WORLD CHECKLIST OF GERANIUM L. (GERANIACEAE)

by

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Resumen

AEDO, C, F. MUÑOZ GARMENDIA & F. PANDO (1998). Checklist mundial de Geranium L. (Geraniaceae). Anales Jard. Bot. Madrid 56(2): 211-252 (en inglés).

Se presenta una "checklist" del género Geranium L. (Geraniaceae) en la que se aceptan 423 especies, repartidas en 3 subgéneros y 18 secciones. Seguimos la clasificación propuesta por Yeo, aunque reconocemos la sección Brasiliensia en el subg. Erodioidea, y las secciones Neurophyllodes, Paramensia y Azorelloida en el subg. Geranium. La sect. Azorelloida es propuesta como nombre nuevo para la sect. Petrea R. Knuth, nom. illeg. Asimismo se propone G. collae como nombre nuevo para G. intermedium Colla, nom. illeg. Se incluye una clave para la identificación de los subgéneros y secciones. Después de revisar la práctica totalidad de los nombres publicados en Geranium se da el nombre correcto, el lugar de publicación y el área de distribución de cada especie aceptada, así como las referencias bibliográficas más importantes para cada una de ellas. Para codificar las distribuciones geográficas, en los niveles de "región" y "país botánico", se han seguido las propuestas del International Working Group on Taxonomic Databases (TDWG).

Palabras clave: Geranium, Geraniaceae, corología, checklist, clasificación seccional, nomenclatura.

Abstract

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A checklist of the genus Geranium L. (Geraniaceae) is presented. Four hundred and twenty three species are recognized in 3 subgenera and 18 sections. Our classification differs from Yeo's only in some aspects of subg. Erodioidea and Geranium. Section Brasiliensia is included in subg. Erodioidea, and sect. Neurophyllodes, Paramensia and Azorelloida in subg. Geranium. Section Azorelloida is proposed as an avowed substitute (nom. nov.) for sect. Petrea R. Knuth, nom. illeg. G. collae is proposed as avowed substitute (nom. nov.) for G. intermedium Colla, nom. illeg. An identification key to subgenera and sections is presented. A thorough revision of available names in the genus, and a review of their nomenclatural status were carried out. Correct name, place of publication and distribution are given for each species. Geographical distributions are given at region and botanical country levels following the International Working Group on Taxonomic Databases (TDWG) standard. When possible, selected references with relevant information are also included.

Key words: Geranium, Geraniaceae, geographical distribution, checklist, sectional classification, nomenclature.

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INTRODUCTION

After Knuth (1912) published his monograph on Geranium, several regional accounts as well as some detailed studies on some sections were published. These papers vastly increased the number of known species. Knuth (1912) recognized ca. 260 species, and over 423 are currently accepted. Information regarding the genus is nowadays scattered over numerous papers, which makes it difficult to grasp composition, circumscription, or any other particular of a given group within Geranium, or even of any species. The exception is Clifton’s (1992) worldwide compilation; however, the shallow treatment of nomenclatural and distribution data limits its use.

The aim of this paper is to make accessible the most relevant information about Geranium produced in the last eighty years in a concise way. We mostly follow the infrageneric scheme proposed by Yeo (1984), but introduce some changes.

This compilation is primarily based on literature, but also numerous herbarium specimens were reviewed in order to clarify the systematic position of some problematic taxa. Thus, the checklist is the result of collating, interpreting and harmonizing the alternative taxonomies found in the literature and our own work with Geranium (see acknowledgment) (Nieto Feliner & Aedo, 1995; Aedo, 1996).

INFRAGENERIC CLASSIFICATION

Delimitation of Geranium, as we understand it, was settled early, when Erodium, Monsonia and Pelargonium were segregated from Linnaeus’s original circumscription, and since then never questioned (Aiton, 1789; L’Héritier, 1792). Conversely, infrageneric classification of Geranium, has never been very stable. Dumortier (1827) the first to propose an infrageneric division, split the genus into three sections. Reiche (1890) proposed the first classification for the entire genus, which he divided into 10 sections. Knuth (1903) recognized 12 sections and later, in his monograph (Knuth, 1912), distinguished 30. Subsequently, Knuth (1931) added two more.

Knuth’s (1912, 1931) scheme—32 sections for the genus—has been questioned by numerous authors (Warburg, 1938a, 1938b; Tokarski, 1972), though without advancing an alternative until Yeo’s (1984) review. Yeo first subdivides the genus into three subgenera on the basis of fruit-discharge mechanism, as Picard (1837) already proposed, without acceptance at the time.

Yeo (1984) distinguishes three principal types of fruit discharge, each characterizing one of the three subgenera. In the “seed-ejection-type” (which characterizes subg. Geranium) a single seed is actively discharged by the explosive recurvature of the awn, which remains together with the mericarp attached to the columella. The second type of discharge or “carpel-projection-type” characterizes subg. Robertium. Here, the explosive recurvature of the awn also acts as the propelling force, but in this case the whole mericarp, containing the seed, is dispersed, whereas the awn remains with the columella. Subgenus Erodioidea is identified by the “Erodium-type” discharge. In this case the mericarp, including the coiled awn, is propelled over a short distance. We follow the scheme proposed by Yeo (1984, 1990), except for a few changes that we discuss below (Table 1). We also provide an identification key to subgenera and sections, which includes the proposed new sections.

At first, Yeo (1984) distinguished two sections in subg. Erodioidea: sect. Erodioidea and sect. Subacaulia, and later Yeo (1990) added sect. Aculeolata; all three characterized by the presence of two-flowered cymules. This view, accepted in a recent revision of the subgenus (Aedo, 1996), is modified with the addition of sect. Brasiliensis, which has one-flowered cymules. We examined specimens belonging to two of the three species of this section (G. arachnoideum and G. brasiliense), and confirmed that both species have “Erodium-discharge-type” fruits, the defining feature of the subgenus Erodioidea. However, this type of discharge,
TABLE 1
CLASSIFICATION OF *GERANIUM* IN SUBGENERA
AND SECTIONS WITH THE NUMBER OF SPECIES
OF EACH GROUP

| Subgenus   | Section          | Number of species |
|------------|------------------|-------------------|
| I. Erodioidea | Erodioidea       | 3                 |
|            | Aculeolata       | 1                 |
|            | Subacaulia       | 15                |
|            | Brasiliensia     | 3                 |
| II. Geranium | Geranium         | 339               |
|            | Dissecta         | 4                 |
|            | Tuberosa         | 19                |
|            | Neurophyllodes   | 6                 |
|            | Paramensia       | 2                 |
|            | Azorelloida      | 1                 |
| III. Robertium | Polyantha       | 7                 |
|            | Trilopha         | 5                 |
|            | Divaricata       | 2                 |
|            | Batrachioidia    | 4                 |
|            | Ungiculata       | 5                 |
|            | Lucida           | 1                 |
|            | Ruberta          | 4                 |
|            | Anemonifolia     | 2                 |

Section *Paramensia* comprises two very peculiar species, endemic to Northern Andes (fig. 3). Both species are low shrubs with narrow, coriaceous, glabrous, parallel-veined leaves (linear in *G. exallum*; cuneate and shallowly 3-lobed at the apex in *G. jahnii*), have the petiole articulate with the blade, cymules with one flower and a very distinctive "seed-ejection-type".

Section *Neurophyllodes* includes 10 taxa, all endemic to Hawaii (fig. 3), and shares with the previous section a shrubby life-form (up to 2.5 m high), leaf veining and petiole articulation position. However, the leaves are much larger, usually elliptic to ovate (though obovate or cuneate in some species), the petiole is articulated with the stipules, and the cymules are two-flowered. This section is also firmly supported by data from chloroplast DNA (*Pax & al.*, 1997). The similarities between the two sections suggest a common origin (*Standley*, 1915), a possibility that should be explored further, especially the implications of petiole articulation, which is obviously derived and less likely to be homoplasic than leaf veining.

Section *Azorelloida* contains only one species, known from the Colombian Andes (fig. 3). It is also a low shrub with one-flowered cymules and leaves very similar to those of *G. jahnii*: coriaceous, glabrous, cuneate and 3-lobed at the apex, though the petiole is not articulate.

This is just a small contribution towards the clarification of the taxonomy of the subg. *Geranium*, where more sections need to be recognized. *Yeo* (1984, 1985) already pointed out affinities among many species and identified several groups, mostly in Europe, Asia and N America. Obviously, any clarification of the subgenus should take into account the sections proposed by *Knuth* (1912, 1931), some of which could fit into the *Yeo*'s (1984, 1990) scheme.

We follow the treatment proposed by *Yeo* (1984, 1990) for subg. *Robertium*. According to his scheme, the subgenus comprises 8 sections and 30 species. Section *Polyantha* (7 species) is endemic to Eastern Himalayas and Southern China. Section *Anemonifolia* widespread in the family, is likely plesiomorphic, and therefore does not support the monophyly of the subgenus (*Nieto Feliner & Aedo*, 1995). Likewise, geographical distribution of the four sections, scattered over the Old World and South America (fig. 1) suggests that the subgenus is indeed an amalgam of relict and probably basal groups in the genus.

Considering only type of fruit discharge, *Yeo* (1984, 1990) divides subg. *Geranium* into three sections. Section *Geranium* is a widespread group, absent only in tropical lowlands, deserts and polar regions (fig. 2), whereas sections *Dissecta* and *Tuberosa* are focused on the Mediterranean area and Western Asia (fig. 3). *Geranium* sect. *Geranium* is a heterogeneous group that comprises over 339 species, which requires a profound revision. We propose here segregation from it of three small sections on the basis of leaf shape and veining: sect. *Paramensia*, sect. *Neurophyllodes* and sect. *Azorelloida*.
Fig. 1—Distribution of *Gnomium* ssp. *Erodioideae* (sect. *Acauleolata*, sect. *Brasilienstia*, sect. *Erodioideae* and sect. *Subbaculata*).
Fig. 2—Distribution of Geranium subg. Geranium (sect. Geranium).
Fig. 3. Distribution of Geranium subsp. Geranium (sect. Azorelloides, sect. Dissecta, sect. Neuphyllodes, sect. Paramenia, subsect. Mediterraeeae).
Fig. 4.—Distribution of *Geranium* subg. *Robertium* (sect. *Divaricata*, sect. *Lucida*, sect. *Ruberta* and sect. *Trilopa*).
Fig. 5.—Distribution of Geranium subg. Robertium (sect. Anemonifolia, sect. Batrachoidea, sect. Polyantha and sect. Unguiculata).
(2 species) also show a limited distribution, being endemic to Madeira Island. Section Trilopha (5 species) is restricted to mountains of Tropical Africa, Western Asia and Eastern Himalayas. Distribution of the remaining five sections (Lucida, Ruberta, Divaricata, Batrachioidesa and Unguiculata) is focused on the Mediterranean area and Western Asia, though sect. Ruberta extends in the east to Japan, and in the south to mountains of Tropical Africa (figs. 4, 5). This subgenus, morphologically well-defined, is also firmly supported by data from chloroplast DNA (Price & Palmer, 1993).

ARRANGEMENT OF THE CHECKLIST

Subgenera and sections are arranged according to the scheme by Yeo (1984, 1990). New sections are listed at the end of their respective subgenera. Within sections, species are in alphabetic order. For each accepted species, place of publication, selected references, and geographic distribution are provided.

We have examined the original publication for all accepted names and basionyms and checked the nomenclatural status of each one. We have verified all synonyms in the current literature (ca. 2600 names) as well, but they are not listed here for the sake of brevity. The checklist has been generated from a database with a computer program developed by us, NOMENFMI, which sorts, formats and ensures nomenclatural consistency of the listed names. The list of references (1300) used for the compilation of the checklist would be too large to be included here in full, and only selected references for each species—where descriptions, identification keys, illustrations, nomenclature or distributional data on each one can be found—is provided. These references are listed after the species name by an identifying number in square brackets. For some species no references, other than that for the protologue, are given. This is due either to their recent publication or to their remote distribution, as is the case with most species from South America.

Geographic distribution is recorded following the standard by Hollis & Brummitt (1992). We use level 2 (regions, grouped by continents) and level 3 (botanical countries) (see Appendix 1, 2). In a few cases, a more detailed distribution is provided using level 4 (basic recording units), or listing the specific localities between round brackets. Introduction in an area is indicated by enclosing its code in square brackets; extinction by appending the symbol † at the end the code; when presence is questionable in an area, a question mark follows its code.

Finally, we believe that others in the systematic community will find the checklist useful. We hope that it will assist those currently conducting research on Geranium and encourage others to undertake badly needed revisions of certain infrageneric groups.

KEY TO THE SUBGENERA AND SECTIONS OF GERANIUM

1. Fruit discharge "Erodium-type" (I. Geranium subg. Erodoidesa) ........................................ 2
   - Fruit discharge type "seed-ejection" or "carpel-projection" ........................................... 5
2. Inflorescence armed with prickles .......................................................... 2. G. sect. Aculeolata
   - Inflorescence without prickles .............................................. 3
3. Cymules one-flowered ... 4. G. sect. Brasiliensia
   - Cymules two-flowered .................................................... 4
4. Stems tall (20-80 cm), always erect; petals patent or reflexed, obtuse or mucronate at apex; inflorescence with both glandular hairs (> 0.2 mm long) and ± sessile glands; nectaries pilose; petals with a very short claw ........................................ 1. G. sect. Erodoidesa
   - Stems short [up to 35(50) cm], usually decumbent; petals erect-patent, emarginate or obtuse at apex; inflorescence with only ± sessile glands (< 40 mm long); nectaries glabrous; petals without claw .......................................................... 3. G. sect. Subacaulia
5. Fruit discharge type "seed-ejection" (II. Geranium subg. Geranium) ................ 6
   - Fruit discharge type "carpel-projection" (III. Geranium subg. Robertium) ........ 11
6. Mericarp with exappendiculate margin, never with prong or horny setiferous tubercle; awn twisted ........................................ 7. G. sect. Tuberosa
Mericarp with the margin at the base drawn out into a prong or a horny setiferous tubercle; awn curved in one plane .............................................................. 7
7. Mericarp with the margin at the base drawn out into a prong lacking setae ... 6. G. sect. Dissecta
- Mericarp with the margin at the base drawn out into a horny setiferous tubercle ........................................... 8
8. Leaves palmately veined .................................................. 5. G. sect. Geranium
- Leaves with parallel veins, at least basally ... 9
9. Petiole not articulate .......................................................... 10. G. sect. Azorellloida
- Petiole distinctly articulate either with the blade or with the stipules ......................... 10
10. Petiole articulate with the stipules; cymes several-flowered ... 8. G. sect. Neurophyllodes
- Petiole articulate with the blade; cymes one-flowered ............................................ 9. G. sect. Paramensia
11. Leaves divided to the base ............................................ 12
- Leaves shallowly divided ............................................. 13
12. Glandular hairs of the inflorescence purple; more than half the length of the stamens exserted from throat of flower ........................................ 18. G. sect. Anemonifolia
- Glandular hairs of the inflorescence with colourless stalks and red glands; less than half the length of the stamens exserted from the throat of flower ............... 17. G. sect. Ruberta
13. Fruit discharge mechanism inoperative .................................. 13. G. sect. Divaricata
- Fruit discharge mechanism operative ............ 14
14. Pollen blue ................. 14. G. sect. Batrachoioidea
- Pollen yellow, sometimes white ................. 15
15. Calyx longitudinally carinate ........................................ 16. G. sect. Lucida
- Calyx not carinate ....................................................... 16
16. Mericarp apex obtuse; stamens exserted ..................... 15. G. sect. Unguculata
- Mericarp apex acute; stamens not exserted ... 17
17. Perennial ......................... 11. G. sect. Polyantha
- Annual ................................................................. 12. G. sect. Trilopha

G. phaeum L., Sp. Pl.: 681 (1753) [1, 3, 7, 10, 29, 30, 37, 45, 47]
Regions.—[Northern Europe], Middle Europe, Southwestern Europe, Southeastern Europe & East Europe.
Botanical countries.—ALB AUT [BGM] BLR BUL CZE [DEN] [FIN] FRA GER [GRB] HUN [IRE] ITA [NET] POL ROM SPA [SWE] SWI UKR YUG.

Geranium sect. Aculeolata Yeo in Voster (ed.), Proc. Intern. Geran. Symp.: 22 (1994) [1, 3]

G. aculeolatum Oliv., Fl. Trop. Afr. 1: 291 (1868) [1, 3, 7, 28, 38, 39, 43, 49]
Regions.—West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa & South Tropical Africa.
Botanical countries.—BUR ETH KEN MLW MOZ RWA SUD TAN UGA ZAI.

Geranium sect. Subacaulia (Boiss.) Reiche in Engl. & Prantl, Nat. Pflanzenfam. 3(4): 8 (1890) [1, 3, 5, 7]

G. argentum L., Cent. Pl. II: 25 (1756) [1, 3, 7, 10, 37, 45, 47]
Regions.—Southwestern Europe & Southeastern Europe.
Botanical countries.—FRA ITA YUG.

Geranium sect. Trilopha

Geranium L., Sp. Pl. 1: 676 (1753), Gen. Pl. ed. 5: 306 (1754)

Geranium subgen. Erodioidea (Picard) Yeo in Bot. J. Linn. Soc. 89: 10 (1984)

Geranium sect. Erodioidea Picard in Mém. Soc. Agric. Boulogne-sur-Mer 1: 114 (1837) [1, 3, 5]

G. aristatum Freyn & Sint. in Bull. Herb. Boissier 5: 587 (1897) [1, 3, 7, 37, 45, 47]
Regions.—Southeastern Europe.
Botanical countries.—ALB GRC YUG.
9. *G. dolomiticum* Rothm. in Bol. Soc. Esp. Hist. Nat. 34: 151 (1934) [1, 3, 37, 47]
Regions.—Southwestern Europe.
Botanical countries.—SPA.

