
Research Article

Nomenclatural novelties in Euphorbiaceae

Rajeev Kumar Singh

Botanical Survey of India, Arid Zone Regional Centre, AIIMS Road, Jodhpur, Rajasthan, India

E-mail: rksbsiadsingh@gmail.com; ORCID: <https://orcid.org/0000-0002-0136-9243>

Article Details: Received: 2025-01-15 | Accepted: 2025-05-02 | Available online: 2025-05-05



Licensed under a Creative Commons Attribution 4.0 International License

Abstract: Replacement names *Croton lallanii* R.Kr.Singh, *C. vishwanathii* R.Kr.Singh and *Euphorbia charitontceyii* R.Kr.Singh are proposed here for the illegitimate names *Croton chevalieri* Gagnep., *C. insignis* Glaz. ex Sodré & M.J.Silva and *Euphorbia pseudoesula* Charit. respectively. In the genus *Euphorbia* L., a new name *E. sangeetae* R.Kr.Singh is proposed here for *Stenadenium spinescens* Pax. Two new combinations *Euphorbia compacta* (N.E.Br.) R.Kr.Singh and *E. compacta* var. *rubra* (S.Carter) R.Kr.Singh are made here for *Synadenium compactum* N.E.Br. and *S. compactum* var. *rubrum* S.Carter respectively. A new combination and status *Euphorbia sangeetae* var. *elegans* (S.Carter) R.Kr.Singh is made for *Monadenium elegans* S.Carter. In addition, to fix the identity and to avoid the misapplication of names, lectotypes are designated for *Synadenium compactum* N.E.Br. and *Stenadenium spinescens* Pax.

Keywords: Brazil, *Croton chevalieri*, *Croton insignis*, Endemic, *Euphorbia pseudoesula*, *Monadenium elegans*, *Synadenium compactum*, *Stenadenium spinescens*, Russia, Tanzania, Mexico, Vietnam

Introduction

The genus *Croton* L. consists of about 1130 species, distributed worldwide in tropics and subtropics regions (POWO, 2025). In Vietnam, the genus is represented by 34 species, namely *C. alpinus* A.Chev. ex Gagnep., *C. argyratus* Blume, *C. cascarilloides* Raeusch., *C. caudatus* Geiseler, *C. chevalieri* Gagnep., *C. crassifolius* Geiseler, *C. cubiensis* Gagnep., *C. delpyi* Gagnep., *C. dodecamerus* Gagnep., *C. dongnaiensis* Pierre ex Gagnep., *C. eberhardtii* Gagnep., *C. heterocarpus* Müll.Arg., *C. hirtus* L'Hér., *C. ignifex* Croizat, *C. iteophyllus* Radcl.-Sm. & Govaerts, *C. joufra* Roxb., *C. kongensis* Gagnep., *C. krabas* Gagnep., *C. lachnocarpus* Benth., *C. lamdongensis* Thin, *C. langsonensis* Thin, *C. laniflorus* Geiseler, *C. latsonensis* Gagnep., *C. persimilis* Müll.Arg., *C. phuquocensis* Croizat, *C. poilanei* Gagnep., *C. pontis* Croizat, *C. potabilis* Croizat, *C. scopuligenus* Croizat, *C. thoi* Thin, *C. thorelii*

Gagnep., *C. tigilium* L., *C. touranensis* Gagnep. and *C. vietnamensis* Radcl.-Sm. & Govaerts, of which *C. alpinus*, *C. chevalieri*, *C. cubiensis*, *C. dodecamerus*, *C. dongnaiensis*, *C. eberhardtii*, *C. ignifex*, *C. iteophyllus*, *C. lamdongensis*, *C. langsonensis*, *C. latsonensis*, *C. pontis*, *C. potabilis*, *C. scopuligenus*, *C. thoi*, *C. touranensis* and *C. vietnamensis* are endemic (POWO, 2025). However, the name *C. chevalieri* Gagnep. (Bull. Soc. Bot. France 68: 550. 1922) is illegitimate because it is a later homonym of *C. chevalieri* Beille [Bull. Soc. Bot. France (Mémoires) 8c: 123. 1910] in accordance with Article 53.1 of the ICN (Turland et al., 2018). Therefore, a replacement name is proposed here. In Brazil, the genus consists of about 340 species, of which 240 are endemic (POWO, 2025). However, the name *C. insignis* Glaz. ex Sodré & M.J.Silva (Phytotaxa 472: 223. 2020) is illegitimate because it is a later homonym of *C. insignis* Van Geert [Nursery Cat. (Auguste Van Geert) 83: 9. 1882]. Therefore, a replacement name is herein proposed.

