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# A new heterandrous species of *Solanum* section *Gonatotrichum* Bitter (Solanaceae) from Bahia, Brazil

Leandro L. Giacomin, João Renato Stehmann

*ICB, Departamento de Botânica, Laboratório de Sistemática Vegetal, Universidade Federal de Minas Gerais – UFMG, Av. Antônio Carlos, 6627, Pampulha, Belo Horizonte, CEP 31270-901, MG, Brazil.*

Corresponding author: *Leandro L. Giacomin* (giacomin.leandro@gmail.com), *João Renato Stehmann* (stehmann@ufmg.br)

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## Abstract

A new species of *Solanum* from Brazil is described. *Solanum evolvuloides* Giacomin & Stehmann, **sp. nov.** belongs to section *Gonatotrichum*, a small group assigned to the Brevantherum Clade of the genus *Solanum*. It resembles *S. turneroides* Chodat, sharing with it heterandry, and *S. parcistrigosum* Bitter, with which it shares a similar habit and pubescence. Despite these similarities, the species can be recognized by its ovate-elliptic to cordiform leaf shape and more membranaceous leaf texture than the other species in the section, and stem, inflorescence axes, and calyx vestiture mainly composed of glandular hairs. *Solanum evolvuloides* is known to occur only in southeastern of Bahia state, Brazil, and in a preliminary assessment of the IUCN criteria can be considered a threatened species.

## Resumo

Uma nova espécie de *Solanum* é descrita para o Brasil. *Solanum evolvuloides* Giacomin & Stehmann, **sp. nov.** é componente da seção *Gonatotrichum*, um pequeno grupo associado ao Clado Brevantherum. A espécie é similar a *S. turneroides*, com a qual compartilha a heterandria, e *S. parcistrigosum*, que por sua vez apresenta um hábito e indumento foliar semelhante. Apesar da similaridade, a espécie pode ser facilmente reconhecida pela forma da folha ovada-elíptica a cordiforme e pela texura mais membranácea que as outras espécies da seção, além do indumento do caule, eixo da inflorescência e cálice, constituído em sua maioria por tricomas glandulares pedicelados. *Solanum evolvuloides* tem sua distribuição conhecida somente para o sudeste do estado da Bahia, Brasil, e é indicada como uma espécie ameaçada de extinção.

## Keywords

heterandry, Caatinga, IUCN conservation status

## Introduction

*Solanum,* with about 1500 species, is one of the largest genera of flowering plants, and the largest genus within Solanaceae (Frodin 2004, Weese and Bohs 2007). The huge number of species and the complexity of its morphology have led several researchers to propose a considerable number of infrageneric classification systems during the past two centuries, not all of them congruent (e.g.: Sendtner 1846, Dunal 1852, Seithe 1962, D'Arcy 1991, Hunziker 2001). More recent use of molecular phylogenetic techniques has brought several modifications to past classifications and allowed a better understanding of the genus by elucidating several clades within it (Bohs 2005, Weese and Bohs 2007). One of the clades recognized in these studies was the Gonatotrichum clade that corresponds to *Solanum* sect. *Gonatotrichum* Bitter, a small section established in the beginning of the 20th century (Bitter 1912). Species of the section are small herbs to shrubs mainly with a vestiture of unbranched (simple) hairs (except for *S. lignescens* Fernald), and have fruits with explosive dehiscence. Molecular studies have supported the maintenance of the section as a natural group, but they have shown that it is closely related to a morphologically quite different group, *S.* sect. *Brevantherum* Seithe, nested within the Brevantherum clade of Weese and Bohs (2007), mostly composed of shrubs to trees with stellate or echinoid hairs and fruits without explosive dehiscence. This curious close relationship between sects. *Gonatotrichum* and *Brevantherum* was not recognized in past classifications and has stimulated more in-depth studies in the section.

Section *Gonatotrichum* was treated by Nee (1989) as having only two species, but recent herbarium investigations and field work showed an underestimated diversity. A new species was recently described (*S. manabiense* S. Stern) and at that time the authors accepted five species in the section (Stern and Bohs 2009). Another new species was found by us, in the CEPEC herbarium (Centro de Pesquisas do Cacau, Bahia, Brazil), and is here described as *Solanum evolvuloides*. A detailed taxonomic study has reevaluated the circumscription and species limits of the section, and a complete revision of *Solanum* sect. *Gonatotrichum* is in preparation. This revision is part of a comprehensive species level taxonomic inventory of the genus (Knapp et al. 2004, http://www.solanaceaesource.org/).

## Materials and methods

We revised material in the following herbaria (acronyms from *Index Herbariorum*, http://sweetgum.nybg.org/ih/): BHCB, CEPEC, CESJ, CTES, CORD, ESA, ESAL, FUEL, HAS, HB, HUEFS, IAC, IAN, ICN, INPA, LPB, MBM, MBML, PACA, R, RB, SP, SPF, SPSF, UEC, UPCB, VIC, and WU. Images of types deposited in BR, MO, NY, P, and SI, kindly provided by the curators or available on collections websites, were also examined. Plants obtained in the field were cultivated in the greenhouse and fresh flowers were fixed in alcohol to permit detailed descriptions and illustrations. We assessed the conservation status using IUCN Red List Categories and Criteria (IUCN 2010).

## Taxonomic treatment

***Solanum evolvuloides* Giacomin & Stehmann, sp. nov.**
urn:lsid:ipni.org:names:77115891-1
http://species-id.net/wiki/Solanum_evolvuloides
Figs 1, 2

Solano turneroidi *Chodat et* S. parcistrigoso *Bitter similis sed ab utroque foliis membranaceis ovato-ellipticis vel cordiformibus et pilis glanduliferis in caule, axibus inflorescentiae, et calyce differt.*

**Type. Brazil**. Bahia: Mun. Jequié, Distrito de Cachoeirinhas, caatinga arbustiva em topo de morro, com lajeados graníticos, 299 m, 13°54'14.4"S, 40°01'46.8"W, 10 Jul 2009 (fr), *L.L. Giacomin 974* (holotype: BHCB; isotypes, BM, MBM, NY, RB).

**Description.** Herbs, slightly woody to woody at base, few- to many-branched, 20–40 cm tall. Stems moderately to densely pubescent with multicelled unbranched erect glandular hairs ca. 0.3–0.5 mm long, these mixed with less frequent slightly longer 1–3-celled unbranched eglandular hairs. Sympodial units difoliate, solitary or more commonly geminate, the smaller leaves up to half the size of the larger ones. Leaves simple, the blades 1–4 × 1–3 cm, ovate-elliptic to cordiform, chartaceous to membranaceous, sparsely to moderately pubescent on both sides with 1–2-celled unbranched erect eglandular hairs, these denser on the primary and secondary veins; venation camptodromous, with the primary and one pair of secondary veins emerging from the leaf base (sometimes just one, in the case of an asymmetric base), the primary and secondary veins barely visible to the naked eye, slightly prominent abaxially and less visible adaxially; base attenuate to cordate, slightly decurrent into petiole; margins entire, ciliate with hairs like those of the blade; apex acute to attenuate; petioles 0.5–2.2 cm long, with pubescence similar to that of the stems but with fewer eglandular hairs. Inflorescences sessile, lateral, extra-axillary or subopposite the leaves, unbranched, with 1–4 flowers, the axes with pubescence like that of the stems; peduncles absent; rachis very short; pedicels 6–10 mm in flower, 7–14 mm in fruit, almost contiguous, articulated at the base. Flowers 5-merous. Calyx 2–7 mm long, the tube 1–2 mm, the lobes 2–6 × 1–2.6 mm, ovate-elliptic, the apex acuminate, moderately pubescent abaxially with almost exclusively glandular unbranched multicellular erect hairs, densely pubescent adaxially with very small glandular hairs with 1-celled stalks; calyx accrescent in fruit, the lobes up to 8 mm long, equal to or exceeding the berry at maturity. Corolla 1–2.5 (-3) cm in diameter, rotate with abundant interpetalar tissue, membranaceous, white, the lobes 2–4 × 1–3 mm, triangular, acute at apex, with a few eglandular hairs abaxially, mainly on the central part of each lobe, glabrous adaxially. Stamens 4–9.5 mm long; filaments 1–2 mm long, with one much longer than the others, up to 5 mm long, glabrous; anthers 4–6 × 1.3–2 mm, connivent, yellow, the base cordate, with a small bulge dorsally, the apex emarginate, the pores directed introrsely and subapically, not opening into longitudinal slits. Ovary glabrous; style 7–9 mm long, longer than the smaller stamens,

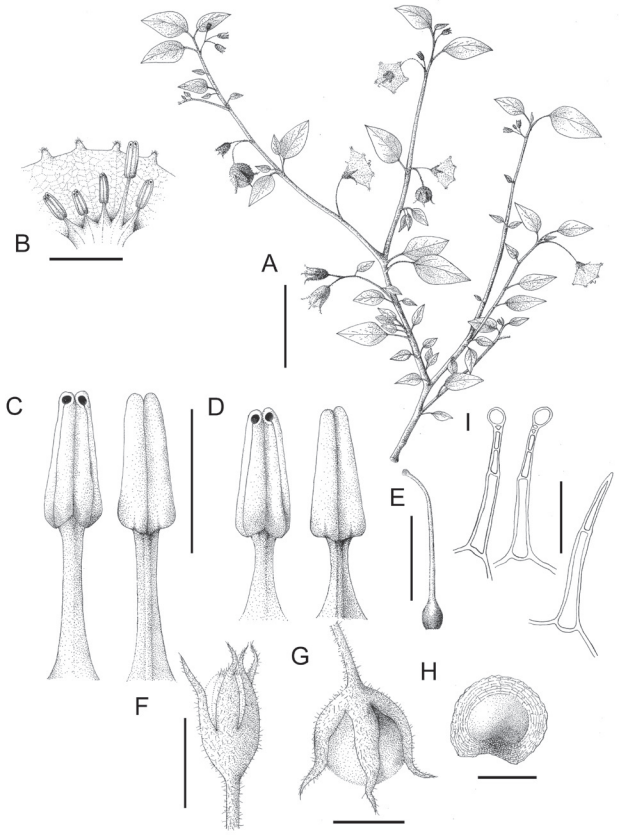


**Figure 1.** *Solanum evolvuloides* Giacomin & Stehmann. **A** Habit **B** Corolla cross section showing stamens **C** Larger stamen in ventral and dorsal view **D** Smaller stamens in ventral and dorsal view **E** Gynoecium **F** Young bud **G** Fruit **H** Seed **I** Detail of the hairs of stems, peduncles and calyces (glandular) and leaves (eglandular). All from *Mattos-Silva s.n.* (CEPEC-15698). Scale bars A= 3 cm; B, C, D, E, F and G = 5 mm; H = 2 mm ; I = 0.2 mm.

cylindrical, glabrous, curved near apex, closely appressed to the larger stamen; stigma capitate. Fruits 0.8–1.5 cm in diameter, globose berries, greenish white when immature, translucent at maturity, drying light-brown to blackish, glabrous, the mesocarp watery and held under pressure, dehiscing explosively at maturity, normally between two calyx lobes**.** Seeds 10–25 per fruit, 2.5–3.6 × 1.8–2.9 mm, flattened, reniform, with a small hollow where connected to the placenta, the margin flattened, forming a winged projection, the seed surface with raised projections and grooves parallel to margin, giving a netlike impression.

**Distribution.** This species is known only from the southeastern part of Bahia state (Fig. 3), Brazil, occurring in the transition zone between deciduous forests and xeric formations of shrubby Caatinga (as defined by Velloso et al. 2002).

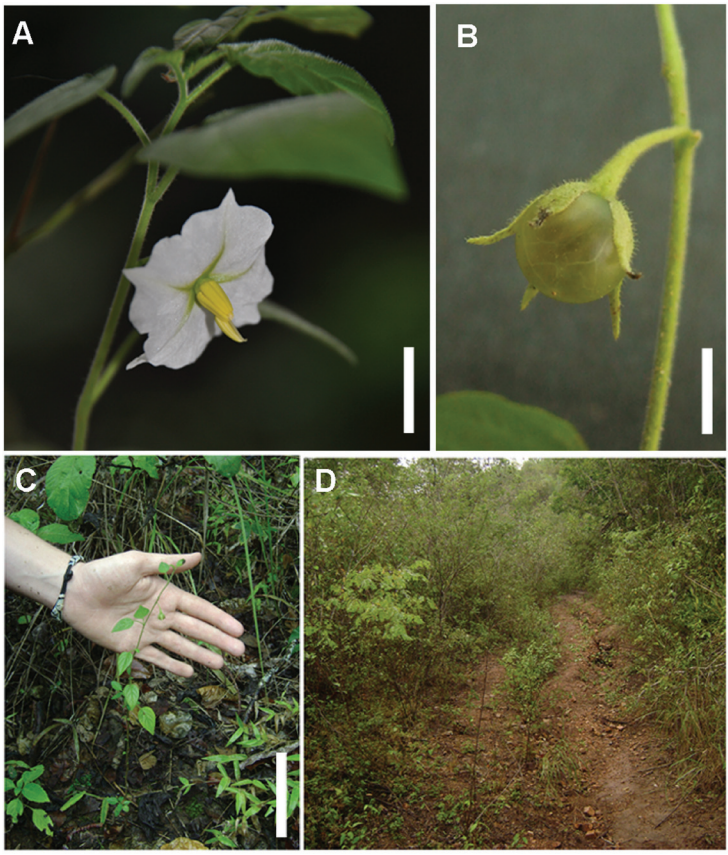


**Figure 2.** *Solanum evolvuloides* Giacomin & Stehmann. **A** Flower, opened during the morning in a cultivated seedling **B** Fruit, with a semi-transparent exocarp **C** Habit **D** Habitat in a shrubby caatinga formation. Scale bars A= 1.5 cm, B= 1 cm; C = 10 cm. All from Giacomin 974 (BHCB; type collection).

**Ecology.** *Solanum evolvuloides* was recently recollected by the first author in the municipality of Jequié in a typical shrubby Caatinga formation, that is associated in this region with large granitic outcrops. The occurrence on the banks of the Rio de Contas near the city of Itacaré [*Jardim, J.G. 1843* (CEPEC)] might be an occasional case of water dispersal by the river, which arises in a xeric environment near the center of the state in the Caatinga biome. Despite having been found in environments with marked seasonality, the species is apparently not annual, as evidenced by the woody stem bases.

**Etymology.** The name *Solanum evolvuloides* evokes the strong resemblance of this species to a sympatric species of the genus *Evolvulus* (Convolvulaceae).

**Phenology.** Flowering and fruiting material has been collected between February and August, with a flowering peak from February to May; fruiting specimens were collected from June to August. Under cultivation, flowers were observed to open only

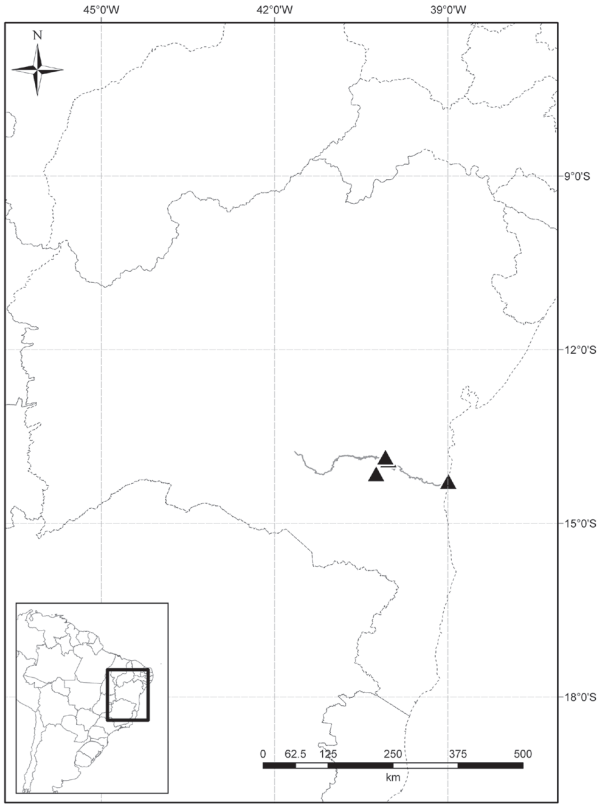


**Figure 3.** Known distribution of *S. evolvuloides* Giacomin & Stehmann (triangles) along Rio de Contas (in grey) in the state of Bahia, Brazil.

in the morning, closing during the evening. Observations of the same flower during consecutive days confirmed this pattern.

**Preliminary conservation status.** Endangered (EN) B1 a,b (i,ii,iii,iv). *Solanum evolvuloides* is known from only two localities, where the landscape has been strongly modified in the last decades due to the expansion of urban centers and extensive farming. The region has been focus of several surveys undertaken by the CEPEC group, in association with the New York Botanical Garden; despite this, only a few collections of this species have been made. Although one collection was made in a very disturbed area (*Jardim 1843*), the most recent collection is from a well-preserved forest fragment, and the species was not found in surrounding areas. There are no collections from within conservation units.

**Specimens examined (Paratypes).** BRAZIL. Bahia: Mun. Itacaré. Fazenda Monte Alegre, Ca. de 1 km a leste na rodovia para Itacaré. Margem do Rio de Contas, 10

August 1998 (fl, fr), J.G. Jardim 1843 (CEPEC); Mun. Jequié. Rodovia Ipiaú/Jequié, 12 May 1969 (fl, fr), J.A. Jesus 367 (CEPEC); Mun. Jequié. Km 7 da estrada Jequié/Ipiaú, Caatinga, 10 February 1983 (bs), A.M. Carvalho, 1591 (CEPEC); Mun. Jequié, Procedente do Distrito de Cachoeirinhas, caatinga arbustiva em topo de morro, com lajeados graníticos, 299 m, 13°54'14.4"S, 40°01'46.8"W, floresceu em cultivo no Jardim Botânico da Fundação Zoo-Botânica de Belo Horizonte, 23 September 2009 (fl), *L.L. Giacomin 974B* (BHCB, NY); Mun. Manoel Vitorino. Rod. Man. Vitorino / Caatingal. Km 4. região de Caatinga. 16 February 1979 (fl, fr), L.A. Mattos Silva s.n. (CEPEC [15698]).

**Discussion.** The species is similar to *S. turneroides* Chodat and they are the only species within the section presenting strong heterandry, with one stamen with a filament much longer than the other four. Sometimes *S. parcistrigosum* Bitter and *S. hoffmannseggii* Sendtner, species that also resemble *S. evolvuloides,* are weakly heterandrous but they both have smaller flowers (corolla with < 1.5 cm in diameter) and stamens, and can be easily distinguished from *Solanum evolvuloides* by the glandular indument observed in the calyx and stems of the latter species. This character can be also used to separate *S. evolvuloides* from *S. turneroides.* These two species are also not sympatric, in Brazil *S. turneroides* is found only in the states of Mato Grosso do Sul and São Paulo, whereas *S. evolvuloides* occurs only in Bahia. *Solanum turneroides* has an indument composed of unbranched eglandular hairs mainly with one-celled appressed hairs on the calyces, leaves and stems, associated with two-celled hairs that are typically geniculate (bent at a 90° angle) between the first and second cell. It is also a more robust shrub with chartaceous leaves, in contrast to the more membranaceous leaves of *S. evolvuloides*.

Within the section, glandular hairs are commonly found on the leaves of *S. adscendens* Sendtner but in this species, the hairs are much smaller (up to 0.1 mm, barely visible in dried material) than those of *S. evolvuloides*, have glands composed of more than one cell, and are associated with several erect eglandular hairs. The hairs of *S. evolvuloides,* perhaps the most distinctive characteristic of the species, are up to 0.5 mm long, are stalked, have unicellular glands, and are not commonly found on the leaves.

The heterandry found in *S. evolvuloides* is not a common feature within *Solanum*, and its evolution had been focus of recent studies, using morphological or molecular data (Lester et al. 1999, Bohs et al. 2007). Both cited works conclude that this character evolved several times independently within the genus. Within the Brevantherum clade (*sensu* Weese and Bohs 2007), only the two species of sect. *Gonatotrichum* cited above are known to be strongly heterandrous. The species do not present strong enantiostyly, but in both cases a deflection on the style apex is observed (see Fig. 2A), that might function to receive pollen from a bee's abdomen, as pointed out in other studies of heterandrous and enantiostylous *Solanum* species (e.g. Vallejo-Marín 2009).

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## References

Bitter G (1912) Solana nova vel minus cognita. III. Repertorium Speciarum Novarum Regni Vegetabilis 11: 202–237. doi: 10.1002/fedr.19120110917

Bohs L, Weese T, Myers N, Lefgren V, Thomas N, Van Wagenen, A, Stern S (2007) Zygomorphy and heteranthery in *Solanum* in a phylogenetic context. Acta Horticulturae 745: 201–223.

Dunal M-F (1852) Solanaceae. In: Candolle AP (Ed) Prodromus systematis naturalis regni vegetabilis. Victoris Masson, Paris, 1– 690.

D'Arcy WG (1991) The Solanaceae since 1976, with a review of its biogeography. In: Hawkes JG, Lester RN, Nee M, Estrada N (Eds) Solanaceae III: taxonomy, chemistry, evolution. Royal Botanical Gardens Kew, London, 75–137.

Frodin DG (2004) History and concepts of big plant genera. Taxon 53: 753–776. doi: 10.2307/4135449

Hunziker AT (2001) The genera of Solanaceae. Gantner Verlag, Ruggell.

IUCN Standards and Petitions Subcommittee (2010) Guidelines for Using the IUCN Red List Categories and Criteria. Version 8.1. Prepared by the Standards and Petitions Subcommittee in March 2010 (Available at http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf).

Knapp S, Bohs L, Nee M, Spooner DM (2004) Solanaceae – a model for linking genomics with biodiversity. Comparative and Functional Genomics 5: 285–291. doi: 10.1002/cfg.393

Lester RNFrancisco-Ortega J, Al-Ani M (1999) Convergent evolution of heterandry (unequal stamens) in *Solanum,* proved by spermoderm SEM. In: Nee M, Symon DE, Lester RN, Jessop JP (Eds) Solanaceae IV: Advances in Biology & Utilization. Royal Botanic Gardens Kew, London, 51–69.

Nee M (1989) Notes on *Solanum* sect. *Gonatotrichum*. Solanaceae Newsletter 3: 80–82.

Seithe A (1962) Die Haararten der Gattung *Solanum* L. und ihre taxonomische Verwertung. Botanische Jahrbücher 81: 261–336.

Stern S, Bohs L (2009) Two new species of Solanum from Ecuador and new combinations in *Solanum* section *Pachyphylla* (Solanaceae). Journal of the Botanical Research Institute of Texas 3: 503 – 510.

Vallejo-Marín M, Manson JS, Thomso JD, Barret SCH (2009) Division of labour within flowers: heteranthery, a floral strategy to reconcile contrasting pollen fates. Journal of Evolutionary Biology 22: 828–839. doi: 10.1111/j.1420-9101.2009.01693.x

Velloso AL, Sampaio EVS, Pareyn FGC (2002) Ecorregiões propostas para o Bioma Caatinga. Associação Plantas do Nordeste; Instituto de Conservação Ambiental; The Nature Conservancy do Brasil, Recife.