10. *G. lazicum* (Woronow) Aedo in Anales Jard. Bot. Madrid 52(1): 105 (1994) [1, 3, 36]
Regions.—Western Asia.
Botanical countries.—TUR.

11. *G. makmelicum* Aedo in Anales Jard. Bot. Madrid 52(1): 105 (1994) [1, 3, 45]
Regions.—Western Asia.
Botanical countries.—LBS.

12. *G. nanum* Coss. ex Batt. in Batt. & Trab., Fl. Algérie (Dicot.) 1: 119 (1888) [1, 3, 7, 47]
Regions.—Northern Africa.
Botanical countries.—MOR.

13. *G. palmatipartitum* (Hausskn. ex R. Knuth) Aedo in Anales Jard. Bot. Madrid 52(1): 105 (1994) [1, 3, 36, 45]
Regions.—Western Asia.
Botanical countries.—TUR.

14. *G. petri-davisii* Aedo in Anales Jard. Bot. Madrid 52(1): 105 (1994) [1, 3, 36]
Regions.—Western Asia.
Botanical countries.—TUR.

15. *G. ponticum* (P.H. Davis & J. Roberts) Aedo in Anales Jard. Bot. Madrid 52(1): 106 (1994) [1, 3, 36]
Regions.—Western Asia.
Botanical countries.—TUR.

16. *G. subacutum* (Boiss.) Aedo in Anales Jard. Bot. Madrid 52(1): 106 (1994) [1, 3, 36]
Regions.—Western Asia.
Botanical countries.—TUR.

17. *G. subargenteum* Lange in Willk. & Lange, Prodr. Fl. Hispan. 3: 525 (1878) [1, 3, 7, 37, 47]
Regions.—Southwestern Europe.
Botanical countries.—SPA.

18. *G. subcaulescens* L'Hér. ex DC., Prodr. Fl. Hispan. 3: 640 (1824) [1, 3, 37, 45, 47]
Regions.—Southeastern Europe.
Botanical countries.—ALB GRC YUG.

19. *G. thessalum* Franzén in Nordic J. Bot. 2(6): 549, 550 fig. 1 A-E (1893) [1, 3, 47]
Regions.—Southeastern Europe.
Botanical countries.—GRC YUG.

4. *Geranium* sect. *Brasiliensia* R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 46, 149 (1912)

20. *G. arachnoideum* A. St.-Hil., Fl. Bras. Merid. 1: 82, tab. 20 (1825) [7]
Regions.—Brazil & Southern South America.
Botanical countries.—AGE BZS.

21. *G. brasiliense* Progel in Mart., Fl. Bras. 12(2): 522 (1877) [7]
Regions.—Brazil.
Botanical countries.—BZL.

22. *G. glanduligerum* R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 150 (1912)
Regions.—Brazil.
Botanical countries.—BZS.

II. *Geranium* subgen. *Geranium* L.

5. *Geranium* sect. *Geranium* L. [5]

23. *G. aequatoriale* Halfdan-Nielsen in Nordic J. Bot. 16: 267, 268 fig. 1 (1996)
Regions.—Western South America.
Botanical countries.—CLM ECU.

24. *G. affine* Ledeb., Fl. Altaic. 3: 229 (1831) [7, 29, 30]
Regions.—Siberia, Soviet Middle Asia, China & Mongolia.
Botanical countries.—ALT CHX KAZ MON.

25. *G. albicans* A. St.-Hil., Fl. Bras. Merid. 1: 83 (1825) [7, 17, 44]
Regions.—Brazil & Southern South America.
Botanical countries.—AGE AGW BZS PAR URU.

26. *G. albidum* Rydb. ex Hansk & Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 19 (1907) [7, 11]
Regions.—North and Central Mexico.
Botanical countries.—MXE-CU MXE-DU.

27. *G. albiflorum* Ledeb., Fl. Altaic. 3: 230 (1831) [7, 10, 29, 30, 37, 45]
Regions.—East Europe, Siberia, Soviet Far East, Soviet Middle Asia, China & Mongolia.
Botanical countries.—ALT AMU BRY CHX CTA IRK KAZ KGZ KRA MON RUN WSB YAK.
28. *G. album* R. Knuth in Bot. Jahrb. Syst. 37: 557 (1906) [7, 62]  
Regions.—Western South America.  
Botanical countries.—BOL.

29. *G. alpicola* Loes. in Bull. Herb. Boissier ser. 2, 3: 92 (1903) [7, 11]  
Regions.—North and Central Mexico & Mesoamerica.  
Botanical countries.—GUA MXG-VC MXS-OA.

30. *G. amatolicum* Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 211, 174 fig. 2 E (1985) [55]  
Regions.—Southern Africa.  
Botanical countries.—CPP.

31. *G. amoenum* R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 217 (1936) [62]  
Regions.—Western South America.  
Botanical countries.—BOL.

32. *G. andicola* Loes. in Bull. Herb. Boissier ser. 2, 3: 93 (1903) [7, 11]  
Regions.—Mesoamerica.  
Botanical countries.—GUA SMX-CL.

33. *G. andringitrense* H. Perrier in Bull. Soc. Linn. Normandie ser. 7, 7: 188 (1925)  
Regions.—Western Indian Ocean.  
Botanical countries.—MDG.

34. *G. angelense* Halfdan-Nielsen in Nordic J. Bot. 16: 269, 270 fig. 2 (1996)  
Regions.—Western South America.  
Botanical countries.—CLM ECU.

35. *G. angustipetalum* Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 185, 173 fig. 1 J (1985) [55]  
Regions.—Southern Africa.  
Botanical countries.—NAT.

36. *G. antisanae* R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 215 (1912)  
Regions.—Southern South America.  
Botanical countries.—AGW CLN.

37. *G. antrorsum* Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 357, pl. 6 fig. 14, pl. 7 fig. 10 (1965) [42]  
Regions.—Australia.  
Botanical countries.—NSW VIC.

38. *G. apricum* Phil. in Linnaea 28: 676 (1856) [7, 61]  
Regions.—Southern South America.  
Botanical countries.—CLN CLS.

39. *G. arabicum* Forssk., Fl. Aegypt.-Arab.: 124 (1775) [7, 28, 38, 39, 40, 43, 55]  
Regions.—Northern Africa, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa?, Western Indian Ocean & Arabian Peninsula.  
Botanical countries.—BUR CMN CPP? EGY ETH GGI-BI KEN MDG MLW NGA RWA SAU SUD TAN UGA YEM ZAI ZAM ZIM.

a. *G. arabicum* Forssk. subsp. *arabicum*  
Regions.—Northern Africa, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa?, Western Indian Ocean & Arabian Peninsula.  
Botanical countries.—BUR CMN CPP? EGY ETH GGI-BI KEN MDG MLW NGA RWA SAU SUD TAN UGA YEM ZAI ZAM ZIM.

b. *G. arabicum* subsp. *latistipulatum* (Hochst. ex A. Rich.) Kokwaro in Kew Bull. 23: 530 (1969)  
Regions.—Northeast Tropical Africa, East Tropical Africa & Western Indian Ocean.  
Botanical countries.—COM ETH KEN TAN.

40. *G. ardjunense* Zoll. & Moritzi in Natuur-Geneesk. Arch. Ned.—Indië 2: 585 (1845) [7, 41]  
Regions.—Malesia.  
Botanical countries.—JAW.

41. *G. argentinum* R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 77 (1912)  
Regions.—Southern South America.  
Botanical countries.—AGW CLN.

42. *G. asiaticum* Serg. in Sist. Zametki Mater. Krylova Tomsk. Gosud. Univ. Kiybyševa 1934(1): 1 (1934) [29, 30]  
Regions.—Siberia.  
Botanical countries.—ALT KRA TVA? WSB.  
The name *G. asiaticum* must be adopted instead of *G. bifolium* Patrin ex DC., Prodr. 1: 642 (1824), nom. illeg., non Burm. f. (1759).
43. G. atlanticum Boiss., Diagn. Pl. Orient. ser. 1, 1: 59 (1843) [7, 47]
Regions.—Northern Africa.
Botanical countries.—ALG MOR TUN.

44. G. ayacuchense R. Knuth in Repert. Spec. Nov. Regni Veg. 18: 291 (1922) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

45. G. ayavacense Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 5: 231 (1822) [7, 12, 13, 18]
Regions.—Northern South America & Western South America.
Botanical countries.—ECU PER VEN.

46. G. balgooyi Veldkamp in Blumea 24(2): 469 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

47. G. bangii Hieron. in Bot. Jahrb. Syst. 21: 314 (1895) [7, 13, 62]
Regions.—Western South America.
Botanical countries.—BOL PER.

48. G. baschkyzylsaicum Nabiev in Bot. Mater. Gerb. Inst. Bot. Akad. Nauk Uzbeksk. SSR 20: 33 (1982) [30]
Regions.—Soviet Middle Asia.
Botanical countries.—UZB.

49. G. baurianum R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 156 (1912) [40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP NAT.

50. G. bellum Rose in Contr. U.S. Natl. Herb. 10(3): 108 (1906) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXE-GU MXE-HI MXE-QU.

51. G. berterianum Colla in Mem. Reale Accad. Sci. Torino 37: 45 (1834) [7, 16, 17, 61]
Regions.—Southern South America.
Botanical countries.—AGE CLN.

52. G. bicknellii Britton in Bull. Torrey Bot. Club 24: 92 (1897) [7, 15, 27, 45]
Regions.—Subartic America, Western Canada, Eastern Canada, Northwestern USA, North-Central USA, Northeastern USA, Southwestern USA, Southeastern USA & [Northern South America].

53. G. bockii R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 180 (1912) [26]
Regions.—China.
Botanical countries.—CHC.

54. G. bolivianum R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 575 (1912) [62]
Regions.—Western South America.
Botanical countries.—BOL.

55. G. brycei N.E. Br. in Bull. Misc. Inform. 1901(175/177): 120 (1901) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—/cpp LES NAT OFS.

56. G. butuoense Z.M. Tan in Bull. Bot. Res., Harbin 10(1): 26, tab. 2 (1990) [26]
Regions.—China.
Botanical countries.—CHC.

57. G. caeruleatum Schur, Enum. Pl. Transsilv.: 136 (1866) [37, 47]
Regions.—Southeastern Europe.
Botanical countries.—ALB BUL ROM YUG.

58. G. caespitosum E. James, Account Exped. Pittsburgh ed. Amer. 2: 3 (1823) [7, 11, 14, 15]
Regions.—Northwestern USA, Southwestern USA, South-Central USA & North and Central Mexico.
Botanical countries.—ARI COL MXE MXN NEV NWM TEX UTA WYO.

59. G. caffrum Eckl. & Zeyh., Enum. Pl. Afr. Austral.: 58 (1834-35) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP NAT.

60. G. californicum G.N. Jones & F.L. Jones in Rhodora 45: 38 (1943) [7, 15]
Regions.—Southwestern USA.
Botanical countries.—CAL.

61. G. campanulatum Paray in Bol. Soc. Bot. México 16: 22, 23 fig. 2 (1954) [57]
Regions.—North and Central Mexico.
Botanical countries.—MXE-DU MXE-QU.
62. G. campii H.E. Moore in Brittonia 15: 92, 93 fig. 1 (1963)
Regions.—Western South America.
Botanical countries.—ECU.

63. G. canescens L’Hér. ex Aiton, Hort. Kew. 2: 433 (1789) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP.

64. G. canopurpureum Yeo in Edinburgh J. Bot. 49(2): 138, 139 fig. 3 (1992)
Regions.—China.
Botanical countries.—CHC.

65. G. carmineum R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 119 (1912) [11]
Regions.—North and Central Mexico.
Botanical countries.—MXS-OA.

66. G. carolinianum L., Sp. Pl.: 682 (1753) [7, 11, 12, 15, 26, 27, 32, 45, 54]
Regions.—[Western Indian Ocean], [China], [Eastern Asia], [Indian Subcontinent], [Subartic America], Western Canada, Eastern Canada, Northwestern USA, North-Central USA, Northeastern USA, Southwestern USA, South-Central USA, Southeastern USA, North and Central Mexico, Caribbean, [Brazil South], [Brazil Southeast], [Western South America] & [Southern South America].
Botanical countries.—ABT [AGE] [AGW] ALA ARI ARK [ASK] BAH BER BRC [BZL] [BZS] CAL [CHC] [CHS] CNT COL DEL FLA GEO IDA ILL [IND] INI JAM [JAP] KAN KTY LOU MAI MAN MAS MIC MIN MNT MSI MRY MSO MXN-BS NCA NDA NEB NEV NWH NW M NY OHI OKL ONT ORE [PAR] PEN [PER] [REU] SAS SDA [TAI] TEN TEX UT A VER VRG WAS WIS WVA WYO.

67. G. caucense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 9 (1930)
Regions.—Western South America.
Botanical countries.—CLM.

68. G. chamaense Pittier in J. Wash. Acad. Sci. 19: 179 (1929) [18]
Regions.—Northern South America.
Botanical countries.—VEN.

69. G. chaparense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 4 (1930) [62]
Regions.—Western South America.
Botanical countries.—BOL.

70. G. charucanum Standl. in Publ. Field Mus. Nat. Hist., Bot. Ser. 22(1): 32 (1940) [11]
Regions.—North and Central Mexico.
Botanical countries.—MXE-CU MXN-SI.

71. G. chilense Aedo & Muñoz Garm. in Kew Bull. 52(3): 725 (1997) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

72. G. chilense Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 5: 231 (1822) [7]
Regions.—Western South America.
Botanical countries.—CLU.

73. G. chimborazense R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 212 (1912)
Regions.—Western South America.
Botanical countries.—ECU.

74. G. chinense Migo in J. Shanghai Sc. Inst. 3: 95 (1935)
Regions.—China.
Botanical countries.—CHS.

75. G. chinense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 4 (1930) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

76. G. christensenianum Hand.-Mazz., Symb. Sin. 7: 621, Taf. 10 Abb. 2 (1933) [26, 64]
Regions.—China.
Botanical countries.—CHC.

77. G. clarkei Yeo, Hardy Geraniums: 188, 86 fig. 9.22, photo 11 (1985)
Regions.—Indian Subcontinent.
Botanical countries.—JMK.

78. G. clarum Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 19 (1907) [7, 11]
Regions.—North and Central Mexico.
Botanical countries.—MXS-OA.

79. G. collae Aedo, Muñoz Garm. & Pando, nom. nov. [7, 61]
=G. intermedium Colla in Mem. Reale Accad. Sci. Torino 37: 46 (1834), nom. illeg., non E. James (1823)
Regions.—Southern South America.
Botanical countries.—AGW CLN.
80. G. collinum Stephan ex Willd., Sp. Pl. 3(1): 705 (1801) [7, 8, 10, 29, 30, 31, 36, 37, 45, 46, 47]
Regions.—Southwestern Europe, South- eastern Europe, East Europe, Siberia, Soviet Middle Asia, Caucasus, Western Asia, China & Indian Subcontinent.
Botanical countries.—AFG ALT BLR CHX IRN JMK KAZ KGZ KRY NCS PAK ROM RUC RUE RUS SPA TCS TKM TUR TZK UKR UZB WSB.

81. G. columbianum R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 212 (1912) [18, 58]
Regions.—Northern South America & Western South America.

82. G. columbinum L., Sp. Pl.: 682 (1753) [7, 10, 15, 29, 30, 31, 36, 37, 45, 47, 61]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, East Europe, Northern Africa, Soviet Middle Asia, Caucasus, Western Asia, [North-Central USA], [Northeastern USA], [Northwestern USA], [Southeastern USA], [Southwestern USA] & [Southern South America].
Botanical countries.—ALB ALG AUT BAL BGM BLT BUL [CAL] [CLN] COR CYP CZE [DEL] DEN FIN FRA [GEO] GER GRB GRC HUN [INI] IRE IRN ITA KAZ KRI KRY [KTY] LBS LBY [MIC] MOR [MRY] [NCA] NCS NET NOR [NWJ] [NWY] [OHI] [ORE] PAL [PEN] POL POR ROM RUC RUE RUS RUW SAR [SDA] SIC SPA SWE SWI TCS [TEN] TUE TUN TUR UKR [VRG] [WAS] [WDC] [WWA] YUG.

83. G. comarapense R. Knuth in Meded. Rijks-Herb. 27: 69 (1915) [62]
Regions.—Western South America.
Botanical countries.—BOL.

84. G. commutatum Steud. in Flora 39(28): 439 (1856) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

85. G. confertum Standl. in Contr. U.S. Natl. Herb. 18: 111 (1916)
Regions.—Western South America.
Botanical countries.—CLM.

86. G. contortum Eckl. & Zeyh., Enum. Pl. Afric. Austral. 1: 59 (1834-35) [40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP.

87. G. core-core Steud. in Flora 39(28): 438 (1856) [7, 16, 17, 61]
Regions.—Southern South America.
Botanical countries.—AGW CLN JNF.

88. G. costaricense H.E. Moore in Gentes Herb. 8(3): 253 (1951) [19]
Regions.—Mesoamerica.
Botanical countries.—COS PAN.

89. G. crassipes Hook. ex A. Gray, U.S. Expl. Exped., Phan. 1: 309 (1854) [12, 13]
Regions.—Western South America.
Botanical countries.—BOL PER.

