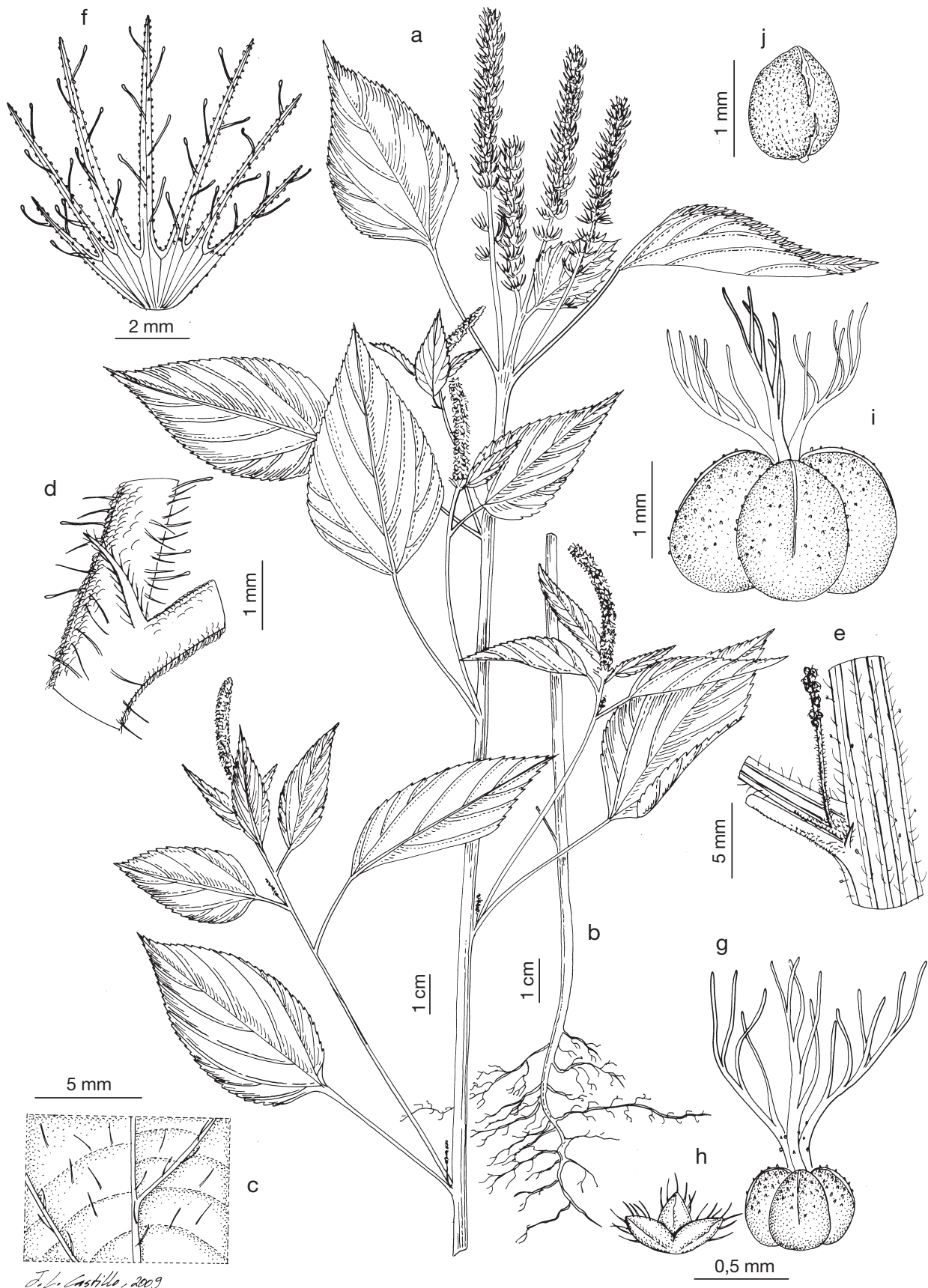
TYPE: [Bolivia: La Paz] Prov. Iturrealde, San Buena Ventura, 20 Nov 1901, R.S. Williams 655 (holotype, NY[00246143]!; isotypes, NY!, K!).