The cosmopolitan genus *Euphorbia* L. consists of about 2060 species. In Russia, the genus is represented by about 650 species (POWO, 2025). However, the name *E. pseudoesula* Charit. (Vestn. Tobol'skoi Gosud. Sotsial'no-Pedagog. Akad. 3: 46. 2011) is illegitimate because it is a later homonym of *E. pseudoesula* Schur (Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 4: 66. 1853). Therefore, a replacement name is proposed here. In Tanzania, the genus consists of about 145 species, of which *E. allocarpa* S.Carter, *E. asthenacantha* S.Carter, *E. biharamulensis* S.Carter, *E. biselegans* Bruyns, *E. bisglobosa* Bruyns, *E. caloderma* S.Carter, *E. catenata* (S.Carter) Bruyns, *E. dilobadena* S.Carter, *E. discrepans* S.Carter, *E. dumeticola* P.R.O.Bally & S.Carter, *E. elegantissima* P.R.O.Bally & S.Carter, *E. exilisipina* S.Carter, *E. eyassiana* P.R.O.Bally & S.Carter, *E. fischeri* Pax, *E. fuscolanata* Gilli, *E. gladiata* (P.R.O.Bally) Bruyns, *E. greenwayi* P.R.O.Bally & S.Carter, *E. handeniensis* S.Carter, *E. heteropodium* Pax, *E. hubertii* Pax, *E. lenewtonii* S.Carter, *E. lukoseana* S.Carter, *E. lutosa* S.Carter, *E. magnifica* (E.A.Bruce) Bruyns, *E. maritae* Rauh, *E. neoarborescens* Bruyns, *E. neococcinea* Bruyns, *E. neocrispa* Bruyns, *E. neoglaucescens* Bruyns, *E. neogoetzei* Bruyns, *E. neogracilis* Bruyns, *E. neospinescens* Bruyns, *E. obconica* Bojer ex N.E.Br., *E. pilosissima* S.Carter, *E. platypoda* Pax, *E. proballyana* L.C.Leach, *E. pseudograntii* Pax, *E. pseudonudicaulis* Bruyns, *E. pseudopetiolata* Bruyns, *E. pseudoracemosa* (P.R.O.Bally) Bruyns, *E. quadrialata* Pax, *E. quadrilatera* L.C.Leach, *E. reclinata* P.R.O.Bally & S.Carter, *E. rubrispinosa* S.Carter, *E. schubei* Pax, *E. selousiana* S.Carter, *E. songweana* S.Carter, *E. specksii* Rauh, *E. spectabilis* (S.Carter) Bruyns, *E. syncalycina* Bruyns, *E. taboraensis* A.Hässl. and *E. trichiocyma* S.Carter are endemic (POWO, 2025). However, the new name *E. neospinescens* Bruyns (Bruyns et al., 2006) for *Stenadenium spinescens* Pax (Bot. Jahrb. Syst. 30: 343. 1901) is invalid according to the Article 41.5 of ICN (Turland et al., 2018). The species epithet *spinescens* is preoccupied in the genus *Euphorbia* (*E. spinescens* Pax, Bot. Jahrb. Syst. 19: 120. 1894), therefore, a new name is herein proposed. Further, a new combination and status for *Monadenium elegans* S.Carter ($\equiv$ *Euphorbia biselegans* Bruyns) is made here because this taxon differ from *Monadenium spinescens* (Pax) P.R.O.Bally ($\equiv$ *E. neospinescens* Bruyns, *nom. inval.*) in few marginal characters. In Kenya, the genus is represented by about 125 species, of which *E. atroflora* S.Carter, *E. baioensis* S.Carter, *E. ballyana* Rauh, *E. brevitorta* P.R.O.Bally, *E. classenii* P.R.O.Bally & S.Carter, *E. cuprispina* S.Carter, *E. cussonioides* P.R.O.Bally, *E. dauana* S.Carter, *E. diminuta* S.Carter, *E. fluminis* S.Carter, *E. forolensis* L.E.Newton, *E. friesiorum* (A.Hässl.) S.Carter, *E. gemmea* P.R.O.Bally &