90. G. crassisscutum R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 217 (1936)
Regions.—Western South America.
Botanical countries.—ECU.

91. G. crenatofolium H.E. Moore in Contr. Gray Herb. 146: 38 (1943) [7]
Regions.—North and Central Mexico.
Botanical countries.—MXE-CO MXE-DU MXE-NL MXE-TA.

92. G. cruncroëns R. Knuth in Bull. Misc. Inform. 1937(10): 502 (1937) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXC-DH MXC-ME MXC-PF MXG MXS-MI.

93. G. cuneccasasi R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 143 (1933)
Regions.—Western South America.
Botanical countries.—CLM.

94. G. cucullinense R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 144 (1933) [62]
Regions.—Western South America.
Botanical countries.—BOL.

95. G. dahuricum DC., Prodr. 1: 642 (1824) [7, 26, 29, 30, 34, 45, 50, 51, 52, 54, 64]
Regions.—Siberia, Soviet Far East, China, Mongolia & Eastern Asia.
Botanical countries.—AMU CHC CHI? CHM CHN CTA JAP KHA KOR MON? PRM.

96. G. delavayi Franch. in Bull. Soc. Bot. France 33: 442 (1887) [7, 26, 45, 54, 64]
Regions.—China.
Botanical countries.—CHC.
97. G. deltoideum Rydb. ex Hansk & Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 18 (1907) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXE-CU MXE-DU MXE-GU MXE-QU MXE-SL MXE-ZA MXN-SI MXS-GR MXS-JA MXS-ML.

98. G. dielsianum R. Knuth in Bot. Jahrb. Syst. 37: 563 (1906) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

99. G. diffusum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 5: 230 (1822) [7, 12, 13, 62]
Regions.—Western South America.
Botanical countries.—BOL ECU PER.

100. G. digitatum R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 1 (1930) [12, 13]
Regions.—Western South America.
Botanical countries.—BOL ECU PER.

101. G. discolor Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 186, 173 fig. 1 F (1985) [55]
Regions.—Southern Africa.
Botanical countries.—CPP.

102. G. donianum Sweet, Geraniaceae 4, tab. 338 in textu (1827) [7, 26, 35, 45, 64]
Regions.—China & Indian Subcontinent.
Botanical countries.—BHU CHC CHT NEP.

103. G. drakensbergense Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 190, 173 fig. 1 H (1985) [55]
Regions.—Southern Africa.
Botanical countries.—NAT.

104. G. dregei Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 201, 174 fig. 2 D (1985) [55]
Regions.—Southern Africa.
Botanical countries.—CPP OFS.

105. G. drummondii Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 353, pl. 6 fig. 4 (1965) [42]
Regions.—Australia.
Botanical countries.—WAU.

106. G. duclouxii Yeo in Edinburgh J. Bot. 49(2): 148, 149 fig. 5 (1992)
Regions.—China.
Botanical countries.—CHC.

107. G. durangense H.E. Moore in Brittonia 15: 95, 94 fig. 2 (1963)
Regions.—North and Central Mexico.
Botanical countries.—MXE.

108. G. ecuadoriense Hieron. in Bot. Jahrb. Syst. 20, Beiblatt 49: 30 (1895) [7]
Regions.—Western South America.
Botanical countries.—ECU.

109. G. editum Veldkamp in Blumea 24(2): 470 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

110. G. eginense Hausskn. & Sint. ex R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 61 (1912) [7, 36, 47]
Regions.—Western Asia.
Botanical countries.—TUR.

111. G. elatum (Maxim.) R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 113 (1912) [30, 60]
Regions.—Soviet Far East.
Botanical countries.—KHA PRM?

112. G. endressii J. Gay in Ann. Sci. Nat. (Paris) 26: 228 (1832) [7, 10, 37, 45, 47]
Regions.—[Northern Europe], [Middle Europe] & Southwestern Europe.
Botanical countries.—[BGM] FRA [GRB].

113. G. erianthum DC, Prodr. 1: 641 (1824) [7, 14, 15, 29, 30, 34, 45, 60, 61, 64]
Regions.—Siberia, Soviet Far East, China, Subartic America & Western Canada.
Botanical countries.—ABT ALU AMU ASK BRC CHM KAM KHA MAG KUR PRM SAK YAK YUK.

114. G. escalonense R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 145 (1933) [62]
Regions.—Western South America.
Botanical countries.—BOL.

115. G. exellii J.R. Laundon in Bol. Soc. Brot. ser. 2, 35: 62, [foto 2] (1961) [38, 43]
Regions.—South Tropical Africa.
Botanical countries.—MOZ ZIM.

116. G. fallax Steud. in Flora 39(28): 439 (1856) [7, 12, 13]
Regions.—Western South America & Southern South America.
Botanical countries.—AGW PER.
117. G. fargesii Yeo in Edinburgh J. Bot. 49(2): 150, 151 fig. 6 (1992)
Regions.—China.
Botanical countries.—CHC.

118. G. farreri Stapf in Bot. Mag. 151, tab. 9092 (1926) [26, 45, 54]
Regions.—China.
Botanical countries.—CHN.

119. G. ferganense Bobrov in Kom. & al. (eds.), Fl. URSS 14: 713 (1949) [29, 30]
Regions.—Soviet Middle Asia.
Botanical countries.—UZB.

120. G. fiebrigianum R. Knuth in Bot. Jahrb. Syst. 37: 560 (1906) [7, 62]
Regions.—Western South America.
Botanical countries.—BOL.

121. G. filipes Killip in J. Wash. Acad. Sci. 16: 569 (1926) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

122. G. finitimum Woronow in Kusn., N. Busch & Fomin, Fl. Cauc. Crit. 3(7): 50 (1908) [30, 36, 47]
Regions.—Caucasus & Western Asia.
Botanical countries.—TCS TUR.

123. G. flaccidum Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 11 (1907) [11, 19]
Regions.—North and Central Mexico.
Botanical countries.—MXX-NBC.

124. G. flanaganii Schltr. ex R. Knuth in Bot. Jahrb. Syst. 40: 69 (1908) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP NAT SWZ.

125. G. franchetii R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 177 (1912) [26, 64]
Regions.—China.
Botanical countries.—CHC.

126. G. frigidurbis Moerman in Blumea 24(2): 469 (1978)
Regions.—Malesia.
Botanical countries.—SUL.

127. G. fuscicaule R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 7 (1930) [62]
Regions.—Western South America.
Botanical countries.—BOL.

128. G. geissei R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 70 (1912) [61]
Regions.—Southern South America.
Botanical countries.—CLN.

129. G. gentryi H.E. Moore in Contr. Gray Herb. 146: 74, pl. 1 fig. 1, pl. 5 fig. 6 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXN-SO.

130. G. goldmanii Rose ex Hansk & Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 17 (1907) [7, 11]
Regions.—Mesoamerica.
Botanical countries.—SMX-CL.

131. G. gorbizense Aedo & Muñoz Garm. in Kew Bull. 52(3): 725 (1997) [30, 60]
Regions.—Southern South America.
Botanical countries.—AMU KHA KOR PRM.

132. G. grandistipulatum Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 213, 174 fig. 2 I (1985) [55]
Regions.—Southern Africa.
Botanical countries.—CPP.

133. G. graniticola Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 345, pl. 6 fig. 10, pl. 7 fig. 9 (1965) [42]
Regions.—Australia.
Botanical countries.—NSW.

134. G. guamanense Halfdan-Nielsen in Nordic J. Bot. 16: 271 fig. 3 (1996)
Regions.—Western South America.
Botanical countries.—ECU.

135. G. guatemalense R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 200 (1912) [11, 19]
Regions.—Mesoamerica.
Botanical countries.—COS ELS GUA HON NIC PAN SMX-CL.

136. G. harmsii R. Knuth in Bot. Jahrb. Syst. 37: 559 (1906) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

137. G. harveyi Briq. in Annuaire Conserv. Jard. Bot. Genève 11/12: 183 (1908) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP.

138. G. hattae Nakai in Bot. Mag. (Tokyo) 26: 263 (1912) [34]
Regions.—China & Eastern Asia.
Botanical countries.—CHM KOR.
139. G. hayatanum Ohwi in Acta Phytotax. Geobot. 2(3): 152 (1933) [7, 32]
Regions.—Eastern Asia.
Botanical countries.—TAI.

140. G. heinrichsae R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 216 (1936)
Regions.—Western South America.
Botanical countries.—ECU.

141. G. henryi R. Knuth in Repert. Spec. Nov. Regni Veg. 19: 228 (1923) [26, 52, 54]
Regions.—China.
Botanical countries.—CHC CHN?

142. G. hernandesii Moç. & Sessé ex DC., Prodr. 1: 640 (1824) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXX-DF MXC-HF MXE-HN MXN-SIMX-GR MXX-JA MXX-ML.

143. G. herrerae R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 1 (1930) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

144. G. herzogii R. Knuth in Meded. Rijks-Herb. 27: 69 (1915) [62]
Regions.—Western South America.
Botanical countries.—BOL.

145. G. himalayense Klotzsch, Bot. Ergebn. Reise Waldemar: 122, Taf. 16 (1862) [7, 29, 30, 31, 35, 45, 46, 64]
Regions.—Soviet Middle Asia, Western Asia, China & Indian Subcontinent.
Botanical countries.—AFG CHX JMK NEP PAK TJK.

146. G. hintonii H.E. Moore in Contr. Gray Herb. 146: 80, pl. 1 fig. 5 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXX-GR.

147. G. holm-nielsenii Halfdan-Nielsen in Nordic J. Bot. 16: 272, 273 fig. 4 (1996)
Regions.—Western South America.
Botanical countries.—ECU.

148. G. holosericeum Willd. ex Spreng., Syst. Veg. 3: 72 (1826) [7]
Regions.—Northern South America & Western South America.
Botanical countries.—CLM VEN.

149. G. homeanum Turcz. in Bull. Soc. Imp. Naturalistes Moscou 36(1): 591 (1863) [15, 21, 42, 59]
Regions.—Malesia, Australasia, [North-Central Pacific] & [Southwestern USA]?
Botanical countries.—[CAL] [HAW] JAW QLD LSI NSW NZN TAS.

150. G. huantense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 8 (1930) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

151. G. humboldtti Spreng., Syst. Veg. 3: 70 (1826) [12, 13]
Regions.—Western South America & Southern South America.
Botanical countries.—AGW CLN ECU PER.

152. G. hyperacriion Veldkamp in Blumea 24(2): 470 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

153. G. hystricinum H.E. Moore in Contr. Gray Herb. 146: 72, pl. 3 fig. 10, pl. 5 figs. 3, 7 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXX-GR.

154. G. igualatense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 88 (1930)
Regions.—Western South America.
Botanical countries.—ECU.

155. G. imbaburae R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 211 (1912)
Regions.—Western South America.
Botanical countries.—ECU.

156. G. incanum Burm. f., Spec. Bot. Geran.: 28, tab. 1 fig. 26 (1759) [7, 28, 38, 40, 43, 45, 55]
Regions.—East Tropical Africa & Southern Africa.
Botanical countries.—CPP TAN.

157. G. jaekelae J.F. Macbr. in Candollea 6: 7 (1934) [7, 12, 13]
Regions.—Southern South America.
Botanical countries.—PER.

158. G. jinchuanense Z.M. Tan in Bull. Bot. Res., Harbin 14(3): 232, 235 tab. 2 (1994)
Regions.—China.
Botanical countries.—CHC-SI.

159. G. kashmirianum Sapru & Raina in Geobios, New Rep. 5(1): 63, 64 figs. 1-12 (1986)
Regions.—Indian Subcontinent.
Botanical countries.—JMK.
160. G. kerberi R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 200 (1912) [11, 18, 58]
Regions.—North and Central Mexico, Northern South America & Western South America.
Botanical countries.—CLM M XC-DF MXC-ME MXC-MO MXC-PU MXE-HI MXE-SL VEN.

161. G. kilimandscharicum Engl. in Abh. Königl. Akad. Wiss. Berlin 1891(2): 274 (1892) [7, 28, 43]
Regions.—East Tropical Africa.
Botanical countries.—KEN TAN UGA.

162. G. killipianum R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 144 (1933) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

163. G. killipii R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 8 (1930)
Regions.—Western South America.
Botanical countries.—CLM PER.

164. G. kishitvariense R. Knuth in Repert. Spec. Nov. Regni Veg. 19: 229 (1923) [45]
Regions.—Indian Subcontinent.
Botanical countries.—JMK.

165. G. knuthianum J.F. Macbr. in Candollea 6: 7 (1934)
Regions.—Western South America.
Botanical countries.—ECU.

166. G. knuthii Nakai in Bot. Mag. (Tokyo) 26: 263 (1912) [50]
Regions.—Eastern Asia.
Botanical countries.—KOR.

167. G. koreanum Kom. in Trudy Imp. S.-Peterburgsk. Bot. Sada 18(6): 433 (1901) [7, 34, 50, 51, 64]
Regions.—China & Eastern Asia.
Botanical countries.—CHM.

168. G. kramerii Franch. & Sav., Enum. Pl. Jap. 2: 306 (1878) [7, 26, 29, 33, 34, 45, 50, 54, 64]
Regions.—Soviet Far East, China & Eastern Asia.
Botanical countries.—AMU CHC CHM JAP KHA KOR PRM.

169. G. lacustre Veldkamp in Blumea 24(2): 471 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

170. G. lambertii Sweet, Geraniaceae: 4, tab. 338 (1827) [7, 31, 35, 45, 46, 64]
Regions.—China & Indian Subcontinent.
Botanical countries.—BHU CHT IND NEP JMK PAK.

171. G. iasiocaulon Nakai in Bot. Mag. (Tokyo) 49: 350 (1935)
Regions.—Eastern Asia.
Botanical countries.—KOR.

172. G. latilobum H.E. Moore in Contr. Gray Herb. 146: 70, pl. 3 fig. 15 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXS-JA.

173. G. latum Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 18 (1907) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXC-DF MXC-ME MXS-MI.

174. G. laxicaule R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 209 (1912) [12, 13]
Regions.—Western South America.
Botanical countries.—ECU.

175. G. lechleri R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 80 (1912) [7, 12, 13, 62]
Regions.—Western South America.
Botanical countries.—CLM.

176. G. lentum Wooton & Standl. in Contr. U.S. Natl. Herb. 16: 142 (1913) [14, 15]
Regions.—Southwestern USA, South-Central USA & North and Central Mexico.
Botanical countries.—ARI MXE NWM TEX.

177. G. leptodactylon Veldkamp in Blumea 24(2): 471 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

178. G. leucanthum Griseb., Pl. Lorentz.: 55 (1874); preprinted o reprinted in Abh. Königl. Ges. Wiss. Göttingen 19: 103 (1874), n.v. [7]
Regions.—Southern South America.
Botanical countries.—AGW.

179. G. lignosum R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 10 (1930)
Regions.—Western South America.
Botanical countries.—CLM.
180. G. lilacinum R. Knuth in Bull. Misc. Inform. 1937(10): 502 (1937) [11, 57] Regions.—North and Central Mexico. Botanical countries.—MXC-ME MXC-MO MXE-SL MXS-GR MXS-MI.

181. G. limae R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 74 (1912) [12, 13] Regions.—Western South America. Botanical countries.—PER.

182. G. loxense Halfdan-Nielsen in Nordic J. Bot. 16: 273, 274 fig. 5 (1996) Regions.—Western South America. Botanical countries.—ECU.

183. G. lozanoi Rose in Contr. U.S. Natl. Herb. 10(3): 108 (1906) [7, 11, 57] Regions.—North and Central Mexico. Botanical countries.—MXE-HI MXS-MI.

184. G. maculatum L., Sp. Pl.: 681 (1753) [7, 14, 15, 45] Regions.—Western Canada, Eastern Canada, North-Central USA, Northwestern USA, Southwestern USA & Southeastern USA. Botanical countries.—ALA ARK CNT DEL GEO ILL INI IOW KAN KTY LOU MAI MAN MAS MIC MIN MRY MSI MSO NCA NDA NEB NWH NWJ NWY OHI OKL ONT PEN QUE RHO SCA SDA TEN VER VRG WDC WIS WVA.

185. G. madrense Rose ex Hansk & Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 17 (1907) [7, 11] Regions.—North and Central Mexico. Botanical countries.—MXE-DU MXS-NA.

186. G. magellanicum Hook. f., Fl. Antarct. 2: 251 (1845) [7, 17, 61] Regions.—Southern South America. Botanical countries.—AGW CLS.

187. G. magnificum R. Knuth in Bot. Jahrb. Syst. 40: 68 (1908) [7, 40, 45, 55] Regions.—Southern Africa. Botanical countries.—CPP LES NAT OFS.

188. G. malpasense R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 146 (1933) [62] Regions.—Western South America. Botanical countries.—BOL.

189. G. maniculatum H.E. Moore in Gentes Herb. 8(3): 254 fig. 102 (1951) Regions.—Western South America. Botanical countries.—ECU.

190. G. mathewsii Briq. in Annuaire Conserv. Jard. Bot. Genève 11/12: 188 (1908) [7, 12, 13] Regions.—Western South America. Botanical countries.—PER.

191. G. matucanense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 5 (1930) [12, 13] Regions.—Western South America. Botanical countries.—PER.

192. G. maximowiczii Regel & Maack in Regel, Tent. Fl.-Ussur.: 39, tab. 3 figs. 4-6 c, f, g (1861) [7, 29, 30, 34, 50, 54, 64] Regions.—Soviet Far East, China & Eastern Asia. Botanical countries.—AMU CHM KHA KOR PRM.