Weese T, Bohs L (2007) A three-gene phylogeny of the genus *Solanum* (Solanaceae). Systematic Botany 32: 445– 463. doi: 10.1600/036364407781179671

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# Four new species of Sapindaceae from the Guianas

Pedro Acevedo-Rodríguez

*Department of Botany, MRC-166 Smithsonian Institution, P.O. Box 37012, Washington D.C. 20013-7012, USA*

Corresponding author: *Pedro Acevedo-Rodríguez* (Acevedop@si.edu)

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## Abstract

Four new species of Sapindaceae from the Guianas, South America, are described, illustrated and contrasted with their putative, relatives: *Matayba ayangannensis* Acev.-Rodr. a small shrub from Mt. Ayanganna, Guyana; and *Paullinia degranvillei* Acev.-Rodr., *Paullinia oldemanii* Acev.-Rodr., and *Paullinia prevostiana* Acev.-Rodr., three species of lianas from French Guiana.

## Keywords

Guyana, French Guiana, *Matayba ayangannensis, Paullinia degranvillei, Paullinia oldemanii, Paullinia prevostiana,* Sapindaceae, South America

## Introduction

While working on a treatment of Sapindaceae for the Flora of the Guianas (Acevedo-Rodríguez in prep.) four new species were discovered, one in *Matayba*, and three in *Paullinia*. In the Neotropics, Sapindaceae is a ubiquitous plant family with 37 genera and about 800 species. It is characterized by a woody habit (either trees, shrubs or lianas), compound alternate leaves, and flowers with petals usually bearing petaloid appendages on the adaxial surface. Fruit type and morphology are rather variable and often the basis for generic delimitation. *Matayba* is a Neotropical genus with about 50 species of trees or shrubs, 11 of which are found in the Guianas. *Paullinia*, also restricted to the Neotropics (except for *P. pinnata,* which is found also in Africa and Madagascar), has about 200 species of lianas or climbing shrubs. *Paullinia* is the largest genus of Sapindaceae in the Guianas, with 39 species occurring there.

## Taxonomic treatment

***Matayba ayangannensis* Acev.-Rodr., sp. nov.**
urn:lsid:ipni.org:names:77115892-1
http://species-id.net/wiki/Matayba_ayangannensis
Fig. 1A–I

*Frutex 2.5 metralis; foliis 4–6 foliolatis; foliolis alternis vel sub oppositus, discolores, ellipticus, apice rotundatis retusisque; calyce tomentelli, petalis obovatis.*

**Type.** Guyana. Cuyuni-Mazaruni. Mt. Ayanganna, S.S. Tillet, C.L. Tillet, & R. Boyan 45080 (holotype: NY!; isotypes: MO!, US!).

**Description.** Shrub to 2.5 m tall. Stems glabrous, striate. Leaves paripinnate; petiole plus rachis 2–6.5 cm long, slightly flattened adaxially, striate, puberulent; petiolules ca. 5 mm long, pulvinate at base; leaflets (4) 6, 2.5–4.5 × 1.2–2.3 cm, opposite or sub-opposite, obovate, oblanceolate or nearly elliptic, rigidly coriaceous, brittle, discolorous (abaxial surface drying brownish), adaxially glabrous, abaxially puberulent, especially along midvein, the base obtuse, symmetrical, the apex emarginate or less often rounded, the margins entire, slightly revolute; abaxially the midvein prominent, secondary and tertiary veins inconspicuous, reticulate. Thyrses 8–18 cm long, axillary, on distal portion of branches, paniculate, with ferruginous-pubescent and slightly angled axes. Flowers in simple dichasia; pedicels ca. 2 mm long, pubescent. Calyx brownish yellow, ferruginous-pubescent, ca. 1 mm long, the lobes 0.5–0.7 mm long, ovate; petals ca. 2 mm long, yellowish white, obovate, emarginate at apex, lanose mostly along margins; appendages 2, ca. 1 mm long, sericeous-tomentose, supra basal; disc glabrous, pulvinate; stamens 2–2.5 mm long, the filaments lanose on lower half; ovary tomentulose, the style subcapitate. Capsules not known.

**Distribution and ecology.** Known only from the type collection in Guyana, in low forest.

**Discussion.** *Matayba ayangannensis* looks vegetatively similar to *M. yutajensis* Steyerm., as both species are shrubs and have leaflets with retuse apex and reticulate venation; however, *M. ayangannensis* differs from the latter by its leaves with (4) 6, discolorous, brittle leaflets that are 2.5–4.5 cm long (vs. 2(4), concolorous, coriaceous, 10–18 cm long), and by its ferruginous-pubescent calyx, ca. 1 mm long (vs. glabrous or sparsely strigose at base and ca. 3.5 mm long).

**Etymology.** The epithet refers to Mt. Ayanganna where the type collection was made.

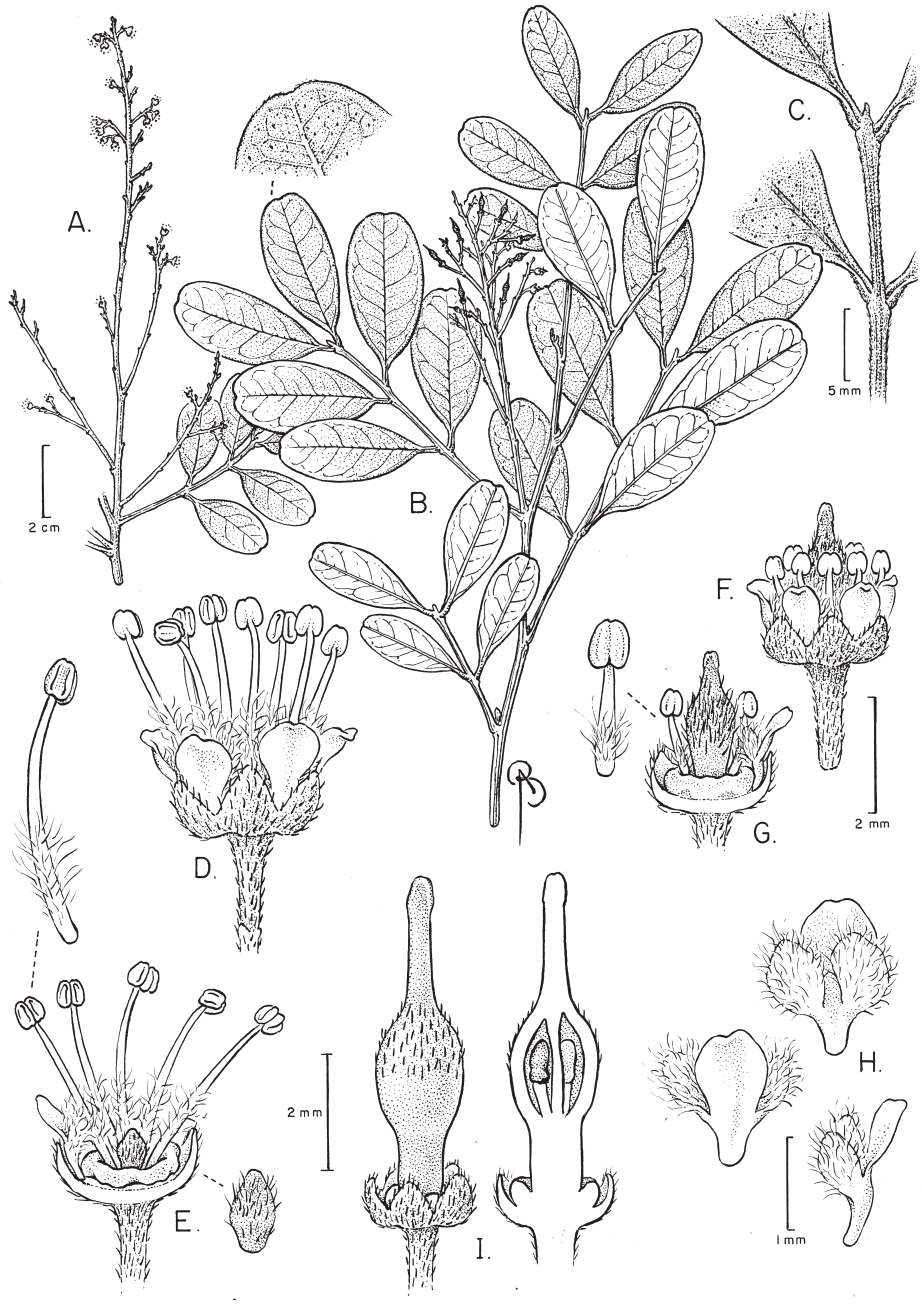


**Figure 1.** *Matayba ayangannensis* **A** Branch with staminate flowers **B** Branch with pistillate flowers **C** Distal portion of leaf rachis showing distal process and bases of 4 leaflets **D** Staminate flower **E** Staminate flower with part of perianth removed to show nectary disc, stamens and pistillode; detail of pistillode **F** Pistillate flower **G** Pistillate flower with part of perianth removed to show nectary disc and gynoecium; detail of staminode **H** Abaxial, adaxial and lateral views of petal with appendages **I** Pistillate flower with partly developed gynoecium, l. s. of same. All from Tillet 45080 (NY).

***Paullinia degranvillei* Acev.-Rodr., sp. nov.**
urn:lsid:ipni.org:names:77115893-1
http://species-id.net/wiki/Paullinia_degranvillei
Fig. 2

*A Paullinia obovata (Ruiz & Pav.) Pers. folioliis nervo reticulatis e fructo pyriformes diversa.*

**Type.** French Guiana. Crique Caiman, rive gauche de l' Oyapock à environ 70 km SW St. Georges, de Granville T-1065 (holotype: CAY!; isotypes: CAY!, P, US!).

**Description.** Liana to 30 m long. Stems terete, lenticellate, ferruginous, minutely sericeous-pubescent; cross section of stem with a single vascular cylinder. Stipules ca. 0.5 mm long, triangular, early deciduous. Leaves pinnately 5-foliolate; petioles (1) 7–9 cm long; unwinged, adaxially furrowed, sericeous-pubescent to glabrous; rachis 2–8 cm long, narrowly winged or margined, sericeous-pubescent to glabrous; petiolules of distal and lateral leaflets 2–2.5 cm long, glabrous; leaflets (3.5) 12–22 × (2.7) 5.5–8 cm, elliptic, coriaceous, glabrous, the base acute or obtuse on lateral and basal leaflets, attenuate on distal leaflet, the apex obtusely acuminate to caudate, glandular at the very tip, the margins crenate or remotely glandular-dentate, revolute; venation prominent abaxially; tertiary venation reticulate. Thyrses 3–23 cm long, axillary, solitary, racemiform, with sericeous-pubescent axes; cincinni sessile, few-flowered. Flowers unknown (remnant sepals sericeous). Capsule 4–5 cm long, woody, pyriform, unwinged, reddish, long-stipitate (5–8 mm long), glabrous, pericarp ca. 4 mm thick, endocarp sparsely pubescent or glabrous. Seed unknown.

**Distribution and ecology.** Known only from French Guiana, from submontane forest.

**Additional specimen examined.** French Guiana**.** Monts Atachi Bacca, 780 m elev., de Granville et al. 10833 (B, CAY, US).

**Discussion.** *Paullinia degranvillei* seems to be closely related to *Paullinia obovata* (Ruiz & Pav.) Pers. as they both have large, unwinged capsules with a thick mesocarp. *Paullinia degranvillei* differs from *P. obovata* by it leaflets with tertiary reticulate venation (vs. clathrate) and by its pyriform fruits (vs. obovoid).

**Etymology.** The specific epithet honors Dr. Jean-Jacques de Granville, who collected the type of this new species.


**Figure 2.** *Paullinia degranvillei*. Photo of the holotype.

***Paullinia oldemanii* Acev.-Rodr., sp. nov.**
urn:lsid:ipni.org:names:77115894-1
http://species-id.net/wiki/Paullinia_oldemanii
Fig. 3A–J

*A Paullinia venosa* Radlk. *foliis menores, foliis rachides alatis et foliolis distalis obovatis diversa.*

**Type.** French Guiana. Fleuve Oyapock, 300 m après le camp saut Moutouci, Oldeman B-3223 (holotype: US; isotype: CAY).

**Description.** Liana to 10 m long. Stems terete, minutely sericeous-pubescent, lenticellate; cross section with a single vascular cylinder. Stipules ca. 1mm long, deltate, early deciduous. Leaves 5-pinnate foliolate; petioles 1–5 cm long, unwinged, glabrous; rachis 1–1.8 cm long, narrowly winged or margined, glabrous; leaflets 6–9.5 × 2–3.5 cm, chartaceous, elliptic, oblong, or rarely lanceolate, glabrous except for the minute hairy domatia in the secondary vein axils, distal leaflet obovate, the base decurrent on distal leaflet, obtuse on laterals, and obtuse to truncate on proximal ones, the apex obtusely acuminate to nearly caudate, margins sinuate, the lateral and proximal leaflets with a glandular tooth on both margins near the base; tertiary venation finely reticulate. Thyrses 7–13 cm long, axillary, racemiform, solitary, the axes ferruginous-tomentulose; cincinni sessile, few-flowered; bracts and bracteoles minute, deltate. Pedicels 1.5–2 mm long, articulate near the middle, ferruginous-tomentulose. Calyx sparsely appressed-pubescent, sepals 5, concave, with ciliate-glandular margins, the outer ones ca. 1.5 mm long, ovate to rounded, the inner ones 3–4 mm long; petals ca. 4 mm long, oblong, rounded at apex, shortly clawed at base, adaxially papillate; appendages as long as the petals, crest of posterior appendages with 2 corniform projections at apex, lateral ones with 1 corniform projection, these ca. 1.7 mm long; nectary with 2 deltate, pubescent lobes ca. 1 mm tall; filaments 2–4 mm long, of unequal lengths, pubescent on lower half; anthers ca. 1 mm long, ellipsoid; gynoecium ferruginous-tomentulose, clavate, with three stigmatic branches. Capsule (immature) unwinged, long-stipitate, smooth, nearly globose.

**Distribution and ecology.** Known from French Guiana and Brazil (Amazonas), in riverside and moist forests.

**Additional specimens examined.** French Guiana**.** Oyapok River, Oldeman B-3418 (MO), Saut Kouamantapéré, Oldeman T-662 (CAY); Saut Tainoua, riverside forest, de Granville 387 (CAY, MO, US). Brazil. Amazonas; ca. 4 kn NW of Balbina dam, Thomas et al. 5354 (NY).

**Discussion.** *Paullinia oldemanii* seems to be closely related to *P. venosa* Radlk. as they share similar vegetative and fruit morphologies. *Paullinia oldemanii* however differs from *P. venosa* by its abaxially puberulent leaflets 1.7–7 cm long (vs. glabrous and 3.5–17 cm long), distal leaflets obovate (vs. oblong or lanceolate), leaf rachis narrowly winged or margined (vs. terete, unwinged) and its calyx of 5 sepals (vs. 4 sepals).

**Etymology.** The specific epithet honors Professor Dr. R.A. Oldeman, collector of the type specimen.

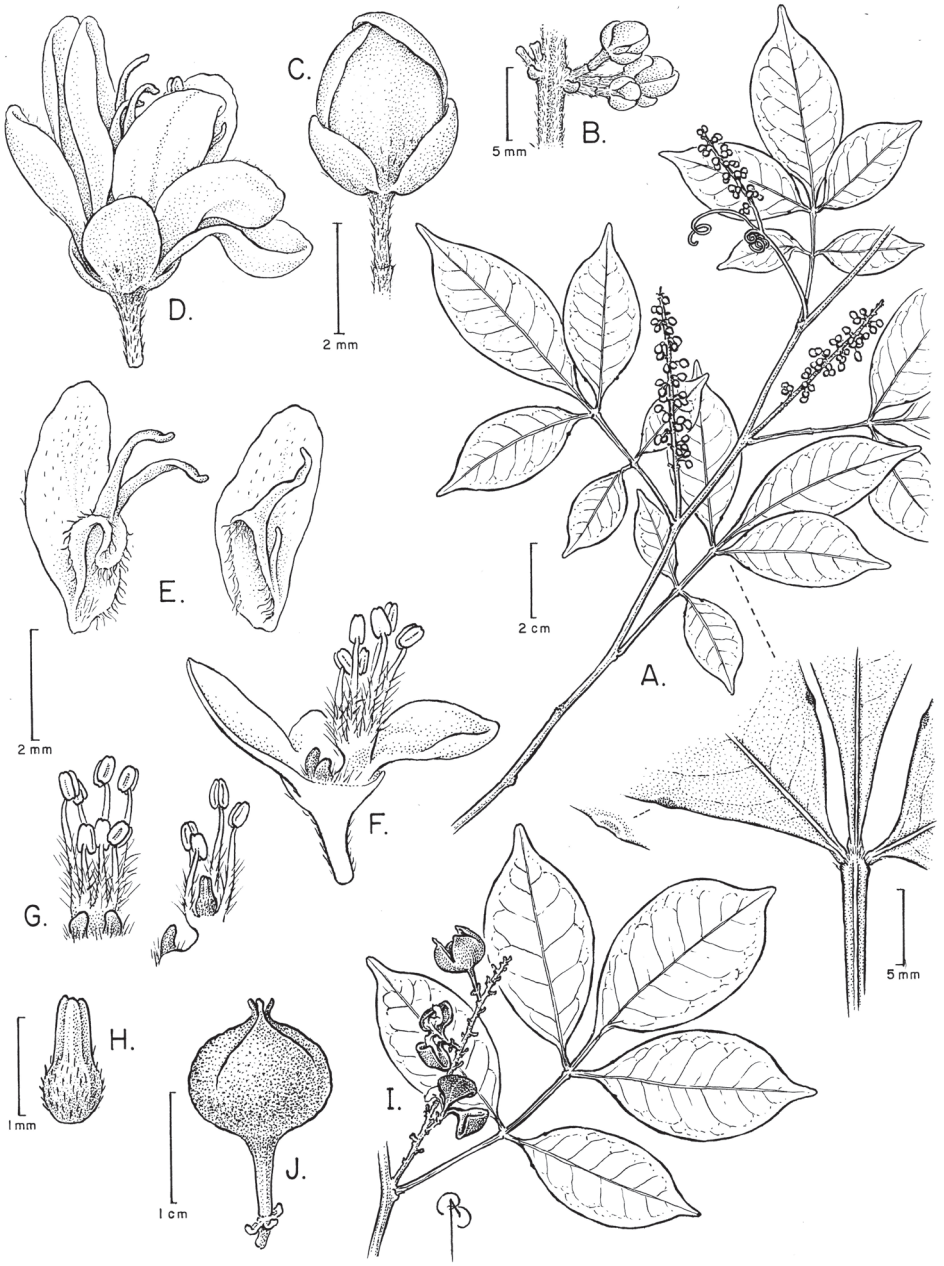


**Figure 3.** *Paullinia oldemanii* **A** Flowering branch, with detail of distal portion of leaf, showing glandular teeth near the base of lateral leaflets **B** Cincinnus **C** Flower bud **D** Staminate flower, lateral view **E** Posterior and lateral petals with adnate appendages **F** Staminate flower with part of perianth removed, showing nectary lobes and stamens **G** Stamens and nectary lobes, anterior and lateral views; H Pistillode **I** Fruiting branch **J** Fruit. **A-H** from Oldeman B-3223 (US),; **I-J** from Thomas et al. 5354 (NY).

***Paullinia prevostiana*** **Acev.-Rodr., sp. nov.**
urn:lsid:ipni.org:names:77115895-1
http://species-id.net/wiki/Paullinia_prevostiana
Fig. 4A–I

*A paullinia tenuifolia Standl. foliis magni, hispidulosi; rachides tereti, hispidulosi;sepaliis exteriores minoriis diversa.*

**Type.** French Guiana. Piste de St. Elie, primary forest, 5 17N; 53 3W, 6 Nov 1999, Prévost 3741 (holotype: US!; isotype: CAY!).

**Description.** Slender, woody vine 15–30 m long. Stems terete, striate, hispidulous, becoming glabrous, cylindrical, and lenticellate with age, not producing milky sap; cross section of stem with a single vascular cylinder. Stipules 5–12 mm long, subulate or linear, hispidulous. Leaves pinnately 5-foliolate; petiole and rachis unwinged, hispid; petioles 3.5–10 cm long; rachis 3–6 cm long; leaflets 5–18 × 3.5–9 cm, ovate, elliptic, oblong-elliptic, or obovate, chartaceous, upper surface glabrous except for the pubescent to tomentose mid and secondary veins, lower surface sparsely pilose, especially on veins, the base obtuse to rounded on lateral leaflets, cuneate or acuminate on distal leaflets, the apex acuminate to long acuminate, the margins remotely dentate with glandular teeth, ciliate; tertiary venation clathrate. Thyrses ca. 10 cm long, without tendrils, cauliflorous, fasciculate, with hispidulous axes; cincinni sessile, opposite, 4- to 5-flowered. Pedicels 4.5–6 mm long, articulate near the base. Calyx light green, appressed-pubescent, sepals 5, concave, rounded at apex, the outer sepals 1.5–2 mm long, ovate, the inner sepals 3–3.5 mm long; petals ca. 5 mm long, white, oblong, slightly asymmetrical, shortly clawed at base, rounded at apex, papillate on both surfaces; appendages ca. 4 mm long, crest of posterior appendages with 2 corniform, fleshy projections at apex, the ligule sub-lanose; disc 4-lobed, glabrous, the posterior lobes ovate, dorsally flattened, the lateral lobes similar, but smaller than the posterior ones; torus hispidulous; filaments 4–7 mm long, of unequal lengths, flattened, densely lanose; anthers ca. 0.7 mm long. Capsules ca. 15 mm long, fusiform, sometimes keeled or narrowly winged along dorsal side of pericarp, ferruginous, short-pilose, stipitate at base; endocarp wooly-pubescent. Seed obovoid, dark brown, glabrous, with a sarcotesta on lower ⅓, the sarcotesta dorsally notched.

**Distribution and ecology.** Known only from Guyana and French Guiana, in dense, humid forests, to be expected in Suriname.

**Additional specimens studied.** Guyana: Bartica. Linder 152 (NY). French Guiana: Camopi River, summit of Alikéné Mt., Oldeman & Sastre 301 (MO, US-2). Crique Grégoire, Deward 129 (CAY), savanna, Girard 189 (CAY). Noragues Field Station, Petit Plateau, ca. 200 m elev., Mori et al. 25555 (CAY, NY, US), forest at base of inselberg, Larpin 1035 (CAY-2, US). Région de Cayenne. south of Mt des Chevaux, Cremers 5310 (CAY).

**Discussion.** *Paullinia prevostiana* seems to be closely related to *P. tenuifolia* Standl. as they share the following characters: Leaves pinnately 5-foliolate, terete stems with a single vascular cylinder; and cauliflorous inflorescence. *Paullinia prevostiana* differs


**Figure 4.** *Paullinia prevostiana* **A** Branch with leaf and tendrils, detail of marginal tooth, and detail of petiole pubescence **B** Inflorescence and detail of cincinnus **C** Flower bud **D** Staminate flower, lateral view **E** Lateral petal with appendage **F** Staminate flower with perianth removed to show nectary glands and stamens **G** Staminate flower with perianth and few stamens removed to show nectary glands and pistillode, detail of pistillode **H** Larger leaf **I** Capsule, un-dehisced and dehisced showing seed, basal sarcotesta, and funiculus. **A-G** from Prevost 3741 (US); **H-I** from Mori et al. 25555 (NY).

however by its hispid leaves (vs. puberulent or glabrous), leaflets 5–18 cm long (vs. 3.5–11 cm) and its outer sepals much shorter than the inner ones (vs. nearly as long as the inner ones).

**Etymology.** The specific epithet honors Dr. Marie Françoise Prévost, plant ecologist at IRD who has collected numerous plant specimens from French Guiana, including the type of this species.