S.Carter, *E. guentheri* (Pax) Bruyns, *E. iloitaii* Powys & S.Carter, *E. invenusta* (N.E.Br.) Bruyns, *E. joyae* P.R.O.Bally & S.Carter, *E. laikipiensis* S.Carter, *E. lavicola* S.Carter, *E. marsabitensis* S.Carter, *E. mbutinzaensis* N.Wei, Mwachala, G.W.Hu & Q.F.Wang, *E. neorubella* Bruyns, *E. neostolonifera* Bruyns, *E. neovirgata* Bruyns, *E. odontophora* S.Carter, *E. pervittata* S.Carter, *E. petricola* P.R.O.Bally & S.Carter, *E. pseudotrinerivis* Bruyns, *E. renneyi* (S.Carter) Bruyns, *E. rhizophora* (P.R.O.Bally) Bruyns, *E. ritchiei* (P.R.O.Bally) Bruyns, *E. samburuensis* P.R.O.Bally & S.Carter, *E. saxorum* P.R.O.Bally & S.Carter, *E. scarlatina* S.Carter, *E. serendipita* L.E.Newton, *E. subscandens* P.R.O.Bally & S.Carter, *E. sumati* S.Carter, *E. tanaensis* P.R.O.Bally & S.Carter, *E. taruensis* S.Carter, *E. turkanensis* S.Carter, *E. vittata* S.Carter, *E. vulcanorum* S.Carter, *E. wakefieldii* N.E.Br. and *E. yattana* (P.R.O.Bally) Bruyns are endemic (POWO, 2025). However, the new name *E. bicompecta* Bruyns (Bruyns et al., 2006) for *Synadenium compactum* N.E.Br. (Fl. Trop. Afr. [Oliver et al.] 6: 465. 1911) is superfluous because the species epithet '*compactum*' should have been used. The species epithet *compactum* is available in the genus *Euphorbia* and therefore, a new combination is herein proposed. In addition, lectotypes are designated here for the names *Synadenium compactum* N.E.Br. and *Stenadenium spinescens* Pax to fix the identity and to avoid the misapplication of names.

Nomenclature

Croton lallanii R.Kr.Singh, *nom. nov.*

≡ *Croton chevalieri* Gagnep., Bull. Soc. Bot. France 68: 550. 1922, *nom. illeg., non* Beille, Bull. Soc. Bot. France (Mémoires) 8c: 123. 1910.

Holotype: Vietnam, Biên Hòa, Trảng Bom forest reserve, 28 March 1914, [A.J.B. Chevalier] *F. Fleury* 32048 (P00120309!, Figure 1); isotypes A00105626!, M0241963! (Figure 2).

Distribution: Endemic to Vietnam.

Etymology: Named after my father late Shri Lallan Singh.

Croton vishwanathii R.Kr.Singh, *nom. nov.*

≡ *Croton insignis* Glaz. ex Sodré & M.J.Silva, Phytotaxa 472(3): 223. 2020, *nom. illeg., non* Van Geert, Nursery Cat. (Auguste Van Geert) 83: 9. 1882.

Holotype: Brazil, Goiás, Fazenda da Cova, chez M. Simeão, 26 November 1894, *A.F.M. Glaziov* 22102 (P00623599!, Figure 3); isotypes BR0000005848553!, K000574190! (Figure 4), MPU014832!, P00623598!, S-R-10531!,

Distribution: Endemic to Brazil.

Etymology: Named after my grandfather late Shri Vishwanath Singh.

Euphorbia charitontcevi R.Kr.Singh, *nom. nov.*

≡ *Euphorbia pseudoesula* Charit., Vestn. Tobol'skoi Gosud. Sotsial'no-Pedagog. Akad. 3: 46. 2011,

nom. illeg., non Schur, Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 4: 66. 1853.

Holotype: Russia, West Siberia, Regio Thjumen, ad septentriones 2 km u. Ischim, pratum inudatum, 28 July 2010, *B.S. Charitoncev s.n.* (herb. Univ. Thjumensis).

Distribution: Endemic to West Siberia, Russia.

Etymology: Named after Boris Stepanovich Charitontcev, Russian Botanist.

Euphorbia compacta (N.E.Br.) R.Kr.Singh, *comb. nov.*

≡ *Synadenium compactum* N.E.Br., Fl. Trop. Afr. [Oliver et al.] 6(1): 465. 1911. *Euphorbia bicompecta* Bruyns, Taxon 55(2): 412. 2006, *nom. superfl.*

Lectotype (designated here): Kenya, Machakos, 7 June 1902, *T. Kassner* 956 (BM000911306!, Figure 5); isolectotypes K000237846! (Figure 6), Z000019772! (Figure 7).

Distribution: Eritrea, Ethiopia, Kenya and Rwanda.

Notes: Two specimens (BM000911306 and K000237846) was examined by N.E. Brown while describing the name *Synadenium compactum*. Of these, the best one BM000911306, is designated here as the lectotype as it agrees well with the protologue.