193. G. melanopotamicum Spec. in Anales Mus. Nac. Hist. Nat. Buenos Aires ser. 2, 4: 254 (1902) [7, 44] Regions.—Southern South America. Botanical countries.—AGE AGS.

194. G. meridense Pittier in J. Wash. Acad. Sci. 19: 178 (1929) [18] Regions.—Northern South America. Botanical countries.—VEN.

195. G. mexicanum Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 5: 230 (1822) [7, 11, 57] Regions.—North and Central Mexico & Mesoamerica. Botanical countries.—MXC-ME MXE-AG MXE-DU MXE-GU MXE-ZA MXS-GR MXS-JA MXS-MI SMX-CL.

196. G. maljensis J.R. Laundon in Bol. Soc. Brot. ser. 2, 35: 70, [foto 4] (1961) [38, 43] Regions.—South Tropical Africa. Botanical countries.—MLW.

197. G. mogotocorense R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 88 (1930) Regions.—Southern South America. Botanical countries.—CLM.

198. G. mollendiense R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 580 (1912) [7, 12, 13] Regions.—Western South America. Botanical countries.—PER.
199. *G. monanthum* Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 21 (1907) [7, 11]
Regions.—North and Central México.
Botanical countries.—MXS-OA.

200. *G. monticola* Ridl. in Trans. Linn. Soc. London, Bot. 9(1): 23 (1916) [21, 41]
Regions.—Malesia.
Botanical countries.—NWG.

201. *G. moorei* Phil. in Anales Univ. Chile 82: 728 (1893) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

202. *G. multiceps* Turcz. in Bull. Soc. Imp. Naturalistes Moscou 31(2): 417 (1858) [7, 18, 58]
Regions.—Northern South America & Western South America.
Botanical countries.—VEN.

203. *G. multipartitum* Benth., Pl. Hartw. 2: 166 (1845) [7, 13]
Regions.—Western South America.
Botanical countries.—BOL ECU PER.

204. *G. multiseptum* N.E. Br. in Bull. Misc. Inform. 1901(175/177): 120 (1901) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP LES NAT OFS TVL.

205. *G. napuligerum* Franch., Pl. Delavay.: 115 (1889) [7, 26, 54]
Regions.—China & Eastern Asia.
Botanical countries.—CHC KOR.

206. *G. natalense* Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 204, 174 fig. 2 H (1985) [55]
Regions.—Southern Africa.
Botanical countries.—CPP NAT.

207. *G. neglectum* Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 343, pl. 6 fig. 12, pl. 7 fig. 8 (1965) [42]
Regions.—Australia.
Botanical countries.—NSW QLD VIC.

208. *G. neohispidum* Aedo & Muñoz Garm. in Kew Bull. 52(3): 725 (1997) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

209. *G. neopumilum* Aedo & Muñoz Garm., Kew Bull. 52(3): 726 (1997)
Regions.—Western South America.
Botanical countries.—ECU.

210. *G. nepalense* Sweet, Geraniaceae: 1, tab. 12 (1820) [7, 26, 31, 35, 41, 45, 46, 53, 54, 64]
Regions.—Soviet Far East, Western Asia, China, Eastern Asia, Indian Subcontinent, Indo-China & Malesia.
Botanical countries.—AFG ASS BHA BHU BMA CHC CHM CHT IND JMK KOR KUR LAO NEP PAK SRL SUM THA VIE.

211. *G. niuginiense* Veldkamp in Blumea 24(2): 473 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

212. *G. niveale* R. Knuth in Bot. Jahrb. Syst. 37: 563 (1906) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

213. *G. niveum* S. Watson in Proc. Amer. Acad. Arts 21: 421 (1886) [7, 11]
Regions.—North and Central Mexico.
Botanical countries.—MXE-CU.

214. *G. nodosum* L., Sp. Pl.: 681 (1753) [7, 10, 37, 45, 47]
Regions.—[Northern Europe], Middle Europe, Southwestern Europe & Southeastern Europe.
Botanical countries.—[BGM] COR FRA [GER] [GRB] ITA [NET] SPA SWI YUG.

215. *G. nuristanicum* Schönb.—Tem. in Rech. f. (ed.), Fl. Iran. 69: 19, tab. 6 (1970)
Regions.—Western Asia.
Botanical countries.—AFG.

216. *G. nyassense* R. Knuth in Repert. Spec. Nov. Regni Veg. 18: 289 (1922) [28, 38, 40, 43, 55]
Regions.—East Tropical Africa, South Tropical Africa & Southern Africa.
Botanical countries.—MLW MOZ TAN TVL ZIM.

217. *G. oaxacanum* H.E. Moore in Contr. Gray Herb. 146: 30, pl. 1 fig. 2 (1943)
Regions.—North and Central Mexico & Mesoamerica.
Botanical countries.—GUA MXS-OA.

218. *G. obtusisepalum* Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 344, pl. 6 fig. 11, pl. 7 fig. 7 (1965) [42]
Regions.—Australia.
Botanical countries.—NSW.
219. *G. ochsenii* Phil. in Linnaea 28: 676 (1856) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

220. *G. oreganum* Howell, Fl. N. W. Amer. 1: 106 (1897) [7, 14, 15, 45]
Regions.—Western Canada, Northwestern USA & Southwestern USA.
Botanical countries.—ABT BRC CAL ORE WAS.

221. *G. orientali-tibeticum* R. Knuth in Repert. Spec. Nov. Regni Veg. 19: 230 (1923) [26, 45]
Regions.—China.
Botanical countries.—CHC.

222. *G. ornithopodioides* Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 220, 175 fig. 3 B (1985) [55]
Regions.—Southern Africa.
Botanical countries.—NAT.

223. *G. paishanense* Y.L. Chang, Fl. Plant. Herb. Chinae Borr.-Or. 6: 291, 17 tab. 6 fig. 2 (1977)
Regions.—China.
Botanical countries.—CHM.

224. *G. palcaense* R. Knuth in Meded. Rijks-Herb. 27: 68 (1915) [62]
Regions.—Western South America.
Botanical countries.—BOL.

225. *G. palidifolium* R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 3 (1930) [62]
Regions.—Western South America.
Botanical countries.—BOL.

226. *G. paludosum* R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 2 (1930)
Regions.—Western South America.
Botanical countries.—CLM.

227. *G. palustre* L., Cent. Pl. II: 25 (1756) [7, 10, 29, 30, 36, 37, 45, 47]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South-eastern Europe, East Europe, Caucasus & Western Asia.
Botanical countries.—AUT BGM BLR BLT BUL CZE DEN FIN FRA GER HUN ITA NCS POL ROM RUC RUE RUN RUS RUW SWE SWITCS TUR UKR YUG.

228. *G. paramicola* R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 216 (1936)
Regions.—Western South America.
Botanical countries.—CLM.

229. *G. papuanum* Ridl. in Trans. Linn. Soc. London, Bot. 9(1): 22 (1916) [41]
Regions.—Malesia.
Botanical countries.—NWG.

230. *G. paramicola* R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 2 (1930)
Regions.—Western South America.
Botanical countries.—AGE AGS AGW BOL CLS PER.

231. *G. parodii* I.M. Johnst. in Contr. Gray Herb. 81: 92 (1928)
Regions.—Southern South America.
Botanical countries.—AGE.

232. *G. pavonianum* Briq. in Annuaire Conserv. Jard. Bot. Genève 11-12: 183 (1908) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

233. *G. peruvianum* Hieran, in Bot. Jahrb. Syst. 21: 316 (1895) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

234. *G. philippii* J.F. Macbr. in Candollea 6: 7 (1934) [7, 16, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

235. *G. pflanzii* R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 576 (1912) [62]
Regions.—Western South America.
Botanical countries.—BOL.

236. *G. pichinchense* Aedo & Muñoz Garm., Kew Bull. 52(3): 726 (1997) [7]
Regions.—Western South America.
Botanical countries.—ECU.
239. *G. pilgerianum* R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 106 (1912)
Regions.—Western South America.
Botanical countries.—CLM.

240. *G. pinetophilum* R. Knuth in Notizbl. Bot. Gart. Berlin-Dahlem 14: 352 (1939) [46]
Regions.—Indian Subcontinent.
Botanical countries.—JMK.

241. *G. piurense* R. Knuth in Repert. Spec. Nov. Regni Veg. 18: 290 (1922) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

242. *G. platyanthum* Duthie in Gard. Chron. ser. 3, 39: 52 (1906) [7, 26, 29, 34, 45, 50, 51, 52, 54, 64]
Regions.—Siberia, Soviet Far East, China, Mongolia & Eastern Asia.
Botanical countries.—AMU BRY CHC CHM CHN CHT CTA IRK KHA KOR MON PRM SAK.

243. *G. platyreifolium* Z.M. Tan in Bull. Bot. Res., Harbin 6(2): 52, 61 tab. 4 (1986) [26, 64]
Regions.—China.
Botanical countries.—CHC.

244. *G. pogonanthum* Franch., Pl. Delavay.: 111 (1889) [7, 26, 45]
Regions.—China & Indo-China.
Botanical countries.—BMA CHC.

245. *G. potentillifolium* DC., Prodr. 1: 639 (1824) [7, 11, 57]
Regions.—North and Central Mexico.
Botanical countries.—MXC-DF MXC-ME MXC-MO MXC-PU MXC-TL MXE-HI MXG MXS-MI.

246. *G. potentilloides* L’Hér. ex DC., Prodr. 1: 639 (1824) [7, 15, 21, 42]
Regions.—Australia, New Zealand & [Southwestern USA].
Botanical countries.—ATP [CAL] NSW NZN NZS SOA TAS VIC.

247. *G. potosinum* H.E. Moore in Contr. Gray Herb. 146: 41, pl. 4 fig. 3 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXE-NL.

248. *G. pratense* L., Sp. Pl.: 681 (1753) [7, 10, 15, 26, 29, 30, 31, 34, 35, 37, 45, 46, 47, 54]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South-eastern Europe, East Europe, Siberia, [Soviet Far East], Soviet Middle Asia, Caucasus, Western Asia, China, Mongolia, Indian Subcontinent, [Western Canada], [Eastern Canada] & [Northeastern USA].
Botanical countries.—ALT AMU AUT BGM BLR BLT BRY BUL BMA CHC CHM CHN CHT CTA IRK KHA KOR MON PRM SAK.

249. *G. pringlei* Rose in Contr. U.S. Natl. Herb. 10(3): 109 (1906) [7, 11]
Regions.—North and Central Mexico.
Botanical countries.—MXE-HI.

250. *G. procurrens* Yeo in Bot. Mag. 179(3), tab. 644 (1973) [35, 45]
Regions.—Indian Subcontinent.
Botanical countries.—ASS BHU IND NEP.

251. *G. pseudofarreri* Z.M. Tan in Bull. Bot. Res., Harbin 6(2): 50, 60 tab. 3 (1986) [26]
Regions.—China.
Botanical countries.—CHC.

252. *G. pseudosibiricum* J. Mayer in Abh. Böhm. Ges. Wiss. 1786: 238 (1786) [7, 29, 30, 37, 45, 54]
Regions.—East Europe, Siberia, Soviet Middle Asia & Mongolia.
Botanical countries.—ALT BRY IRK KAZ KRA MON RUE WSY YAK.

253. *G. psilostemon* Ledeb., Fl. Ross. 1(2): 465 (1842) [7, 10, 29, 30, 36, 45, 47]
Regions.—[Northern Europe], Caucasus & Western Asia.
Botanical countries.—[GRB] NCS TCS TUR.

254. *G. pulchrum* N.E. Br. in Bull. Misc. Inform. 1895: 143 (1895) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP NAT.

255. *G. pyzowianum* Maxim. in Bull. Acad. Imp. Sci. Saint-Petersbourg 26: 466 (1880) [7, 26, 45, 52, 54, 64]
256. *G. raimondii* R. Knuth in *Repert. Spec. Nov. Regni Veg.* 28: 9 (1930) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

257. *G. rapulum* A. St.-Hil. & Naudin in *Ann. Sci. Nat. Bot. (Paris)* ser. 2, 18: 25 (1842) [7]
Regions.—Brazil.
Botanical countries.—BZL.

258. *G. rectum* Trautv. in *Bull. Soc. Imp. Naturalistes Moscou* 33(1): 459 (1860) [7, 29, 30, 45, 46, 64]
Regions.—Soviet Middle Asia, China & Indian Subcontinent.
Botanical countries.—CHX JMK KAZ KGZ PAK.

259. *G. refractum* Edgew. & Hook. f. in *Hook. f., Fl. Brit. India* 1: 428 (1874) [7, 26, 35, 45, 54]
Regions.—China, Indian Subcontinent & Indo-China.
Botanical countries.—BHU BMA CHC CHT NEP.

260. *G. reini* Franch. & Sav., *Enum. Pl. Jap.* 2: 304 (1878) [7, 33, 51]
Regions.—Eastern Asia.
Botanical countries.—JAP KOR.

261. *G. renifolium* Hieron. in *Bot. Jahrb. Syst.* 21: 315 (1895) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

262. *G. repens* H.E. Moore in *Contr. Gray Herb.* 146: 78 (1943)
Regions.—North and Central Mexico & Mesoamerica.
Botanical countries.—COS GUA MXS-GR PAN SMX-CL.

263. *G. reptans* R. Knuth in *Engl., Pflanzenr.* IV.129 (Heft 53): 214 (1912)
Regions.—Western South America.
Botanical countries.—ECU.

264. *G. retectum* Yeo in *Edinburgh J. Bot.* 49(2): 179, 180 fig. 9 (1992)
Regions.—China.
Botanical countries.—CHC.

265. *G. rosthornii* R. Knuth in *Engl., Pflanzenr.* IV.129 (Heft 53): 180 (1912) [26]
Regions.—China.
Botanical countries.—CHC.

266. *G. rhomboidale* H.E. Moore in *Gentes Herb.* 8(3): 255, 256 fig. 103 (1951)
Regions.—Western South America.
Botanical countries.—CLM.

267. *G. richardsonii* Fisch. & Trautv. in *Fisch., C.A. Mey. & Trautv., Index Sem. Hort. Petrop.* 4: 37 (1838) [7, 14, 15, 45]
Regions.—Subarctic America, Western Canada, Northwestern USA, North-Central USA, Southwestern USA & South-Central USA.
Botanical countries.—ABT ARI BRC CAL COL IDA MNT NEV NWM NWT-MK ORE SAS SDA UTA WYO YUK.

268. *G. rivulare* Vill., *Prosp. Hist. Pl. Dauphiné*: 40 (1779) [7, 37, 45, 47]
Regions.—Middle Europe, Southwestern Europe & Southeastern Europe.
Botanical countries.—FRA ITA SWI.

269. *G. robustipes* R. Knuth in *Repert. Spec. Nov. Regni Veg.* 45: 62 (1938)
Regions.—Northern South America.
Botanical countries.—VEN.

270. *G. robustum* Kuntze, *Revis. Gen. Pl.* 3(2): 32 (1898) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP LES NAT OFS TVL.

271. *G. rosthornii* R. Knuth in *Engl., Pflanzenr.* IV.129 (Heft 53): 180 (1912) [26]
Regions.—China.
Botanical countries.—CHC.

272. *G. rotundifolium* L., *Sp. Pl.*.: 683 (1753) [7, 10, 15, 21, 29, 30, 31, 36, 37, 40, 42, 44, 45, 46, 47, 55]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, East Europe, Northern Africa, Macaronesia, [Southern Africa], Soviet Middle Asia, Caucasus, Western Asia, Indian Subcontinent, [Australia], [Northwestern USA], [North-Central Pacific] & [Southwestern USA].
Botanical countries.—[CAL] [HAW] NSW NZN NZS QLD SOA TAS VIC WAU.
USA], [Northeastern USA], [Caribbean] & [Southern South America].
Botanical countries.—AFG [AGE] ALB ALG AUT AZO BAL BGM BLR BLT BUL CNY [COL] COR [CPP] [CVI] CYP CZE [DOM] EGY FRA GER GRB GRC [HAI] HUN IND IRE IRN IRQ ITA JMK [KAN] KAZ KGZ KRI KRY LBS LBY MDR [MIC] MOR [NRY] PAL [PEN] POR [PRM] ROM RUC? RUS? RUW SAR SAU SIC SPA SWE SWI [TAS] TCS TKM TUE TUR TZK UKR [URU] YUG.

273. G. rubifolium Lindl. in Edward's Bot. Reg. 26, tab. 67 (1840) [7, 45, 46, 64]
Regions.—Indian Subcontinent.
Botanical countries.—JMK PAK.

274. G. ruizii Hieron. in Bot. Jahrb. Syst. 20, Beiblatt 49: 31 (1895) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—BOL PER.

275. G. rupicola Wedd., Chlor. Andina 2: 285 (1861) [7, 62]
Regions.—Western South America.
Botanical countries.—BOL.

276. G. ruprechtii (Woronow) Grossh., Fl. Kavk. 3: 7 (1932) [29, 30]
Regions.—Caucasus.
Botanical countries.—NCS TCS.

277. G. sanguineum L., Sp. Pl.: 683 (1753) [7, 10, 15, 29, 30, 36, 37, 45, 47]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South-eastern Europe, East Europe, Siberia, Caucasus, Western Asia, [Subartic America] & [Northeastern USA].
Botanical countries.—ALB [ASK] AUT BGM BLR BLT BUL COR? CZE DEN FIN FRA GER GRB GRC HUN IRE ITA KRY [MIC] NCS NOR [NRY] POL POR ROM RUC RUE RUS RUW SIC SPA SWE SWI TCS TUE TUR UKR WSB YUG.