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I thank Bobbi Angell for illustrating the new species, Mark T. Strong for proofreading the manuscript, Ingrid Pol-Yin for photographing the type of *Paullinia degranvillei*, Douglas C. Daly and Genise Somner for their valuable comments, and the curators of CAY, K, MO, and NY for making their collections available for this study.

## References

Acevedo-Rodríguez (in prep.) Sapindaceae. Flora of the Guianas.

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RESEARCH ARTICLE

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# Resurrection of the genus *Staphisagria* J. Hill, sister to all the other Delphinieae (Ranunculaceae)

Florian Jabbour, Susanne S. Renner

*Systematic Botany and Mycology, University of Munich (LMU), Menzinger-Str. 67, 80638 Munich, Germany*

Corresponding author: *Florian Jabbour* (jabbour@bio.lmu.de)

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## Abstract

Molecular sequence data show that the three species of *Delphinium* subg. *Staphisagria* (J. Hill) Peterm. form the sister clade to *Aconitum* L., *Aconitella* Spach, *Consolida* (DC.) S.F. Gray, and all remaining species of *Delphinium* L. To account for this finding we resurrect *Staphisagria* J. Hill (1756). Names in *Staphisagria* are available for two of the species. We here make the required new combination for the third species, *Staphisagria picta* (Willd.) F. Jabbour, provide a key to the species, and illustrate one of them.

## Keywords

*Aconitum, Delphinium*, Mediterranean region, molecular phylogeny, nomenclature, *Staphisagria*

## Introduction

*Delphinium staphisagria* L., *D. requienii* DC., and *D. pictum* Willd. are annual or biennial species of the tribe Delphinieae (Ranunculaceae) that occur in the Mediterranean basin (see 'Nomenclature and key to the species' section for a more detailed description of their distribution areas). They are considered endangered (Olivier et al. 1995, Fraga et al. 2004) because of changing land use patterns and bottlenecks caused by irregular demography (Orellana et al. 2009a). All three species are protected in France (Olivier et al. 1995).

Linnaeus knew only *D. staphisagria,* which he described as *Delphinium nectariis diphyllis, foliis palmatis lobis integris*. With the recognition in the early 19th century that there were two additional species resembling *D. staphisagria*, Spach (1839) grouped all three

in the genus *Staphisagria* established by John Hill in 1756 for Linnaeus's *D. staphisagria.* Spach's ranking of the three species as a separate genus, distinct from *Delphinium*, however, gained few followers and no modern treatment appears to have accepted *Staphisagria*.

Molecular phylogenetic studies of the Delphinieae recently revealed that the three species of *Staphisagria sensu* Spach are the sister clade to all other Delphinieae (Maximum Likelihood bootstrap support: 90%), a group of 650-700 species ranging from Eurasia into North America and with a few isolated species on West and East African mountains (Jabbour and Renner, unpublished data; Fig. 1). This discovery fits with several characters of the three species that are unusual in *Delphinium*. For example, *Staphisagria* species have eight chromosome pairs of staggered size (see Fig. 3 in Verlaque and Aboucaya 2001), while most *Delphinium* have a bimodal karyotype of two long and six short chromosome pairs (Gregory 1941; Kurita 1955; Blanché and Simon 1987; Yang 1996, 2001). Species of *Aconitum* subg. *Lycoctonum* (c. 50 species) and the three species of *Staphisagria* (Verlaque and Aboucaya 2001) have a similar karyotype, suggesting parallel chromosomal reconfigurations. The *Staphisagria* species also have C19 aconitine-type alkaloids (De La Fuente and Reina 1990) and *Aconitum*-like stomata and pollen (Blanché 1991). Flowers of *Staphisagria* are less zygomorphic than those of the remaining Delphinieae and their nectar spurs are only 2-7 mm long (Bosch 1997; Verlaque and Aboucaya 2001). This last trait probably reflects predominant self-fertilization, with reduced reliance on nectar-foraging bees for cross-pollination (Bosch 1997; Bosch et al. 2001).

To account for the phylogenetic relationships in the Delphinieae (Fig. 1), we here resurrect the genus *Staphisagria* and make the required new combination for a species for which Spach (1839) did not provide a legitimate name.

## Nomenclature and key to the species

***Staphisagria* J. Hill, Brit. Herbal: 44. 1756.**

**Type.** *Delphinium staphisagria* L., Sp. Pl.: 531. 1753 [original type, cited by its nomen specificum legitimum].

### Key to the species

1 Spur of the upper tepal 1/5-1/3 as long as perianth segments (Fig. 2C); seeds 5.5-7.5 mm (Fig. 2F) ..... ***S. macrosperma***

– Spur of the upper tepal at least 2/5 as long as perianth segments; seeds 3–4.5 mm..... **2**

2 Inflorescence axis, pedicels, and outside of perianth segments shortly pubescent; bracteoles inserted at the base of the pedicels..... ***S. picta***

2 Inflorescence axis, pedicels, and outside of perianth segments villose-hirsute; bracteoles inserted at some distance above the base of the pedicels... ***S. requienii***

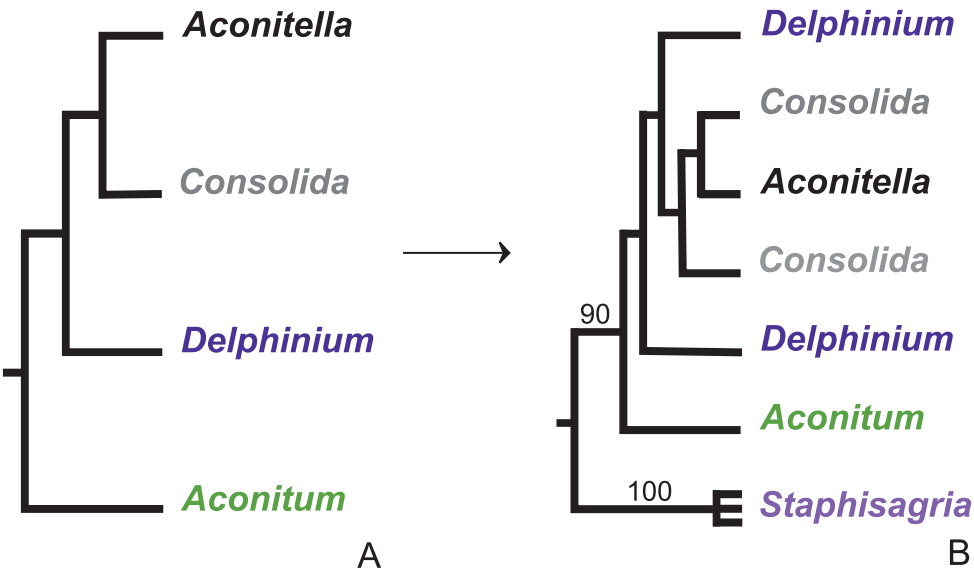


**Figure 1.** Schematic representation of the phylogenetic relationships in the Delphinieae **A** as suggested by studies anterior to the findings of Jabbour and Renner (unpublished data) and **B** as found with combined nuclear (ITS) and plastid (*trn*L intron and adjacent *trn*L-*trn*F intergenic spacer) DNA sequences (2088 aligned nucleotides) from 191 accessions representing 185 species of Delphinieae (Jabbour and Renner, unpublished data). In this study, taxon sampling covered all genera and subgenera of the tribe. Numbers above branches indicate Maximum Likelihood bootstrap supports.

***Staphisagria* ["*Staphysagria*"] *macrosperma* Spach, Hist. Nat. Vég. 7: 348. 1839.**

**Replaced name.** *Delphinium staphisagria* L., Sp. Pl.: 531. 1753. TYPE: *LINN 694/12*, Habitat in Istria, Dalmatia, Calabria, Apulia, Creta, Galloprovincia [South France]. The geographic origin of Linneaus's type cannot be narrowed down (Munz 1967, Ilarlsan 1996, Jarvis 2007).

Herbarium specimen studied: Greece: Crete, Nomos Lassithiou, ravine between Zákros and Kato Zákros, 70 m, 15 May 2002, E. Vitek 02-205 (W, GZU, M, MA).

**Comments.** Spach had to chose a new name for this Linnaean species because *S. staphisagria* would be an exact tautonym (not permitted in botanical nomenclature), and since his misspelling of Hill's genus (as *Staphysagria*) is a correctable error (variant spelling), Spach's name *S. macrosperma* is legitimate. Among the three species of the genus *Staphisagria*, *S. macrosperma* has the largest distribution. Because of its ancient use in medicine (Cristofolini and Mossetti 1998), it is found all around the Mediterranean basin (Greuter et al. 1989; Orellana et al. 2009a). It grows in rocky areas, and is adapted to nitrophilous and disturbed habitats (Orellana et al. 2009a). Figure 2 shows key morphological characteristics of *S. macrosperma*.

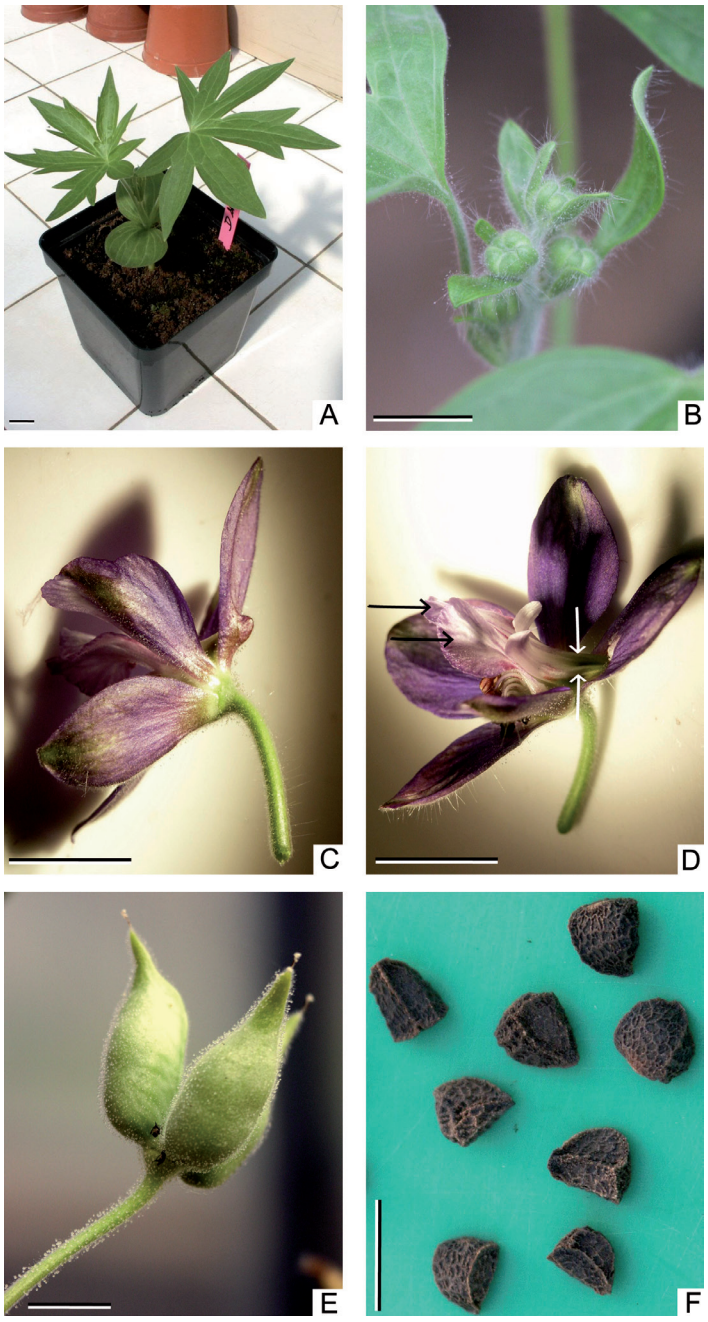


**Figure 2.** *Staphisagria macrosperma* **A** young plant with the cotyledons and two palmate leaves **B** young inflorescence with floral buds subtended by a bract and bracteoles **C** side view of a flower showing the very short spur (or bulge) on the dorsal petaloid tepal **D** three-quarter view of a flower showing four developed staminodes: two lateral (black arrows) and two spurred (white arrows). The tips of the spurs are nested within the bulge of the dorsal tepal **E** three follicles **F** Gravity-dispersed poisonous seeds (c. 6 mm in length). Scale bars: 1 cm.

***Staphisagria requienii* (DC.) Spach, Hist. Nat. Vég. 7: 350. 1839.**

**Basionym.** *Delphinium requienii* DC., Fl. Franç. (DC. & Lamarck), ed. 3. 5: 642. 1805.

Herbarium specimen studied: France: Var, Hyères, Porquerolles island, 12 Jun 1961, Gavelle s.n. (M).

**Comments.** *Staphisagria requienii* is a narrow endemic of the Mediterranean Archipelago of Hyères, Var, South of France (Verlaque et al. 1991). It grows in a variety of habitats, like crops, calcareous rocks, and degraded areas along roads (Orellana et al. 2009b).

***Staphisagria picta* (Willd.) F. Jabbour, comb. nov.**

**Basionym.** *Delphinium pictum* Willd., Enum. Pl. [Willdenow] 1: 574. 1809. SYNTYPES: Röpert, D. (Ed.) 2000- (continuously updated): Digital specimen images at the Herbarium Berolinense. Published on the Internet http://ww2.bgbm.org/herbarium/ Barcode: B -W 10324 -01 0 / ImageId: 164585) and Barcode: B -W 10324 -02 0 / ImageId: 164601) [accessed 02-Sept-11].

Herbarium specimen studied: Balearic Islands: Majorca, Puntas de Covas, top of sea cliffs, amongst limestone boulders, 100 m, April 1988, F.J. Rumsey s.n. (M).

**Comments.** The new combination is necessary because *S. brevipes* Spach (1839) is illegitimate since it included the older name *D. pictum*. *Staphisagria picta* is endemic to Corsica, Majorca, and Sardinia. Its main habitats are open grasslands covering rocky places from 150 up to 600 m above sea level (Orellana et al. 2009b)

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## References

Blanché C (1991) Revisio biosistemàtica del gènere *Delphinium* L. a la Peninsula Ibèrica i a les illes Balears. Arxius de la Secció de Ciències, Institut d'Estudis Catalans, Barcelona (1991): 1–288.

Blanché C, Simon J (1987) Données cytotaxonomiques sur les *Consolida* (DC.) S. F. Gray (Ranunculaceae) en Méditerranée occidentale. Saussurea 18: 1–10.

Bosch M (1997) Biologia de la reproducció de la tribu Delphinieae a la Mediterrània Occidental. PhD thesis. Institut d'Estudis Catalans. Arxius de les Seccions de Ciències, CXX, Secció de Ciències Biològiques.

Bosch M, Simon J, Molero J, Blanché C (2001) Breeding systems in tribe Delphinieae (Ranunculaceae) in the western Mediterranean area. Flora 196: 101–113.

Cristofolini G, Mossetti U (1998) Interpretation of plant names in a late medieval medical treatise. Taxon 47: 305–319. doi: 10.2307/1223760

De La Fuente G, Reina M (1990) Some phytochemical studies of the genera *Aconitum* L., *Delphinium* L. and *Consolida* (DC.) Gray. Collectanea Botanica (Barcelona) 19: 129–140.

Fraga P, Mascaró C, Carreras D, Garcia O, Pallicer X, Pons M, Seoane M, Truyol M (2004) Catàleg de la flora vascular de Menorca. Col·lecció Recerca N°9. Institut Menorquí d'Estudis, Menorca.

Gregory W (1941) Phylogenetic and cytological studies in the Ranunculaceae. Transactions of the American Philosophical Society, Series 2 31: 443–521.

Greuter W, Burdet H, Long G (1989) Med-Checklist, vol. 4 (Lauraceae-Rhamnaceae). Editions des Conservatoire et Jardin Botaniques de Genève, Geneva.

Hill J (1756) Genus XI. Stavesacre. *Staphisagria*. In: Osborne T, Shipton J, Hodges J (Eds) The British herbal: an history of plants and trees, natives of britain cultivated for use, or raised for beauty, 44.

Ilarslan R (1996) A revision of the genus *Delphinium* L. (Ranunculaceae) in Turkey. Turkish Journal of Botany 20: 133–161.

Jarvis C (2007) *Delphinium staphisagria*. In: Order out of chaos: Linnean plant names and their types. Linnean Society of London, in association with the Natural History Museum, London, 478.

Kurita M (1955) Cytological studies in Ranunculaceae, III. The karyotypes of several species in *Delphinium*, *Lycoctonum* and *Aconitum*. Botanical Magazine Tokyo 68: 248–251.

Munz P (1967) A synopsis of the Asian species of *Delphinium*, sensu stricto. Journal of the Arnold Arboretum 48: 249–302.

Olivier L, Galland J, Maurin H, Roux J (1995) Livre Rouge de la Flore Menacée de France. Tome I: Espèces Prioritaires. Muséum National d'Histoire Naturelle. Institut d'Ecologie et de Gestion de la Biodiversité. Service du Patrimoine Naturel. Collection Patrimoines Naturels, vol. 20, Série Patrimoine Génétique, Paris, 4.

Orellana M, López-Pujol J, Blanché C, Rovira A, Bosch M (2009a) Genetic diversity in *Delphinium staphisagria* (Ranunculaceae), a rare Mediterranean dysploid larkspur with medicinal uses. Genetica 135: 221–232. doi: 10.1007/s10709-008-9271-9

Orellana M, Blanché C, Simon J, Bosch M (2009b) Genetic diversity within and among disjunct populations of the Mediterranean Island endemic *Delphinium pictum* and *D. requienii* (Ranunculaceae). Folia Geobotanica 44: 47–63. doi: 10.1007/s12224-009-9028-y

Spach E (1839) Histoire naturelle des végétaux. Phanérogames. Tome septième. 1–538.

Verlaque R, Aboucaya A (2001) Position des *Delphinium* du sous-genre *Staphisagria* dans la tribu des Delphinieae Warm (Ranunculaceae). Bocconea 13: 189–200.

Verlaque R, Aboucaya A, Cardona A, Contandriopoulos J (1991) Quelques exemples de spéciation insulaire en Méditerranée occidentale. Botanika Chronika 10: 137–153.

Yang Q (1996) A karyotype study of 15 species in the tribe Delphinieae (Ranunculaceae) from China. Acta Phytotaxonomica Sinica 34: 39–47.

Yang Q (2001) Cytology of 12 species in *Aconitum* L. and of 18 species in *Delphinium* L. of the tribe Delphinieae (Ranunculaceae) from China. Acta Phytotaxonomica Sinica 39: 502–514.

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# *Coccinia intermedia* – a new Cucurbitaceae species from West Africa

Norbert Holstein, Susanne S. Renner

*Systematic Botany and Mycology, Menzinger Str. 67, 80638 Munich, Germany*

Corresponding author: *Norbert Holstein* (holstein@lrz.uni-muenchen.de)

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## Abstract

Nuclear and plastid sequences from two individuals of a suspected new species of *Coccinia* from West Africa were added to an available molecular phylogeny for the remaining 27 species of the genus. Phylogenetic analyses of these data indicate the new species' monophyletic status and closest relatives. Based on four fertile collections, we here describe and illustrate *Coccinia intermedia* Holstein. We also provide a key to the *Coccinia* species of West Africa and map their distributions.

## Keywords

Benin, Ivory Coast, Ghana, leaky dioecy, molecular phylogenetics, species monophyly, Togo

## Introduction

The genus *Coccinia* Wight et Arn. so far consisted of 27 species distributed mainly in Sub-Saharan Africa, with centers of diversity in East Africa and southern Africa (Holstein, ongoing monograph). Only four species were known from West Africa, including *C. longicarpa* Jongkind, *C. keayana* R. Fern., and *C. barteri* (Hook. f.) Keay, which apparently evolved during Pliocene-Pleistocene climatic oscillations (Holstein and Renner 2011). The fourth species, *C. grandis* (L.) Voigt, is much more widespread, occurring not only in Africa but also in South and South East Asia, and being naturalized on several Pacific islands, Australia, and in the Neotropics. During a study of

the evolution and biogeography of the genus (Holstein and Renner 2011), we came across a male specimen from the northeastern Ivory Coast that in its plastid sequences differed sufficiently from all other sequenced material for us to suspect it might represent a new species. We therefore provisionally labeled it *Coccinia* sp. nov. We have since found three more specimens of the new species, all of them with fruits, and two with flowers, and based on their morphology as well as additional nuclear and plastid sequences, we here describe the new species *C. intermedia*.

## Methods

We produced new sequences of the plastid *rpl*20–*rps*12 intergenic spacer (JN653687), *trn*S$^{GCU}$–*trn*G$^{UCC}$ intergenic spacer (JN653686) and the nuclear *LEAFY*-like second intron (JN653688) from the female specimen A. Akoègninou et al. 2625 (WAG0278370) of the new species, following standard procedures (Holstein and Renner 2011). We added the new sequences, named "*C. intermedia* 2", to our published matrices and carried out maximum likelihood tree searches, using the approaches described in Holstein and Renner (2011).

## Results

### Phylogenetic placement

The two *Coccinia intermedia* accessions in the plastid tree form a clade (Fig. 1) within the *barteri* clade. In the nuclear *LEAFY* phylogeny, *C. intermedia* groups with *C. barteri*, *C. heterophylla* (Hook.f.) Holstein, *C. keayana*, *C. longicarpa*, *C. mildbraedii* Gilg, and *C. racemiflora* Keraudren (Fig. 2), albeit without bootstrap support.

### Morphological description

***Coccinia intermedia* sp. nov.**
urn:lsid:ipni.org:names:77115897-1
http://species-id.net/wiki/Coccinia_intermedia

A *Coccinia longicarpa* differt calycis dentibus angustis, corolla campanulata et fructu elliptico ad oblongo. A *C. keayana* et *C. grandis* differt calycis dentibus ad corollam adpressis vel apicem versus leviter recurvatis et lamina foliorum subtus glandibus fuscis provisa. A *C. barteri* differt floribus femineis 1–3 fasciculatis non racemosis, corolla campanulata.