Euphorbia compacta var. ***rubra*** (S.Carter) R.Kr.Singh, *comb. nov.*

≡ *Synadenium compactum* var. *rubrum* S.Carter, Kew Bull. 42(3): 669. 1987. *Euphorbia bicompecta* var. *rubra* (S.Carter) Bruyns, Taxon 55(2): 412. 2006, *nom. superfl.*

Holotype: Kenya, Lake Naivasha west rift, 6200 ft., 27 November 1965, *E. Polhill* 152 (K000237841!, Figure 8).

Distribution: Endemic to Kenya.

Euphorbia sangeetae R.Kr.Singh, *nom. nov.*

≡ *Stenadenium spinescens* Pax, Bot. Jahrb. Syst. 30: 343. 1901. *Monadenium spinescens* (Pax) P.R.O.Bally, Candollea 17: 34. 1959. *Euphorbia neospinescens* Bruyns, Taxon 55(2): 414. 2006, *nom. inval.*

Lectotype (designated here): Tanzania, Rukwa, Ilonia-Berg, trockene Abhänge um 1500 m ü. M., 17 July 1899, *W. Goetze* 1099 (BM000911319!, Figure 9); isolectotypes BR0000006243463! (Figure 10), K000253470!, P00576985! (Figure 11), P00576986!.

Distribution: Endemic to Tanzania.

Etymology: Named after my wife Sangeeta Singh for her continuous help and support in my Botanical studies.



Figure 1: Holotype of *Croton chevalieri* Gagnep. (P00120309, © Muséum National d'Histoire Naturelle, Paris)



Figure 2: Isotype of *Croton chevalieri* Gagnep. (M0241963, © Botanische Staatssammlung München)



Figure 3: Holotype of *Croton insignis* Glaz. ex Sodré & M.J.Silva (P00623599, © Muséum National d'Histoire Naturelle, Paris)