278. G. santacruzensense R. Knuth in Repert. Spec. Nov. Regni Veg. 18: 289 (1922)
Regions.—Southern South America.
Botanical countries.—AGS.

279. G. santanderiense R. Knuth in Repert. Spec. Nov. Regni Veg. 18: 291 (1922)
Regions.—Northern South America & Western South America.
Botanical countries.—CLM VEN.

280. G. saxatile Kar. & Kir. in Bull. Soc. Imp. Naturalistes Moscou 15(1): 177 (1842) [29, 30]
Regions.—Soviet Middle Asia, China & Indian Subcontinent.
Botanical countries.—AFG CHX KAZ PAK TKM TZE.

281. G. schiedeanum Schltdl. in Linnaea 10: 253 (1836) [7, 11, 45, 57]
Regions.—North and Central Mexico & Mesoamerica.
Botanical countries.—MXC-ME MXC-PU MXC-TL MXE-HI MXE-QU MXE-SL MXG MXS-OA SMX-TB.

282. G. schimpffii R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 219 (1936)
Regions.—Western South America.
Botanical countries.—ECU.

283. G. schlechteri R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 207 (1912) [40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP LES NAT OFS TVL.

284. G. schultzei R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 2 (1930)
Regions.—Western South America.
Botanical countries.—CLM.

285. G. scissum R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 4 (1930) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

286. G. scullyi R. Knuth in Repert. Spec. Nov. Regni Veg. 19: 230 (1923)
Regions.—Indian Subcontinent.
Botanical countries.—NEP.

287. G. sebosum S.F. Blake in Contr. U.S. Natl. Herb. 20(13): 526 (1924) [18]
Regions.—Northern South America.
Botanical countries.—VEN.

288. G. seemannii Peyr. in Linnaea 30: 66 (1859) [7, 11, 12, 13, 57]
Regions.—North and Central Mexico, Mesoamerica & Western South America.
Botanical countries.—ECU GUA MXC-DF MXC-ME MXC-PU MXC-TL
290. *G. sepalo-roseum* Rusby in Mem. Torrey Bot. Club 3(3): 12 (1893) [7, 62]
Regions.—Western South America.
Botanical countries.—BOL.

291. *G. sericeum* Willd, ex Spreng., Syst. Veg. 3: 70 (1826) [7]
Regions.—Western South America.
Botanical countries.—ECU.

292. *G. sessiliflorum* Cav., Diss. 4: 198, tab. 77 fig. 2 (1787) [7, 12, 13, 17, 21, 42, 45, 61, 62]
Regions.—Australia, New Zealand, Western South America & Southern South America.
Botanical countries.—AGS AGW BOL CLN CLS NSW NZN NZS PER TAS.

a. *G. sessiliflorum* subsp. *sessiliflorum*
Regions.—Western South America & Southern South America.
Botanical countries.—AGS AGW BOL CLN CLS.

b. *G. sessiliflorum* subsp. *brevicaule* (Hook. f.) Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 357 (1965)
Regions.—Australia.
Botanical countries.—NSW TAS.

c. *G. sessiliflorum* subsp. *novaezelandiae*
Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 356 (1965)
Regions.—New Zealand.
Botanical countries.—NZN NZS.

293. *G. shensianum* R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 5 (1930) [52, 64]
Regions.—China.
Botanical countries.—CHN.

294. *G. shikokianum* Matsum. in Bot. Mag. (Tokyo) 15: 123 (1901) [7, 33, 45, 50, 51]
Regions.—Eastern Asia.
Botanical countries.—JAP KOR.

295. *G. siamense* Craib in Bull. Misc. Inform. 1926(4): 158 (1926) [53]
Regions.—Indo-China.
Botanical countries.—THA.

296. *G. sibbaldiioides* Benth., Pl. Hartw. 2: 166 (1845) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—CLM ECU PER.

297. *G. sibiricum* L., Sp. Pl.: 683 (1753) [7, 10, 15, 26, 29, 30, 31, 33, 34, 37, 45, 46, 47, 50, 51, 52, 54]
Regions.—[Northern Europe], [Middle Europe], [Southwestern Europe], Southeastern Europe, East Europe, Siberia, Soviet Far East, Soviet Middle Asia, Caucasus, Western Asia, China, Eastern Asia, Indian Subcontinent, [North-Central USA], [Northeastern USA] & [Southwestern USA].
Botanical countries.—AFG ALT AMU [AUT] BLT BRY [CAL] CHC CHM CHN CHT CHX CTA [CZE] [FRA] [GER] [HUN] [ILL] [ITA] JAP JMK KAM KAZ KGZ KHA KOR KRA MAG [MAS] MON NCS [NOR] [NWY] PA [PEN] [POL] PRM? ROM RUC RUE RUS SAK [SWI] TCS TUR TZK UKR [WIS] WSB YAK.

298. *G. sinense* R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 577 (1912) [26, 45, 64]
Regions.—China.
Botanical countries.—CHC.

299. *G. skottsbergii* R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 143 (1933) [61]
Regions.—Southern South America.
Botanical countries.—CLN.

300. *G. smithianum* R. Knuth in Repert. Spec. Nov. Regni Veg. 34: 146 (1933) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

301. *G. soboliferum* Kom. in Trudy Imp. S.-Peterburgsk. Bot. Sada 18(6): 433 (1901) [7, 29, 30, 33, 34, 45, 50, 64]
Regions.—China, Soviet Far East & Eastern Asia.
Botanical countries.—CHM JAP KOR PRM.

302. *G. sodiroanum* R. Knuth in Bot. Jahrb. Syst. 37: 557 (1906) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—CLM ECU PER.
303. G. solanderi Carolin in Proc. Linn. Soc. New South Wales ser. 2, 89: 350, pl. 6 fig. 2, pl. 7 fig. 2 (1965) [7, 15, 42, 59]
Regions.—Australia, New Zealand, [Northeastern USA] & [Southwestern USA].
Botanical countries.—[CAL] LHN NSW [NWY] NZN NZS QLD SOA TAS VIC WAU.

304. G. solitarium Z.M. Tan in Acta Phytotax. Sin. 33(6): 608, 609 fig. 1 (1995)
Regions.—China.
Botanical countries.—CHC.

305. G. sophiae Fed. in Bot. Zhurn. S.S.S.R. 33: 28, 29 tab. 1 (1948) [29, 30]
Regions.—Soviet Middle Asia.
Botanical countries.—UZB (Fergana Range).

306. G. soratae R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 212 (1912) [62]
Regions.—Western South America.
Botanical countries.—BOL.

307. G. sparsiflorum R. Knuth in Bot. Jahrb. Syst. 40: 68 (1908) [7, 40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP.

308. G. squamosum Phil. in Anales Univ. Chile 82: 733 (1893) [7, 61]
Regions.—Southern South America.
Botanical countries.—CLN.

309. G. staffordianum R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 216 (1936) [12, 13]
Regions.—Western South America.
Botanical countries.—PER.

310. G. stapfianum Hand.-Mazz., Symb. Sin. 7: 620 (1933) [26, 45]
Regions.—China.
Botanical countries.—CHC CHT.

311. G. stoloniferum Standl. in Contr. U.S. Natl. Herb. 18: 110 (1916) [18]
Regions.—Northern South America.
Botanical countries.—VEN.

312. G. stramineum Triana & Planch. in Ann. Sci. Nat. Bot. (Paris) ser. 5, 17: 112 (1873) [7, 13]
Regions.—Western South America.
Botanical countries.—CLM PER.

313. G. stuebelii Hieron. in Bot. Jahrb. Syst. 21: 316 (1895) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

314. G. subcompositum Veldkamp in Blumea 24(2): 474 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

315. G. subglabrum Hilliard & B.L. Burtt in Notes Roy. Bot. Gard. Edinburgh 42(2): 202, 174 fig. 2 F (1985) [55]
Regions.—Southern Africa.
Botanical countries.—CPP.

316. G. sublaevispernum H.E. Moore in Contr. Gray Herb. 146: 69, pl. 3 fig. 8, pl. 4 figs. 5, 8 (1943)
Regions.—North and Central Mexico.
Botanical countries.—MXE-CU.

317. G. submolle Steud. in Flora 39(28): 438 (1856) [7, 16, 61]
Regions.—[Southwestern Europe] & Southern South America.
Botanical countries.—AGW CLN [FRA-CI].

318. G. subnudicaule Turcz. in Bull. Soc. Imp. Naturalistes Moscou 31(2): 418 (1858) [7, 18]
Regions.—Northern South America.
Botanical countries.—VEN.

319. G. subscandens R. Knuth in Biblioth. Bot. 29(Heft 116): 98 (1937)
Regions.—Western South America.
Botanical countries.—ECU.

320. G. subsericeum R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 49 (1912)
Regions.—Western South America.
Botanical countries.—AGS AGW.

321. G. subulato-stipulatum R. Knuth in Biblioth. Bot. 29(Heft 116): 49 (1912)
Regions.—Western South America.
Botanical countries.—AGS AGW.

322. G. subumbelliforme R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 199 (1912) [11]
Regions.—North and Central Mexico.
Botanical countries.—MXC-DF MXC-ME MXC-MO MXC-PU MXE-CU MXE-DU MXE-GU MXE-HI MXG.

323. G. subumbelliforme R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 123 (1912) [30, 61]
Regions.—Soviet Far East & Eastern Asia.
Botanical countries.—JAP KAM KUR.

324. G. superbum R. Knuth in Bot. Jahrb. Syst. 37: 561 (1906) [7, 12, 13, 62]
Regions.—Western South America.
Botanical countries.—BOL PER.
| No. | Species | Authors | Year of Publication | Regions | Botanical Countries |
|-----|---------|---------|---------------------|---------|---------------------|
| 324 | G. suzukii | Masam. in J. Soc. Trop. Agric. 3: 392 (1931) | Eastern Asia | - TAI. |
| 325 | G. swatense | Schönb.-Tem. in Rech. f. (ed.), Fl. Iran. 69: 22, tab. 1 (1970) | Indian Subcontinent | - JMK PAK. |
| 326 | G. sylvaticum | L., Sp. Pl.: 681 (1753) | Northern Europe, Middle Europe, Southwestern Europe, South-eastern Europe, East Europe, Siberia, Soviet Middle Asia, Caucasus, Western Asia & Subartic America | - ALB ALT? AUT BGM BLR BLT BUL BOL BUL COR CZE DEN FIN FOR FRA GER GNL GRB GRC ICE IRE IRN ITA KAZ KRA [NET] NOR POL ROM RUC RUE RUN RUS RUW SPA SWE SWI TCS TUR UKR WSB YUG. |
| 327 | G. tafiense | Aedo & Muñoz Garm. in Kew Bull. 52(3): 726 (1997) | Southern South America | - AGW. |
| 328 | G. tanii | Aedo & Muñoz Garm. in Novon 6: 229 (1996) | China | - CHC-SI. |
| 329 | G. tenue | Hanks in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 10 (1907) | North and Central Mexico | - MXE-SL. |
| 330 | G. texanum | (Trel.) A. Heller in Bull. Torrey Bot. Club 25: 198 (1898) | South and Central America | - CLM VEN. |
| 331 | G. thunbergii | Siebold ex Lindl. & Paxton, Pxt. Fl. Gard. 1(12): 186 fig. 115 (1851) | Eastern Asia & [Northeastern USA] | - CHN [CNT] JAP KOR KUR [MAS] NNS TAI. |
| 332 | G. tiguense | Aedo & Muñoz Garm., Kew Bull. 52(3): 726 (1997) | North and Central Mexico | - ARK [AZO] LOU MXE-CU OKL TEX. |
| 333 | G. totoense | R. Knuth in Repert. Spec. Nov. Regni Veg. 28: 7 (1930) | Western South America | - ECU PER. |
| 334 | G. tracyi | Sandwith in Bull. Misc. Inform. 1941(3): 219 (1942) | Northern South America | - BOL. |
| 335 | G. transbaicalicum | Serg. in Sist. Zametki Mater. Gerb. Krylova Tomsk. Gosud. Univ. Kiybyševa 1934(1): 4 (1934) | Siberia, China & Mongolia | - BOL. |
| 336 | G. traversii | Hook. f., Handb. N. Zeal. Fl.: 726 (1867) | New Zealand | - CTM. |
| 337 | G. trianae | Aedo & Muñoz Garm., Kew Bull. 52(3): 726 (1997) | Northern South America & Western South America | - CHN [CNT] JAP KOR. |
| 338 | G. tripartitum | R. Knuth in Engl., Pflanzenr. IV.129 (Heft53): 191 (1912) | Eastern Asia | - JAP KOR. |
| 339 | G. trollifolium | Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 14 (1907) | East Europe & Siberia | - MXE-CU MXE-DU. |
| 340 | G. unguiculatum | H.E. Moore in Contr. Gray Herb. 146: 24, pl. 2 fig. 5, pl. 4 figs. 2, 7 (1943) | West-Central Tropical Africa, East Tropical Africa & South Tropical Africa | - MEX-SR. |
| 341 | G. uralense | Kuvaev in Novosti Sist. Vyssh. Rast. 27: 102 fig. 1 (1990) | East Europe & Siberia | - RUN WSB. |
| 342 | G. vagans | Baker in Bull. Misc. Inform. 1897: 246 (1897) | West-Central Tropical Africa, East Tropical Africa & South Tropical Africa | - CLM VEN. |
Botanical countries.—CON? KEN MLW RWA TAN UGA ZAI.

**a. G. vagans** subsp. **vagans**
Regions.—West-Central Tropical Africa, East Tropical Africa & South Tropical Africa.
Botanical countries.—CON? KEN MLW RWA TAN UGA ZAI.

**b. G. vagans** subsp. **whytei** (Baker) J.R. Laundon in Bol. Soc. Brot. ser. 2, 35: 71 (1961)
Regions.—South Tropical Africa.
Botanical countries.—MLW.

**343. G. venezuelae** R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 201 (1912) [18]
Regions.—Northern South America.
Botanical countries.—VEN.

**344. G. venturianum** R. Knuth in Repert. Spec. Nov. Regni Veg. 40: 218 (1936)
Regions.—Southern South America.
Botanical countries.—AGW.

**345. G. versicolor** L., Cent. Pl. I: 21 (1755) [7, 10, 37, 45, 47]
Regions.—[Northern Europe], [Southwestern Europe] & Southeastern Europe.
Botanical countries.—ALB [FRA] [GRB] GRC [IRE] ITA SIC YUG.

**346. G. viscosissimum** Fisch. & C.A. Mey. in C.A. Mey., Index Sem. Hort. Petrop. 11, Suppl.: 18 (1846) [7, 14, 15, 45]
Regions.—Western Canada, Northwestern USA, North-Central USA & Southwestern USA.
Botanical countries.—ABT BRC CAL COL IDA MNT NEV ORE SDA SAS UTA WAS WYO.

**347. G. vulcanicola** Small in Underw. & Britton (eds.), N. Amer. Fl. 25(1): 12 (1907) [7, 11]
Regions.—North and Central Mexico & Mesoamerica.
Botanical countries.—MXC-DF MXC-ME MXG MXS-MI SMX-CL.

**348. G. wakkerstroomianum** R. Knuth in Repert. Spec. Nov. Regni Veg. 45: 62 (1938) [40, 55]
Regions.—Southern Africa.
Botanical countries.—CPP LES NAT OFS SWZ TVL.

**349. G. wallichianum** D. Don ex Sweet, Geraniaceae: 1, tab. 90 (1821) [7, 31, 35, 46, 64]
Regions.—Western Asia, China & Indian Subcontinent.
Botanical countries.—AFG BHU? CHT IND JMK NEP PAK.

**350. G. weberbauerianum** R. Knuth in Bot. Jahrb. Syst. 37: 556 (1906) [7, 12, 13]
Regions.—Western South America.
Botanical countries.—PER.

**351. G. weddellii** Briq. in Annuaire Conserv. Jard. Bot. Genève 11/12: 183 (1908) [7, 12, 13, 62]
Regions.—Western South America.
Botanical countries.—BOL PER.

**352. G. whartonianum** Veldkamp in Blumea 24(2): 476 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

**353. G. wilfordii** Maxim. in Bull. Acad. Imp. Sci. Saint-Pétersbourg 26: 453 (1880) [7, 26, 29, 30, 32, 33, 34, 50, 51, 52, 54]
Regions.—[Middle Europe], Soviet Far East, China & Eastern Asia.
Botanical countries.—AMU CHC CHM CHN JAP KOR [POL] PRM TAI.

**354. G. wilhelminae** Veldkamp in Blumea 24(2): 476 (1978)
Regions.—Malesia.
Botanical countries.—NWG.

**355. G. wislizenii** S. Watson in Proc. Amer. Acad. Arts 21: 421 (1886) [7, 11, 14, 15]
Regions.—Southwestern USA, South-Central USA & North and Central Mexico.
Botanical countries.—ARI MXE-CU MXE-DU MXN-SO NWM TEX.

**356. G. wlassovianum** Fisch. ex Link, Enum. Hort. Berol. Alt. 2: 197 (1822) [7, 25, 26, 29, 30, 34, 45, 50, 54, 64]
Regions.—Siberia, Soviet Far East, China, Eastern Asia, Indian Subcontinent & Indo-China?
Botanical countries.—AMU BMA? BRY CHC? CHM CHN CTA IRK JMK KHA KORM MON PRM.