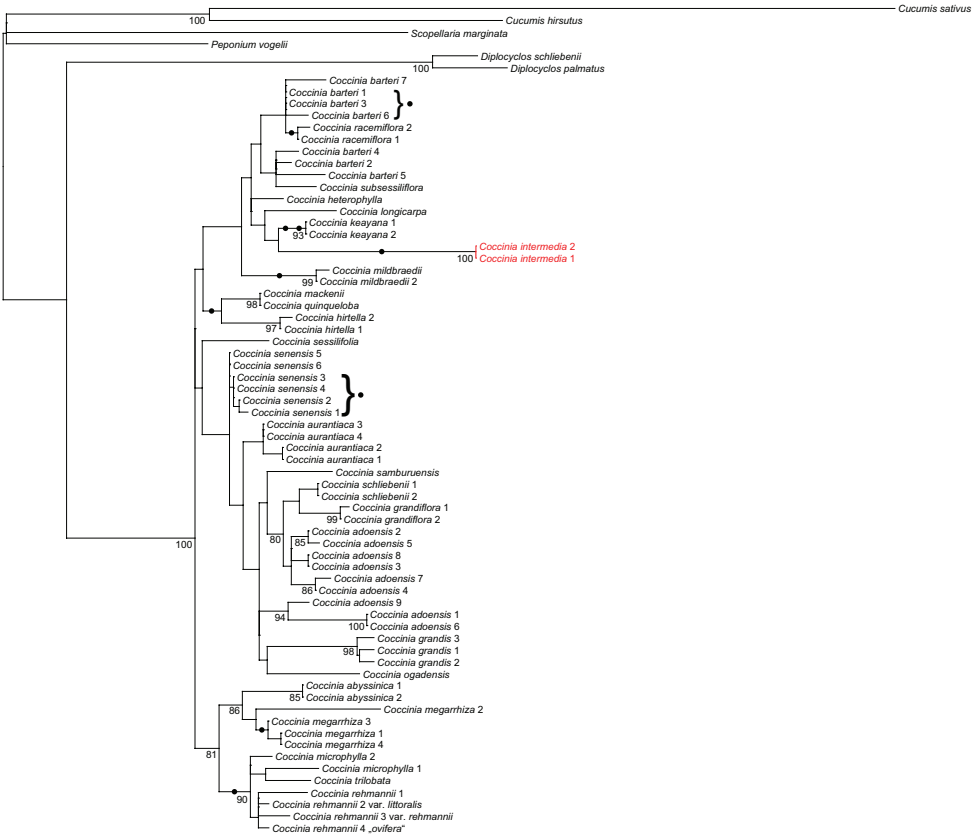


**Figure 1.** Maximum likelihood phylogeny for *Coccinia* based on plastid DNA sequences analyzed under GTR+Γ model of substitution. The tree is based on 4,551 nucleotides (140 parsimony-informative sites) from the *trn*S$^{GCU}$–*trn*G$^{UCC}$ intergenic spacer (IS), the *rpl*20–*rps*12 IS, the *ndh*F–*rpl*32 IS, *trn*L$^{UAA}$ intron, *trn*L$^{UAA}$–*trn*F$^{GAA}$ IS, and the *mat*K gene (expanded matrix from Holstein and Renner 2011). Numbers below branches represent bootstrap support ≥ 80% from 1000 replicates. Dots on branches and behind brackets refer to uniquely shared insertions or deletions. Species names follow Holstein and Renner (2011) except for the new species *C. intermedia* 1, earlier called *Coccinia* sp. nov.

**Type.** BENIN. Atakora: Natitingou, Kouaténa (Perma), 10°12.00'N; 1°30.18'E, river bed, female, fl, fr, 3 Oct 2000, A.Akoègninou et al. 3625 (Holotype: WAG0278370!; isotype: WAG0278369!).

**Description.** Perennial, diclinous climber. Shoot length unknown, but likely several meters. Shoots lignify with whitish bark and up to 1 cm diam. Fresh shoots green, glabrous, older shoots with clear to white pustules. Petioles 2.8–10.8 cm, glabrous, when older with clear to white pustules (Fig. 3a). Leaves 6–15 × 7–18 cm, shallowly to profoundly 5-lobate, more or less auriculate (Fig. 4). Upper lamina glabrous with clear to whitish pustules. Lower lamina paler than upper lamina, glabrous, often with small dark glands near the leaf base (Fig. 3a). Tendrils simple or

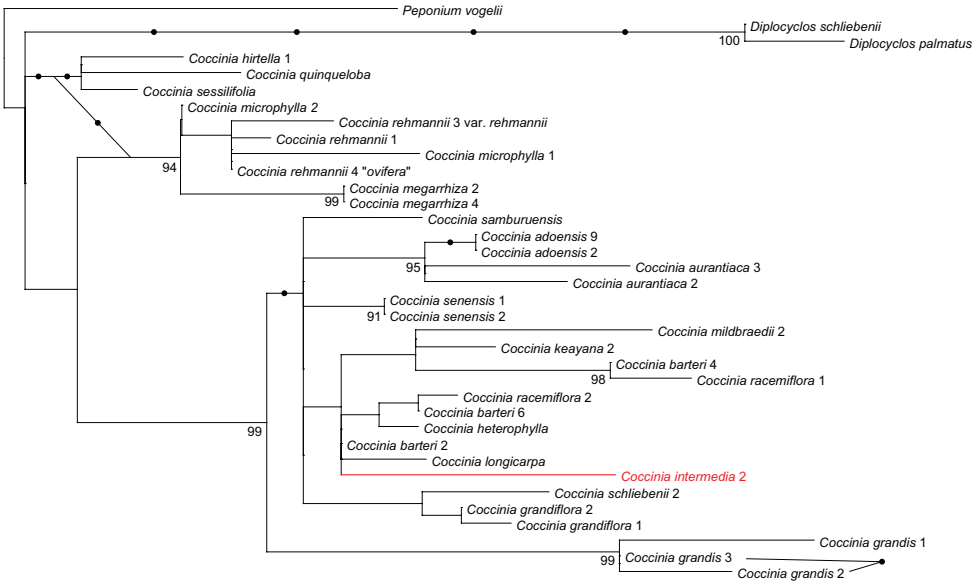


**Figure 2.** Maximum likelihood phylogeny for *Coccinia* based on nuclear DNA sequences from the *LEAFY*-like 2nd intron analyzed under the GTR+Γ model of substitution. The tree is based on 505 nucleotides (56 parsimony-informative sites). Numbers below branches represent bootstrap support ≥ 80% from 100 replicates. Dots on branches and behind brackets refer to uniquely shared insertions or deletions. Species names follow Holstein and Renner (2011) except for the new species *C. intermedia*.

bifid. Probracts up to 2.5 mm long, glabrous, apex rounded (Fig. 3a). Male flowers in few-flowered racemes (Fig. 5), likely sometimes accompanied by a single flower. Common peduncle up to 1 cm, pedicels in racemose flowers 2–4 mm, glabrous. Bracts up to 1.5 mm long, round to obovoid. Receptacle pale green, glabrous. Calyx teeth 1.5 mm long, lineal to narrow triangulate, erect with slightly recurved tips (Figs. 3–5). Corolla campanulate, 1.6 cm long, pale reddish-yellow to yellow, lobes 0.7 cm long (Fig. 5). Anthers sinuate, in a globose head (Fig. 3c). Pollen unknown. Female flowers 1–3 clustered (strongly reduced raceme; Fig. 4). Pedicels 0.6–1.2 cm, glabrous. Perianth like in males. Ovary fusiform, glabrous. Stigma and staminodes unknown. Fruit 4.5 × 2.5 cm, elliptical to oblong, smooth. Unripe green with pale green longitudinal mottling. Ripe orange?, more likely becoming red via orange ripening stage. Fruit with waxy cover. Size of mature seeds unknown (≥ 5.5 × 3.5 × 1.3 mm), symmetrical (to slightly asymmetrical), face flat (Fig. 3b).

**Distribution.** (Fig. 6). NE Ivory Coast, SE Ghana (likely also in the north), S Togo (likely also in the north), NW Benin. Based on the current collections, *Coccinia intermedia* is likely to occur in the Dahomey Gap region and the *Isoberlinia* woodlands of West Africa.

**Ecology.** Wooded grasslands (semi-humid savanna), woodlands, dry forests, and along rivers. Flowering specimens have been collected during May, August, and October, which in each site was during or shortly after the rainy season.

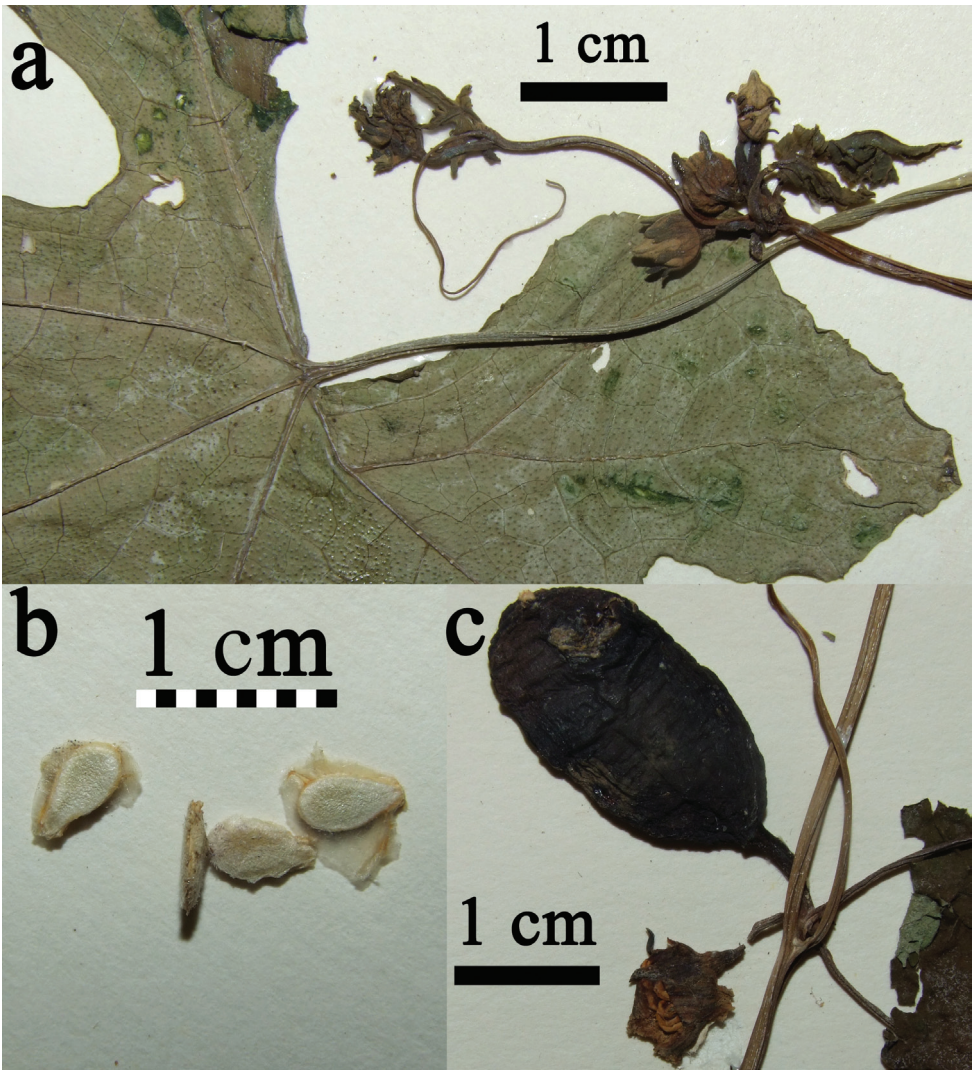


**Figure 3. a** *Coccinia intermedia* leaf basis and node with flowers **b** seeds from late, but immature fruit **c** node with young fruit and male flower bud with sinuate anthers; all from J.B.Hall & J.M.Lock GC46016 (K).

**Etymology.** The epithet refers to the species' status as the only *Coccinia* from West Africa that occurs in habitats intermediate between semi-arid and humid conditions. Morphologically, *C. intermedia* combines characters also found in the other four West African species although not in this combination.

**List of specimens examined.** Benin: Atakora, Natitingou, Kouaténa (Perma), 10°12.00'N; 1°30.18'E, river bed, female, fl, fr, 3 Oct 2000, A.Akoègninou et al. 3625 (WAG 2 sheets). Ghana: Shai Hills Game Reserve, monoecious, fl, fr, 25 May 1976, J.B.Hall & J.M.Lock GC 46016 (K 4 sheets, MO). Ivory Coast: Bouna, male, fl, 10 Aug 1967, C.Geerling & J.Bokdam 662 (MO, WAG). Togo: between Lomé and Aného, female, fr, 25 Jun 1994, L.Aké Assi 18982 (MO).


**Figure 4.** Habitus of *Coccinia intermedia* as reconstructed from J.B.Hall & J.M.Lock GC46016 (K).

## Key to West African *Coccinia* species

1 Plant glabrous. Leaves with few large pale glands between main nerves of lower lamina. Nerves on lower lamina with or without white pustules. Leaf margin dentate, in mature plants often red to brown (black when dry). Tendrils always simple. Male and female flowers 1 solitary (rarely male flowers clustered or in short-peduncled racemes). Calyx teeth spreading to reflexed, tips red to brown. Corolla campanulate, white or buff. Fruit ovoid. Plant of semi-arid habitats..... ***C. grandis***

1' Plant glabrous or with hairs, especially on adaxial petiole. Leaves with small blackish glands (often many) centered towards the leaf base or without glands on lower lamina. Tendrils simple or bifid. Male and female flowers in racemes or solitary. Corolla in yellowish tones, never white. ..... **2**

2 Plant glabrous. Leaves with small blackish glands centered towards the leaf base (Fig. 3). Nerves on lower lamina with or without white pustules. Leaf margin at maturity with colored teeth (color in living plants unknown, black when dry). Tendrils simple or bifid. Male flowers (Fig. 5) bracteate, in few-flowered racemes, female flowers 1–3 solitary/clustered (Fig. 3 and 4). Calyx teeth erect with recurved tips (Figs 3–5). Corolla campanulate. Fruit ovoid to short cylindrical. Plant of wooded grasslands (tree savanna), woodlands, or dry forests. ..... ***C. intermedia***

2' Plant glabrous or with hairs, esp. on adaxial petiole. Leaves with small blackish glands centered towards the leaf base or without glands. Nerves on lower

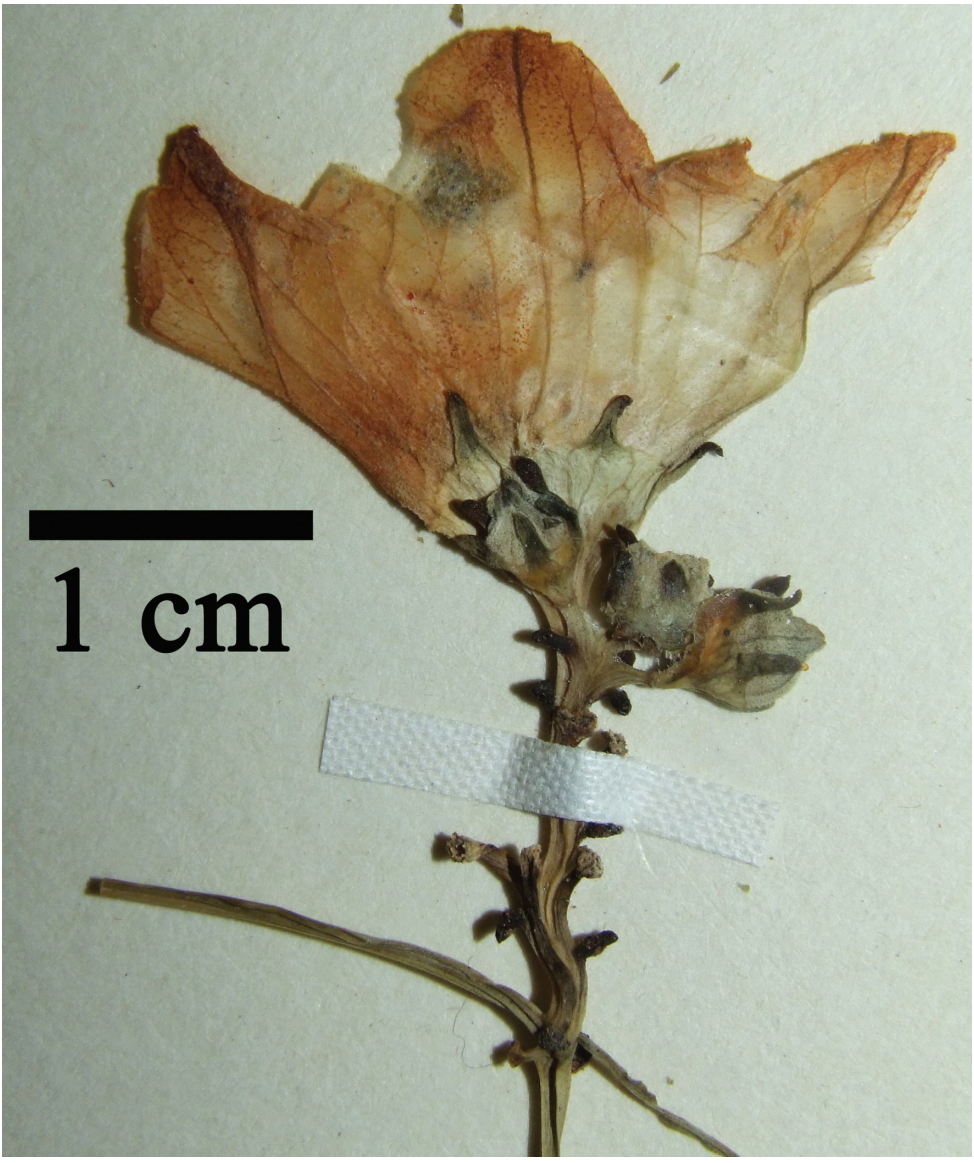


**Figure 5.** Male inflorescence of *Coccinia intermedia* from C.Geerling & J.Bokdam 662 (WAG).

leaf lamina without white pustules. Tendrils simple or bifid. Male flowers in few to many-flowered racemes, rarely accompanied by a solitary flower. Female flowers in few- to many-flowered racemes or solitary. Flowers bracteate or ebracteate. Corolla urn-, cup- to funnel-shaped. Plant of humid climates (rainforests, gallery forests, etc.) ..... **3**

3 Leaf margin with pale (when dry blackening) glandular teeth. Tendrils simple. Flowers without bracts, calyx teeth erect, > 1.5 mm at base. Fruits long cylindrical. ..... ***C. longicarpa***

3' Leaf margin without conspicuously colored teeth. Tendrils simple or bifid. Flowers with or without bracts. Calyx teeth erect, spreading, or reflexed, but narrow (< 1.2 mm at base). Fruits ovoid. ..... **4**

4 Tendrils simple. Male flowers in lax racemes, female flowers solitary or in few-flowered racemes. Flowers without bracts. Calyx teeth in buds spreading, later reflexed. ..... ***C. keayana***

4' Tendrils simple or bifid. Male flowers in dense few- to many-flowered racemes, with or without bracts. Female flowers in racemes, rarely solitary. Flowers with or without bracts. Calyx teeth variable. ..... ***C. barteri***

## Discussion

*Coccinia intermedia* is morphologically similar to the other West African species. From *C. grandis*, it differs most readily in the glands on the lower lamina and in its calyx teeth (erect with recurved tips in *C. intermedia* and spreading to reflexed in *C. grandis*). From *C. longicarpa*, it differs in its ovoid fruits (instead of long cylindrical fruits in *C. longicarpa*). Additionally, *C. longicarpa* has ebracteate racemes and much broader (> 1.5 mm at the base) erect calyx teeth, and an urn-shaped corolla. From *C. keayana*, it differs in having bracteate male flowers in denser racemes, a campanulate corolla and calyx teeth that are adpressed to the corolla with recurved tips, instead of spreading (in buds) to reflexed calyx teeth. Secure distinction of *C. intermedia* from *C. barteri* requires fertile material with flowers (see the key above).

Ecologically, the new species is a member of White's (1983) Sudanian center of endemism and his Guinea-Congolia/Sudania regional transition zone (Fig. 6). The only species with a similar habitat as *C. intermedia* is *C. adoensis*, the most western known occurrence of which is Adamawa State (eastern Nigeria). Whether the species co-occur is not known. They could be distinguished by fruit shape (not beaked in *C. intermedia*, beaked in *C. adoensis*, although this character can vary in the latter). Additionally, *C. adoensis* has inflorescence peduncles that are longer than 1 cm (in its male racemes) and petioles that are often hairy.

Two DNA characters, namely base pairs 310 and 323 in the *trn*$S^{GCU}$–*trn*$G^{UCC}$ intergenic spacer region, suggest the placement of *C. intermedia* as sister to a clade that we have earlier referred to as the *Coccinia barteri* clade (Holstein and Renner 2011). If this placement is correct, then the *Coccinia* species occurring in the rain or mist forests of West and Central African are monophyletic and probably evolved *in situ*. One of the four collections, J.B.Hall & J.M.Lock GC 46016, bears male and female flowers/fruits on the same node (Fig. 3c). The male flowers are buds, and it is not clear, whether they are fertile. Kumar and Vishveshwaraiah (1952) report a "gynodioecious form" of *C. grandis* in which the male flowers of the hermaphrodite (monoecious) plants are sterile. An occasional occurrence of bisexual plants in otherwise dioecious species, sometimes called "leaky dioecy" (Baker and Cox 1984), has also been observed in other Cucurbitaceae (Schaefer and Renner 2010).

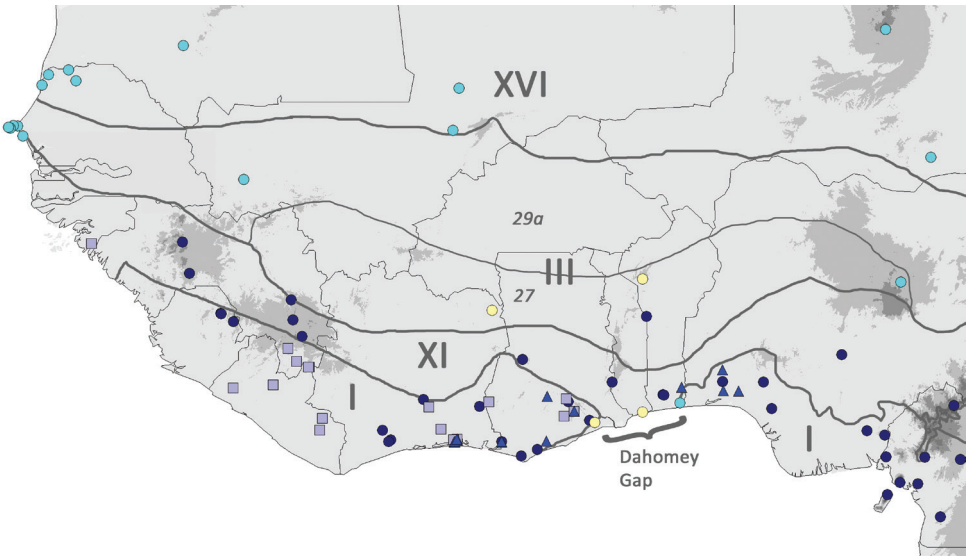


**Figure 6.** Map of West African *Coccinia* species. Pale yellow circles = *C. intermedia*, cyan circles = *C. grandis*, dark blue circles = *C. barteri*, pale blue squares = *C. keayana*, bright blue triangles = *C. longicarpa*. Thick dark grey lines are phytochoria drawn after White (1983), I = Guineo-Congolian regional center of endemism, III = Sudanian regional center of endemism, XI = Guinea-Congolia/Sudania transition zone, XVI = Sahel regional transition zone. Thin dark grey lines (after White (1983)) differentiate between White's vegetation types of zone III: 27 = Sudanian woodland with abundant *Isoberlinia*; 29a = undifferentiated Sudanian woodland. Location of *C. intermedia* in Ivory Coast estimated (only the department is given on the herbarium sheet).

However, true monoecy in *C. intermedia* would be surprising as none of ca. 1,500 specimens of other *Coccinia* species studied is bisexual (Holstein, ongoing monograph).

## Acknowledgements

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## References

Baker HG, Cox PA (1984) Further thoughts on dioecism and islands. Annals of the Missouri Botanical Garden 71: 244–253.

Holstein N, Renner SS (2011) A dated phylogeny and collection records reveal repeated biome shifts in the African genus *Coccinia* (Cucurbitaceae). BMC Evolutionary Biology 11: 28. doi: 10.1186/1471-2148-11-28

Kumar LSS, Vishveshwaraiah S (1952) Sex mechanism in *Coccinia indica* Wight and Arn. Nature 170: 330–331. doi: 10.1038/170330a0

Schaefer H, Renner SS (2010) A three-genome phylogeny of *Momordica* (Cucurbitaceae) suggests seven returns from dioecy to monoecy and recent long-distance dispersal to Asia. Molecular Phylogenetics and Evolution 54: 553–560. doi: 10.1016/j.ympev.2009.08.006

White F (1983) The vegetation of Africa. Unesco, Paris, 356 pp.