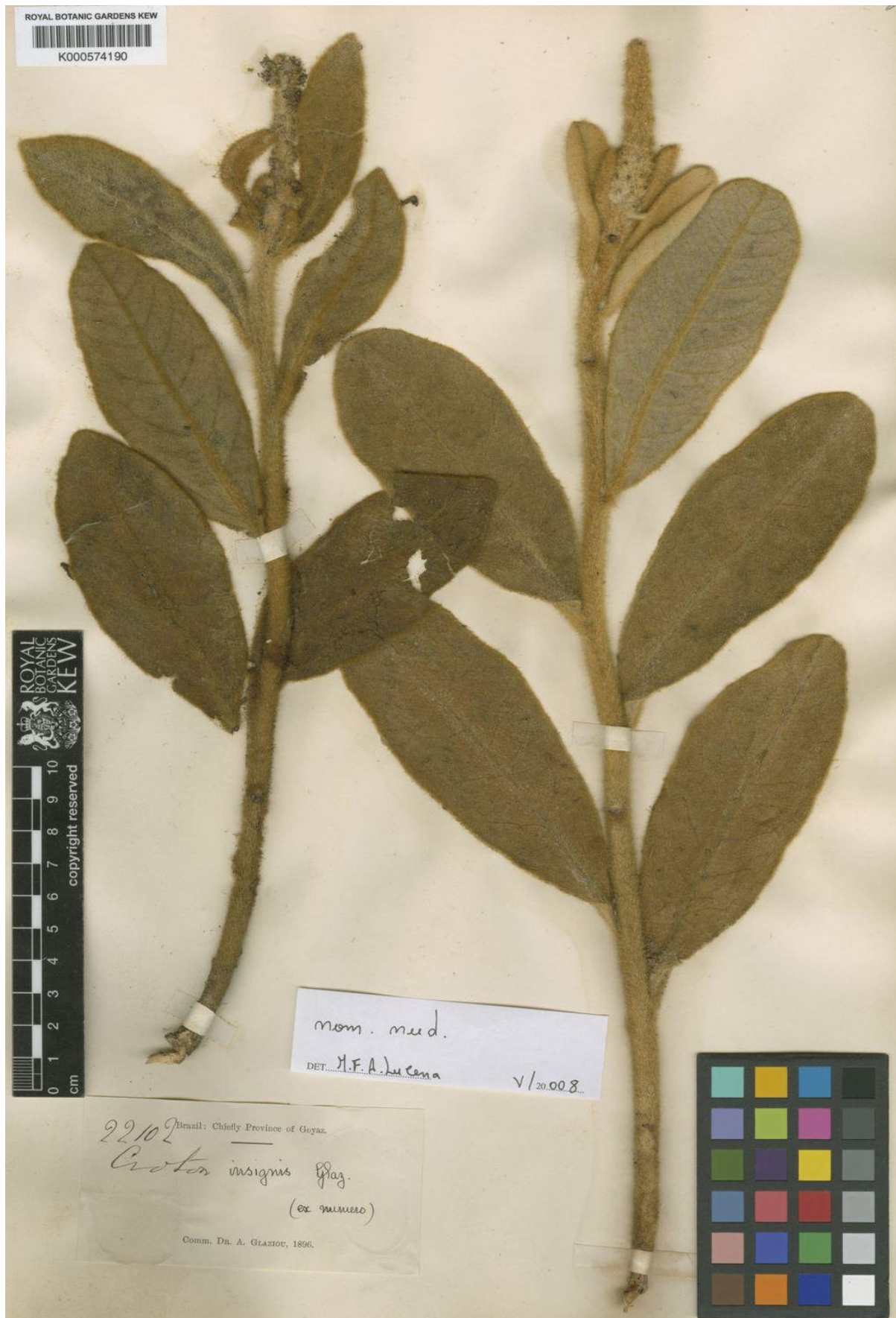


Figure 4: Isotype of *Croton insignis* Glaz. ex Sodr  & M.J.Silva (K000574190,   The Trustees of the Royal Botanic Gardens, Kew)

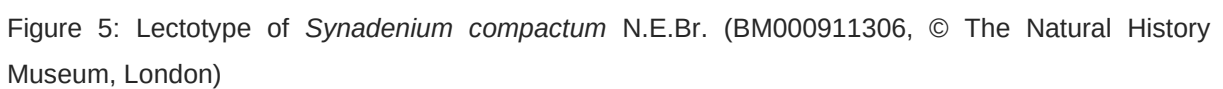




Figure 6: Isolectotype of *Synadenium compactum* N.E.Br. (K000237846, © The Trustees of the Royal Botanic Gardens, Kew)

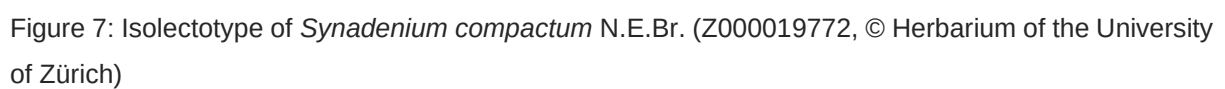




Figure 8: Holotype of *Synadenium compactum* var. *rubrum* S. Carter (K000237841, © The Trustees of the Royal Botanic Gardens, Kew)



Figure 9: Lectotype of *Stenadenium spinescens* Pax (BM000911319, © The Natural History Museum, London)