**357. G. yaanense** Z.M. Tan in Acta Phytotax. Sin. 33(6): 611, 610 fig. 2 (1995)
Regions.—China.
Botanical countries.—CHC.
358. *G. yesoense* Franch. & Sav., Enum. Pl. Jap. 2: 305 (1878), [7, 30, 33, 45] Regions.—Soviet Far East & Eastern Asia. Botanical countries.—JAP KUR SAK.

359. *G. yoshinoi* Makino ex Nakai in Bot. Mag. (Tokyo) 26: 258 (1912) [33] Regions.—Eastern Asia. Botanical countries.—JAP.

360. *G. yuexiense* Z.M. Tan in Bull. Bot. Res., Harbin 6(2): 55, 64 tab. 7 (1986) [26] Regions.—China. Botanical countries.—CHC.

361. *G. yunnanense* Franch., Pl. Delavay.: 114 (1889) [7, 25, 26, 45] Regions.—China & Indo-China. Botanical countries.—BMA CHC.

6. Geranium sect. Dissecta Yeo in Bot. J. Linn. Soc. 89: 10 (1984)

362. *G. aspodeloides* Burm. f., Spec. Bot. Geran.: 28 (1759) [7, 10, 29, 36, 37, 45, 47] Regions.—Southeastern Europe, East Europe, Caucasus & Western Asia. Botanical countries.—ALB BUL GRC ITA KRY LBS ROM SIC TCS TUE TUR YUG.

a. *G. aspodeloides* Burm. f. subsp. aspodeloides Regions.—Southeastern Europe, East Europe, Caucasus & Western Asia. Botanical countries.—ALB BUL GRC ITA KRY LBS ROM SIC TCS TUE TUR YUG.

b. *G. aspodeloides* subsp. crenophilum (Boiss.) Bornm. in Repert. Spec. Nov. Regni Veg. Beih. 89(3): 134 (1936) Regions.—Western Asia. Botanical countries.—LBS.

c. *G. aspodeloides* subsp. sintenisii (Freyrn) P.H. Davis in Notes Roy. Bot. Gard. Edinburgh 28: 36 (1967) Regions.—Western Asia. Botanical countries.—TUR.

363. *G. chelikii* Kit Tan & Yildiz in Notes Roy. Bot. Gard. Edinburgh 45(3): 440 (1989) Regions.—Western Asia. Botanical countries.—TUR.

364. *G. davisianum* Pegmen & Güner in Notes Roy. Bot. Gard. Edinburgh 38(3): 436 (1980) Regions.—Western Asia. Botanical countries.—TUR.

365. *G. dissectum* L., Cent. Pl. I: 21 (1755) [7, 10, 12, 15, 21, 29, 30, 31, 36, 37, 39, 40, 42, 43, 44, 45, 47, 55, 61] Regions.—Northern Europe, Middle Europe, Southwestern Europe, South-eastern Europe, Europe, Northern Africa, Macaronesia, [Northeast Tropical Africa], [Southern Africa], Soviet Middle Asia, Western Asia, [Eastern Asia], [Australia], [New Zealand], [North-Central Pacific], [Western Canada], [Eastern Canada], [Northwestern USA], [North-Central USA], [Northeastern USA], [South-western USA], [South-Central USA], [South-eastern USA], [Caribbean], [Western South America], [Brazil South] & [Southern South America]. Botanical countries.—AFG [AGE] ALB ALG [ARK] [ATP] AUT AZO BAL BGM BLR BLT [BRC] BUL [BZS] [CAL] [CLN] [CNT] CNY COR [CPP] CYP CZE [DEL] DEN [DOM] EGY [ETH] FIN FRA [GEO] GER GRB GRC [HAI] [HAW] HUN [ILL] IRE IRN IRQ ITA [JAP] [KER] KRI KRY [KTY] LBS LBY [LHN]† [LOU] [MAS] MDR [MIC] MOR [MRY] [MSI] [MSO] [NCA] NCS NET NOR [NSW] [NYW] [NZN] [OKL] [NZN] [ONT] [ORE] PAL [PEN] [PER] POL POR ROM RUC RUN RUS RUW SAR SIC [SOA] SPA SWE SWI [TAS] TCS [TEN] [TEX] TUE TUN TUR TZK UKR [URU] [VIC] [VRG] [WAS] [WAU] YUG.

7. Geranium sect. Tuberosa (Boiss.) Reiche in Engl. & Prantl, Nat. Pflanzenfam. 3(4): 8 (1890) [5, 7, 9]

7.1. *Geranium* subsect. *Tuberosa* (Boiss.) Yeo in Bot. J. Linn. Soc. 89: 12 (1984) [7, 9]
366. *G. kotschyi* Boiss., *Diagn. Pl. Orient.* ser. 1, 6: 30 (1846) [7, 9, 29, 30, 31, 46]
Regions.—Soviet Middle Asia & Western Asia.
Botanical countries.—AFG IRN PAK TKM TZK.
   a. *G. kotschyi* Boiss. subsp. *kotschyi*
   Regions.—Soviet Middle Asia & Western Asia.
   Botanical countries.—AFG IRN TKM.
   b. *G. kotschyi* subsp. *charlesii* (Aitch. & Hemsl.) P.H. Davis in *Israel J. Bot.* 19: 111 (1970)
   Regions.—Soviet Middle Asia & Western Asia.
   Botanical countries.—AFG IRN PAK TKM TZK.

367. *G. libanoticum* A. Schenk, *Pl. Spec. Schubert*: 39 (1840) [7, 9, 36, 47]
Regions.—Western Asia.
Botanical countries.—LBS IRN TUR.

368. *G. linearilobum* DC. in *Lam. & DC.*, *Fl. Franç. ed. 3, 5*: 629, in note (1815) [9, 10, 29, 30, 31, 37, 45, 47, 54, 64]
Regions.—East Europe, Siberia, Soviet Middle Asia, Caucasus, Western Asia & China.
Botanical countries.—ALT CHX IRN IRQ KAZ KGZ KRY NCS RUE RUS TCS TKM TUR UKR UZB.
   a. *G. linearilobum* DC. subsp. *linearilobum*
   Regions.—East Europe, Caucasus & Western Asia.
   Botanical countries.—KRY NCS RUS TCS TUR UKR.
   b. *G. linearilobum* subsp. *transversale* (Kar. & Kir.) P.H. Davis in *Israel J. Bot.* 19: 105 (1970)
   Regions.—East Europe, Siberia, Soviet Middle Asia, Caucasus, Western Asia & China.
   Botanical countries.—ALT CHX IRN IRQ KAZ KGZ RUE TCS TKM TUR UKR UZB.

369. *G. macrostylum* Boiss., *Diagn. Pl. Orient.* ser. 1, 1: 58 (1843) [9, 36, 37, 45, 47]
Regions.—Southeastern Europe & Western Asia.
Botanical countries.—ALB BUL GRC TUR YUG.

370. *G. malviflorum* Boiss. & Reut., *Pugill. Pl. Afr. Bot. Hispan.*: 27 (1852) [7, 9, 37, 45, 47]
Regions.—Southwestern Europe & Northern Africa.
Botanical countries.—ALG MOR SPA TUN.

371. *G. persicum* Schönb.—*Tem. in Rech. f. (ed.), Fl. Iran.* 69: 9, tab. 4 (1970) [30]
Regions.—Western Asia.
Botanical countries.—IRN IRQ.

372. *G. tuberaria* Jacquem. ex Cambess. in *Jacquem., Voy. Inde 4*: 33, tab. 37 (1844) [7, 46]
Regions.—Indian Subcontinent.
Botanical countries.—JMK.

373. *G. tuberosum* L., *Sp. PL*: 680 (1753) [7, 9, 10, 29, 30, 31, 36, 37, 45, 47]
Regions.—Southeastern Europe, Southwestern Europe & Northern Africa, Soviet Middle Asia, Caucasus & Western Asia.
Botanical countries.—ALB? ALG BUL COR? CYP FRA GRC IRN IRQ ITA KRI KRY LBS LBY PAL ROM RUS SAR? SIC SIN TCS TBM TUR YUG.
   a. *G. tuberosum* L. subsp. *tuberosum*
   Regions.—Southeastern Europe, Southwestern Europe, Soviet Middle Asia, Caucasus & Western Asia.
   Botanical countries.—ALB? ALG BUL COR? CYP FRA GRC IRN IRQ ITA KRI KRY LBS LBY PAL ROM RUS SAR? SIC SIN TCS TBM TUR YUG.
   b. *G. tuberosum* subsp. *linearifolium* (Boiss.) P.H. Davis in *Notes Roy. Bot. Gard. Edinburgh* 22: 26 (1956)
   Regions.—Soviet Middle Asia, Caucasus & Western Asia.
   Botanical countries.—IRN IRQ LBS NCS TCS TUR UKR.
   c. *G. tuberosum* subsp. *micranthum* Schönb.—*Tem. in Rech. f. (ed.), Fl. Iran.* 69: 7, tab. 2 (1970)
   Regions.—Western Asia.
   Botanical countries.—IRN IRQ LBS NCS TCS TKM.

7.2. Geranium subsect. Mediterranea
R. Knuth in *Engl., Pflanzenr. IV.129 (Heft 53): 107* (1912) [5]
374. *G. bohemicum* L., Cent. Pl. II: 25 (1756) [5, 7, 10, 29, 30, 36, 37, 45, 47]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, East Europe, Caucasus & Western Asia.
Botanical countries.—ALB BLR BLT BUL COR CZE FIN FRA GER GRC HUN ITA KRY NCS NOR POL ROM RUC RUE RUN RUS RUW SAR SPA SWE SWI TCS TUR UKR YUG.

375. *G. gracile* Ledeb. ex Nordm. in Bull. Sci. Acad. Imp. Sci. Saint-Pétersbourg 2(20): 314 (1837) [5, 7, 10, 29, 30, 36, 45, 47]
Regions.—Caucasus & Western Asia.
Botanical countries.—IRN NCS TCS TUR.

376. *G. gymnocaules* DC., Prodr. 1: 640 (1824) [5, 7, 10, 29, 30, 36, 45, 47]
Regions.—Caucasus & Western Asia.
Botanical countries.—NCS TCS TUR.

377. *G. ibericum* Cav., Diss. 4: 209, tab. 124 fig. 1 (1787) [5, 7, 10, 15, 29, 30, 36, 37, 45, 47]
Regions.—[Northern Europe], [Southwestern Europe], Caucasus, Western Asia, [Eastern Canada] & [Northeastern USA].
Botanical countries.—[FRA] [GRB] [MAS] NCS [NFL] [NWY]+ TCS TUR.

a. *G. ibericum* Cav. subsp. *ibericum*
Regions.—[Southwestern Europe], Caucasus, Western Asia, [Eastern Canada] & [Northeastern USA].
Botanical countries.—[FRA] [GRB] [MAS] NCS [NFL] [NWY]+ TCS TUR.

b. *G. ibericum* subsp. *jubatum* (Hand.-Mazz.) P.H. Davis in Notes Roy. Bot. Gard. Edinburgh 22: 24 (1955)
Regions.—Western Asia.
Botanical countries.—TUR.

378. *G. kurdicum* Bornm. in Repert. Spec. Nov. Regni Veg. 8: 82 (1910) [5, 7, 31, 36, 47]
Regions.—Western Asia.
Botanical countries.—IRQ TUR.

379. *G. lanuginosum* Lam., Encycl. 2: 655 (1788) [5, 7, 10, 36, 37, 45, 47]
Regions.—[Northern Europe], Southwestern Europe, Southeastern Europe, Northern Africa & Western Asia.
Botanical countries.—ALB ALG BUL COR FRA GRC ITA MOR POR SAR SIC SPA [SWE] TUN TUR.

380. *G. libani* P.H. Davis in Notes Roy. Bot. Gard. Edinburgh 22: 25 (1955) [5, 36, 45, 47]
Regions.—Western Asia.
Botanical countries.—LBS PAL TUR.

381. *G. montanum* Hablitz ex Pall. in Neue Nord. Beytr. Phys. Geogr. Erd-Völkerbeschreib. 4: 51 (1784); in S.G. Gmel., Reise Russland 4: 51 (1784) [5, 29, 30, 31]
Regions.—Caucasus & Western Asia.
Botanical countries.—IRN NCS TCS TUR.

382. *G. peloponnesiacum* Boiss., Diagn. Pl. Orient. ser. 2, 1: 110 (1854) [5, 7, 37, 45, 47]
Regions.—Southeastern Europe.
Botanical countries.—ALB GRC.

383. *G. platypetalum* Fisch. & C.A. Mey., Index Sem. Hort. Petrop. [1]: 28 (1835) [5, 7, 29, 30, 31, 36, 45, 47]
Regions.—Caucasus & Western Asia.
Botanical countries.—IRN CN TCS TUR.

384. *G. renardii* Trautv. in Trautv., Regel, Maxim. & C. Winkl., Decas Pl. Nov.: 5 (1882) [5, 7, 10, 29, 30, 45]
Regions.—Caucasus.
Botanical countries.—IRN NCS TUR.

8. *Geranium* sect. *Neurophyllodes* A. Gray, U.S. Expl. Exped., Phan. 1: 311 (1854) [6, 7, 63]

385. *G. arboreum* A. Gray, U.S. Expl. Exped., Phan. 1: 315, tab. 31 (1854) [6, 7, 15, 20]
Regions.—North-Central Pacific.
Botanical countries.—HAW (Maui I).

386. *G. cuneatum* Hook., Icon. Pl. 2, tab. 198 (1837) [6, 7, 15, 20]
Regions.—North-Central Pacific.
Botanical countries.—HAW (Maui and Hawaii Is).

a. *G. cuneatum* Hook. subsp. *cuneatum*
Regions.—North-Central Pacific.
Botanical countries.—HAW (Hawaii I).
b. *G. cuneatum* subsp. *hololeucum*  
(A. Gray) Carquist & Bissing in Biotropica 8(4): 258 (1976)  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Hawaii I).

c. *G. cuneatum* subsp. *hypoleucum*  
(A. Gray) Carquist & Bissing in Biotropica 8(4): 258 (1976)  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Hawaii I).

d. *G. cuneatum* subsp. *tridens* (Hillebr.)  
Carlquist & Bissing in Biotropica 8(4): 259 (1976)  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

387. *G. hanaense* A.C. Medeiros & H. St. John in Brittonia 40(2): 214, 215 fig. 1 (1988) [15]  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

388. *G. hillebrandii* Aedo & Muñoz Garm.,  
Kew Bull. 52(3): 725 (1997) [6, 7, 15, 20]  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

389. *G. kauaiense* (Rock) H. St. John in Bull. Torrey Bot. Club 111(4): 481 (1984) [6, 15, 20]  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Kauai I).

390. *G. multiflorum* A. Gray, U.S. Expl. Exped., Phan. 1: 311, tab. 29 figs. 1-4 (1854) [6, 7, 15, 20]  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

a. *G. multiflorum* A. Gray subsp. *multiflorum*  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

b. *G. multiflorum* subsp. *ovatifolium*  
(A. Gray) Carlquist & Bissing in Biotropica 8(4): 258 (1976)  
Regions.—North-Central Pacific.  
Botanical countries.—HAW (Maui I).

9. *Geranium* sect. *Paramensia* R. Knuth in  
Engl., Nat. Pflanzenfam. ed. 2, 19a: 55 (1931) [2]

391. *G. exallum* H.E. Moore in Brittonia  
13(2): 142, 143 fig. 1A (1961)
399. *G. umbelliforme* Franch. in Bull. Soc. Bot. France 33: 443 (1887) [5, 7, 26] Regions.—China. Botanical countries.—CHC.

400. *G. wardii* Yeo in Notes Roy. Bot. Gard. Edinburgh 34(2): 195 (1975) [5] Regions.—Indo-China. Botanical countries.—BMA.

12. *Geranium* sect. *Trilopha* Yeo in Bot. J. Linn. Soc. 89: 13 (1984)

401. *G. bequaertii* De Wild., Pl. Bequaert. 1: 476 (1922) [49] Regions.—West-Central Tropical Africa. Botanical countries.—ZAI.

402. *G. biuncinatum* Kokwaro in Webbia 25(2): 639 (1971) [5, 43, 45] Regions.—Northeast Tropical Africa. Botanical countries.—ETH SOC SOM SUD YEM.

403. *G. favosum* Hochst. in G.W. Schimp., Iter Abyssinicum Sect. II, n.° 806 (1842), in sched., cum descr.; ex A. Rich., Tent. Fl. Abyss. 1: 117 (1847) [5, 7, 39, 43] Regions.—Northern Africa, Northeast Tropical Africa & Arabian Peninsula. Botanical countries.—DJI EGY ETH IRN PAL SOC SOM SUD YEM.

404. *G. mascatense* Boiss., Diagn. Pl. Orient. ser. 1, 1: 59 (1843) [5, 7, 26, 28, 31, 35, 38, 39, 43, 46, 49] Regions.—West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Western Asia, Arabian Peninsula, China & Indian Subcontinent. Botanical countries.—AFG ANG ASS CHC CMN DJI EGY ETH IND IRN JMK KEN MLW NGA OMA PAK SAU SOC SOM SUD TAN UGA YEM ZAI ZIM.

Some authors classified *G. ocellatum* Cambess. in Jacquem., Voy. Inde 4: 33, tab. 38 (1844) as separate of *G. mascatense* (Kokwaro, 1971). In agreement with Knuth (1912), we consider both taxa as the same species, though under Boissier’s previous name. Nevertheless, as Yeo (comm. pers.) mentioned, plants from Tropical Africa, could be distinguished at species level.