Iconography: Jacquin, *Hortus botanicus vindobinensis* 3, Tab. 47. 1776.

Distribution: Mexico, Central America, Caribbean, northern South America, western South America, Brazil, southern South America (Argentina, Paraguay). PERU: Amazonas, Ayacucho, Cajamarca, Cuzco, Junín, Loreto, Piura, San Martín and Ucayali (31 collections examined). BOLIVIA: La Paz and Santa Cruz (46 collections examined). Amazonian, Andean and Chiquitanía regions, 260-1500(2200) m. Rain forests, gallery forests and river banks (Fig. 10 c).

References: Brako (1993), Berry (2007), Cardiel (2007), Cardiel & Muñoz (2012a).

The name *Acalypha williamsii* had been already used eight years before by Rusby to describe a different species (*A. williamsii* Rusby [1912] = *A. macrostachya* Jacq.).



J.L. Castillo, 2009

Fig. 11. *Acalypha subcastrata*. **a**, upper half of the plant; **b**, lower half of the plant; **c**, detail of the leaf lower surface; **d**, detail of the young branch, petiole and stipule; **e**, detail of node and male inflorescence; **f**, female developed bract; **g**, ovary and styles; **h**, calyx of female flower; **i**, capsule and styles; **j**, seed. a-e, h-j, C.H. Dodson & P.M. Dodson 13680 (SEL); f, g, C.H. Dodson & A. Gentry 12330 (SEL).

41. *Acalypha wilkesiana* Müll. Arg. in DC., Prodr. 15(2): 817 (1866). *Ricinocarpus wilkesianus* (Müll. Arg.) Kuntze, Revis. Gen. Pl. 2: 618 (1891). *Acalypha amentacea* Roxb. subsp. *wilkesiana* (Müll. Arg.) Fosberg, Smithsonian Contr. Bot. 45: 10 (1980).

TYPE: [Fiji] In insulis Fidji (U.S. Expl. Exped. Under. Capt. Wilkes), B.C. Seeman 22 (holotype, G-DC!; isotypes, GH!, K[2 sheets]!, US[2 sheets]!).

Iconography: Pérez-Arbeláez, *Flora medicinal de Colombia*, fig. 259. 1978.

Distribution: Native to the Polynesian island of Fiji, *Acalypha wilkesiana* is used as an ornamental in gardens throughout the tropics and frequently appears to be naturalized. PERU: Huánuco, Lima, Loreto and Madre de Dios (10 collections examined). BOLIVIA: La Paz (one collection examined). Coastal, Amazonian and Andean regions, 200-2000 m. Disturbed areas (Fig. 10d).

References: Cardiel (2007), Valenzuela & al. (2007), Cardiel & Muñoz (2012a).

DOUBTFUL AND EXCLUDED NAMES

Acalypha brachyclada Müll. Arg. in DC, Prodr. 15(2): 862 (1866).

TYPE: "In Peruvia aut in Mexico", J.A. Pavón s.n. (G-DC, foto F 8505!).

We only know the type collection, which probably comes from Mexico, as indicated in the original publication.

Acalypha contermina Müll. Arg., Linnaea 34: 46 (1865).

TYPE: "In Peruvia", J.A. Pavón. s.n. (G-DC[G00324474], negative F 7141!).

We only know the type collection, which probably does not come from Peru but from Mexico. This plant seems very close to some Mexican species still little known. This still requires a detailed study. Müller Argoviensis (1865) indicated that it is close to *A. schiedeana* Schtdl. The herbarium sheet from G-DC is mixed with the type specimen of *A. mandonii* Müll. Arg. (G. Mandon 1071).

Acalypha cuprea Herzog, Repert. Spec. Nov. Regni Veg. 7: 60 (1909).