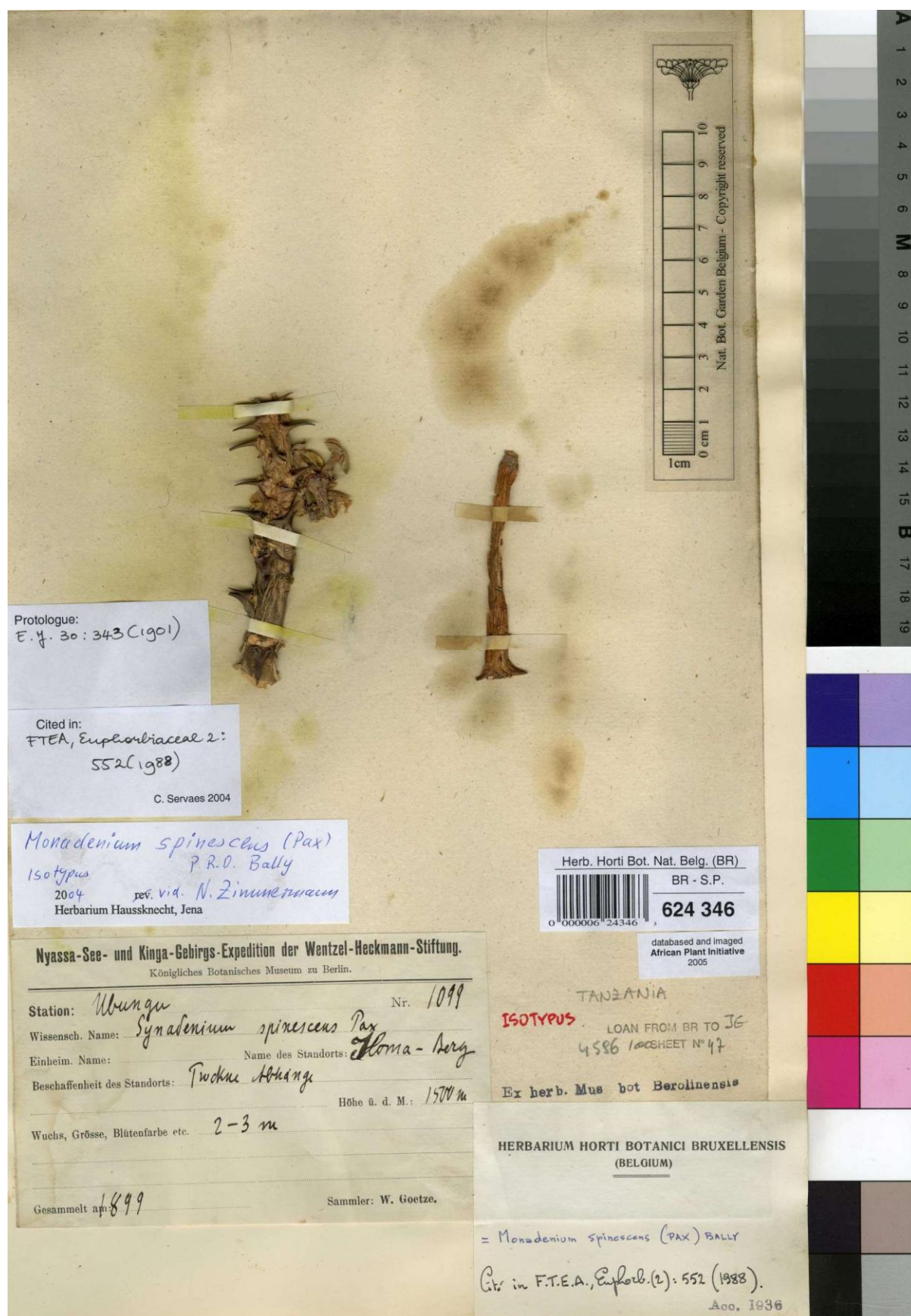


Figure 10: Isoelectotype of *Stenadenium spinescens* Pax (BR0000006243463, © Herbarium of National Botanic Garden of Belgium)



Figure 11: Isolectotype of *Stenadenium spinescens* Pax (P00576985, © Muséum National d'Histoire Naturelle, Paris)



Figure 12: *Euphorbia sangeetae* R.Kr.Singh ($\equiv$ *Stenadenium spinescens* Pax, MICH1303230, © Herbarium of the University of Michigan)