405. *G. trilophum* Boiss., Diagn. Pl. Orient. ser. 1, 6: 30 (1846) [5, 7, 31, 39, 43, 45, 47] Regions.—Northern Africa, Northeast Tropical Africa, Western Asia & Arabian Peninsula. Botanical countries.—DJI EGY ETH IRN PAL SOC SOM SUD YEM.

13. *Geranium* sect. *Divaricata* Rouy in Rouy & Fouc., Fl. France 4: 88 (1897) [5]

406. *G. albarnum* M. Bieb., Fl. Taur.-Caucas. 2: 137 (1808) [5, 7, 10, 29, 30, 31, 45] Regions.—Caucasus & Western Asia. Botanical countries.—IRN NCS TCS.

407. *G. divaricatum* Ehrh. in Beitr. Naturk. 7: 164 (1792) [5, 7, 10, 29, 30, 31, 36, 37, 47] Regions.—Northern Europe, Middle Europe, Southwestern Europe, South-Central Europe, East Europe, Soviet Middle Asia, Caucasus, Western Asia, China & Indian Subcontinent. Botanical countries.—AFG ALB ALT AUT BLR BLT BUL CHX CZE FRA GER GRC HUN IND IRN IRQ ITA JMK KAZ KGZ KRY NCS POL ROM RUC RUS SPA SWE SWI TCS TKM TZK TUR UZB YUG.

14. *Geranium* sect. *Batrachioidea* W.D.J. Koch, Syn. Fl. Germ. Helv. 1: 139 (1835) [5]

408. *Geranium aequale* (Bab.) Aedo, Anales Jard. Bot. Madrid 55(2): 466 (1997) Regions.—Northern Europe, Middle Europe, Southwestern Europe, [New Zealand] & [Northeastern USA]. Botanical countries.—BGM DEN FRA GER GRB [MAS] [NWJ] [NWY] [NZN] [OHI] [PEN] [VER].

409. *G. molle* L., Sp. Pl.: 682 (1753) [5, 7, 10, 15, 21, 29, 30, 31, 36, 37, 40, 42, 44, 45, 47, 55, 61]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South- eastern Europe, East Europe, Northern Africa, Caucasus, Western Asia, Indian Subcontinent, Mediterranean, Middle Eastern, Eastern Asia, Southwestern Asia, South-Central Asia, Central Asia, South-Central America, Central America, South America, East Africa, Africa, Eastern Africa, South Africa, Western Africa, South-Central Africa, South-Central America.

Botanical countries.—AFG [AGE] ALB [AG] ALG [ARK] AUT [BER] BGM [BLT] BLR [BRC] BUL [CAL] [CLN] [CLN] [CLN] [CNT] CNY [CPP] CYP [CZE] [DEL] DEN EGY [FAL] FIN FRA [GEO] GER [BGR] GRC [HAW] HUN [ICE] [IDA] IND [IRE] [IR] [ITA] [JAP] [JMK] KRI KRY [KT] LBS [MAI] [MAS] [MIC] [MNT] [MOR] [MR] [MSO] [NCA] [NCS] [ND] [NEB] [NET] [NOR] [NW] [WWM] [NWY] [NZN] [NYS] [OHI] [OKL] [ONT] [ORE] [PAK] [PEN] [POR] [QUE] ROM [RUC] RUE [RUN] RUS [RUW] [SAR] [SQA] [SPA] [SWI] SWI TCS [TEN] TUR UR [UR] [UTA] UZB [VRG] [WAS] [WDC] [WIS] [WVA] [WYO] [YUG].

410. G. pusillum L., Syst. Nat. ed. 10, 2: 1144 (1759) [5, 7, 10, 15, 21, 29, 30, 31, 36, 37, 45, 47, 67]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South- eastern Europe, East Europe, Northern Africa, Caucasus, Western Asia, Indian Subcontinent, Mediterranean, Middle Eastern, Eastern Asia, Southwestern Asia, South-Central Asia, Central Asia, South-Central America, Central America, South America, East Africa, Africa, Eastern Africa, South Africa, Western Africa, South-Central Africa, South-Central America.

Botanical countries.—AFG [AGE] ALB [AG] ALG [ARK] AUT [BER] BGM [BLT] BLR [BRC] BUL [CAL] [CLN] [CLN] [CLN] [CNT] CNY [CPP] CYP [CZE] [DEL] DEN EGY [FAL] FIN FRA [GEO] GER [BGR] GRC [HAW] HUN [ICE] [IDA] IND [IRE] [IR] [ITA] [JAP] [JMK] KRI KRY [KT] LBS [MAI] [MAS] [MIC] [MNT] [MOR] [MR] [MSO] [NCA] [NCS] [ND] [NEB] [NET] [NOR] [NW] [WWM] [NWY] [NZN] [NYS] [OHI] [OKL] [ONT] [ORE] [PAK] [PEN] [POR] [QUE] ROM [RUC] RUE [RUN] RUS [RUW] [SAR] [SQA] [SPA] [SWI] SWI TCS [TEN] TUR UR [UR] [UTA] UZB [VRG] [WAS] [WDC] [WIS] [WVA] [WYO] [YUG].

411. G. pyrenaicum Burm. f., Spec. Bot. Geran.: 27 (1759) [5, 7, 10, 15, 29, 30, 31, 36, 37, 45, 47, 67]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South- eastern Europe, East Europe, Northern Africa, Caucasus, Western Asia, Indian Subcontinent, Mediterranean, Middle Eastern, Eastern Asia, Southwestern Asia, South-Central Asia, Central Asia, South-Central America, Central America, South America, East Africa, Africa, Eastern Africa, South Africa, Western Africa, South-Central Africa, South-Central America.

Botanical countries.—AFG [AGE] ALB [AG] ALG [ARK] AUT [BER] BGM [BLT] BLR [BRC] BUL [CAL] [CLN] [CLN] [CLN] [CNT] CNY [CPP] CYP [CZE] [DEL] DEN EGY [FAL] FIN FRA [GEO] GER [BGR] GRC [HAW] HUN [ICE] [IDA] IND [IRE] [IR] [ITA] [JAP] [JMK] KRI KRY [KT] LBS [MAI] [MAS] [MIC] [MNT] [MOR] [MR] [MSO] [NCA] [NCS] [ND] [NEB] [NET] [NOR] [NW] [WWM] [NWY] [NZN] [NYS] [OHI] [OKL] [ONT] [ORE] [PAK] [PEN] [POR] [QUE] ROM [RUC] RUE [RUN] RUS [RUW] [SAR] [SQA] [SPA] [SWI] SWI TCS [TEN] TUR UR [UR] [UTA] UZB [VRG] [WAS] [WDC] [WIS] [WVA] [WYO] [YUG].

411 a. G. pyrenaicum Burm. f. subsp. pyrenaicum
Regions.—Northern Europe, Middle Europe, Southwestern Europe, South- eastern Europe, East Europe, Northern Africa, Caucasus, Western Asia, Indian Subcontinent, Mediterranean, Middle Eastern, Eastern Asia, Southwestern Asia, South-Central Asia, Central Asia, South-Central America, Central America, South America, East Africa, Africa, Eastern Africa, South Africa, Western Africa, South-Central Africa, South-Central America.

Botanical countries.—AFG [AGE] ALB [AG] ALB [AG] ALG [ARK] AUT [BER] BGM [BLT] BLR [BRC] BUL [CAL] [CLN] [CLN] [CLN] [CNT] CNY [CPP] CYP [CZE] [DEL] DEN EGY [FAL] FIN FRA [GEO] GER [BGR] GRC [HAW] HUN [ICE] [IDA] IND [IRE] [IR] [ITA] [JAP] [JMK] KRI KRY [KT] LBS [MAI] [MAS] [MIC] [MNT] [MOR] [MR] [MSO] [NCA] [NCS] [ND] [NEB] [NET] [NOR] [NW] [WWM] [NWY] [NZN] [NYS] [OHI] [OKL] [ONT] [ORE] [PAK] [PEN] [POR] [QUE] ROM [RUC] RUE [RUN] RUS [RUW] [SAR] [SQA] [SPA] [SWI] SWI TCS [TEN] TUR UR [UR] [UTA] UZB [VRG] [WAS] [WDC] [WIS] [WVA] [WYO] [YUG].
15. Geranium sect. Unguiculata (Boiss.) Reiche in Engl. & Prantl, Nat. Pflanzenfam. 3(4): 8 (1890) [5, 7]

16. Geranium sect. Lucida R. Knuth in Engl., Pflanzenr. IV.129 (Heft 53): 44, 60 (1912) [5, 7]

b. G. pyrenaicum subsp. lusitanicum (Samp.) S. Ortiz in Anales Jard. Bot. Madrid 47(1): 244 (1990)
Regions.—Southwestern Europe
Botanical countries.—POR SPA

412. G. cataractarum Coss., Notes Pl. Crit.: 99 (1851) [5, 7, 37, 45, 47, 48, 56]
Regions.—Southwestern Europe & Northern Africa.
Botanical countries.—MOR SPA.

a. G. cataractarum Coss. subsp. cataractarum
Regions.—Southwestern Europe.
Botanical countries.—SPA.

b. G. cataractarum subsp. pitardii Maire in Bull. Soc. Hist. Nat. Afrique N. 15: 96, fig. 2 (1924)
Regions.—Northern Africa.
Botanical countries.—MOR.

413. G. dalmaticum (Beck) Rech. f. in Magyar Bot. Lapok 33: 28 (1934) [5, 7, 10, 37, 45, 47, 56]
Regions.—Southeastern Europe.
Botanical countries.—ALB YUG.

414. G. glaberrimum Boiss. & Heldr. in Boiss., Diagn. Pl. Orient. ser. 1, 8: 116 (1849) [5, 7, 36, 45, 47]
Regions.—Western Asia.
Botanical countries.—TUR.

415. G. lasiopus Boiss. & Heldr. in Boiss., Diagn. Pl. Orient. ser. 1, 8: 117 (1849) [5, 7, 36, 47]
Regions.—Western Asia.
Botanical countries.—TUR.

416. G. macrorrhizum L., Sp. Pl.: 680 (1753) [5, 7, 10, 29, 30, 37, 45, 47, 56, 61]
Regions.—Northern Europe, Middle Europe, Southeastern Europe, [East Europe] & [Southern South America].
Botanical countries.—ALB AUT BAL BUL CNY COR [CPP] FRA [GER] GRB GRC ITA JMK KRI KRY LBS LBY MDR MOR NCS NEP NOR PAL PAL POR ROM SAR SAU SIC SPA SWE SWI TCS TSC TUR Tun UKR YUG.

417. G. lucidum L., Sp. Pl.: 682 (1753) [5, 7, 10, 29, 30, 37, 45, 46, 47, 56]
Regions.—Northern Europe, Middle Europe, Southeastern Europe, East Europe, Northern Africa, Macaronesia, Soviet Middle Asia, Caucasus, Western Asia, Arabian Peninsula & Indian Subcontinent.
Botanical countries.—ALB ALG AUT BAL BUL CNY COR [CPP] CYR DEN DRE DEN FRA GER GRB GRC HUN IND IRE IRN IRQ ITA JMK KRI KRY LBS LBY MDR MOR NCS NEP NOR PAL PAL POR ROM SAR SAU SIC SPA SWE SWI TCS TSC TUR Tun UKR YUG.

418. G. purpureum Vill., Hist. Pl. Dauphine 1: 272 (1786) [4, 5, 7, 10, 22, 28, 30, 31, 36, 37, 40, 42, 47, 49, 55, 56]
Regions.—Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, East Europe, Northern Africa, Macaronesia, East Tropical Africa, [Southern Africa], Caucasus, Western Asia & [New Zealand].
Botanical countries.—ALB ALG AZO BAL BUL CNY COR [CPP] CYP FRA GRB GRC HUN IND IRE IRN IRQ ITA JMK KRI KRY LBS LBY MDR MOR [NZN] PAL PAL POR ROM SAR SIC SPA SWI TAN TSC TUE TUN Tun UKR YUG.

419. G. reuteri Aedo & Muñoz Garm., Kew Bull. 52(3): 726 (1997) [4, 5, 45, 56]
Regions.—Macaronesia.
Botanical countries.—CNY.

420. G. robertianum L., Sp. Pl.: 681 (1753) [4, 5, 7, 10, 15, 21, 23, 24, 26, 29, 30, 31, 35, 36, 37, 44, 45, 46, 47, 54, 56, 61]
Regions.—Northern Europe, Middle Europe, Southeastern Europe, East Europe, Northern Africa, Macaronesia, Northeast Tropical Africa, [Western Indian Ocean], Siberia, Soviet Middle Asia, Caucasus, Western Asia, Arabian Peninsula, China, Eastern Asia, Indian
Subcontinent, [Malesia], [New Zealand], [Subartic America], [Western Canada], [Eastern Canada], [Northwestern USA], [North-Central USA], [Northeastern USA], [Southwestern USA], [Southeastern USA], [Caribbean], [Western South America], [Brazil] & [Southern South America]. Botanical countries.—[AGE] [AGW] ALB ALG ALT [ASK] AUT AZO BGM BLR BLT [BOL] [BRC] BUL [BZS] [CAL] CHC [CLN] [CLS] [CNT] CNY COR CYP CZE [DEL] DEN [DOM] ETH FIN FRA GER GRB GRC [HAI] HUN [ILL] [INI] IRE IRN ITA JAP JMK [JNF] KAZ KGZ KRI KRY LBS LBY [MAI] [MAN] [MAS] [MDG] MDR [MIC] [MIN] [MLY] MOR [MRY] [NBR] NCS [NEB] NEP NET [NFL] NOR [NSC] [NWH] [NWJ] [NYW] [NZN] [NZN] [OHV] [ONT] PAK [PEI] [PEN] POL POR [QUE] [REU] [RHO] ROM RUC RUE RUN RUS RUW SAR SAU SIC SPA SWE SWI TAI TCS [TEN] TUE TUN TUR TZZ UKR [URU] [VER] [WAS] [WIS] [WVA] YEM YUG.

421. G. yeoi Aedo & Muñoz Garm. in Kew Bull. 52(3): 726 (1997) [4, 5, 45, 56] Regions.—Macaronesia. Botanical countries.—MDR.

18. Geranium sect. Anemonifolia R. Knuth in Engl., Pflanzenr. IV. 129 (Heft 53): 98 (1912) [4, 5, 7]

422. G. maderense Yeo in Bol. Mus. Munic. Funchal 23: 26, plate 2 (1969) [4, 5, 45, 56] Regions.—Macaronesia. Botanical countries.—MDR.

423. G. palmatum Cav, Diss. 4: 216, tab. 84 fig. 2 (1787) [4, 5, 7, 15, 45, 56] Regions.—Macaronesia & [Southwestern USA]. Botanical countries.—[CAL] MDR.

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NUMERICAL CODES FOR REFERENCES

1. AEDO (1996)
2. MOORE (1961)
3. NIETO FELINER & AEDO (1995)
4. YEO (1973)
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6. CARLQUIST & BISSING (1976)
7. KNUTH (1912)
8. LÓPEZ (1982)
9. DAVIS (1970)
10. TOKARSKI (1972)
11. MOORE (1943)
12. MACBRIDE (1949)
13. BRAKO & ZARUCCHI (1993)
14. JONES & JONES (1943)
15. KARTESZ (1994)
16. NAVAS (1976)
17. BARBOZA & CORREA (1988)
18. LASSER (1947)
19. BURGER (1991)
20. MEDEIROS & ST. JOHN (1988)
21. CAROLIN (1965)
22. BAKER (1955a)
23. BAKER (1955b)
24. BÖCHER (1947)
25. YEO (1975)
26. YEO (1992)
27. FERLAND (1935)
28. LASSER (1971)
29. BOBROV (1949)
30. CZEREPAPOV (1995)
31. SCHONBECK-TEMESY (1970)
32. HUANG (1993)
33. ZOKU (1965)
34. KITAGAWA (1979)
35. HARA (1979)
36. DAVIS (1967)
37. WEBB & FERGUSON (1968)
38. LAUNDON (1963)
REFERENCES

Aedo, C. (1996). Revision of Geranium subgenus Erodioidea (Geraniaceae). Syst. Bot. Monogr. 49 [ref. 1].

Aiton, W. (1789). Hortus kewensis. London.

Anonymous (1980). Iconographia Cormophytorum Sinicorum. Vol. 2. Science Press, Beijing (in Chinese) [ref. 54].

Arnold, T.H. & B.C. Wet (1993). Plants of Southern Africa: names and distribution. National Botanical Institute, Pretoria [ref. 55].

Baker, H.G. (1955a). Geranium purpureum Vill. and G. robertianum L. in the British flora I. Geranium purpureum. Watsonia 3: 160-167 [ref. 22].

Baker, H.G. (1955b). Geranium purpureum Vill. and G. robertianum L. in the British flora II. Geranium robertianum. Watsonia 3: 270-279 [ref. 23].

Barboza, G.E. & M.N. Correa (1988). Geranium L. In: M.N. Correa (ed.), Flora Patagónica. Vol. 5. Instituto Nacional de Tecnología Agropecuaria, Buenos Aires: 31-39 [ref. 17].

Bobrov, E.G. (1949). Geranium L. In: B.K. Shishkin & E.G. Bobrov (eds.), Flora of the USSR. Vol. 14. Koeltz Scientific Books, Koenigstein: 3-49 (English edition 1986) [ref. 29].

Böcher, T.W. (1947). Cytogenetic and biological studies in Geranium robertianum L. Biol. Meddel. Kongel. Danske Vidensk. Selsk. Ser. B. 20(8): 1-29 [ref. 24].