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# A new species of *Fleischmannia* (Asteraceae, Eupatorieae) from El Salvador

Harold Robinson

*Dept. of Botany, MRC 166, National Museum of Natural History, P.O. Box 37012, Smithsonian Institution, Washington D.C. 20013-7012*

Corresponding author: *Harold Robinson* (robinsoh@si.edu)

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**Abstract**

*Fleischmannia profusa* is named as new from El Salvador based on material with deltoid leaf blades, numerous axillary fascicles of leaves on the vegetative stems and c. 60 sharply obviously acuminate involucral bracts in 4-5 strongly gradate series.

**Keywords**

*Fleischmannia*, Eupatorieae, Asteraceae, Mesoamerica, El Salvador

## Introduction

Since the redefinition of the limits of the genus *Fleischmannia* Sch.Bip. (King and Robinson 1966, 1970) numerous studies have added species to the genus for the Flora Mesoamerica area (King and Robinson 1972, 1974, 1975, 1978, 1991; Robinson 2001). A further revision of the manuscript for the Eupatorieae of Mesoamerica has revealed an additional distinctive species of *Fleischmannia* in need of description. The species is named "profusa" because of the numerous small axillary fascicles of leaves on the vegetative stems and because of the numerous sharply pointed involucral bracts in many gradate series. This new species is described below.

## Taxonomy

***Fleischmannia profusa*** **H. Rob., sp. nov.**
urn:lsid:ipni.org:names:77115898-1
http://species-id.net/wiki/Fleischmannia_profusa
Figure 1

**Type.** El Salvador. Prov. La Libertad, Fls. purple, herb 0.5 m, common on rocky slopes along litoral road to La Libertad, alt. 30 m, s.d. *A. Molina, W.C. Burger & B. Wallenta 16685* (holotype US, isotype F).

Ab species *Fleischmanniam* aliam omnino in phyllariis numerosis 4-5 seriatis argute acuminatis distincte gradatis differt.

Branching herbs to 0.5 m; stems hispidulous with minute erect stipitate glands, glabrescent below; internodes mostly 1.5-2.0 cm. Leaves opposite, with numerous fascicles in axils; petiole 3-6 mm; blade mostly 2.0-3.2 × 1.4-2.3 cm, deltoid, trinervate from base, surface with few to many minute stipitate glands, without glandular dots, adaxial surface sparsely pilose, base broadly subtruncate, margins 5-8-crenate beyond widest part, apex short-acute. Capitulescence of 1-5 capitula terminal on main stem and branches, subtended by sparse narrow bracteoles 3-7 mm; peduncles 0.6-1.0 mm, with minute stipitate glands. Capitula 6-7 mm; phyllaries c. 60, subimbricate, graduate in c. 4-5 series, lanceolate, 1.5-4.0 × 0.4-08 mm, all narrowly acute to slightly acuminate, green, scarcely scarious, with many minute stipitate glands. Florets c. 60; corollas c. 3 mm, purple, lobes c. 0.4 mm, with few or no small trichomes; style branches not broadened distally. Cypselae c. 1.5 mm, black with black ribs at maturity, scabrid on ribs; pappus with c. 20 bristles 2.5-3.8 mm, slightly non-contiguous at base. *Common on rocky slopes along litoral road, 30 m.* ES (*Molina, Burger & Wallenta 16685* (US).

The type specimen was originally distributed from the Escuela Agricola Panamericana and the Chicago Natural History museum under the name *Eupatorium ovillum* Standl. & Steyerm, a completely different species now known as *Ageratina ovilla* (Standl. & Steyerm.) R.M. King & H. Rob. In the initial study of the Mesoamerican Eupatorieae, the specimen described here as a new species was included in the widely distributed *Fleischmannia imitans* (B.L. Rob.) R.M. King & H. Rob. with which it shares the achenes with blackened ribs, the pubescence of numerous stipitate glands and the numerous pointed involucral bracts. The bracts of the latter, however, are only 35-40 in ca. 3 weakly subimbricate series, are not as obviously acuminate and are not strongly unequal or gradate. The leaves of the new species are primarily deltoid while those of *F. imitans* are ovate lanceolate to lanceolate. The latter also has no or comparatively few axillary fascicles of leaves on the vegetative stems.

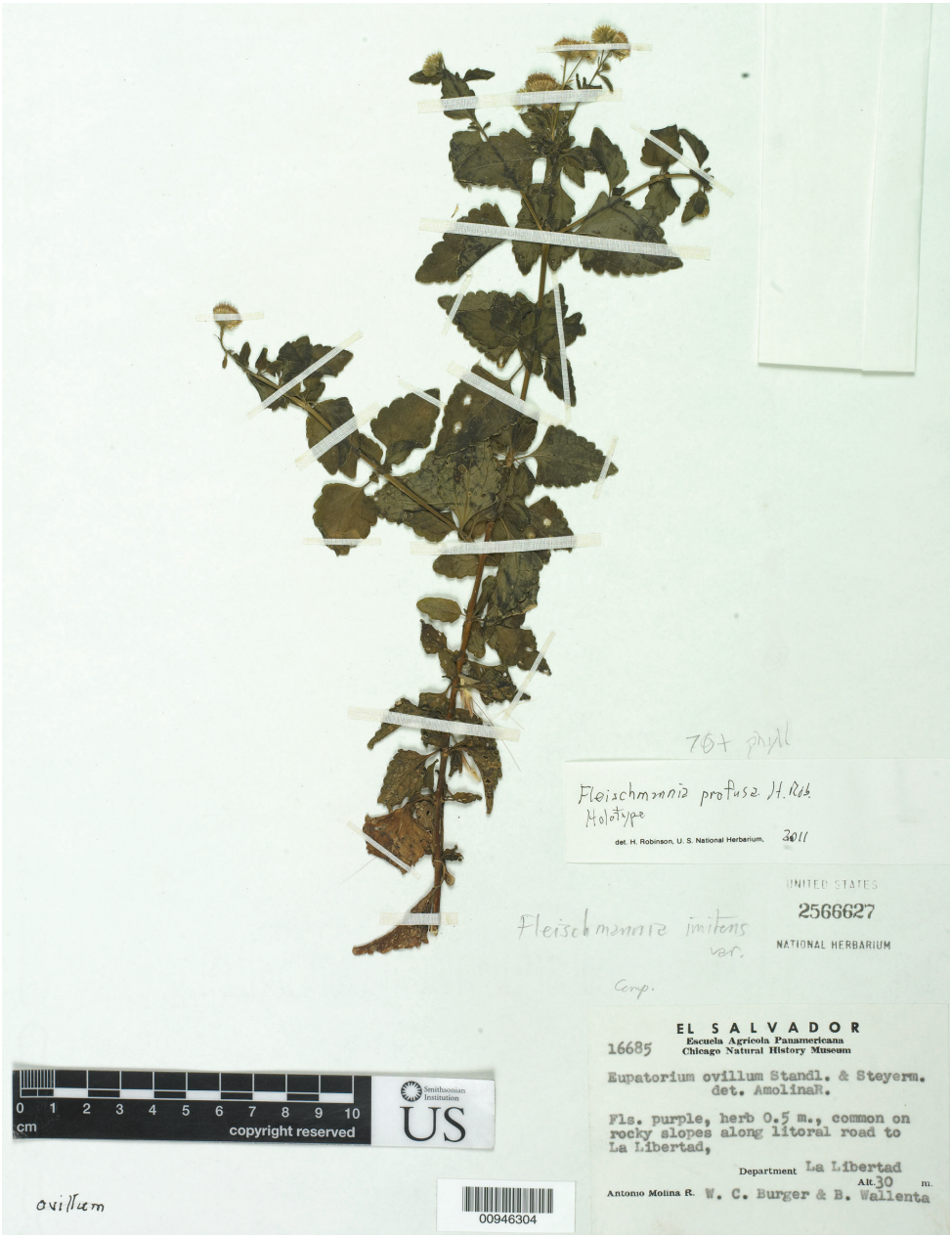


**Figure 1.** *Fleischmannia profusa* H. Rob., holotype (US).

The distinctions between *Fleischmannia profusa* and *F. imitans* in couplet form are as follows:

1 Leaves ovate-lanceolate to lanceolate; phyllaries 35-40 in c. 3 weakly subimbricate series, appearing superficially eximbricate; stems with few or no axillary fascicles of leaflets.....***F. imitans***

– Leaves deltoid; phyllaries ca. 60 in c. 4-5- gradate distinctly subimbricate series; stems with many axillary fascicles of leaflets.....***F. profusa***

## References

King RM, Robinson H (1966) Generic limitations in the *Hofmeisteria* complex (Compositae-Eupatorieae). Phytologia 12: 465–476.

King RM, Robinson H (1970) Studies in the Eupatorieae (Compositae). XVIII. New combinations in *Fleischmannia*. Phytologia 19(4): 201–207.

King RM, Robinson H (1972) Studies in the Eupatorieae (Asteraceae). CI. New species of *Fleischmannia* and *Neomirandea.* Phytologia 24(4): 281–284.

King RM, Robinson H (1974) Studies in the Eupatorieae (Asteraceae). CXXI. Additions to the genus *Fleischmannia*. Phytologia . Phytologia 28(1): 73–96.

King RM, Robinson H (1975) Studies in the Eupatorieae (Asteraceae). CXLVI. Two new species of *Fleischmannia* from Central America. Phytologia 31(4): 305–310.

King RM, Robinson H (1978) Studies in the Eupatorieae (Asteraceae) CLXIX. Two new species of *Fleischmannia* from Guatemala. Phytologia 38(5): 417–423.

King RM, Robinson H (1991) Two new species of *Fleischmannia* from Mesoamerica (Eupatorieae: Asteraceae). Phytologia 71(3): 181–183.

Robinson H (2001) New species of *Fleischmannia* from Panama and Andean South America (Asteraceae: Eupatorieae). Proceedings of the Biological Society of Washington 114(2): 229–556.

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# Translation into French of: "Changes to publication requirements made at the XVIII International Botanical Congress in Melbourne – what does e-publication mean for you?". Translated by Christian Feuillet and Valéry Malécot

# Changements des conditions requises pour la publication faits au XVIII[e] Congrès International de Botanique à Melbourne – qu'est-ce que la publication électronique représente pour vous?

Sandra Knapp[1], John McNeill[2], Nicholas J. Turland[3]

**1** *Department of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD, UK* **2** *Royal Botanic Garden, Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR, UK* **3** *Missouri Botanical Garden, PO Box 299, St Louis, MO 63166-0299, USA*

Corresponding author: *Sandra Knapp* (s.knapp@nhm.ac.uk)

Translation into French: *Christian Feuillet and Valéry Malécot
Traduction en français : *Christian Feuillet (Department of Botany, Smithsonian Institution, Washington DC, U.S.A.) et Valéry Malécot (UMR A1259 GenHort, Agrocampus-Ouest Centre d'Angers, Institut National d'Horticulture et de Paysage, Angers, France). *Adresser le courrier à Christian Feuillet (feuillec@si.edu)

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## Résumé

Les changements au *Code International de Nomenclature Botanique* sont décidés tous les 6 ans aux Sections de Nomenclature associées aux Congrès Internationaux de Botanique (CIB). Le XVIII[e] CIB se tenait à Melbourne, Australie; la Section de Nomenclature s'est réunie les 18-22 juillet 2011 et ses décisions ont été acceptées par le Congrès en session plénière le 30 juillet. Suite à cette réunion, plusieurs modifications importantes ont été apportées au *Code* et vont affecter la publication de nouveaux noms. Deux de ces changements

prendront effet le 1er janvier 2012, quelques mois avant que le *Code de Melbourne* soit publié. Les documents électroniques publiés en ligne en 'Portable Document Format' (PDF) avec un 'International Standard Serial Number' (ISSN) ou un 'International Standard Book Number' (ISBN) constitueront une publication effective, et l'exigence d'une description ou d'une diagnose en latin pour les noms des nouveaux taxa sera changée en l'exigence d'une description ou d'une diagnose en latin ou en anglais. De plus, à partir du 1er janvier 2013, les noms nouveaux des organismes traités comme champignons devront, pour que la publication soit valide, inclure dans le protologue (tous ce qui est associé au nom au moment de la publication valide) la citation d'un identifiant ('identifier') fourni par un dépôt reconnu (tel MycoBank). Une ébauche des nouveaux articles concernant la publication électronique est fournie et des conseils de bon usage sont esquissés.

Pour encourager la diffusion des changements adoptés au Code International de Nomenclature pour les algues, les champignons et les plantes, cet article sera publié dans *BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany* et *Taxon*.

## Introduction

En juillet 2011, durant le XVIIIe Congrès International de Botanique à Melbourne, Australie, deux modifications importantes ont été apportées au *Code International de Nomenclature Botanique* (maintenant appelé *Code International de Nomenclature pour les Algues, les Champignons et les Plantes*) qui prendront effet au 1er janvier 2012. Ces changements affecteront toutes les personnes qui publieront des noms régis par ce *Code*. Comme le *Code de Melbourne* ne sera pas publié avant mi-2012, nous avons pensé qu'il serait utile de donner les grandes lignes de ces modifications, en particulier celles concernant la publication effective sur supports électroniques (dans les Articles 29, 30 et 31). Pour un rapport concis sur tous les changements au *Code* acceptés à Melbourne, voyez McNeill et al. (2011).

Une ébauche des Articles, Notes et Recommandations traitant de publication effective est fournie pour aider les rédacteurs et les éditeurs à établir les meilleures pratiques pour mettre en œuvre cette partie du *Code*. Nous précisons aussi ici ce que ces modifications *ne* signifient *pas*, pour guider ceux qui souhaitent publier des noms nouveaux et des typifications sur supports électroniques. Nous conseillons aux lecteurs de consulter le rapport du Comité Spécial sur la Publication Électronique accompagnant les changements proposés avant le Congrès (Chapman et al. 2010), où les raisons des changements maintenant acceptés dans le *Code* sont présentées.

## Canevas des Articles 29, 30 et 31, et des Recommandations 29A, 30A et 31A modifiés

Ici nous reproduisons le texte de tous les Articles, Notes et Recommandations pertinents (sauf les exemples), avec les changements surlignés en **gras**. La rédaction est ici

provisoire, dans l'attente de la réunion du Comité Éditorial en décembre 2011 pour finaliser la version imprimée du *Code de Melbourne*.

## Article 29

*29.1.* Une publication n'est effective, aux termes de ce *Code*, que par la distribution de documents imprimés (par vente, échange ou don) au public en général ou, au minimum, à des institutions botaniques dont les bibliothèques sont accessibles aux botanistes en général. **Une publication est aussi effective par distribution par voie électronique de matériel en 'Portable Document Format' (PDF; voir aussi l'Art. 29.3 et la Rec. 29A.1) dans une publication en ligne avec un 'International Standard Serial Number' (ISSN) ou un 'International Standard Book Number' (ISBN).** Une publication n'est pas effective par la communication de noms nouveaux dans une réunion publique, par l'apposition de noms dans des collections ou des jardins ouverts au public, par l'édition de microfilms reproduisant des textes manuscrits ou dactylographiés ou tout autre matériel non publié, ou par une distribution électronique **autre que celles décrites ci-dessus.**

***29.2.*** **Dans le cadre de cet Article, 'en ligne' est défini comme accessible électroniquement sur le 'World Wide Web'.**

***29.3.*** **Si le 'Portable Document Format' (PDF) devenait obsolète, un format standard international successeur communiqué par le Comité Général (voir Div. III) est acceptable.**

***29.4.*** **Le contenu d'une publication électronique particulière ne doit pas être altéré après sa première parution. Aucune de ces altérations n'est elle-même effectivement publiée. Des corrections ou des révisions doivent paraître séparément pour être effectivement publiées.**

## Recommandation 29A

[La Recommandation existante est remplacée par ce qui suit:]

***29A.1.*** **Une publication électronique au 'Portable Document Format' (PDF) devrait se conformer au standard d'archivage PDF/A (ISO 19005).**

***29A.2.*** **Les auteurs devraient, en préférence, publier dans des publications qui sont archivées, autant que possible en conformité avec les critères suivants (voir aussi la Rec. 29A.1) :**

**(*a*) Le matériel devrait être déposé dans plusieurs dépôts électroniques en ligne réputés, c'est dire un dépôt certifié ISO ;**

**(*b*) Les dépôts électroniques devraient être dans plus d'une région géographique du monde et de préférence sur des continents différents ;**

**(*c*) Le placement de copies imprimées dans des bibliothèques dans plus d'une région géographique du monde et de préférence sur des continents différents est également recommandé.**

## Article 30

***30.1.*** **La publication par diffusion de matériel électronique ne constitue pas une publication effective avant le 1er janvier 2012.**

***30.2.*** **Les publications électroniques ne sont pas effectives si il y a dans, ou associée à, la publication une preuve que la publication est seulement une version préliminaire qui a été, ou doit être, remplacée par une version que l'éditeur considère comme finale, auquel cas seule cette version finale est effectivement publiée.**

*30.3.* La publication, avant le 1er janvier 1953, par autographie indélébile est effective. Une autographie indélébile publiée à une date ultérieure n'est pas effectivement publiée.

*30.4.* Dans le cadre de cet Article, une autographie indélébile est un document manuscrit reproduit par un processus mécanique ou graphique (tel que la lithographie, l'offset ou la gravure sur métal).

*30.5.* La publication au ou à partir du 1er janvier 1953, dans les catalogues commerciaux ou les journaux d'information non scientifique, et au ou à partir du 1er janvier 1973, dans les listes d'échange de graines, ne constitue pas une publication effective.

*30.6.* La distribution, au ou à partir du 1er janvier 1953, de document imprimé accompagnant des exsiccata ne constitue pas une publication effective.

*Note 1.* Si le document imprimé est également distribué indépendamment des exsiccata, il est effectivement publié.

*30.7.* La publication, au ou à partir du 1er janvier 1953, d'un travail indépendant isolé dit être une thèse soumise à une université ou un autre établissement d'enseignement dans le but d'obtenir un diplôme n'est pas effectivement publié à moins qu'il contienne une déclaration explicite (faisant référence aux dispositions du *Code* pour une publication effective) ou une autre preuve interne qu'il est considéré comme une publication effective par son auteur ou éditeur.

*Note 2.* La présence d'un 'International Standard Book Number' (ISBN) ou la mention d'un nom d'imprimeur, d'éditeur ou de distributeur dans la version imprimée originale est considérée comme une évidence interne que ce travail était destiné à être effectivement publié.

## Recommandation 30A

***30A.1.*** **Les versions préliminaire ou finale d'une même publication électronique devraient être clairement indiquées comme telles au moment de leur première parution.**

*30A.2.* Il est vivement recommandé aux auteurs d'éviter de publier de nouveaux noms et des descriptions ou diagnoses de nouveaux taxons dans un document imprimé éphémère de n'importe quel type, notamment dans un document imprimé qui est multiplié en nombre limité et incertain, dont la persistance du texte peut être limitée, dont la publication effective du point de vue du nombre d'exemplaires n'est pas évidente, ou qui n'ont guère de chance d'atteindre le public. Les auteurs devraient aussi éviter de publier des noms nouveaux et des descriptions ou diagnoses dans des périodiques populaires, dans des périodiques de documentation (« abstracting journals ») ou sur des feuilles d'errata.

*30A.3.* Pour favoriser la disponibilité dans le temps et l'espace, les auteurs publiant des nouveautés nomenclaturales devraient donner la préférence aux périodiques qui publient régulièrement des articles taxinomiques. **Autrement, une copie d'une publication (qu'elle soit publiée sous forme imprimée ou électronique) devrait être envoyée au(x) centre(s) d'indexation approprié(s) pour le groupe taxonomique, et les publications qui existent seulement sous forme imprimée** devraient être déposées dans au moins dix - mais de préférence plus - bibliothèques botaniques ou des bibliothèques généralement accessibles à travers le monde.

*30A.4.* Les auteurs et les rédacteurs sont encouragés à mentionner les nouveautés nomenclaturales dans le sommaire ou le résumé, ou à les lister dans un index dans la publication.

## Article 31

*31.1.* La date de publication effective est la date à laquelle le document imprimé **ou électronique** devient disponible ainsi que définit dans les Art. 29 et 30. En l'absence de preuve établissant une autre date, celle qui figure sur le matériel imprimé **ou électronique** lui-même doit être acceptée comme correcte.

[La Note 1 existante est remplacée par ce qui suit :]

***31.2.*** **Quand une publication parait en parallèle en versions électronique et imprimée, celles-ci doivent être traitées comme publiées effectivement à la même date, à moins que les dates des versions soient différentes au sens de l'Art. 31.1.**

*31.3.* Lorsque les tirés-à-part de périodiques ou d'autres ouvrages mis en vente sont distribués à l'avance, la date sur le tirés-à-part est acceptée comme la date de publication effective, à moins qu'il y ait une preuve qu'elle est erronée.

Recommandation 31A

*31A.1.* La date à laquelle l'éditeur ou son agent remet le document imprimé à l'un des transporteurs usuels pour la distribution au public devrait être acceptée comme sa date de publication effective.

## Bon usage

Les auteurs de noms nouveaux, rédacteurs et éditeurs auraient intérêt à s'assurer que les publications comprenant des noms nouveaux sont en accord avec le *Code de Melbourne*, pour que ces noms soient effectivement publiés. Nous suggérons que ceux qui publient dans des journaux ou des séries monographiques et des livres qui ont des éditions en ligne communiquent avec les éditeurs pour qu'un bon usage puisse être établi dans la communauté aussi vite que possible. De nombreux éditeurs ont été attentifs depuis quelques années aux problèmes liés à la publication électronique ('e-publication') des nouveautés taxonomiques (cf. Knapp and Wright 2010; guidelines in PLoS One [http://www.plosone.org/static/policies.action#taxon]) et un intérêt considérable pour rendre fonctionnelles les modifications de ce nouveau *Code* a été apparent.

Certaines pratiques, dont nous pensons qu'elles aideront les étapes initiales de l'e-publication de nouveautés faits en accord avec le *Code de Melbourne*, sont les suivantes :

- Avoir dans chaque article la date de publication en position évidente (comme c'est le cas de nombreux journaux, par exemple *New Phytologist* ou *Nature*).
- Si une version mise en ligne en avance paraît, et qu'elle n'est pas la même que la version finale (et donc qu'elle n'est pas le lieu d'une publication effective), estampillez de manière évidente chaque article avec la mention de cet état de fait (par exemple *American Journal of Botany*).
- Afficher de manière évidente les ISSN ou ISBN de la publication sur chaque article aidera les indexeurs à établir que la publication est effective.
- Publier dans des journaux (ou des séries monographiques) qui participent au système CLOCKSS (cf. Knapp and Wright 2010 pour une description) ou un autre système international d'archivage et de préservation assurera un archivage à long terme.
- Les auteurs de nom nouveau sur support électronique devraient alerter les centres d'indexation appropriés comme recommandé par la Rec. 30A.3 - cela aidera les indexeurs qui pourraient autrement ne pas être au courant de noms publiés électro niquement.