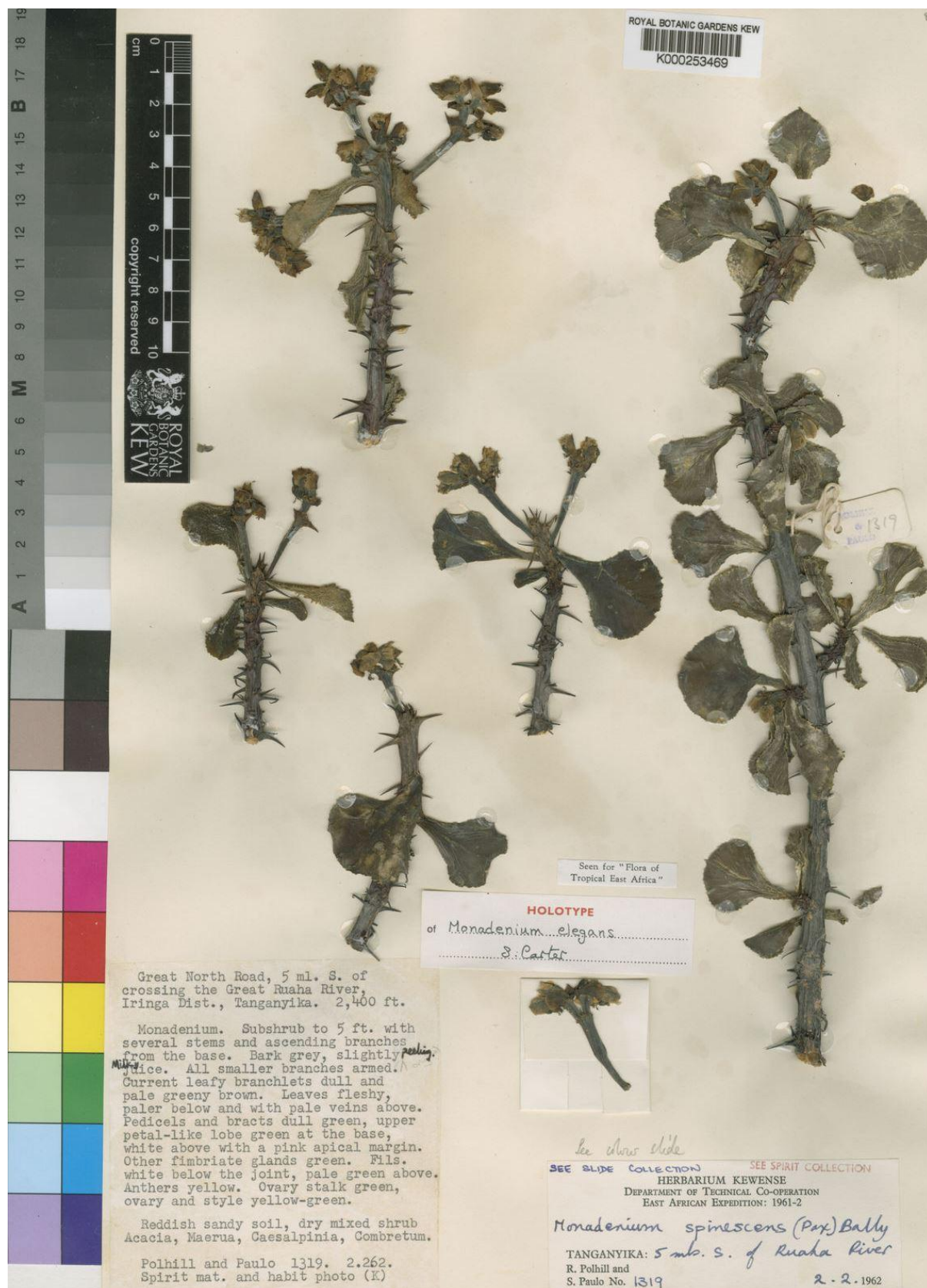


Figure 13: Holotype of *Monadenium elegans* S.Carter (K000253469, © The Trustees of the Royal Botanic Gardens, Kew)