Brako, L. & J.L. Zarucchi (1993). Catalogue of the Flowering Plants and Gymnosperms of Peru. Monogr. Syst. Bot. Missouri Bot. Gard. 45 [ref. 13].

Burger, W. (1991). Geranium L. Fieldiana, Bot. 28: 17-20 [ref. 19].

Carlquist, S. & D.R. Bissing (1976). Leaf anatomy of Hawaiian Geraniums in relation to ecology and taxonomy. Biotropica 8: 248-259 [ref. 6].

Carolin, R.C. (1965). The genus Geranium L. in the southwestern Pacific area. Proc. Linn. Soc. New South Wales, ser. 2, 89: 326-361, pl. VI-VII [ref. 21].

Chapman, A.D. (1991). Australian plant name index D-J. AGPS Press, Canberra [ref. 42].

Clepton, R.T.F. (1992). Geranium family species checklist. Edition IV. Part 2 Geranium. Dover, Kent.

Czerepanov, S.K. (1995). Vascular plants of Russia and adjacent states (the former USSR). Cambridge University Press. Cambridge, New York and Melbourne [ref. 30].

Davis, P.H. (1967). Geranium L. In: P.H. Davis, J. Cullen & J.E. Coode (eds.), Flora of Turkey. Vol. 2. University Press, Edinburgh: 451-474 [ref. 36].

Davis, P.H. (1970). Geranium sect. Tuberosa, revision and evolutionary interpretation. Israel J. Bot. 19: 91-113 [ref. 9].

Dawson, G. (1965). Geranium L. In: A.L. Cabrera (ed.), Flora de la provincia de Buenos Aires. Vol. 4a. Colección científica del INTA, Buenos Aires: 15-19 [ref. 44].

Demortier, B.C.J. (1827). Flora belgica. Tournay.

Ferland, M.L. (1935). Geranium carolinianum and allies of northeastern North America. Rhodora 37: 295-301, pls. 371-374 [ref. 27].

Font Quer, P. (1931). De flora occidentale adnotationes. Cavanillesia 4: 88-94 [ref. 48].

Foster, R.C. (1958). A catalogue of the ferns and flowering plants of Bolivia. Contr. Gray Herb. 184 [ref. 62].

Gardner, R.O. (1984). Geranium solanderi and allies in northern North America. Rhodora 37: 127-134 [ref. 59].

Greuter, W., H.M. Burdet & G. Long (1986). MedChecklist. Vol. 3. Éditions des Conservatoire et Jardin Botaniques, Genève [ref. 47].

Hara, H. (1979). Geranium L. In: H. Hara & H.J. Williams (eds.), An enumeration of the flowering plants of Nepal. Vol. 2. Trustees of British Museum (Natural History), London: 75-77 [ref. 35].

Hilliard, O.M. & B.L. Burtt (1985). A revision of Geranium in Africa south of the Limpopo. Notes Roy. Bot. Gard. Edinburgh 42: 175-225 [ref. 40].

Ho, S.B. (1981). Geranium L. In: K.T. Fu & C.W. Chang (eds.), Flora Tsinlingensis. Vol. 1(3). Science Press, Beijing [ref. 52].

Hollis, S. & R.K. Brummitt (1992). World geographical scheme for recording plant distributions. Hunt Institute for Botanical Documentation, Pittsburgh.

Huang, T.-C. (1993). Flora of Taiwan, ed. 2. Lungwei Printing Company Ltd., Taipei [ref. 32].

Jones, G.N. & F.F. Jones (1943). A revised checklist of the flowering plants of Bolivia. Contr. Gray Herb. 184 [ref. 62].

Kartesz, J.T. (1994). A synonymized checklist of the vascular flora of the United States, Canada, and...
Greenland, ed. 2. Timber Press, Portland, Oregon [ref. 15].

KITAGAWA, M. (1979). Neo-Lineamenta Florae Manshuricae. J. Cramer, Vaduz [ref. 34].

KNUTH, R. (1903). Über die geographische Verbreitung und die Anpassungserücksichten der Gattung Geranium im Verhältnis zu ihrer systematischen Gliederung. Bot. Jahrb. Syst. 32: 190-230.

KNUTH, R. (1912). Geraniaceae. In: A. Engler (ed.), Das Pflanzenreich. IV.129 (Heft 53). Wilhelm Engelmann, Leipzig: 1-640 [ref. 7].

KNUTH, R. (1931). Geraniaceae. In: A. Engler & H. Harms (ed.), Die natürlichen Pflanzenfamilien, ed. 2, 19a. Wilhelm Engelmann, Leipzig: 43-66.

KOKWARO, J.O. (1971). The family "Geraniaceae" in North-East tropical Africa. Webbia 25: 623-669 [ref. 39].

LASSER, T. (1947). Geranium L. In: H. Pittier, T. Lasser, L. Schnee, Z.L. Febres & V. Badillo (eds.), Catálogo de la flora venezolana. Vol. 2. Vargas, Caracas: 7-10 [ref. 18].

LASSER, T. (1971). Geranium L. In: E. Milne-Redhead & R.M. Polhill (eds.), Flora of Tropical East Africa. Crown Agents for Overseas Governments and Administrations, London: 1-10 [ref. 28].

LAUNDON, J.R. (1963). Geranium L. In: A.W. Exell, A. Fernandes & H. Willd. (eds.), Flora Zambesiaca. Vol. 2. Crown Agents for Overseas Governments & Administrations, London: 131-136 [ref. 38].

LEE, S. (1983). A taxonomic study on the genus Geranium in Korea. Korean J. Pl. Taxon. 13: 27-40 (in Korean) [ref. 51].

LEE, T.B. (1989). Illustrated flora of Korea (in Korean) [ref. 50].

LEBRUN, J.-P. & A.L. STORK (1991). Énumération des plantes à fleurs d’Afrique tropicale. Éditions des Conservatoire et Jardin botanique, Genève [ref. 43].

L’HÉRITIER, C.L. (1792). Geraniologia. Paris, London, Vienna & Strasbourg.

LOPEZ, G. (1982). A cerece de Geranium acutilobum Cоincty. Anales Jard. Bot. Madrid 38: 528-529 [ref. 8].

MACBRIDE, J.F. (1949). Flora of Peru. Geranium L. Field Mus. Nat. Hist., Bot. Ser. 13: 511-538 [ref. 12].

MARTICORENA, C. & M. QUEZADA (1985). Catálogo de la flora de la cuenca de Santiago de Chile. Vol. 2. Ediciones de la Universidad de Chile [ref. 16].

NAISER, Y.J. (1983). Geranium L. In: E. Nasir & S.I. Ali (eds.), Flora of Pakistan. Vol. 149. Pakistan Agricultural Research Council, Islamabad [ref. 46].

NAVAS, L.E. (1976). Flora de la cuenca de Santiago de Chile. Vol. 2. Ediciones de la Universidad de Chile [ref. 16].

NIETO FELINER, G. & C. AEDO (1995). A cladistic analysis of Geranium subg. Erodioidea (Picard) Yeo (Geraniaceae). Bot. J. Linn. Soc. 119: 195-212 [ref. 3].

PAX, D.L., R.A. PRICE & H.J. MICHAELS (1997). Phylogenetic position of the Hawaiian geraniums based on rbcL sequences. Amer. J. Bot. 84: 72-78 [ref. 63].

PETIT, E. (1958). Flore du Congo Belge et du Ruanda-Urundi. Vol. 7. Institut National pour l’étude agronomique du Congo Belge, Bruxelles [ref. 49].

PICARD, C. (1837). Étude sur les Géraniées. Mém. Soc. Agric. Boulogne-sur-Mer 1: 95-138.

PITIÉR, H. (1929). Botanical notes on, and descriptions of, new and old species of Venezuelan plants. J. Wash. Acad. Sci. 19: 175-186 [ref. 58].

PRICE, R.A. & J.D. PALMER (1993). Phylogenetic relationships of the Geraniaceae and Geraniums from Geranium L. sequence comparisons. Ann. Missouri Bot. Gard. 80: 661-711.

REICHE, K. (1890). Geraniaceae. In: A. Engler & K. Prantl (eds.), Die Natürlichen Pflanzenfamilien. Vol. 3(4). Wilhelm Engelmann, Leipzig: 1-14.

RZEDOWSKI, J. & G.C. RZEDOWSKI (1995). Flora del Bajo y de regiones adyacentes. Familia Geraniaceae. Instituto de Ecología A.C. Centro Regional del Bajo, Pátzcuaro [ref. 57].

SCHÖNBECK-TEMESY, E. (1970). Geranium L. In: K.H. Rechinger (ed.), Flora Iránica. Vol. 69. Akademische Druck-u. Verlagsanstalt, Graz: 1-39 [ref. 31].

STANDLEY, C. (1915). A remarkable new Geranium from Venezuela. J. Wash Acad. Sci. 5: 600-602.

TARDEU-BLOT, M.L. (1978). Geranium L. In: F. Gagnepain (ed.), Supplément a la flore générale de l’Indochine. Vol. 1(4). Muséum National d’Histoire Naturelle, Paris: 551-552 [ref. 53].

TOKARSKI, M. (1972). Morphological and taxonomical analysis of fruits and seeds of the European and Caucasian species of the genus Geranium L. Monogr. Bot. 36: 5-115 [ref. 10].

TSYRENOVA, D.Y. (1985). Geranium erianthum (Geraniaceae) and closely related species. Bot. Zhurn. (Moscow & Leningrad) 70: 476-482 (in Russian) [ref. 60].

TSYRENOVA, D. Y. (1986). Geranium subumbelliforme and its relation to G. erianthum (Geraniaceae). Bot. Zhurn. (Moscow & Leningrad) 71: 345-347 (in Russian) [ref. 61].

VASKOVSKY, N. (1972). Phylogenetic position of the Hawaiian geraniums based on rbcL sequence comparisons. Amer. J. Bot. 59: 511-513 [ref. 56].

VŁADIMIRSKY, J.F. & A. MOERMAN (1978). A review of the malaesian species of Geranium L. (Geraniaceae). Blumea 24: 463-477 [ref. 41].

WARBURG, E.F. (1938a). Taxonomy and relationship in the Geraniaceae in the light of their cytology. New Phytol. 37: 130-159.

WARBURG, E.F. (1938b). Taxonomy and relationship in the Geraniaceae in the light of their cytology, II. New Phytol. 37: 189-210.

WEBB, D.A. & J.K. FERGUSON (1968). Geranium L. In: T.G. Tutin, V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters & D.A. Webb (eds.), Flora Europaea. Vol. 2. Cambridge University Press, Cambridge: 193-199 [ref. 37].

WIDLER-KIEFER, H. & P.F. YEO (1987). Fertility relationships of Geranium (Geraniaceae): sect. Ruberta, Anemonifolia, Lucida and Unguiculata. Pl. Syst. Evol. 155: 283-306 [ref. 56].
XU, L.R. & C.C. HUANG (1998). *Flora Reipublicae Popularis Sinicae*. Vol. 43(1). Science Press, Beijing: 22-83 (in Chinese) [ref. 64].

YEo, P.F. (1973). The biology and systematics of Geranium, sections Anemonifolia Knuth and Ruberta Dum. Bot. J. Linn. Soc. 67: 285-346 [ref. 4].

YEo, P.F. (1975). Geranium species from mount Victoria, Burma. Notes Roy. Bot. Gard. Edinburgh 34: 195-200 [ref. 25].

YEo, P.F. (1984). Fruit-discharge-type in Geranium (Geraniaceae): its use in classification and its evolutionary implications. Bot. J. Linn. Soc. 89: 1-36 [ref. 5].

YEo, P.F. (1985). *Hardy Geraniums*. B.T. Batsford Ltd., London [ref. 45].

YEo, P.F. (1990). The classification of Geraniaceae. In: P. Vorster (ed.), *Proceeding of the international Geraniaceae Symposium*. Stellenbosch: 1-22.

YEo, P.F. (1992). A revision of Geranium L. in South-west China. *Edinburgh J. Bot.* 49: 1-22 [ref. 28].

ZOKU, F. (1965). Geranium L. In: J. Ohwi (ed.), *Flora of Japan*. Smithsonian Institution, Washington: 578-579 [English edition by F.G. Meyer & E.H. Walker] [ref. 33].

**APPENDIX 1**

(Regions and their code number, ordered by continents)

**EUROPE**

10 Northern Europe
11 Middle Europe
12 Southwestern Europe
13 Southeastern Europe
14 East Europe

**AFRICA**

20 Northern Africa
21 Macaronesia
22 West Tropical Africa
23 West-Central Tropical Africa
24 Northeast Tropical Africa
25 East Tropical Africa
26 South Tropical Africa
27 Southern Africa
28 Western Indian Ocean

**ASIA-TROPICAL**

30 Siberia
31 Soviet Far East
32 Soviet Middle Asia

33 Caucasus
34 Western Asia
35 Arabian Peninsula
36 China
37 Mongolia
38 Eastern Asia

**SOUTHERN AMERICA**

80 Mesoamerica
81 Caribbean
82 Northern South America
83 Western South America
84 Brazil
85 Southern South America

**EUROPE**

70 Subarctic America
71 Western Canada

72 Eastern Canada
73 Northwestern USA
74 North-Central USA
75 Northeastern USA
76 Southwestern USA
77 South-Central USA
78 Southeastern USA
79 North and Central Mexico

**ASIA-TROPICAL**

40 Indian Subcontinent
41 Indo-China
42 Malesia
43 Philippines
44 Java
45 West Tropical Asia
46 East Tropical Asia
47 South Tropical Asia
48 Southern Asia

**AUSTRALASIA**

50 Australia
51 New Zealand

**SOUTHERN AMERICA**

86 Brazil
87 South America

**ASIA-TROPICAL**

52 South China
53 Taiwan
54 Philippines
55 Western China
56 Central China
57 Inner Mongolia
58 Inner Mongolia
59 Chinese Yunnan
60 Chinese Yunnan
61 Chinese Yunnan
62 Chinese Yunnan
63 North-Central Pacific

**ANTARCTIC**

88 Antarctica

**APPENDIX 2**

(Codes of the botanical countries and their region number)

| Code | Country          | Region (Number) |
|------|------------------|-----------------|
| ABT  | Alberta          | (71)            |
| AFG  | Afghanistan      | (34)            |
| AGE  | Argentina        | (85)            |
| AGS  | Argentina South  | (85)            |
| AGW  | Argentina Northwest | (85)          |
| ALA  | Alabama          | (78)            |
| ALB  | Albania          | (13)            |
| ALG  | Algeria          | (20)            |
| ALT  | Altay            | (30)            |
| ALU  | Auleuchiat Is    | (70)            |
| AMU  | Amur             | (31)            |
| ANG  | Angola           | (26)            |
| ARI  | Arizona          | (76)            |
| ARK  | Arkansas         | (78)            |
| ASK  | Alaska           | (70)            |
| ASS  | Assam            | (40)            |
| ATP  | Antipodean Is    | (51)            |
| AUT  | Austria          | (11)            |
| AZO  | Azores           | (21)            |
| BAH  | Bahamas          | (81)            |
| BAL  | Baleares         | (12)            |
| BER  | Bermuda          | (81)            |
| BGM  | Belgium          | (11)            |
| BHU  | Bhutan-Sikkim    | (40)            |
| BLR  | Belorusiya       | (14)            |
| BLT  | Baltic States    | (14)            |
| BMA  | Burma            | (41)            |
| BOL  | Bolivia          | (83)            |
| BRC  | British Columbia | (71)            |
| BRY  | Buratiya         | (30)            |
| BUL  | Bulgaria         | (13)            |
| BUR  | Burundi          | (23)            |
| BZL  | Brazil South     | (84)            |
| BZS  | Brazil South     | (84)            |
| CAL  | California       | (76)            |
| CHC  | China South-Central | (36)          |
| CHI  | Inner Mongolia   | (36)            |
| CHM  | Manchuria        | (36)            |
SIC Sicilia (13)  
SIE Sierra Leone (22)  
SIN Sinai (34)  
SMX Mexico Southeast (80)  
(SI: Chiapas)  
SOA South Australia (50)  
SOC Socotra (24)  
SOM Somalia (24)  
SPA Spain (12)  
SRL Sri Lanka (40)  
SUD Sudan (24)  
SUL Sulawesi (42)  
SUM Sumatera (42)  
SWE Sweden (10)  
SWI Switzerland (11)  
SWZ Swaziland (27)  
TAI Taiwan (38)  
TAN Tanzania (25)  
TAS Tasmania (50)  
TCS Transcaucasia (33)  
TEN Tennessee (78)  
TEX Texas (77)  
THA Thailand (41)  
TKM Turkmenistan (32)  
TUE Turkey-in-Europe (13)  
TUR Turkey (34)  
TVA Tuva (30)  
TVL Transvaal (27)  
TZK Tadzhikistan (32)  
UGA Uganda (25)  
UKR Ukraina (14)  
URU Uruguay (85)  
UTA Utah (76)  
UZB Uzbekistan (32)  
VEN Venezuela (82)  
VER Vermont (75)  
VIC Victoria (50)  

VIE Vietnam (41)  
VRG Virginia (78)  
WAS Washington (73)  
WAU Western Australia (50)  
WDC District of Columbia (78)  
WIS Wisconsin (74)  
WSA Western Sahara (20)  
WSB West Siberia (30)  
WVA West Virginia (75)  
WYO Wyoming (73)  
YAK Yakutia (30)  
YEM Yemen (35)  
YUG Yugoslavia (13)  
YUK Yukon (70)  
ZAI Zaire (23)  
ZAM Zambia (26)  
ZIM Zimbabwe (26)  

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