TYPE: [Bolivia: Santa Cruz] Prov. Velasco "Im Gebüsch der Quebrada de San Lorenzo" 400 m, Jul 1907, T. Herzog 429 (?).

We could not find the type collection in the reviewed herbaria. Most of the Theodor Herzog's collections were deposited in the B herbarium. The cited specimen was probably destroyed in the herbarium fire of 1945. According with the original description this taxon is closer to *A. communis* Müll. Arg. subsp. *communis* and probably should be treated as synonym of this taxon.

Acalypha jubifera Rusby, Descr. S. Amer. Pl. 48 (1920).

TYPE: [Bolivia] no locality or date, M. Bang s.n. (NY?).

We could not find the type collection in the reviewed herbaria. Rusby described this species based on a specimen without female flowers, so the original description does not

provide enough information to determine the identity of this taxon.

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APPENDIX 1

Alphabetical list of published names of *Acalypha* of Peru and Bolivia (accepted in bold)

A. alchorneoides Rusby [= *A. diversifolia* Jacq.], *A. alopecuroidea* Jacq., *A. amblyodonta* (Müll. Arg.) Müll. Arg., *A. amentacea* subsp. *wilkesiana* (Müll. Arg.) Fosberg [= *A. wilkesiana* Müll. Arg.], *A. argomuelleri* Briq., *A. aronioides* Pax & K. Hoffm., *A. arvensis* Poepp., *A. baenitzii* Pax [= *A. stenoloba* Müll. Arg.], *A. beckii* Cardiel, *A. benensis* Britton [= *A. stricta* Poepp.], "*A. betuloides* Pav." nomen nudum [= *A. diversifolia* Jacq.], *A. boliviensis* Müll. Arg., *A. bopiana* Rusby [= *A. stricta* Poepp.], *A. brachyclada* Müll. Arg. [doubtful name], *A. brittonii* Rusby [= *A. stenoloba* Müll. Arg.], *A. buchtienii* Pax [= *A. hibiscifolia* Britton ex Rusby], *A. buddleifolia* Pax & K. Hoffm. [= *A. argomuelleri* Briq.], *A. bullata* Müll. Arg. [= *A. peruviana* Müll. Arg.], *A. callosa* Benth. [= *A. mascrostachya* Jacq.], *A. capillaris* Rusby [= *A. stenoloba* Müll. Arg.], "*A. carpinifolia* Poepp. ex Seem." nomen nudum [= *A. diversifolia* Jacq.], *A. communis* subsp. *communis*, *A. communis* subsp. *saltensis* (Pax & K. Hoffm.) Cardiel & P. Muñoz, *A. communis* var. *saltensis* Pax & K. Hoffm. [= *A. communis* subsp. *saltensis* (Pax & K. Hoffm.) Cardiel & P. Muñoz], *A. contermina* Müll. Arg. [doubtful