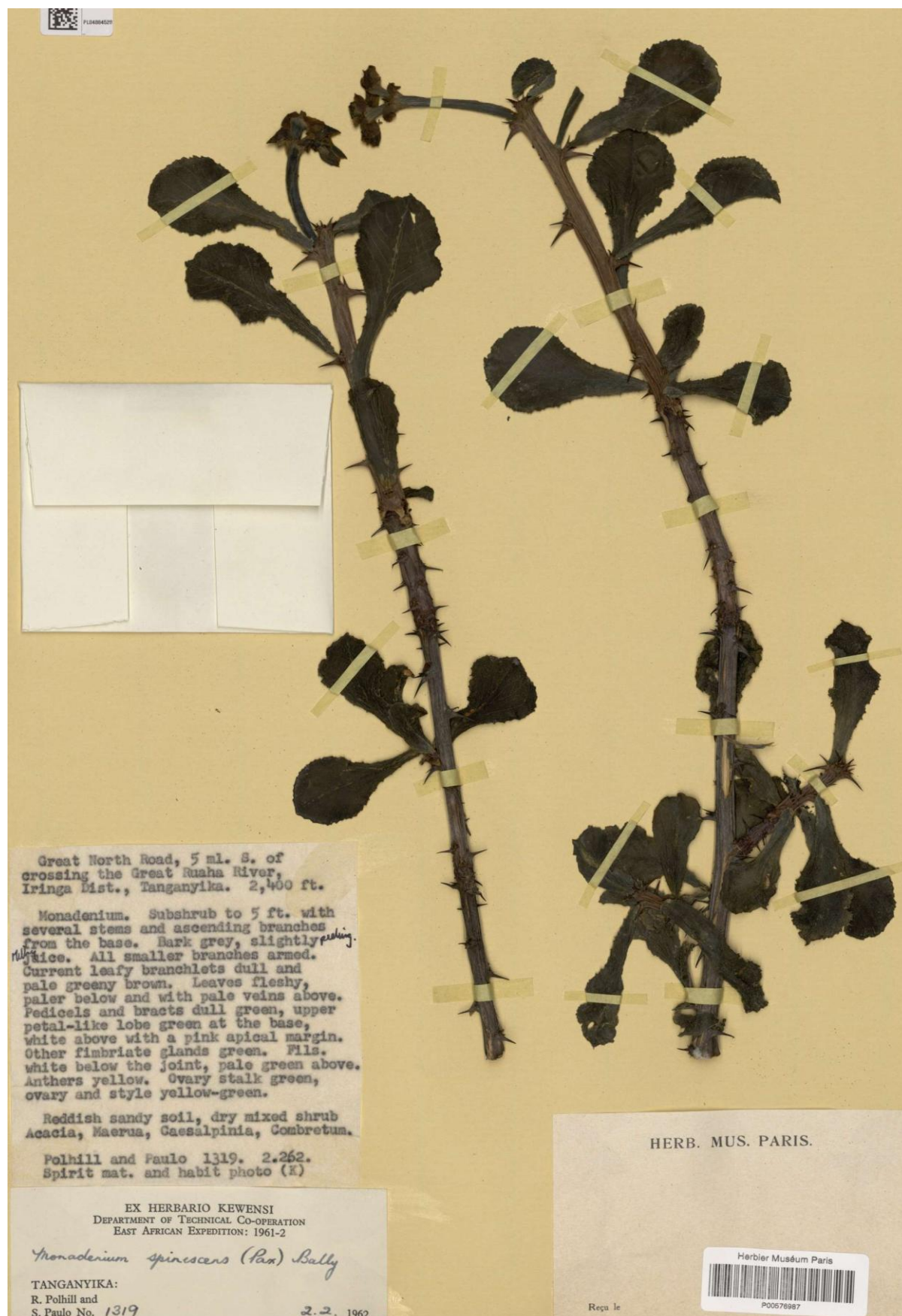


Figure 14: Isotype of *Monadenium elegans* S.Carter (P00576987, © Muséum National d'Histoire Naturelle, Paris)

Notes: Presently, the holotype specimen of *Stenadenium spinescens* Pax is not extant at Berlin herbarium (B). Five duplicate specimens (isotypes) were traced for the name *S. spinescens* Pax (BM000911319, BR0000006243463, K000253470, P00576985 and P00576986) and the better-preserved specimen BM000911319, is designated here as the lectotype as it agrees well with the protologue. This species is 'Critically Endangered' as per IUCN (<https://www.iucnredlist.org/species/47348627/47348634>) and one better-preserved herbarium specimen with leaves and inflorescence is traced at MICH (MICH1303230, Figure 12).

Euphorbia sangeetae* var. *elegans* (S.Carter) R.Kr.Singh, *comb. et stat. nov.

≡ *Monadenium elegans* S.Carter, Kew Bull. 42(4): 909. 1987. *Euphorbia biselegans* Bruyns, Taxon 55(2): 412. 2006.

Holotype: Tanzania, Iringa district, Great North road, 8 km south of crossing the Great Ruaha river, 2400 ft., 2 February 1962, R. Polhill & S. Paulo 1319 (K000253469!, Figure 13); isotype P00576987! (Figure 14).

Distribution: Endemic to Tanzania.

Notes: Earlier, the type specimens of *Monadenium elegans* are identified as *M. spinescens* (Pax) P.R.O.Bally by R. Polhill and S. Paulo (K000253469 and P00576987). Later, Carter (1987) described the specimen K000253469 as a new species in the name *M. elegans* and differentiated it from *M. spinescens* in some quantitative characters. After the study of type specimens, I found no qualitative characters to differentiate *M. elegans* and *M. spinescens*, except in the size of flower parts and colour. Therefore, I relegated here the status of *M. elegans* from species to variety of *Euphorbia sangeetae* (≡ *Monadenium elegans* S.Carter).

Acknowledgements

The author is thankful to the Director, Botanical Survey of India, Kolkata and Head of Office, Botanical Survey of India, Arid Zone Regional Centre, Jodhpur for facilities. I am also grateful to the curators of A, BM, BR, K, M, MPU, P, S and Z for the images and information of type specimens.

References

- Bruyns PV, Mapaya RJ and Hedderson T. (2006). A new subgeneric classification for *Euphorbia* (Euphorbiaceae) in southern Africa based on ITS and *psbA-trnH* sequence data. Taxon. 55(2): 397–420. <https://doi.org/10.2307/25065587>
- Carter S. (1987). New taxa and observations in *Monadenium* (Euphorbiaceae) in East Africa. Kew Bulletin. 42(4): 903–918. <https://doi.org/10.2307/4109935>
- POWO. (2025). Plants of the World Online. Royal Botanic Gardens, Kew. Available from: <http://www.plantsoftheworldonline.org/> (accessed 14 January 2025).
- Turland NJ, Wiersema JH, Barrie FR, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Kusber W-H, Li D-Z, Marhold K, May TW, McNeill J, Monroe AM, Prado J, Price MJ and Smith GF.

(2018). International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code).
Regnum Vegetabile 159. Koeltz Botanical Books, Glashütten.
<https://doi.org/10.12705/Code.2018>