## Ce que ces changements *ne* signifient *pas*

Bien que les nouveaux Articles et Recommandations utilisent les termes PDF et PDF/A, cela ne veut pas dire que les publications doivent paraître *seulement* dans ce format pour être effectivement publiées. Par exemple, certains journaux en ligne font

paraître des articles au format Hypertext Markup Language (HTML) avec une version parallèle PDF. Dans ce cas, la version PDF sera effectivement publiée. La mention disant que le Comité Général pour la Nomenclature Botanique communiquera les nouveaux standards internationaux acceptables, si le PDF devenait obsolète, signifie que les auteurs de nouveaux noms et la communauté des utilisateurs du *Code* pourront rester informé des développements dans cette discipline et que le *Code* sera protégé de l'obsolescence.

L'utilisation des supports suivants pour la publication électronique ne résultera pas en une publication effective des noms nouveaux d'après le *Code de Melbourne* :

- La publication sur des sites web ou dans des documents éphémères disponibles sur Internet (il y a des critères stricts pour attribuer des ISSN [http://www.issn.org]).
- La publication dans des journaux sans un ISSN ou e-ISSN enregistré.
- La publication dans des livres sans un ISBN or e-ISBN enregistré.

La Recommandation adoptée de conseiller le dépôt d'une copie imprimée de chaque e-publication dans une bibliothèque suggère une action aux botanistes, mais elle n'établit pas une pratique standard ou un protocole à suivre pour les bibliothécaires. Les bibliothécaires sont eux-mêmes dans une phase de transition complexe entre des modalités de publication (Johnson and Luther 2007), et les botanistes pourraient trouver les bibliothécaires réticents ou incapables d'accepter des articles séparés imprimés en accessions individuelles si le volume en est important.

## Deux autres modifications importantes dans le *Code* concernant la publication des noms

Le second changement au *Code* adopté à Melbourne pour prendre effet à partir du 1er janvier 2012 est que la description ou la diagnose requise pour une publication valide du nom d'un nouveau taxon pour tous les organismes régis par le *Code* peut être soit en anglais soit en latin. C'est la règle actuelle pour les noms de fossiles végétaux, mais tous les nouveaux taxa non-fossiles requéraient une description ou une diagnose en latin (champignons et plantes depuis le 1er janvier 1935; algues [y compris les cyanobactéries, si traitées sous le *Code*] depuis le 1er janvier 1958). Cela n'a aucune influence sur la forme des noms scientifiques, qui continuent d'être latins ou réputés latins. Les exigences de chaque journal vis à vis du latin et/ou de l'anglais seront, bien sûr, déterminées par le rédacteur de chaque journal.

Un troisième changement au *Code* adopté à Melbourne au sujet de la publication des noms, qui ne prendra effet que le 1er janvier 2013 (pas le 1er janvier 2012 comme déclaré par Miller et al. 2011), énonce que tous les noms d'organismes traités comme des champignons doivent, comme condition supplémentaire pour une publication valide, inclure dans le protologue (tous ce qui est associé au nom au moment de la publication valide) la citation d'un identifiant fourni par un dépôt reconnu (tel que MycoBank [http://www.mycobank.org/]). Cela sera rendu public par ailleurs.

L'exigence d'un identifiant unique pour les nouveaux noms de champignon à partir du 1er janvier 2013 *ne* s'applique *pas* aux plantes ou aux algues; il n'y a pas besoin pour les auteurs de nouveaux noms dans ces groupes de demander des 'Life Science Identifiers' (LSIDs) - ou d'autres identifiants – aux centres d'indexation.

## Remerciements

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Pour encourager la dissémination des modifications apportées au Code International de Nomenclature pour les algues, les champignons et les plantes, cet article sera publié dans *BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany* et *Taxon*.

## Bibliographie

Chapman AD, Turland NJ, Watson MF (Eds) (2010) Report of the Special Committee on Electronic Publication. Taxon 59: 1853–1862.

Johnson RK, Luther J (2007) The E-Only Tipping Point for Journals: What's Ahead in the Print-to-Electronic Transition Zone. Association of Research Librarians, Washington DC.

Knapp S, Wright D (2010) E-publish or perish? In: Polaszek A (Ed) Systema Naturae 250 – the Linnaean Ark. Taylor and Francis, London, 83–93. doi: 10.1201/EBK1420095012-c8

McNeill J, Turland NJ, Monro A, Lepschi BJ (2011) XVIII International Botanical Congress: preliminary mail vote and report of Congress action on nomenclature proposals. Taxon 60: 1–14.

Miller JS, Funk VA, Wagner WL, Barrie F, Hoch PC, Herendeen P (2011) Outcomes of the 2011 Botanical Nomenclature Section at the XVIII International Botanical Congress. PhytoKeys 5: 1–3. doi: 10.3897/phytokeys.5.1850

**Référence supplémentaire pour la traduction en français:**

Malécot V, Soca R (2002) Code International de Nomenclature Botanique de St Louis, Adopté par le Seizième Congrès International de Botanique, St Louis, Missouri, Juillet–Août 1999. (traduction française) http://www.tela-botanica.org/page:code_botanique_st_louis?wiki=CinbTraduction (consulté le 28 septembre 2011)

[À notre connaissance, il n'y a pas de traduction française du Code de Vienne 2006 ; les traductions proposées ci-dessus pour des portions non modifiées des articles du Code de Vienne sont pour la plupart inédites et respectent à la lettre le texte de 2006 et non pas celui de 2000.]

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# Translation into Turkish of: "Changes to publication requirements made at the XVIII International Botanical Congress in Melbourne – what does e-publication mean for you?". Translated by Ali A. Dönmez, Yusuf Menemen and Zübeyde Uğurlu

# Onsekizinci (XVIII) Uluslararası Botanik Kongresi'nde (Melbourne) Yayın ile İlgili Gereklilikler Konusunda Yapılan Değişiklikler; e-yayın size ne ifade ediyor"

Sandra Knapp[1], John McNeill[2], Nicholas J. Turland[3]

**1** *Department of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD, UK* **2** *Royal Botanic Garden, Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR, UK* **3** *Missouri Botanical Garden, PO Box 299, St Louis, MO 63166-0299, USA*

Corresponding author: *Sandra Knapp* (s.knapp@nhm.ac.uk)

Türkçe'ye çeviri: Ali A. Dönmez* (Hacettepe Üniversitesi, Ankara, Türkiye), Yusuf Menemen (Kırıkkale Üniversitesi, Kırıkkale, Türkiye), Zübeyde Uğurlu (Hacettepe Üniversitesi, Ankara, Türkiye). *İletişim yazarı: Ali A. Dönmez (donmez@hacettepe.edu.tr)

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## Özet

Uluslararası Botanik Adlandırma Kuralları'nda yapılan değişikliklere, her altı yılda bir gerçekleştirilen ve Uluslararası Botanik Kongresi (IBC) ile beraber yapılan Adlandırma Seksiyonlarında karar verilmektedir. On sekizinci (XVIII.) Uluslararası Botanik Kongresi, Avustralya'nın Melborn şehrinde yapılmıştır. Adlandırma Seksiyonu 18-22 Temmuz 2011 tarihleri arasında toplanmış olup, kararlar 30 Temmuzdaki genel kurul toplantısında kongre tarafından kabul edilmiştir. Bu toplantıda yeni isimlerin yayınlanması ile ilgili olarak *Yasa*'da bazı önemli değişiklikler yapılmıştır. Bu değişikliklerden iki tanesi *Melborn Yasası*

basılmadan bir süre önce, 1 Ocak 2012 tarihinden itibaren geçerli olacaktır. 1- Elektronik ortamda Uluslararası Standart Seri Numarası (ISSN) ya da Uluslararası Standart Kitap Numarası (ISBN)'na sahip Taşınabilir Belge Biçiminde (PDF) çevrimiçi olarak yayınlanan elektronik materyal gerçek yayın kabul edilecektir. 2- Yeni takson isimleri için aranan Latince betim ya da diyagnoz gerekliliği, Latince veya İngilizce yazılmış betim veya diyagnoz gerekliliği şeklinde değiştirilecektir. Bunlara ek olarak, 1 Ocak 2013'ten itibaren uygulanmak üzere, mantar olarak kabul edilen organizmaların yeni isimlerinin geçerli olarak basılabilmesi için, tanınmış (MycoBank gibi) bir veri bankası tarafından verilen bir tanımlayıcının (seri numarasının) protologta (bir ismin geçerli basımında onunla ilgili verilen her türlü bilgi) belirtilmesi gerekmektedir. Elektronik yayın ile ilgili yeni maddelerin taslak metinleri ve bunların en iyi şekilde nasıl uygulanacağı aşağıda sunulmuştur.

*Uluslararası Alg, Mantar ve Bitki Adlandırma Yasası*'nda yapılan bu değişikliklerin geniş kitlelere duyurulmasını sağlamak amacıyla bu makale BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany ve Taxon dergilerinde yayınlanacaktır.

## Giriş

Avustralya'nın Melborn şehrinde 2011 yılının Temmuz ayında gerçekleştirilen XVIII. Uluslararası Botanik Kongresi'nde, yeni adı *Uluslararası Alg, Mantar ve Bitki Adlandırma Yasası* olan *Uluslararası Botanik Adlandırma Yasası*'nda 1 Ocak 2012 tarihinden itibaren yürürlüğe girecek iki önemli değişiklik yapıldı. Söz konusu değişiklikler bu *Yasa* uyarınca isim yayınlayan herkesi etkileyecektir. *Melborn Yasası,* 2012 yılının ortalarına kadar yayınlanamayacağından, özellikle elektronik yayıncılıkta gerçek yayın (Madde 29, 30 ve 31) konusu ile ilgili değişiklikleri ana hatlarıyla burada vermenin yararlı olacağını düşündük. Melborn'da kabul edilen *Yasa* ile ilgili tüm değişikliklerin özet raporu için McNeill ve ark. (2011)'na bakınız.

Editör ve yayıncıların *Yasa*'daki bu değişiklikleri en iyi şekilde uygulayabilmelerine yardımcı olmak amacıyla, gerçek yayın konusuyla ilgili Madde, Not ve Önerilerin değiştirilmiş taslak metinleri hazırlandı. Ayrıca, elektronik ortamda yeni isim yayınlamak ve tiplendirme yapmak isteyenler için, bu değişikliklerin ne anlama *geldiğini* veya *gelmediğini* ana hatlarıyla ortaya koyduk. Okuyuculara, kongre öncesinde önerilen değişikliklerin (Chapman ve diğ. 2010) yer aldığı Elektronik Yayın Özel Komitesi'nin raporunu da dikkate almalarını öneriyoruz. Çünkü o raporda *Melborn Yasası*'nda kabul edilen değişikliklerin nedenleri verilmektedir.

## Madde 29, 30, 31 ve Öneri 29A, 30A ile 31A'nın yeniden düzenlenen taslak metinleri

Aşağıda, ilgili tüm Madde, Not ve Önerilerin (Örnekler olmaksızın) yeni metinleri, değişiklikler **koyu** yazılarak verilmiştir. *Melborn Yasası*'nın yazılı baskısının son şekli Aralık 2011'deki Editörler Komitesi toplantısında oluşturulacağından, bu metin geçicidir.

## Madde 29

29.1. Bu Yasa'ya göre yayın, bütün halka ya da en azından botanikçilerin kullanabildiği kütüphanesi olan botanik enstitülerine (satış, değişim veya hediye yoluyla) dağıtılan basılmış metin ile gerçekleştirilir. **Yayın, ayrıca Uluslararası Standart Seri Numarası (ISSN) ya da Uluslararası Standart Kitap Numarası (ISBN)'na sahip Taşınabilir Belge Biçimindeki (PDF; ayrıca bkz. Madde 29.3 ve Öneri 29A.1) materyalin, çevrimiçi yayında elektronik olarak dağıtılmasıyla da gerçekleştirilebilir.** Yeni isimlerin genel bir toplantıda sunulması, halka açık bahçe veya koleksiyonlarda sergilenmesi, taslak metinden hazırlanmış mikrofilm, daktilo yazımları, herhangi bir şekilde hazırlanmış ama basılmamış materyal ya da **yukarıda tanımlanmış elektronik dağıtımdan başka bir şekilde yapılan** elektronik dağıtımla yayın gerçekleştirilmez.

***29.2.*** **Bu maddede yer alan "çevrimiçi" kelimesi, Dünya Ölçeğinde Ağ (www) üzerinden elektronik olarak erişilebilir olmayı ifade eder.**

***29.3.*** **Eğer Taşınabilir Belge Biçimi (PDF)'nin yerine bir başkası başarılı bir şekilde yerleşirse, o zaman Genel Komite (bkz. Bölüm III) tarafından uygun bulunacak bu biçim uluslararası standart biçimi olarak kabul edilebilir.**

***29.4.*** **Bir elektronik yayın çıktıktan sonra, bu yayında değişiklik yapılmamalıdır. Yapılacak herhangi bir değişiklik, kendi başına gerçek olarak yayınlanmış olmaz. Düzeltme ya da düzenlemelerin ayrı olarak gerçek bir yayın olarak çıkması gerekir.**

## Öneri 29A

[*Viyana Yasası*'ndaki ilgili Öneriler, aşağıdaki gibi değiştirilmiştir:]

***29A.1.*** **Taşınabilir Belge Biçiminde (PDF) elektronik olarak yapılan yayın, PDF/A arşivleme standartlarıyla uyumlu olmalıdır (ISO 19005).**

***29A.2.*** **Yazarlar arşivlenen ve olabildiğince kullanışlı olan aşağıdaki ölçütlere uygun yerlerde yayın yapmalıdırlar (ayrıca bkz. Öneri 29A.1):**

**(*a*) Materyal, birden fazla güvenilir (örneğin ISO-sertifikalı) çevrimiçi dijital veri bankasına konuyor olmalıdır;**

**(*b*) Dijital veri bankaları dünyanın farklı yerlerinde, mümkünse farklı kıtalarında olmalıdır;**

**(*c*) Ayrıca dünyanın farklı yerlerindeki, tercihen farklı kıtalardaki kütüphanelerde basılı kopyalarının depolanıyor olması önerilir.**

## Madde 30

***30.1.*** **1 Ocak 2012 tarihinden önce materyalin elektronik ortamda dağıtılmasıyla yapılan yayınlar gerçek yayın olmaz.**

***30.2.*** **Bir elektronik yayın, onun sadece geçici bir yayın olduğu veya olacağı, yayıncı tarafından son hali olarak karar verilen bir metinle değiştirileceğine dair yayının içinde ya da yayınla beraber verilen bir kanıt olduğunda, gerçek olarak basılmış olmaz. Bu durumda yayının yalnızca son hali gerçek olarak basılmıştır.**

*30.3.* Silinmez el yazısı ile 1 Ocak 1953'ten önce yapılan yayınlar gerçek yayındır. Sonraki tarihte hazırlanan silinmez el yazısı yayınlar gerçek olarak basılmamıştır.

*30.4.* Bu Madde gereğince, silinmez el yazısı materyal, bazı mekanik veya grafik işlemleri (örneğin taş baskı, ofset baskı veya asitle metal üzerine yazma metodu) sonucu çoğaltılmış olan el yazısı materyaldir.

*30.5.* Ticari kataloglarda veya bilimsel olmayan gazetelerdeki 1 Ocak 1953 ve sonrası ile tohum değişim listelerindeki 1 Ocak 1973 ve sonrası yayınlar gerçek yayın sayılmazlar.

*30.6.* Kurutulmuş materyal (exsiccatae) ile birlikte basılı materyalin 1 Ocak 1953 ve sonrasında dağıtımı, gerçek yayın oluşumunu sağlamaz.

*Not 1*. Eğer basılı metin ayrıca kuru materyalden bağımsız olarak ta dağıtılırsa, gerçek yayın olarak basılmış olur.

*30.7.* 1 Ocak 1953 ve sonrasında, bir ünvan almak amacıyla bir üniversite veya bir eğitim enstitüsüne tez olarak sunulmuş bağımsız ve düzenli aralıklarla yayınlanmayan bir yayın, yazarı ya da yayınlayıcısı tarafından onun gerçek bir yayın olarak kabul edildiğinin açık bir ifadesi (*Yasa*'nın gerçek bir yayın için gerekli koşullarına işaret eden) veya diğer içsel bir kanıt olmadıkça gerçek bir yayın olarak basılmış değildir.

*Not 2.* Orijinal baskıda Uluslararası Standart Kitap Numarası (ISBN)'nın veya basımevi, yayıncı veya dağıtımcı isimlerinin varlığı, bu yayının gerçek bir yayın olması amaçlı bir çalışma olduğunun içsel bir kanıtı olarak değerlendirilir.

## Öneri 30A

***30A.1.*** **Aynı elektronik yayının geçici ve son halinin gerçekte ne zaman ilk olarak yayınlandığının açıkça belirtilmesi gerekir.**

30A.2. Yazarların yeni isimleri ve yeni taksonların (adlandırma yenilikleri) betim veya diyagnozlarını ömrü kısa olan yayınların her çeşidinde, özellikle de metnin sürekliliğinin sınırlanabileceği ve bu nedenle de gerçek bir yayın için kopya sayısının belirgin olmadığı veya halka ulaşmasının mümkün olmadığı çok az ve belirsiz sayıda çoğaltılarak basılan materyallerde yayınlamamaları ısrarla önerilir. Ayrıca yazarların yeni isim, betim veya diyagnozları popüler dergilerde, özet dergilerinde veya düzeltme sayfalarında yayınlamaktan sakınmaları gerekir.

*30A.3.* Her yerde ve her zaman bulunabilir olmasına yardımcı olmak amacıyla, adlandırma yenilikleri yayınlayan yazarlar, düzenli olarak taksonomik makale

yayınlayan dergileri tercih etmelidir. Eğer yayın yaptığı yer böyle bir dergi değilse, **yayının bir kopyası (basılı ya da elektronik materyal) söz konusu taksonomik grubun kayıtlarını tutan bir merkeze gönderilmelidir. Sadece basılı materyal olarak varlığını devam ettiren yayınların** dünyanın farklı yerlerindeki en az on, tercihen daha fazla sayıda botanik ya da genel kullanıma açık diğer kütüphanelerde tutulması gerekir.

*30A.4*. Yazarlar ve editörlerin özette adlandırma yeniliklerinden bahsetmeleri veya bu yenilikleri yayında bir indekste listelemeleri tavsiye edilir.

### Madde 31

*31.1.* Bir gerçek yayının tarihi Madde 29 ve 30'da tanımlandığı gibi basılmış **ya da elektronik** metinin kullanılabilir olduğu tarihtir. Başka bir tarihin kabul edilmesi için kanıt olmadığında, basılı **ya da elektronik** metinde görünen tarih doğru olarak kabul edilmelidir.

[*Viyana Yasası*'ndaki Not 1, aşağıdaki gibi değiştirilmiştir:]

***31.2.*** **Yayının elektronik ve basılı halleri birlikte gerçekleştirildiğinde, bu iki ayrı yayın şeklinin tarihleri Madde 31.1'e göre farklı olmadığı sürece, aynı tarihte gerçek olarak basılmış kabul edilirler.**

*31.3.* Satışa konan süreli yayın veya diğer çalışmaların ayrı sayıları önceden yayınlanırsa, bu parça üzerindeki tarih, bunun yanlışlıkla yapıldığına ilişkin bir kanıt olmadıkça, gerçek yayın tarihi olarak kabul edilir.

### Öneri 31A

*31A.1.* Yayıncı veya ilgili dağıtım şirketinin basılmış metni, dağıtmak üzere normal taşıyıcılara teslim ettiği tarih, onun gerçek yayın tarihi olarak kabul edilmelidir.

## En iyi şekilde uygulanması

Yeni isim içeren yayınların *Melborn Yasası*'na uygun olması için, tüm yeni isim yazarlarının, editörlerin ve yayıncıların gerekli ilgiyi göstermesi gerekir. Böylece yayınlanan isimler gerçek bir yayında basılmış olacaktır. Çevrimiçi baskıları olan dergi, monograf serisi ve kitaplarda yayın yapacak olanlara, bu kuralların toplumda hızla yerleşmesinde etkili olacağı düşüncesiyle, editörlerle iletişim halinde olmalarını öneriyoruz. Birçok yayıncı bilimsel yeniliklerin olduğu e-yayını basarken dikkatli davranmaktadır (bkz. Knapp and Wright 2010; PLoSOne [http://www.plosone.org/static/policies.action#taxon] yönergesi). Önemli uygulamaları içeren *Yasa*daki bu değişikliklerin yapılmasına olan gereksinim zaman içinde açık bir şekilde ortaya çıkmıştır.

*Melborn Yasası*'na uygun adlandırma yeniliği içeren e-yayınların başlangıç aşamasında, faydalı olacağını düşündüğümüz bazı uygulamalar aşağıda sunulmuştur:

- Her makalenin yayın tarihini (*New Phytologist* ya da *Nature* dergisi gibi çok sayıdaki dergide olduğu gibi) belirgin bir biçimde üzerinde taşıması gerekir.
- Eğer erken çıkan çevrimiçi baskı son baskısından farklı ise (bu haliyle gerçek yayın değildir) bu durumun belirgin biçimde her makalede belirtilmesi gerekir (örn. *American Journal of Botany*).
- Her makalede ilgili yayının ISSN ya da ISBN numaralarının göze çarpar şekilde belirgin basılması, gerçek yayınların kataloğunu hazırlayanlara yardımcı olacaktır.
- CLOCKSS sisteminde (betim için bkz. Knapp and Wright 2010) ya da diğer uluslararası arşivleme ve koruma sistemlerinde yer alan dergilerde (ya da monograf serilerinde) yapılan yayın, uzun süreli arşivlemeyi güvenceye alacaktır.
- Öneri 30A.3.'de tavsiye edildiği gibi, elektronik olarak yayın yapan yeni isim yazarlarının uygun kayıt merkezlerini bilgilendirmeleri gerekir; bu durum elektronik olarak yayınlanan ismin farkında olmayan kayıt personeline yardımcı olacaktır.

## Bu değişiklikler hangi anlama *gelmez*

*Yasa*'daki yeni Madde ve Önerilerde PDF ve PDF/A terimleri kullanılsa da, bu yayınların geçerli olabilmesi için *sadece* bu biçimde yayınlanması zorunludur anlamına gelmez. Örneğin, bazı çevrimiçi dergiler makaleleri PDF biçimiyle birlikte HTML (Bağlantılı Metin İşaretleme Dili) biçiminde de yayınlamaktadırlar. Bu gibi durumlarda PDF biçimindeki baskı gerçek yayın olarak yayınlanmıştır. Taşınabilir Belge Biçiminden daha başarılı bir başka biçimin olması durumunda, Genel Komitenin uygun bulacağı yeni bir uluslararası standart biçimini kabul edebilecek olması, yeni isim yazarlarının ve bu *Yasa*'yı uygulayan toplumun yeni ilerlemeler karşısında gelişmelerden haberdar edileceği ve *Yasa*'nın çağın gerisinde bırakılmayacağı anlamına gelir.

- Aşağıda belirtilen şekillerde yapılan elektronik adlandırma yayınları, *Melborn Yasası* uyarınca, gerçek yayın olarak *sayılmazlar*.
- Yayının ağ sitelerinde (bilgisunar-website) ya da internet aracılığıyla ulaşılabilen kısa süreli metinlerde yer alması (ISSN'nin alınabilmesi için sıkı kurallar bulunmaktadır [http://www.issn.org/]).
- Yayının ISSN ya da e-ISNN'e kayıtlı olmayan dergilerde yer alması.
- Yayının ISBN yada e-ISBN'e kayıtlı olmayan kitaplarda yer alması.