name], *A. controversa* (Kuntze) K.Schum. [= *A. peruviana* Müll. Arg.], *A. cuneata* Poepp., *A. cuprea* Herzog [doubtful name], *A. cuspidata* Jacq., *A. cuspidata* Jacq. var. *amblyodonta* Müll. Arg. [= *A. amblyodonta* (Müll. Arg.) Müll. Arg.], *A. delicata* Cardiel, *A. dictyoneura* Müll. Arg., *A. dictyoneura* Müll. Arg. f. *reducta* Müll. Arg. [= *A. dictyoneura* Müll. Arg.], *A. dictyoneura* Müll. Arg. var. *reducta* (Müll. Arg.) Müll. Arg. [= *A. dictyoneura* Müll. Arg.], *A. divaricata* Müll. Arg. [= *A. aronioides* Pax & K. Hoffm.], *A. diversifolia* Jacq., *A. diversifolia* Jacq. var. *carpinifolia* (Poepp. ex Müll. Arg.) Müll. Arg. [= *A. diversifolia* Jacq.], *A. douilleana* Rusby [= *A. stenoloba* Müll. Arg.], *A. erosa* Rusby [= *A. cuneata* Poepp.], *A. eugenifolia* Rusby [= *A. stenoloba* Müll. Arg.], *A. flabellifera* Rusby [= *A. plicata* Müll. Arg.], *A. foliosa* Rusby [= *A. macrosytachya* Jacq.], *A. forbesii* Moore [= *A. infesta* Poepp.], *A. fulva* I.M. Johnst. [= *A. plicata* Müll. Arg.], *A. grandispicata* Britton ex Rusby [= *A. stenoloba* Müll. Arg.], *A. herzogiana* Pax & K. Hoffm., *A. heteromorpha* Rusby [= *A. macrostachya* Jacq.], *A. hibiscifolia* Britton ex Rusby, *A. hispida* Burm. [= *A. hispida* Burm.], *A. inaequalis* Rusby [= *A. diversifolia* Jacq.], *A. infesta* Poepp. [= *A. infesta* Poepp.], *A. infesta* Poepp. var. *rotundifolia* Müll. Arg. [= *A. infesta* Poepp.], *A. infesta* Poepp. var. *stenoloba* Müll. Arg. [= *A. infesta* Poepp.], *A. jubifera* Rusby [doubtful name], *A. lechleri* Britton ex Rusby [= *A. stenoloba* Müll. Arg.], *A. leptostachya* Kunth var. *carpinifolia* Poepp. ex Müll. Arg. [= *A. diversifolia* Jacq.], *A. leptostachya* Kunth f. *diversifolia* (Jacq.) Müll. Arg. [= *A. diversifolia* Jacq.], *A. lucida* Rusby [= *A. stenoloba* Müll. Arg.], *A. lycioides* Pax & K. Hoffm., *A. macbridey* I.M. Johnst. [= *A. salicifolia* Müll. Arg.], *A. macrodonta* Müll. Arg. [= *A. padifolia* Kunth], *A. macrophylla* Ule [= *A. stachyura* Pax], *A. macrostachya* Jacq., *A. macrostachya* Jacq. var. *tristis* (Poepp.) Müll. Arg. [= *A. macrostachya* Jacq.], *A. machiensis* Cardiel & P. Muñoz, *A. mandoni* Müll. Arg. [= *A. reflexa* Müll. Arg.], *A. mapiensis* Pax [= *A. stricta* Poepp.], *A. mapiensis* Pax var. *pubescens* Pax & K. Hoffm. [= *A. stricta* Poepp.], *A. microyna* Poepp. [= *A. diversifolia* Jacq.], *A. multicaulis* Müll. Arg., *A. neeana* Cardiel, *A. obovata* Benth. var. *cuneata* (Poepp.) J.F. Macbr. [= *A. cuneata* Poepp.], *A. ovata* Pax & K. Hoffm. [= *A. stenoloba* Müll. Arg.], *A. padifolia* Kunth, *A. paupercula* Pax & K. Hoffm. [= *A. poiretii* Jacq.], *A. peruviana* Müll. Arg., *A. platyphylla* Müll. Arg., *A. plicata* Müll. Arg., *A. poiretii* Jacq., *A. psamofila* Cardiel, *A. reflexa* Müll. Arg., "*A. rotundifolia* Vahl ex Baill." nomen nudum [= *A. infesta* Poepp.], *A. ruiziana* Müll. Arg. [= *A. padifolia* Kunth], *A. salicifolia* Müll. Arg., *A. salicina* Cardiel, *A. samydifolia* Poepp. [= *A. diversifolia* Jacq.], *A. scandens* Benth., *A.*