Onaylanan yeni Öneri, e-yayına ait basılı bir kopyanın (ayrı baskının) botanikçilerin kullandığı bir kütüphanede bulunmasını tavsiye etmektedir, ancak bu konuda kütüphanecilerin uyması gereken standart bir uygulama ya da protokol getirmez. Kütüphanecilerin kendileri de farklı yayın yöntemleri arasında karmaşık geçiş kuşağında yer almaktadır (Johnson and Luther 2007). Botanikçiler, kütüphanecileri belli bir büyüklüğe sahip eserlerin saklanmasında başarılı, ancak ayrı tek baskıları saklama konusunda isteksiz ya da başarısız bulabilirler.

## İsim yayınlamaya ilişkin *Yasa*'da yer alan diğer iki önemli değişiklik

Melborn'da kabul edilen ve 1 Ocak 2012 tarihinden itibaren geçerli olacak olan *Yasa*'daki ikinci değişiklik, bu *Yasa* kapsamında değerlendirilen tüm organizmaların yeni takson isimlerinin geçerli yayınlanabilmesi için gerekli betim veya diyagnozun İngilizce ya da Latince olabileceğidir. Bu koşul bitki fosilleri için şu anda uygulanmaktadır, ancak fosil olmayan tüm yeni taksonlar için betim veya diyagnozun Latince olması gerekmektedir (mantar ve bitkiler için 1 Ocak 1935'den beri; algler [eğer bu *Yasa* kapsamında değerlendirilirse siyanobakterler dahil] için 1 Ocak 1958'den beri). Bu değişikliklerin bilimsel isimlerin oluşturulmasına bir etkisi yoktur, bundan sonra da isimler Latince olmaya ve Latince dilbilgisi yapısına göre oluşturulmaya devam edecektir. Betim ve diyagnozların sadece Latince veya İngilizce olması ya da ikisinin de kabul edilmesi elbette dergilerin editörleri tarafından tercih edilecektir.

Melborn'da kabul edilen ve 1 Ocak 2013'ten sonra (Miller ve ark. 2011'de belirtildiği üzere 1 Ocak 2012 tarihinde değil) geçerli olacak *Yasa*da isimlerin yayınlanmasına ilişkin yapılan üçüncü değişiklik, mantar olarak kabul edilen organizmaların yeni isimlerinin geçerli olarak basılabilmesi için, tanınmış (MycoBank gibi [http://www.mycobank.org/]) bir veri bankası tarafından verilen bir tanımlayıcının (seri numarasının) protologta (bir ismin geçerli basımında onunla ilgili verilen her türlü bilgi) belirtilmesi-nin gerekliliğidir. Yeni mantar isimleri için kayıt yaptırma gereklilikleri başka bir yerde ayrıca yayınlanacaktır.

Yeni mantar isimleri için 1 Ocak 2013 ve sonrasında geçerli olacak belli bir tanımlayıcıya olan gereklilik, bitki ya da alglere *uygulanmayacaktır*. Bu gruplardaki yeni isim yazarlarının kayıt merkezlerinden Yaşam Bilimi Tanıtıcı İsmi (LSID) ya da başka bir tanıtıcı isim almasına gerek yoktur.

## Teşekkür

SK'ın XVIII. IBC Melbourne, Adlandırma Seksiyonu çalışmasına katılımı NSF'nin Planetary Biodiversity Inventory programından (DEB-0316614, 'PBI Solanum - a worldwidetreatment'). JMcN ve NJT'ın katılımları ise kısmen International Association for Plant Taxonomy (IAPT) tarafından desteklenmiştir. Katherine Challis (Kew)'e yararlı yorumları için teşekkür ederiz.

*Uluslararası Alg, Mantar ve Bitki Adlandırma Yasası*'nda yapılan bu değişikliklerin geniş kitlelere duyurulmasını sağlamak amacıyla bu makale *BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany* ve *Taxon* dergilerinde yayınlanacaktır.

Çevirmenlerin notu: *Uluslararası Botanik Adlandırma Yasası* (Viyana Yasası) Türkçe'ye Menemen ve Dönmez (2007) tarafından çevrilmiştir.

## Kaynakça

Chapman AD, Turland NJ, Watson MF (Eds) (2010) Report of the Special Committee on Electronic Publication. Taxon 59: 1853–1862.

Johnson RK, Luther J (2007) The E-Only Tipping Point for Journals: What's Ahead in the Print-to-Electronic Transition Zone. Association of Research Librarians, Washington DC.

Knapp S, Wright D (2010) E-publish or perish? In: Polaszek A (Ed) Systema Naturae 250 – the Linnaean Ark. Taylor and Francis, London, 83–93. doi: 10.1201/EBK1420095012-c8

McNeill J, Turland NJ, Monro A, Lepschi BJ (2011) XVIII International Botanical Congress: preliminary mail vote and report of Congressaction on nomenclature proposals. Taxon 60: 1–14.

Miller JS, Funk VA, Wagner WL, Barrie F, Hoch PC, Herendeen P (2011) Outcomes of the 2011 Botanical Nomenclature Section at the XVIII International Botanical Congress. PhytoKeys 5: 1–3. doi: 10.3897/phytokeys.5.1850.

**Türkçe'ye çeviri için kullanılan ek kaynak:**

Menemen Y, Dönmez AA (2007) Uluslararası Botanik Adlandırma Yasası: (Viyana Yasası): Viyana'da yapılan On yedinci Uluslararası Botanik Kongresi'nde Temmuz 2005'te kabul edilmiştir (Türkçe baskı). Doğan Matbaacılık. XXIII + 573 sayfa.

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# Two new species of *Elatostema* (Urticaceae) from southeast Yunnan, China

Zeng-Yuan Wu[1,3,4], Wen-Tsai Wang[2], Hong Wang[1,3], De-Zhu Li[1,3]

**1** *Key Laboratory of Biodiversity and Biogeography, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming Yunnan 650201, China* **2** *State Key Laboratory of Systematic and Evolutionary Botany, Institute of Botany, Chinese Academy of Sciences, Beijing 100093, China* **3** *Germplasm Bank of Wild Species, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, Yunnan 650201, China* **4** *Graduate University of the Chinese Academy of Sciences, Beijing 100049, China*

Corresponding author: *De-Zhu Li* (dzl@mail.kib.ac.cn)

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## Abstract

*Elatostema pleiophlebium* and *E. malipoense,* two endemic species from southeast Yunnan of China, are described and illustrated. Their diagnostic characters, description and relationship with morphologically similar species are also given. *Elatostema pleiophlebium* is easily recognised by its glabrous stem and leaf blade, and its longitudinally 1-ribbed outer staminate bracts. *Elatostema malipoense* is morphologically distinct for its tuberculate achene and pistillate receptacle which is puberulous. Both new species are known only from their type localities, and they are proposed to be classified as critically endangered.

## Keywords

China, *Elatostema*, new species, Urticaceae, Yunnan Province

## Introduction

The genus *Elatostema* J. R. Forst. & G. Forst. is one of the largest genera of the family Urticaceae. This genus is characterized by the perianth lobes of female flowers being much shorter than the ovary or strongly reduced, and not corniculate at apex (Chen et al. 2003;

Wang 1995). The staminate inflorescences play an important role in the delimitation of sections, but for delimiting series leaf venation, peduncle length, achene morphology and leaf reduction of staminate stem are used as main distinguishing characters (Wang 2011a).

*Elatostema* comprises ca. 550 species distributed in tropical and subtropical Africa, Asia and Oceania, especially in humid areas (Chen et al. 2003, Wang 2011a). So far, 233 species (205 endemic) have been recorded for China. These mainly occur in the tropical and subtropical regions south of the Qinling Mountains (Wang 1995, 2011a). More than seventy species of *Elatostema* have been recorded for southeast Yunnan (e.g. Wang 1997, 2003, 2006, 2010, 2011b; Wu et al. 2011), which was defined as one of the plant endemism centres in China (López-Pujol et al. 2011). During botanical surveys conducted by the authors in this region, two hitherto undescribed species were encountered, which are described and illustrated here.

***Elatostema pleiophlebium*** **W.T.Wang & Zeng Y.Wu, sp. nov.**
urn:lsid:ipni.org:names:77116005-1
http://species-id.net/wiki/Elatostema_pleiophlebium
Fig. 1F–I, 2A–C

Ob foliorum nervos laterales plures et capitula staminata 6-bracteata glabra species nova haec est fortasse affinis *E. quinquecostato* W.T.Wang, quod caulibus strigosis, foliis apice cuspidatis supra hispidis subtus strigosis nervos laterales utrinsecus usque ad 12-14 ferentibus, capituli staminati bracteis duabus exteris dorso 5-costatis et infra apicem breviter corniculatis praeclare differt.

**Type.** China. Yunnan, Hekou county, Nanxi village, Sanchahe river, 22°41'4"N, 103°59'26"E, 388 m, 01 Aug. 2010, Z. Y. Wu 10181 (Holotype: PE!; Isotype: PE!); the same locality, 01 Aug. 2010, Z. Y. Wu 10186 (Paratype: KUN!).

**Description.** Perennial herb. Stems erect, 30-50 cm tall, glabrous, unbranched. Stipules narrowly lanceolate or lanceolate, 5–14 × 1.5–3 mm, with cystoliths 0.5–0.7 mm long, apex pungent; leaves shortly petiolate, glabrous, petioles 3–17 mm long; leaf blade chartaceous, obliquely narrowly ovate, broadly oblong or elliptic, 10–20 × 4.5–7.2 cm, glabrous, adaxial surface with 1 broad, interrupted, white stripe along the mid vein, adaxial surface with dense cystoliths, conspicuous, bacilliform, 0.25–0.8 mm long, penninerved, narrow side with (4-) 7–10 lateral nerves, broad side with (5-) 7–11 lateral nerves, base obliquely cuneate, margin denticulate, apex acuminate, shortly acuminate or obtuse. Staminate capitula solitarily axillary, glabrous; peduncle ca. 1.5 mm long; receptacle broadly oblong, ca. 8 × 6 mm; bracts 6, 2-seriate, ovate or narrowly ovate, abaxially above longitudinally 1-ribbed, with rib apex extended into subulate horn-like projections, outer 2 opposite, larger, 4–5 × 9 mm, with apex projection 3 mm long, inner 4 smaller, 4–5 × 5–7 mm, apex projection 1–1.5 mm long; bracteoles membranous, numerous, semihyaline, above brownish, obtrapezoid or navicular, 2–3.2 × 0.6–2 mm, above slightly conduplicate, apex cucullate. Staminate flower buds subsessile, broadly obovoid, ca. 2 mm long, glabrous, apex 4-corniculate. Female flowers and achenes not known.

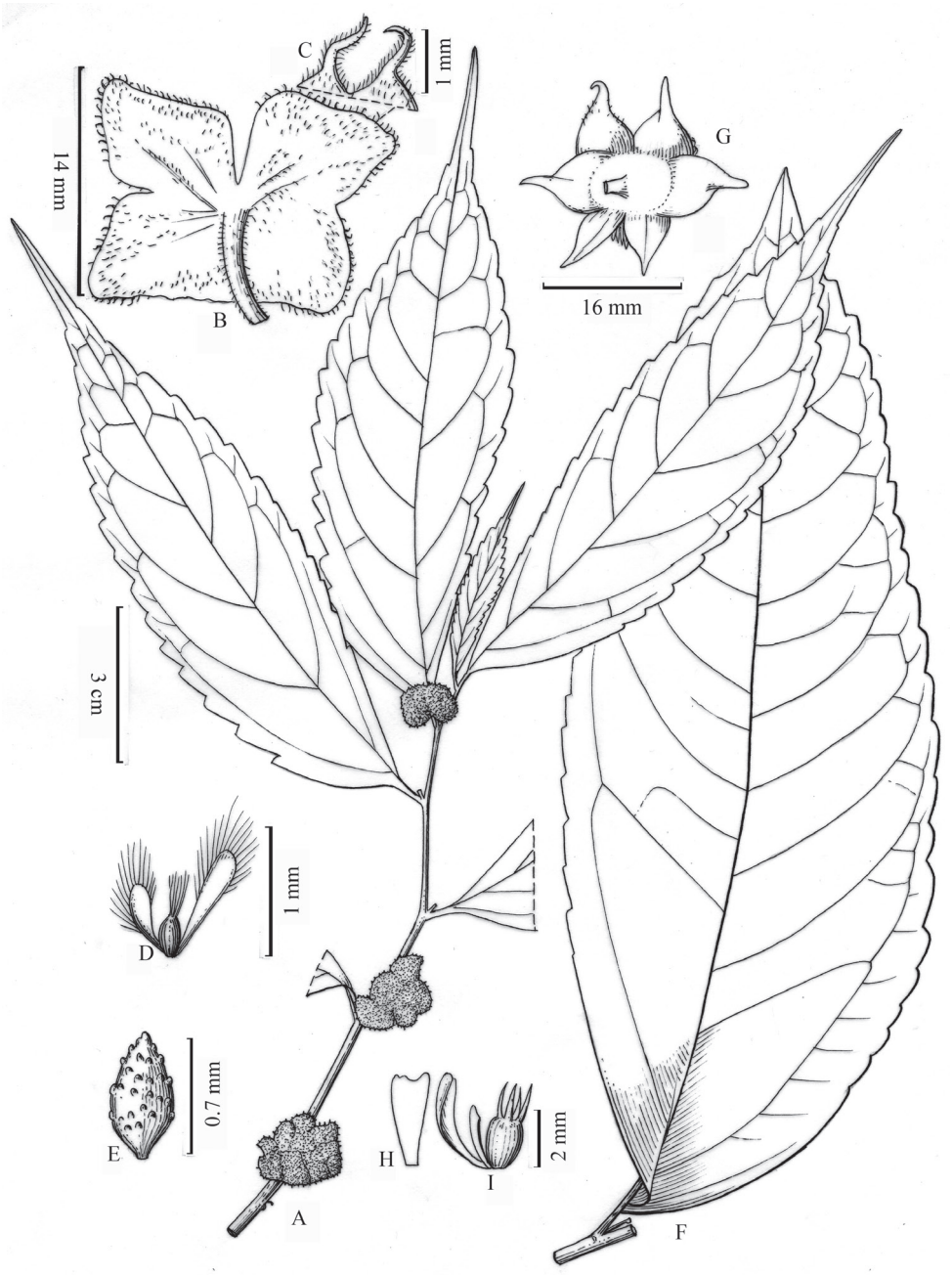


**Figure 1. A–E** *Elatostema malipoense* W. T. Wang & Zeng Y. Wu. **A** Upper part of flowering pistillate stem **B** pistillate capitulum, seen from below **C** two pistillate involucral bracts **D** pistillatate bracteoles and pistillate flower **E** achene, (based on Z. Y. Wu 10347). **F–I** *E. pleiophlebium* W.T.Wang & Zeng Y.Wu. **F** upper cauline leaf **G** staminate capitulum **H** staminate bracteole **I** staminate bracteoles and staminate flower bud, (based on Z. Y. Wu 10181).

**Ecology.** *Elatostema pleiophlebium* is a forest understory herb. In the type locality, it occurs on wet ground in forest close to a river where it is associated with *E. alnifolium* and some species of *Musa*, *Ficus* and Piperaceae.

**Distribution and conservation status.** *Elatostema pleiophlebium* is known only from the type locality near the Sanchahe river, Nanxi village, Hekou county, Yunnan. Consequently, it is probably an endemic species. A single population of a few hundred individuals was observed in an area of 1 $km^2$. We believe therefore, that this new species is on the verge of extinction but we do not know if population size is stable or declining. Following the IUCN red list criteria (IUCN 2011), we propose to classify this species as critically endangered (CR B2ab (iii); C2b).

**Similar species.** *Elatostema pleiophlebium* is a member of series Nanchuanensia W.T.Wang in sect. *Elatostema* (Wang 2011a). *Elatostema pleiophlebium* is similar to *E. quinquecostatum* W.T.Wang in having numerous lateral leaf nerves and a staminate capitulum involucre formed of six glabrous bracts. *Elatostema quinquecostatum* differs from *E. pleiophlebium* in having stems with strigose hairs, cuspidate leaf apices, hirsute adaxial leaf surface, strigose abaxial leaf surfaces, bearing ca. 12–14 nerves, the outer 2 staminate bracts abaxially longitudinally 5-ribbed and short coniculate below apex (Wang 1995).

**Etymology.** The epithet 'pleiophlebium' refers to the numerous lateral nerves characteristic of the leaves of this species.

***Elatostema malipoense* W.T.Wang & Zeng Y.Wu, sp. nov.**
urn:lsid:ipni.org:names:77116006-1
http://species-id.net/wiki/Elatostema_malipoense
Figs 1A–E, 2D–G

Ob folia penninervia et capituli pistillati bracteas numerosas apice corniculatas species nova haec est similis *E. pseudobrachyodonto* W.T.Wang, quod foliis supra puberulis, capituli pistillati receptaculo glabro, bractearum pistillatarum cornibus apicalibus majoribus 1.5-2 mm longis, bracteolis pistillatis viridibus minoribus 0.3–0.6 mm longis apice breviter ciliatis, acheniis longitudinaliter 4-costatis valde recedit.

**Type.** China. Yunnan, Malipo county, Xiajinchang village Yunling, 23°10'6"N, 104°49'50"E, 1613 m, 05 Aug. 2010, Z. Y. Wu 10347 (Holotype: PE!; Isotype: KUN!).

**Description.** Perennial herb. Stems erect, 30-50 cm tall, above sparsely short- puberulous near the node, unbranched. Stipules subulate or narrowly triangular, 0.1–0.2 mm long; leaves shortly petiolate, glabrous, petioles 1–6 mm long; leaf blade subchartaceous, obliquely oblong or narrowly obovate-oblong, 11–15 × 3–3.5 cm, both surfaces densely short strigose, cystoliths conspicuous, dense, bacilliform, 0.1–0.2 mm long, penninerved, lateral nerves 5–7-paired, base obliquely cuneate, apex cuspidate (entire), margin denticulate. Pistillate capitula solitarily axillary; peduncle ca. 8 mm long, short-puberulous; receptacle subquadrate or broadly oblong, 10–15 × 10–15 mm, 4-lobulate or irregularly 4–6-lobulate, short-puberulous; bracts ca. 75, deltoid or depressed-deltoid, 0.5–0.6 × 0.5–0.7 mm, ciliate, abaxial surface short-puberulous,

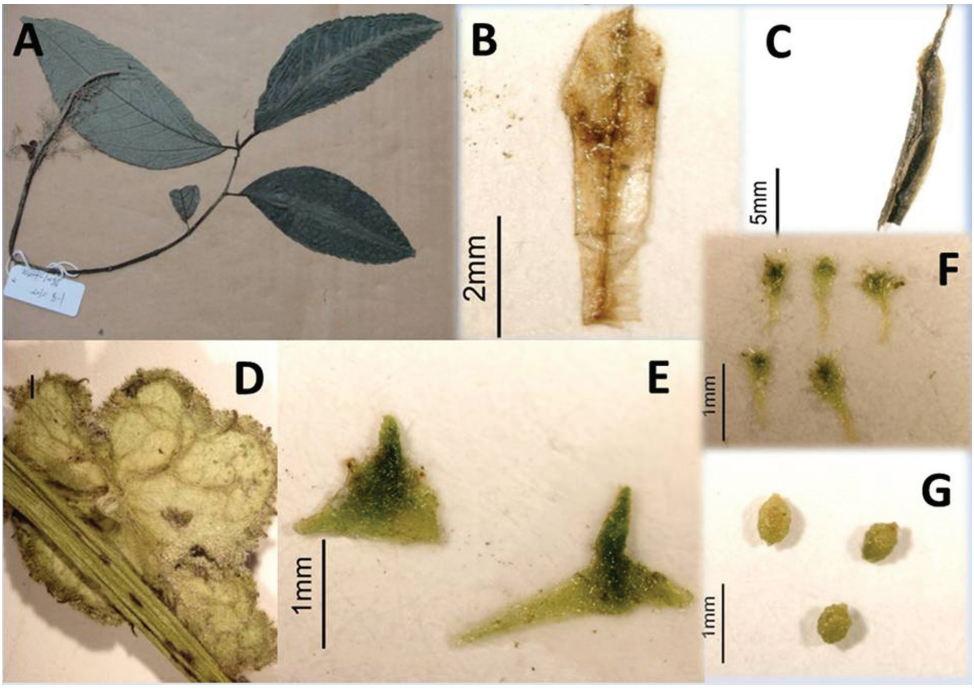


**Figure 2. A–C** *Elatostema pleiophlebium* W.T.Wang & Zeng Y.Wu. **A** Specimen **B** staminate bracteole **C** stipule **D–G** *E. malipoense* W.T.Wang & Zeng Y.Wu. **D** pistillate capitulum, seen from below **E** pistillate involucral bracts **F** pistillate bracteoles **G** achenes.

apex with a subulate horn-like projections, 0.7–1 mm long; bracteoles membranous, whitish, semihyaline, narrowly obovate or oblanceolate, 0.5–1 mm long, apically long ciliate. Pistillate flower subsessile, tepals absent; pistil 0.8 mm long, ovary green, 3.5 mm long, stigma penicillate, ca. 4.5 mm long. Achenes ovoid, 0.6–0.7 × 0.4 mm, densely tuberculate. Staminate capitula not seen.

**Ecology.** *Elatostema malipoense* is a scattered understory herb growing in moist clay soils in shady sites or near ravines at an altitude of ca. 1600 m, associated with *Pilea insolens* and some species of *Ficus*.

**Distribution and conversation status.** *Elatostema malipoense* is an endemic species and has only been collected from the type locality around Xiajinchang village Yunling, Malipo county, Yunnan, where a population of ca. 200 individuals was observed in an area of 1 $km^2$. According to IUCN red list criteria (IUCN 2011), this new species should be classified as critically endangered (CR B2ab (iii); C2b).

**Similar species.** *Elatostema malipoense* is a member of sect. *Elatostema* (Wang 2011a). In having penninerved leaves and a pistillate capitulum with numerous corniculate involucral bracts, *E. malipoense* resembles *E. pseudobrachyodontum* W.T.Wang. *Elatostema pseudobrachyodontum* differs from *E. malipoense* in having short-puberulous adaxial surface of the leaf blade, glabrous pistillate receptacles, pistillate bracts 1.5-2 mm long, and corniculate, pistillate bracteoles are green, 0.3-0.6

mm long, apex short-ciliate at the apex and achenes that are longitudinally 4-ribbed (Wang 1995).

**Etymology.** The species epithet 'malipoense' is derived from the name of the type locality, Malipo County, Yunnan Province, China.

## Acknowledgements

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## References

Chen CJ, Lin Q, Friis I, Wilmot-Dear CM, Monro AK (2003) Urticaceae. Science Press, Beijing & Missouri Botanical Garden Press.

IUCN Standards and Petitions Subcommittee (2011) Guidelines for Using the IUCN Red List Categories and Criteria. Version 9.0. Prepared by the Standards and Petitions Subcommittee.

López-Pujol J, Zhang FM, Sun HQ, Ying TS, Ge S (2011) Centres of plant endemism in China: places for survival or for speciation? Journal of Biogeography 38: 1267–1280. doi: 10.1111/j.1365-2699.2011.02504.x

Wang WT (1995) *Elatostema*. In: Wang WT, Chen C J (Eds) Flora Reipubl. Pop. Sin. Vol. 23. Science Press, 187–317.

Wang WT (1997) Two new species of *Elatostema* (Urticaceae) from Yunnan, China. Acta Phytotaxonmica Sinica 35: 457–460.

Wang WT (2003) Notes on *Elatostema* Forst. (Urticaceae) from Yunnan Province. Bulletin of Botanical Research 23: 257–260.

Wang WT (2006) Notes on *Pellionia* and *Elatostema* (Urticaceae) in Southeastern Yunnan. Bulletin of Botanical Research 26: 15–24.

Wang WT (2010) New taxa of *Pellionia* and *Elatostema* (Urticaceae) from China. Guihaia 30: 1–12.

Wang WT (2011a) Nova Classificatio Specierum Sinicarum *Elatostematis* (Urticaceae). Guihaia In press.

Wang WT (2011b) Two new species of *Elatostema* (Urticaceae) from southeastern Yunnan. Guihaia 31: 143–147.

Wu ZY, Wang WT, Wang H, Li DZ (2011) *Elatostema densistriolatum* sp. n., *E. latistipulum* sp. n. and *E. cyrtandrifolium* var. *hirsutum* var. nov. (Urticaceae) from southwest China. Nordic Journal of Botany 29: 227–232. doi: 10.1111/j.1756-1051.2011.01076.x

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# Translation into Arabic of: "Changes to publication requirements made at the XVIII International Botanical Congress in Melbourne – what does e-publication mean for you?". Translated by Ahmed M. Abdel-Azeem and Gihan S. Soliman

# تغييرات شروط النشر التى اجريت في المؤتمر الدولي الثامن عشر للنبات في ملبورن- ماذا يعنى النشر الإلكتروني بالنسبة لك؟

Sandra Knapp[1], John McNeill[2], Nicholas J. Turland[3]

**1** *Department of Botany, The Natural History Museum, Cromwell Road, London SW7 5BD, UK* **2** *Royal Botanic Garden, Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR, UK* **3** *Missouri Botanical Garden, PO Box 299, St Louis, MO 63166-0299, USA*

Corresponding author: *Sandra Knapp* (s.knapp@nhm.ac.uk)

الترجمة للعربية: أحمد محمد عبد العظيم*(قسم النبات، كلية العلوم، جامعة قناة السويس، الإسماعيلية 41522، مصر) و جيهان سامى سليمان (جمعية معلمى المناهج الدولية، 318 زهراء مدينة نصر، القاهرة، مصر)
*المؤلف الذي تجري المراسلات معه: zemo3000@yahoo.com

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**الملخص**

يتم تقرير تغييرات في القانون الدولى للتسمية النباتية كل 6 سنوات في أقسام التسميات المرتبطة بالمؤتمرات النباتية الدولية (IBC). وبالمؤتمر الدولي الثامن عشر للنبات الذي عقد في ملبورن ، استراليا ؛ عقد قسم التسميات إجتماعاً خلال الفترة من 18إلى 22 يوليو 2011 وتم قبول قراراتها من قبل المؤتمر في جلسته العامة يوم 30 يوليو. وقد أجريت نتيجة لهذا الاجتماع العديد من التغييرات الهامة على القانون والتي سيكون لها تأثير على نشر أسماء جديدة. وسيسري العمل باثنين من تلك التغييرات في 1 كانون الثاني 2012، وقبل بضعة أشهر من نشر قانون ملبورن. فستصبح المواد الالكترونية التي نشرت على الانترنت على هيئة تنسيق المستندات المحمولة (PDF) مع الرقم التسلسلي المعيارى الدولى (ISSN) أو الرقم المعيارى الدولى للكتاب (ISBN) صالحة للنشر كما سيتم تغيير شرط الحصول على وصف أو تشخيص لاتينى لأسماء الأصنوفات الجديدة إلى شرط الوصف أو التشخيص سواء باللاتينية أو الإنجليزية. بالإضافة إلى ذلك،فإنه بدء من يناير عام 2013 سيكون على الأسماء الجديدة للكائنات الحية التي تعامل كفطريات

أن تشمل في البروتولوج (كل ما يرتبط بإسم وبنشره الصحيح) توثيق المعرف صادرا من مستودع معترف به (مثل بنك الفطريات MycoBank) لتصيرصالحة للنشر. ويتم توفير مسودة المواد الجديدة التي تتعامل مع النشر الإلكتروني وتحديد أفضل الممارسات. ولتشجيع نشر التغييرات التي أدخلت على القانون الدولي للتسمية للطحالب والفطريات ، والنباتات ، سيتم نشر هذه المقالة في المجلات التالية *BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany* و *Taxon* .

## المقدمة

في المؤتمر الثامن عشر الدولي للنبات في ملبورن، استراليا، في يوليو 2011 ، تم إعداد تغييرين هامين فى القانون الدولى لتسمية النبات (الآن القانون الدولي لتسمية الطحالب والفطريات والنباتات) وسيكونا ساريان بدءا من 1 يناير 2012 بما سيؤثر على كل من ينشر أسماء تحت حكم هذا **القانون** .وحيث أن **قانون ملبورن** سوف لا ينشر حتى منتصف عام 2012 تقريبا، فقد شعرنا أنه سيكون من المفيد توضيح هذه التغييرات، ولا سيما بصلاحية النشر في وسائل الإعلام الإلكترونية (في المواد 29 و 30 و 31). للاطلاع على تقرير موجز عن كل التغييرات على **القانون** والمقبولة في ملبورن ، انظر ماكنيل وآخرون (2011).

وتم توفير مسودة لصيغة المواد المعدلة والملاحظات والتوصيات المتعلقة بصلاحية النشر لمساعدة المحررين والناشرين لوضع أفضل الممارسات لتنفيذ هذا الجانب من **القانون**. ونحن نستعرض هنا أيضا ما **لا** تعنيه تلك التغييرات، من أجل توجيه الراغبين في نشر أسماء جديدة ونماذج بالوسائل الالكترونية. ونحن نحث القراء على الاطلاع على تقرير اللجنة الخاصة المعنية بالنشر الإلكتروني المصاحبة للتغييرات المقترحة قبل المؤتمر (تشابمان وآخرون 2010) ، حيث تم عرض منطق التغييرات التي تم قبولها في **القانون** الآن.

## مسودة صياغة المواد المعدلة 29 ، 30 ، و 31 والتوصيات 29A ، 30A ، و31A

نحن هنا نعيد صياغة كلمات جميع المواد المتصلة والملاحظات والتوصيات (مع حذف الأمثلة)، مع التأكيد على التغييرات بكتابتها **بخط سميك** والصياغة هنا مؤقتة لحين اجتماع لجنة التحرير في ديسمبر 2011 لوضع اللمسات الأخيرة على النسخة المطبوعة من **قانون ملبورن**.

المادة 29

29،1. النشر يصبح صالحا، بموجب هذا **القانون** ، من خلال توزيع المواد المطبوعة (من خلال البيع والتبادل أوالهبة) لعامة الناس أو على الأقل للمؤسسات النباتية ذات المكتبات والتي فى متناول علماء النبات عموما. **والنشر يعد صالحاً أيضا بتوزيع المواد إلكترونيا بتنسيق المستندات المحمولة (PDF ، وانظر أيضا المادة 29،3 والتوصية 29A.1) في منشور على الانترنت مع الرقم التسلسلي المعيارى الدولى (ISSN) أو الرقم المعيارى الدولى للكتاب (ISBN).** لا يعد النشر صالحاً بنشر أسماء جديدة من خلال تبليغها في جلسة علنية أوعن طريق وضع الأسماء في مجموعات أو حدائق مفتوحة للجمهور أو من خلال إصدار الميكروفيلم المصنوع من مخطوطات، أوراق مطبوعة، أو مواد أخرى غير منشورة، أو عن طريق التوزيع الإلكتروني **غير المذكور أعلاه**.

***29،2*. لغرض هذا المقال يعرف «الإلكتروني» بأنه مايمكن الوصول إليه إلكترونيا عبر الشبكة العنكبوتية العالمية.**

***29،3*. في حال استبدال نسق المستندات المحمولة (PDF)، فيقبل خلفا له تنسيق المعايير الدولية التي تحددها اللجنة العامة (انظر الجزء الثالث).**

***29،4*. يجب عدم تغيير إى محتوى خاص إلكتروني بعد صدوره لأول مرة وأي تعديل من هذا القبيل يعتبر مغايراً للنشر الصالح ذاته وأي تصحيحات أو تعديلات يجب أن تنشر منفصلة لتعتبر منشورة نشراً صالحاً.**

توصية 29A

[التوصية الحالية يستعاض عنها بما يلي :]
**29A.1. ينبغي أن يكون النشر الإلكتروني في نسق المستندات المحمولة (PDF) متوافقا مع نسق المستندات المحمولة/ المحفوظات القياسية ( ايزو 19005).**
**29A.2. يفضل أن يقوم الناشر بالنشر في المنشورات التي يتم حفظها، وتلبي المعايير التالية بقدر إمكانية التطبيق (انظر أيضا التوصية 29 A. 1) :**
***(a)* ينبغي أن توضع المواد في مستودعات رقمية عديدة بالانترنت موثوق بها ، مثل مستودع حائزة على شهادة الايزو؛**
***(b)* ينبغي أن تكون المستودعات الرقمية في أكثر من منطقة واحدة فى العالم ، ويفضل أن تكون في مختلف القارات؛**
***(c)* تخزن النسخ المطبوعة في المكتبات في أكثر من منطقة واحدة من العالم ، ويفضل أيضاً في قارات مختلفة.**

المادة 30

***30,1*. لا يشكل المنشور إلكترونيا منشورا صالحاً قبل 1 يناير 2012.**
***30,2*. لا يعد المنشور الكترونيا نشرا صالحا إذا كانت هناك أدلة مرتبطة بالمنشور أو داخله على انه مجرد نسخة أولية كانت ستستبدل أو سيتم استبدالها بنسخة يعتبرها الناشر نهائية وفي تلك الحالة تكون النسخة النهائية تلك فقط هي الصالحة للنشر.**
*30,3*. يعتبر النشر عن طريق مخطوطات لاتمحى قبل 1 يناير 1953 نشرا صالحا. أما المخطوطات التى لا تمحى والتي انتجت في وقت لاحق لا تعد نشرا صالحا.
*30,4*. هدف هذه المادة، ان المخطوطة التى لاتمحى عبارة عن مادة مكتوبة بخط اليد وتم انتاجها عن طريق عملية ميكانيكية أو طباعة (مثل الطباعة الحجرية ، الاوفست، أو النقش معدني).
*30,5*. النشر في أو بعد 1 يناير 1953 في كتالوجات التجارة أو الصحف غير العلمية، وفى أو بعد 1 يناير 1973 في قوائم تبادل البذور، لا يشكل نشرا صالحا.
*30,6*. توزيع المطبوعات فى أو بعد 1 يناير 1953 المصاحبة للعينات لا يشكل نشر صالحا.
ملاحظة *1*. أما إن تم توزيع المادة المطبوعة مستقلة عن العينات، يعد النشر صالحا.
*30,7*. النشر في أو بعد 1 يناير 1953 لعمل مستقل بدون رقم مسلسل على أنها أطروحة قدمت إلى جامعة أو معهد تعليمي أخر بغرض الحصول على درجة لا يعد نشرا صالحا ما لم يتضمن بيانا واضحا (في إشارة إلى شروط قانون النشر الصالح) أو أدلة داخلية أخرى على أنها تعتبر نشرا صالحا من قبل مؤلفها أو ناشرها.
ملاحظة *2*. ويعتبر وجود الرقم المعيارى الدولى للكتاب (ISBN) أو بيانا باسم المطبعة، أو الناشر أو الموزع في النسخة الأصلية المطبوعة دليلا داخليا أن العمل كان مخصصا للنشر نشرا صالحا.

توصية **30A**

***30 A. 1*. ينبغي الإشارة بوضوح إلى أن الإصدار الأولي والنهائية لذات النشر الالكتروني كانتا كذلك عند إصدارهما للمرة الأولى.**
*30A.2*. ينصح وبشدة أن يتجنب المؤلفين نشر أسماء وأوصاف جديدة أو تشخيص لأصنوفات جديدة (تسميات حديثة) في أي مطبوعات سريعة الزوال من أي نوع ، ولا سيما المواد المطبوعة التي أنتجت في أعداد محدودة وغير مؤكدة ، والتي عندها تكون ديمومة النص محدودة ، وبالتالي فإن النشر الصالح بالرجوع إلى عدد النسخ يصبح غير واضح ، أو أنه من غير المرجح أن يصل إلى عامة الناس. وينبغي أيضا أن يتجنب المؤلفين نشر أسماء وأوصاف جديدة أو تشخيصات في الدوريات الشعبية، في مجلات للملخصات، أو على قصاصات تصويب.
*30A.3*. ولتسهيل الإتاحية عبر الزمان والمكان ، يجب على المؤلفين ممن يقوموا بنشر أسماء جديدة إعطاء

الأفضلية للدوريات التي تنشر المقالات التصنيفية بانتظام. **و إلا فعليهم إرسال نسخة من المنشور (سواء كان منشورا مطبوعا أو إلكترونيا) إلى مركزا للفهرسة مناسباً للمجموعة التصنيفية ، أما المنشورات التي لا توجد إلا على هيئة مطبوعة** فينبغي إيداعها في بما لا يقل عن عشرة ، ولكن يفضل أكثر ، مكتبات نباتية أو غيرها من المكتبات المتاحة عموما في جميع أنحاء العالم.

*30A.4.* وينصح أن يقوم الكتاب والمحررين بذكر الأسماء الجديدة في الملخصات والمختصرات، أو حصرها في فهرس في المطبوعة.

المادة **31**

*31,1.* تاريخ النشر الصالح هو التاريخ الذي تصبح فيه المادة المطبوعة **أو الإلكترونية** متاحة كما تم تعريفها في المادة 29 و 30. في غياب بروفة طباعة لإثبات تاريخ آخر، فإنه يجب قبول التاريخ الظاهر على المواد المطبوعة **أو الإلكترونية** على انه صحيحا.

[ملاحظة 1 القائمة يستعاض عنها بما يلي :]

***31,2.* عندما يتم إصدار منشور إصداراً الكترونيا ومطبوعا بالتوازي فيجب معاملة كلاهما كنشرا صالحا في ذات التاريخ ما لم يكن تاريخ الإصدار مختلفا طبقاً للمادة 31،1.**

*31,3.* عندما تطرح بعض المستلات من دوريات أو من أعمال أخرى للبيع مقدما ، فإن التاريخ الموجود على المستلة يقبل على أنه تاريخ النشر الصالح ما لم يتوفر دليل على خطأ ذلك.

توصية **31A**

*31A.1.* ينبغي قبول التاريخ الذي قام فيه الناشر أو وكيل الناشر بتوفير المواد المطبوعة إلى واحدة من شركات الطيران المعتادة للتوزيع على الجمهور على أنه تاريخ النشر الصالح.

**أفضل الممارسات**

على مؤلفي الأسماء الجديدة ، والمحررين والناشرين جميعا الاهتمام بالتأكد أن المنشورات والتي تشتمل على أسماء جديدة توافق جميعها قانون ملبورن ، بحيث يتم نشر الأسماء فيه بشكل صالح. ونقترح أن من يقومون بالنشر في المجلات أو سلسلة من الدراسات والكتب التي لها طبعات على الانترنت التواصل مع المحررين بحيث يمكن التوصل لأفضل الممارسات في جميع أنحاء المجتمع بأسرع وقت ممكن. وقد قام العديد من الناشرين بتناول المسائل التي تتصل بالنشر الإلكتروني للمستجدات لبعض الوقت (انظر ناب ورايت ٢٠١٠ ؛ المبادئ التوجيهية .PLoS One [http://www plosone.org/static/policies.action#taxon وقد بدا منهم اهتماما واضحا بسريان التغييرات الجديدة في القانون بفاعلية.

ومن الممارسات التي نراى أنها ستساعد في المراحل الأولية للنشر الإلكتروني للمستجدات وفقا **لقانون ملبورن** هي :

- أن يحمل كل مقال تاريخ نشره بصورة واضحة (كما هو الحال في العديد من المجلات ، على سبيل المثال *New Phytologist* أو *Nature*).
- إذا تم إصدار نسخة على الإنترنت في وقت سابق ليست هي نفس الصيغة النهائية (وبالتالي لايعد هذا مكان النشر الصالح) ، يختم كل مقال بهذه الحقيقة بوضوح (على سبيل المثال *American Journal of Botany*).
- عرض الرقم التسلسلي المعياري الدولي أو الرقم المعياري الدولي للكتاب المنشور بوضوح على كل مادة لتساعد

المفهرسين لإنشاء نشر صالح.
• النشر في مجلات (أو سلسلة من الدراسات) تشارك في نظام CLOCKSS (انظر ناب ورايت 2010 للحصول على وصف) أو أرشيف دولي آخر ونظام حفظ يضمن الحفظ على المدى الطويل.
• وينبغي أن ينبه المؤلفين للأسماء الجديدة بالوسائل الالكترونية مركز الفهرسة المناسب لهم على النحو الموصى به في التوصية 30 A.3 . – مما سيساعد المفهرسين الذين قد لا يكونوا على وعي بالأسماء المنشورة إلكترونيا ان لم يتم تنبيههم بتلك الكيفية.

**ما لا تعنيه هذه التغييرات**

على الرغم من أن المواد الجديدة والتوصيات تستخدم مصطلحي نسق المستندات المحمولة ونسق المستندات المحمولة/ المحفوظات القياسية PDF و PDF / A ، فإن هذا لا يعني حتمية أن تصدر المنشورات حصريا في هذا الشكل لتكون صالحة للنشر. على سبيل المثال ، بعض أوراق المجلات على الإنترنت تصدر في تنسيق لغة توصيف النص التشعبي (HTML) بالتوازي مع نسق المستندات المحمولة. وفي مثل هذه الحالات ، سيتم نشر نسخة نسق المستندات المحمولة نشرا صالحا. أن شرط أن اللجنة العامة للتسميات النباتية سوف تنقل قبول صيغة معيار دولي جديدة ، في حال استبدال نسق المستندات المحمولة طالما يعني أن مؤلفي الأسماء الجديدة والمجتمع ممن يستخدموا **القانون** يستطيعون البقاء على علم بالتقدم في المجال وأن **القانون** سوف يكون محميا من التقادم.
استخدام الوسائل التالية للنشر الإلكتروني لن تؤدي للنشر الصالح للمستجدات بموجب **قانون ملبورن** :
• النشر على مواقع الانترنت أو في وثائق زائلة متاحة عبر شبكة الإنترنت (هناك معايير صارمة لمنح الأرقام التسلسلية المعيارية الدولية [http://www.issn.org]).
• النشر في مجلات دون رقم تسلسلي معياري دولي مسجل أو رقم تسلسلي معياري دولي الكتروني.
• النشر في كتب دون الرقم المعياري الدولي للكتاب أو الرقم المعياري الدولي للكتاب الالكتروني.
إن التوصية المعتمدة كمشورة لحفظ نسخة مطبوعة من أي نشر إلكتروني في مكتبة تقترح لعلماء النبات عملا إجرائيا، إلا أنها لا تنص على ممارسة معيارية أو بروتوكول يتبعه أمناء المكتبات. فأمناء المكتبات أنفسهم في مرحلة انتقالية معقدة بين طرق النشر (جونسون ولوثر 2007) ، وقد يجد علماء النبات أن أمناء المكتبات غير راغبين أو غير قادرين على استيعاب إحدى المطبوعات الورقية كمنشور مفرد في حال كونه كبير الحجم .

**تغييران آخران هامان في القانون يتعلقان بنشر الأسماء**

التغيير الثاني في **القانون** الذي تم اعتماده في ملبورن على أن يسري بدئه من يناير 2012 هو أن الوصف أو التشخيص المطلوب للنشر الصالح لأسم جديد لجميع الكائنات التي ينطبق عليها القانون يمكن أن تكون بالإنجليزية أو اللاتينية وهذا هو الشرط الحالي لأسماء حفريات النبات إلا أن كل الأسماء الغير حفرية الجديدة مازالت تتطلب وصفا لاتينيا أو تشخيصا (الفطريات والنباتات من 1 يناير 1958 والطحالب بما يشمل البكتيريا الخضراء المزرقة لو تمت معاملتها بموجب **القانون** من يناير 1958). وهذا لا يطبق فى حالة الأسماء العلمية والتي ستستمر لاتينية أو تعامل كلاتيني. والمتطلبات الفردية لمجلة باللاتيني و/ أو الإنجليزي يحددها محرري تلك المجلات.
والتغيير الثالث **للقانون** المعتمد في ملبورن يرتبط بنشر الأسماء لكنه لا يسري حتى 1 يناير 2013 (ليس يناير 2012 كما نقله ميلر وآخرون 2011) وهو أن الأسماء الجديدة للكائنات التي تعامل كفطريات يجب أن، بالإضافة إلى شرط النشر الصالح ، تشتمل في البروتولوج (كل ما يرتبط بالإسم وصلاحية نشره) على المصدر الذي يحدد المعرف وصادر من مستودع معترف به (مثل بنك الفطريات [http://www.mycobank.org/]وينشر ذلك بشكل منفصل. إن شروط المعرف الفريد لأسم جديد من الفطريات بحلول 1 يناير 2013 أو بعد ذلك لا ينطبق على النباتات أو الطحالب ولا حاجة لمؤلفي أسماء جديدة في هذه المجموعات أن يطلبوا معرفي علوم حياة (LSIDs) أو أي معرفين آخرين من مراكز الفهرسة.

**شكر وتقدير**

تم دعم ساندرا ناب من قبل المؤسسة العلمية الوطنية برنامج رصد التنوع البيولوجى الكوكبى (منحة DEB - 0316614، رصد التنوع البيولوجى الكوكبى ل Solanum في جميع أنحاء العالم). ودعم حضور كلا من جون ماكنيل ونيكولاس ج تورلاند جزئيا في قسم التسميات للمؤتمر الدولى الثامن عشر للنبات في ملبورن من قبل الجمعية الدولية لتصنيف النبات (IAPT). نشكر كاثرين تشاليس (كيو) لتعليقاتها المفيدة. لتشجيع نشر التغييرات التي أدخلت على القانون الدولي لتسمية الطحالب والفطريات ، والنباتات، سوف تنشر هذه المقالة فى المجلات التالية *BMC Evolutionary Biology, Botanical Journal of the Linnean Society, Brittonia, Cladistics, MycoKeys, Mycotaxon, New Phytologist, North American Fungi, Novon, Opuscula Philolichenum, PhytoKeys, Phytoneuron, Phytotaxa, Plant Diversity and Resources, Systematic Botany* و *Taxon*.

**المراجع**

Chapman AD, Turland NJ, Watson MF (Eds) (2010) Report of the Special Committee on Electronic Publication. Taxon 59: 1853–1862.

Johnson RK, Luther J (2007) Te E-Only Tipping Point for Journals: What's Ahead in the Print-to-Electronic Transition Zone. Association of Research Librarians, Washington DC.

Knapp S, Wright D (2010) E-publish or perish? In: Polaszek A (Ed) Systema Naturae 250 –the Linnaean Ark. Taylor and Francis, London, 83–93. doi: 10.1201/EBK1420095012-c8

McNeill J, Turland NJ, Monro A, Lepschi BJ (2011) XVIII International Botanical Congress: preliminary mail vote and report of Congress action on nomenclature proposals. Taxon 60: 1–14.

Miller JS, Funk VA, Wagner WL, Barrie F, Hoch PC, Herendeen P (2011) Outcomes of the 2011 Botanical Nomenclature Section at the XVIII International Botanical Congress. Phy-toKeys 5: 1–3. doi: 10.3897/phytokeys.5.1850