schultesii Cardiel, *A. simplicistila* Cardiel, *A. soratensis* Pax & K. Hoffm. [= *A. mandonii* Müll. Arg.], *A. stachyura* Pax, *A. stenoloba* Müll. Arg., *A. stricta* Poepp., *A. subandina* Ule [= *A. platyphylla* Müll. Arg.], *A. subbullata* Pax & K. Hoffm. [= *A. peruviana* Müll. Arg.], *A. subcastata* F. Arech., *A. tarapotensis* Müll. Arg. [= *A. macrostachya* Jacq.], *A. tometulosa* Ule [= *A. stricta* Poepp.], *A. tristis* Poepp. [= *A. macrostachya* Jacq.], *A. variabilis* Klotzsch ex Baill., *A. variegata* Rusby [= *A. stricta* Poepp.], *A. vermifera* Rusby [= *A. diversifolia* Jacq.], *A. villosa* Jacq., *A. villosa* Jacq. var. *latiuscula* Pax & K. Hoffm. [= *A. villosa* Jacq.], *A. villosa* Jacq. var. *tomentosa* Müll. Arg. [= *A. villosa* Jacq.], *A. wilkesiana* Müll. Arg., *A. williamsii* Rusby (1912) [= *A. macrostachya* Jacq.], *A. williamsii* Rusby (1920) [= *A. villosa* Jacq.], *Ricinocarpus alopecuroides* (Jacq.) Kuntze [= *A. alopecuroides* Jacq.], *R. amblyodontus* (Müll. Arg.) Kuntze [= *A. amblyodonta* (Müll. Arg.) Müll. Arg.], *R. arvensis* (Poepp.) Kuntze [= *A. arvensis* Poepp.], *R. boliviensis* (Müll. Arg.) Kuntze [= *A. boliviensis* Müll. Arg.], *R. controversus* Kuntze [= *A. peruviana* Müll. Arg.], *R. cuneatus* (Poepp.) Kuntze [= *A. cuneata* Poepp.], *R. cuspidatus* (Jacq.) Kuntze [= *A. cuspidata* Jacq.], *R. cuspidatus* (Jacq.) Kuntze var. *glandulosus* Kuntze [= *A. plicata* Müll. Arg.], *R. dictyoneurus* (Müll. Arg.) Kuntze [= *A. dictyoneura* Müll. Arg.], *R. divaricatus* (Müll. Arg.) Kuntze [= *A. aronioides* Pax & K. Hoffm.], *R. diversifolius* (Jacq.) Kunth [= *A. diversifolia* Jacq.], *R. gracilis* var. *arboreus* Kuntze [= *A. stenoloba* Müll. Arg.], *R. hispidus* (Burm.) Kuntze [= *A. hispida* Burm.], *R. infestus* (Poepp.) Kuntze [= *A. infesta* Poepp.], *R. macrodonta* (Müll. Arg.) Kuntze [= *A. padifolia* Kunth], *R. macrostachyus* (Jacq.) Kuntze [= *A. macrostachya* Jacq.], *R. mandoni* (Müll. Arg.) Kuntze [= *A. mandoni* Müll. Arg.], *R. multicaulis* (Müll. Arg.) Kuntze [= *A. multicaulis* Müll. Arg.], *R. padifolius* (Kunth) Kuntze [= *A. padifolia* Kunth], *R. peruvianus* (Müll. Arg.) Kuntze [= *A. peruviana* Müll. Arg.], *R. plicatus* (Müll. Arg.) Kuntze [= *A. plicata* Müll. Arg.], *R. poiretii* (Jacq.) Kuntze [= *A. poiretii* Jacq.], *R. salicifolius* (Müll. Arg.) Kuntze [= *A. salicifolia* Müll. Arg.], *R. samydifolius* (Poepp.) Kuntze [= *A. diversifolia* Jacq.], *R. scandens* (Benth.) Kuntze [= *A. scandens* Benth.], *R. tarapotensis* (Müll. Arg.) Kuntze [= *A. macrostachya* Jacq.], *R. villosus* (Jacq.) Kuntze [= *A. villosa* Jacq.], *R. wilkesianus* (Müll. Arg.) Kuntze [= *A. wilkesiana* Müll. Arg.].

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